Australian Government

Commonwealth Grants Commission

# REPORT ON

# GST REVENUE SHARING RELATIVITIES

# 2015 REVIEW

## VOLUME 2 – ASSESSMENT OF STATE FISCAL CAPACITIES

Canberra

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**ATTACHMENTS**

# INTRODUCTION

1 This volume — Assessment of State Fiscal Capacities — provides details of the methods we have used to achieve equalisation as simply and transparently as possible.

- Chapter 1 outlines the procedures the Commission uses to assess the GST required by each State to achieve equalisation. These procedures are designed to give structure to our deliberations and to our consideration of the argument, evidence and data provided to us.
- Chapter 2 discusses why we treat Commonwealth payments to the States in particular ways and quantifies the impact Commonwealth payments and other activities have on our assessments and the GST distribution.
- Chapters 3 to 28 for each assessment:
  - outline our assessment approach and the issues considered in reaching that position
  - provide details of the calculations of the assessed revenues, expenditures or disability factors
  - illustrate the extent to which the assessed revenues or expenses cause the distribution of the GST to differ from an equal per capita (EPC) distribution
  - explain why the newly recommended distribution differs from the previous one
  - recommends how the assessment might be updated.

2 The Attachments include details of population data we have used in the assessments, the treatment of each Commonwealth payment to the States, how we have constructed the adjusted budget and calculated relativities and other supporting information.

# CHAPTER 1

# IMPLEMENTING EQUALISATION

This chapter sets out the procedures we follow in developing assessments. Those procedures are designed to give structure to our deliberations and to our consideration of the argument, evidence and data provided to us. They also improve the transparency of our processes because we seek to document for each assessment the application of those procedures and our rationale for reaching the assessments we consider to be most appropriate.

However, we face substantial data inadequacies, other key information gaps or complexities at all levels of our work. Accordingly, we do not consider we can or should be mechanistic in our deliberations. Equally, in the face of these issues, we need to ensure there is an appropriate balance in our overall assessments. We consider that, as a Commission, we should where necessary exercise informed judgment in reaching our recommendations. We consider such judgment, supported by sound reasoning and focused on achieving the horizontal fiscal equalisation (HFE) objective, is an essential part of our response to the terms of reference.

In exercising our judgment, we seek to take the fullest account possible of State views, notwithstanding they are often substantially in conflict with one another. The consultation we have undertaken has strengthened our ability to exercise the most informed judgment in finalising our recommendations.

## HOW DO WE EQUALISE FISCAL CAPACITY?

1 The HFE objective requires that States receive GST to equalise their fiscal capacities.

2 An equal per capita (EPC) distribution of the GST would equalise fiscal capacities only if State circumstances were the same. However, State circumstances are not the same and their fiscal capacities differ for the following reasons.

- The per capita revenues that can be raised from any given tax rate differ because State revenue bases differ. For example, there are differences across States in mining production and land values.
- The per capita costs of providing any given level of service and acquiring the necessary infrastructure differ due to differences in service use and cost structures. For example, there may be relatively more school-aged children in

one State than another necessitating more schools and teachers, and market-related factors may result in higher wage levels in some States than others.

- States need to invest and save at different rates to cope with the implications of the changes in their populations.
- States receive different amounts of payments for specific purposes from the Commonwealth.

3 We often refer to such non-policy influenced differences among the States as 'disabilities' which generate different State needs for GST. They mean States need more or less than the average per capita amounts of GST. For example, States receive relatively more GST per capita if their costs of providing the average level of services are relatively high or their ability to raise their own revenue is constrained by relatively small revenue bases. Conversely, States receive relatively less GST per capita if their costs of providing the average level of services are low or they are better able to raise their own revenue.

4 The GST distribution aims to equalise State fiscal capacities. It does not try to equalise their actual fiscal outcomes because States choose to provide different levels of service, impose different tax rates or acquire different levels of assets. Equalising actual fiscal outcomes would allow States to shift part of the costs of their higher standards of service, extra assets or lower taxes to other States.

5 In this review, as in the last, we consider State fiscal capacities are equal when, after receiving GST and other Commonwealth payments impacting on fiscal capacities, and operating at the average level of service provision and revenue raising, their per capita net financial worth is equal to the average. In particular, this enables the Commission to directly recognise State infrastructure and non-financial asset requirements when their circumstances change. For example, States with faster population growth are assessed as needing the capacity to invest in more infrastructure than slower growing States, and their GST shares rise as a result when they experience that faster growth. In earlier methodologies, the faster growing States would have been assessed as needing to borrow more, and the GST distribution moved over the life of such borrowings, giving them the capacity to finance greater interest payments.

6 In both the 2004 Review and the 2010 Review, the Commission recognised differential depreciation requirements as infrastructure was used over time.

7 The GST Distribution Review[1] said 'the changes to the capital assessment in the 2010 Review — including the population growth needs assessment — were a positive step forward'. Nevertheless, it recommended the Commission consider adopting a 'simplified and integrated assessment framework' because it 'could improve simplicity, transparency and stability while addressing concerns about the treatment

[1] The Australian Government, *GST Distribution Review, Final Report*, October 2012.

of subsidised public non-financial corporations (PNFCs), for example, public transport and social housing PNFCs, in the current framework'.

8 The terms of reference picked up this recommendation and asked the Commission to examine the merits of adopting a 'simplified and integrated assessment framework', as per recommendation 6.3 of the GST Distribution Review Final Report.

9 The GST Distribution Review approach involves moving from the existing direct assessments of capital requirements, the investment necessary to achieve them and the net lending (borrowing) needed to equalise State net financial worth to one which:

- equalises net worth, so that a State which needs more infrastructure per capita holds less net financial worth per capita, reducing its capacity to earn interest
- is based on a modified operating statement framework which includes the deficits of State housing and public transport agencies
- includes 'population growth needs, based on population growth dilution of net worth', which is general government infrastructure plus net financial worth
- 'scales up' the depreciation assessment by a user financial cost of capital element (that is, by the holding costs of capital) to compensate for the reduced capacity to earn interest on net financial worth.

10 Those changes would replace the current investment and net lending assessments.

11 The GST Distribution Review said this approach is consistent with the upfront inclusion of Commonwealth capital payments and should leave GST outcomes 'largely unchanged in the long term' because the largest component of the current assessment (the population growth needs) is retained.

12 Only South Australia fully supported this approach. However, New South Wales said the Commission should adopt an approach based on the holding cost of infrastructure and Victoria said we should cease all capital assessments.

13 We consider the simplified and integrated approach and other holding cost approaches are:

- less transparent and simple, because they assess differences among States in infrastructure requirements through the holding costs of capital, an artificial construct, rather than an explicit assessment of spending required to acquire extra infrastructure recorded in State budgets
- less reliable, as judgment is required to set the holding cost of capital and that judgment affects the GST distribution
- less contemporary, as the simplified approach suggested by the GST Distribution Review recognises the GST impact of changes in State circumstances (other than population growth) over the life of the infrastructure. Other holding cost approaches spread the implications of both

population growth and other changes in circumstances over the life of the infrastructure.

14 For these reasons, we have decided to continue to **implement** the equalisation objective in the manner adopted in the 2010 Review.

> Fiscal capacities are equal when each State has the capacity to hold the average per capita value of net financial worth (and earn income from it) after recognising their differential revenue raising capacities, different amounts received from Commonwealth payments and differential costs of providing the average level of services and holding the infrastructure necessary to provide them.

15 This approach can be seen as one where the GST distribution provides, as well as recurrent support for service provision, a capital grant to allow each State to acquire the infrastructure and financial worth it needs in a year. In effect, spending by States on new infrastructure is treated the same way as other expenditures — as needs change, the GST distribution responds. This reflects the fact that GST revenue is fungible and States can use it to provide services and/or acquire new infrastructure.

16 We consider this approach is appropriate for the following reasons.

- It is more contemporary as it provides States with the financial capacity to acquire the infrastructure and financial worth they need to provide the average services as their economic and demographic circumstances change.
- It explicitly recognises the effects on State fiscal capacities of population growth in a complete, reliable and simple way.
- It explicitly recognises factors affecting balance sheets and operating results, which is consistent with recent accounting and economic trends.
- It is consistent with State practices of using recurrent revenue to help fund their infrastructure acquisition.

## USING THE SUPPORTING PRINCIPLES

17 The supporting principles are helpful in guiding the development of Commission methods, but it is the equalisation objective that must be achieved through the distribution of the GST. This section explains how the supporting principles (set out in Box 1) are used in practice to achieve this.

**Box 1 Supporting principles**

The Commission adopted the following supporting principles to help it make and explain decisions on the development of methodology to achieve horizontal fiscal equalisation. Equalisation will be implemented by methods that:

- **reflect what States collectively do.** This principle aims to ensure the GST distribution provides financial support for the services and infrastructure State governments are providing, given the revenues they are able to raise.
- **are policy neutral.** This principle aims to ensure a State's own policies or choices, in relation to the services it provides, or the revenues it raises, do not directly influence the level of grants it receives or that the Commission's methods do not influence State decision making.
- **are practical.** This principle means assessments should be based on sound and reliable data and methods, be as simple as possible while also reflecting the major influences on State expenses and revenues.
- **deliver relativities that are appropriate to the application year (contemporaneous relativities).** This principle means that, as far as possible, the distribution of GST provided to States in a year should reflect State circumstances in that year.

These principles are subsidiary to the Commission's primary objective of equalisation.

## What States collectively do

18 Giving effect to the 'what States collectively do' supporting principle requires the Commission to bring together the experiences and policies of States into a view of 'the average State' and then apply those policies to the circumstances of individual States. Doing this raises significant assessment issues, including the scope of activities to be included, how averages should be constructed and how the experiences of different States should be weighted in an average.

### *State activities*

19 The GST distribution provides significant financial support to the activities of State governments and its relevance is enhanced if it accurately reflects the services they provide, the infrastructure they are acquiring and the revenues they raise.

20 Therefore, the range of activities covered by our assessments must be comprehensive and include all State general government type activities.

21 In this review, we have changed our coverage of State activities to include the operation of PNFCs providing public housing and urban transport. In the 2010 Review, we treated these PNFCs as outside the scope of the general government sector and only dealt with subsidies and grants paid to them. We note a number of States have

brought the functions previously provided by such PNFCs within the scope of their general government sectors. After giving careful consideration to the nature of these functions, we have concluded that, for our purposes, they are best considered as general government sector activities[2]. The States are responsible for delivering urban transport and public housing services, whether they are provided by government departments or through PNFCs. States decide the level of services to be delivered, set the revenues to be collected (often collecting them and reimbursing service providers) and meet deficits.

22 The prime difference resulting from the inclusion of these PNFCs is that their infrastructure acquisitions and depreciation are included in our investment and depreciation assessments. They are no longer included as part of State net financial worth (and their land holdings are treated as general government land). As a result, the impact of differences between the States in the capital required for these functions will be directly recognised in our assessments. There is no change to the allowances made for population growth.

23 We consider including these activities will not add undue complexity to our assessments. We can adopt standard assessment approaches. Provided reliable data are available, this will allow us to better and more transparently recognise the different impact on State fiscal capacities of these activities, particularly their capital requirements.[3]

### *Average standards*

24 The level of services and associated infrastructure States are funded to provide, and the revenue raising efforts they are assessed to make, are an average of those actually provided or made. The principle of 'what States collectively do' leads us to use the average of what we observe States to do — an internal standard — as distinct from what they could or should do — an external standard. They are derived quite simply by dividing the total expenses, infrastructure or revenue by the total Australian population to give average levels. Average efforts are derived by dividing the total revenue by the national tax base. They are therefore influenced by what States do, to the extent each State participates in the activity.

25 External standards are not affected by the policies of any State. They may be based on some 'ideal' level of services, a desired level of service delivery efficiency or an economically efficient tax policy. One State said the standard could be based upon

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2 This is not a question of 'what States do' in an administrative sense but a question about the real nature of the functions. That they are more like general government functions is supported by the approach taken to them in State budgets – see for example the Queensland budget documents which report 'each year part of the Queensland Government's capital program is undertaken through the PNFC sector'.

3 Because of this, the 'general government' net financial worth number to which we equalise is not equal to ABS Government Finance Statistics net financial worth.

minimum standards and minimum efforts, as a way of providing incentives for efficiency in service delivery while still allowing jurisdictions to fund service provision at 'acceptable' levels. However, they require the Commission to make decisions about what constitutes an acceptable or 'ideal' level of services, desired level of service delivery, efficiency or economically efficient tax policies.

26 We do not consider it is our role to base our recommendations on any normative view of service delivery or revenue policy. We consider the most relevant and neutral approach is to base our recommendation on the actual average policy of the States as revealed in the data. Only in circumstances where other supporting principles come into play would we consider an alternative approach[4].

27 As changing internal standards in any way would destroy the relationships we observe, we have not discounted or otherwise adjusted standards as a means of more actively encouraging efficiency. We have equalised States to the average cost of service delivery which incorporates the average level of technical efficiency. If a State is more efficient than average, its own budget benefits. If a State is less efficient than average, it must finance its inefficient practices itself.

28 Most States supported the approach, noting the importance of not making adjustments to standards to attempt to influence economic development or efficiency.

29 The only case when it may be appropriate to use a standard different from the one dictated by what States do could be to overcome policy neutrality concerns. As noted by two States, an external standard might be used in such a case as a last resort. However, in our view, primacy should still be given to achieving HFE.

### *Recognising innate differences in what States do*

30 We also reflect average State policies on revenue raising or service delivery by observing what States do.

31 For example, we observe the bases States actually tax. Most often, this is the legislative base, with adjustments to derive average exemptions and thresholds because this is what States collectively tax. We do not believe global measures (such as household disposable income or adjusted gross State product), or broader measures of potential tax bases unadjusted for differences in tax free thresholds, progressive rates of tax or other exemptions, are good indicators of what States can raise. They do not reflect State policies, the different revenue raising capacities relating to particular sources of revenue or where the burden of taxation actually falls. We prefer actual measures of what States tax rather than having to make judgments about what States intend to tax, such as would be required if we accepted

[4] In the case of our Roads assessment, practical issues mandate making an assessment based on a stylised view of average policy, rather than the measured average policy of States.

a 'capacity to pay' approach. Those judgments are much harder than making decisions on adjustments to legislative tax bases. For these reasons, we have not adopted global or broad indicators of State revenue raising capacity, although some States have argued they may be simpler, more policy neutral, remove disincentives to tax reform and better capture the capacity of the community to pay.

32 Nor are we attracted, as a general approach, to seek to look through what we observe States to do, to undertake some deeper analysis of the intent of State policy, as appears to be suggested by Western Australia. We cannot be certain why States define tax bases in certain ways or why they set particular tax rates. In setting a land tax, are States taxing wealth, as in property values, or are they taxing the capacity of their businesses to pay? We consider the evidence and analysis required to determine that would appear beyond the data capacities of the States and would lead us to rely even more on judgment.

33 On the service delivery side, an influence on State expenses, or disability, is only recognised if we observe that it leads to 'material' differences in higher or lower spending by States. We observe what the data tell us about the different spending patterns States adopt for different groups in their populations – differentiated by characteristics such as age, socio-economic status and location. We recognise what each State would need to spend if it spent these average amounts on its own population groups. For example, if States did not spend more on delivering services to Indigenous people, Indigenous status would not be recognised in the assessments as a disability.

34 In adopting this approach, States with more of a revenue base or a group to whom services are provided will have a bigger impact on the average policy. For example, a State with more of the revenue base will have a larger impact on the average tax rate used to calculate revenue raising capacity.

### *Determining which, and how, assessments will be made on the basis of average policy*

35 Where States follow different policies, the Commission needs to exercise its judgment to determine the average policy to guide which assessments should be made and how. If the Commission decides a tax or service is part of what States do, it allows differences in States' underlying capacities to affect GST shares.

36 We have extended our usual approach to determining average standards to determining average policy. We aim to use what the data tell us about what States do to decide what and how assessments are made in this review. Average policy now reflects the average of what all States do, regardless of how many States make a zero effort. If even one State does something (raises a revenue or provides a service), that becomes a part of what States do collectively on a weighted basis, but only if an assessment will have a material impact on the GST. Our preference is not to see

average policy as a switch or toggle, where States collectively either do, or do not do, something. Rather, we see average policy as a continuum, where:

- the effective tax rate on a base is a reflection of the share of the tax base taxed by States
- the average per capita spending on a service will depend on the proportion of the population in States providing it.

37 The more States there are taxing a base, the higher the effective rate will be; the more States providing a service, the higher per capita spending on the service.

38 We decide if a differential assessment is to be made solely on the basis that it can be done reliably and is materially different from an equal per capita assessment.

39 Where only one State raises a tax or provides a service, the effective tax rate or national per capita spending is most likely to be very low and a differential assessment would be unlikely to be material. However, if one State raises a tax on a large tax base or spends a large amount on a service, a differential assessment could be material, in which case the impact on State fiscal capacities should be recognised.

40 Where possible, we have also used this approach in other parts of assessments. For example, we need to decide whether and how we should recognise that States only tax above a threshold or whether and how they apply progressive tax rates. We also need to decide whether a particular use disability should be assessed and what rates represent average policy.

41 We used a data driven approach to make these decisions in the last review and have continued to do so in this review. For example, in the Land tax assessment we estimate the impact of progressive rates of tax by calculating average effective rates of tax for each of 15 value ranges, applying those effective rates of tax to each State's value of land in that range and aggregating across the 15 value ranges. This recognises the different policies States have on the tax rates they apply to different value ranges.

42 However, we cannot adopt this approach in all assessments, often because of data limitations. We do what is practical. For example in the Payroll tax assessment, we use a weighted average of State thresholds because the data are not available to calculate effective tax rates below different thresholds.

43 We also use the same approach in expense assessments when we can. The Health assessment uses estimates of national average spending on people who are elderly, Indigenous, of low socio-economic status, and living in different parts of the State to calculate what States would spend if they adopted average policies. We cannot use this approach in all assessments as data are not always available.

44 We consider adopting this approach to average policy more widely will lead to better HFE outcomes than the previous approach which required a majority of States and a

majority of the tax or service base to be affected for an activity to be accepted as average policy. The previous approach meant a unique tax or service had no impact on the GST distribution. It was regarded as above average policy and States retained all of the revenue or had to fund the unique service. It was based on a view that if only one State did something, it was not average policy. We ran the risk of not making an assessment of a material tax, if only one State chose to levy it, or of a service only one State decided to provide.

45 Now the impact on States' fiscal capacities of everything States do will be assessed if it makes a material difference. If a State collects a revenue and in a particular way, or provides a service, its capacities and costs will be reflected in the assessments – no longer will we ignore where a State does something different. More appropriate weights (revenue and expense) will be applied to the disabilities we consider need to be recognised. The approach will be more inclusive of different State policies. Most States recognised the conceptual merit of this.

46 The previous approach was difficult to use if more than one State was involved. For example, it did not help to decide what was average policy if, say, four States imposed a tax and four did not; or if six States imposed a tax but these States had only 20% of the tax base. A judgment was required and there were times in the past when decisions on average policy were made on the basis of the number of States involved, the proportion of the tax or service base covered or what was easiest. Consistency in decision making was not always achieved.

47 We acknowledge the new approach will not always be simple to implement. As some States noted, there is potential for it:

- to require data that are not available (in the case of taxes some States do not impose), requiring estimation
- to increase the number of dual assessments where States provide services in very different ways
- to increase the number of materiality tests staff need to undertake.

48 Despite these issues, we consider it a better in-principle starting point for determining average policy, especially for revenue, than the previous approach. However, we acknowledge it can only provide a guide and we need to be practical in deciding what characterisation of average policy best meets the HFE objective in a particular case.

49 New South Wales, Victoria and the Northern Territory preferred retaining the previous approach. However, we consider the new approach should be adopted because the Commission is instructed to achieve HFE and all material influences on State fiscal capacities should be recognised. We recognise there was a low risk of missing material influences under the old definition but consider there is little cost associated with providing this new clarity.

50 The new approach has had an impact only at the margin of our assessments but it has changed the way we consider what States do. It reduces the scope for arbitrary judgments and, where possible, uses data to drive decisions. Evidence of this can be found in assessment chapters.

### *Equalisation of interstate costs on a 'spend gradient' basis*

51 The terms of reference ask the Commission to investigate whether it is appropriate and feasible to equalise interstate costs on a 'spend gradient' basis, as per recommendation 6.4 of the GST Distribution Review report. The spend gradient approach is based on a view of what States should do. It starts with the proposition that on efficiency grounds States should deliver a lower standard of service where costs of delivering services are high. The rate at which service standards decline with rising costs is the spend gradient.

52 We do not intend to impose a spend gradient on interstate costs because we consider it inconsistent with the achievement of HFE. Using a spend gradient (providing less GST to States where wage and non-wage costs are high) would mean not all States had the same capacity to deliver services.

53 The spend gradient approach has no support from States, although Victoria suggested one way of implementing the GST Distribution Review recommendation could be to apply a spend gradient to regional costs. It suggested a discount which increases with remoteness could be applied.

54 We take the same view on applying a differential discount on the basis of remoteness to regional costs as we do the concept of applying a spend gradient to interstate cost differences. The purpose of the regional costs assessment is to attempt to give States the capacity to provide the same standard of service to comparable communities. This means our assessments assume all similarly remote communities are funded to the same standard of service.

55 In any case, if States do provide lower quality services in higher cost areas (or respond in any other way), we would capture that with our approach. Therefore, we reflect a spend gradient to the extent it is what States do and we can measure it.

## Policy neutrality

56 The intention of this supporting principle is to ensure, as far as possible, a State's own policies or choices (in relation to the services it provides or the revenues it raises) do not directly influence the grant it receives or that the Commission's methods do not influence State decision making. We acknowledge it is not easily achieved and we implement policy neutrality by undertaking assessments on the assumption that each State follows the average observed policy in delivering services and raising revenue.

57 The Commission recognises the theoretical and empirical evidence, particularly from the public economics literature, which suggests horizontal fiscal equalisation may create incentives for States to alter their policies with consequential economic efficiency costs. The intention of our policy neutrality supporting principle is to ensure that in implementing equalisation in Australia these potential costs are minimised while still recognising the primacy of the equalisation objective.

58 This is achieved by undertaking equalisation on the assumption that each State follows the average observed policy. If a State adopts a policy mix varying from the average, for example, through a lower than average tax rate, the direct impact of that choice is borne by the State and not reflected in its grant. Similarly, if a State delivers services at below average per unit cost, it retains the benefit from this effort.

59 However, since our methods aim to equalise fiscal capacities based on the average of 'what States do' – an internal rather than external standard – they will never be entirely policy neutral. This of course is true of equalisation systems in operation in other federal and unitary countries alike. The potential for any one State to influence the average, and hence its grant, always remains.

60 This is most obvious where one State dominates a tax base, as for iron ore where Western Australia's royalty rate determines the average rate. It is the case, to a lesser degree, for some other revenue bases. The use of internal standards also means the more populous States, such as New South Wales and Victoria, have a greater effect on the standard, and hence average revenues and expenses, than less populous States. Any model that equalises fiscal capacities using internal standards can never achieve full policy neutrality.

61 All States consider policy neutrality to be a valid supporting principle but some have expressed concerns that, in developing assessments for particular revenue bases, the Commission does not give it sufficient weight.

62 While the Commission understands this view, we believe our primary goal is to equalise the fiscal capacities of the States and policy neutrality is a secondary supporting principle. It is also not clear to us that the policy neutrality effects of equalisation are material for our assessments. We also consider potential solutions – such as the use of external standards – are not reliable or simple and would be inconsistent with the 'what States do' principle. Other options, such as combining revenue bases into aggregated groups to dilute the impact of any one State's policies on the average, create their own difficulties. Further, the use of three year lagged actual data for the application year means there is a substantial lag between State decisions and any grant impact through the average standard. In our view, this significantly limits any nexus between changes in a State's policy and the consequences, if any, for its grant. Finally, in practice we believe State policy decisions are based overwhelmingly on considerations of underlying marginal cost

and marginal benefit rather than possible grant impacts. The GST Distribution Review supported this view.

63 For these reasons, the Commission believes it continues to strike an appropriate balance between the primary goal of achieving horizontal fiscal equalisation and the secondary supporting principle of policy neutrality.

## *Second round effects*

64 With the approach we have adopted there may be second round consequences of policy choices on the GST distribution.

65 ***Elasticity.*** Because the methodology uses observed tax bases to measure the capacity of a State to raise revenue, the indirect impact of State policy decisions can affect their GST shares. Economic theory suggests that if States' actual tax rates differ from the average, that difference can affect the level of activity and therefore the observed size of States' tax bases. States imposing above average rates of tax would shrink their tax bases. Conversely, where a State adopts a lower tax rate than other States, it would be expected that its tax base would be increased.

66 Elasticity adjustments have been assessed in the past, albeit on a very limited basis in relation to revenues from petroleum, tobacco and mining. These were discontinued in the 1999 Review because of concerns about our ability to reliably measure elasticity effects.

67 In this review, we have evaluated assessments to see if such second round impacts are material and, if they are, how they should be recognised, consistent with achieving HFE. We have concluded, however, that elasticity adjustments should not be used in the 2015 Review. We did not find a compelling case for adjusting State revenue bases for the effect of differences in tax rates. This was despite the ACT and New South Wales supporting such adjustments on the basis they would reduce disincentives to tax reform. While we accept the conceptual case for elasticity adjustments, we found the adjustments would need to be large to be material, and larger than those suggested in the economic literature. In addition, we do not have reliable data available that would allow us to make an assessment of these effects. Staff Discussion paper CGC 2013-06-S *Implementation and methodological issues*, October 2013 provides details of the analysis.

68 New South Wales suggested the Commission could incorporate tax elasticity effects for insurance using data from the Henry Review (Australia's Future Tax System), possibly combined with discounting. However, the Henry tax review does not contain the estimates of interstate relative elasticity we require. We do not think it is appropriate to discount in this situation. A discount would imply States with higher efforts are those with above average revenue bases. This is not always the case.

69 New South Wales also suggested the Commission assess elasticity adjustments by judgment. States which are high taxing and which are low taxing are known, so a conservative adjustment for each individual tax base could be made, moving its tax base in the appropriate direction. However, the elasticity differs for different tax bases, and we have little information on that. For example, New South Wales raises more revenue from land tax than the Australian average, and less than average from stamp duty on conveyances. An elasticity adjustment would dampen its land tax base and expand its stamp duty base. However, we have no information on which of these adjustments should be larger. As such, we cannot reliably make an elasticity adjustment, even a conservative one. We have decided not to base elasticity adjustments on judgment, as in the absence of reliable data, our judgment would be to introduce small elasticity adjustments and they would fail our materiality threshold.

70 ***State policies on long term industry support.*** Another second round effect may stem from State policy on long term industry support or economic development. This may also have an impact on State tax bases. Western Australia suggested applying a general discount across assessments, particularly the revenue assessments, to recognise the tax base measures we observe are not policy neutral because they have been influenced by the aggregate outcome of underlying disabilities and past State policies. Queensland supported this view.

71 In principle, we would prefer to measure the tax base each State would have if it had the average industry policy, the average level of infrastructure for industry, the average tax rate etc. We consider there are probably differences between States in these policies. However, we have no evidence on which States have more pro-development policies, and which have less pro-development policies. Nor have we identified any method for removing the policy differences in the revenue bases we measure.

72 We do not consider a discount is an appropriate response to this issue. The scale of mining in each State does not necessarily reflect the relative policy of each State. For example, the ACT's lack of mining is not due to its below average effort and it should not lose from an adjustment. Any adjustment for policy impacts would need to redistribute GST between mining States. A discount will not do this. Nor do we know whether to increase or reduce the tax bases of mining States. There is no evidence the actions of any State have increased or reduced their tax bases from the level they would be if average policy had been applied.

73 To operationalise an approach to recognising past policy effects on current revenue bases, the Commission would have to develop ways to identify the effect of each State's policies over time on its respective revenue bases. For example, future State policies on coal seam gas mining may have an impact on the revenue base observed in each State. To make an adjustment, the Commission would need to be convinced

mines approved, or not approved, in one State would not have been treated in that way by the average State when circumstances were similar. Doing so will not be easy.

74 It is not clear the Commission can adjust for such policy differences in an equitable, reliable and comparable way across States. States were unable to propose ways of doing so. However, we will continue to monitor differences in State revenue raising policies to ensure the revenue bases we use are as policy neutral as possible.

## Practicality

75 In developing methodology to achieve HFE the Commission seeks to be practical. The practicality supporting principle is consistent with the requirement in the terms of reference that assessments be simple and consistent with the quality and fitness for purpose of the available data.

### *Reliability and partial assessments – discounting*

76 Ideally, once a conceptual case for a disability has been established, the impact it has on the GST distribution would be assessed as simply as possible, using sound and reliable data. However, sometimes that cannot be achieved. Sometimes data are incomplete, dated, unreliable, fit for purpose or a combination of all these. In these cases, the Commission has to exercise judgment about whether to make an assessment or not. Our judgment is guided by the quality of the available data.

77 At times we adjust indicators using other data where we consider that makes the hybrid a better indicator of fiscal capacities. For example, we have adjusted the 2006 Census based SEIFI measure of the proportion of each State's population in the bottom quintile using the change in State shares of pensioner concession (excluding age pension) and health care card holders between 2006 and 2011 to recognise how socio-economic disadvantage has changed between censuses.

78 However, we are often in the position where we consider there is a conceptual case for including a particular influence which would differentially affect State fiscal capacities, but have imperfect data or methods to measure that influence. We have a choice of either letting the data influence the GST distribution in proportion to its quality or ignoring the data and the particular influence completely.

79 We consider a better HFE outcome is achieved by partially recognising the disability, consistent with the confidence we have in its assessment: a discounted assessment.

80 State views on discounting vary widely. The Northern Territory said discounting should not be done at all. It and some others oppose discounting because it introduces bias, leading to a 'conservatively biased estimate of HFE rather than the best available estimate'. New South Wales said an assessment should not be made if the data or methods are in any way unreliable. It and some others oppose discounting because it facilitates making partial assessments on uncertain data, when

the best course in those cases is to make no assessment. It enables the inclusion of unreliable assessments.

81 However, we consider discounting is an important tool in achieving HFE. We do not use it to introduce conservative bias or to allow unreliable assessments, but to achieve our best estimate of HFE where we have concerns about data or how we are using it. We agree with the ACT view that 'the use of discounting is consistent with the CGC's starting assumption that, in the absence of reliable data, no disabilities should be assessed…'. The logical extension of this assumption is that, when data do exist but their quality is in question, a partial assessment is a valid approach.

82 As discounting is a tool to enable us to better achieve HFE, there are certain times when discounting is not appropriate. For example, we do not discount the best available estimates of national spending, such as those derived from ABS Government Finance Statistics. Discounting is also not appropriate for judgment based estimates, such as the proportion of expenses to which a disability should be applied, because in making that judgment we have already incorporated all relevant information and weighted it according to its reliability.

83 Nor should we discount otherwise reliable assessments because of possible policy neutrality or general uncertainty, as proposed by Queensland and Western Australia. Those States consider all revenue bases should be discounted to reflect the uncertainty about how well the observed revenue bases reflect the average policy. While we agree that, conceptually, differences in tax rates or State development policies may affect the observed bases, we do not consider discounting them necessarily moves assessments in an appropriate direction in terms of HFE. For example, and at an extreme, discounting the value of mineral production would require an assumption the ACT could have a larger mining industry if only it adopted the average policy towards mining development. Such an assumption cannot be supported. In most cases, we do not have sufficient information on the past and present policies States have adopted with respect to the development of their revenue bases or how these would have differed under average policy. As a result, we see no reason to discount revenue bases. We cannot be sure whether doing so would be explicitly moving away from or toward better HFE outcomes. Therefore we do not consider discounting for these reasons appropriate. Victoria and the Northern Territory support the Commission's position.

84 We consider three levels of discounting are appropriate – low (12.5%), medium (25%) and high (50%) – depending on our judgment about the reliability of the data and how it has been used. Box 2 summarises the discounts we have applied in this review and their estimated impact on the GST distribution. For each assessment where a discount has been considered, our decision is described in the relevant chapter.

**Box 2 Discounted assessments in the 2015 Review**

### *Discounts of 12.5%*

- Police custody weights
- Location – wage costs factor
- Location – regional costs factors in police
- Service delivery scale – factors in police
- Net borrowing – assessed net borrowing

### *Discounts of 25%*

- Land tax – differential land values
- Health – proxy measures for community health socio-demographic composition (SDC) and community health non-State sector adjustment
- Location – Regional costs assessment where the general regional costs gradient is extrapolated to other categories and the police gradient to other Justice components
- Service delivery scale – where factors are extrapolated

### *Impact on the GST distribution*

The table below shows the effect of discounted assessments relative to not making an assessment.

**Impact of including discounted assessments, relative to no assessment**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Land tax | 36 | -122 | -31 | -269 | 229 | 81 | 53 | 23 | 422 |
| Health - community health SDC | -183 | -263 | 171 | 37 | 4 | 91 | -49 | 192 | 495 |
| Health - community health non-State | -361 | -22 | -35 | 299 | 19 | 22 | 67 | 12 | 418 |
| Police custody weights | -31 | -143 | 67 | 32 | -4 | 3 | -15 | 91 | 194 |
| Location - wage costs | 342 | -620 | -457 | 830 | -162 | -109 | 83 | 92 | 1 347 |
| Location - regional costs | -524 | -525 | 287 | 274 | 89 | 105 | -60 | 353 | 1 109 |
| Service delivery scale | -30 | -46 | 10 | 24 | 24 | 3 | -5 | 20 | 82 |
| Net borrowing | 85 | -9 | -21 | -115 | 39 | 22 | 0 | -1 | 147 |
| Total | -666 | -1 750 | -9 | 1 112 | 238 | 218 | 73 | 783 | 2 425 |

Source: Commission calculation.

The table below shows the impact of making the discounts compared with undiscounted assessments.

**Impact of making discounts in assessments, relative to undiscounted assessments**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Land tax | -12 | 41 | 10 | 90 | -76 | -27 | -18 | -8 | 141 |
| Health - community health SDC | 61 | 88 | -57 | -12 | -1 | -30 | 16 | -64 | 165 |
| Health - community health non-State | -24 | -7 | 15 | 15 | -13 | 2 | 5 | 8 | 45 |
| Police custody weights | 4 | 20 | -10 | -5 | 1 | 0 | 2 | -13 | 28 |
| Location - wage costs | -49 | 88 | 65 | -119 | 23 | 16 | -11 | -12 | 192 |
| Location - regional costs | 95 | 103 | -66 | -53 | -14 | -22 | 12 | -55 | 210 |
| Service delivery scale | 3 | 5 | -2 | -3 | -2 | 0 | 0 | -2 | 9 |
| Net borrowing | -12 | 1 | 3 | 16 | -6 | -3 | 0 | 0 | 21 |
| Total (a) | 115 | 374 | -23 | -82 | -78 | -62 | 14 | -258 | 503 |

(a) Total for each State is not the sum of the components. Total also includes the flow on impacts in investment and the interactions between wages and regional costs.

Source: Commission calculation.

85 We recognise the importance of applying discounts in a consistent manner, as requested by a number of States. To that end, we revisited all discounts, using the criteria set out in our assessment guidelines in Box 3, once all methods had been settled. We consider we have discounted consistently and treated data of comparable quality and methods of equal reliability in a comparable way.

## *Materiality thresholds*

86 Materiality thresholds are set with reference to the impact an assessment has on the per capita GST distribution for at least one State. For the 2010 Review, assessments which did not move more than $10 per capita were not included; data adjustments which did not move $3 per capita were not made. The Commission concluded that differences among States not reaching these thresholds would not have a meaningful impact on the GST distribution. This aided simplification and clearly indicated the Commission seeks not perfect, but approximate, equalisation. It said in future reviews the thresholds should be at least indexed to ensure those simplification gains were not eroded over time.

87 The GST Distribution Review recommended a further round of simplification by substantially lifting the materiality thresholds, rather than merely indexing them. It recommended thresholds be quadrupled (recommendation 3.1). The panel said its recommendation would remove six expense disabilities and a revenue category.

88 Some States supported the increase in the materiality thresholds, although generally as part of a broader strategy for change, such as to develop broad indicators, or to improve reliability.

89 Victoria, South Australia, Tasmania, the ACT and the Northern Territory did not support an increase in materiality thresholds. These States generally considered any increase to be arbitrary and not consistent with achieving equalisation. Tasmania, in particular, was concerned by a possible 'ongoing incremental simplification'. It said the Commission appeared to be establishing a precedent where it could increase the materiality threshold each review, and gradually unwind HFE. The Northern Territory reiterated its view that the use of materiality thresholds was not consistent with comprehensive HFE.

90 We continue to accept there is some degree of noise around the measures of State fiscal capacities we adopt and it is appropriate to only recognise disabilities which are materially different from equal per capita. We do this through the use of materiality thresholds. They mean we ensure the major influences are recognised and our methods are as simple as possible and consistent with achieving HFE.

91 We do not consider an increase in the materiality threshold in this review reflects an implied recommendation for real growth in materiality thresholds in each review. Rather, we consider we introduced materiality at a conservative level in the 2010 Review, and, reflecting our conclusion that it was effective, have set it at a less conservative level. With a national average expenditure of around $9 500 per capita in 2013-14, a materiality threshold of $30 per capita does not seem excessive.

92 In the 2015 Review, we are applying a $30 materiality threshold in making decisions on whether a disability should be assessed and the appropriate level of disaggregation in a disability measure.

- If a disability is material at its broadest level of disaggregation across all categories, it would be included in all assessments where there is a conceptual case to include it and this can be done so reliably. For example, if there is a conceptual case that location has an impact on the use of a service, and if reliable data on use by location were available, then a location split would be included in the assessment of differential use. If there were no conceptual case, or reliable data were not available, a location split would not be included.
- If it is material, at $30, to disaggregate a variable more finely within a specific category, we would do so. For example, if we disaggregate appropriate expense assessments by age into our broadest age groups (0-14; 15-64; 65 and over) we get a materially different result from not using age at all. Therefore age should be included, in these age groups, in any assessment where there is a conceptual case. In each individual category assessment, we would add any additional age groups that make a material difference to the assessment.

93 However, consistent with our view that any guidelines should be used in a considered way, we will not necessarily apply materiality thresholds mechanistically. For example, with volatile items which may have assessments above and below the

threshold in different years, the Commission may exercise its judgment on the most appropriate outcome.

94 Table 1 provides a summary of how we have decided whether to make an assessment, including the materiality guidelines we have adopted.

**Table 1 Summary of use of materiality guidelines for the 2015 Review**

| Decision | Main criteria | Comment | Threshold (a) |
|---|---|---|---|
| Assessment of disabilities, including number of groups | Use assessment guidelines (conceptual case, empirical evidence, suitable method, suitable data, materiality) | Materiality test last, GST impact aggregated across categories | $30 |
| No. of groups within a disability | Materiality, suitable data | Materiality test to determine appropriate disaggregation, GST impact within a category | $30 |
| Data set | Fit for purpose, suitable | If decision on data adjustment unclear, or difference likely to be small, use materiality test | $10 |
| Adjustment to remove a non-taxable part of base or non-users | Data fit for purpose, reliable measure – to better reflect what States do | Materiality test required | $10 |
| Adjustments for policy differences | Policy neutrality, data reliable adjustment | Materiality test of impact of aggregate policy adjustments | $10 |
| Correction of errors, misclassifications (b) | Should always be done | Materiality not relevant, do if can be done reliably | $0 |

(a) Threshold applies to per capita GST impact on one of more States.
(b) As part of a review or update, errors discovered in how Commission decisions have been implemented or revisions to data should always be made, regardless of their impact. Collectively these are likely to be material.

## *Rounding relativities*

95 The terms of reference ask the Commission, having regard to the recommendations of the final report of the GST Distribution Review, to consider the appropriateness of continuing to round relativities to five decimal places.

96 The Final Report said the current system of horizontal fiscal equalisation appeared to be overly precise, and one way to overcome this was to move from specifying relativities at five decimal places to specifying them at two decimal places (Recommendation 3.2).

97 No State supported a reduction in decimal places for relativities. New South Wales agreed there is false precision in the HFE system. However, it said rounding relativities to two decimal places would not remove false precision and could produce volatile outcomes in GST shares. Queensland said it would not oppose rounding if it had no material impact. Western Australia said five decimal place relativities should

be retained, and rounding could encourage arguments over small changes if they impacted the rounding. Tasmania supported retaining five decimal place relativities. It said rounding would have no impact on the underlying calculations but could result in material and arbitrary variations in year on year outcomes in GST shares. The Northern Territory said five decimal place relativities were appropriate, and rounding would provide minimal gains, if any, in terms of simplicity and perceived views around accuracy.

98 An analysis of relativities since the 2000 Update indicates the cumulative effects of rounding to two decimal places would be small, but there could be material impacts on the GST distribution in any one year. As such, and because we consider the simplification benefit to be negligible, we will continue to report to five decimal places.

## Contemporaneity

99 This principle means that, as far as practical, the distribution of GST provided to States in a year should reflect State circumstances in that year. Without that, the capacity to provide services and the associated infrastructure at the same standard, if each State made the same effort to raise revenue from its own sources and operated at the same level of efficiency, would be compromised. We consider, in general, the quickest response to a change in circumstance is most in accord with the 'principle of HFE'.

100 There needs to be a balance between contemporaneity, certainty that a change will be made and data accuracy. We consider the current approach of basing assessments on the average observed data for the last three years provides a balance between approximating conditions likely in the year a recommended GST distribution could be implemented, and addressing practical concerns about data reliability, certainty and stability.

101 The main exception to this approach is our treatment of major changes in Commonwealth-State financial relations to reflect the situation of the year in which the recommended GST distribution will apply. We 'backcast' the changes into the assessment years. This is possible because there is relative certainty as to prospective payments and other changes under the new arrangements. Chapter 2 provides more details. Sometimes State policy changes, such as the abolition of a tax by all States, may be backcast.

102 This approach is consistent with long standing State views on how contemporaneity should be moderated to deal with:

- uncertainty about whether a change in circumstance (such as the introduction or abolition of a new tax) will be made in the application year
- the lack of reliable data available in advance for the application year

- the desire of the States for substantive certainty on GST shares at the time of their State budgets
- the desire of States for a degree of stability in GST shares.

103 However, three issues have arisen in this review.

- Victoria opposed backcasting proposed changes in State taxation policy.
- The terms of reference asked us to consider the use of data which are updated or released annually with a lag, or updated or released less frequently than annually.
- Western Australia said the Commission could move the balance in the relativities further toward the contemporaneity principle, by for example, making the Mining revenue assessment more contemporary.

104 The first two are addressed below. The last issue is addressed in Volume 1, Chapter 2 — Main issues.

### *Backcasting of policy changes*

105 Only in exceptional circumstances would the Commission consider it appropriate to backcast State policy changes. For example, if all States were to abolish or introduce a material tax which affected the year in which the relativities were to be applied, the Commission would consider whether backcasting the change into the three historical years would mean the relativities would better reflect State fiscal capacities in that year.

106 Backcasting would, however, on practicality grounds, only be implemented if the application year changes are large, reliably known and able to be applied to assessment year data. The Commission would not expect to backcast any decision of an individual State or group of States as this would be unlikely to be sufficiently large. In most cases, policy changes will affect the relativities when the year in which the change occurred becomes an assessment year.

107 Victoria said any proposed changes in State taxation policy should not be subject to backcasting because adjustments made for proposed taxation policy changes in past annual updates turned out to be based on false premises. However, Queensland and Tasmania argued, and we agree, this could not be applied in a blanket manner, particularly if the changes were associated with a major change in Commonwealth-State financial arrangements (as it was when States agreed in 2006 to abolish certain State taxes).

### *Use of non-annual and lagged data*

108 The GST Distribution Review noted the Commission often revises data it used in a previous inquiry. It said there were a range of reasons why the Commission might consider revising its data — more recent relevant data become available, to correct

errors, or to address changes in statistical collection methods. However, the GST Distribution Review expressed concern about the potential for revisions to cause undue volatility in States' GST shares, which could occur if the revision was introduced into more than one assessment year. It focussed on two types of data:

- annual data published with a lag, such as the AIHW morbidity data set that is published with a two year lag
- non-annual data, such as the Census and the ABS Survey of Education and Training data.

109 The GST Distribution Review recommendation was:

> Where data are updated or released annually with a lag, or updated or released less frequently than annually, the CGC should allow the newly available data to only inform changes in States' circumstances in the most recent assessment year and not be used to revise previous estimates of earlier inter survey years (recommendation 6.2).

110 New South Wales supported the recommendation. Victoria suggested inserting an extra year's lag into the assessment years, while not being as contemporaneous as the current approach, may provide a more accurate representation of the financial situation of States. Most States supported the current approach, that assessments should reflect the most reliable and up-to-date data available. The Northern Territory said there could be instances where use of the latest data highlights a deficiency in an assessment (for example, where the latest population data are used but do not necessarily align with service user administrative data).

111 Implementing the GST Distribution Review recommendation would mean lagged data and non-annual data would be introduced in the year they became available, but they would not be used to revise the corresponding data in earlier assessment years. Thus, under this approach, data are phased in and phased out. A new data set would be used until its replacement became available. For example, new 2011 Census data would be first used for the 2011-12 assessment year and remain until new data become available. The 2011 Census data would not be used to revise assessments for years prior to 2011-12. They would continue to be based on 2006 Census data.

112 The GST Distribution Review approach takes a longer term view, of equalisation being achieved if data are phased in and phased out, even if its impact is not synchronised with the period to which the data relate. This approach is consistent with the concept of equalisation over time.

113 However, the Commission's view, and the purpose of the contemporaneity principle, is that it is trying to achieve equalisation in the year of application. Under this approach, the latest available data best reflects States' circumstances in the year of application, unless it were in some way compromised, reflecting temporary influences.

114 There are two arguments against the GST Distribution Review approach. First, it would mean data are not aligned with other data from the same period and this could have grant implications. Second, it is hard to conclude the Commission should not revise data to correct errors. In the 2013 Update, the Commission revised State populations in all years because of an intercensal error with the 2006 Census. It did this because it believed the previous (2006 Census based) State populations did not reflect the demands being experienced by States. The approach recommended by the GST Distribution Review would have led the Commission to change one year and leave the error in the other two years.

115 The Commission aims to achieve equalisation in the year of application and, thus will continue to use data in the assessment years which best reflect States' likely circumstances in that period.

## DEVELOPING ASSESSMENTS

116 We begin our methodological work by making decisions on the range of State activities to be covered. These are grouped in a way which allows us to recognise in a practical and easily understood way the innate differences (disabilities) among States which affect their fiscal capacities. We identify and measure these differences in a number of revenue and expenditure assessments, making sure we keep the assessments as simple and reliable as possible. We then bring these individual assessments together. We do this for the last three financial years.

### State activities

117 The range of activities includes all State general government sector activities and urban transport and public housing public non-financial corporations included in the ABS Government Finance Statistics. Revenue and expenditure data are mainly derived from this source, although supplementary details and data for the last financial year are collected directly from States.

### Assessment guidelines

118 We have again adopted assessment guidelines to assist in the development of assessments. The guidelines are consistent with how we have decided to implement the HFE objective and supporting principles. They are also consistent with the requirement in the terms of reference that the Commission should aim to have assessments that are simple and consistent with the fitness and quality of the data. They are set out in Box 3.

119 These guidelines aim to ensure the Commission takes a consistent approach in developing assessments and that the assessments are conceptually sound, reliable and as transparent and simple as possible. The guidelines cover how a conceptual

case should be established, when a method can be judged reliable, what is meant by data that are fit for purpose and of suitable quality and how an assessment should be adjusted if there is uncertainty about the assessment. Materiality guidelines have again been set to ensure only the main influences on State fiscal capacities are recognised and the assessments remain as simple as possible.

120 In particular, the guidelines require that we make assessments consistent with the strength of the conceptual case and the fitness of purpose and quality of the method and data used to make the assessment. In some cases, we will make an assessment but discount its impact when we have some concerns about the measurement of a disability but a clear indication of the appropriate direction of the assessment. Examples of these are provided in Box 2. In other cases, where we have no information on how an influence might affect State fiscal capacities, we choose not to make the assessment. For example, it is likely States have different requirements for tunnels and bridges in their road networks and incur differential costs. However, we have no measure of those different requirements across States, even of the direction they might take, and have chosen not to make a differential assessment.

121 To comply with the guidelines, we have attempted to use data from national collections or independent sources (such as the ABS) as much as possible. These are more likely to be comparable across States and reliable. The States are also important sources of data and, with the States, we have developed a protocol for the provision of data. That protocol includes the development of standard definitions in requests for data, the collection of information on the extent to which data provided by States complied with the requirements, State and staff checks on the internal integrity of the data and explanations for unexpected trends in the data.

122 We have also engaged external expertise to assist with assessments and to provide States with a level of assurance that the guidelines have been followed by the Commission. A list of consultants engaged is in Attachment 7.

123 The guidelines form a key part of the quality assurance process. They allow the Commission to be confident all relevant steps in the decision making process are followed. They allow external parties to follow the decision processes used by the Commission and to form conclusions about whether due process was observed.

124 While the guidelines have been used to inform the Commission's decision making processes, we retain the right to exercise judgment if we have good reasons for not following the guidelines. Reasons are provided where we have deviated from the guidelines.

**Box 3 Assessment guidelines**

1 The Commission organises its work by making assessments for individual categories. Separate assessments will be made when they are materially different from other assessments or if the assessment is easier to understand if undertaken in a separate category.

2 The Commission will include a disability in a category when:

- a presumptive case for the disability is established, namely:
  - a sound conceptual basis for these differences exists
  - there is sufficient empirical evidence that differences exist between States in the levels of use and/or unit costs in providing services or in their capacities to raise revenues
- a reliable method has been devised that is:
  - conceptually rigorous (for example, it measures what is intended to be measured, is based on internal standards and is policy neutral)
  - implementable (the disability can be measured satisfactorily)
  - where used, consistent with external review outcomes
- data are available that are:
  - fit for purpose — they capture the influence the Commission is trying to measure and provide a valid measure of States' circumstances
  - of suitable quality — the collection process and sampling techniques are appropriate, the data are consistent across the States and over time and are not subject to large revisions.

3 Data will be adjusted where necessary to improve interstate comparability. The Commission will not make data adjustments unless they redistribute more than $10 per capita for any State.

4 Where a case for including a disability in a category is established but the Commission is unable to make a suitable assessment of its impact, the options are:

- to discount the impact that has been determined
- to make no assessment.

5 The option chosen will reflect the specific circumstances of the assessment. It will depend on:

- the particular concerns about the assessment
- the strength of the conceptual case for assessing the category or the disability
- the reliability of the method and data
- the sensitivity of the assessment to the data used, measured in terms of the likely impact on State GST shares of an error in the data
- consistency with State circumstances.

6 When the assessment is to be discounted to improve the equalisation outcome, a uniform set of discounts is used, with higher discounts being applied when there is less confidence in the outcome of the assessment or more concern attached to the information. The discounts are:

- 12.5%, if there is not full confidence about the size of an effect because of a low level of concern with the information on which it is based
- 25%, if there is a medium level of confidence about the size of an effect or a medium level of concern with the information
- 50%, if an effect on States is known to be large and there is confidence about its direction but there is limited confidence in the measurement of its size due to a high level of concern with the information
- if there is little confidence in the direction of an effect or its size, no differential assessment would be made (100% discount).

7 The Commission will include a disability in its final assessments if:

- it redistributes more than $30 per capita for any State in the assessment period (the materiality test will be applied to the total impact the disability has on the redistribution of funds across all revenue or expense categories in which it is assessed)
- removing the disability has a significant impact on the conceptual rigor and reliability of assessments.

8 However, the disability may not be assessed in a category, if the amount redistributed in that category is very small and it is impractical to do so.

## Categories

125 Our starting position for the 2015 Review is the category structure from the 2010 Review. Some changes have been made to better allow innate disabilities to be recognised or to make the assessments easier to understand.

126 Eight categories of State revenue and 13 categories of State expenditure have been assessed in this review. There have been a few minor changes to the structure of the revenue assessments, with revenue from vehicle transfers moving to the Stamp duty category and revenue from fire and emergency levies moving to other categories. Assessments of States' revenue raising capacity are undertaken for payroll tax, land tax, stamp duty, insurance taxes, motor taxes, mining revenue, other revenue, and revenue from Commonwealth payments.

127 For expenses, the categories of Admitted patients and Community and other health services have been combined into one Health category and the Welfare and housing category has been split into two. Assessments are undertaken for schools, post-secondary education, health, welfare, housing, services to communities, justice,

roads, transport, services to industry, depreciation and investment. Reflecting the changes in State fiscal balances, net borrowing is now assessed instead of net lending.

128 Administrative scale and native title and land rights expenses are integral parts of the expenses associated with delivering many services. For example, there are administrative scale type expenses associated with schools education, health and welfare. However, to avoid repetition, we have not replicated these components within each assessment, but have made the assessment once, in the Other expenses category.

129 The expense standards in each category have been adjusted, so there is no impact on the GST distribution.

## Assessing disabilities

130 Using the assessment guidelines and the category structure, we have recognised State revenue raising capacity and spending differs from the average because of differences in the economic, socio-demographic, environmental and geographic characteristics of the States. We have quantified these disabilities as reliably as possible, choosing in some cases not to assess a disability if it cannot be measured reliably or it is not material.

131 Revenue assessments aim to measure the revenue each State would raise if it applied the Australian average tax rates to its tax bases — that is, if it made the average effort to raise revenue. Revenue can be raised from taxes, user charges, fees and fines, mining royalties, interest and income from public authorities. Tax bases are generally measured using the value of transactions or goods in each State that would be taxed under the average tax policy. For example, the tax base for property transfers is the value of property sold and for mining revenue it is the value of mining production. A State has a revenue raising advantage if the per capita value of its tax base exceeds the national value. In that case, making the average tax effort will yield above average per capita revenue.

132 User charges can be netted off associated expenses if the same disabilities apply, they can be assessed differentially in association with expenses if an appropriate assessment can be developed or they can be assessed equal per capita if an assessment cannot be made. They cannot be netted off expenses affected by different disabilities. Doing so would mean expense needs would not be fully recognised and the net results would differ from separate gross and net assessments.

133 Expense assessments aim to measure how much each State would spend to provide the average level of service to its population, given its characteristics, if it followed average expense policies. The average level of service is represented by the average expenses per capita, which encapsulates the average policies, service delivery efficiency and circumstances of the States. The average expenses per capita are

adjusted up or down to allow for the financial impact of differences in State circumstances — but only to the extent that those circumstances are beyond the direct control of individual State governments. National differences in spending on particular population groups are recognised together with differences in the shares States have of the particular population group. Differences in national spending levels arise because of differences in the service use patterns of particular groups and differences in unit costs of service delivery. For example:

- Hospital services are used more intensively by some age groups and by Indigenous people. States are assessed to have a disability if the groups that make most use of a service are a larger proportion of their population than they are of the national population. Conversely, they have an advantage (negative disability) if the size of the group is smaller than the national average.
- Higher costs might be incurred in providing services in large cities or in remote areas. States with relatively large populations in the groups that cost more (or living in regions that cost more) are assessed to have disabilities. Wage rates may also vary between States for reasons beyond the control of individual States and some States face diseconomies of small scale. However, higher costs arising from a State's decision to provide a higher level of service do not constitute a disability.

134 In some cases, an EPC assessment has been adopted where we consider State capacities or spending depend on State shares of population alone, disabilities do not exist or it has not been possible to measure a material disability reliably.

135 The disabilities we have assessed for each category and how we have measured them are summarised in Table 2 and Table 3. Details of each category assessment are provided in the following chapters.

**Table 2 Measures of revenue bases**

| Revenue source | Tax base and source of data |
|---|---|
| Payroll tax | The value of payrolls in each State, excluding small employers, the general government sector of the Commonwealth, the States and local government and payrolls below the tax-free threshold. Measured using ABS data on compensation of employees, private sector wages and salaries and public sector wages and salaries. |
| Land tax | The value of residential (non-principal place-of-residence only), commercial and industrial land, adjusted for the effects of tax free thresholds and progressive tax rates. Measured using State data on land values. |
| Stamp duty | The value of property transferred, adjusted to reflect a common range of taxable transactions and the effects of progressive tax rates. Measured using State data on the value of property transferred.<br>The value of vehicles sold. Measured using State data on the value of vehicles transferred. |
| Insurance taxes | Total premiums paid for general and compulsory third party insurance. Measured using Australian Prudential Regulation Authority data on premiums. |
| Motor vehicle registrations | The number of light and heavy vehicles registered. Measured using the ABS motor vehicle census. |
| Mining royalty revenue | Gross value of minerals produced in each State plus an adjustment for revenue received under revenue sharing arrangements with the Commonwealth. Measured using ABS and State data on the value of mining production. |
| Other revenue | Population. All States were assessed to be able to raise the average per capita revenue for this category. |

**Table 3 Summary of disabilities measured in each expense category (a)**

| | | Disaggregated use attributes | | | | | | Other disabilities assessed (b) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | Indicator of State shares | Indigenous status | SES | Remoteness | Age | Urban/Rural pop | Population growth | Non-State sector | Wage costs | Regional costs | Service delivery scale | National capital | Cross-border |
| Schools education | Student numbers | X | X | X | | X | | X | X | X | X | | |
| Post-secondary education | Population | X | X | X | X | | | | X | X | | | X |
| Health | Population | X | X | X | X | | | X | X | X | | | X |
| Welfare | Population | X | X | X | X | | | | X | X | X | | X |
| Housing | Households | X | X | X | | | | | X | X | | | |
| Services to communities | Population | X | | X | | | | | X | X | X | | |
| Justice | Population | X | X | | X | | | | X | X | X | X | |
| Services to industry | Sector size, number of establishments and private sector investment | | | | | | | | X | X | | | |
| Roads | Length and use of roads | | | | | X | | | X | X | | | |
| Transport (c) | Population | | | | | X | | | X | X | | | |
| Other expenses | Population | | | | | | X | | X | X | | X | X |
| Depreciation (d) | Assessed stock | | | | | | | | | | | | |
| Investment (d) | Assessed stock | | | | | | X | | | | | | |
| Net borrowing | Population | | | | | | X | | | | | | |

(a) Administrative scale costs and native title and land rights disabilities for all categories and natural disaster and capital grants for local government expenses are assessed in the Other expenses category.

(b) Some disabilities only apply to a proportion of the category. For more information, please refer to each category assessment chapter.

(c) The population living in cities of different sizes is an influence recognised in this category.

(d) The Infrastructure assessments use relevant category specific use disabilities to calculate assessed stock. A capital cost disability is also applied. The disabilities used are described in the Infrastructure assessments chapter.

## Bringing the assessments together

136 A State's GST allocation (its equalising requirement) is the difference between its assessed spending on service provision and asset acquisition and its assessed revenues. More specifically, it is calculated as:

- the expenses it would incur to provide the average services (its assessed expenses) plus
- the investment it would make to have the infrastructure required to provide the average services (its assessed investment) less

- the net borrowing it would make to finish the year with the average per capita net financial worth (its assessed net borrowing) less
- the revenue it would raise if it made the average revenue raising effort (its assessed revenue) less
- the revenue from Commonwealth payments which are available to fund its spending requirements.

137 A per capita relativity is derived for each State by expressing its per capita GST allocation as a ratio of the national average per capita GST distributed in the year.

138 This calculation is undertaken for each of the three assessment or reference years. The per capita relativities recommended for use in 2015-16 (the application year for this review report) are the average of the annual relativities for the three assessment years 2011-12 to 2013-14.

139 A relativity below one indicates a State requires less than an EPC share of GST revenue; a relativity above one indicates it requires more than an EPC share. No State can have its relativity increased without one or more of the other States having theirs reduced. Box 4 explains what a relativity is.

**Box 4 What is a relativity?**

If States had the same economic, social and demographic features and Commonwealth payments were distributed uniformly among them, the Commission would recommend that the GST be distributed equally per person. Each State would be allocated the same (average) amount per resident.

However, some States are fiscally stronger than others — they have stronger tax bases, lower service delivery costs or receive above average Commonwealth payments. They need less GST revenue than other States if all States are to be fiscally equal.

That relative strength (or weakness) is measured by the State's need for GST revenue, compared to the average and is summarised in its relativity.

A stronger State might be assessed as needing only 90% of the average GST available on a per capita basis — its relativity would be 0.9. A weaker State might be assessed as needing 110% of the average, its relativity would be 1.1.

Some people have misinterpreted a relativity to be the proportion of the GST revenue raised in a State which is returned to that State. This would only be true if the GST collected per person were the same in every State, which given differences among the States is unlikely.

140 A State's relativity changes from year to year for several reasons, including:

- its inherent characteristics change — for example, if its tax base grows more than the average, the State will become relatively stronger and its relativity will decline
- the characteristics of the other States change, affecting the State's relative position — for example, if the tax bases of the other States grow, the average will increase, the State will become relatively weaker and its relativity will increase
- the structure of State budgets change — for example, if State spending grows relative to State revenue, revenue differences will become less important, while differences in the cost of delivering services will become more important.

141 More detail on the Commission's distribution model is available on the Commission's website (http://www.cgc.gov.au).

# CHAPTER 2

# TREATMENT OF COMMONWEALTH PAYMENTS

## INTRODUCTION

1 The Commonwealth and State governments access a wide range of revenue sources, deliver wide ranging services and make payments to lower levels of government, the private and not-for-profit sector and individuals. There is an overlap which means there is a relationship between what the Commonwealth does and State fiscal capacities. However, the overlap is not uniform.

2 There is almost no overlap on the revenue side. While there could be one in relation to revenue raised from mining, arrangements between mining royalties and the excises on petroleum and minerals ensure there is no overlap and Commonwealth revenue raising does not impact on State capacities.

3 There is also little overlap in the making of payments to individuals, where the Commonwealth predominates.

4 However, there is significant overlap in the area of services delivered by State governments. The Commonwealth provides payments to States to assist in the funding of services delivered by State government departments or through instrumentalities. It also provides services or payments to third parties in the local government, private and not-for-profit sectors. This can reduce the call on State budgets differentially in relation to the services these bodies provide.

5 From a horizontal fiscal equalisation (HFE) perspective, we need to examine and decide the treatment of all Commonwealth activities in the same way to ensure we recognise the impact they have on State fiscal capacities consistently. Where the Commonwealth makes a payment to a State to support a State service, or provides a substitute for that service by way of direct service provision or a payment to a third party, it should be treated in the same way when the distribution of the Goods and Services Tax (GST) among the States is determined.

6 The activities we consider should affect the GST distribution could be treated either as if they were a Commonwealth payment, or as a material disability. Where the quantum is the same, the approach adopted makes no difference to the impact on the GST distribution. We will adopt the simplest and most transparent approach in each case.

7 This chapter discusses why the Commission treats Commonwealth payments to the States in particular ways. Appendix A to this chapter describes why and how the Commonwealth makes such payments. They represent the largest share of Commonwealth activity relating to State type service provision. The chapter also considers the impact other Commonwealth activities have on State budgets and sets out how the Commission treats these indirect effects. Lastly, it quantifies the impact Commonwealth payments and other activities have on Commission assessments and the GST distribution.

# TREATMENT OF COMMONWEALTH PAYMENTS TO STATES

## Terms of reference

8 The terms of reference provide guidance to the Commission on the treatment of Commonwealth payments. They ask the Commission:

- to ensure that some specified payments (usually referred to as quarantined payments), including all reward National partnership payments (NPPs), have no impact on the GST distribution
- to apply a 50% discount to specified payments for major roads
- to treat National specific purpose payments (SPPs), National health reform (NHR) funding, project NPPs and general revenue assistance (GRA), other than the GST, so that they would affect GST shares, but treat facilitation NPPs so that they would not.

9 However, the Commission is given discretion to vary the treatment of the third group of payments where it is appropriate, 'reflecting the nature of the particular payment and the role of the State governments in providing particular services'.

10 These instructions, which are consistent with the IGA, make it very clear that where it has discretion, the Commission should exercise that discretion in deciding if and how payments should affect the GST distribution.

11 We consider that in exercising our discretion we can be guided only by the objective of the GST distribution which is the principle of HFE. The appropriate treatment of a particular payment where we have discretion is that which improves the HFE outcome.

12 We are aware there are other policy objectives behind the distribution of Commonwealth payments. However, we do not consider we have been asked to choose among objectives in advising on the GST distribution. We have no discretion other than that which improves the HFE outcome. If that discretion is not to be exercised for a specific payment we are advised in the terms of reference.

## Achieving horizontal fiscal equalisation

13 The GST distribution is designed to offset the measured financial consequences of differences among States in what they need to spend to provide average services and their own revenue capacities. Without any Commonwealth payments, all these innate differences are reflected in, and compensated for, in the GST distribution.

14 If Commonwealth payments can be used to completely or partially offset the fiscal consequences of innate differences, then only the residual fiscal consequences should impact on the GST distribution. In this way, these Commonwealth payments affect the GST distribution. If these payments were not treated in this way, some States would have the capacity to deliver above average services and others only a below average service.

15 However, Commonwealth payments should not affect the GST distribution if they are used to address differences the Commission does not take into account in its calculations.

16 Therefore, we have decided to use the following guideline to decide the treatment of all payments on a case by case basis:

> payments which support State services, and for which expenditure needs are assessed, will impact the relativities.

17 Assessed expenditure needs are differences among the States which affect the cost of delivering services. In some cases, on conceptual grounds, we conclude there are no differences in per capita service delivery costs and assess expenditure equal per capita (EPC), a deliberative EPC assessment. Where such an assessment is made, related payments would affect the GST distribution.

18 However, where there is a conceptual case but needs have not been assessed because they are not material or could not be assessed, this is not a deliberative EPC assessment and any associated payments should not affect the GST distribution.

19 Adopting the guideline and applying it on a case by case basis to Commonwealth payments will result in some payments having an impact on the relativities and others not. The decision is made purely on the basis of whether the payment is available to support State services and whether needs have been assessed. We make no judgment about the worth of any Commonwealth program or the appropriateness of the basis on which funding is allocated among States.

20 In all cases, we consider we should be guided by the HFE objective and our single guideline which interprets that. It makes it clear payments for Commonwealth rather than State services and payments to support services where needs are not assessed should not have an impact. We will consider each payment on its merits and ensure payments which the Commission considers affect State fiscal capacities have an

impact on the relativities. Of course, payments which the terms of reference say should not have an impact will be treated in that way.

21 If the Commission decides a payment should impact on the relativities, this does not mean we are changing the payment in any way, or overriding its purpose. The State still receives the payment and must comply with its conditions. However, its GST receipts will adjust to reflect any above or below average per capita receipt of the payment to ensure the total of the State's GST, Commonwealth payment receipts and own source revenue give it the capacity to deliver average services.

22 We are also aware the arrangements for the provision of Commonwealth payments can provide information on differences among States affecting their fiscal capacities, which we should reflect in the assessments. Where this information allows us to reliably incorporate a new material disability, we would seek to do so as soon as practicable. For example, new schools funding arrangements might provide new information on the distribution of disabled students, a disability we recognised conceptually in the 2010 Review, but were unable to incorporate into the methodology because of concerns about the reliability of the existing data.

23 During this review we have been asked to look at the appropriate treatment of Commonwealth payments for infrastructure, especially those for 'nationally significant projects'. In that context, the Northern Territory proposed the development of a set of additional criteria which could be used to determine whether the needs the payment is addressing are captured in the assessment.

24 We consider we cannot develop a framework to judge between nationally significant projects and other projects supported by the Commonwealth. We consider that best done by government, which can then advise us on the appropriate equalisation treatment of the funding. Volume 1, Chapter 2 – Main issues, considers this issue in more detail.

25 We do not consider the development of additional criteria, which would proliferate boundary and interpretative issues, practical. The Commission believes it can only examine all relevant information relating to each program, take advice from States and the Commonwealth, and make a judgment based on the guideline above.

## Applying the guideline

26 We consider the rationale supporting our approach to the treatment of Commonwealth payments to be clear, and note it has the support of States. For most payments, making decisions on their treatment using the guideline is straightforward.

27 However, for a minority of payments, making decisions can be both difficult and contentious. In our experience, this arises because of difficulties in deciding whether the payments support a State service or relate to a Commonwealth function; or

because of difficulties in deciding what the payment is actually for, and in that context, whether expenditure needs have been assessed.

28 We provide some examples below.

- ***Is the payment for a State or Commonwealth function?*** While it is easy to discern what a payment is for at the extremes, there is a broad area where responsibilities can overlap, making a judgment difficult. For example, the 'Royal Darwin Hospital – prepared, equipped and ready' program could be seen as providing support to Territory health services. Alternatively, it could be seen as a Commonwealth purchase of services to ensure the Royal Darwin Hospital is able to respond to major international health incidents in the region. Most likely the payment provides assistance for both. (Fortunately, uncertainty in this case was resolved as terms of reference told the Commission it should not have an impact on the relativities.)
- ***What service does the payment support?*** Deciding on an appropriate treatment of a payment can be difficult if limited explanatory material on the nature of the payment is available, or if the payment appears to support one or more State programs. We need this information to decide if expenditure needs have been assessed. For example, difficulties arise when the purpose of a payment is broadly described but, after further consideration, the payment appears to have multiple funding elements, each addressing a different objective. Also the nature of payments can change over time. Water for the Future is such a program, aimed at assisting the agricultural industry, ensuring adequate domestic water supplies and protecting the environment. The treatment of this payment has been reconsidered in this review because South Australia considers the relative importance of parts of the program has changed (see Chapter 15 – Services to communities for more information).
- ***How closely do the disabilities we assess correspond to the differences being addressed by a Commonwealth payment?*** Of necessity, the differences we assess are often measured broadly, while a Commonwealth payment can be quite narrowly focussed. To decide an appropriate treatment, the Commission has to consider the extent to which what we assess and what the Commonwealth payment addresses overlap. For example, if the different needs of State populations in five age groups are recognised in our assessments, we might conclude needs have been assessed for a specific age group targeted by a particular Commonwealth program. A particular difficulty we have is in relation to payments for National Network Roads (NNR). We assess needs relating to State road length and use but do not consider these capture all needs relating to the NNR program. To do so, we have ensured 50% of the payment has no impact on the relativities.

29 States have raised other concerns. Tasmania has noted one of the guidelines the Commission adopted in the 2010 Review - that payments for programs implemented at the behest of the Australian Government and which lead to above average or

unique State outcomes should not impact on the relativities - did not function effectively. Queensland, however, would prefer this guideline be retained because it considers HFE requires that such payments, which relate to services which are not delivered as average policy, should not impact on the relativities.

30 The guideline did not work well because it was often difficult to distinguish such programs. Where they related to a function which only one State was undertaking on behalf of the Commonwealth, it was appropriate to ensure the payment had no impact on State GST shares. However, in other cases, where the payment appeared to allow one State to provide an above average service in an area in which all States had responsibilities, the appropriate treatment would normally have been the opposite. We have concluded it would be best if payments which the Commonwealth does not want to have an impact on the relativities were identified in the Commission's terms of reference. In the absence of such specification, the Commission will take its new streamlined approach, considering the treatment of payments using a single guideline; that is, we will consider whether the payment supports a service for which needs have been assessed.

31 New South Wales had concerns about the way the Commission treated payments through States to public non-financial corporations (PNFCs) for capital purposes in the 2010 Review. It said all payments to PNFCs should not affect the relativities because they have no direct impact on operating budgets and only marginally increase State net financial worth. However, because they were considered to increase the net financial worth of States through increases in equity holdings, they impacted on the relativities. As State needs for increases in net financial worth due to population growth were assessed, the Commission considered it appropriate to recognise the extent to which these needs had already been met through other Commonwealth payments.

32 South Australia also considered Commonwealth payments to commercial PNFCs should not impact on the relativities if it could be demonstrated that the payments flow to the benefit of user charges or services funded by user charges. In such cases, the payments would have no impact on equity or on dividends received.

33 Again, we believe our single guideline can be followed: if needs are assessed, the payment should have an impact on the relativities.

34 Payments made through States to third parties, such as to PNFCs or local governments, can have indirect rather than direct effects on fiscal capacities. For example, a payment to a local government in one State might mean the State itself can provide a lower service level than other States and still achieve average service levels. As for payments to PNFCs, we consider these other indirect impacts should be considered in determining the GST distribution if needs are assessed.

35 ***What Commonwealth payments should we look at?*** Conceptually all Commonwealth payments to the States for which needs have been assessed should be included within the Commission's processes. However, in practice, the Commission can only consider those payments which can be readily identified. In the past, the Commission has used Commonwealth budget documents (Budget Paper No 3 (BP3) and the Final Budget Outcome (FBO)) to define most of the payments considered. This has meant the treatment of payments made for recurrent or capital purposes direct to States and through the States to third parties has been considered. Because payments made direct to local government are also included, we can easily consider whether they have an impact on State fiscal capacities.

36 We have used this approach in the 2015 Review.

## OTHER ASSESSMENT ISSUES

### *Materiality*

37 We have decided not to adopt a materiality threshold for Commonwealth payments in this review. Although the use of a threshold could simplify decisions on the treatment of Commonwealth payments by reducing the number considered[1], we have decided a materiality threshold is not appropriate. Given the proliferation of NPPs, we considered two approaches:

- treating all facilitation and project payments which did not differ materially from an equal per capita distribution in the same way (either impacting or not impacting) and only considering the treatment of those that would have a material impact on the GST distribution of any State, or
- using our discretion on the treatment of a payment only when treating a payment differently from the default set out in the terms of reference would have a material impact on the GST distribution of any State.

38 No State supported the first approach. They argued that if a materiality threshold were applied, it should be applied in the same way the materiality of disabilities is judged - in aggregate. This would mean the treatment of every payment would need to be considered because, in aggregate, the effect on the GST of impacting payments would be material. The impact of non-impacting payments would also be material.

[1] A materiality threshold could have been used automatically to decide that payments below the threshold would automatically impact, or not impact, on the relativities, without the Commission needing to consider their treatment. There have been an increasing number of National partnership agreements for small payments since 2008-09. Based on the revenue impact of payments in the 2012 Update, only 28 NPPs (out of 140) would have redistributed more than $5 per capita for any State; that number would rise to 35 if a threshold of $2 per capita were used.

39 States also said the Commission should consider the treatment of each to avoid arbitrary consequences for different States and to ensure there was no incentive to split funding into several smaller agreements to avoid the Commission's attention.

40 Some States supported the second approach, but most did not. Most States did not consider materiality in any guise should be relevant to how a payment is treated. They said HFE should be the only criteria used. One State argued the nature of payments is known and reliable data are available on their size. Therefore, treating payments which do not have a material impact on the GST in a manner contrary to what the HFE principle would dictate would compromise GST distributional outcomes. One State also considered the approach would add an additional layer of complexity – having to check the materiality of the redistributive impact of each payment before deciding whether it should be treated differently from the default.

### *Dealing with State policy differences*

41 Issues can arise where States adopt different policies towards Commonwealth payment programs which result in the interstate pattern of a payment reflecting State policy not their individual underlying circumstances.

42 In principle, the impact of policy choices should be removed before the payment is incorporated into our assessment process. This is analogous to our treatment of some revenue items. For example, in the land tax assessment, a decision by one State not to raise this form of revenue is seen as its choice and an imputation of revenue is made for that State in the assessment.

43 Most payments are not affected because they are the result of Commonwealth policy decisions and individual States have no influence on what they receive.

44 However, there are payments which States decide not to accept, and other payments where the behaviour of States can influence the amount paid. For example, when Western Australia delayed receipt of Health reform payments, the Commission attributed the delay to its policy decision (the other States having agreed to the reform and additional funding). It treated Western Australia as if it had received the additional funding for the purpose of determining its GST share. We did not accept that this treatment meant Western Australia was unable to deliver the average level of service for reasons outside its control.

45 The difficulty we face is attributing payments – their size, distribution among States or non-receipt of a payment – to State and Commonwealth policy decisions. We can only have regard to the facts and circumstances of each payment to make a judgment on a case by case basis. We will be guided by policy neutrality considerations and attempt to ensure decisions by individual States will not affect their GST or the approach we adopt does not influence a State's behaviour.

## *Backcasting*

46 The Commission's methodology uses historical data. We use a 'backcasting' approach to improve the contemporaneity of the relativities when major changes in Commonwealth-State financial arrangements occur. We consider reflecting a major change in Commonwealth-State arrangements in the application year is desirable if the relativities are to give meaningful and contemporary outcomes. States could be considerably over or under equalised in the application year, if such backcasting did not occur. However, on practicality grounds, only large and known changes are backcast.

47 For example, the 2008 IGA introduced major changes in the distribution of national SPPs, commencing a stepped transition from historical distributions to EPC distributions. The 2010 Review methodology backcast this change into the historical years. The Commission determined the proportion of the payments in the application year which would be distributed EPC and backcast that proportion into the same payments in each of the assessment years.

48 With the introduction of the National health reforms and the National Education Reform Agreement, the distribution of national SPPs is now moving away from EPC. There have been further changes in the recent Commonwealth budget, including the cessation of a number of NPPs. Following our contemporaneity principle, we will continue to backcast, but only if the change is major and reliably known. We have:

- backcast the changes associated with health reforms in a manner consistent with the availability of reliable data (see Chapter 12 – Health)
- backcast the education reforms based on application year data because they are sufficiently reliable to allow us to do so (see Chapter 10 – Schools education)
- not backcast the cessation of the payments which will not be paid in the 2015-16 application year because their cessation was not considered the result of a major change in Commonwealth-State arrangements (see Attachment 2 – Treatment of Commonwealth payments).

49 We will also backcast the introduction of the NDIS, commencing in the 2016 Update.

50 All States agreed the Commission should continue to backcast major changes in Commonwealth-State financial arrangements for contemporaneity reasons. They agreed such changes should only be made if they can be made reliably.

## *Treatment of the impact of other Commonwealth activities on State budgets*

51 As already discussed, the Commonwealth conducts a range of other activities which can relieve the State of the need to fund a service or reduce the amount of State type services that need to be provided. They take different forms, such as direct service provision, Commonwealth payments made direct to local governments for specific

purposes, and other payments to PNFCs, other third parties and individuals. We intend to consider the treatment of all these activities in the same way as we consider the treatment of Commonwealth payments: if they impact on State budgets and needs are assessed, they should impact on the GST distribution.

52 In practice, it is often hard to identify these payments, including obtaining data on them, or judge their impact. Our ability to treat them in the same way as other Commonwealth payments is therefore limited by available information.

- We can identify payments made direct to local government because they are included in Commonwealth BP3. We have decided to consider each of these to decide if they are a substitute for State provided services and therefore impact on State fiscal capacities. If they do, and needs are assessed, they will impact on the GST distribution.
- As there is no consolidated source of Commonwealth own-purpose expenses (COPEs), we will rely on our knowledge of State and Commonwealth service delivery and advice provided by the States or the Commonwealth, to identify payments which should be considered. We will continue to seek data from relevant Commonwealth Departments on COPEs paid to States and third parties. Where payments can be identified and they are made to States in some instances and to third parties in others, but for the same purpose, and needs are assessed, we will recognise they have an impact on State budgets. Where we are unable to observe this, we will not be able to judge whether they impact on State budgets and they will not be brought in.

53 One State supports the approach, arguing in particular that Commonwealth payments made direct to third parties for the purpose of industry support, development and support costs should have an impact on the relativities if needs relating to such payments are assessed. It says payments of this nature generally supplement or potentially replace the need for States to provide additional support. It gives as an example payments to the shipbuilding industry. However, it is not clear to us that such payments have an impact on State budgets.

54 One State is concerned the lack of a consolidated source of information on COPEs may mean a bias could be introduced into the GST distribution. In that case, it may be better not to consider the treatment of any COPEs, unless there is clear evidence the COPE has been incorrectly classified by the Commonwealth and should have been an NPP.

55 We are well aware of the practical difficulties of ensuring all relevant COPEs are considered, but believe that doing so to the best of our ability is consistent with equalisation. We will rely on State and Commonwealth advice on relevant Commonwealth activities to do this.

56 We also note the view that treating Commonwealth activities in this way will extend the scope of equalisation. We do not consider this is the case. The Commission has

considered and taken into account how Commonwealth activities have influenced State fiscal capacities in the past. The extent we have done so has been limited by practical considerations. However, we have recognised the impact the Commonwealth has on State health service provision such as through the inclusion of a non-State sector adjustment based on the Indigenous and Rural Health grants, formerly known as the Office of Aboriginal and Torres Strait Islander Health grants. We also treated some COPEs, such as those paid to States and Indigenous organisations for improvements in social and physical wellbeing, culture and Indigenous rights, as having an impact. We consider this has improved HFE outcomes.

## TREATMENT OUTCOMES

57 Attachment 2 provides details on each payment listed in the FBO for 2011-12 to 2013-14, whether the terms of reference have required that they not affect the relativities and, where not so stipulated, the Commission's decisions on the treatment. It also provides details on all payments commencing in 2014-15 and 2015-16 to support the Commission's backcasting decisions.

58 Major changes in Commonwealth-State financial relations that have been backcast into the assessment years currently are those related to national SPPs, including the National health reform payments and the National Education Reform Agreement.

59 Table 1 shows how the approach to deciding the treatment of different payments works in practice.

60 Table 2 provides details of those payments where the Commission decided there should be no impact on the GST distribution. The only SPP treated in this way is the Commonwealth support for non-government schools.

61 Table 3 sets out the Commission's treatment of other Commonwealth activities (COPEs) that impact on relativities.

**Table 1 Commonwealth payments 2011-12 to 2013-14 – Method of treatment**

| | | 2011-12 | 2012-13 | 2013-14 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|---|---|---|
| | | $m | $m | $m | % | % | % |
| **No impact required by terms of reference** | | | | | | | |
| No impact | General revenue assistance | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| | Specific purpose payment | -4 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| | National partnership payment | 1 250 | 451 | 1 607 | 2.4 | 1.0 | 3.3 |
| Total | | 1 247 | 451 | 1 607 | 2.4 | 1.0 | 3.3 |
| **Method decided by the Commission** | | | | | | | |
| Impact | General revenue assistance | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| | Specific purpose payment | 20 091 | 21 172 | 22 342 | 38.8 | 47.3 | 46.4 |
| | National partnership payment | 9 669 | 6 097 | 7 456 | 18.7 | 13.6 | 15.5 |
| | Sub-total | 29 760 | 27 268 | 29 798 | 57.5 | 60.9 | 61.9 |
| No impact | General revenue assistance | 36 | 37 | 37 | 0.1 | 0.1 | 0.1 |
| | Specific purpose payment | 7 607 | 7 987 | 8 681 | 14.7 | 17.8 | 18.0 |
| | National partnership payment | 11 980 | 7 803 | 6 651 | 23.1 | 17.4 | 13.8 |
| | Sub-total | 19 623 | 15 827 | 15 369 | 37.9 | 35.3 | 31.9 |
| State revenue | General revenue assistance | 998 | 1 158 | 1 197 | 1.9 | 2.6 | 2.5 |
| | Specific purpose payment | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| | National partnership payment | 158 | 76 | 141 | 0.3 | 0.2 | 0.3 |
| | Sub-total | 1 157 | 1 234 | 1 338 | 2.2 | 2.8 | 2.8 |
| Total | | 50 540 | 44 329 | 46 506 | 97.6 | 99.0 | 96.7 |
| **All payments** | | | | | | | |
| Impact | General revenue assistance | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| | Specific purpose payment | 20 091 | 21 172 | 22 342 | 38.8 | 47.3 | 46.4 |
| | National partnership payment | 9 669 | 6 097 | 7 456 | 18.7 | 13.6 | 15.5 |
| | Sub-total | 29 760 | 27 268 | 29 798 | 57.5 | 60.9 | 61.9 |
| No impact | General revenue assistance | 36 | 37 | 37 | 0.1 | 0.1 | 0.1 |
| | Specific purpose payment | 7 603 | 7 987 | 8 681 | 14.7 | 17.8 | 18.0 |
| | National partnership payment | 13 230 | 8 254 | 8 258 | 25.5 | 18.4 | 17.2 |
| | Sub-total | 20 869 | 16 278 | 16 976 | 40.3 | 36.4 | 35.3 |
| State revenue | General revenue assistance | 998 | 1 158 | 1 197 | 1.9 | 2.6 | 2.5 |
| | Specific purpose payment | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| | National partnership payment | 158 | 76 | 141 | 0.3 | 0.2 | 0.3 |
| | Sub-total | 1 157 | 1 234 | 1 338 | 2.2 | 2.8 | 2.8 |
| **Total** | | 51 786 | 44 779 | 48 112 | 100.0 | 100.0 | 100.0 |

Note: Excluding GST. Payments for non-government schools and half of the National Network road and rail NPPs have no impact.

Source: Commonwealth of Australia's Final Budget Outcome 2011-12, 2012-13 and 2013-14.

**Table 2 Commonwealth payments — 'no impact' method decided by the Commission, 2013-14**

| Payment | Amount | % of 'no impact' payments |
|---|---|---|
| | $m | % |
| Students first funding - non-government schools | 8 713 | 56.7 |
| Local government financial assistance grants | 1 152 | 7.5 |
| National network roads 50% no impact payment | 991 | 6.5 |
| National network rail 50% no impact payment | 758 | 4.9 |
| National building program - local government payment | 661 | 4.3 |
| Home and community care | 540 | 3.5 |
| Natural disaster recovery and rebuilding | 377 | 2.5 |
| Other payments | 2 177 | 14.2 |

Source: Commission calculation.

**Table 3 COPEs which impact on relativities, 2013-14**

| COPEs | Amount | % of 'impact' payments |
|---|---|---|
| | $m | % |
| Treated as Commonwealth payment – Indigenous payments to States and third parties | 93 | 0.3 |
| Treated as a non-State sector adjustment – Health services | 520 | 1.7 |

Source: Commission calculation using data collected from Commonwealth departments.

## IMPACT OF COMMONWEALTH PAYMENTS ON THE GST DISTRIBUTION

62 Because Commonwealth payments are not, for the most part, distributed on an EPC basis, they affect each State's fiscal capacity differently. Table 4 compares the amount received by each State for payments which impact on the relativities in the assessment years with the average. The Northern Territory receives significantly above average per capita amounts of these payments, and this reduces its need for GST. New South Wales and the ACT have received below average amounts and their GST has increased to compensate.

63 The closer Commonwealth payments in total are to an EPC distribution, the more work the GST has to do in meeting State needs. A larger proportion of the GST will be required for equalisation purposes. If the payments are distributed in a manner consistent with the Commission's assessment of needs, this will reduce the extent to which GST is redistributed. State needs have already been met by the Commonwealth payments.

**Table 4 Per capita revenue from Commonwealth payments, 2011-12 to 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Aust |
|---|---|---|---|---|---|---|---|---|---|
| | $ | $ | $ | $ | $ | $ | $ | $ | $ |
| 2011-12 | 1 723 | 1 705 | 1 897 | 1 747 | 2 090 | 1 684 | 1 486 | 2 803 | 1 789 |
| 2012-13 | 1 556 | 1 579 | 1 610 | 1 596 | 1 583 | 1 674 | 1 495 | 2 409 | 1 589 |
| 2013-14 | 1 718 | 1 990 | 1 688 | 1 624 | 1 581 | 1 716 | 1 664 | 2 906 | 1 771 |

Note: Commonwealth payments that the Commission treated as impacting on relativities.
Source: Commonwealth of Australia's Final Budget Outcome 2011-12, 2012-13 and 2013-14.

64 Table 5 shows the impact Commonwealth payments have on the GST distribution, including those payments which have the largest impact.

65 However, Table 5 only shows the impact on States' fiscal capacities of the revenue they receive. Because these payments also increase State spending, those States which are assessed as needing to spend more than average correspondingly have their assessed spending increased by more than the average revenue from the Commonwealth payment. Queensland, Western Australia, Tasmania and the Northern Territory are assessed as needing to spend more than average, so the spending of Commonwealth revenue increases their GST requirements.

**Table 5 Effect on the GST distribution of Commonwealth payments, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Rail infrastructure payments (a) | 179 | -221 | 122 | -31 | -69 | -3 | 14 | 9 | 324 |
| Road infrastructure payments (a) | -195 | 46 | -74 | 77 | 73 | 38 | 35 | 0 | 269 |
| National schools SPP | 99 | 83 | -134 | 36 | 13 | -30 | 16 | -83 | 247 |
| Water for the future | 52 | -46 | 84 | 45 | -114 | -26 | 7 | -3 | 189 |
| Other | 302 | 196 | -73 | -149 | -35 | -16 | -21 | -204 | 498 |
| Total | 438 | 59 | -74 | -22 | -132 | -38 | 51 | -282 | 547 |

(a) Includes the relevant components of the Nation building plan for the future; Nation building program (Infrastructure investment program in 2013-14); and Building Australia fund.
Source: Commission calculation.

66 The net effect of Commonwealth payments for any State is a combination of the impact on their assessed expenditure, including infrastructure spending, and on their assessed revenue. Table 6 shows the net effect on the GST distribution of Commonwealth payments in 2015-16.

**Table 6 Net effect on the GST distribution of Commonwealth payments, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Revenue effect | 438 | 59 | -74 | -22 | -132 | -38 | 51 | -282 | 547 |
| Expense effect | -367 | -592 | 125 | 513 | -17 | 55 | -66 | 348 | 1 042 |
| Net effect | 71 | -533 | 51 | 492 | -149 | 18 | -16 | 67 | 698 |

Source: Commission calculation.

## CONCLUSION

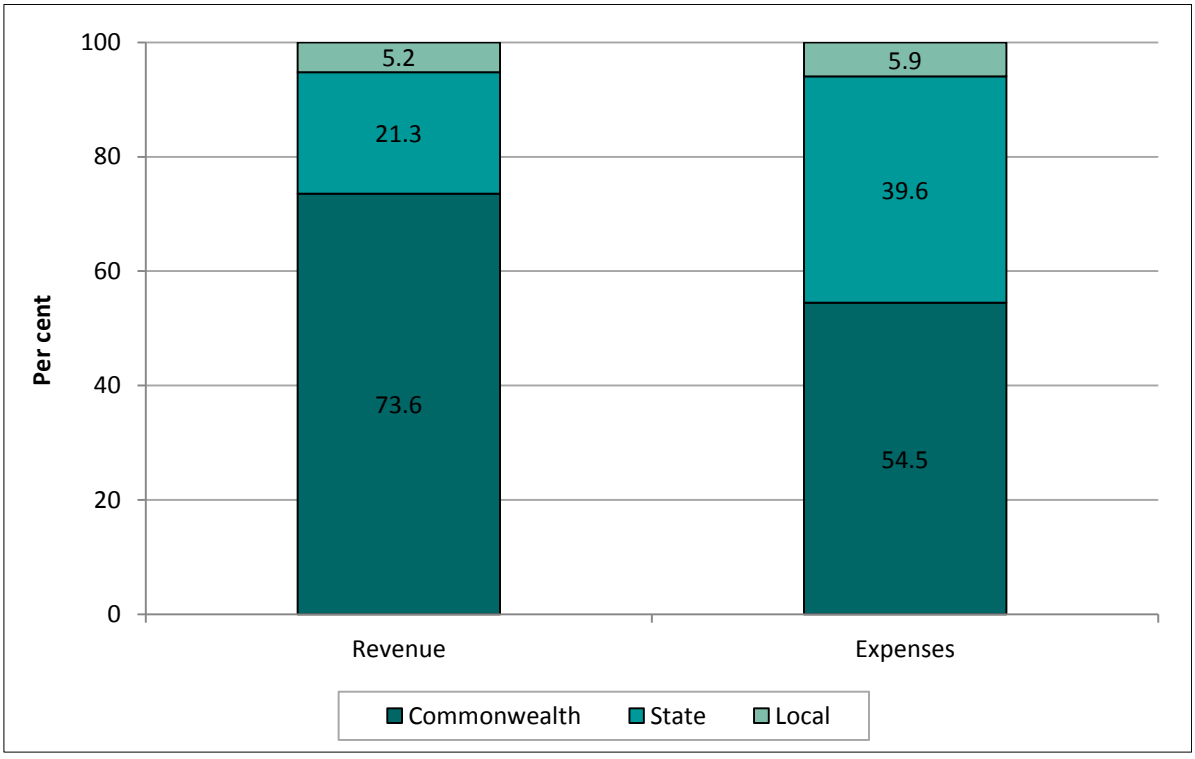
67 The appropriate treatment of Commonwealth payments and other activities is a major part of the Commission's work. They have a large impact on the fiscal capacities of the States and it is important that the relativities capture this. The constantly changing Commonwealth environment presents a major challenge for the Commission in keeping the relativities up-to-date. We consider the best way of doing that is by deciding the treatment of each payment or other activity on a case-by-case basis, assisted by the use of a guideline: payments which support State services or other Commonwealth activities that affect them, and for which expenditure needs have been assessed, will impact the relativities.

# APPENDIX A – WHY AND HOW DOES THE COMMONWEALTH MAKE PAYMENTS TO THE STATES

## VERTICAL AND HORIZONTAL FISCAL IMBALANCES

1 There is a large vertical imbalance in the revenue raising and expenditure powers of the Commonwealth and State governments. The amount of revenue raised by the Commonwealth is considerably larger than its own-purpose outlays. By contrast, the States' own-purpose outlays greatly exceed the revenue they raise. Figure 1 illustrates these differences.

**Figure 1 General Government own-source revenues and expenses, 2012-13**




Source: Commission analysis of data published in ABS Cat. No. 5512.0 Government Finance Statistics for all levels of government.

2 The imbalance is addressed by payments to the States. These take two main forms:

- general revenue payments which the States may use as they see fit
- specific purpose payments (SPPs) and National partnership payments (NPPs) where the Commonwealth seeks to achieve national aims in areas of State responsibility or provides funds for particular purposes.

3 Agreements on the distribution of the general revenue, SPP and NPP funding to the States are made under an umbrella Intergovernmental Agreement on Federal

Financial Relations (the IGA) and separate National SPP and National partnership agreements. Box 1 provides some relevant details.

**Box 1 The Intergovernmental Agreement on Federal Financial Relations, 2011**

During 2008, Australian Governments, through the Council of Australian Governments, negotiated a new IGA relating to federal financial arrangements and a revised agreement was signed in 2011. It provides for a system of general revenue and specific purpose payments to the States and Territories.

Some of the main features of the current IGA are:

- the GST is to be distributed among the States on the basis of recommendations of the Commonwealth Grants Commission based on horizontal fiscal equalisation principles
- specific purpose payments are grouped into five National SPPs for healthcare, schools, skills and workforce development, disability services and affordable housing
- the distribution of each National SPP among the States is to progressively move to an equal per capita allocation (but the schools payment is to be allocated on the basis of full-time enrolments in government schools)
- a new form of payment, National partnership payments, has been introduced to:
  - provide financial contributions to the States for specific projects
  - facilitate action by States on nationally significant reforms
  - reward States which deliver on the reform process
- the National SPPs and National partnership payments (except reward and facilitation payments) paid to the States are intended to affect GST shares because they provide budget support for State services, but the Commission has discretion to determine the treatment of individual payments consistent with fiscal equalisation.

Source: Federal Financial Relations website (http://www.federalfinancialrelations.gov.au).

## GENERAL REVENUE PAYMENTS

4 Since 2000, the net proceeds of the GST have been distributed to the States. This revenue replaced the previous financial assistance grants and the revenue from certain State taxes abolished when the GST was introduced. General revenue payments have been used since the early 1980s to deal with the vertical fiscal imbalance between the Commonwealth and the States and also to equalise State fiscal capacities. Fiscal capacities differ because of differences in the natural

endowments of States and their economic, demographic and geographic circumstances.

## SPPS AND NPPS

5 In 2009, SPPs were broad banded into five National SPPs (healthcare, schools, skills and workforce development, disability services and affordable housing). These were to be distributed to the States on an equal per capita (EPC) basis (or equal per student for schools) in 2014-15 after a five year phasing in-period. The agreements covering each new payment contained objectives, outcomes, outputs and performance indicators.

6 NPPs were also introduced to fund specific projects, to facilitate action by States on nationally significant reforms and reward States which delivered on the reform process.

7 However, more recently, there have been changes to some of the SPPs which will move their distribution away from EPC. Some NPPs have been rolled into the new funding arrangements.

- The National Health Reform Agreement replaced the National Health Care Agreement in July 2012. Growth funding for States was to be paid on the basis of the most efficient price of health and hospital services, commencing in 2014-15. More recently, further changes have been made. The changes and how we will treat them are explained in Chapter 12 – Health.
- National Education Reform Agreement (NERA) funding replaced the National Schools SPP from 1 January 2014. The NERA introduced a needs-based funding model for schools, based on a Schools Resourcing Standard, requiring States to fund their schools on the same basis. The changes and how the Commission will treat them are explained in Chapter 10 – Schools education and Volume 1, Chapter 2 – Main issues.
- The National Disability Insurance Scheme has been established across Australia for people with a significant and permanent disability. It will be jointly funded by the Commonwealth and the States. The results of trials are currently being evaluated and transitional arrangements are expected to commence in 2016. Implementation arrangements are still being negotiated for each State and the final outcomes are not yet clear. The changes as the Commission currently understands them and how we will treat them are explained in Volume 1, Chapter 2 – Main issues.
- The Commonwealth took over full policy and funding responsibility for all aged care in 2011, except in Victoria and Western Australia. Victoria has now agreed to the new arrangements. An adjustment to ensure budget neutrality is being

made to the National Disability SPP at least until 2013-14. The Commission's treatment of these changes is explained in Chapter 13 – Welfare.

8 Table 1 shows the size of each type of payment for selected years since 1980-81.

9 Figure 2 shows the contribution of State revenue, general revenue assistance and SPPs (including NPPs) to total State revenues since 1983-84. It shows that over the period since the introduction of the GST overall payments from the Commonwealth have remained broadly stable (a little over 40% of State revenue), but that general revenue payments declined, offset by growth in SPPs.

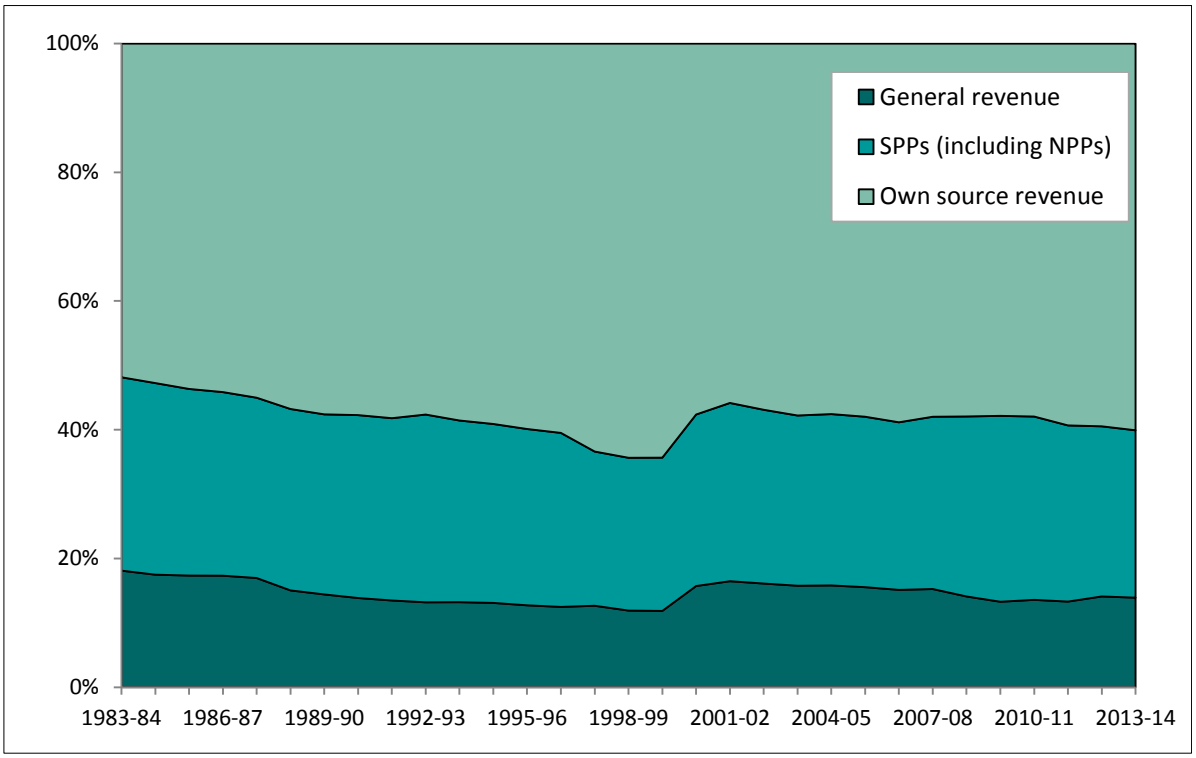
**Table 1 Commonwealth payments to States, selected years**

| | 1980-81 | 1990-91 | 2000-01 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m |
| General revenue payments | 7 090 | 13 932 | 27 635 | 46 953 | 47 149 | 49 256 | 52 391 |
| Specific purpose payments (a) | 5 683 | 14 638 | 19 207 | 51 565 | 49 862 | 43 068 | 45 557 |
| Total | 12 773 | 28 569 | 46 841 | 98 517 | 97 011 | 92 324 | 97 948 |

(a) Includes National partnership payments made to and through States and direct payments to local government published in the Commonwealth's Final Budget Outcome.

Source: Commonwealth of Australia's *Final Budget Outcome,* various years.

**Figure 2 Total State revenue by source, 1983-84 to 2013-14**




Source: Commission analysis of State budgets.

# CHAPTER 3

# PAYROLL TAX

## SUMMARY OF THE ASSESSMENT

Payroll tax is a broad based tax imposed by States on the wages and related benefits (remuneration) paid by employers. Employees are liable for payroll tax if their remuneration exceeds a general deduction threshold. The threshold varies between States.

We assess a State's capacity to raise payroll tax using ABS national accounts data on Compensation of Employees (CoE). The data are adjusted to remove CoE not normally taxed, namely CoE below an average deduction threshold, which we calculate by weighting each State's threshold by its share of total CoE. We also remove general government CoE because it raises no net revenue for a State.

States with an above average share of the adjusted CoE tax base are assessed to have an above average capacity to raise payroll tax, thus reducing their GST shares. Conversely, States with a below average share of the adjusted CoE tax base are assessed to have a below average capacity to raise payroll tax, thus increasing their GST shares.

## WHAT IS INCLUDED IN THE PAYROLL TAX CATEGORY?

1 Payroll tax is a broad based tax imposed on the wages and related benefits (remuneration) paid by employers. Taxable remuneration includes wages, salaries, allowances, commissions, bonuses, employer superannuation contributions, fringe benefits, the value of shares and options, payments to some contractors, payments by employment agencies arising from employment agency contracts, remuneration paid by a company to company directors, employment termination payments and accrued leave.

2 Table 1 shows States raised $21 billion from payroll tax in 2013-14.

**Table 1 Revenue from payroll tax, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Payroll tax | 7 015 | 4 943 | 3 895 | 3 428 | 1 075 | 298 | 325 | 250 | 21 230 |

Source: Commission calculation using State data.

3 Table 2 shows payroll tax has continued to grow in recent years. However, as a share of total own source revenue it has fallen from around 20% in recent years to 18% in 2013-14. This reflects the strong growth in other State own-source revenues, in particular mining royalties.

**Table 2 Payroll tax as a proportion of State own-source revenue**

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| Total for category ($m) | 17 853 | 19 639 | 20 647 | 21 230 |
| Total own source revenue ($m) | 94 581 | 98 644 | 104 644 | 115 464 |
| Proportion of total own source revenue (%) | 18.9 | 19.9 | 19.7 | 18.4 |

Source: Commission calculation using ABS Government Finance Statistics (GFS) and State data.

## How are revenues raised?

4 States signed a protocol in March 2007[1] to harmonise the scope of the tax. Since then they have harmonised in eight key areas[2] and six States have fully harmonised legislation. However, State tax rates and thresholds continue to differ.

5 Employers are liable for payroll tax if their remuneration paid (in Australia) exceeds a general deduction threshold. Thus, the remuneration paid by small firms is exempt. Table 3 shows each State's tax rate and general deduction threshold for 2013-14.

**Table 3 Legislated tax rates and general deduction thresholds as at 1 July 2013**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT |
|---|---|---|---|---|---|---|---|---|
| Tax rate (%) | 5.5 | 4.9 | 4.8 | 5.5 | 5.0 | 6.1 | 6.9 | 5.5 |
| Threshold ('000) | 750 | 550 | 1 100 | 750 | 600 | 1 250 | 1 750 | 1 500 |

Source: New South Wales Treasury, Interstate Comparison of Taxes, 2013-14.

6 States apply grouping provisions to prevent employers breaking up their operations into separate businesses to avoid, or reduce, payroll tax liability.

7 States offer exemptions. Some exemptions are common, such as the payrolls of non-profit charitable institutions and remuneration paid to employees on maternity leave or performing services overseas for a continuous period of more than six months. Some exemptions are offered by a majority of States, such as the remuneration paid to apprentices and trainees in approved non-profit group training schemes and remuneration paid by local governments. Some exemptions are offered by a minority of States. They can offer full or partial payroll tax rebates or concessions

[1] In a protocol signed in July 2010, States confirmed their continued commitment to legislative and administrative harmonisation.

[2] The eight key areas of harmonisation were: timing of lodgement and returns, motor vehicle allowances, accommodation allowances, a range of fringe benefits, work performed outside a jurisdiction, employee share acquisition schemes, superannuation contributions for non-working directors, and grouping of businesses.

to employers in particular industries, or in relation to particular groups of employees. For example, two States offer a rebate to employers hiring new employees with a disability. South Australia offers a rebate for remuneration associated with the construction of renewable energy projects, and Queensland for remuneration associated with film and television production in the State.

8 While the Constitution prevents States from imposing payroll tax on Commonwealth general government sector employees, higher education institutions are liable. Similarly, under the 1995 Competition Principles Agreement between States and the Commonwealth, significant government business enterprises (GBEs) at all levels of government are liable.

# ASSESSMENT APPROACH

## Scope of the revenue base

9 We measure revenue capacity using ABS national accounts data on Compensation of Employees (CoE). CoE is a broad measure of the remuneration paid, covering wages, salaries, other cash benefits on behalf of employees (such as superannuation) and non-cash benefits.

10 We adjust CoE to reflect:

- the way we deal with general government employees
- the policy to exempt payrolls below an average threshold.

11 States either supported or did not specifically comment on the use of CoE as our measure of payroll capacity.

### *Dealing with government employees*

12 We exclude general government employees from our revenue base. We do so because States do not tax Commonwealth employees[3] and raise minor revenues from general government employees in their local government sectors. While most States levy payroll tax on their own general government employees, we remove these revenues because they are an internal budget transfer.

13 Excluding the remuneration of employees in the general government sector restricts the scope of public sector remuneration to the remuneration paid to employees of GBEs and higher education institutions.[4]

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[3] Including Australian Defence Force personnel and employees of Australian embassies and consulates employed overseas.

[4] Higher education institutions are classified to the general government sector in the ABS GFS. They are included in the assessment since they are subject to payroll tax in all States.

14 Six States supported restricting the scope of public sector remuneration, two did not comment. This adjustment has a material impact on the GST distribution at the $10 per capita data adjustment threshold (see Volume 1, Chapter 1 – Implementing equalisation, for more information on materiality thresholds).

### *Exempt payrolls below a threshold*

15 We include a threshold adjustment, which we derive by weighting each State's actual threshold by its share of total remuneration paid. This is different to the way we calculate a threshold in other categories. In those categories, we have multiple value ranges and we allow State data to tell us what their average policy is. We do not do that in this category because we source our data from the ABS and it has concerns about the reliability and confidentiality of providing data for multiple value ranges. The approach we use in this category is to derive an average threshold by weighting each State's actual threshold by its share of total remuneration paid. We then obtain ABS data above and below that average value.

16 Each State's tax base is therefore the remuneration of non-exempt employees whose payrolls exceed the average threshold in each sector. We have incorporated a threshold because it is a common feature of each State's payroll tax system and because it makes a material difference to our assessment.

17 Five States said we should adjust CoE to exclude remuneration below the threshold because it reflected 'what States do', was material and could be made reliably. They said the fiscal capacities of States with proportionally more small firms would be overstated if the threshold was not taken into account. New South Wales, Victoria and Western Australia disagreed. They said we should discontinue the threshold adjustment because it adds unnecessary complexity and compromises the policy neutrality of the assessment.

18 New South Wales' other concerns with the threshold adjustment were:

- Some States could increase their GST share by adjusting their thresholds and rates without affecting the total payroll tax revenue they collect
- The proposed threshold adjustment was inconsistent with the new definition of average policy because it did not make an allowance for the deduction system in place in two States. In those States large firms received no deduction. It suggested the total payrolls of those firms be included in State revenue bases.

19 Western Australia's other concerns with the threshold adjustment were:

- The weighted average threshold used by the Commission had no relevance to the thresholds used by any State
- The threshold adjustment implied States target threshold firms, rather than a proportion of their payroll tax base. If a threshold was retained, it suggested using the lowest State threshold.

20 We think an important feature of HFE is that States are free to alter their mix of taxes and their mix of thresholds so long as the direct impact of their choices is not reflected in the GST distribution. The influence a State's choice has on the average is limited to its share of remuneration paid. If States change the way they raise their tax, then it is appropriate that the assessment change to reflect the new arrangements. Western Australia has suggested that because there is a wide variation in thresholds reflecting different policy choices, an average rate is unrepresentative. We consider that a weighted average is an approximate reflection of the average policy.

21 We have considered New South Wales' concerns about reflecting the deduction system that operates in Queensland and the Northern Territory. In effect, that system means large firms pay a higher rate of payroll tax than the headline rate because they do not receive a tax free element within their assessment. We could reflect this approach by incorporating a new tier in our assessment with a higher effective tax rate for payrolls above a specified amount. We do not consider that a new tier is likely to be material because a small part of the national payroll tax base is covered by these provisions and the general feature of the system where large companies operating across jurisdictions are eligible for only one threshold. If this deduction system was to become more prevalent, we would need to re-evaluate this position.

22 Western Australia has suggested that States could target a common proportion of their tax base, in which case no threshold would be required in our assessment. We do not observe this to be the practice of States and therefore a threshold is warranted. Adopting the lowest observed threshold provides scope for the relevant State, and other States, to exert excessive leverage on the GST distribution through their policy choice, which in our view would be inappropriate.

23 We do not agree that the threshold adjustment adds unnecessary complexity or compromises the policy neutrality of the assessment. The threshold is determined as an average of the State thresholds, weighted by their share of total remuneration. It is a simple and policy neutral approach. Under this approach, States with a larger share of the national payroll base have a larger influence in determining the average threshold.

24 The tax free threshold is a material feature of States' payroll tax policies. Reliable data are available that allow us to make the adjustment.

## Data sources and adjustments

25 The ABS provides CoE data separately for the public and private sectors. We estimate an average CoE threshold by weighting each State's threshold by its share of the total remuneration paid. We calculate the average threshold annually to take account of

any change in State legislation. The average CoE threshold in 2013-14 was $0.81 million.

26 CoE data are not available by size of payroll so we cannot estimate the effect of applying an average threshold using CoE. Instead, we have used ABS data on the wages and salaries in each sector, which are available by size of payroll. Wages and salaries data are narrower in scope than CoE and we have used a lower threshold for wages and salaries to recognise this. Based on the average proportion of CoE comprising wages and salaries between 2007-08 and 2012-13, we have set the private sector wages and salaries threshold at 90% of the CoE threshold and the public sector wages and salaries threshold at 86% of the CoE threshold.

27 The general government sector is not taxable, but GBEs are. Whether certain functions are performed by the general government sector or by GBEs varies according to the policies of each State. We have used total wages and salaries of public sector employees in 'commercial' industries, rather than wages and salaries of the public sector corporations. By choosing industries in which public sector activity is predominantly commercial[5], the assessment is not affected by State decisions on whether an agency is part of its general government sector or a public sector corporation.

28 By incorporating the effects of the threshold, and of the exempt public sector remuneration, we can calculate the proportion of CoE subject to payroll tax for both the public and private sectors. For the public sector, the taxable proportion is calculated as the share of all public sector wages and salaries comprising those wages and salaries in 'commercial' industries and higher education institutions above the public sector threshold. For the private sector, the taxable proportion is the proportion of all wages and salaries comprising those wages and salaries above the private sector threshold.

29 The revenue base for 2013-14 was derived by:

- applying the public sector taxable proportion (adjusting for scope and the threshold) to the public sector CoE
- applying the private sector taxable proportion to private sector CoE
- adding the taxable public sector CoE and taxable private sector CoE.

[5] Agriculture, forestry and fishing; manufacturing; electricity, gas, water and waste services; transport, postal and warehousing; and finance and insurance services.

30 The calculation of the revenue base for each State in 2013-14 is shown in Table 4.

**Table 4 Calculating the taxable proportion of Compensation of Employees, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Public sector | | | | | | | | | |
| CoE (a) ($b) | 48 | 31 | 30 | 17 | 12 | 3 | 11 | 3 | 155 |
| Taxable proportion (%) | 22.2 | 19.6 | 19.6 | 19.0 | 15.6 | 19.6 | 10.8 | 10.1 | 19.3 |
| Taxable CoE ($b) | 11 | 6 | 6 | 3 | 2 | 1 | 1 | 0 | 30 |
| Private sector | | | | | | | | | |
| CoE (a) ($b) | 195 | 135 | 114 | 87 | 35 | 8 | 10 | 7 | 591 |
| Taxable proportion (%) | 70.1 | 69.6 | 69.6 | 77.1 | 66.2 | 58.9 | 60.1 | 71.4 | 70.4 |
| Taxable CoE ($b) | 137 | 94 | 80 | 67 | 23 | 5 | 6 | 5 | 416 |
| Total taxable payrolls ($b) | 148 | 100 | 85 | 70 | 25 | 6 | 7 | 5 | 446 |

(a) Excludes CoE for members of the defence forces and employees of Australian embassies and consulates overseas.

Source: Unpublished ABS data and 2013-14 annual reports from the Department of Defence and the Department of Foreign Affairs and Trade.

31 Table 5 shows the derivation of a national average effective rate of tax for 2013-14. It was obtained by dividing total tax collections by the taxable CoE revenue base. It also shows each State's assessed revenue was derived by applying the national average effective rate of tax to its revenue base. A State's revenue raising capacity is the ratio of its assessed revenue per capita and the average revenue per capita.

**Table 5 Assessed revenue and revenue raising capacity, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Actual revenue ($m) | 7 015 | 4 943 | 3 895 | 3 428 | 1 075 | 298 | 325 | 250 | 21 230 |
| Revenue base ($b) | 148 | 100 | 85 | 70 | 25 | 6 | 7 | 5 | 446 |
| Average tax rate (%) | | | | | | | | | 4.8 |
| Assessed revenue ($m) | 7 027 | 4 761 | 4 060 | 3 339 | 1 204 | 268 | 334 | 238 | 21 230 |
| Assessed revenue ($pc) | 941 | 823 | 866 | 1 310 | 718 | 521 | 869 | 976 | 911 |
| Revenue raising capacity | 1.033 | 0.903 | 0.951 | 1.438 | 0.788 | 0.571 | 0.954 | 1.072 | 1.000 |

Note: Revenue raising capacity ratio is calculated as assessed revenue per capita divided by average revenue.

Source: Commission calculation.

32 Table 6 shows calculation of the category on a per capita basis. It shows that Western Australia is assessed to have the capacity to raise significantly more payroll tax than average, while South Australia and Tasmania have much smaller than average capacities. Most of the difference is driven by compensation of employees, although the adjustments for the scope of the public sector and the tax free threshold are both material.

**Table 6 Category assessment, Payroll tax, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| EPC | 911 | 911 | 911 | 911 | 911 | 911 | 911 | 911 | 911 |
| Compensation of all employees | 16 | -99 | -36 | 241 | -111 | -268 | 710 | 246 | 0 |
| Adjust for scope of public sector (a) | 17 | 21 | 0 | 54 | -40 | -38 | -652 | -190 | 0 |
| Tax free threshold | -2 | -10 | -8 | 104 | -42 | -84 | -100 | 10 | 0 |
| Total category | 941 | 823 | 866 | 1 310 | 718 | 521 | 869 | 976 | 911 |

(a) Includes removal of remuneration paid to Australian embassy, Defence force and Commonwealth employees (which States are legally unable to tax), State general government sector employees (since any tax paid represents an internal budget transfer), and local government general government sector employees (since average policy is not to tax them) and public sector payrolls below the average threshold.

Source: Commission calculation.

## Influences not assessed in this category

### *Fly-in fly-out workers*

33 Western Australia said an adjustment should be made to CoE to account for its large number of fly-in fly-out (FIFO) workers from other jurisdictions.

34 It said the ABS included the remuneration paid to these workers in Western Australia's CoE but, under nexus agreements[6], the payroll tax was payable in the employee's State of residence.

35 The conceptual case being made by Western Australia is that the geographic basis of our tax base measure could vary from the geographic basis of the legal tax base. We presume that this could affect a wide variety of employees, not just fly-in fly-out mining employees.

36 To reliably quantify this effect, we would need data on the remuneration of employees working in more than one State in a calendar month, data we do not have. The data that Western Australia identified would suggest an immaterial adjustment. Until we can identify a reliable adjustment that makes a material difference, we consider no adjustment should be introduced.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

37 Table 7 shows the extent to which the assessment for this category moves the distribution of GST away from an equal per capita distribution in 2015-16. It shows

[6] For employees who work in multiple jurisdictions in the same calendar month, there are arrangements for determining the jurisdiction in which payroll tax is payable. The arrangements take a number of factors into consideration, including the employees' principal place of residence.

GST revenue is redistributed from States assessed to have above average revenue raising capacity (New South Wales, Western Australia and the ACT) to States with below average revenue capacity (Victoria, Queensland, South Australia, Tasmania and the Northern Territory).

38 While a large part of the ACT workforce is employed by the Commonwealth and not subject to payroll tax, the above average remuneration in its private sector results in it being assessed to have a higher than average capacity to raise payroll tax.

**Table 7 GST impact, Payroll tax, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| Dollars million | -145 | 460 | 205 | -1 114 | 387 | 208 | -18 | 16 | 1 276 |
| Dollars per capita | -19 | 77 | 42 | -411 | 227 | 403 | -44 | 63 | 53 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed revenues and 2015-16 GST.
Source: Commission calculation.

## CHANGES SINCE THE 2014 UPDATE

39 Table 8 breaks down the total changes since the 2014 Update into the impact of changing data sources, category specific method changes, and change in State circumstances in the 2015 assessment period.

**Table 8 Changes since the 2014 Update, Payroll tax**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Data changes | -6 | 68 | -23 | 0 | -8 | 3 | -35 | 2 | 73 |
| Method changes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Change in circumstances | 25 | 133 | -10 | -155 | -1 | 20 | 6 | -18 | 184 |
| Total | 19 | 201 | -33 | -155 | -9 | 23 | -29 | -16 | 243 |

Source: Commission calculation.

### Data changes

40 The data changes are due to revisions to ABS data. These changes had the biggest impact on the ACT. The ABS made large upward revisions to ACT payroll data for years 2010-11 to 2012-13. These revisions increased its assessed payroll tax capacity, reducing its GST share. Over the same period, the ABS made smaller upward revisions to data for New South Wales, Queensland, Western Australia and South Australia, increasing their assessed payroll tax capacities and reducing their GST shares.

## Method changes

41 The 2015 Review assessment method is unchanged from the 2010 Review method.

## Changes in State circumstances

42 Changes in State circumstances were large. While revenue collections increased, the biggest change was to ABS CoE data. Queensland, Western Australia and the Northern Territory experienced the biggest increase in taxable CoE, New South Wales, Victoria, Tasmania and the ACT experienced below average growth. South Australia's growth was just below average.

# UPDATING THE ASSESSMENT

43 We recommend the data used in this assessment be updated when new data become available, to ensure the relativities remain contemporary and consistent with the changing circumstances of States. On this basis we expect the following data to be updated annually:

- ABS CoE data
- ABS wages and salaries data
  - the average general deduction threshold to be calculated annually, recognising any changes to State legislated tax rates and general deduction thresholds.

# CHAPTER 4

# LAND TAX

## SUMMARY OF THE ASSESSMENT

Land taxes assessed in this category consist mainly of State land tax on residential investment, commercial and industrial land. We also include revenue from property based fire and emergency services levies, metropolitan improvement levies and that part of ACT general rates that is a replacement for conveyance duty.

Land tax on commercial and investment land is assessed using data supplied by State revenue offices. Our assessment recognises that tax does not apply to land below a minimum value threshold in most States and that State tax scales are progressive. States with above average aggregated property values are assessed to have above average revenue capacity, reducing their GST share. States with below average aggregated property values are assessed to have below average revenue capacity, increasing their GST.

Metropolitan improvement levies, fire and emergency services levies and the ACT general rates are assessed equal per capita because a differential assessment is not yet material. We will monitor their materiality in future updates and implement a differential assessment should it become material. An equal per capita assessment means these revenues have no impact on States' GST distributions.

## WHAT IS INCLUDED IN THE LAND TAX CATEGORY?

1 The Land tax category comprises taxes on the ownership of land. Taxes can be levied on a per property basis or on an aggregated value of land owned. We separate revenue into:

- A general property component.
  - These are land taxes levied on both income producing properties and principal residences. They comprise metropolitan improvement levies, fire and emergency services levies (FESLs) on property and that part of ACT general rates that is a replacement for conveyance duty.
  - They are imposed on a per property basis, multiple land holdings are not taken into account.
- An income producing property component.

- States generally exempt a person's principal place of residence and land used for primary production, general government and charitable purposes.
- This comprises land taxes levied on an aggregated landholder basis. Landholders face tax rates reflecting their total value of all land holdings.

2 Table 1 shows States raised $8 billion from land tax in 2013-14.

**Table 1 Revenue from land tax, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| General property | 0 | 874 | 391 | 346 | 136 | 35 | 45 | 0 | 1 826 |
| Income producing property | 2 322 | 1 654 | 982 | 654 | 384 | 86 | 78 | 0 | 6 161 |
| Category | 2 322 | 2 528 | 1 373 | 1 000 | 520 | 121 | 123 | 0 | 7 988 |

Source: Commission calculation using State data.

3 Table 2 shows land tax contributed around 7% of State own-source revenue in 2013-14.

**Table 2 Land tax as a proportion of State own-source revenue**

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| Total for category ($m) | 6 691 | 6 760 | 6 904 | 7 988 |
| Total own source revenue ($m) | 94 581 | 98 644 | 104 644 | 115 464 |
| Proportion of total own source revenue (%) | 7.1 | 6.9 | 6.6 | 6.9 |

Source: Commission calculation using ABS Government Finance Statistics (GFS) and State data.

## How are revenues raised?

### *General property component*

4 In the case of FESLs, local governments impose these levies on behalf of States. They collect the revenue from landowners in the State alongside their own general rates collections and pass it back to the State government. The levy can comprise a fixed charge and a charge based on the value of the property. New South Wales and the Northern Territory do not have property based FESLs. Victoria collected a property based levy for the first time in 2013-14.

5 Victoria and Western Australia collect metropolitan improvement levies from landowners in their capital cities, although the scope of the levy varies between the two States.

6 In 2012-13, the ACT commenced a 20 year program to replace conveyance duty with general rate revenue. The replacement revenue is raised from landowners in the ACT. General rates comprise a fixed charge and a valuation based charge.

## *Income producing property component*

7 Most States levy these land taxes on the aggregated value of taxable land holdings above a threshold. The tax payable is calculated on the combined value of the taxable land above the threshold according to the State's tax rates.

8 The ACT taxes land on an individual taxable property basis and has no deduction threshold. The Northern Territory does not levy land tax.

9 Table 3 shows States impose land taxes at progressive rates – the marginal rate of duty increases with the value of land holdings.

**Table 3 Marginal rates of land tax, 2014**

| | NSW | Vic | Qld (a) | WA | SA | Tas | ACT | NT (b) |
|---|---|---|---|---|---|---|---|---|
| General deduction threshold ($000) | 406 | 250 | 600 | 300 | 316 | 25 | - | - |
| Marginal rate of tax (%) at: | | | | | | | | |
| $0.5 m | 1.6 | 0.2 | - | 0.1 | 0.5 | 1.5 | 1.8 | - |
| $1.0 m | 1.6 | 0.8 | 1.7 | 0.5 | 2.4 | 1.5 | 1.8 | - |
| $2.5 m | 2.0 | 2.3 | 1.7 | 1.2 | 3.7 | 1.5 | 1.8 | - |
| $5.5 m | 2.0 | 2.3 | 1.8 | 1.5 | 3.7 | 1.5 | 1.8 | - |
| Over $11 m | 2.0 | 2.3 | 1.8 | 2.2 | 3.7 | 1.5 | 1.8 | - |

(a) Data applicable to residential properties. Queensland applies a lower threshold of $350 000 to land owned by companies, trustees and absentees.

(b) The Northern Territory does not levy land tax.

Source: Commission calculation using State general duty rates published in New South Wales Treasury, *Interstate Comparison of Taxes, 2012-13.*

10 Most States value land for tax purposes on the basis of site values. Queensland values land on an unimproved value basis.

11 In all States, except the ACT, the liability for land tax is assessed using the aggregate value of land held by an owner or a group of owners, less the value of any exempt land such as a principal place of residence. However, they differ in their treatment of land held by two or more people.

- In New South Wales and Victoria, jointly owned land is assessed and taxed as if it was owned by a single owner. The land value is then allocated between the joint owners according to their interest in the land. Each person's interest in the joint land is aggregated with their other land holdings and they are taxed on the basis of the total value of all taxable land holdings. To avoid double taxation, individuals are able to claim any land tax paid on the joint land as a credit towards their individual assessment.
- In Queensland, the value of jointly owned land is allocated between each owner and aggregated with any other holdings. Each owner is taxed on the basis of their total value of taxable land.

- In Western Australia, South Australia and Tasmania, jointly owned land is assessed and taxed as if it was owned by a single owner. The assessment is kept separate from any other land owned individually or jointly by the joint owners. These States only aggregate the value of property when it is held by the same owner(s).
- The ACT taxes land owned jointly as if it was owned by one person. The ACT does not have a land tax-free threshold and does not aggregate the value of land held by an owner — each property is taxed individually.

## CATEGORY STRUCTURE

12 The assessment of Land tax is in two components:

- a general property component
- an income producing property component.

13 Table 4 shows the assessment structure for the category, the disabilities that are assessed and the size of each component, using 2013-14 data.

**Table 4 Category structure, Land tax, 2013-14**

| Component | Size | Disability | Influences measured by disability |
|---|---|---|---|
| | $m | | |
| General property | 1 826 | None | Revenue from property based FESLs, Metropolitan improvement levies and ACT general rates are assessed equal per capita. |
| Income producing property | 6 161 | Value of taxable property | Recognises the additional revenue capacity of States with a greater total taxable value of property aggregated by landholder. |
| | | Progressive rates of tax | Recognises the additional revenue capacity of States with proportionally more properties in higher value ranges. |

Source: Commission calculation.

## GENERAL PROPERTY COMPONENT

14 This component comprises revenue from:

- Metropolitan improvement levies. Victoria ($244 million in 2013-14) and Western Australia ($88 million in 2013-14) are the only States to impose metropolitan improvement levies.
- FESLs on property. These levies are raised on a per property basis, not the aggregated value of taxable land holdings as for the Income producing property component.

- Part of general rates revenue collected in the ACT. The ACT is phasing out conveyance duty and replacing it with an increase in general rates. We include the replacement revenue in this component as it is levied on a per property basis.

15 States were divided on whether FESLs and metropolitan levies should be differentially assessed in the category. Queensland, South Australia, Tasmania, the ACT and the Northern Territory supported a differential assessment; New South Wales and Victoria did not.

16 New South Wales and Victoria considered all FESLs should be treated the same, regardless of how they were collected. Victoria said it undermined policy neutrality to assess FESLs in different ways based on State policy choices about how they were raised. New South Wales said metropolitan levies were not applied in enough States to warrant a differential assessment. Western Australia doubted a reliable revenue base measure could be identified for either metropolitan levies or FESLs and added an assessment would likely be immaterial. Victoria agreed that an assessment would likely be immaterial.

17 We accept the scope of these levies differs across States. However, they broadly target landowners and we have taken the view they should be assessed together. We consider the appropriate measure of revenue raising capacity to be the value of properties in a State, reflecting that levies are imposed on a per property basis (not an aggregated landholder basis) and in most cases on all properties.

18 We sought land value data from State Valuer-Generals (VGs), but not all States were able to provide the data. We have used the ABS value of land as our interim measure. A differential assessment was not material as it did not move $30 per capita for any State. Therefore, we have assessed these revenues equal per capita. If an assessment based on VGs land values becomes material in the future, we will consider making a differential assessment. We will consult with States before making any change.

## INCOME PRODUCING PROPERTY COMPONENT

### Data sources

19 There are two main sources of land data — taxable land values from State Revenue Offices (SRO data) and VG data. Neither SRO data nor VG data are perfect. There are advantages and disadvantages in using each source:

- VG data are more comparable between the States, but less accurately reflect how States levy land tax. The VG data is on a per property basis. Because they value each parcel of land, the VGs are not able to provide information on the aggregated land holdings of individual owners and cannot separate taxable

residential land from non-taxable residential land (such as principal places of residence).

- the SRO land holdings data more closely reflect how States levy land tax. They exclude non-taxable land and are based on the aggregated land holdings of individual owners. However, each State's data reflects the way it levies land tax — its scope and exemptions, its treatment of jointly owned property and its valuation approach. Consequently, SRO data are affected by individual State policies and are less comparable across States, although we do ask States to extract their data in a way that removes some of these differences.

20 We think the SRO holdings data are preferable on conceptual grounds. All States, except the ACT and the Northern Territory, levy land tax on the aggregated land holdings of individual owners. The SRO holdings data are on this basis, the VG data are not. We believe States can continue to improve the comparability of their SRO data. While we have some concerns about comparability between States, we have decided to source our land data from State Revenue Offices.

21 Most States support using SRO data. New South Wales said we should consider a broader indicator of revenue capacity (such as total land values) given the degree of policy variation among States in application of land tax. Western Australia considered the SRO data and land values were not a good indicator of revenue capacity. It said Gross Household Disposable Income would be a better measure as the underlying driver was a capacity to pay. We have not adopted a broad measure of revenue capacity in this review because we believe the resulting assessments would omit aspects of States' tax policy that have a material impact on the assessment, such as the progressive nature of these taxes.

### *Adjustments to State data*

22 The scope of land that is dutiable differs across States. We have attempted to capture the revenue base that best reflects what States collectively do. There are a number of adjustments required to achieve this and they are all material.

23 State policies affecting SRO data include differences in tax rates and thresholds, land tax policies and methods of aggregation.

24 The Commission asked New South Wales, Victoria and Queensland to adjust their holdings data to make them more consistent with the treatment of jointly owned land in Western Australia, South Australia and Tasmania.

25 We increased the ACT's land values data by 2% because it imposes land tax on an individual property basis rather than the aggregated holdings of land owners. We estimated land values for the Northern Territory by setting them to 0.6% of the total land holdings data for other States in each value range. All States supported making these adjustments for the ACT and the Northern Territory.

26 For all States, we assess the revenue raised from properties of $0.3 million or less equal per capita because of concerns about States' ability to accurately record and report on the value of taxable land below their general deduction thresholds.

27 ***Scaling.*** It is usually the case that the total revenue derived from SRO data does not equal the total revenue provided to the ABS by State Treasuries and which we use to derive the State average revenue. Therefore, we scale SRO data to match the revenue reported by the ABS in each State. States' land values are scaled by the same ratio. This is a relatively minor adjustment, increasing New South Wales's base by 5%.

28 ***Progressive rates of tax.*** States impose land taxes using progressive rates. Land tax data indicate there are substantial differences between States in the value distribution of land and allowing for these differences has a material effect on assessed revenue raising capacities.

29 We estimated the impact of progressive rates of tax by calculating average effective rates of tax for each of 15 value ranges, applying those effective rates of tax to each State's value of land in that range and aggregating across the 15 value ranges. If this assessment is compared to one using a single rate of tax, it shows that the assessment of progressive rates increases the revenue bases of Queensland, Western Australia and the Northern Territory, and reduces the revenue bases of the other States. The State provided land data show these three States have proportionally more of their aggregated land holdings located in the value ranges above $1 million.

30 Table 5 shows the impact of this adjustment on the data provided by States.

**Table 5 Revenue base, income producing property component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Estimated value of taxable land (a) ($b) | 319 | 298 | 147 | 149 | 61 | 12 | 10 | 6 | 1 001 |
| Progressive rates of tax | 0.986 | 0.931 | 1.393 | 1.020 | 0.579 | 0.519 | 0.580 | 1.013 | 1.000 |
| Revenue base ($b) | 314 | 277 | 204 | 152 | 35 | 6 | 6 | 6 | 1 001 |

(a) Includes adjustments for scaling and differences in the scope of transactions subject to duty.
Source: Commission calculation.

31 Table 6 shows the derivation of a national average effective rate of tax for 2013-14. It was obtained by dividing total tax collections by the total value of land aggregated by landholder. It also shows each State's assessed revenue was derived by applying the national average effective rate of tax to its revenue base.

**Table 6 Assessed revenue, income producing property component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Actual revenue ($m) | 2 322 | 1 654 | 982 | 654 | 384 | 86 | 78 | 0 | 6 161 |
| Revenue base ($b) | 314 | 277 | 204 | 152 | 35 | 6 | 6 | 6 | 1 001 |
| Average tax rate (%) | | | | | | | | | 0.6 |
| Assessed revenue ($m) | 1 935 | 1 707 | 1 257 | 935 | 218 | 38 | 35 | 37 | 6 161 |

Note: Assessed revenue calculated as the product of a State's revenue base and the average rate of tax.
Source: Commission calculation.

## Discounting

32 We have moderate concerns about the reliability and comparability of the SRO data. We note that there are inconsistencies between the total value of land holdings and the distribution of those holdings across values.

- Queensland has 44% of its taxable land in holdings of over $2 million compared to a national average of only 29%, yet it has the third lowest value of land per capita.
- New South Wales and Western Australia both have 29% of taxable land in high value parcels, yet Western Australia's total value of land per capita is 90% above that of New South Wales.

33 Inconsistencies are further evidenced by the need to make adjustments to New South Wales, Victoria and Queensland data because of their different treatment of jointly owned properties; and to the ACT because it does not aggregate land holdings.

34 Western Australia asked us to apply a 50% discount as, in addition to our concerns with data reliability, it considers the impact of State policies on the value of land to be significant. Tasmania and the Northern Territory said the Commission should remove the discount altogether. Tasmania said the Commission had an additional four years of data and that should enable it to review and adjust the discount. The Northern Territory said the assessment method appropriately measured States' capacities and was policy neutral, so a discount was not needed. Both Tasmania and the Northern Territory said we should seek to resolve any data issues rather than apply a discount.

35 We have considered the level of discount and consider a 25% discount to the income producing component continues to be appropriate given our concerns with SRO data. Our concerns with the reliability of the land tax base indicator stems from adjustments required to account for policy differences among the States. While we have additional expertise with that adjustment — as have States making those adjustments — in the absence of a perfect dataset, we cannot measure if the indicator has become more reliable and so warrants a smaller discount.

36 We do not apply a discount because differences in State policy have an impact on recorded land values. That would, for instance, require us to believe that ACT policies

set out to depress land values compared to the average and we have no way of making such a judgment. For this reason, we do not favour a higher discount as suggested by Western Australia.

37 On balance, we have decided to retain the discount established in the 2010 Review. We do, however, seek to work with States in the near future to establish better indicators of land values for both parts of this assessment.

38 Table 7 shows how applying the discount changes the category assessed revenues.

**Table 7 Assessed revenue after discounting, income producing property component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Before discounting | 1 935 | 1 707 | 1 257 | 935 | 218 | 38 | 35 | 37 | 6 161 |
| After discounting | 1 945 | 1 663 | 1 252 | 869 | 274 | 63 | 52 | 44 | 6 161 |

Source: Commission calculation

## BRINGING THE ASSESSMENT TOGETHER

39 Table 8 shows the derivation of category assessed revenue. The revenue raising capacities of Victoria, Queensland and Western Australia are assessed to be above average.

**Table 8 Assessed revenue and revenue raising capacity, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| General property ($m) | 585 | 453 | 367 | 200 | 131 | 40 | 30 | 19 | 1 826 |
| Income producing property ($m) | 1 945 | 1 663 | 1 252 | 869 | 274 | 63 | 52 | 44 | 6 161 |
| Assessed revenue ($m) | 2 530 | 2 116 | 1 620 | 1 069 | 405 | 103 | 82 | 63 | 7 988 |
| Assessed revenue ($pc) | 339 | 366 | 346 | 419 | 242 | 200 | 213 | 258 | 343 |
| Revenue raising capacity | 0.989 | 1.067 | 1.008 | 1.224 | 0.705 | 0.584 | 0.621 | 0.752 | 1.000 |

Note: Revenue raising capacity ratio is calculated as assessed revenue per capita divided by average revenue.

Source: Commission calculation.

40 Table 9 shows that Western Australia has significantly higher average land holdings per capita, while South Australia, Tasmania, the ACT and the Northern Territory have significantly lower average land holdings per capita.

41 While Queensland has lower than average property values per capita, those properties tend to be in high value parcels, which attract higher tax rates. Therefore, Queensland has the capacity to raise close to average land tax.

42 Because of our concerns with the quality of data in this assessment, we have discounted it by 25%. We therefore assess the four smaller States as having a greater capacity than the raw data would imply.

**Table 9 Category assessment, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| General property component | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 |
| Income producing property component | | | | | | | | | |
| EPC distribution | 264 | 264 | 264 | 264 | 264 | 264 | 264 | 264 | 264 |
| Taxable property values | -1 | 53 | -72 | 95 | -40 | -121 | -107 | -115 | 0 |
| Progressive tax rates | -4 | -22 | 76 | 7 | -94 | -69 | -66 | 2 | 0 |
| Discount | 1 | -8 | -1 | -26 | 34 | 48 | 43 | 28 | 0 |
| Total component | 261 | 287 | 267 | 341 | 163 | 122 | 134 | 179 | 264 |
| Total category | 339 | 366 | 346 | 419 | 242 | 200 | 213 | 258 | 343 |

Source: Commission calculation.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

43 Table 10 shows the extent to which the assessment for this category moves the distribution of the GST away from an equal per capita distribution in 2015-16. It shows GST revenue is redistributed from States assessed to have above average revenue raising capacities (Victoria, Queensland and Western Australia) to States with below average revenue capacity (New South Wales, South Australia, Tasmania, the ACT and the Northern Territory).

**Table 10 GST impact, Land tax, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Dollars million | 36 | -122 | -31 | -269 | 229 | 81 | 53 | 23 | 422 |
| Dollars per capita | 5 | -21 | -7 | -106 | 137 | 157 | 138 | 94 | 18 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed revenues and 2015-16 GST.

Source: Commission calculation.

## CHANGES SINCE THE 2014 UPDATE

44 Table 11 breaks down the total changes since the 2014 Update into the impact of changing data sources, category specific method changes, and change in State circumstances in the 2015 assessment period.

**Table 11 Changes since the 2014 Update, Land tax**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Data changes | -1 | 3 | 0 | 7 | -5 | -2 | -1 | -1 | 10 |
| Method changes | 13 | -27 | -43 | -3 | 60 | 0 | 0 | -1 | 74 |
| Change in circumstances | -15 | 6 | 25 | 5 | -22 | -2 | 2 | 0 | 39 |
| Total | -2 | -19 | -17 | 10 | 33 | -5 | 1 | -2 | 44 |

Source: Commission calculation.

## Data changes

45 States revised previously provided financial data. The financial data revisions were minor. Five States also revised the land value data previously provided. Victoria and Queensland revised their values by more than 1% for one year. Western Australia revised its values by more than 1% for all three years.

## Method changes

46 The Commission assessed property based FESLs and replacement ACT general rates revenue in this category for the first time. Their inclusion had no impact on States' GST shares because they were assessed EPC.

47 The Income producing property assessment methodology is unchanged from the 2010 Review.

## Changes in State circumstances

48 Changes in State circumstances were small. States provided new data for 2013-14 on landholdings aggregated by landholder. The decrease in GST for New South Wales and South Australia arose because an increasing proportion of their landholdings attracted higher rates of tax, which increased their assessed revenue capacity. The increase for Queensland arose because an increasing proportion of their landholdings attract lower rates of tax, which reduced its assessed revenue capacity.

# UPDATING THE ASSESSMENT

49 Data used in the assessment will be updated when new data become available to ensure the relativities remain contemporary and consistent with the circumstances of the States. On this basis, we expect all data used in the calculation of revenue bases will be updated annually.

50 A differential assessment of the general property component is currently not material. We will continue to collect VG data on the value of properties annually. If an

assessment based on VG land values becomes material in the future, we will consider making a differential assessment. We will consult with States before making a change.

# CHAPTER 5

# STAMP DUTY

## SUMMARY OF THE ASSESSMENT

The category covers stamp duties raised by States when ownership of property and motor vehicles is transferred.

We assess States' capacity to raise revenue from property transfers using State provided data on the value of the transfers. The data are adjusted to reflect the application of progressive tax scales by States. Adjustments are also made to account for differences in the scope of State duties.

States' capacity to raise revenue from vehicle transfers is assessed using State provided data on the value of those transfers.

We have assessed some revenues so they do not affect GST shares. These are duties raised from corporate reconstructions, sale of State assets and transfers of land-rich listed companies.

States with an above average share of property and vehicle transfers are assessed to have an above average capacity to raise stamp duty, thus reducing their GST shares. In the case of property transfers, revenue capacity is also influenced by the average value of transfers since we reflect State progressive tax scales in our assessment.

## WHAT IS INCLUDED IN THE STAMP DUTY CATEGORY?

1 The Stamp duty category comprises revenue raised from:

- stamp duties on property sales
- stamp duties on vehicle sales.

2 The category includes duty raised from the sale of major State government owned assets, but excludes duty raised on the transfer of marketable securities.[1] The category excludes State expenses and concessions for first home owners (such as the First Home Owners Schemes, First Home Owners' Bonus Payments and duty concessions for first home buyers). They are assessed in the Housing category to ensure the Commission adopts a uniform approach to these forms of assistance.

3 Table 1 shows States raised $19 billion from stamp duties in 2013-14.

[1] Only New South Wales and South Australia levy duty on marketable securities. An assessment of these duties would not be material and they are included in the Other revenue category.

**Table 1 Revenue from Stamp duty, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Property | 6 166 | 4 301 | 2 566 | 2 154 | 789 | 154 | 236 | 145 | 16 511 |
| Vehicles | 663 | 663 | 486 | 385 | 157 | 39 | 28 | 24 | 2 446 |
| Total | 6 829 | 4 964 | 3 052 | 2 539 | 947 | 193 | 264 | 169 | 18 957 |

Source: Commission calculation using State data.

4 Table 2 shows stamp duty contributed 16% of State own-source revenue in 2013-14.

**Table 2 Stamp duty as a proportion of State own-source revenue**

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| Total for category ($m) | 15 191 | 14 566 | 15 789 | 18 957 |
| Total own source revenue ($m) | 94 581 | 98 644 | 104 644 | 115 464 |
| Proportion of own source revenue (%) | 16.1 | 14.8 | 15.1 | 16.4 |

Source: Commission calculation using ABS Government Finance Statistics (GFS) and State data.

## How are revenues raised?

### *Duties on property*

5 Property duties are a tax on the transfer of ownership of property. The concept of taxable property is very broad. It comprises both real property (such as land, houses, apartments, shops, factories, offices etc.) and non-real property (such as copyrights, goodwill, patents, partnership interests and options to purchase).

6 States have differences in the range of properties that are subject to duty. For example, Victoria has a concession for 'off the plan' transactions, but those transactions are fully dutiable in most other States. States also impose property duties at progressive rates, with the tax being based on the value of property transferred. Stamp duties are payable by the purchaser.

### *Duties on vehicles*

7 Vehicle duties are a tax on the transfer of ownership of vehicles. The tax is generally based on the value of the vehicle transferred and is payable by the purchaser.

8 While most States impose the stamp duty on the value of the vehicle, one State varies the rate according to number of cylinders. Rates can also vary according to the use of the vehicle and whether the vehicle is a new registration or a used vehicle transfer. A broadly common range of vehicles (such as vehicles acquired for resale by used car dealers, transfers arising from settling estates and family law arrangements and vehicles acquired by benevolent institutions) are exempted from duty across the States.

## CATEGORY STRUCTURE

9 The assessment of Stamp duty is in three components:

- an equal per capita (EPC) component
- a property component
- a vehicles component.

10 Table 3 shows the assessment structure for the category, the disabilities that are assessed and the size of each component, using 2013-14 data.

**Table 3 Category structure, Stamp duty, 2013-14**

| Component | Size | Disability | Influences measured by disability |
|---|---|---|---|
| | $m | | |
| EPC component | 314 | Population | Revenue from corporate reconstructions, sales of major State assets and land rich transactions of listed corporations are assessed equal per capita. |
| Property component | 16 197 | Value of property transferred | Recognises the additional revenue capacity of States with a greater total value of property transferred. |
| | | Progressive rates of tax | Recognises the additional revenue capacity of States with proportionally more transactions in higher value ranges. |
| Vehicles component | 2 446 | Value of vehicles transferred | Recognises the additional revenue capacity of States with a greater total value of vehicles transferred. |

Source: Commission calculation.

## EPC COMPONENT

11 This component comprises revenue from:

- Duty on corporate reconstructions. Most States refund the duty collected or exempt the transactions to encourage economic reform. The ad hoc nature and volatility of these transactions makes it difficult for us to construct a reliable estimate for States that do not levy duty.
- The sale of major State assets. These revenues arise because of differences in State policies on the ownership of assets.
- Revenue from duty on the land rich transactions of listed companies. Land rich transactions involving listed corporations are not common, but they can be large. To date, such transactions have been a minor source of revenue for States. The ad hoc nature and volatility of these transactions makes it difficult for us to construct a reliable estimate for States that do not levy duty.

12 A differential assessment is not made of these revenues — each State is assessed to have the same per capita capacity. Table 4 shows the assessed revenue for this component.

**Table 4 Assessed revenue, EPC component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Actual revenue | 98 | 31 | 76 | 96 | 13 | 0 | 0 | 0 | 314 |
| Assessed revenue | 101 | 78 | 63 | 34 | 23 | 7 | 5 | 3 | 314 |

Source: Commission calculation.

13 Data on revenue from these sources are collected from State Revenue Offices (SROs).

14 Not all States agreed with the composition of this component. New South Wales argued that revenue from corporate reconstructions and land rich transactions involving listed corporations should be assessed in the property component. We have not done so because we have been unable to develop a reliable assessment for corporate reconstructions or land rich transactions by listed corporations.

## PROPERTY COMPONENT

15 This component comprises revenue from duty applicable on the transfer of ownership of property.

16 The Commission sources data on the value of properties transferred and the duty raised from State revenue offices. The scope of transactions that are dutiable differs across States. We have attempted to capture the revenue base that best reflects what States collectively do. We have made a number of adjustments to achieve this and they are all material. Our aim is to improve the comparability of the data States provide and, in so doing, the resulting assessed revenue bases. We make these adjustments in the simplest and most reliable way.

- Where a majority of States apply duty to particular transactions, we impute the missing transactions for States that do not.
- Where a minority of States apply duty to particular transactions, we remove those transactions from the data they provide.

17 States generally accepted this approach. Western Australia said the Commission needed to be consistent in how it made its adjustments. New South Wales said the Commission should not make adjustments as the differing State policies could be averaged through the application of the national average effective tax rate. We do not think averaging by itself is sufficient. If we do not adjust State provided data for differences in scope, we run the risk of over or underestimating the capacity of some

States because of their decision to tax a different range of transactions. These adjustments are designed to improve the comparability of State provided data.

18 The ACT said the Commission should apply the medium level discount (25%) to this assessment because of a lack of comparability in State revenue office data. We have not discounted the assessment because we do not harbour similar concerns about the reliability of State revenue office data.

## Non-real property

19 As part of the Intergovernmental Agreement on Federal Financial Relations (the IGA), States have agreed to abolish duty on non-real transactions, but they have different timetables for its abolition. Most States still apply duty. We have treated these transactions like other dutiable transactions. Any revenue raised is added to component revenue and we make an adjustment to increase the revenue bases of States that do not levy the duty. We increase their revenue bases by 6% (1% in the case of the ACT[2]). This is the treatment we applied when we last included non-real property transactions.

20 Some States argued for a different treatment. Under the IGA, States that abolished duty on non-real property agreed not to reintroduce it.[3] Tasmania said this meant these States (Victoria, Tasmania and the ACT) no longer had revenue capacity in this area. Victoria agreed. Victoria and Tasmania said the IGA can be viewed as a binding agreement between the Commonwealth and States. Under the IGA, States agreed to abolish duty on non-real property before 1 July 2013 and not reintroduce it. The ACT said the IGA could not be regarded as binding if States that do not meet its requirements are not penalised.

21 Western Australia, the ACT and the Northern Territory said we should estimate the missing transactions for States that did not impose the duty.

22 We agree with the ACT and consider that, in practice, the IGA is non-binding. We have included non-real property transactions in the revenue base. We have also made an adjustment to estimate the missing transactions for States that have abolished this duty. This adjustment is material at the $10 per capita threshold.

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2 ACT data for prior years indicate non-real property transactions were a minor part of its revenue base. Based on the prior ACT data, the Commission assessed a lower adjustment for the ACT.

3 *Intergovernmental Agreement on Federal Financial Relations* (2009) Schedule B, Clause B2(g).

## Other scope adjustments

23 Victoria does not levy duty on off the plan purchases. We have made an adjustment to estimate its missing data. The adjustment increases its revenue base by 2.75%.[4]

24 Queensland, Western Australia and South Australia tax a wider range of unit trusts than other States. We have made an adjustment to remove those transactions. The adjustment reduces their revenue bases by 3%.

25 New South Wales and Queensland said the latter adjustment was inconsistent with the new definition of average policy. They said the category included revenue from the expanded transactions in these States and, therefore, the Commission should expand the scope of the revenue base by imputing the missing transactions from States with a narrower scope of unit trusts. Conceptually, we accept we should expand the scope of the revenue base. However, our practicality supporting principle leads us to make fewer adjustments rather than more. As it has no material impact on the GST distribution, we have adjusted the data of the three States that impose duty on a wider range of unit trusts.

## Refunds

26 The Commission also asks States to account for refunded transactions in the data they provide. If a transaction is refunded, the Commission asks States to report the refund in the year the refund is provided, not the year in which the original transaction occurred. We do this because some appeals can take many years to resolve. Our short assessment period means that, by the time the refund occurs, the original transfer will no longer be part of our assessment period. This approach ensures refunds are captured in the assessment.

## Scaling

27 The data States supply on the value of transfers and revenue raised are obtained from their SROs. It is usually the case that the total revenue derived from SRO data does not equal the total revenue provided to the ABS by State Treasuries and which we use to derive the State average revenue. Therefore, we scale SRO data to match the revenue reported by the ABS in each State. States' value of transactions data are scaled by the same ratio.

[4] We note South Australia introduced an off the plan concession in May 2012 for some regions in Adelaide. It forecasts it will lose around 0.2% of revenue. An adjustment of this size would not be material. We have not, therefore, included an off the plan adjustment for South Australia.

## Progressive rates of tax

28 States impose conveyance duty using progressive rates. Table 5 shows all States have progressive rates — the marginal rate of duty increases with the value of the property transferred.

**Table 5 Effective tax rates on transfer of property, selected values, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT |
|---|---|---|---|---|---|---|---|---|
| | % | % | % | % | % | % | % | % |
| $150 000 | 2.5 | 2.7 | 2.4 | 2.7 | 3.2 | 2.8 | 2.5 | 2.4 |
| $300 000 | 3.0 | 4.4 | 3.0 | 3.4 | 3.8 | 3.3 | 3.5 | 2.8 |
| $450 000 | 3.5 | 4.9 | 3.1 | 3.8 | 4.2 | 3.6 | 4.5 | 3.5 |
| $600 000 | 3.7 | 5.2 | 3.3 | 4.1 | 4.5 | 3.7 | 5.0 | 3.9 |
| $750 000 | 3.9 | 5.3 | 3.6 | 4.3 | 4.7 | 3.9 | 5.0 | 4.2 |
| $1 000 000 | 4.0 | 5.5 | 3.8 | 4.5 | 4.9 | 4.0 | 5.0 | 4.8 |

Note: The effective rates of tax are calculated as the duty payable on the transaction (derived using each State's legislated rates) divided by the value of the transaction.
Source: Commission calculation using State general duty rates published in New South Wales Treasury, *Interstate Comparison of Taxes, 2013-14.*

29 State provided data on the value of transfers indicate there are substantial differences between States in the value distribution of transfers and allowing for these differences has a material effect on assessed revenue raising capacities. It moved more than $30 per capita for at least one State.

30 We estimated the impact of progressive rates of tax by calculating average effective rates of tax for each of 16 value ranges, applying those effective rates of tax to each State's value of transactions in that range and aggregating across the 16 value ranges. If this assessment is compared to one using a single rate of tax, it shows that the assessment of progressive rates increases the revenue base of New South Wales and reduces the revenue bases of the other States. The State provided transfer data shows New South Wales has proportionally more of its transferred property values located in value ranges above $1 million.

31 Table 6 shows the impact of this adjustment on the data provided by States.

**Table 6 Revenue base, property component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Estimated value of taxable transactions (a) ($m) | 156 856 | 105 017 | 77 128 | 47 866 | 17 457 | 4 658 | 6 295 | 3 228 | 418 506 |
| Progressive rates of tax | 1.040 | 0.985 | 0.976 | 0.988 | 0.924 | 0.864 | 0.963 | 0.975 | 1.000 |
| Revenue base ($m) | 163 109 | 103 490 | 75 250 | 47 303 | 16 122 | 4 023 | 6 062 | 3 146 | 418 506 |

(a) Includes adjustments for scaling and differences in the scope of transactions subject to duty.
Source: Commission calculation.

32 Table 7 shows the derivation of a national average effective rate of tax for 2013-14. It was obtained by dividing total tax collections by the total value of the property transferred. It also shows each State's assessed revenue for this component was derived by applying the national average effective rate of tax to its revenue base.

**Table 7 Assessed revenue, property component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Actual revenue ($m) | 6 069 | 4 269 | 2 489 | 2 058 | 777 | 154 | 236 | 145 | 16 197 |
| Revenue base ($b) | 163 | 103 | 75 | 47 | 16 | 4 | 6 | 3 | 419 |
| Average tax rate (%) | | | | | | | | | 3.9 |
| Assessed revenue ($m) | 6 313 | 4 005 | 2 912 | 1 831 | 624 | 156 | 235 | 122 | 16 197 |

Note: Assessed revenue calculated as the product of a State's revenue base and the average rate of tax.
Source: Commission calculation.

33 Most States agreed that we should make an adjustment to reflect States' application of progressive rates of tax. New South Wales disagreed. It said the application of the average rate of tax was sufficient. Our view is that progressive tax scales are a material feature of States' duties on property transactions. Reliable data are available that allow us to make an assessment of progressive rates and we have done so.

## VEHICLES COMPONENT

34 All States impose duty on the value of the vehicle sold and nearly all have a multi-tiered rate structure, which varies between States. States generally apply the same rates to new and used vehicles.

35 The value of the vehicles sold reflects the base that States tax. Differences between States in the value distribution of sales could affect their relative revenue raising capacities but it is not material to apply a value distribution adjustment, and reliable data on values is not available for a number of States.

36 The revenue base for stamp duty on registrations and transfers is the value of vehicles liable to pay the duty, data which is supplied by States. All States except Victoria and the Northern Territory can provide data on the value of vehicle sales. The Commission estimates Victoria's values using its total revenue collections (dissected into new and used vehicles) and its legislated tax rates. We estimate the Northern Territory's values using the revenue it raises and its legislated tax rate.

37 Table 8 shows the derivation of the assessed revenue for the vehicle component.

**Table 8 Assessed revenue, vehicle component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Actual revenue ($m) | 663 | 663 | 486 | 385 | 157 | 39 | 28 | 24 | 2 446 |
| Revenue base ($m) | 20 723 | 17 762 | 15 482 | 11 050 | 4 586 | 1 337 | 973 | 815 | 72 728 |
| Average tax rate (%) | | | | | | | | | 3.4 |
| Assessed revenue ($m) | 697 | 597 | 521 | 372 | 154 | 45 | 33 | 27 | 2 446 |

Note: Assessed revenue calculated as the product of a State's revenue base and the average rate of tax.
Source: State data on the value of vehicles liable for duty.

38 South Australia, the ACT and the Northern Territory supported inclusion of vehicle transfer duty in the category. New South Wales and Victoria did not.

39 New South Wales and Victoria accepted the placement of the assessment did not affect States' GST outcomes. New South Wales said moving the assessment gives rise to artificial redistributions for both this and the Motor taxes category. Victoria said if the duties were included in this category, the category should be renamed to provide a more accurate description of what is being assessed.

40 On balance, we think vehicle transfer duty is better placed in this category. Vehicle transfer duty is a transaction tax more like conveyance duties than the other registration-type motor taxes. We have renamed the category Stamp duty to reflect its broader scope.

## BRINGING THE ASSESSMENT TOGETHER

41 Table 9 shows the derivation of category assessed revenue. The revenue raising capacities of New South Wales and Western Australia are assessed to be above average.

**Table 9 Assessed revenue and revenue raising capacity, Stamp duty, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| EPC component ($m) | 101 | 78 | 63 | 34 | 23 | 7 | 5 | 3 | 314 |
| Property component ($m) | 6 313 | 4 005 | 2 912 | 1 831 | 624 | 156 | 235 | 122 | 16 197 |
| Vehicles component ($m) | 697 | 597 | 521 | 372 | 154 | 45 | 33 | 27 | 2 446 |
| Assessed revenue ($m) | 7 110 | 4 680 | 3 496 | 2 237 | 801 | 208 | 272 | 152 | 18 957 |
| Assessed revenue ($pc) | 952 | 809 | 746 | 877 | 477 | 404 | 710 | 625 | 813 |
| Revenue raising capacity | 1.171 | 0.994 | 0.917 | 1.079 | 0.587 | 0.497 | 0.873 | 0.769 | 1.000 |

Note: Revenue raising capacity ratio is calculated as assessed revenue per capita divided by average revenue.
Source: Commission calculation.

42 Table 10 shows the calculation of the category on a per capita basis. It shows that New South Wales is assessed to have the capacity to raise significantly more than average, while South Australia and Tasmania have much smaller than average

capacities. This result is mostly due to the differences in the value of properties transferred between the States. New South Wales, Victoria and Western Australia have higher than average shares of the value of properties transferred, while the other States have lower than average shares of the value of properties transferred. For New South Wales, transferred properties tend to be concentrated in the higher value ranges, where higher effective duty rates are imposed. For Tasmania, transferred properties are concentrated in the lower value ranges.

**Table 10 Category assessment, Stamp duty, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| EPC component | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 |
| Property component | | | | | | | | | |
| EPC | 695 | 695 | 695 | 695 | 695 | 695 | 695 | 695 | 695 |
| Sales per person | 118 | 7 | -58 | 32 | -292 | -344 | -60 | -183 | 0 |
| Progressive rate of tax | 32 | -10 | -16 | -9 | -31 | -48 | -23 | -13 | 0 |
| Total | 846 | 692 | 621 | 718 | 372 | 303 | 611 | 499 | 695 |
| Vehicles component | | | | | | | | | |
| EPC | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 |
| Sales per person | -12 | -2 | 6 | 41 | -13 | -17 | -20 | 8 | 0 |
| Total | 93 | 103 | 111 | 146 | 92 | 87 | 85 | 112 | 105 |
| Category | 952 | 809 | 746 | 877 | 477 | 404 | 710 | 625 | 813 |

Source: Commission calculation.
Note: Component disabilities may not add due to interactions.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

43 Table 11 shows the extent to which the assessment for this category moves the distribution of the GST away from an equal per capita distribution in 2015-16. It shows GST revenue is redistributed from States assessed to have above average revenue raising capacities (New South Wales and Western Australia, and to a lesser extent, Victoria) to States with below average revenue capacity (Queensland, South Australia, Tasmania, the ACT and the Northern Territory).

**Table 11 GST impact, Stamp duty, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| Dollars million | -638 | -9 | 198 | -314 | 514 | 190 | 18 | 42 | 961 |
| Dollars per capita | -83 | -1 | 41 | -116 | 301 | 368 | 46 | 165 | 40 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed revenues and 2015-16 GST.
Source: Commission calculation.

## CHANGES SINCE THE 2014 UPDATE

44 Table 12 breaks down the total changes since the 2014 Update into the impact of changing data sources, category specific method changes, and change in State circumstances in the 2015 assessment period.

**Table 12 Changes since the 2014 Update, Stamp duty**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Data changes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Method changes | 4 | -92 | -24 | 104 | 12 | 0 | -7 | 2 | 124 |
| Change in circumstances | -297 | 204 | -13 | -23 | 78 | 20 | 25 | 4 | 333 |
| Total | -293 | 112 | -37 | 82 | 90 | 21 | 18 | 7 | 330 |

Source: Commission calculation.

### Data changes

45 States revised previously provided financial data. The revisions were minor and they have not been separately identified.

### Method changes

46 Most States supported retaining the 2010 Review assessment method. We have made three changes:

- We have included stamp duties on the transfer of ownership of vehicles in the category. This change is presentational and has no effect on the distribution of GST revenue. The impact of including this component is not shown because it is exactly offset by its removal from the Motor taxes category.
- Expenses, other than on the First Home Owners Schemes and duty concessions relating to first home owners, are moved from this category to Housing, slightly increasing the revenue standard in the category.
- In the 2010 Review, we applied a land rich adjustment[5], which adjusted for how States tax the sales of entities which hold land. We have discontinued that adjustment because it is not material — it failed the $10 per capita data adjustment threshold.

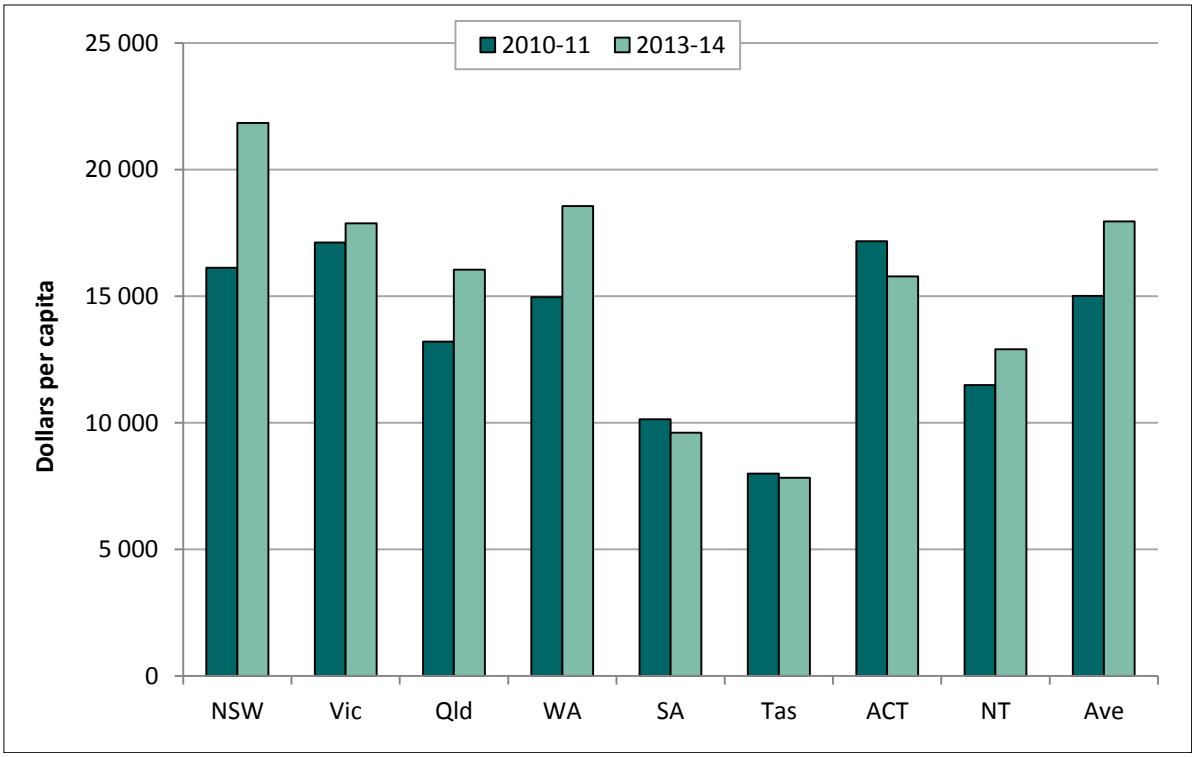
[5] The Commission has implemented two different land rich adjustments. First, it distinguishes land rich transactions by listed companies from other land rich transactions. The former are assessed in the EPC component, the latter in the property component. Second, it distinguishes the way States impose duty on the land rich transactions. Some use land rich duty, others use landholder duty. Land rich duty is payable once the land proportion of the transaction exceeds a specified percentage. The landholder duty replaces the percentage threshold with a simple land value threshold, which broadens the tax base. In this review, we have discontinued the second adjustment on materiality grounds.

- Western Australia revised downward value of properties transferred data it had previously provided.

## Changes in State circumstances

47 Changes in State circumstances were large. New South Wales, Queensland and Western Australia reported significant increases in the value of properties transferred. Value of properties transferred data have been depressed in recent years, Western Australia being the exception. Figure 1 shows the value of properties transferred for most States have returned to around their 2010-11 levels, but the 2013-14 data for New South Wales, Queensland and Western Australia are above their 2010-11 levels.

**Figure 1 Value of property transacted per capita, 2010-11 and 2013-14**




Source: Commission calculation using State provided data.

## UPDATING THE ASSESSMENT

48 We recommend the data used in this assessment be updated when new data become available, to ensure the relativities remain contemporary and consistent with the changing circumstances of States. On this basis we expect the following data to be updated annually:

- State Revenue Office data on:
  - duty from corporate reconstructions, land rich transactions by listed companies and duty from the sales of major State assets
  - the duty collected and the value of property transferred by value range
  - First Home Owner concessions by value range
- State revenue office data on the value of vehicles transferred.

# CHAPTER 6

# INSURANCE TAX

## SUMMARY OF THE ASSESSMENT

This category includes insurance tax levied on the premiums of a range of insurance products and emergency service levies collected from policy holders by some States.

We assess a State's capacity to raise revenue from insurance tax using the value of premiums paid, which we obtain from the Australian Prudential Regulatory Authority. Adjustments are made to account for forms of insurance not typically taxed.

States with an above average share of premiums are assessed to have above average revenue capacity, thus reducing their GST share. States with a below average share of premiums are assessed to have below average revenue capacity, thus increasing their GST share.

## WHAT IS INCLUDED IN THE INSURANCE TAX CATEGORY?

1 Insurance tax includes taxes on various insurance products that are mostly levied on premiums. They include life, general and compulsory third party (CTP) motor vehicle insurance. The insurance premium paid is a measure of the insured risk. State governments impose the tax on top of the insurance premium. The taxes are generally imposed on insurance companies and passed on to consumers. Two States impose a fire and emergency levy on insurance products. The revenue raised is included in this category as insurance tax revenue.

2 Table 1 shows States raised $5 billion from insurance taxes in 2013-14.

**Table 1 Revenue from insurance tax, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Insurance tax | 1 821 | 1 067 | 731 | 611 | 435 | 98 | 34 | 44 | 4 841 |

Source: Commission calculation using State data.

3 Table 2 shows insurance tax contributed around 4% of State own-source revenue in 2013-14, down slightly from earlier years.

**Table 2 Insurance tax as a proportion of State own-source revenue**

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| Total for category ($m) | 4 513 | 4 888 | 5 093 | 4 841 |
| Total own source revenue ($m) | 94 581 | 98 644 | 104 644 | 115 464 |
| Proportion of total own source revenue (%) | 4.8 | 5.0 | 4.9 | 4.2 |

Source: Commission calculation using ABS Government Finance Statistics (GFS) and State data.

## How are revenues raised?

4 Duties are collected on three broad classes of insurance:

- Life insurance. Most States impose duty on the sum insured. South Australia imposes the duty on annual premiums. Western Australia does not impose a duty. Most States also impose duty on term or temporary insurance policies at a rate of 5% of the first year's premium.
- General insurance — such as commercial and domestic motor vehicle, home and contents, public liability and professional indemnity. All States impose a fixed rate of duty on premiums. The rate varies between 6% and 11%. Three States (New South Wales, Queensland and Tasmania) apply concessional rates to certain types of general insurance.
- CTP motor vehicle insurance. Victoria and Western Australia impose a single rate of duty on premiums. Queensland, South Australia and Tasmania impose a flat fee. New South Wales, the ACT and the Northern Territory do not tax CTP insurance.

5 Some classes of insurance are commonly exempt from duty. All States exempt medical benefits insurance[1], commercial marine insurance and reinsurance. Only Queensland taxes workers' compensation insurance, but it does so at a concessional rate. There are a number of other exemptions applied in only one or two States.

[1] New South Wales imposes a Health Insurance Levy on private health insurers. It is not classified as an insurance tax and is included in Other revenue.

# ASSESSMENT METHOD

## Scope of premiums included in the revenue base

6 Some insurance premiums are taxed, while others are not. We seek to capture the revenue base that best reflects what States collectively do. We derive the general insurance tax base using premium data published by the Australian Prudential Regulation Authority (APRA).

### *Exempt classes of insurance*

7 No State imposes duty on medical benefits insurance or reinsurance. APRA data exclude premiums relating to these classes of insurance.

8 No State imposes duty on commercial marine insurance. However, commercial marine insurance premiums are included in the APRA data. It is not able to identify and remove them. At a national level, these premiums represent less than 2% of total premiums. A data adjustment to remove them is unlikely to be material and we have left them in the APRA data.

### *Life insurance*

9 While APRA can provide data on the total premiums paid for general insurance and CTP insurance by State, it cannot provide life insurance premiums by State. These premiums are, therefore not included in the insurance tax base.

10 New South Wales said we should not include revenue in the category if the associated tax base cannot be assessed, particularly where the revenue could be removed relatively easily. It said life insurance should be removed from the category and assessed equal per capita in the Other revenue category.

11 Life insurance duties cannot easily be removed from the category. Only Victoria ($3.4 million in 2012-13) and the ACT ($2.2 million in 2012-13) provide annual data that would allow us to do so. The absence of APRA data means we cannot include life insurance premiums in the revenue base. On practicality grounds, therefore, we have assessed life insurance duties differentially using the general insurance revenue base.

### *Workers' compensation*

12 Queensland is the only State imposing duty on workers' compensation insurance ($87.1 million in 2012-13), doing so at a concessional rate. Workers' compensation premiums comprised around 27% of total premiums in 2012-13. However, the duty raised on workers' compensation premiums is only 2% of all Insurance duties.

13 New South Wales said workers' compensation revenue should be removed from the category and assessed equal per capita in the Other revenue category.

14 A separate assessment of workers' compensation duties is not material. Therefore, we have decided this should not be differentially assessed in the Insurance tax category. Workers compensation duties will be assessed equal per capita in the Other revenue category.

### *Fire and emergency services levies*

15 In 2013-14, Victoria moved from insurance-based to property-based emergency services funding. Only New South Wales and Tasmania continue to collect fire and emergency services levies on insurance products. We consider these levies to be similar to other insurance taxes and have included them in the category.

16 APRA include insurance-based fire and emergency services levies (FESLs) in its total premium data.[2] From 2013-14, only two States impose insurance based FESLs levies. If we leave the levies in the APRA data, these two States would be assessed to have a high capacity to raise insurance taxes. Therefore, on policy neutrality grounds, we have removed the levies from the APRA data.

17 States disagreed on whether these levies should be differentially assessed. South Australia, the ACT and the Northern Territory supported a differential assessment, New South Wales and Victoria did not.

18 New South Wales and Victoria said fire and emergency services levies should be assessed equal per capita in the Other revenue category. New South Wales was not convinced of the conceptual case for three different assessments (in Land tax, Insurance tax and Motor taxes) of what it sees as essentially the same tax. Victoria said fire and emergency services levies were user charges and so should be assessed with other user charges in the Other revenue category.

19 Under our average policy approach we combine revenues that are taxed on the same basis. This approach means the hypothecation of the revenue raised to fire and emergency services is not a factor in how we assess revenue capacity. The insurance-based fire and emergency services levies are raised on a basis similar to other insurance taxes. Therefore, we have assessed them with those revenues. We considered splitting out insurance-based fire and emergency services levies, but their separate assessment was not materially different from an assessment using the general insurance tax base. We have, therefore, differentially assessed insurance-based fire and emergency services levies using the general insurance revenue base.

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[2] Under Australian accounting standard AASB 1023, reported gross earned premiums include fire and emergency services levies.

### *Summary*

20 The revenue base for insurance taxes is:

- total premiums paid as published by APRA
- less premiums for reinsurance
- less premiums for workers' compensation
- less fire and emergency services levies.

21 Table 3 shows the derivation of a national average effective rate of tax for 2013-14. It was obtained by dividing total tax collections by the total general insurance revenue base. Each State's assessed revenue was derived by applying the national average effective rate of tax to its revenue base.

22 The national average effective tax rate is 13.8%, which is higher than the legislated rate on any insurance product. This is because we include some forms of insurance in category revenue but not in the revenue base (for example, life insurance revenue and insurance-based fire and emergency levies).

23 While different rates apply to the different forms of insurance, it is not material to further disaggregate the category into the different forms of insurance. Separating out any of the forms of insurance would not redistribute $30 per capita for any State.

**Table 3 Assessed revenue and revenue raising capacity ratio, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Actual revenue ($m) | 1 821 | 1 067 | 731 | 611 | 435 | 98 | 34 | 44 | 4 841 |
| Taxable premiums ($m) | 11 985 | 8 139 | 7 076 | 3 688 | 2 849 | 611 | 505 | 325 | 35 178 |
| Average tax rate (%) | | | | | | | | | 13.8 |
| Assessed revenue ($m) | 1 649 | 1 120 | 974 | 507 | 392 | 84 | 69 | 45 | 4 841 |
| Assessed revenue ($pc) | 221 | 194 | 208 | 199 | 234 | 164 | 181 | 183 | 208 |
| Revenue raising capacity | 1.064 | 0.932 | 1.000 | 0.959 | 1.126 | 0.788 | 0.872 | 0.883 | 1.000 |

Note: Revenue raising capacity ratio is calculated as assessed revenue per capita divided by average revenue.

Source: Commission calculation.

## Data sources and adjustments

24 The Commission sources insurance premium data from APRA. However, from 2012-13, APRA is no longer able to provide premium data for public insurers.[3] The main classes of insurance provided by public insurers are: CTP insurance; workers' compensation; and insurance for public sector agencies.

[3] Public insurers are those that are controlled, or wholly owned, by a State government, irrespective of whether the assets insured are government or private assets. These insurers are not regulated by APRA.

25 In this review, we have continued to include CTP premiums paid to public insurers to ensure comparability with States where CTP insurance is privately underwritten. For 2012-13 onwards, we sourced premiums data from public insurers' annual reports. For the Northern Territory, we used State-provided data.[4]

26 As outlined previously, we exclude workers' compensation premiums from the revenue base. This includes workers' compensation premiums paid to public insurers. We also exclude duty on premiums paid by general government sector agencies, because it is an internal budget transfer. While public sector corporations in some States are insured with public insurers, data are not available to split their premiums from those paid by general government sector agencies. As a result we have excluded from the revenue base all premiums paid to public insurers by public sector agencies. We include premiums paid to public insurers by private sector agencies and individuals (primarily CTP premiums).

27 Given the confidentiality of data, a dissection of the revenue base is not presented.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

28 Table 4 shows the extent to which the assessment for this category moves the distribution of the GST away from an equal per capita distribution in 2015-16. It shows GST revenue is redistributed from States assessed to have above average revenue raising capacities (New South Wales and South Australia) to States with below average revenue capacity (Victoria, Queensland, Western Australia, Tasmania, the ACT and the Northern Territory).

**Table 4 GST impact, Insurance tax, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| Dollars million | -146 | 101 | 11 | 23 | -36 | 26 | 14 | 8 | 183 |
| Dollars per capita | -19 | 17 | 2 | 8 | -21 | 50 | 35 | 31 | 8 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed revenues and 2015-16 GST.
Source: Commission calculation.

29 Table 4 shows the Insurance tax assessment is material — the redistribution exceeds the disability materiality threshold of $30 per capita. New South Wales said the assessment should be discontinued if it failed the materiality test.

30 Queensland said an assessment should continue even if it is only marginally below materiality thresholds because the assessment is reliable, policy neutral and based on good quality data. It said the assessment contributes to a more complete equalisation

[4] The Territory Insurance Office writes several classes of insurance. We used data provided by the Northern Territory to exclude workers' compensation premiums.

outcome and it is appropriate that it should remain subject to a differential assessment. Tasmania made a similar argument. The ACT and Northern Territory disagreed with using the higher materiality threshold chosen by the Commission for this review to cease a differential assessment of this category.

## CHANGES SINCE THE 2014 UPDATE

31 Table 5 breaks down the total changes since the 2014 Update into the impact of changing data sources, category specific method changes, and change in State circumstances in the 2015 assessment period.

**Table 5 Changes since the 2014 Update, Insurance tax**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Data changes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Method changes | -54 | 43 | -6 | 4 | -6 | 6 | 11 | 2 | 67 |
| Change in circumstances | 26 | 10 | -14 | -1 | -18 | -1 | -1 | -1 | 36 |
| Total | -28 | 53 | -20 | 3 | -25 | 6 | 10 | 1 | 73 |

Source: Commission calculation.

### Data changes

32 The data changes in this assessment were minor and have not been split from the method changes.

### Method changes

33 The 2015 Review assessment method is unchanged from the 2010 Review method.

34 We have made two changes to the revenues classified to this category:

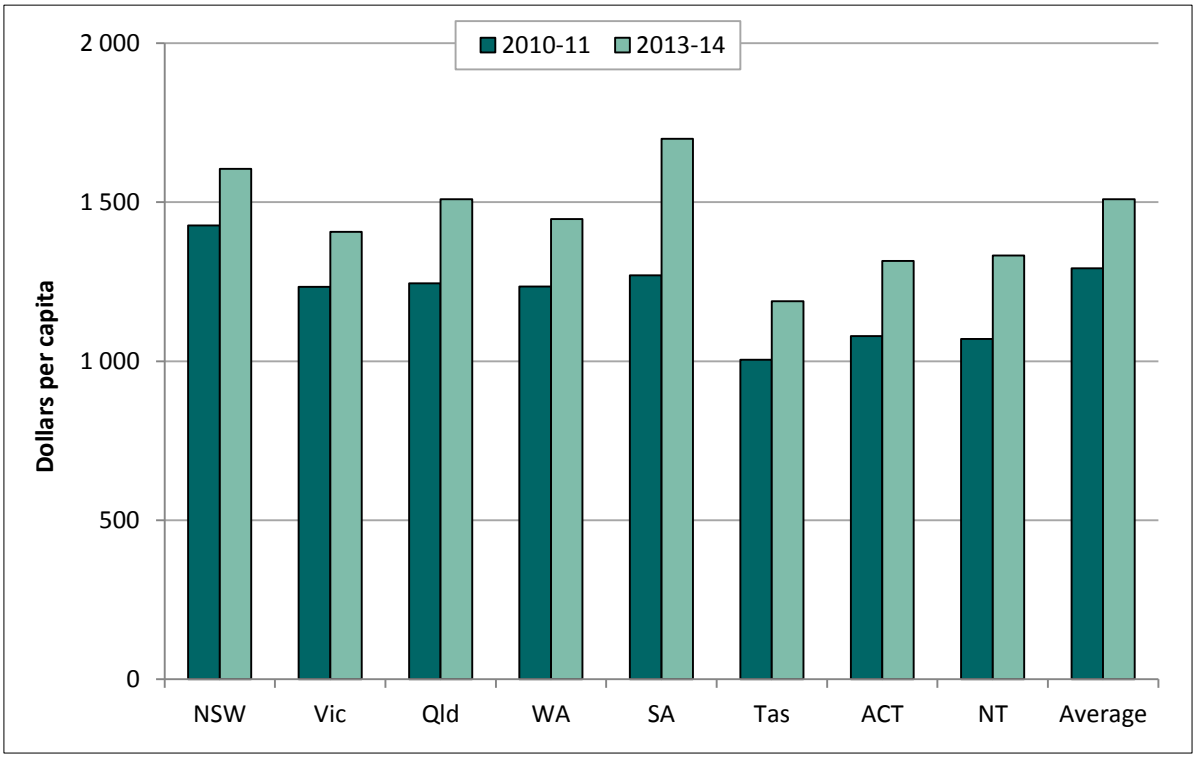
- Workers' compensation duties have been moved from this category to the Other revenue category
- Fire and emergency services levies on insurance products have been moved from the Other revenue category to this category.

35 The fire and emergency services levies are larger than the workers' compensation duties, so the category has become bigger. This is the main source of the method change redistribution. Queensland had a below average share of workers' compensation premiums, their removal increased its assessed insurance capacity and reduced its GST share.

## Changes in State circumstances

36 New South Wales and Victoria experienced the lowest growth in total insurance premiums between 2010-11 and 2013-14, which reduced their assessed capacity. Figure 1 shows Queensland and South Australia experienced above average growth in total insurance premiums, which increased their assessed capacity.

**Figure 1 Taxable premiums per capita, 2010-11 and 2013-14**




Source: Commission calculation using data from APRA and public insurers' annual reports.

## UPDATING THE ASSESSMENT

37 We recommend the data used in this assessment be updated when new data become available, to ensure the relativities remain contemporary and consistent with the changing circumstances of States. On this basis we expect the following data to be updated annually — APRA premium data.

# CHAPTER 7

# MOTOR TAXES

## SUMMARY OF THE ASSESSMENT

The category primarily consists of annual registration and associated charges levied by States on vehicle owners or collected by the Commonwealth on behalf of States. It also includes fire and emergency services levies for States that apply them to vehicle owners. Stamp duty on the transfer of vehicle ownership is assessed in the Stamp duty category.

We use data on total vehicles registered in each State, split into light and heavy vehicles, to assess a State's capacity to raise revenue from this source. Average registration charges for light and heavy vehicles are used to make this assessment.

States with an above average share of light and heavy vehicles are assessed to have above average revenue raising capacity, thus reducing their GST share. States with a below average share of light and heavy vehicles are assessed to have below average revenue raising capacity, thus increasing their GST share. Some States are assessed to have above average capacity for one class of vehicle and below average capacity for the other.

## WHAT IS INCLUDED IN THE MOTOR TAXES CATEGORY?

1 The Motor taxes category includes annual motor vehicle registration, fire and emergency levies imposed on motor vehicles, traffic improvement and number plate fees and revenues raised by the Commonwealth under its Federal Interstate Registration Scheme (FIRS).[1]

2 The category does not include stamp duty on motor vehicle transfers, duty collected on compulsory third party insurance premiums or driver licence and permit fees[2]. In this review, we proposed moving stamp duty on vehicle sales to the Stamp duty category because the revenues were more like other stamp duties. Revenue from duty on insurance premiums is assessed in the Insurance tax category. Revenue from driver licence and permit fees is assessed in the Other revenue category.

[1] Federal Interstate Registration Scheme is an alternative to State based registration for heavy vehicles weighing more than 4.5 tonnes. The revenue is collected by the Commonwealth and paid to States. In 2013-14, $75 million was paid to States.

[2] Revenue from drivers' licence and permit fees is not included in this category because the number of vehicles registered is not a good indicator of the number of licences and permits.

3 South Australia, the ACT and the Northern Territory supported the proposal to move stamp duty on vehicle sales to the Stamp duty category. New South Wales and Victoria did not.

4 While New South Wales and Victoria noted the placement of stamp duty on vehicle sales had no effect on States' GST outcomes, New South Wales said moving the assessment would give rise to artificial redistributions in both the Stamp duty and the Motor taxes categories. We have moved the stamp duty on vehicle transfers to the Stamp duty category because we think these revenues (associated with a transfer of ownership) are more like other stamp duties than the revenues (reflecting annual registration fees) included in this category.

5 The category also includes revenue from fire and emergency services levies on motor vehicles. Only Tasmania raises this levy on motor vehicles ($6.8 million in 2013-14). Most States supported including this revenue. New South Wales and Victoria did not. New South Wales was not convinced of the conceptual case for three different assessments (in Land tax, Insurance tax and Motor taxes) of what was essentially the same tax. Victoria said the levies were a user charge and should be assessed in the Other revenue category. New South Wales agreed. Following the new approach to average policy, we consider that the tax base for fire and emergency levies on motor vehicles is the same as that for other revenues in this category, and have therefore included motor vehicle based fire and emergency services levies in the category.

6 Table 1 shows States collected around $6.7 billion in motor taxes in 2013-14. Around 81% came from light vehicle registration charges and 19% from heavy vehicle registrations.

**Table 1 Revenue from motor taxes, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Light vehicle registrations | 2 043 | 1009 | 1 285 | 581 | 277 | 94 | 103 | 21 | 5 414 |
| Heavy vehicle registrations (a) | 305 | 315 | 265 | 210 | 109 | 27 | 5 | 22 | 1 258 |
| Total | 2 348 | 1 324 | 1 550 | 791 | 386 | 121 | 109 | 43 | 6 672 |

(a) Includes revenue from Federal Interstate Registration Scheme.
Source: Commission calculation using State data.

7 Table 2 shows motor taxes contributed around 6% of own-source revenue in 2013-14.

**Table 2 Motor tax revenue as a proportion of total State own-source revenue**

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| Total for category ($m) | 5 502 | 5 870 | 6 347 | 6 672 |
| Total for own-source revenue ($m) | 94 581 | 98 644 | 104 644 | 115 464 |
| Proportion of own-source revenue (%) | 5.8 | 6.0 | 6.1 | 5.8 |

Source: Commission calculation using ABS Government Finance Statistics (GFS) and State data.

## How are revenues raised?

8 Motor vehicle registration fees are imposed annually.

9 Registration fees vary across States and can be set according to the engine capacity, the number of cylinders and use of the vehicle. The average policy is for different rates of tax to be paid according to vehicle types and for the rate of tax to increase with vehicle size — light vehicles pay the lowest rates with heavy vehicles (such as rigid and articulated trucks) paying higher rates.

## CATEGORY STRUCTURE

10 We have continued the assessment method adopted in the 2010 Review. Motor taxes are assessed in two components:

- light vehicle registrations
- heavy vehicle registrations.

11 Table 3 shows the category's assessment structure and the size of each component.

**Table 3 Category structure, Motor taxes, 2013-14**

| Component | Size | Disability | Influence measured by disability |
|---|---|---|---|
| | $m | | |
| Light vehicle registrations | 5 414 | Number of light vehicles | Recognises the differential revenue States can raise from the annual registration fees applying to light vehicles. |
| Heavy vehicle registrations | 1 258 | Number of heavy vehicles | Recognises the differential revenue States can raise from the annual registration fees applying to heavy vehicles. |

Source: Commission calculation.

12 For each component, we derive a national average effective rate of tax by dividing total tax collections by the total revenue base.

13 For each component, a State's assessed revenue — the revenue it would collect if it applied the average tax rate — is derived by multiplying its revenue base by the national average effective rate of tax. A State's category assessed revenue is obtained by adding its assessed revenue for each component.

14 All States either supported, or did not comment on, continuing the assessment method adopted in the 2010 Review.

## Registrations

15 States impose vehicle registration fees on the basis of set amounts per vehicle per year. At the broadest level, interstate differences in revenue raising capacities reflect differences between States in the number of vehicles registered per capita.

16 States impose substantially higher fees on heavy vehicles and the interstate distribution of light and heavy vehicles varies. Accounting for both differences has material effects. For that reason, we assess light and heavy vehicles separately.

17 We measure States' capacity to raise revenue from light vehicles using the number of passenger and light commercial vehicles on the register in each State, as recorded in the annual ABS Motor Vehicle Census. Most (98%) of the light vehicle revenue is raised from these two classes of vehicles and it is not material to further disaggregate them. Table 4 sets out the derivation of the light vehicles component.

**Table 4 Assessed revenue for light vehicle registrations, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Actual revenue ($m) | 2 043 | 1 009 | 1 285 | 581 | 277 | 94 | 103 | 21 | 5 414 |
| Revenue base ('000) | 4 701 | 4 136 | 3 355 | 1 905 | 1 224 | 403 | 262 | 134 | 16 121 |
| Average tax rate ($ per vehicle) | | | | | | | | | 336 |
| Component assessed revenue (a) ($m) | 1 579 | 1 389 | 1 127 | 640 | 411 | 135 | 88 | 45 | 5 414 |

(a) Calculated as the product of the State's number of light vehicles and the average tax per vehicle.
Source: ABS, *Motor Vehicle Census*, Cat. No. 9309.0 and State revenue data.

18 We measure States' capacity to raise revenue from heavy vehicles using the number of heavy rigid and articulated trucks on the register in each State, as recorded in the annual ABS Motor Vehicle Census.[3] Most (86%) of the heavy vehicle revenue is raised from these two classes of vehicles and it is not material to further disaggregate them. Table 5 sets out the derivation of the heavy vehicles component.

**Table 5 Assessed revenue for heavy vehicle registrations, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Actual revenue ($m) | 305 | 315 | 265 | 210 | 109 | 27 | 5 | 22 | 1 258 |
| Revenue base ('000) | 107 | 104 | 94 | 69 | 31 | 10 | 2 | 6 | 423 |
| Average tax rate ($ per vehicle) | | | | | | | | | 2 973 |
| Component assessed revenue (a) ($m) | 318 | 311 | 279 | 205 | 94 | 31 | 6 | 17 | 1 258 |

(a) Calculated as the product of the State's number of heavy vehicles and the average tax per vehicle.
Source: ABS, *Motor Vehicle Census*, Cat. No. 9309.0; State revenue data.

## BRINGING THE ASSESSMENT TOGETHER

19 Table 6 shows the derivation of category assessed revenue and States' relative revenue raising capacities — their assessed revenue per capita divided by the average revenue per capita. New South Wales, ACT and the Northern Territory are assessed to have below average revenue raising capacities.

[3] States have confirmed their heavy vehicle numbers include vehicles registered under FIRS.

**Table 6 Assessed revenue and revenue raising capacity ratio, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Light vehicles ($m) | 1 579 | 1 389 | 1 127 | 640 | 411 | 135 | 88 | 45 | 5 414 |
| Heavy vehicles ($m) | 318 | 311 | 279 | 205 | 94 | 31 | 6 | 17 | 1 258 |
| Total assessed revenue ($m) | 1 896 | 1 700 | 1 406 | 844 | 505 | 166 | 93 | 62 | 6 672 |
| Total assessed revenue ($pc) | 254 | 294 | 300 | 331 | 301 | 323 | 243 | 255 | 286 |
| Revenue raising capacity | 0.887 | 1.026 | 1.048 | 1.157 | 1.051 | 1.128 | 0.850 | 0.890 | 1.000 |

Note: Revenue raising capacity ratio is calculated as assessed revenue per capita divided by average revenue.

Source: Commission calculation.

20 Table 7 shows the material aspects of this assessment are Tasmania's above average capacity and the Northern Territory's below average capacity to raise revenue from light vehicles, and the ACT's below average capacity from heavy vehicles.

**Table 7 Category assessment, Motor taxes, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| Light vehicles | | | | | | | | | |
| EPC distribution | 232 | 232 | 232 | 232 | 232 | 232 | 232 | 232 | 232 |
| Number of vehicles | -21 | 8 | 8 | 19 | 13 | 31 | -3 | -47 | 0 |
| Heavy vehicles | | | | | | | | | |
| EPC distribution | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 |
| Number of vehicles | -11 | 0 | 6 | 26 | 2 | 5 | -40 | 16 | 0 |
| Total category | 254 | 294 | 300 | 331 | 301 | 323 | 243 | 255 | 286 |

Source: Commission calculation.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

21 Table 8 shows the extent to which the assessment for this category moves the recommended distribution of the GST revenue away from an equal per capita distribution in 2015-16. It shows GST revenue is redistributed from States assessed to have above average revenue raising capacities (Victoria, Queensland, Western Australia, South Australia and Tasmania) to States assessed to have below average revenue raising capacities (New South Wales, the ACT and the Northern Territory).

**Table 8 GST impact, Motor taxes, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| Dollars million | 270 | -57 | -66 | -128 | -26 | -20 | 18 | 9 | 297 |
| Dollars per capita | 35 | -9 | -14 | -47 | -15 | -39 | 46 | 36 | 12 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed revenue and 2015-16 GST.
Source: Commission calculation.

### *Light vehicle registrations*

22 New South Wales, the ACT and the Northern Territory are assessed to require greater GST because of their low per capita share of light vehicles. The low share for the Northern Territory may be due to its high proportion of Indigenous people living in remote areas and the associated low incomes.

### *Heavy vehicle registrations*

23 New South Wales and the ACT are assessed to require greater GST because of their low per capita share of heavy vehicles. The low rate in the ACT in part reflects its low level of manufacturing and absence of mining.

## ONGOING ISSUE

24 The Commonwealth and States are discussing heavy vehicle reforms. If this leads to a reform process, the assessment may need to be amended. Any amendment will be undertaken in consultation with States.

## CHANGES SINCE THE 2014 UPDATE

25 Table 9 breaks down the total changes since the 2014 Update into the impact of changing data sources, category specific method changes, and change in State circumstances in the 2015 Review assessment period.

**Table 9 Changes since the 2014 Update, Motor taxes**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Data changes | 2 | -1 | -1 | 0 | 0 | 0 | 0 | 0 | 2 |
| Method changes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Change in circumstances | 5 | 5 | -6 | -3 | 0 | -2 | 0 | 0 | 11 |
| Total | 7 | 4 | -7 | -3 | 0 | -2 | 0 | 0 | 12 |

Source: Commission calculation.

## Data changes

26 States revised previously provided financial data. The revisions were minor.

## Method changes

27 The 2015 Review assessment method has one change from the 2010 Review method. Stamp duty on motor vehicle transfers have been moved from this category to the Stamp duty category. The impact of removing this component is not shown because it is exactly offset by its inclusion in the Stamp duty category.

## Changes in State circumstances

28 Changes in State circumstances are small. They are a combination of growth in revenue collections and small changes in the relative growth of registered vehicles in each State between 2010-11 and 2013-14.

# UPDATING THE ASSESSMENT

29 We recommend the data used in this assessment be updated when new data become available, to ensure the relativities remain contemporary and consistent with the changing circumstances of States. On this basis we expect the following data to be updated annually — the number of light and heavy vehicles registered in each State.

# CHAPTER 8

# MINING REVENUE

## SUMMARY OF THE ASSESSMENT

Mining revenue covers royalties levied by States on mining production. The category also includes payments by the Commonwealth under revenue sharing arrangements it has with two States.

We have assessed States' capacity to raise revenue using value of mining production and average royalty rates. We have made separate assessments for minerals where it is material to do so. There are seven separate assessments and a residual mineral category for the remaining mining production. We also assess payments made under revenue arrangements with the Commonwealth on an actual per capita basis.

States with above average mining production are assessed to have above average revenue capacity, reducing their GST share. States with below average mining production are assessed to have below average revenue capacity, increasing their GST share. States can have above average production for some minerals and not others.

## WHAT IS INCLUDED IN THE MINING REVENUE CATEGORY?

1 The Mining revenue category includes mining royalties levied on mining production. Royalties represent a payment to the owners of a resource for the right to sell, dispose of, or use the resource.

2 The category also includes grants in lieu of royalties. These are payments received under revenue sharing arrangements with the Commonwealth. Western Australia receives a payment in relation to royalties from offshore oil and gas production (predominantly from the North-West Shelf) and the Northern Territory receives a payment in relation to royalties on uranium.

3 Table 1 shows States raised $11 billion from mining royalties in 2013-14.

**Table 1 Revenue from mining royalties and grants in lieu of royalties, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Mining revenue | 1 338 | 52 | 2 346 | 7 204 | 291 | 36 | 0 | 160 | 11 427 |

Source: Commission calculation using State data.

4 Table 2 shows mining royalties contributed around 10% of State own-source revenue in 2013-14.

**Table 2 Mining revenue as a proportion of State own-source revenue**

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| Total for category ($m) | 9 589 | 10 039 | 9 368 | 11 427 |
| Total own source revenue ($m) | 94 581 | 98 644 | 104 644 | 115 464 |
| Proportion of total own source revenue (%) | 10.1 | 10.2 | 9.0 | 9.9 |

Source: Commission calculation using ABS Government Finance Statistics (GFS) and State data.

## How are revenues raised?

5 In most States, mining royalties are based on a percentage of the value of mine production or an amount per tonne of production. In Tasmania, some royalties are based on mine profitability. In the Northern Territory, royalties are based wholly on profitability.

6 Royalty rates vary from State to State for most minerals. However, there is a common pattern across States:

- Low value minerals such as salt, sand and gravel are subject to volume-based royalties.
- Relatively low royalty rates are applied to 'hard rock' minerals such as nickel, copper and gold. Iron ore is an exception; it is a higher quality hard rock mineral and attracts relatively high royalty rates.
- Relatively high royalty rates are applied to 'soft rock' or shallowly mined minerals such as bauxite and coal.
- A high royalty rate is generally applied to oil and gas production.

7 Table 3 shows the effective royalty rates on selected minerals in 2013-14.

**Table 3 Effective royalty rates for selected minerals in 2013-14**

| | Onshore oil and gas | Coal | Bauxite | Iron ore | Nickel | Gold | Copper | Other minerals |
|---|---|---|---|---|---|---|---|---|
| | % | % | % | % | % | % | % | % |
| Effective rate | 10 (a) | 8.0 | 9.8 | 7.2 | 2.6 | 2.6 | 3.3 | 5.5 |

(a) This figure has been rounded for confidentiality reasons.
Source: Commission estimates using State data.

### *Role of the Commonwealth*

8 State Governments own most minerals located on or below the surface of the land (a small proportion are privately owned) and onshore oil and gas. The value of production of these minerals is included in the mining assessment. In addition, the

Commonwealth pays grants in lieu of royalties to two States. These grants are also included in the assessment.

9 The Commonwealth is responsible for imposing royalties on offshore production of oil and gas. From 1 July 2012, the Commonwealth commenced collecting a Minerals Resource Rent Tax (MRRT) on iron ore and coal. It also imposes a Petroleum Resource Rent Tax (PRRT) on offshore oil and gas, onshore oil and gas, oil shale and coal seam gas projects. The MRRT was repealed on 5 September 2014.

# ASSESSMENT APPROACH

## Measuring the revenue base

10 We use value of production as our measure of mining revenue capacity. It best reflects what States do, is simple and is supported by reliable data.

11 Some States said we should use profitability as our measure of mining capacity. While States may take account of the profitability of different minerals when setting and adjusting their royalty rates, the majority of royalties are not imposed on a profit basis. Constructing a reliable mining profitability measure is also difficult; the Commission ceased constructing such a measure when the number of adjustments and the data meant it had become too unreliable. Compared with value of production, which tracks royalty collections, profitability measures tend to fluctuate more with commodity cycles and so may not provide a reasonable estimate of revenue capacity in the short to medium-term.

12 While the majority of royalties are levied on the value of production, the point at which production is valued for royalty purposes can vary. For the two major minerals (coal and iron ore), royalties are generally calculated on 'free on board' (FOB) or sale values. To ensure value of production figures are comparable across States, we ask States to provide us with FOB values for all minerals.

## A mineral by mineral assessment

13 We have separately assessed the minerals that generate most royalty revenue: iron ore, coal, gold, onshore oil and gas, copper, bauxite and nickel. We have assessed the remaining minerals in one group.

14 Our intention is to keep this structure until the next review. However, if there is a major change in circumstances, such that another mineral becomes material or one of the material minerals becomes immaterial, the Commission will exercise its judgment on whether HFE would be improved by changing the structure of the assessment.

15 The biggest concern in developing a mining assessment is finding an appropriate balance between fiscal capacity, what States collectively do and policy neutrality. If policy neutrality is not an issue, a mineral by mineral assessment accurately captures differences in States' mining revenue capacities. If policy neutrality is the sole issue, grouping minerals together addresses policy neutrality, but at a cost of producing an assessment that does not reflect the underlying differences in States' capacities. In the 2010 Review, the Commission found a balance by grouping minerals into two groups, muting the influence of individual State mining policies.

16 Some States said the Commission should give most weight to capturing differences in States' revenue capacities. Other States said the concentration of minerals in a few States meant a State with a pre-dominance of a mineral could change its royalty rate and exert a significant influence on its GST distribution. For that reason, they favoured most weight being given to policy neutrality and grouping.

17 We acknowledge developing a mining assessment which achieves HFE and which is also policy neutral is made more difficult by the dominance of the revenue base by two States. While we believe it is theoretically possible for State policies to affect GST distributions in this area, there is no strong evidence that this happens.

18 Our objective is to achieve HFE and primacy should be given to achieving that objective. The supporting principles — what States do, policy neutrality, practicality and contemporaneity, while important, should be subsidiary to this objective. Therefore, in relation to the mining assessment, we have decided the approach that best achieves HFE is to separately assess minerals where it is material to do so.

19 However, as discussed in Chapter 1 of this volume, the Commission is keenly aware that policy neutrality is an issue in HFE systems, particularly where one State dominates a revenue base. In particular we recognise that mining produces large redistributive outcomes and can change rapidly. We therefore think it prudent to maintain a watching brief on developments in mining royalties. For example, we note that Western Australia has conducted a Mineral Royalty Rate Analysis, which may inform its 2015-16 budget process. Therefore, similarly to our watching brief on the materiality of minerals, if we do observe a significant change in behaviour which raises policy neutrality concerns we will exercise our judgment on whether HFE would be improved by revisiting the assessment in a future update.

20 Two States disagreed with the mineral by mineral approach. They preferred a single aggregated mining assessment because it minimised policy neutrality concerns. They were also concerned that a mineral by mineral assessment could produce excessively large GST redistributions. Were policy neutrality the only issue, we would consider a more aggregated assessment. We have chosen a mineral by mineral approach because policy neutrality is not the only issue. This is an area where we have to balance the competing supporting principles. We believe a mineral by mineral

approach, and the redistributions it gives rise to, is a better reflection of States underlying mining revenue capacity.

21 Table 4 shows States' shares of the value of production of these minerals and the royalty collected for 2013-14.

**Table 4 State shares of value of production and mineral royalties, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Royalty revenue |
|---|---|---|---|---|---|---|---|---|---|
| | % | % | % | % | % | % | % | % | $m |
| Iron ore | 0.0 | 0.0 | 0.0 | 96.6 | 2.2 | 0.4 | 0.0 | 0.8 | 5 516 |
| Coal | 40.9 | 1.2 | 57.1 | 0.7 | 0.1 | 0.1 | 0.0 | 0.0 | 3 213 |
| Gold | 11.4 | 1.9 | 10.1 | 69.6 | 3.6 | 0.5 | 0.0 | 2.8 | 326 |
| Onshore oil and gas (a) | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Copper | 18.3 | 0.0 | 30.1 | 21.3 | 27.8 | 2.4 | 0.0 | 0.0 | 240 |
| Bauxite | 0.0 | 0.0 | 27.3 | 45.2 | 0.0 | 0.0 | 0.0 | 27.5 | 165 |
| Nickel | 0.0 | 0.0 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 88 |
| Other minerals (a) | 5.0 | 5.2 | 33.6 | 18.6 | 24.6 | 3.2 | 0.0 | 9.7 | 687 |

(a) For confidentiality reasons we are not able to publish onshore oil and gas data. The combined result for onshore oil and gas and other minerals is shown as other minerals.

Source: Commission estimates using ABS data and State data.

## *Iron ore fines*

22 Since the last methodology review, Western Australia has progressively changed the royalty arrangements applying to iron ore fines and significantly increased the revenue it obtains from them. In the normal course of events, the averaging processes adopted by the Commission would have phased in the GST distribution consequences of Western Australia's decisions on iron ore fine royalty arrangements.

23 However, the Commission was directed in recent update terms of reference (2011-2014) to ensure that the full impact of those changes did not affect Western Australia's GST distribution, but there is no similar direction in the terms of reference for this review.

24 We considered if the direction in previous update terms of reference constrained how we assess Western Australia's capacity to raise revenue in this review. We decided that because the update terms of reference made explicit mention of operating between methodology reviews, and terms of reference for this review were silent on the issue, we should frame our assessment only from the perspective of achieving HFE.

25 We also considered whether some phasing of this 'bringing to book' of higher iron ore fines royalty rates was appropriate, consistent with the usual three year phasing embedded in our assessment methodology. However, we have decided that no special treatment for this methodology change can be warranted. We will use the

new methodology in each of the reference years. The effective royalty rates used in the iron ore assessment in each year are those shown in Table 5. In 2013-14, the effective rate applying to fines and lump is the same. This is the only assessment year where the effective rates are contemporaneous with those applying in the application year.

26 The implications for the GST distribution of the removal of the terms of reference constraints on the assessment of iron ore fines are further discussed in Volume 1, Chapter 2 – Main issues.

**Table 5 Effective royalty rate on iron ore**

| | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|---|
| | % | % | % | % | % |
| Effective royalty rate | 5.4 | 6.2 | 6.1 | 6.7 | 7.2 |
| Cause of change | | Removal of concession | | First rate increase | Second rate increase |

Source: Commission calculation using ABS and State data.

27 Most States opposed phasing because it was inconsistent with HFE, the supporting principles, the terms of reference and the approach taken in other assessments. Only Western Australia supported phasing because it would avoid the situation where its loss in GST would exceed the additional revenue raised as a consequence of its decision to raise royalty rates in 2012-13. It viewed this outcome as an unacceptable breach of policy neutrality. Tasmania said it accepted the role of judgment in the Commission's decision making process and it did not oppose the Commission's use of judgment on this issue.

## Grants in lieu of royalties

28 These are payments received by States under the revenue sharing arrangements with the Commonwealth. We have decided to continue to assess grants in lieu of royalties as a separate component.

29 We will continue to assess these on an actual per capita basis because States' shares of these payments are determined by the Commonwealth.

30 Most States support this approach, Western Australia does not.

31 Western Australia believes the Commission should reduce or remove payments in relation to the North West Shelf project because of past State investment on that project. While we consider there could be a case that Western Australian Government assistance affected when the project started, there is insufficient evidence to conclude that the current revenue from the project would have been less (or possibly more) in the absence of Western Australia's assistance. Accordingly after full consideration of this issue, we consider there is no case for assessing only part of

the current payments. This matter is addressed fully in Volume 1, Chapter 2 – Main issues, in the section on mining related expenditure.

## BRINGING THE ASSESSMENT TOGETHER

32 The revenue base for each component is each State's value of production. Table 6 to Table 13 show assessed revenue is calculated by applying the average royalty rate to each State's revenue base. The tables also set out States' relative revenue raising capacities - their assessed revenue per capita divided by the average revenue per capita. These tables do not have revenue data by State. This is because States provide some mining data to us on a confidential basis and we are not able to publish some details of the mining assessment.

**Table 6 Assessed revenue and revenue raising capacity, iron ore component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Actual revenue ($m) | | | | | | | | | 5 516 |
| Revenue base ($m) | 10 | 0 | 17 | 73 733 | 1 698 | 300 | 0 | 583 | 76 342 |
| Average royalty rate (%) | | | | | | | | | 7.2 |
| Assessed revenue ($m) | 1 | 0 | 1 | 5 328 | 123 | 22 | 0 | 42 | 5 516 |
| Assessed revenue ($pc) | 0 | 0 | 0 | 2 090 | 73 | 42 | 0 | 173 | 237 |
| Revenue raising capacity | 0.000 | 0.000 | 0.001 | 8.831 | 0.309 | 0.178 | 0.000 | 0.730 | 1.000 |

Note: Each State's relative revenue raising capacity is calculated by dividing its assessed revenue per capita by the average revenue per capita.
Source: Commission calculation using State data.

**Table 7 Assessed revenue and revenue raising capacity, coal component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Actual revenue ($m) | | | | | | | | | 3 213 |
| Revenue base ($m) | 16 373 | 479 | 22 872 | 264 | 53 | 34 | 0 | 0 | 40 075 |
| Average royalty rate (%) | | | | | | | | | 8.0 |
| Assessed revenue ($m) | 1 313 | 38 | 1 834 | 21 | 4 | 3 | 0 | 0 | 3 213 |
| Assessed revenue ($pc) | 176 | 7 | 391 | 8 | 3 | 5 | 0 | 0 | 138 |
| Revenue raising capacity | 1.276 | 0.048 | 2.838 | 0.060 | 0.019 | 0.039 | 0.000 | 0.000 | 1.000 |

Source: Commission calculation using State data.

**Table 8 Assessed revenue and revenue raising capacity, gold component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Actual revenue ($m) | | | | | | | | | 326 |
| Revenue base ($m) | 1 454 | 240 | 1 287 | 8 841 | 464 | 69 | 0 | 353 | 12 708 |
| Average royalty rate (%) | | | | | | | | | 2.6 |
| Assessed revenue ($m) | 37 | 6 | 33 | 227 | 12 | 2 | 0 | 9 | 326 |
| Assessed revenue ($pc) | 5 | 1 | 7 | 89 | 7 | 3 | 0 | 37 | 14 |
| Revenue raising capacity | 0.357 | 0.076 | 0.504 | 6.361 | 0.507 | 0.247 | 0.000 | 2.657 | 1.000 |

Source: Commission calculation using State data.

**Table 9 Assessed revenue and revenue raising capacity, copper component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Actual revenue ($m) | | | | | | | | | 240 |
| Revenue base ($m) | 1 339 | 0 | 2 203 | 1 557 | 2 033 | 176 | 0 | 0 | 7 308 |
| Average royalty rate (%) | | | | | | | | | 3.3 |
| Assessed revenue ($m) | 44 | 0 | 72 | 51 | 67 | 6 | 0 | 0 | 240 |
| Assessed revenue ($pc) | 6 | 0 | 15 | 20 | 40 | 11 | 0 | 0 | 10 |
| Revenue raising capacity | 0.572 | 0.000 | 1.499 | 1.948 | 3.866 | 1.094 | 0.000 | 0.000 | 1.000 |

Source: Commission calculation using State data.

**Table 10 Assessed revenue and revenue raising capacity, bauxite component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Actual revenue ($m) | | | | | | | | | 165 |
| Revenue base ($m) | 0 | 0 | 462 | 766 | 0 | 0 | 0 | 465 | 1 693 |
| Average royalty rate (%) | | | | | | | | | 9.8 |
| Assessed revenue ($m) | 0 | 0 | 45 | 75 | 0 | 0 | 0 | 45 | 165 |
| Assessed revenue ($pc) | 0 | 0 | 10 | 29 | 0 | 0 | 0 | 186 | 7 |
| Revenue raising capacity | 0.000 | 0.000 | 1.358 | 4.136 | 0.000 | 0.000 | 0.000 | 26.245 | 1.000 |

Source: Commission calculation using State data.

**Table 11 Assessed revenue and revenue raising capacity, nickel component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Actual revenue ($m) | | | | | | | | | 88 |
| Revenue base ($m) | 0 | 0 | 0 | 3 451 | 0 | 0 | 0 | 0 | 3 451 |
| Average royalty rate (%) | | | | | | | | | 2.6 |
| Assessed revenue ($m) | 0 | 0 | 0 | 88 | 0 | 0 | 0 | 0 | 88 |
| Assessed revenue ($pc) | 0 | 0 | 0 | 35 | 0 | 0 | 0 | 0 | 4 |
| Revenue raising capacity | 0.000 | 0.000 | 0.000 | 9.143 | 0.000 | 0.000 | 0.000 | 0.000 | 1.000 |

Source: Commission calculation using State data.

**Table 12 Assessed revenue and revenue raising capacity, onshore oil and gas and other minerals components combined, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Actual revenue ($m) | | | | | | | | | 687 |
| Revenue base share (%) | 5.0 | 5.2 | 33.6 | 18.6 | 24.6 | 3.2 | 0.0 | 9.7 | 100.0 |
| Assessed revenue ($m) | 34 | 36 | 231 | 128 | 169 | 22 | 0 | 67 | 687 |
| Assessed revenue ($pc) | 5 | 6 | 49 | 50 | 101 | 43 | 0 | 274 | 29 |
| Revenue raising capacity | 0.155 | 0.211 | 1.671 | 1.703 | 3.422 | 1.460 | 0.000 | 9.287 | 1.000 |

Note: For confidentiality reasons we are not able to publish onshore oil and gas data. Separate assessments have been made of onshore oil and gas and other minerals. The combined result is shown.

Source: Commission calculation using State data.

**Table 13 Assessed revenue and revenue raising capacity, grants in lieu of royalties component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Actual revenue ($m) | 0 | 0 | 0 | 1 186 | 0 | 0 | 0 | 5 | 1 192 |
| Assessed revenue ($m) | 0 | 0 | 0 | 1 186 | 0 | 0 | 0 | 5 | 1 192 |
| Assessed revenue ($pc) | 0 | 0 | 0 | 465 | 0 | 0 | 0 | 21 | 51 |
| Revenue raising capacity | 0.000 | 0.000 | 0.000 | 9.103 | 0.000 | 0.000 | 0.000 | 0.418 | 1.000 |

Source: Budget Paper No 3 and State provided data.

33 Table 14 shows the assessed revenue raising capacity of the mining assessment overall. The revenue raising capacities of Western Australia and the Northern Territory are assessed to be above average. While Queensland has above average capacity in coal, copper, bauxite and onshore oil and gas and other minerals, it is not sufficiently strong to make up for its less than average capacity in the remaining minerals, in particular iron ore. Overall, it has a lower than average capacity to raise mining royalties in 2013-14. Western Australia's strong capacity is driven largely by iron ore and grants in lieu of royalties, although it also has a relatively strong capacity in a number of other minerals. The Northern Territory's strong capacity is largely due to its above average share of production for the residual minerals.

**Table 14 Assessed revenue and revenue raising capacity, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Iron ore | 1 | 0 | 1 | 5 328 | 123 | 22 | 0 | 42 | 5 516 |
| Coal | 1 313 | 38 | 1 834 | 21 | 4 | 3 | 0 | 0 | 3 213 |
| Gold | 37 | 6 | 33 | 227 | 12 | 2 | 0 | 9 | 326 |
| Onshore oil and gas (a) | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Copper | 44 | 0 | 72 | 51 | 67 | 6 | 0 | 0 | 240 |
| Bauxite | 0 | 0 | 45 | 75 | 0 | 0 | 0 | 45 | 165 |
| Nickel | 0 | 0 | 0 | 88 | 0 | 0 | 0 | 0 | 88 |
| Other minerals (a) | 34 | 36 | 231 | 128 | 169 | 22 | 0 | 67 | 687 |
| Grants in lieu of royalties | 0 | 0 | 0 | 1 186 | 0 | 0 | 0 | 5 | 1 192 |
| Total assessed revenue ($m) | 1 429 | 81 | 2 216 | 7 104 | 375 | 54 | 0 | 169 | 11 427 |
| Total assessed revenue ($pc) | 191 | 14 | 473 | 2 787 | 223 | 105 | 0 | 691 | 490 |
| Revenue raising capacity | 0.390 | 0.028 | 0.964 | 5.684 | 0.456 | 0.215 | 0.000 | 1.410 | 1.000 |

(a) For confidentiality reasons we are not able to publish onshore oil and gas data. The combined result for onshore oil and gas and other minerals is shown as other minerals.

Source: Table 6 to Table 13.

34 Table 15 shows the assessed revenue raising capacity for each mineral on a per capita basis.

**Table 15 Assessed revenue per capita, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| Iron ore | 0 | 0 | 0 | 2 090 | 73 | 42 | 0 | 173 | 237 |
| Coal | 176 | 7 | 391 | 8 | 3 | 5 | 0 | 0 | 138 |
| Gold | 5 | 1 | 7 | 89 | 7 | 3 | 0 | 37 | 14 |
| Onshore oil and gas (a) | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Copper | 6 | 0 | 15 | 20 | 40 | 11 | 0 | 0 | 10 |
| Bauxite | 0 | 0 | 10 | 29 | 0 | 0 | 0 | 186 | 7 |
| Nickel | 0 | 0 | 0 | 35 | 0 | 0 | 0 | 0 | 4 |
| Other minerals (a) | 5 | 6 | 49 | 50 | 101 | 43 | 0 | 274 | 29 |
| Grants in lieu of royalties | 0 | 0 | 0 | 465 | 0 | 0 | 0 | 21 | 51 |
| Total category | 191 | 14 | 473 | 2 787 | 223 | 105 | 0 | 691 | 490 |

(a) For confidentiality reasons we are not able to publish onshore oil and gas data. The combined result for onshore oil and gas and other minerals is shown as other minerals.

Source: Table 6 to Table 13 and ABS population data.

## OTHER ISSUES CONSIDERED

35 Based largely on State comments, we have considered four other issues, but have not made adjustments in the category to reflect them.

- Should we use an external standard for measuring royalty rates?
- Should mining royalties be treated as the sale of a State asset?
- Should the mining assessment provide an incentive for resource States to develop and expand their mining sectors?
- Should the mining assessment be discounted?

### *An external standard*

36 We did consider another option for improving the policy neutrality of the mining assessment — the use of an external standard. We considered both historical State royalty rates and international royalty rates as a way of making the assessment less prone to State influence.

37 No State supported an external standard. Most said international royalty rates would represent a major departure from usual Commission practice and it would move away from 'what States collectively do'. Some States also queried whether using historical State royalty rates was a way of addressing policy neutrality concerns or merely delaying them.

38 Differences between Australia and other countries in royalty policies and mining operating costs mean that a reliable external standard is difficult to construct. Nor do we believe that assessment based on historical royalty rates can adequately capture States fiscal capacities when mineral prices and value of production vary substantially from year to year. For these reasons we have not adopted an external standard.

### *Should mining royalties be treated as the sale of a State asset?*

39 Queensland said mining revenue was more like the sale of a State asset than a State tax. It said mining revenue should be treated like other State asset sales. Western Australia acknowledged the theoretical merit of this approach, but noted its impracticalities.

40 A problem with treating royalties as the sale of a State asset is that we would need to treat the value of mineral assets as a financial asset subject to equalisation. We would equalise the mineral assets of new mines even before royalties had been earned.

41 The GST Distribution Review considered this issue. The panel concluded the case had not been made that mining revenue should be treated differently to States' other own-source revenue.

42 The States and the Australian Statistician treat mining revenue like other State revenue and most States support treating royalties like other State revenues.

43 Based on the above, we will continue to treat mining revenue like other State revenue.

### *Should the mining assessment provide an incentive for resource States to develop and expand their mining sectors?*

44 Two States said the mining assessment should provide an incentive for States to develop their mining sectors. Other States said providing incentives for development of the industry would be contrary to the equalisation objective and policy neutrality.

45 We are not asked to pursue objectives other than HFE. For this reason, our approach to the mining assessment is not designed to provide either an incentive or a disincentive for resource States to develop and expand their mining sectors.

### *Should the mining assessment be discounted?*

46 Some States said the mining assessment should be discounted because:

- the assessment does not recognise mining related expenses, including previously unequalised expenses
- policy non-neutralities exist
  - State's revenue bases are sensitive to their industry policies
  - there are large GST impacts when royalty rates change
- the Commission needs to exercise judgment
- there are intergenerational risks from future changes to HFE.

47 ***Mining related expenses.*** We have assessed mining related expenses where we can do so reliably. As a result of this review we have also introduced two new assessments for mining related expenses. We do not believe there are other material mining-related expenses or previous expenses that are unassessed. We do not, therefore, believe a discount is warranted for this reason.

48 ***Policy non-neutrality.*** Western Australia said States put different effort into developing their mining industries and their different efforts should be removed from the revenue base. While it acknowledged it was not possible to determine what each States' production would have been under average policies, it said it would be reasonable to conclude Western Australia's production would be lower.

49 We recognise there may be differences in State efforts and there is a conceptual case that any differences in efforts should be removed. However, it is not clear to us how we would quantify those differences. In the case of mining, any differences in efforts would be confounded by the differences in mineral endowments. It would be difficult

to untangle these influences and make judgments about the impact of State efforts on production levels. For example, Western Australia said its 60% share of production exceeded its 39% share of known economic reserves for Bauxite and suggested this was evidence it made a more pro-mining effort than other States. Other people attribute the difference to other reasons. The Australian Mines Atlas attributes this not to differences in government policy but because 'despite the low grade, the mines … have low reactive silica, making the bauxite relatively easy to refine'. Disentangling the net impact of policy in specific cases would be daunting and unduly complex.

50 There are many differences between State reserves in:

- the quality and grade of mineral
- social, economic and environmental values of mine area
- access to infrastructure and associated costs of developing the mine.

51 These differences make it very difficult to determine whether one State is developing its resources at a faster rate than another.

52 We are not convinced a discount is appropriate. Aside from the difficulties of trying to untangle the impact of differences in State efforts on production levels, a discount would imply States with relatively higher production are all pro-development States; this may not be the case. Applying a discount here would also mean we would have to consider whether States with relatively larger tourism industries or education sectors require a discount because the size of their sector implies a difference in policy effort.

53 We will continue to monitor developments in State mining policies. It is possible that the impact of differences in policy effort in some areas could become clearer, for example, if coal seam gas (where States appear to have different policies) became material.

54 Western Australia was also concerned that an assessment based on States' actual royalty rates had the potential to generate large GST impacts when those rates change. It said a reasonable incentive for States would be to retain one third of any royalty rate increase after GST impacts.

55 The Commission has decided to take a mineral by mineral approach giving primacy to HFE considerations and it would not be consistent with this, nor with our discounting guidelines, to apply a discount to any changes in rates. The terms of reference do not ask us to limit HFE to a percentage of the increase in State royalty revenue. Based on the discussion above, at this stage, we do not consider a discount is warranted for possible policy non-neutrality considerations.

56 ***Need to exercise judgment.*** When we were considering grouping minerals, we intimated we might need to exercise a large degree of judgment in deciding the

mining assessment. However, we have decided not to group minerals. Consequently, we believe the mining assessment no longer requires us to exercise a large degree of judgment. As such, this is not a justification for a discount.

57 ***Intergenerational risks.*** Western Australia said HFE currently equalises mining revenues but there is no guarantee that the future form of HFE will appropriately support States whose resources have been depleted. Consequently, the current form of HFE creates a future adjustment risk for resource States.

58 We are asked to devise methods in accordance with the principle of fiscal equalisation alone and to do so on the basis of current policy settings. While future policy changes might impact on State fiscal capacities, we do not consider that we should speculate on what policy changes might eventuate nor design a methodology to internalise those speculations. We do not, therefore, believe a discount is needed because of intergenerational risk.

59 ***Conclusion.*** Most States opposed the application of a discount. We consider discounting appropriate when it helps us achieve a better HFE outcome, for example, when we are concerned about data quality (see discussion of discounting in Chapter 1 – Implementing equalisation). We do not think this is the case with our proposed mining assessment so, we did not apply a discount.

### *Should a profitability adjustment be assessed?*

60 Tasmania noted the Commission had assessed an adjustment in previous reviews for the lower profitability of mining activity in some States. It argued its mining activity took place in ageing mines, which had higher costs of production. It was not able to apply the average effective royalty rates to a significant proportion of its production.

61 We accept there are marginal mines in every State. We have not, however, introduced a profitability adjustment because we do not have, and are unlikely to obtain, information on the extent of the problem in each State.

## What is the impact on the GST distribution?

62 Table 16 shows the extent to which the assessment for this category moves the distribution of GST away from an equal per capita distribution in 2015-16. It shows GST revenue is redistributed from States assessed to have above average revenue raising capacities (Queensland, Western Australia and the Northern Territory) to States with below average revenue capacity (New South Wales, Victoria, South Australia, Tasmania and the ACT).

63 This redistribution is dominated by the redistribution arising from iron ore ($4.6 billion), coal ($1.8 billion), onshore oil and gas and other minerals ($0.3 billion) and grants in lieu of royalties ($1.2 billion).

64 The ACT has no mineral production, which means it receives its population share of all mineral royalties ($516 per capita).

**Table 16 GST impact, Mining revenue, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Category ($m) | 2 262 | 2 993 | - 274 | -5 911 | 529 | 209 | 205 | -12 | 6 197 |
| Category ($pc) | 294 | 498 | -56 | -2 180 | 310 | 404 | 516 | -49 | 257 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed revenues and 2015-16 GST.
Source: Commission calculation.

## CHANGES SINCE THE 2014 UPDATE

65 Table 17 breaks down the total changes since the 2014 Update into the impact of changing data sources, category specific method changes, and change in State circumstances in the 2015 assessment period.

**Table 17 Changes since the 2014 Update, Mining revenue**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Data changes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Method changes | -13 | 19 | 154 | -230 | 39 | 9 | 1 | 21 | 243 |
| Change in circumstances | 116 | 50 | 282 | -410 | -24 | 4 | 3 | -21 | 455 |
| Total | 102 | 69 | 436 | -640 | 15 | 13 | 4 | 1 | 640 |

Source: Commission calculation.

### Data changes

66 Data changes arise because of revisions to State value of production data. These were minor and they have not been separately identified.

### Method changes

67 The 2010 Review method assessed mining revenues in three components:

- high royalty minerals — comprising onshore oil and gas, export coal, lump iron ore and bauxite
- low royalty minerals — the remaining minerals
- grants in lieu of royalties.

68 In this review, we have adopted a mineral by mineral assessment with separate assessments of iron ore, coal, gold, onshore oil and gas, copper, bauxite, nickel and all

other minerals. We have continued to assess grants in lieu of royalties on an actual per capita basis in a separate component.

69 Because the royalty rate applying to iron ore is lower than that applying to coal, the mineral by mineral assessment increases assessed coal royalties, and reduces assessed iron ore revenues compared with the previous grouping methodology. However, the biggest change in this assessment is the increase of the effective rate applying to iron ore fines, consequent on the removal of the impact of specific terms of reference, increasing Western Australia's assessed revenue raising capacity and reducing its GST share. This change also reduced the effective rate applying to Queensland's low royalty rate minerals, for example copper and gold, reducing its assessed revenue raising capacity and increasing its GST share.

## Changes in State circumstances

70 Iron ore royalties in 2013-14 were almost 50% higher than those collected in 2010-11. The other major mineral (coal) saw a decline in royalty revenue of 10% over the same period. These two trends significantly increased Western Australia's assessed mining capacity and reduced the assessed capacity of New South Wales and Queensland.

71 Western Australia now raises 62% of all royalties, compared with 54% in 2010-11.

# UPDATING THE ASSESSMENT

72 Data used in the assessment will be updated when new data become available to ensure the relativities remain contemporary and consistent with the circumstances of the States. On this basis, we expect all data used in the calculation of revenue bases will be updated annually.

# CHAPTER 9

# OTHER REVENUE

## SUMMARY OF THE ASSESSMENT

The Other revenue category is a residual category for revenues not assessed in other revenue categories. It comprises revenues for which reliable data could not be found to make an assessment, an assessment method could not be developed, or an assessment was not material.

Revenues assessed in this category are assessed equal per capita and have no impact on States' GST distributions.

## WHAT IS INCLUDED IN THE OTHER REVENUE CATEGORY?

1 The Other revenue category is a residual revenue category. It includes revenues for which:

- a conceptual case for a differential assessment does not exist
- data to support a reliable assessment method are not available
- a differential assessment would not have a material effect on State GST distributions.

2 The category covers the revenues that are left after those which are assessed differentially have been identified and classified to specific revenue categories.

3 The revenues include:

- gambling revenue
- fees and fines
- user charges (such as property titles user charges and public safety user charges) but not those associated with admitted patients, housing and functions usually performed by public trading enterprises
- contributions by trading enterprises
- interest and dividend income

- other revenue, such as taxes to be abolished under the Intergovernmental Agreement.

4 Table 1 shows States raised $44 billion from other revenues in 2013-14.

**Table 1 Other revenue, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Gambling revenue | 1 910 | 1 672 | 1 044 | 317 | 388 | 94 | 52 | 60 | 5 537 |
| Fees and fines | 505 | 663 | 398 | 141 | 116 | 16 | 29 | 13 | 1 881 |
| Other user charges | 2 292 | 3 190 | 2 490 | 1 292 | 1312 | 94 | 214 | 122 | 11 007 |
| Contributions by trading enterprises | 883 | 205 | 407 | 602 | 140 | 130 | 55 | 29 | 2 451 |
| Interest and dividend income | 2 686 | 1 072 | 4 028 | 1 095 | 358 | 208 | 419 | 127 | 9 993 |
| Other | 7 151 | 2 488 | 1783 | 550 | 536 | 288 | 579 | 105 | 13 481 |
| Category revenue | 15 427 | 9 291 | 10 150 | 3 997 | 2 851 | 830 | 1 348 | 457 | 44 350 |
| Share of total revenue (%) | 41.6 | 38.4 | 43.9 | 20.4 | 43.8 | 48.9 | 61.2 | 40.7 | 38.4 |

Source: Commission calculation using State data.

5 Table 2 shows other revenues contributed 38% of State own-source revenue in 2013-14.

**Table 2 Other revenue as a proportion of State own-source revenue**

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| Total for category ($m) | 35 242 | 36 882 | 40 496 | 44 350 |
| Total for own source revenue ($m) | 94 581 | 98 644 | 104 644 | 115 464 |
| Proportion of own source revenue | 37.3 | 37.4 | 38.7 | 38.4 |

Source: Commission calculation using ABS Government Finance Statistics (GFS) and State data.

## SCOPE OF THE CATEGORY

6 All States supported having a residual revenue category assessed equal per capita (EPC). The States generally agreed with the range of revenues classified to the category. However, some disagreed with the inclusion of gambling revenue, fire and emergency services levies (FESLs) and residual user charges.

### Gambling revenue

7 Most States agreed with assessing gambling revenue EPC. South Australia and the ACT did not.

8 New South Wales and Victoria said gambling revenue was too policy influenced and it was not possible to develop a reliable assessment. Western Australia agreed citing

the conflicting evidence on the drivers for gambling revenue. The Northern Territory noted the absence of data on the drivers of gambling activity and said, in such circumstances, a differential assessment was not appropriate.

9 South Australia said gambling regulations have become more consistent and a differential assessment could be based on Australian Gambling Statistics data and States' collections of player loss and tax revenue data. Queensland and the ACT argued there was a conceptual case for assessing gambling revenue differentially. Queensland concluded there was insufficient time in the current review to develop an assessment.

10 During this review, we examined a number of different approaches to assessing gambling revenue, including the level of gambling activity, a socio-demographic approach and a broad indicator approach.

11 An assessment based on the level of gambling activity would be marginally material (it would redistribute more than $30 per capita for a State). However, given the lack of data quantifying the nature and impact of policy differences affecting the level of gambling activity, some level of discount would be warranted. Were we to implement a gambling activity assessment, even with a modest discount, it would not be material. We have not, therefore, been able to develop a material assessment based on the level of gambling activity.

12 A number of different gambling prevalence studies point to different forms of gambling appealing to different segments of the population. However, we have been unable to find data that relate gambling spending or loss to specific demographic characteristics. We have not, therefore, been able to develop a socio-demographic indicator of gambling capacity.

13 We found no link between household income and gambling activity. In the case of poker machines, there was some evidence that low income predicted higher levels of gambling, but the evidence was not sufficiently robust to use. Prevalence studies suggest some forms of gambling (for example, horse racing or casino gambling) may be associated with higher incomes but, again, the effect could not be quantified. In addition, any effect could potentially be offset by the influence of low income on poker machine gambling, if that could be proven. We constructed an assessment using data from work undertaken by the Productivity Commission in 1999 on gambling by different age cohorts.[1] While we had concerns about the data quality and its currency, an assessment was not material. We have not, therefore, been able to develop a material broad indicator assessment of gambling.

[1] Technical paper 10 *Gambling Revenue*, found at the Productivity Commission's website (http://www.pc.gov.au/__data/assets/pdf_file/0006/13686/technicalpaper10.pdf).

14 We consider there to be insufficient evidence to construct a reliable and material differential assessment of gambling revenue. We have decided to continue to assess gambling revenue EPC in the Other revenue category.

## Fire and emergency services levies

15 New South Wales and Victoria raised FESLs by applying duty to insurance products. Four States had a property based model. Tasmania had three levies, one on property, one on insurance products and one on motor vehicles. The Northern Territory did not impose these levies. In 2013-14, Victoria switched from an insurance based model to a property based model. New South Wales is also considering a switch and is monitoring the Victorian change.

16 In determining States' average policy in relation to FESLs, we have decided to differentially assess:

- revenue from levies on property in the Land tax category
- revenue from levies on insurance products in the Insurance tax category
- revenue from levies on motor vehicles in the Motor taxes category

17 Queensland, South Australia, Tasmania, the ACT and the Northern Territory agreed with this proposal because they considered FESLs to be taxes rather than user charges. New South Wales, Victoria and Western Australia disagreed. They said FESLs were user charges and should be assessed equal per capita. New South Wales was concerned the Commission could redistribute GST in three different ways for what was essentially the same tax.

18 In determining average policy, we effectively look through the label applied to a tax, and consider the tax base on which it is levied. FESLs raised on properties resemble other land taxes on all properties and we assess them along with those revenues in the Land tax category. Similarly, FESLs raised on insurance products resemble other insurance taxes and we differentially assess them with other insurance taxes in the Insurance category. FESLs raised on motor vehicles resemble other motor vehicle registration fees and we differentially assess them with those revenues in the Motor taxes category.

## User charges

19 Our general approach to user charges is:

- if we consider the drivers of user charges to be the same as the drivers of use of the related service, we net off user charges (for example, transport services)
- if we have data on the drivers of net cost, we net off user charges (for example, Health category)

- if the drivers of user charges are different from the drivers of use of the related service and if an assessment of user charges is material, we assess them separately and offset that assessment against the expense assessment (for example, housing)
- otherwise, we assess them EPC in the Other revenue category.

20 Table 3 summarises how we currently assess user charges.

**Table 3 Treatment of user charges**

| User charge | Basis of assessment |
|---|---|
| Post-secondary education user charges | Revenues are netted off expenses and an assessment is applied to the net cost. |
| Health patient fees and user charges | Revenues are netted off expenses and an assessment is applied to the net cost. |
| Housing – rental revenue | There is a separate revenue assessment in the Housing category. |
| User charges relating to water, sanitation and protection of the environment | Revenues are netted off expenses and an assessment is applied to the net cost. |
| Electricity charges | Revenues are netted off expenses and an assessment is applied to the net cost. |
| Transport services – fare revenue and user charges | Revenues are netted off expenses to estimate the level of subsidies. A transport assessment is applied to the net expenses. |
| Mining industry user charges | Revenues are netted off expenses and an assessment is applied to the net cost. |
| Other user charges, including fees and fines, property titles, student fees, visitor fees etc. | Assessed equal per capita in the Other revenue category. |

Source: Commission decision.

21 We investigated whether a broad indicator (such as Gross State Product or household disposable income) could be used as a measure of revenue capacity. This may have been an appropriate broad indicator if higher user charges were collected in States with bigger economies or incomes. We examined the correlation between the level of user charges and a range of broad indicators. In some cases the relationship was not strong; in other cases we had concerns about the reliability of the indicator. We concluded such indicators do not provide a reliable measure of States' capacity to raise revenue from user charges. We are not convinced that a broad assessment of these revenues is the correct approach.

22 Most States accepted this approach. South Australia identified user charges that could be offset against associated expenses (road tolls and school fees). The ACT argued all user charges should be offset against the associated expenses. Our general approach to user charges in this review is to consider the most appropriate driver of user charges in each case. This approach means we net off user charges from category expenses when we believe the drivers of use are the most appropriate

drivers of the related user charge. We do not think this is the case for every user charge. As a consequence, most user charges remain in this category.

## Rate of return

23 The ACT argued the assessment should recognise that all States may not have the same capacity to earn revenue from their net financial worth, even if the per capita value of net financial worth is equalised. They said the rate of return on equity in public corporations varies depending on the services the corporations provide. The ACT said its capacity to earn dividends was constrained because port authorities will be a large part of equity once housing and urban transport are excluded and it does not have the capacity to hold equity in a port.

24 We accept States hold their net financial worth in different ways and this affects the returns they earn. However, our decision to treat housing and urban transport corporations as part of the general government sector means most of the impact on State fiscal capacities is appropriately recognised.

- Non-policy factors which may lead some States to hold above average proportions of their assets in those low yielding entities are recognised in the Investment assessment.
- The corporations which remain as part of net financial worth (mainly ports, electricity and water authorities) provide positive returns and the extent to which individual States invest in them is affected by their policy choices.

25 While the ACT may not have a port, we consider it has the capacity to hold assets with a similar rate of return.

26 We have decided not to allow for any differences in rates of return disability and have assessed interest and dividend earnings on an equal per capita basis.

# ASSESSMENT METHOD

27 Since the Other revenue category is assessed EPC, the revenue base is State populations, which is measured using ABS estimated resident population data. Table 4 shows each State's revenue base in 2013-14.

28 Assessed revenues for 2013-14 are calculated by applying a State's share of the total population to total Other revenue. This is equivalent to applying the average effective rate of tax or charges of $1 905 per person to each State's population.

**Table 4 Assessed revenue and revenue raising capacity, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Actual revenue ($m) | 15 427 | 9 291 | 10 150 | 3 997 | 2 851 | 830 | 1 348 | 457 | 44 350 |
| Assessed revenue ($m) | 14 205 | 11 012 | 8 919 | 4 851 | 3 191 | 978 | 730 | 464 | 44 350 |
| Assessed revenue ($pc) | 1 903 | 1 903 | 1 903 | 1 903 | 1 903 | 1 903 | 1 903 | 1 903 | 1 903 |
| Revenue raising capacity | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |

Note: Revenue raising capacity ratio is calculated as assessed revenue per capita divided by average revenue.
Source: Commission calculation.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

29 The EPC approach to this category means it does not have an impact on States' GST shares.

## CHANGES SINCE THE 2014 UPDATE

### Method changes

30 The 2015 Review assessment method is unchanged from the 2010 Review method.

31 We have made three changes to the revenues classified to this category, all relate to the relocation of FESLs to other categories:

- revenue from levies on property will be relocated to the Land tax category
- revenue from levies on insurance products will be relocated to the Insurance tax category
- revenue from levies on motor vehicles will be relocated to the Motor taxes category.

## UPDATING THE ASSESSMENT

32 We recommend the data used in this assessment be updated when new data become available, to ensure the relativities remain contemporary and consistent with the changing circumstances of States. On this basis we expect the following data to be updated annually — State populations.

# CHAPTER 10

# SCHOOLS EDUCATION

## SUMMARY OF THE ASSESSMENT

The Schools education category covers State spending on government pre-schools, primary and secondary schools, student transport services and non-government schools (including those funded by Commonwealth payments to States).

In assessing State spending we recognise there are differences in:

- the shares of school students across States, with States having a greater share of school students in their population facing above average costs
- the cost of students from different socio-demographic groups, so States with concentrations of more costly school students (Indigenous and low socio-economic status) need to spend more than average
- the geographic dispersion of populations, with States that have concentrations of students outside major cities, which cost more to service, needing to spend more than average and those with concentrations of students in or near small population centres also being more costly
- the proportion of students in government schools, which cost States more per student, resulting in States with higher proportions attending government schools facing above average costs
- the cost of transporting urban and rural students, the distance rural students in each State need to travel to attend school and the proportion of urban and rural students (States have a greater proportion of rural school students in their population facing above average transport costs).

The assessment also recognises the differences in wage costs between States for government schools.

## WHAT IS INCLUDED IN THE SCHOOLS EDUCATION CATEGORY?

1 The Schools education category includes State recurrent spending on:

- government pre-schools, primary and secondary schools
- non-government pre-schools, primary and secondary schools
- student transport services.

2 The Commonwealth makes payments to the States to meet a proportion of the cost of government and non-government schools. The expenditure of these payments is included in category expenses.

3 All revenues generated from user charges for this category are assessed on an equal per capita basis (EPC) in the Other revenue category. Student contributions are less than 2% of category expenses or about $30 per capita. South Australia said these amounts should be netted off expenses. We do not consider the drivers of spending and revenue to be the same and so we have not netted off the revenue. A separate revenue assessment for student contributions is unlikely to be material.

4 Table 1 shows category expenses were $45.7 billion in 2013-14. The share of school expenditure to State budgets varied from 16.1% in the Northern Territory to 23.5% in South Australia. The average was 22.0% for all States.

**Table 1 Schools education category expenses, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| State funded ($m) | 9 485 | 6 690 | 6 509 | 4 046 | 2 515 | 694 | 540 | 501 | 30 981 |
| Commonwealth funded ($m): | | | | | | | | | |
| Government schools | 1 394 | 1 071 | 1 046 | 467 | 323 | 132 | 62 | 121 | 4 616 |
| Non-government schools | 2 709 | 2 225 | 1 781 | 881 | 673 | 176 | 162 | 106 | 8 713 |
| Student transport ($m) | 769 | 222 | 169 | 114 | 30 | 32 | 4 | 10 | 1 350 |
| Total expenses ($m) | 14 356 | 10 208 | 9 506 | 5 509 | 3 540 | 1 034 | 768 | 738 | 45 660 |
| Total expenses ($pc) | 1 923 | 1 764 | 2 028 | 2 161 | 2 111 | 2 011 | 2 001 | 3 029 | 1 959 |
| Proportion of operating expenses (%) | 22.7 | 21.9 | 22.4 | 20.7 | 23.5 | 22.3 | 18.7 | 16.1 | 22.0 |

Source: Commission calculation using State data.

5 Table 2 shows the share of State expenses on schools education declined slightly from 22.1% in 2010-11 to 22.0% in 2013-14.

**Table 2 Schools education category expenses as a proportion of State operating expenses**

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| Total for category ($m) | 39 972 | 41 742 | 43 619 | 45 660 |
| Total operating expenses ($m) | 180 682 | 189 260 | 195 316 | 207 408 |
| Proportion of total operating expenses (%) | 22.1 | 22.1 | 22.3 | 22.0 |

Source: Commission calculation using ABS Government Finance Statistics (GFS) data and State data.

## How are services delivered?

6 All States provide government schools education services. They also provide the regulatory framework governing non-government schools and financial assistance to them. Around 65% of students attend government schools, although the proportion has been declining in recent years.

7 The age at which children typically start school varies slightly. However, all States now provide 13 years of schooling, with a requirement that all students complete Year 10 followed by full-time schooling, training or employment until age 17. This standardisation flows from States adopting a national approach and has reduced the influence of State policies on enrolment numbers.

8 All States have agreed to implement a National Curriculum; the Australian Curriculum and Reporting Authority (ACARA) is responsible for its development. ACARA is also responsible for collecting, collating and publishing detailed data on all government and non-government schools in Australia. The data are published on the My School website (http://www.myschool.edu.au/).

9 The State and Commonwealth governments provide funding for government and non-government schools. Both sectors receive additional funding from private sources although for government schools these amounts are small.

10 States and the Commonwealth provide different shares of recurrent funding for government and non-government schools:

- States provide around 86% of government recurrent funding for government schools, and the Commonwealth provides 14%
- States provide around 29% of government recurrent funding for non-government schools, and the Commonwealth provides 71%.

11 Payments by the Commonwealth for non-government schools are paid through the States to non-government schools. The States have no flexibility in how these funds are spent.

12 New funding arrangements for schools — the National Education Reform Agreement (NERA) — came into effect in 2014. This involves changes to how the Commonwealth determines funding levels for government and non-government schools. Under these arrangements funding will be based on the Schooling Resource Standard (SRS) which provides a base amount per student and extra loadings for disadvantage such as:

- disability
- low socio-economic background
- school size
- remoteness
- Indigenous students
- capacity to pay (non-government schools only)
- lack of English proficiency.

13 All States will be funded on this basis until the end of 2017.

14 The NERA arrangements have changed how some States are funding government schools. New South Wales, Victoria, South Australia, Tasmania and the ACT have made a commitment to implement needs-based funding models that align with the SRS and to increase their total level of funding. Queensland, Western Australia and the Northern Territory have not made the same commitment. Nevertheless, all States determine government school funding based on school and student characteristics.

15 NERA has also changed how some States are funding non-government schools. New South Wales, Victoria, South Australia, Tasmania and the ACT are committed to funding non-government schools in the same way as government schools. Specifically, non-government school funding is based on school and student characteristics and their total level of funding is determined through a bottom up approach.

16 By contrast, the other States determine their total level of funding for the non-government sector based on a per student amount. This is unaffected by the socio-demographic composition (SDC) of their non-government students. Once the total level of funding is determined, each school's share of the funding pool is based on student and school characteristics.

## COMMONWEALTH FUNDING

17 The Commonwealth provides funding to States to assist them in meeting their schools education expenses. In addition to the Students First funding program, previously known as the National schools specific purpose payment (SPP), the Commonwealth also provides States with National partnership payments (NPPs) for government and non-government schools.[1]

18 In 2013-14, the National schools SPP accounted for about 94% of total Commonwealth funding for schools education. Our assessment of the National Schools SPP for government schools is based on our understanding of the terms of reference (ToR) relating to NERA.[2] The non-government schools SPP and other payments for non-government schools are treated so that they do not impact on State relative fiscal capacities, as States have no discretion as to how these payments are spent.

19 Table 3 details the major Commonwealth payments provided to States for school education services.

**Table 3 Commonwealth payments to States for schools, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| National schools SPP | | | | | | | | | |
| Government | 1 403 | 1 027 | 964 | 465 | 334 | 123 | 68 | 92 | 4 475 |
| Non-government | 2 709 | 2 225 | 1 781 | 881 | 673 | 176 | 162 | 106 | 8 713 |
| Early childhood education — universal access to early education | 0 | 78 | 68 | 44 | 27 | 10 | 5 | 0 | 233 |
| Smarter Schools — improving teacher quality | 56 | 44 | 35 | 17 | 13 | 4 | 3 | 2 | 174 |
| Smarter schools — low socio-economic status school communities | 66 | 20 | 19 | 7 | 18 | 5 | 0 | 5 | 141 |
| Other NPPs | 58 | 41 | 38 | 20 | 16 | 5 | 3 | 57 | 238 |
| Total | 4 292 | 3 436 | 2 904 | 1 434 | 1 081 | 323 | 241 | 263 | 13 973 |

Note: This table includes recurrent payments for the government sector and all payments for the non-government sector.

Source: Commonwealth of Australia's *Final Budget Outcome, 2013-14*.

20 A complete list of Commonwealth payments and their treatment is provided in Attachment 2 – Treatment of Commonwealth payments.

1 In 2013, NERA funding replaced the National schools SPP, and then in 2014, Students First funding, which rolled together NERA funding and various education NPPs, replaced the NERA funding.

2 Clause 6 of the 2015 Review terms of reference.

## CATEGORY STRUCTURE

21 The assessment of Schools education category expenses is undertaken separately for each of the following components:

- State funded school expenses
- Commonwealth funded government school expenses
- Commonwealth funded non-government school expenses
- student transport.

22 The category structure allows us to assess each of these expenses in a different way.

23 We have assessed State funded school expenses based on the number of students and the observed loadings for some high cost student groups (for example, Indigenous, socio-economically disadvantaged, remote and government students).

24 We have assessed Commonwealth funding for government schools separately to allow us to give effect to the terms of reference (ToR) related to the NERA, which instructs us to ensure the recognition of educational disadvantage embedded in the NERA funding arrangements is not unwound by the GST distribution process. This component only includes Commonwealth NERA funding (now referred to as Students First funding) for government schools. Only that part of the interstate distribution of these funds not reflecting educational loadings affects relative State fiscal capacities.

25 Commonwealth funding for non-government schools through the National Schools SPP (now referred to as Students First funding) for non-government schools is also assessed separately. This payment is passed on by the States to Independent and Catholic schools, and the States have no flexibility in how these funds are spent. This payment is assessed so it does not impact on State fiscal capacities.

26 Student transport expenses are assessed in a separate component because the drivers of this spending are different to those for other schools expenses.

27 Table 4 shows the assessment structure for the category, the disabilities that are assessed and the size of each component, using 2013-14 data.

**Table 4 Category structure, Schools education, 2013-14**

| Component | Component expense | Disability | Influence measured by disability |
|---|---|---|---|
| | $m | | |
| State funded school expenses | 30 981 | Socio-demographic composition | Recognises that the number of students and certain student characteristics affect the use and cost of schools education services. |
| | | Service delivery scale | Recognises the cost of providing government schools education in small population centres. |
| Commonwealth funded government school expenses | 4 616 | Student funding | Recognises differences in use and cost of government schools education services funded by the Commonwealth using the Commonwealth's estimate of cost based on the SRS amount per student for each State. |
| Commonwealth funded non-government school expenses | 8 713 | Actual per capita (APC) | Recognises the differences between States in the distribution of the Commonwealth's funding to the States for non-government schools through the non-government schools SPP. (a) |
| Student transport | 1 350 | Student transport | Recognises the differences between States in the cost of providing school transport services to students. |

(a) The assessment of the expenditure of this payment in the Schools education category is exactly offset by the assessment of the revenue from this payment in the Commonwealth payments assessment so it has no net impact on the GST distribution.

Note: The wage costs factor is applied to State funded expenses and Commonwealth funded government school expenses.

Source: Commission calculation.

28 States were broadly supportive of the assessment approach for Schools education. However, New South Wales said it is unclear what the Commission has determined to be average policy for State funding of schools given that some States are not signatories to NERA. We consider that the aggregate spending patterns we observe in the ACARA data reflect average State policy and they are consistent with our understanding of how States allocate funding to individual schools. For example, most State resource allocation models include equity loadings for Indigenous and socio-economically disadvantaged students (SES), and allowances for small school size and remoteness. We consider our assessment should reflect how States on average fund schools regardless of their commitments under NERA.

29 Queensland said average policy for determining State funding for non-government students is unclear following the introduction of NERA. In some States total funding for non-government schools is determined as a proportion of funding to government schools which is then allocated amongst schools based on student and school characteristics. In other States, total funding is determined through a bottom up approach based on student and school characteristics. As with government schools,

we consider the spending patterns we observe in the ACARA data reflects average State policy and how States determine the total amount of funding is not relevant to our assessment.

30 One State said the Commission should assess State schools expenses on an equal per capita (EPC) basis because equalisation is achieved through the NERA funding arrangements. However, since the NERA funding only funds a proportion of each State's educational disadvantage we do not consider equalisation is fully achieved through the NERA.

## STATE FUNDED SCHOOL EXPENSES

31 Expenses for this component include:

- State's own expenditure on government schools
- State's own expenditure on non-government schools
- expenditure of Commonwealth payments for government schools outside the NERA funding arrangements.

## Socio-demographic composition

32 The extent of State funding for schools in each State is driven by the number of enrolments, and the presence of those groups of students which are more costly, such as:

- Indigenous students
- socio-economically disadvantaged students
- students living outside major cities
- government students.

### *Enrolments*

33 We have used actual enrolments with an adjustment to the pre-Year 1 cohort as the measure of use in this assessment. The enrolments data we have used are full-time equivalent enrolments by year group (or grade), Indigenous status and sector from ABS publication 4221.0 *Schools Australia*.[3] Previously we used actual enrolments for the compulsory years only which allowed us to recognise policy influences on pre- and post-compulsory enrolments. Recent changes, including the move to 13 years of schooling in all States, mean previous differences in State policies have diminished allowing us to use actual enrolments for all years.

[3] ABS enrolments are disaggregated by year, Indigenous status and sector. We have used ACARA data to disaggregate enrolments by remoteness areas and socio-economic status.

34 The adjustment to actual enrolments recognises that South Australia's pre-Year 1 cohort (known as Reception in South Australia) is larger than for other years, reflecting South Australia's gradual intake policy prior to 2014. The adjustment is material for South Australia. To make the adjustment, we have used Year 1 enrolments as a proxy for pre-Year 1 enrolments. South Australia changed its gradual intake policy in 2014. When this is reflected in the assessment years, we will revert to using actual enrolments for all years. No State raised concerns about the adjustment.

35 Most States support the use of actual enrolments as the basis for the assessment because it most simply captures State costs and reflects the increased standardisation of State policies. However, Tasmania said actual enrolments do not take account of policy differences which continue to influence pre- and post-compulsory enrolments. We understand that there are still differences between the States in starting and finishing ages but this does not affect the enrolment numbers used in the assessment because they are based on year level (or grade) rather than age. Adopting actual enrolments with the adjustment to the pre-Year 1 cohort is not materially different to an assessment based on our previous measure of use which involved the calculation of average policy enrolments for the pre- and post-compulsory years.

36 By using actual enrolments for all age groups, with an adjustment to the distribution of students in pre-Year 1, we are able to more simply capture the differences in the size of the education task facing States, including the additional cost incurred by the ACT from the use of its education services by New South Wales residents.

### *High cost students*

37 We observe that States spend more delivering school services to some groups of students (for example, Indigenous, low SES). This is a reflection of State resource allocation models, and most States agree our assessment should recognise these influences.

38 ***ACARA data.*** We estimated the student loadings using regression modelling based on 2012 ACARA data. We consider these loadings to be more comprehensive and reliable than 2010 Review loadings which were based on incomplete State-provided data. Victoria, Queensland, Western Australia, South Australia, the ACT and the Northern Territory supported the use of ACARA data for calculating student loadings.

39 New South Wales and Tasmania expressed concerns about the quality of the ACARA data and the modelling used to determine the loadings. Victoria also raised some concerns about the modelling. New South Wales was mainly concerned about the comparability of financial data between States. Tasmania had general concerns about the quality of the dataset and the influence of incomplete data on the regression modelling.

40 We consider the ACARA data represent the most reliable data available for determining loadings for the Schools assessment and fit for this purpose. To obtain nationally comparable data ACARA requires school authorities to use a common methodology for reporting financial and other data. While not without problems, the ACARA data are undergoing continuous improvement and 2012 is the third year of the collection. Like our consultant we are concerned about missing data, especially if they were widespread, large and systematic or not isolated and random. However, we have observed improvements in the quality of the unit record data since 2010 including a decline in the amount of incomplete data.

41 ***How have we used ACARA data?*** We have developed two separate regression models using ACARA data to derive loadings for government and non-government school students.

42 We engaged a consultant to advise us on the appropriate econometric techniques, and our assessments reflect that advice. In particular, the models we have adopted have the following characteristics.

- We have used regression models that explain funding per student instead of funding per school because we decided a student model would be simpler to understand. It also avoids some of the co-linearity issues associated with school based models, even though that caused some loss of explanatory power. The consultant said this was due to the averaging which is done in the student models and not because of excluding State dummy variables, as suggested by Tasmania.
- We have not included State dummy variables because including them does not allow us to properly capture average policy.
- We have not included an interaction term in the models for Indigenous status and remoteness, despite concerns raised by New South Wales and Victoria about the level of correlation between these variables. We found that the level of correlation between the Indigenous status and remoteness variables is not high enough to warrant concern over the reliability of their estimated coefficients.[4] Given the two variables are not highly correlated and State resourcing models determine remoteness and Indigenous loadings independently, we do not consider an interaction term necessary. Queensland noted that the loadings produced by the model for Indigenous status and remoteness were consistent with its funding model.
- We did not seek estimates of student loadings for other variables such as language background other than English (LBOTE), students with a disability or school level for reasons explained in paragraphs 88 and 89.

[4] The level of correlation between the Indigenous status and remoteness variables was 0.50.

43 In developing the government schools regression model we had to recognise that the ToR instructs us to ensure that NERA student loadings were preserved. We do that by isolating those loadings from other influences in the GST calculations. We also considered that the loadings we applied to State government's own funding for government schools should not be influenced by the loadings contained in Commonwealth funding; to do so could result in double counting. Our regression therefore is based only on State government funding.

44 The regression models calculate the cost of a base student (a non-Indigenous least disadvantaged student in a major city school) and the additional costs associated with Indigenous status, SES and remoteness. This information is used to calculate the student loadings we have applied to enrolments in the assessment of State funded school expenses. The student loadings, expressed as a percentage of the base student cost, derived from the 2012 ACARA data are presented in Table 5.

45 The regression results provide very different material student loadings for Indigenous and non-Indigenous students in government and non-government schools, and for remoteness areas.

46 In both models we calculate loadings for Indigenous status, SES and remoteness. The cost loadings (above the base student cost) are additive. For example:

- for government students, a most disadvantaged Indigenous student in a very remote school costs 135% (44% + 91%) more than a least disadvantaged non-Indigenous student in a major city government school
- for non-government students, a most disadvantaged Indigenous student in a very remote school costs 62% (35% + 27%) more than a least disadvantaged non-Indigenous student in a major city non-government school.

47 The regression results also allow us to calculate the relative costs of a base case non-government student (non-Indigenous, major city, least disadvantaged) compared to a government student. A base case non-government student receives 25% of the State government funding for a similar student in a government school.

**Table 5 Student loadings for the assessment for State funded school expenses, 2012**

| | Government students | Non-government students |
|---|---|---|
| | % | % |
| Non-Indigenous | | |
| Most disadvantaged | 115 | 114 |
| 2nd most disadvantaged | 109 | 113 |
| Middle quintile | 106 | 108 |
| 2nd least disadvantaged | 101 | 102 |
| Least disadvantaged | 100 | 100 |
| Indigenous | | |
| Most disadvantaged | 144 | 135 |
| 2nd most disadvantaged | 125 | 129 |
| Middle quintile | 124 | 130 |
| 2nd least disadvantaged | 118 | 114 |
| Least disadvantaged | 113 | 111 |
| Remoteness | | |
| Major cities | 100 | 100 |
| Inner regional | 103 | 100 |
| Outer regional | 121 | 110 |
| Remote | 166 | 122 |
| Very remote | 191 | 127 |

Source: Commission calculation using 2012 ACARA data.

48 By measuring funding per student in each school sector in this way we have looked past how States determine the total amount of funding for non-government schools and used the ACARA data to establish the relative cost of government and non-government students. One benefit of this approach is that it allows the assessment to recognise differences in the characteristics of government and non-government students in each State. Victoria, the ACT and the Northern Territory agreed this approach aligns with 'what States do'.

## *Backcasting*

49 Changes to States' own funding of schools may result from the NERA funding arrangements, at least for some States. These changes are part of a major change in Commonwealth State relations, and we usually backcast such changes to make the GST distribution more contemporaneous. However, we have not backcast changes to State resourcing models. While the pattern of national spending for schools may change under NERA, we do not have reliable information on the details of each State's new resourcing model, or the rate at which they are evolving. We have decided that what we observe historically is the only reliable measure of State spending patterns, although we intend to use the latest available ACARA data to

recalculate student loadings for each update. This will allow us to pick up any changes to State resource allocation models during the period of this review.

## Service delivery scale (SDS)

50 We have recognised that States face different service delivery costs in certain parts of the State where the small size and dispersed nature of communities leads to above average staffing levels. The method for estimating the SDS factor for the Schools assessment is described in Chapter 24 — Service delivery scale. We have recognised the influence of service delivery scale (SDS) for government schools only. The regression modelling indicated that there are no significant SDS effects for non-government schools.

## Location

51 We have recognised that differences between States in wage costs have a differential effect on the cost of providing school services across States. These influences are measured in a similar way for most expense categories and the methods are described in Chapter 22 — Wage costs.

52 We do not need to recognise differences in the costs of providing services to students in different areas within a State as these disabilities are captured by the SDC assessment through the remoteness loadings.

## Bringing the State funded schools expenses component together

53 Table 6 shows the total assessed expenses.

**Table 6 Assessed expenses, State funded schools component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| SDC assessed ($m) | | | | | | | | | |
| Government schools | 8 627 | 6 171 | 5 987 | 3 014 | 1 974 | 701 | 379 | 505 | 27 358 |
| Non-government schools | 1 140 | 926 | 729 | 375 | 273 | 71 | 71 | 36 | 3 623 |
| Service delivery scale factor (a) | 0.999 | 0.997 | 1.000 | 1.003 | 1.007 | 1.002 | 0.995 | 1.026 | 1.000 |
| Location factor | 1.006 | 0.985 | 0.986 | 1.047 | 0.989 | 0.967 | 1.029 | 1.054 | 1.000 |
| Total ($m) | 9 803 | 6 971 | 6 621 | 3 557 | 2 236 | 747 | 461 | 585 | 30 981 |
| Total ($pc) | 1 313 | 1 205 | 1 413 | 1 395 | 1 333 | 1 453 | 1 201 | 2 401 | 1 329 |

(a) Service delivery scale is applied to government school expenses only.
Source: Commission calculation.

## COMMONWEALTH FUNDED GOVERNMENT SCHOOL EXPENSES

54 A separate assessment of Commonwealth NERA funding for government school expenses has been included to make it easier to see how we have given effect to the 'no unwinding' instruction in the ToR. The ToR ask the Commission to:

> … ensure that the GST distribution process will not have the effect of unwinding the recognition of educational disadvantage embedded in the National Education Reform Agreement (NERA) funding arrangements. The Commission will also ensure that no State or Territory receives a windfall gain through the GST distribution from non-participation in NERA funding arrangements.

55 Under the NERA funding arrangements the Commonwealth is providing school funding determined by a base amount per student and loadings for educational disadvantage for particular groups of students. Commonwealth funding of the base and loading amounts vary among States.

56 We consider that the ToR requires us to ensure that the impact on State budgets of loadings for educational disadvantage contained in Commonwealth payments for both government and non-government schools is not unwound. This component deals with how we avoid unwinding the payment for government schools.

57 Our assessment is built so that the impact on State fiscal capacities of Commonwealth payments for government schools will be the difference between what States actually receive and what they would have received had the Commonwealth funds been distributed among States only on the basis of the SRS amounts for different students, and the numbers of such students in each State. The difference reflects factors such as different base funding negotiated between the Commonwealth and States, which should be the subject of equalisation.

58 While we ensure that funding for educational disadvantage embedded in Commonwealth funding for government schools is not unwound, we will recognise other cost influences affecting what States need to spend to deliver government school services, such as the impact of wage cost differentials. We consider that recognising these cost differences does not unwind the impact of loadings for educational disadvantage because these are independent influences which complement, but do not unwind, the loadings embedded in the payments. Victoria did not agree. It said the base of the funding agreements negotiated by the States would cover costs such as wages and that no further adjustment is required. We have not been presented with any evidence that the base funding arrangements cover these costs and therefore consider there is no double counting of needs arising from applying the wage costs disability to the Commonwealth funding for government schools.

59 The SPP for non-government schools has no impact on the GST distribution because we assess that every State has to spend exactly what it receives from the Commonwealth. As a result we are not unwinding any of the educational disadvantage embedded in the National schools SPP for these schools. The expenditure of this payment is assessed in the schools education component relating to Commonwealth funding for non-government schools.

60 Most States agreed with our interpretation of the no unwinding clause and the approach we have taken to ensure unwinding is avoided. Queensland said that the changes to schools funding announced in the 2014-15 Budget, which will see the NERA funding arrangements cease from 2018, may render the ToR irrelevant.

61 We sought State views on whether States that have agreed to implement new funding models consider the agreements binding, and whether States consider they are bound to allocate Commonwealth funding in a manner consistent with the SRS.

62 The Northern Territory supported Queensland's view and said that following the changes announced in the Commonwealth's 2014-15 Budget, clause 6 of the terms of reference is no longer relevant. New South Wales, South Australia, Tasmania and the ACT said either that they considered NERA agreements to be binding, or that they would continue to fund schools using approved resource allocation models. Tasmania said also that implementing a needs based funding system is required under the current *Australian Education Act* and is binding. We consider that while the NERA instruction is part of the ToR we must assess Commonwealth funding for government schools in a way that ensures there is no unwinding.

63 Queensland said if we use the SRS in the assessment we should weight it by the average State transition level. So, for example, if States on average had transitioned to 10% of the SRS, we could weight SRS per student amounts by 10% and assess the remainder of expenditure using the measure of need applied to State funded school expenses. We recognise that States are transitioning at different rates, but do not have information about each State's transition rate to determine the average rate of transition each year, or any information on how much of the funding relates to loadings and how much relates to base funding. We have not made an adjustment to the assessment to reflect transitional arrangements because it is not practical to do so.

64 ***Size of the component.*** The Commonwealth government has rolled a number of government school NPPs into the NERA payment and these payments will be combined with the National schools SPP to determine total component expenses in the assessment years. They are:

- Rewards for great teachers NPP
- Smarter schools – Low socio economic status school communities NPP
- Empowering local schools NPP.

65 ***Backcasting.*** Because we base our recommendations on historical data, to give effect to the no unwinding direction, we will modify the relevant historical data to reflect changed funding arrangements and the assessment approach outlined above. Queensland said the enrolment numbers used in the revenue and expenditure backcasting process should be consistent to account for different growth rates in States' enrolments. We agree and have decided to use application year enrolments for the backcasting because the revenue distribution in the application year is based on projected enrolments.

66 Most States supported the proposed backcasting arrangements for the National schools SPP for government schools. New South Wales and Queensland said the announced changes to funding arrangements made backcasting problematic. We agree the announced changes may have implications for achieving equalisation over time but consider that we have no choice given the ToR.

67 Tasmania said there could be some double counting of needs associated with the NPPs which have been rolled into NERA funding. We agree there could be some double counting if a State's share of the payment in the historical year exceeds its share of Students First funding in the application year but we would not expect this to be material.

## Calculating component expenses

68 The assessment of the expenditure of NERA payments for government schools involves:

- assessing the expenditure of Commonwealth NERA payments based on the average SRS per student and projected enrolments for each State in the application year[5]
- backcasting the expenditure of the payments applicable in the application year into the assessment years to ensure that no unwinding of educational disadvantage takes place.

69 The calculation of component expenses is shown in Table 7.

[5] This information is provided by the Commonwealth Department of Education and Training.

**Table 7 Assessment of Commonwealth NERA funding for government schools, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| SRS per student ($) | 14 804 | 14 523 | 15 063 | 16 618 | 15 607 | 16 817 | 13 142 | 24 055 | |
| Enrolments ('000) | 760 | 566 | 537 | 277 | 167 | 56 | 36 | 30 | 2 430 |
| Notional funding ($m) | 11 258 | 8 219 | 8 096 | 4 610 | 2 611 | 945 | 472 | 718 | 36 928 |
| Commonwealth funding proportion (%) | | | | | | | | | 12.5 |
| Assessed expense ($m) | 1 407 | 1027 | 1012 | 576 | 326 | 118 | 59 | 90 | 4 616 |

Note: The SRS amount per student and enrolments refers to 2015-16.

Source: Commission calculation using SRS funding per student and government student enrolments for each State provided by the Commonwealth Department of Education for 2015 and 2016.

70 This approach means we do not 'unwind' the recognition of educational disadvantage embedded in the NERA funding for government schools, but we do 'unwind' the differential transitional paths States have agreed to in bilateral agreements with the Commonwealth, and differential Commonwealth funding proportions.

71 We have concluded the 'no windfall gains' instruction in the ToR is no longer relevant now that all States are being funded on the same basis. No State disagreed. Therefore, this part of the NERA ToR has no implications for how we have assessed the National Schools SPP for government schools.

## Location

72 We have recognised the differences in wage costs between States in this assessment. These influences are measured in a similar way for most expense categories and the methods are described in Chapter 22 — Wage costs.

73 As discussed in paragraph 58, these differences are not captured in the SRS amounts and we consider their assessment to complement, but not unwind, the measures of educational disadvantage.

74 We do not need to recognise differences in the costs of providing services in different areas within a State as that is captured by the Commonwealth's loadings for remoteness.

## Bringing the component together

75 Table 8 shows the total assessed spending.

**Table 8 Assessed expenses, Commonwealth funded government schools component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| SDC assessed ($m) | 1 407 | 1 027 | 1 012 | 576 | 326 | 118 | 59 | 90 | 4 616 |
| Location factor | 1.006 | 0.985 | 0.986 | 1.047 | 0.989 | 0.967 | 1.029 | 1.054 | 1.000 |
| Total ($m) | 1 414 | 1 011 | 997 | 603 | 322 | 114 | 61 | 94 | 4 616 |
| Total ($pc) | 189 | 175 | 213 | 236 | 192 | 222 | 158 | 387 | 198 |

Source: Commission calculation.

## COMMONWEALTH FUNDED NON-GOVERNMENT SCHOOL EXPENSES

76 This component includes the expenditure of Commonwealth funding of non-government schools through the National Schools SPP which is paid through the States to Independent and Catholic schools.

77 Since States have no flexibility in how these funds are spent, we consider their receipt and expenditure should not affect the relative fiscal capacities of the States. Accordingly, we have assessed the expenditure of these payments and related revenue from the Commonwealth on an actual per capita basis. As a result, the payments and their expense have no net impact on State relative fiscal capacities. States support this assessment.

78 Table 9 shows total assessed spending for the component.

**Table 9 Assessed expenses, Commonwealth funded non-government schools component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Total ($m) | 2 709 | 2 225 | 1 781 | 881 | 673 | 176 | 162 | 106 | 8 713 |
| Total ($pc) | 363 | 384 | 380 | 346 | 401 | 342 | 422 | 436 | 374 |

Source: Commission calculation.

## STUDENT TRANSPORT

79 The average policy of the States is to provide free bus transport for rural students and subsidised transport for urban students. Administrative data indicate that 50% of total student transport expenses are for rural students.

80 We have decided to assess rural student transport expenses based on the number of rural students and the average distance travelled by these students.

81 The data used in the assessment of rural student transport expenses are from the 2011 Census. For the purposes of the assessment, we calculated the total assessed distance for each State by applying the total number of rural students to the average distance travelled.

- The number of rural students is defined as students living outside urban centres and localities (UCLs) of 20 000 people or more.
- Estimates of the average distance travelled are based on the distance travelled by students who reside in Statistical Area 1s (SA1s) which are outside UCLs to the nearest UCL of 1 000 people or more. For the calculation of average distance, we only included primary students within 60 kilometres of a UCL of 1 000 people or more and secondary students within 80 kilometres of a UCL of 1 000 people or more.

82 Most States supported the use of 2011 Census data to calculate the average distance travelled by rural students.

83 The ACT said the rural student transport assessment is overly simplistic and highly likely to overstate the relative disadvantage in respect of rural students. We agree the assessment is a simplification of 'what States do' but have not identified a reliable and material adjustment that would make it more representative of 'what States do'.

84 We have assessed urban student transport expenses based on State shares of urban students. New South Wales said an urban student transport assessment should include an allowance for distance travelled. We have not been able to identify data that would allow us to develop an assessment for urban students which includes a distance allowance and, even if we could, an assessment is unlikely to be material.

85 The calculation of the student transport component is shown in Table 10.

**Table 10 Assessed expenses, Student transport component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Urban students ('000s) | 885 | 690 | 564 | 314 | 188 | 46 | 63 | 22 | 2 772 |
| Share of urban students (%) | 31.9 | 24.9 | 20.3 | 11.3 | 6.8 | 1.6 | 2.3 | 0.8 | 100.0 |
| Assessed urban expenses ($m) | 215 | 168 | 137 | 77 | 46 | 11 | 15 | 5 | 675 |
| Rural students ('000s) | 267 | 190 | 199 | 71 | 70 | 35 | 0 | 18 | 850 |
| Average distance (km) | 13 | 11 | 11 | 13 | 13 | 12 | 9 | 11 | 12 |
| Total assessed distance ('000 km) | 3 375 | 2 017 | 2 211 | 894 | 941 | 407 | 2 | 206 | 10 053 |
| Share of assessed distance (%) | 33.6 | 20.1 | 22.0 | 8.9 | 9.4 | 4.0 | 0.0 | 2.0 | 100.0 |
| Assessed rural expenses ($m) | 227 | 135 | 148 | 60 | 63 | 27 | 0 | 14 | 675 |
| Total ($m) | 442 | 303 | 286 | 137 | 109 | 38 | 15 | 19 | 1 350 |
| Total ($pc) | 59 | 52 | 61 | 54 | 65 | 75 | 40 | 79 | 58 |

Source: Commission calculation.

## BRINGING THE ASSESSMENT TOGETHER

86 Table 11 brings the assessed expenses for each component together to derive the total assessed expenses for each State for the category.

**Table 11 Category assessment, Schools education, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| **State funded school expenses** | | | | | | | | | |
| Equal per capita | 1 329 | 1 329 | 1 329 | 1 329 | 1 329 | 1 329 | 1 329 | 1 329 | 1 329 |
| SDC | | | | | | | | | |
| Share of students | -10 | -28 | 63 | -37 | -12 | 7 | 79 | 85 | 0 |
| Remoteness (a) | -28 | -24 | 12 | 32 | 28 | 86 | -59 | 584 | 0 |
| Indigenous status | 0 | -16 | 9 | 6 | -3 | 9 | -11 | 164 | 0 |
| Indigenous SES | 1 | -1 | -1 | 3 | 2 | -9 | -2 | -2 | 0 |
| Non-Indigenous SES | 11 | -6 | -3 | -14 | 17 | 5 | -54 | -53 | 0 |
| Government students | 5 | -29 | 24 | 10 | -21 | 72 | -110 | 113 | 0 |
| Total SDC | -21 | -103 | 104 | 0 | 11 | 171 | -156 | 892 | 0 |
| Service delivery scale | -2 | -3 | 0 | 4 | 9 | 2 | -6 | 35 | 0 |
| Location | 7 | -20 | -19 | 62 | -14 | -43 | 38 | 72 | 0 |
| Total | 1 313 | 1 205 | 1 413 | 1 395 | 1 333 | 1 453 | 1 201 | 2 401 | 1 329 |
| **Commonwealth funded government school expenses** | | | | | | | | | |
| Equal per capita | 198 | 198 | 198 | 198 | 198 | 198 | 198 | 198 | 198 |
| SDC | -10 | -21 | 18 | 28 | -3 | 32 | -44 | 170 | |
| Location | 1 | -3 | -3 | 9 | -2 | -6 | 6 | 11 | 0 |
| Total | 189 | 175 | 213 | 236 | 192 | 222 | 158 | 387 | 198 |
| **Commonwealth funded non-government school expenses** | | | | | | | | | |
| Actual per capita | 363 | 384 | 380 | 346 | 401 | 342 | 422 | 436 | 374 |
| **Student transport** | | | | | | | | | |
| Equal per capita | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 |
| Student transport | 1 | -5 | 3 | -4 | 7 | 17 | -18 | 21 | 0 |
| Total | 59 | 52 | 61 | 54 | 65 | 75 | 40 | 79 | 58 |
| **Category total** | 1 562 | 1 432 | 1 686 | 1 685 | 1 590 | 1 750 | 1 399 | 2 867 | 1 585 |

(a) Remoteness includes the impact of remote use and cost.
Note: Disabilities may not add due to interactions.
Source: Commission calculation.

## Alternative presentation

87 Table 12 provides an alternative presentation using a factor approach. The table shows for each disability how the expenses per capita in each component and in total are affected by differences in State characteristics. Disability factors below one indicate a State is assessed to need to spend less than average. Disability factors above one indicate a State is assessed to need to spend more than average.

**Table 12 Category factor, Schools education, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| **State funded school expenses (component weight = 68%)** | | | | | | | | | |
| SDC | 0.984 | 0.923 | 1.078 | 1.000 | 1.008 | 1.129 | 0.883 | 1.671 | 1.000 |
| Service delivery scale | 0.999 | 0.997 | 1.000 | 1.003 | 1.007 | 1.002 | 0.995 | 1.026 | 1.000 |
| Location | 1.006 | 0.985 | 0.986 | 1.047 | 0.989 | 0.967 | 1.029 | 1.054 | 1.000 |
| Component factor | 0.988 | 0.906 | 1.063 | 1.050 | 1.003 | 1.093 | 0.903 | 1.806 | 1.000 |
| A. Weighted component factor | 0.992 | 0.936 | 1.043 | 1.034 | 1.002 | 1.063 | 0.935 | 1.547 | 1.000 |
| **Commonwealth funded government schools (component weight = 10%)** | | | | | | | | | |
| SDC | 0.952 | 0.896 | 1.090 | 1.141 | 0.983 | 1.160 | 0.776 | 1.858 | 1.000 |
| Location | 1.006 | 0.985 | 0.986 | 1.047 | 0.989 | 0.967 | 1.029 | 1.054 | 1.000 |
| Component factor | 0.956 | 0.882 | 1.074 | 1.194 | 0.971 | 1.121 | 0.798 | 1.956 | 1.000 |
| B. Weighted component factor | 0.996 | 0.988 | 1.007 | 1.020 | 0.997 | 1.012 | 0.980 | 1.097 | 1.000 |
| **Commonwealth funded non-government schools (component weight = 19%)** | | | | | | | | | |
| Actual per capita (APC) | 0.971 | 1.028 | 1.016 | 0.925 | 1.073 | 0.916 | 1.128 | 1.168 | 1.000 |
| C. Weighted component factor | 0.994 | 1.005 | 1.003 | 0.986 | 1.014 | 0.984 | 1.024 | 1.032 | 1.000 |
| **Student transport (component weight = 3%)** | | | | | | | | | |
| Student transport | 1.022 | 0.905 | 1.052 | 0.925 | 1.122 | 1.291 | 0.697 | 1.362 | 1.000 |
| D. Weighted component factor | 1.001 | 0.997 | 1.002 | 0.998 | 1.004 | 1.009 | 0.991 | 1.011 | 1.000 |
| **Category factor** | 0.982 | 0.927 | 1.055 | 1.037 | 1.017 | 1.068 | 0.930 | 1.686 | 1.000 |

Source: Commission calculation.

## Influences not assessed in this category

### *Low English fluency*

88 Our regression model does not include a low English proficiency variable despite the fact that the SRS includes an allowance for students with low English fluency and some State resources allocation models include loadings for these students. New South Wales and Victoria said Language Background Other Than English (LBOTE) should have been included and no information had been provided on the materiality of this disability.

89 We believe the LBOTE population is more heterogeneous than other groups and that some LBOTE students attract higher than average State spending, but others attract

lower than average spending. We were concerned that including this variable would not help in estimating the coefficients for other variables. The consultant agreed. Our decision not to include a low English proficiency variable is consistent with our conclusion that it is not clear whether having a large culturally and linguistically diverse (CALD) population increases or decreases the overall cost of delivering State services, as discussed in Chapter 27 — Other disabilities.

### *Year level*

90 Victoria said there appeared to be significant cost differences between primary and secondary schools and we should consider if allowing for these differences would be material. The ACARA data indicate that secondary students are about 30% more costly than primary students. However, our analysis indicated that it is not material to include a loading for secondary students because State shares of these students are not sufficiently different.

### *Students with a disability*

91 We recognise that students with a disability are more costly to educate, however, there is no agreed definition of students with disabilities, and no nationally consistent measure of the number of students with a disability. We have not assessed a cost weight for these students in the assessment of State funded schools expenses. As with other measures of educational disadvantage, loadings for disabled students in the Commonwealth funding are not unwound.

92 Over time, if better data on the cost and number of disabled students becomes available, we may be able to include loadings for these students in our assessments.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

93 Table 13 shows the extent to which the assessment for this category moves the distribution of the GST away from an equal per capita distribution. It shows that GST revenue is redistributed to Queensland, Western Australia, Tasmania and the Northern Territory and away from New South Wales, Victoria and the ACT.

**Table 13 GST impact, Schools education, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| Dollars million | -167 | -1 014 | 516 | 279 | -1 | 106 | -86 | 367 | 1 268 |
| Dollars per capita | -22 | -169 | 106 | 103 | -1 | 206 | -216 | 1 450 | 53 |

Note: This estimate excludes the impact of Commonwealth payments for non-government schools. The difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.

Source: Commission calculation.

94 The main reasons for these redistributions are the differences between States in the proportions of their populations in the groups that are more costly users of school services. High or costly users of schools services are Indigenous people, people living outside major cities and people living in areas of relative disadvantage. States spend more on government students than on non-government students.

95 The main reasons for the redistributions for each State are:

- New South Wales has a lower than average share of enrolments as well as below average proportions of remote students and students in SDS affected areas
- Victoria has a lower than average share of enrolments as well as below average proportions of government, Indigenous and remote students
- Queensland has an above average share of enrolments as well as above average proportions of government and Indigenous students
- Western Australia has above average proportions of Indigenous and remote students as well as above average wage costs, and this more than offsets its below average share of enrolments and above average proportion of lower cost least disadvantaged students
- South Australia has an above average proportion of disadvantaged students, remote students and students in service delivery scale affected areas, and this is offset by its below average share of government students
- Tasmania has a high proportion of government students and remote students, which is reflected in the high assessed spending by both the State and Commonwealth governments on Tasmania's students
- The ACT has an above average proportion of non-government and least disadvantaged students which more than offsets its above average proportion of enrolments due to the presence of New South Wales students in ACT schools
- The Northern Territory has significantly larger than average proportions of government students, Indigenous students, remote students and students in service delivery scale affected areas, which is reflected in the high assessed spending by both the State and Commonwealth governments on the Northern Territory's students.

96 Table 14 provides a summary of the major reasons the assessment moves State GST revenue away from an equal per capita distribution.

**Table 14 Major reasons for difference from EPC, Schools education, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| SDC | | | | | | | | | |
| Share of enrolments | -79 | -179 | 319 | -110 | -20 | 12 | 31 | 27 | 389 |
| Remoteness | -219 | -193 | 71 | 115 | 51 | 33 | -20 | 162 | 432 |
| Indigenous status | -3 | -103 | 47 | 19 | -7 | 5 | -5 | 47 | 118 |
| Indigenous SES | 6 | -4 | -7 | 8 | 3 | -5 | -1 | -1 | 17 |
| Non-Indigenous SES | 98 | -38 | -14 | -42 | 32 | 3 | -24 | -15 | 133 |
| Government students | 67 | -191 | 124 | 11 | -40 | 45 | -50 | 34 | 281 |
| Total SDC | -153 | -674 | 531 | -19 | 21 | 110 | -73 | 257 | 919 |
| NERA | -86 | -134 | 94 | 91 | -10 | 16 | -19 | 47 | 248 |
| Student transport | 12 | -38 | 16 | -14 | 14 | 11 | -8 | 6 | 59 |
| Service delivery scale | -16 | -23 | 2 | 13 | 16 | 1 | -3 | 10 | 42 |
| Wage costs | 85 | -154 | -114 | 207 | -40 | -27 | 21 | 23 | 335 |
| Total | -167 | -1 014 | 516 | 279 | -1 | 106 | -86 | 367 | 1 268 |

Note: The difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.
Disabilities may not add due to interactions.
Source: Commission calculation.

## CHANGES SINCE THE 2014 UPDATE

97 Table 15 breaks down the total changes since the 2014 Update into the impact of changing data sources, category-specific method changes, and changes in State circumstances in the 2015 assessment period.

**Table 15 Changes since the 2014 Update, Schools education**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Data changes | 29 | 40 | -23 | -17 | 3 | -5 | 10 | -36 | 82 |
| Method changes | -221 | 19 | 34 | 24 | 96 | 27 | -21 | 44 | 242 |
| Change in circumstances | -6 | -14 | 21 | 4 | 5 | -6 | 1 | -5 | 32 |
| Total | -198 | 44 | 31 | 11 | 104 | 16 | -10 | 3 | 208 |

Source: Commission calculation.

98 It can be difficult to separate the impact of changing data sources and changing methods. Where this happens we have attributed all of the impact to the main reason for the change in the redistribution. We have attributed changes to the redistribution arising from new ACARA-based student loadings to method changes. This means that the impact of method changes shown in Table 15 is overstated.

## Data changes

### *Assessing student transport*

99 We have updated the average distance travelled by rural students in the student transport assessment using data from the 2011 Census.

## Method changes

### *Moving from State provided data to ACARA data*

100 Previously we used State-provided data to calculate the loadings for high cost students. We have decided to use ACARA data to calculate loadings because the ACARA data are a nationally comparable dataset which produces reliable estimates of the additional costs of certain high cost students.

### *Assessing Commonwealth funding for government schools*

101 One of the major change in this assessment is the creation of a separate component for Commonwealth funding for government schools to comply with the NERA instruction in the terms of reference. We have assessed the expenditure of Commonwealth NERA funding for government schools based on the average SRS amount for government students in each State to avoid unwinding the recognition of educational disadvantage embedded in the NERA funding arrangements.

### *Moving to actual enrolments*

102 Actual enrolments, with an adjustment for policy differences for pre-Year 1 students, have been used as the broad measure of use for all age groups, whereas in the 2010 Review we calculated an average policy number of pre- and post-compulsory students.

## Changes in State circumstances

103 The change due to State circumstances is largely driven by changes in State shares of enrolments between 2010-11 and 2013-14. GST has been redistributed to the States which increased their share of enrolments between 2010-11 and 2013-14, namely Queensland, Western Australia and the ACT. South Australia's share of total enrolments did not increase, but its share of Indigenous enrolments did increase resulting in an increase in its GST distribution.

## UPDATING THE ASSESSMENT

104 We recommend that data used in this assessment be updated when new data become available to ensure the relativities remain contemporary and consistent with the circumstances of the States. On this basis we expect:

- the following data would be updated annually:
  - student loadings based on ACARA data
  - disaggregated enrolments based on ABS Schools Australia data and ACARA data
- the following data would not be updated during the review:
  - average distance travelled by rural students and State shares of rural and urban students.

105 For the 2015 Review, we have used 2012 ACARA data for all assessment years. We consider the quality of ACARA data for earlier years is not as high as the more recent data. In future updates we will use the ACARA data that is most relevant for the assessment years. This means that in future updates, the latest ACARA data will be used for the last two assessment years.

# CHAPTER 11

# POST-SECONDARY EDUCATION

## SUMMARY OF THE ASSESSMENT

The Post-secondary education category covers State spending on vocational education and training (VET) and higher education. It includes subsidised courses provided in government institutions as well as subsidies provided to private training providers.

In assessing State spending we recognise there are differences in:

- The use of services by different socio-demographic groups of working age so that States with a concentration of those using services intensively, such as Indigenous people, people living in non-remote regions and those from areas of low socio-economic status, need to spend more than average.
- The geographic dispersion of their working age populations, so that States with concentrations of people in remote areas, which cost more to service, need to spend more than average.

The assessment also recognises the cost to the ACT of providing post-secondary education services to New South Wales residents and differences in wage costs between States.

## WHAT IS INCLUDED IN THE POST-SECONDARY EDUCATION CATEGORY?

1 This category includes State expenses on vocational education and training (VET) and higher education.

- Public technical and further education (TAFE) institutes and privately run registered training organisations (RTOs) are the main providers of VET services although some universities provide VET services.
- Universities are the main providers of higher education services; however, TAFE institutes provide some higher education services.

2 VET expenses previously included in the Services to industry category are now included in this category. Most of these expenses relate to government funded

training hours provided by private RTOs. In 2013-14, about $1 billion were added to post-secondary expenses due to this reclassification.[1] States supported this change. This ensures our usage and spending data are comparable.

3 All revenues generated from user charges ($1.6 billion in 2013-14) are offset against expenses. The reasons are discussed later in the chapter.

4 Table 1 shows category expenses (net of user charges) were $5.7 billion in 2013-14. The share of post-secondary education expenses in State budgets varied from 1.8% in Queensland to 3.9% in Victoria. The average for all States was 2.8%.

**Table 1 Post-secondary education expenses, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Category expenses ($m) | 1 637 | 1 813 | 775 | 678 | 476 | 142 | 86 | 125 | 5 733 |
| Category expenses ($pc) | 219 | 313 | 165 | 266 | 284 | 277 | 224 | 511 | 246 |
| Proportion of operating expenses (%) | 2.6 | 3.9 | 1.8 | 2.5 | 3.2 | 3.1 | 2.1 | 2.7 | 2.8 |

Note: Category expenses are net of user charges.
Source: Commission calculation using State data.

5 Table 2 shows the share of State expenses directed to post-secondary education services declined from 3.0% in 2010-11 to 2.8% in 2013-14.

**Table 2 Post-secondary education expenses as a proportion of State operating expenses**

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| Total for category ($m) | 5 340 | 5 748 | 5 707 | 5 733 |
| Total operating expenses ($m) | 180 682 | 189 260 | 195 316 | 207 408 |
| Proportion of total operating expenses (%) | 3.0 | 3.0 | 2.9 | 2.8 |

Source: Commission calculation using ABS Government Finance Statistics (GFS) data and State data.

## How are services delivered?

6 Most State provision of post-secondary education services is for VET, with less than 5% of funding for university education.

7 States provide VET services through networks of public TAFE institutes and private RTOs. These providers offer courses spanning foundation skills, Certificate I to IV programs including apprenticeships, Diploma, Advanced Diplomas and Bachelor degrees. The campuses used for service delivery are widely dispersed in all States, and States with dispersed, small communities provide services in many of those communities. Most State VET funding models, including those of New South Wales

[1] Government funded vocational training provided by private RTOs is already included in the National Centre for Vocational Education Research (NCVER) contact hours data used to assess service use in this category.

and Victoria, include regional loadings to recognise the higher costs of service delivery in regional areas.

8 Most States provide Indigenous-specific programs to facilitate greater Indigenous participation and to support Indigenous students. They include incentive payments to private sector employers to take on Indigenous trainees and apprentices, programs to improve access to training opportunities and to improve employment outcomes, and programs to develop and deliver courses targeting Indigenous students. These programs are available in urban and regional settings.

9 The level of subsidy for each course and qualification level are a matter of individual State policy. States consider a range of factors in setting subsidies including staffing levels, what equipment and facilities they involve, the level of qualification and relevance of the training to State skill requirements (or public value). States subsidise a higher proportion of the cost of lower level courses (foundation skills, and Certificate I and II) and apprenticeships.

10 Part of the cost of subsidised training is met through student fees. Eligibility criteria for fee exemptions and concessions are a matter of individual State policy. All States offer concessions or exemptions to government benefit recipients, and some offer them to Indigenous students.

11 In addition to subsidised training, public VET providers also provide fee-for-service training. The cost of this training is fully cost recovered.

12 The Australian Skills Quality Authority (ASQA) is the national VET regulator. It is the regulator for the VET sector in New South Wales, Queensland, South Australia, Tasmania, the Northern Territory and the ACT. Victoria and Western Australia continue to have regulatory responsibility for VET providers that operate solely within their jurisdictions.

### *Private provision of subsidised VET services*

13 States are increasingly using private RTOs to deliver subsidised training. Table 3 shows the share of government funded contact hours provided by private RTOs increased from 16.1% in 2009 to 32.2% in 2013. The rapid growth nationally in private provision of State subsidised training is largely due to reforms to the Victoria VET system in 2009. Most other States have recently introduced similar reforms which are likely to see continued growth in private provision. The impact of non-State VET providers is addressed further later in this chapter.

**Table 3 Proportion of State funded contact hours by provider type, 2009 to 2013**

| | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|
| | % | % | % | % | % |
| TAFE and other government providers | 83.9 | 79.6 | 71.7 | 68.4 | 67.8 |
| Private RTOs (a) | 16.1 | 20.4 | 28.3 | 31.6 | 32.2 |

(a) Includes community education providers.
Source: National Centre for Vocational Education Research (NCVER), 2013.

## COMMONWEALTH FUNDING

14 State-provided VET service costs are met by a number of funding sources including State own-source revenue, Commonwealth payments and user charges. Over 98% of expenses funded by Commonwealth payments are assessed in the same way as State funded expenses and the actual revenue from the payments is treated as an offset to the assessed expenses. The main payment is the National skills and workforce development specific purpose payment (SPP) which provided $1.4 billion for the States in 2013-14.

15 Table 4 details the major Commonwealth payments provided to States for post-secondary education.

**Table 4 Commonwealth payments to States for Post-secondary education, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| National skills and workforce development SPP | 455 | 350 | 281 | 151 | 102 | 31 | 23 | 15 | 1 409 |
| Building Australia's workforce - skills reform | 77 | 59 | 49 | 25 | 17 | 5 | 4 | 2 | 238 |
| Other NPPs | 29 | 28 | 17 | 13 | 10 | 2 | 2 | 2 | 103 |
| Total | 560 | 437 | 347 | 189 | 129 | 39 | 29 | 19 | 1 750 |

Source: Commonwealth of Australia's *Final Budget Outcome, 2013-14*.

16 A complete list of Commonwealth payments and their treatment is provided in Attachment 2 – Treatment of Commonwealth payments.

17 The Commonwealth provides the vast majority of funding for higher education. It also provides support for students by way of income support payments, loans and fee deferrals. Total Commonwealth funding for higher education was $8.7 billion in 2013-14. Commonwealth higher education expenses are not included in the Post-secondary assessment and they do not impact States' assessed fiscal capacities.

## USER CHARGES

18 States meet some post-secondary education costs through user charges. In 2012-13, post-secondary education user charges were about $1.5 billion.[2] They comprise:

- fees from domestic and overseas fee-for-service students, where the cost of training is borne by the student or employers
- fees from students participating in government subsidised courses, where some of the cost of training is borne by the student
- miscellaneous revenue from ancillary activities.

19 Table 5 shows revenue of State training departments for VET services in 2013 sourced from the National Centre for Vocational Education Research (NCVER). It does not include subsidies from government. The table shows that 67% of revenue is from fee-for-service clients and a further 20% from clients participating in government subsidised courses.

**Table 5 Revenue of State training departments for VET, 2013**

| | $m | % |
|---|---|---|
| Fee-for-service income | | |
| Government agencies (a) | 496 | 25.2 |
| Other (b) | 508 | 25.8 |
| Overseas students fees | 218 | 11.1 |
| Contracted overseas training | 86 | 4.4 |
| Adult and community education | 11 | 0.5 |
| Total fee-for-service income | 1 319 | 67.1 |
| Student fees and charges (c) | 409 | 20.8 |
| Ancillary trading | 70 | 3.6 |
| Other | 170 | 8.6 |
| Total | 1 967 | 100.0 |

(a) Includes Commonwealth funded English language programs including Skills for Education and Employment (SEE) program, the Adult Migrant English Program (AMEP) and the Workplace English Language and Literacy (WELL) program.
(b) May include some government funded training where the client has not specified that the training is funded from government sources.
(c) Includes VET-FEE-HELP payments for students receiving training from public VET providers. Some may be full fee paying students.
Source: NCVER 2013 Financial information.

[2] Estimate based on ABS Government Finance Statistics.

20 It is appropriate to deduct fee-for-service revenue from State expenses before making an assessment because this revenue meets State spending on non-subsidised training. As such, State provision of commercial VET services has no impact on State fiscal capacities. Removing these expenses ensures our usage (government subsidised training hours) and spending data are comparable.

21 Conceptually, there is no case for netting off fees from students participating in government subsidised training courses, which account for about 20% of revenue. States with an above average need for spending on subsidised VET services are not necessarily those with the greatest capacity to generate revenue because some of the high cost groups (Indigenous and low socio-economic status) are eligible for fee concessions or exemptions. We could build an assessment for this revenue but the amount is relatively small and an assessment would not be material.

22 To avoid splitting GFS post-secondary education revenue data we have decided to net off all revenue. Including student fees and charges in the amount which is deducted does not produce a materially different outcome to one in which only fee-for-service revenue is deducted.

23 All States except New South Wales supported netting off user charges. New South Wales said user charges should continue to be assessed EPC under the Other Revenue category because it has not been established that fees from full fee paying students completely offset costs and materiality is not an appropriate basis for deciding whether to offset revenue against spending. However, we observe that average State policy is to cost recover expenses related to fee-for-service students, including in New South Wales where fee-for-service courses are fully costed and not subsidised by the government.

24 Victoria said the data on user charges should be collected directly from States rather than from the NCVER. We have used GFS data provided by the States.

## CATEGORY STRUCTURE

25 The assessment of the Post-secondary education category is undertaken in one component. Table 6 shows the assessment structure for the category, the disabilities that are assessed and level of spending, using 2013-14 data.

**Table 6 Category structure, Post-secondary education, 2013-14**

| Component | Component expense | Disability | Influenced measured by disability |
|---|---|---|---|
| | $m | | |
| Post-secondary education | 5 733 | Socio-demographic composition | Recognises that for the working age population certain characteristics affect the use and cost of providing post-secondary education services, for example, Indigenous status, remoteness and SES. |
| | | Cross-border | Recognises the cost to the ACT of providing post-secondary education to New South Wales residents. |
| | | Location | Recognises differences in wage costs between States. |

Note: The wage costs factor is applied to all expenses. Regional costs are captured through the socio-demographic composition disability.
Source: Commission calculation.

## Socio-demographic composition

26 The extent of post-secondary education services provided by each State is driven by the size of the working age population aged 15 to 64 years, and the presence of those groups of working age people who use post-secondary services more intensively, such as:

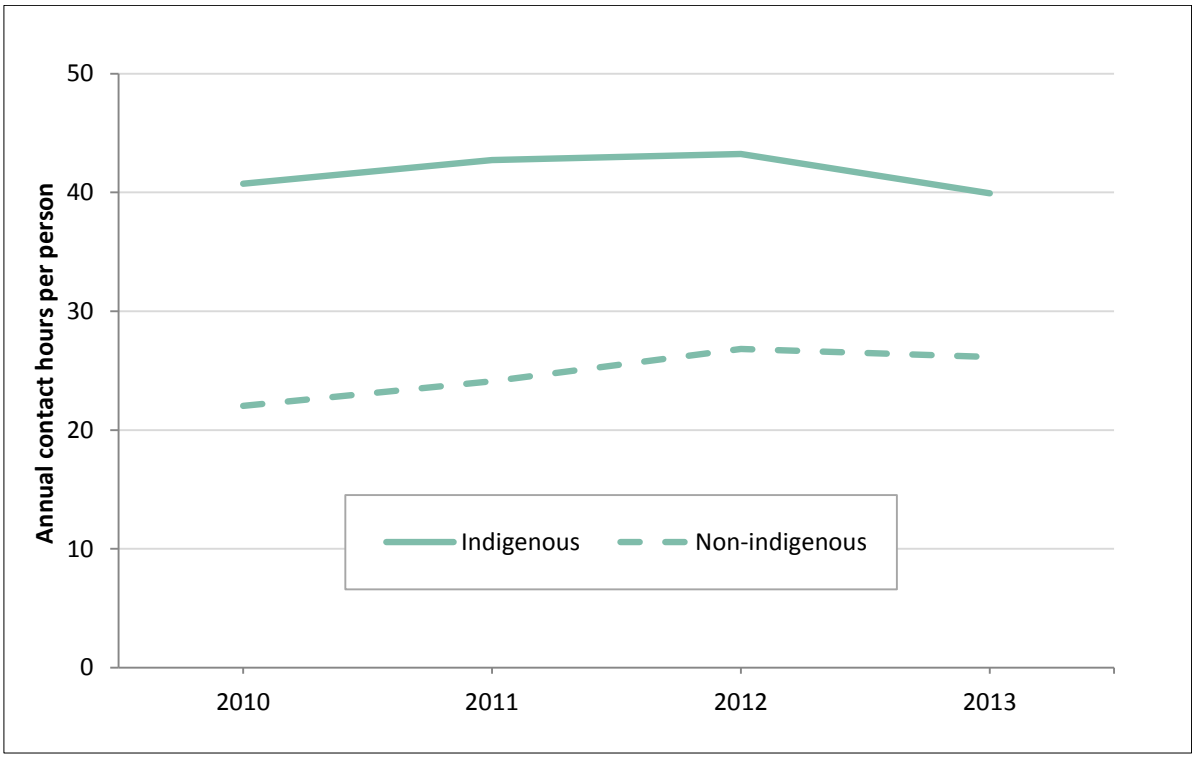
- Indigenous people
- people in non-remote areas
- socio-economically disadvantaged people.

27 There may be other drivers of State post-secondary education expenses including qualification level and industry mix. However, we have no reliable data to either establish the conceptual case or to make an assessment of these potential drivers of differential State spending.

### *Indigenous status*

28 Figure 1 shows the use of post-secondary education services varies significantly for Indigenous and non-Indigenous people. The NCVER data show Indigenous people use post-secondary education services at twice the rate of non-Indigenous people.

**Figure 1** **Government funded contact hours per person by Indigenous status, 2010 to 2013**




Source: NCVER data and ABS estimates of working age population.

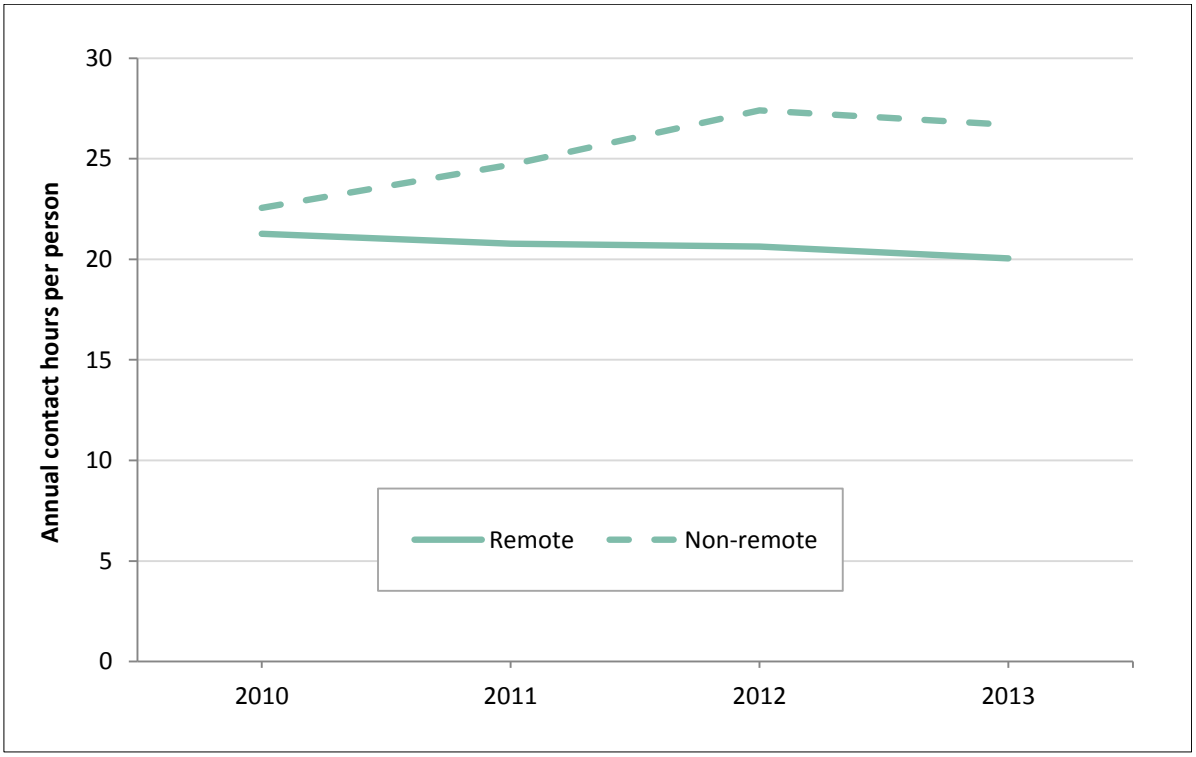
29 In addition, we observe it is more costly to deliver services to Indigenous students because most States offer Indigenous-specific programs. We used State data for 2010 to 2012 to calculate an Indigenous cost loading.[3] We estimate it costs 35% more to deliver services to an Indigenous student. This higher cost is reflected in the assessment by applying a 35% cost weight to government funded Indigenous contact hours.

## *Where people live*

30 Figure 2 shows State subsidised training hours per working age person by remoteness. The data show remote and non-remote people have different use rates. Since 2010 non-remote students have used post-secondary education services more intensively than remote students. Prior to this, remote students used the services more intensively. Our assessment recognises the higher use of post-secondary education services in non-remote areas.

[3] All States except New South Wales provided data for calculating the loading.

**Figure 2 Government funded contact hours per person by remoteness, 2010 to 2013**




Source: NCVER data and ABS estimates of working age population.

31 We observe that it is more costly to deliver services to students attending remote institutes. Most States apply remoteness loadings to the subsidies for courses delivered in regional areas. We have reflected this in the assessment by applying a remoteness loading of 38% to remote and very remote hours in the assessment. The loading is based on the general regional costs gradient weighted by national subsidised contact hours. It reflects the relative cost of remote and non-remote services.

32 We considered using a remoteness loading based on State provided data but only four States were able to provide reliable data. We observed very large differences in the loadings for these States and were concerned that they may not reflect the national average cost in remote areas. We decided instead to extrapolate the general regional costs gradient to this category.

33 The Northern Territory said the assessment should include separate loadings for different remoteness areas and provided data showing its costs are not the same in remote and very remote areas. Its loadings varied from 13% to 91% depending on the course and region. We do not consider the contact hours data for remote and very remote areas to be sufficiently reliable to derive separate loadings for remote and very remote areas. We consider that the general regional costs gradient used in the calculation of the loading recognises that costs differ by remoteness area, and this appropriately captures the Northern Territory's higher costs.

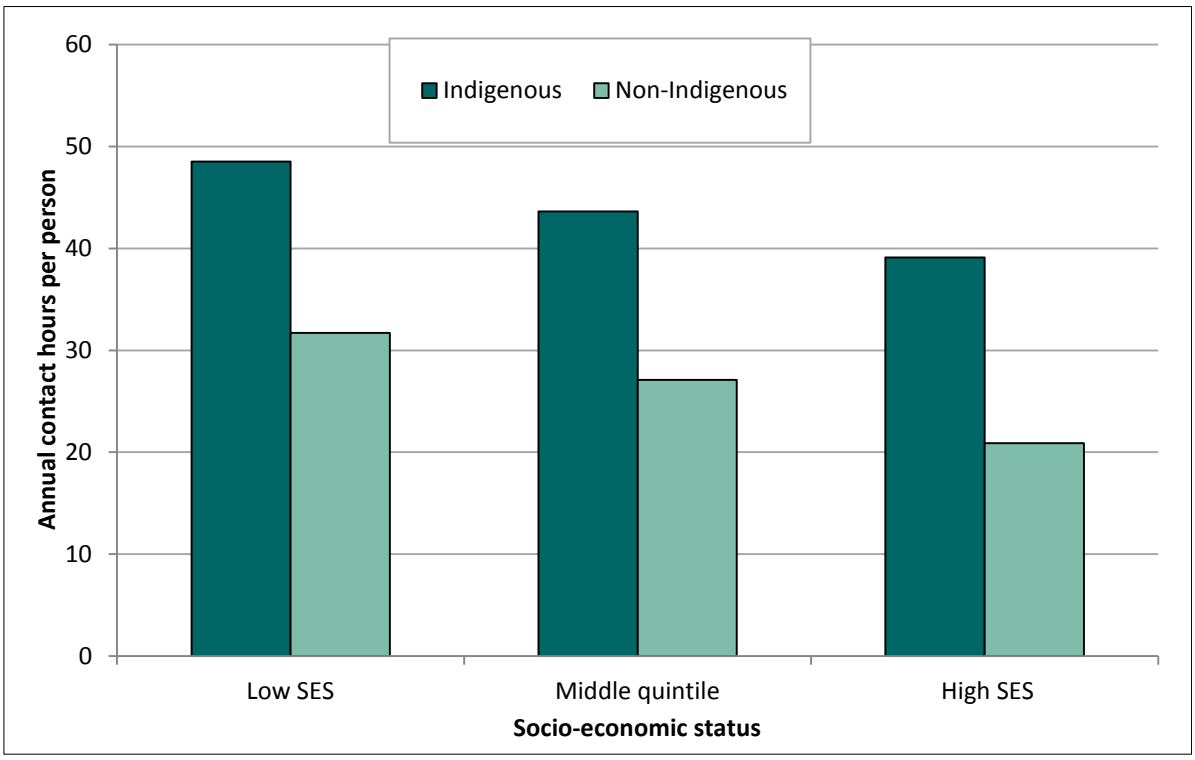
34 New South Wales said the Commission should re-examine whether a cost weight for remoteness is material because the usage pattern has changed to more intensive use by non-remote students. It said the lower usage and higher cost of remote students could cancel each other out. We recognise that these effects are offsetting but remoteness still produces a materially different assessment.

35 Victoria commented that the move by some States to demand-driven approaches to VET funding means services are increasingly being funded on a flat, per course basis with no allowances for remoteness. Victoria expects future cost weights will reflect this policy shift and said that over the review period cost weights should be updated annually. While States are moving to demand-driven funding models, most States, including New South Wales and Victoria, apply regional loadings to subsidies for courses delivered in non-metropolitan areas. We consider the assessment should recognise these higher costs. We will continue monitor State funding models for any significant changes to what States do.

### *Socio-economic disadvantage*

36 Use rates for post-secondary education are higher for Indigenous and non-Indigenous people from low socio-economic status (SES) areas in non-remote Australia. This is shown in Figure 3.

**Figure 3 Government funded contact hours per non-remote person, by SES, 2013**




Note: Indigenous SES based on IRSEO and non-Indigenous SES based on NISEIFA.
Source: NCVER data and ABS estimates of disaggregated working age population.

37 However, our analysis does not reveal a discernible pattern of usage for people from different SES regions who live in remote areas. As such, we consider that disaggregating remote areas by socio-economic status is not warranted.

38 Volume 1, Chapter 2 — Main issues, explains that our strategy for measuring SES is using Indigenous and non-Indigenous specific measures. We use the non-Indigenous Socio-economic Index for Areas (NISEIFA) and Indigenous Relative Socio-Economic Outcomes (IRSEO) index for non-Indigenous and Indigenous people respectively. In this assessment, we have used three bands for each index: the two most disadvantaged quintiles, the middle quintile and two least disadvantaged quintiles.

39 Victoria agreed that disaggregating remote areas based on SES does not appear to be necessary. However, the Northern Territory said the assessment should recognise differential use for remote students based on SES. It said the lack of a clear relationship between post-secondary education service use and the IRSEO SES measures for remote and very remote areas is because of the small number of high SES people in these areas, rather than evidence that SES does not influence service use. We considered a number of different SES quintile combinations for remote and very remote service use but were unable to find clear evidence of how SES influences service use in these areas. We are also concerned about the reliability estimates of spending per person for the more disaggregated sub-groups. We have decided not to recognise differential use for remote students based on SES.

### *Data*

40 The NCVER provides annual data on government funded contact hours by Indigenous status and postcode for persons between 15 and 64 years of age. The postcode information is used to assign SES and remoteness characteristics to the contact hours for the working age population.

41 State-provided data on the additional costs of Indigenous students are used to calculate Australian average cost loadings for Indigenous status.

### *Calculating the socio-demographic composition assessment*

42 The level of State spending on post-secondary education services is related to the socio-demographic composition (SDC) of the population. We consider the characteristics that drive cost differences are being of working age (15 to 64 years), Indigenous status, remoteness and SES. As such, we propose using the breakdown of those variables as shown in Table 7.

**Table 7 Proposed SDC breakdown**

| Age | Indigenous status | Remoteness | IRSEO/NISEIFA |
|---|---|---|---|
| 15 to 64 years | Indigenous | Remote | Bottom two quintiles |
| | Non-Indigenous | Non-remote | Middle quintile |
| | | | Top two quintiles |

Note: Due to the data unreliability, remote areas are not disaggregated by IRSEO/NISEIFA.
Source: Commission decision.

43 Table 8 shows the spending for each population group for 2013-14.

**Table 8 National spending on post-secondary students, 2013-14**

| Socio-demographic composition | Allocated expenses | Expenses per person |
|---|---|---|
| | $m | $pc |
| Indigenous | | |
| Non-remote low SES 40% | 78 | 892 |
| Non-remote middle 20% | 62 | 802 |
| Non-remote high SES 40% | 124 | 719 |
| Remote | 69 | 720 |
| Non-Indigenous | | |
| Non-remote low SES 40% | 2 470 | 432 |
| Non-remote middle 20% | 1 105 | 369 |
| Non-remote high SES 40% | 1 741 | 285 |
| Remote | 84 | 307 |
| Total | 5 733 | 369 |

Note: Table shows expenses per person of working age.
Source: Commission calculation using NCVER data and ABS population data.

44 The allocated expenses are apportioned across States, based on their shares of each population group, to derive total assessed State spending.

45 Because State spending on university education is such a small part of total State spending it is combined with other post-secondary education expenses and assessed in the same way.

## Cross-border

46 The NCVER data allows the Commission to determine the annual hours each State provides to residents of other States. For most States the cross-border provision is not material but it is material for the ACT. In 2013, 17% of the annual contact hours for the ACT were provided to residents of New South Wales. The assessment derives a cross-border factor based on annual contact hours adjusted for net cross-border use for New South Wales and the ACT.

## Location

47 We have recognised that differences between States in wage costs have a differential effect on the cost of providing post-secondary education services across States. These influences are measured in a similar way for most expense categories and the methods are described in Chapter 22 — Wage costs.

48 We do not need to recognise differences in costs of providing services to different areas within a State as these disabilities are captured in the allowances for remoteness discussed above.

# BRINGING THE ASSESSMENT TOGETHER

49 Table 9 shows the total assessed expenses for each State for the category.

**Table 9 Category assessment, Post-secondary education, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| Equal per capita | 246 | 246 | 246 | 246 | 246 | 246 | 246 | 246 | 246 |
| SDC | 0 | -5 | 3 | -1 | 4 | 11 | -26 | 61 | 0 |
| Cross-border | -2 | 0 | 0 | 0 | 0 | 0 | 41 | 0 | 0 |
| Location | 1 | -3 | -3 | 10 | -2 | -7 | 6 | 11 | 0 |
| Total | 245 | 238 | 246 | 254 | 247 | 250 | 263 | 321 | 246 |

Note: Component disabilities may not add due to interactions.
Source: Commission calculation.

## Alternative presentation

50 Table 10 provides an alternative presentation using a factor approach. The table shows for each disability how the expenses per capita are affected by differences in State characteristics. Disability factors below one indicate a State is assessed to need to spend less than average. Disability factors above one indicate a State is assessed to need to spend more than average.

**Table 10 Category factor, Post-secondary education, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| **Post-secondary education (component weight = 100%)** | | | | | | | | | |
| SDC | 1.000 | 0.980 | 1.014 | 0.995 | 1.015 | 1.044 | 0.894 | 1.248 | 1.000 |
| Cross-border | 0.992 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.165 | 1.000 | 1.000 |
| Location | 1.005 | 0.987 | 0.988 | 1.040 | 0.991 | 0.972 | 1.025 | 1.046 | 1.000 |
| Category factor | 0.996 | 0.968 | 1.002 | 1.034 | 1.006 | 1.016 | 1.067 | 1.306 | 1.000 |

Source: Commission calculation.

## Influences not assessed in this category

### *Impact of non-State VET providers*

51 Subsidised VET services are provided by public and private RTOs and we observe the relative importance of private RTOs differs across States. In Victoria, almost 50% of subsidised training in 2013 was provided by private RTOs. In New South Wales, the proportion was 11%. In most States, government subsidies are the same regardless of the sector of the provider, and eligible students can choose their provider. There is no evidence that the presence of private RTO alleviates the need for States to provide services. States agreed that the presence of private RTOs does not affect their level of service provision.

### *Other factors not assessed in this category*

52 Victoria said all the sub-groups available in NCVER data should be examined to identify those that have a material impact rather than using a limited number of sub-groups.

53 ***Qualification level, course mix or Industry mix.*** Victoria identified industry mix and qualification level as factors not recognised in the assessment that influence its level of spending. We observe there is considerable variation in the subsidy per hour for different types of courses (industry mix) and qualification levels. Each State sets course subsidies based on a range of factors including teacher or trainer costs, what equipment and facilities they involve, the level of qualification and the level of public benefit.

54 The NCVER have data on government subsidised contact hours classified by course type and by qualification level. We asked States if they could provide spending data on this basis, to determine how differences between the States in qualification and course mix influenced their level of spending. States said there are issues with the comparability of data classified by industry because each State uses a different classification. We have not been able to determine the average spending per hour across a standard group of courses. Consequently, we have not been able to establish how course mix affects State spending.

55 The qualification level classification is consistent across States and most States said they could provide spending information on this basis. The assessment assumes that the subsidy per hour for all courses is the same. We observe that lower level qualifications are subsidised at higher rates and that Indigenous people are more highly represented at these levels, as shown in Table 11. We consider that any assessment based on qualification level would need to take account of Indigenous status. It would also need to reflect the net subsidy because student contributions reduce the level of State spending. Without the detailed information needed to

calculate the net subsidy per hour by qualification level and Indigenous status we have not been able to establish how State spending is influenced by qualification level or build a reliable assessment. We consider some of the costs of differing qualification levels are already embedded in the use and cost characteristics recognised in the assessment.

**Table 11 Hours of delivery by Indigenous status and qualification level, 2013**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | % | % | % | % | % | % | % | % | % |
| Indigenous | | | | | | | | | |
| Diploma | 11.5 | 8.3 | 11.7 | 6.5 | 3.8 | 11.2 | 3.4 | 14.7 | 9.1 |
| Certificate IV | 14.0 | 13.7 | 15.4 | 10.2 | 9.0 | 8.1 | 7.8 | 28.6 | 12.8 |
| Certificate III | 34.3 | 32.4 | 46.7 | 29.2 | 27.7 | 35.0 | 24.8 | 26.5 | 34.1 |
| Certificate II | 20.1 | 19.5 | 17.1 | 33.8 | 38.7 | 29.6 | 35.6 | 9.3 | 24.4 |
| Certificate I | 6.0 | 12.4 | 4.4 | 16.8 | 16.4 | 10.3 | 19.2 | 7.5 | 9.9 |
| Other | 14.1 | 13.7 | 4.6 | 3.5 | 4.4 | 5.8 | 9.3 | 13.4 | 9.8 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Non-indigenous | | | | | | | | | |
| Diploma | 17.2 | 13.6 | 17.9 | 14.2 | 14.5 | 14.5 | 10.5 | 18.4 | 15.2 |
| Certificate IV | 19.7 | 19.6 | 15.7 | 16.4 | 21.4 | 12.3 | 19.1 | 25.3 | 19.0 |
| Certificate III | 37.4 | 37.3 | 50.0 | 34.1 | 38.8 | 42.3 | 41.4 | 35.5 | 38.7 |
| Certificate II | 10.5 | 10.9 | 9.4 | 23.5 | 14.7 | 17.2 | 14.6 | 5.6 | 12.1 |
| Certificate I | 3.2 | 7.7 | 2.5 | 5.6 | 4.1 | 5.9 | 5.6 | 1.9 | 5.3 |
| Other | 11.9 | 10.9 | 4.4 | 6.2 | 6.6 | 7.8 | 8.9 | 13.2 | 9.6 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: NCVER data.

56 ***Low English fluency.*** We investigated whether a low English fluency assessment is warranted. Our analysis of the latest NCVER data showed that non-Indigenous people with low English fluency (for example, recent migrants) use post-secondary education services at a slightly lower rate than other non-Indigenous people and an assessment would redistribute less than $2 per capita for any State.

57 As is discussed in Volume 1, Chapter 2 — Main issues, we have decided that the Commission's standard approach to identifying differences in the socio demographic makeup of Indigenous people in different States is to use IRSEO. This should capture any differences in service use for the Indigenous population arising from low English fluency. As such, we no longer use language spoken at home as a driver.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

58 Table 12 shows the extent to which the assessment for this category moves the distribution of the GST away from an equal per capita distribution. It shows that GST revenue is redistributed to Queensland, Western Australia, Tasmania, the ACT and the Northern Territory.

**Table 12 GST impact, Post-secondary education, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| Dollars million | -9 | -60 | 4 | 28 | 0 | 2 | 8 | 26 | 69 |
| Dollars per capita | -1 | -10 | 1 | 10 | 0 | 4 | 21 | 105 | 3 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.
Source: Commission calculation.

59 The main reasons for these redistributions are the differences between States in the proportions of their populations in the groups that are high or costly users of post-secondary education services.

60 New South Wales, Queensland, South Australia and Tasmania are assessed as needing to spend about the average. Some of the main reasons for the redistributions for other States are:

- Victoria is assessed as needing to spend less than the average because of its below average shares of most high use or cost population groups (Indigenous and low SES) and below average wage levels.
- Western Australia is assessed as needing to spend more mainly because of its above average wage costs which more than offsets its below average share of high use low SES users.
- The ACT is assessed as needing to spend more mainly because of its above average wage costs and services it provides to New South Wales residents.
- The Northern Territory's high expenses are driven by its above average share of nearly all high cost student groups and above average wage costs.

61 Table 13 provides a summary of the major reasons the assessment moves State GST revenue away from an equal per capita distribution.

**Table 13 Major reasons for difference from EPC, Post-secondary education, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| SDC | | | | | | | | | |
| Remoteness (a) | 2 | 2 | -1 | -2 | -1 | 0 | 0 | 0 | 4 |
| Indigenous status | -3 | -39 | 18 | 6 | -4 | 3 | -2 | 20 | 47 |
| Indigenous SES | 1 | -1 | 0 | 2 | 1 | -1 | 0 | 0 | 3 |
| Non-Indigenous SES | 14 | -8 | 6 | -19 | 14 | 8 | -13 | -2 | 42 |
| Working age population | -17 | 7 | -3 | 12 | -4 | -3 | 4 | 5 | 28 |
| Total SDC | -4 | -39 | 21 | -1 | 6 | 6 | -11 | 22 | 55 |
| Cross-border | -18 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 18 |
| Wage costs | 12 | -22 | -16 | 29 | -6 | -4 | 3 | 3 | 48 |
| Total | -9 | -60 | 4 | 28 | 0 | 2 | 8 | 26 | 69 |

(a) Remoteness captures the effect of remote use and cost.
Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.
Disabilities may not add due to interactions.
Source: Commission calculation.

## CHANGES SINCE THE 2014 UPDATE

62 Table 14 breaks down the total changes since the 2014 Update into the impact of changing data sources, category-specific method changes, and change in State circumstances in the 2015 assessment period.

**Table 14 Changes since the 2014 Update, Post-secondary education**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Data changes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Method changes | 22 | -2 | 10 | -40 | 19 | 9 | -22 | 5 | 64 |
| Change in circumstances | 3 | 7 | -2 | -2 | 1 | 0 | -2 | -5 | 11 |
| Total | 25 | 5 | 8 | -43 | 20 | 9 | -24 | 0 | 67 |

Source: Commission calculation.

## Data changes

63 New cost weights for remoteness and Indigenous status have been included in the assessment. The impact of changes to these weights was relatively small.

## Method changes

64 There are a number of category-specific method changes associated with this category since the 2010 Review.

- VET expenses previously included in the Services to industry category are now included in this category. Most of these expenses relate to government funded training hours provided by private RTOs. This ensures the use and spending data used in the assessment are comparable.
- In the 2010 Review, user charges were assessed on an EPC basis in the Other revenue category. For this review, user charges have been offset against expenses because they mainly comprise revenue from fee-for-service clients for whom services are provided on a full cost recovery basis.
- In the 2010 Review, the Commission did not assess SES because reliable data were not available to support an assessment. For this review we examined service use among different groups of people by IRSEO and NISEIFA using NCVER data on annual contact hours by postcode. We observed that non-remote Indigenous and non-Indigenous people from low SES backgrounds use post-secondary education services more. Introducing this characteristic has changed the pattern of assessed use.
- In the 2010 Review we used State-provided data to calculate a category specific remoteness loading to assess the higher costs of remote service delivery. In this review we have used the general regional costs gradient and the distribution of national contact hours to calculate the remoteness loading because we were not able to obtain data from enough States to determine the national average cost in remote areas and we had concerns about the quality of data provided by some States.
- For the 2015 Review we have not made a separate assessment for low English fluency in this category for two reasons:
  - it is immaterial for the non-Indigenous population
  - it is replaced by a new measure of socio-economic status for the Indigenous population.

## Changes in State circumstances

65 The change due to State circumstances was largely driven by changes in use rates for different population sub-groups. Between 2010-11 and 2013-14, use rates for Indigenous and remote populations declined while non-Indigenous and non-remote use rates increased. This reduced the GST distribution to States with high proportions of Indigenous and remote people. The distribution to the ACT decreased because the largest increase in non-Indigenous use was in the two lowest SES quintiles which account for a relatively small proportion of service use for the ACT.

## UPDATING THE ASSESSMENT

66 We recommend that data used in this assessment be updated when new data become available to ensure the relativities remain contemporary and consistent with the circumstances of the States. On this basis we expect:

- the following data would be updated annually:
  - government funded contact hours from NCVER
- the following data would not be updated during the review:
  - the Indigenous and remoteness cost loadings.

# CHAPTER 12

# HEALTH

## SUMMARY OF THE ASSESSMENT

The Health category covers State spending on public hospitals and community and public health services.

In assessing State spending we recognise there are differences in:

- the cost of providing public hospital and community health services to different population groups, so that States with concentrations of high cost groups (older people, Indigenous and low socio-economic status) need to spend more than average
- the geographic dispersion of State populations with States facing higher costs if they have greater concentrations of people in remote areas where the costs of delivering health services are higher, people are more reliant on State-provided services and patient transport costs are higher
- the degree to which private medical services, such as general practitioners (GPs), specialists and other private health professionals, impact on State spending.

The assessment also recognises the differences in wage costs between States. Because disabilities differ depending on the type of health service, we assess separate components for admitted patients, emergency departments, non-admitted patients, non-hospital patient transport and community health.

## WHAT IS INCLUDED IN THE HEALTH CATEGORY?

1 The Health category comprises recurrent expenses on:

- Public hospitals
  - Admitted patient services – acute and non-acute medical care and treatment for public patients admitted in public hospitals and public patients treated in private hospitals.

- Emergency departments – all emergency care delivered to patients at public hospitals.
- Other non-admitted patient services – all outpatient type services provided at public hospitals such as obstetrics, gynaecology, cardiology, pathology, and radiology and imaging services.
- Non-hospital patient transport – aero-medical ambulance services and the reimbursement of costs through Patient Assisted Travel Schemes (PATS).

- Other health services
  - Community health centre services – a wide range of health services provided in a community setting such as domiciliary nursing services, well baby clinics, mental health services, home nursing services, family planning, and alcohol and drug rehabilitation.
  - Public health services – activities for the protection and promotion of health and the prevention of disease, illness or injury. These include organised immunisation, health promotion, screening programs, communicable disease control, and prevention of hazardous and harmful drug use.

2 All revenues generated from user charges ($6.5 billion in 2013-14), notably private patient costs recovered through patient fees, are offset against expenses. The reasons are discussed later in the chapter.

3 Table 1 shows category expenses (net of user charges) were $50.5 billion in 2013-14. The share of health expenditure to State budgets varied from 23.2% in the ACT to 28.6% in South Australia. The average was 24.4% for all States.

**Table 1 Health category expenses, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Category expenses ($m) | 14 781 | 10 925 | 10 816 | 6 484 | 4 301 | 1 172 | 953 | 1 072 | 50 505 |
| Category expenses ($pc) | 1 980 | 1 888 | 2 307 | 2 544 | 2 565 | 2 281 | 2 482 | 4 398 | 2 167 |
| Proportion of operating expenses (%) | 23.3 | 23.4 | 25.5 | 24.3 | 28.6 | 25.3 | 23.2 | 23.3 | 24.4 |

Source: Commission calculation using State data.

4 Table 2 shows the share of State expenses on health rose from 23.8% in 2010-11 to 24.4% in 2013-14.

**Table 2 Health category expenses as a proportion of State operating expenses**

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| Total for category ($m) | 42 936 | 45 355 | 48 239 | 50 505 |
| Total operating expenses ($m) | 180 682 | 189 260 | 195 316 | 207 408 |
| Proportion of total operating expenses (%) | 23.8 | 24.0 | 24.7 | 24.4 |

Source: Commission calculation using ABS Government Finance Statistics (GFS) data and State data.

## How are services delivered?

5 States provide health care through public hospitals and community health services. These services are available to the whole population, with access to services largely dependent upon clinical need.

6 States own and manage the operations of public hospitals. Admissions to public hospitals may be planned, such as for elective surgery, or unplanned, such as through the emergency department. Under the National Healthcare Agreement, State governments are responsible for ensuring all residents have access to public hospital services. This means a broad range of hospital services (including emergency) are available, free of charge, throughout each State. As a result, States provide a diverse range of public hospitals in various locations with a variety of services.

7 Principal referral hospitals provide more complex types of hospital care such as major trauma and surgery, organ transplants and specialist outpatient clinics. These tend to be located in major cities or larger regional centres. On the other hand, small hospitals provide a limited range of services and tend to be located in regional and remote regions. For more complex procedures, patients present to larger hospitals.

8 Alternatively, community health centres tend to focus on prevention and early intervention and are often the first point of contact with the health system. They are designed to take pressure off the acute care health system. Community health centres vary significantly in size and tend to offer a wide range of health related services to local residents. The size of each centre depends on the population of the local community and the health needs of families and other groups living in the area.

### *Non-State sector provision*

9 State government spending on public hospitals and other health services is only part of the total cost of the health services provided to State residents. The Commonwealth (primarily through Medicare) and the non-government sector (private health funds and individuals' out-of-pocket expenses) also fund health service provision. Almost all of these services are provided by non-government

organisations and professionals in private practice including general practitioners (GPs), medical and non-medical specialists and allied health professionals (particularly dentists, pharmacists and physiotherapists).

## COMMONWEALTH FUNDING

10 The Commonwealth provides funding to States to assist them in meeting their health services expenses. In addition to the National Health Reform (NHR) funding, the Commonwealth also provides States with National partnership payments (NPPs). The NHR funding directly impacts on State fiscal capacities as it assists to fund health services. The expenses funded by these payments are included in the category expenses.

11 Depending on their purpose, some of the NPPs related to this category have an effect on State fiscal capacities and some do not. The NPPs that assist States fulfil their responsibility in delivering health services are treated in the same manner as the NHR funding. Payments for purposes outside State responsibilities, such as to the Royal Darwin Hospital for the operation of a national critical care and trauma response centre, have no impact on State fiscal capacities and the payments are removed from category expenses.

12 Similarly, the treatment of Commonwealth own-purpose expense payments to States depends on whether they have an effect on State fiscal capacities or not, or whether they are specifically required by the Commission's terms of reference not to have an impact on State fiscal capacities. For example, the terms of reference require that the Commonwealth's ongoing operation of the Mersey Hospital through the Tasmanian Government should not influence Tasmania's fiscal capacity. Such payments have also been removed from the category expenses.

13 Table 3 details the major Commonwealth payments provided to States for health services.

**Table 3 Commonwealth payments to States for health services, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| National health reform SPP | 4 352 | 3 463 | 2 800 | 1 515 | 1 006 | 299 | 272 | 135 | 13 841 |
| Subacute beds NPP | 204 | 155 | 126 | 64 | 46 | 21 | 10 | 7 | 633 |
| Public hospitals additional funding NPP | 45 | 43 | 41 | 18 | 17 | 5 | 4 | 0 | 174 |
| Treating more public dental patients NPP | 50 | 36 | 30 | 0 | 12 | 6 | 2 | 2 | 139 |
| Other NPPs | 180 | 112 | 123 | 142 | 51 | 58 | 29 | 106 | 801 |
| Total | 4 831 | 3 809 | 3 121 | 1 739 | 1 132 | 389 | 318 | 250 | 15 587 |

Source: Commonwealth of Australia's *Final Budget Outcome, 2013-14*.

14 A complete list of Commonwealth payments and their treatment is provided in Attachment 2 – Treatment of Commonwealth payments.

## CATEGORY STRUCTURE

15 The assessment of the Health category is undertaken separately for each of the following components:

- admitted patients
- emergency departments (EDs)
- non-admitted patients
- non-hospital patient transport
- community health.

16 Table 4 shows the assessment structure for the category, the disabilities that are assessed and the size of each component, using 2013-14 data.

**Table 4 Category structure, Health, 2013-14**

| Component | Component expense | Disability | Influence measured by disability |
|---|---|---|---|
| | $m | | |
| Admitted patients | 29 082 | Socio-demographic composition | Recognises that use and cost of State provided services differ among different population groups |
| | | Non-State sector | Recognises the impact of the non-State sector on 15% of spending on admitted patient services |
| Emergency departments | 4 089 | Socio-demographic composition | Recognises that use and cost of State provided services differ among different population groups |
| | | Non-State sector | Recognises the impact of the non-State sector on 15% of spending on ED services |
| Non-admitted patients | 4 089 | Socio-demographic composition | Recognises that use and cost of State provided services differ among different population groups |
| | | Non-State sector | Recognises the impact of the non-State sector on 40% of spending on non-admitted patient services |
| Non-hospital patient transport | 481 | Socio-demographic composition | Recognises the additional costs of providing non-hospital patient transport to people in remote regions |
| Community health | 12 765 | Socio-demographic composition | Recognises that use and cost of State provided services differ among different population groups, discounted by 25% |
| | | Non-State sector | Recognises the impact of the non-State sector on 70% of spending on community health services, discounted by 25% |
| | | IRHD adjustment | Recognises the impact of Commonwealth grants to Indigenous community health organisations |
| | | Cross-border | Recognises the cost to the ACT of providing services to NSW residents |

Note: The wage costs factor is applied to all components. Regional costs are also applied to the non-admitted patients component.
GFS expenses data are not disaggregated into emergency departments and other non-admitted patient services. As no other data were available to make a reliable split, the Commission decided to split these expenses on a 50:50 basis.
Source: Commission calculation.

## IMPACT OF THE NON-STATE SECTOR

17 As discussed in the section on how health services are delivered, State governments are not the sole providers of health services. Health services are also provided by the non-State (largely private) sector. [1] Some of these services have no equivalent service provided by the State government (for example, States tend not to provide certain types of cosmetic surgery or optometry services). However, most of these health services can be provided either by State, or non-State providers. In our assessment, we want to reflect the impact the provision of services by the non-State sector has on the demand for State government services.

18 The effects of the non-State sector on State provided health services are reflected in two places in the Health assessment.

- The calculation of the socio-demographic composition (SDC) disability reflects the fact that there are lower levels of private health providers as remoteness increases, which leads to an increased use of similar State services (as raised by Western Australia). This increased use can be seen in the national use and cost data within each component. The disability also reflects the higher costs to provide services as remoteness increases.
- The calculation of a non-State sector adjustment reflects the higher/lower levels of private provision in similar regions between States. These adjustments are applied to the proportion of expenses that are assessed as substitutable.

### Substitutability

19 Where a person has the option of accessing similar health services provided by either the State or non-State sector, we consider this health service to be potentially substitutable. For example, a person with flu-like symptoms can present at either their public hospital ED or GP[2] for similar treatment. However, this is a different concept than what we want to capture in our assessment. We want to reflect an effective level of substitutability (the level of State provided services that are affected by activity in the non-State sector), not the potential substitutability.

20 In the above example, if the person thought that their health needs were of a more urgent nature and they considered that a GP would be unable to offer suitable treatment, they would present at the ED regardless of the number and/or availability of GPs in their area. In this instance, we would not consider this to be a substitutable health service because there is no non-State sector alternative.[3]

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1 The non-State sector also includes some community and public health services provided by local governments.

2 References to GPs include other non-referred services such as enhanced primary care and practice nurse services.

3 Although there are a small number of private hospitals with formal emergency departments.

21 Individuals' preferences are only one of many factors that we considered when determining the level of substitutability in the Health category. These factors will be dealt with in each component.

22 As the issues around the substitutability of State provided health services are complex, the Commission engaged two external consultants[4] to provide advice on the degree of substitutability for each health component.

# ADMITTED PATIENTS

## Socio-demographic composition

23 The extent of admitted patient services provided by each State government is driven by the size of its population, and the presence of those groups of people who use public hospital services more intensively, such as:

- elderly people
- Indigenous people
- socio-economically disadvantaged persons
- people in remote areas.

### *Age*

24 Figure 1 shows spending on admitted patient services varies significantly by age. The figure also shows the age groups used in this assessment.

25 After assessing the materiality of various age groups, we found that it was not material to disaggregate age using any more than five age groups:

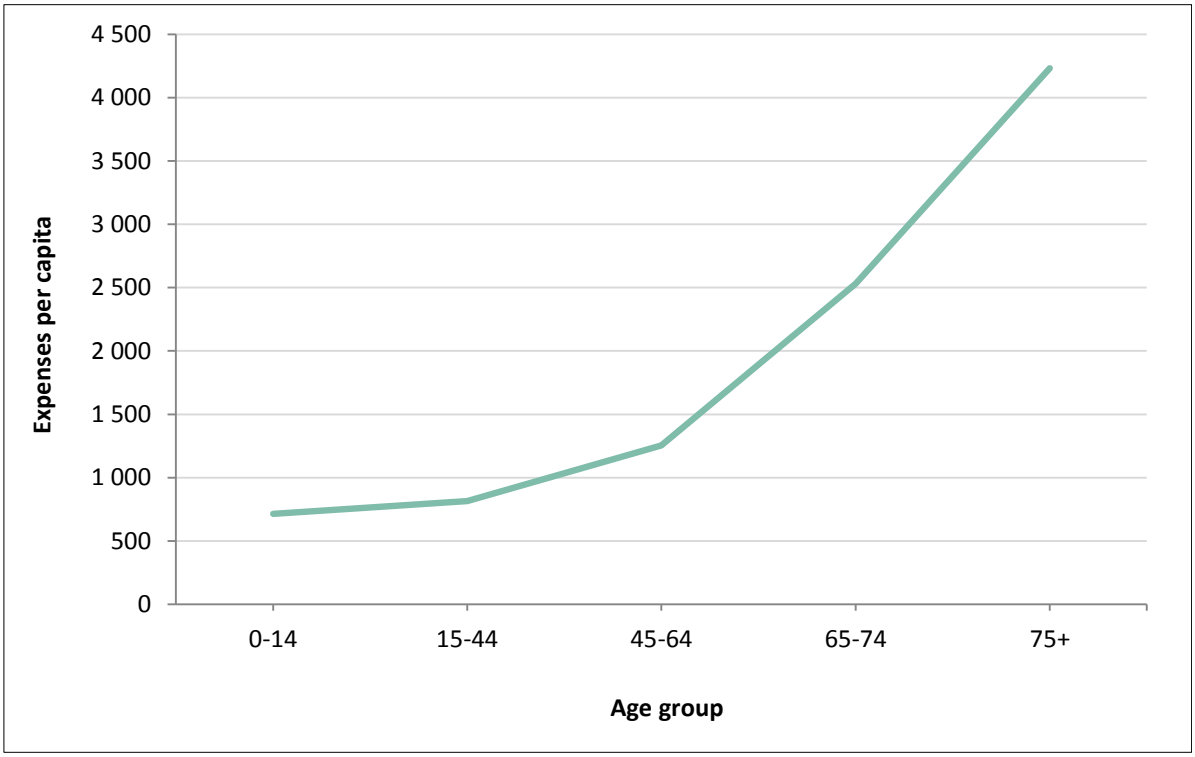
- 0-14, capturing neo-natal and paediatric care costs and costs associated with childhood diseases
- 15-44, capturing women in their child-bearing years along with higher rates of major trauma for people in their early twenties
- 45-64, capturing early chronic conditions and the early-onset effects of cancers
- 65-74, capturing chronic diseases and age-onset diseases
- 75+, capturing diseases of the old and very old.

26 South Australia said the 75+ age group should be split into 75-84 and 85+, as costs increase greatly for the older group. Disaggregating the 85+ age group from the 75-84 age group was not material at the $30 per capita threshold. While we agree these age groups have very different use and cost patterns, the difference in the distribution of

[4] James Downie and Elizabeth Savage.

populations between the States is small, hence disaggregating any more than five age groups does not result in any material difference in GST shares.

**Figure 1 Admitted patient expenses per capita, by age, 2013-14**




Note: Based on National Weighted Activity Units (NWAUs) and GFS expense data.
Source: Special data request, Independent Hospital Pricing Authority (IHPA).

## *Indigenous status and socio-economic status*

27 Figure 2 shows spending on admitted patient services varies significantly for Indigenous and non-Indigenous people and by socio-economic status (SES). Spending per capita on Indigenous people is twice that on non-Indigenous people. In addition, the most disadvantaged patients use public hospital services more than people who are in the least disadvantaged quintile.

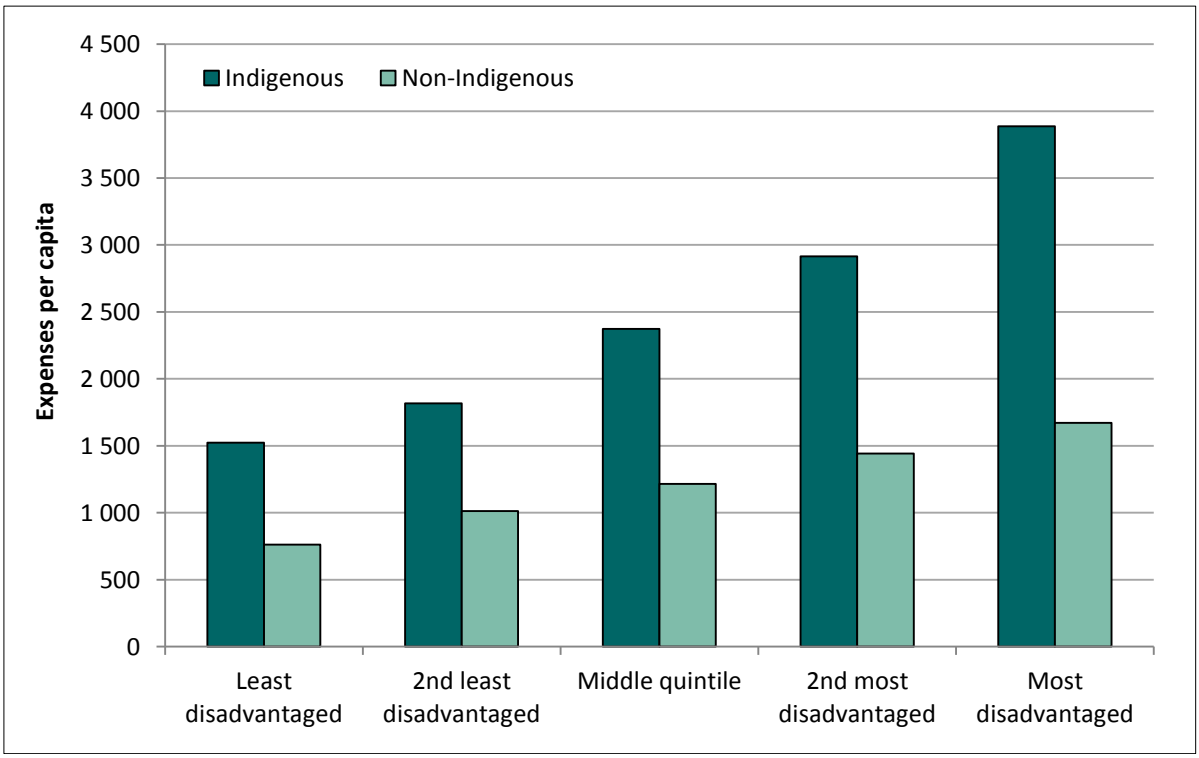
28 In responding to the terms of reference for this review, we are measuring the SES of Indigenous and non-Indigenous people separately. We are using the Indigenous Relative Socio-Economic Outcomes (IRSEO) index for the non-remote Indigenous population and the Non-Indigenous Socio-Economic Index for Areas (NISEIFA) for the non-remote non-Indigenous population. This is described in more detail in Volume 1, Chapter 2 – Main issues.

29 We consider there is a much stronger and more consistent relationship with public hospital spending using these measures of SES than an assessment using the ABS Socio-Economic Indexes for Areas (SEIFA) as our measurement of SES. For Indigenous and non-Indigenous people living in remote regions, we observed only a weak

relationship between IRSEO and NISEIFA quintiles and hospital spending. As a result, we have not disaggregated people living in remote regions by SES.

30 Similar to the 2010 Review, we decided to group the five SES bands into three bands: the bottom quintile, the three middle quintiles, and the top quintile.

**Figure 2 Admitted patient expenses per capita, by Indigenous IRSEO and non-Indigenous NISEIFA quintiles, 2013-14**



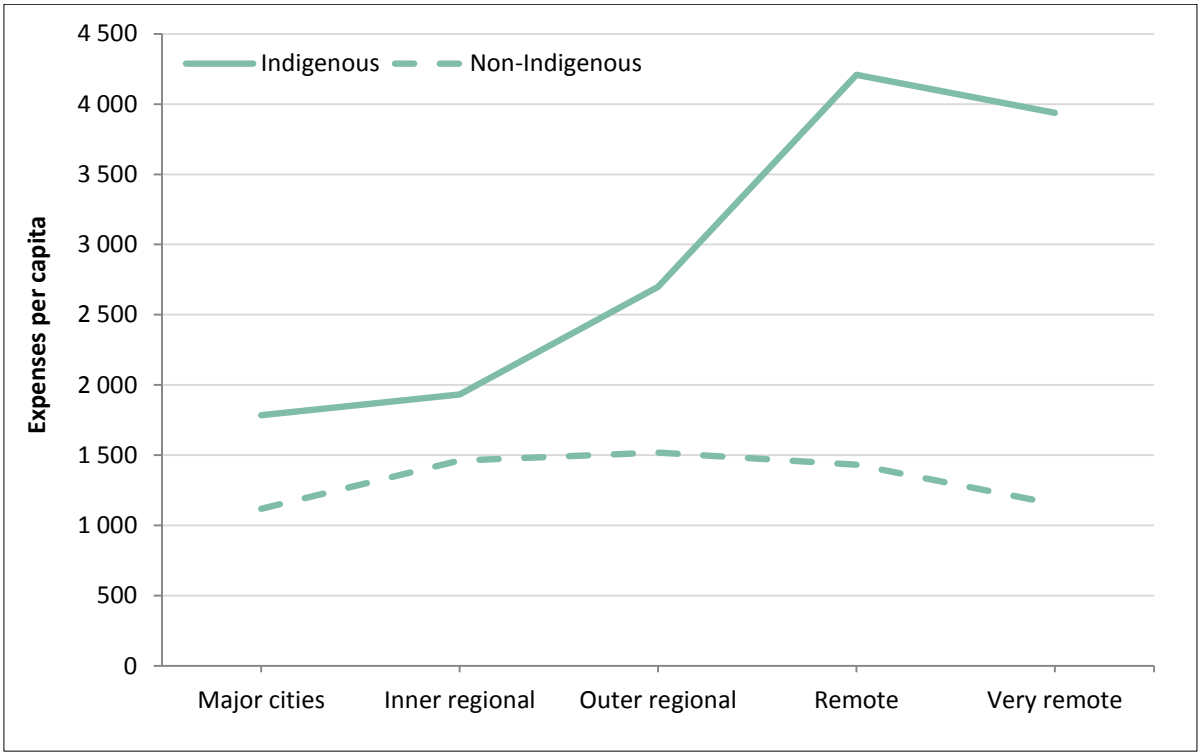

Note: Based on NWAUs and GFS expense data.
Source: Special data request, IHPA.

## *Where people live*

31 Figure 3 shows spending on admitted patient services varies significantly by remoteness. Spending per capita on people living in remote areas in 2013-14 was 1.9 times greater compared with spending in major cities. This suggests a clear relationship between location and the spending on admitted patient services.

32 The Commission uses the ABS remoteness areas as the standard classification of remoteness. Based on the available data, we found the material effects of location on admitted patient costs should be captured using four bands: major cities, inner regional, outer regional and remote regions. We decided not to further disaggregate remote and very remote regions because it was not material to do so at the $30 per capita threshold.

**Figure 3 Admitted patient expenses per capita, by remoteness, 2013-14**




Note: Based on NWAUs and GFS expense data.
Source: Special data request, IHPA.

33 New South Wales considered that large cities such as Sydney faced higher per capita costs than smaller major cities. We have observed that major cities have lower costs per capita for admitted patient services. While hospitals located in major cities do the most complex (and expensive) procedures, these hospitals service all State populations, not just those living in the major cities. In addition, people living in major cities have greater choice of services from the private sector. We have not identified any reliable evidence to suggest why particular large major cities, such as Sydney, would be different to other major cities.

## *Data*

34 The Independent Hospital Pricing Authority (IHPA) was established to work with States to classify all services delivered by public hospitals into National Weighted Activity Units (NWAUs), which are then translated into costs.

35 The IHPA admitted patients database uses a detailed and comprehensive allocation of the actual services and costs for each patient. It also makes adjustments for paediatrics, Indigenous status, remoteness, etc. Some States said that these adjustments could distort the Commission's unit costs. However, we consider these adjustments should improve, rather than distort our assessment, as they reflect the actual costs incurred by States in treating different demographic groups.

36 IHPA also makes adjustments to the admitted patients data to account for the costs recovered from private patients in public hospitals. It nets off the actual costs of private patients that are met through alternative funding sources. These alternative sources include medical benefit payments by the Australian Government, private health insurance benefits and payments made by patients. We believe this provides us with a more accurate estimate of the net cost for each population group.

### *Calculating the socio-demographic composition assessment*

37 We consider the features of the socio-demographic composition (SDC) profile that drive cost differences are Indigenous status and SES, remoteness and age. We classify those variables as shown in Table 5.

**Table 5 Proposed SDC breakdown**

| Indigenous status | IRSEO/NISEIFA | Remoteness | Age |
|---|---|---|---|
| Indigenous | Bottom quintile | Major cities | 0 to 14 |
| Non-Indigenous | Middle 3 quintiles | Inner regional | 15 to 44 |
| | Top quintile | Outer regional | 45 to 64 |
| | | Remote and very remote | 65 to 74 |
| | | | 75+ |

Note: Due to the data unreliability, remote areas are not disaggregated by IRSEO/NISEIFA.
Source: Commission calculation.

38 The SDC assessed expenses for each State for the admitted patients component is derived by:

- allocating the national aggregate net spending on admitted patients to each of the population groups in the above table on the basis of the NWAU data provided by IHPA[5]
- dividing the total spending attributable to each population group by the national population in that group. Table 6 provides a sample of the national spending per capita of providing admitted patient services to various population groups
- national average spending per capita for each population group is then multiplied by the number of people in the corresponding SDC group in each State
- assessed spending for each population group is summed to give the total assessed spending for each State.

[5] We have assessed component expenses net of user charges, consistent with our assessment of SDC spending net of user charges.

**Table 6 Sample matrix of national per capita spending on non-Indigenous admitted patients, 2013-14**

| Geography | Age | Spending |
|---|---|---|
| | | $pc |
| 1.Major cities 1.Low SES 20% | 0-14 | 885 |
| 1.Major cities 1.Low SES 20% | 15-44 | 932 |
| 1.Major cities 1.Low SES 20% | 45-64 | 1 575 |
| 1.Major cities 1.Low SES 20% | 65-74 | 2 869 |
| 1.Major cities 1.Low SES 20% | 75+ | 3 843 |
| 1.Major cities 2.Middle SES 60% | 0-14 | 678 |
| 1.Major cities 2.Middle SES 60% | 15-44 | 692 |
| 1.Major cities 2.Middle SES 60% | 45-64 | 1 128 |
| 1.Major cities 2.Middle SES 60% | 65-74 | 2 374 |
| 1.Major cities 2.Middle SES 60% | 75+ | 4 141 |
| 1.Major cities 3.High SES 20% | 0-14 | 475 |
| 1.Major cities 3.High SES 20% | 15-44 | 539 |
| 1.Major cities 3.High SES 20% | 45-64 | 686 |
| 1.Major cities 3.High SES 20% | 65-74 | 1 617 |
| 1.Major cities 3.High SES 20% | 75+ | 4 037 |

Note: The sample matrix shows the per capita costs for non-Indigenous people for one remoteness region. Other regions are inner regional, outer regional, remote and very remote regions. The Indigenous disaggregation is the same as that for non-Indigenous people.

Source: Commission calculation using a special data request from IHPA, 2013-14, ABS ERP 2013-14 and GFS expense data for 2013-14.

## Impact of the non-State sector

39 The Commission believes there is a strong conceptual case that some admitted patient services provided in the private sector influence the number of similar services that need to be provided in the public sector. That is, there is a level of substitutability between the two.

40 An example of this is childbirth. In the absence of a private sector option, birthing services would of necessity be provided by the public sector. However, should private sector options become available, this would likely reduce the demand for public sector birthing services. The more birthing procedures performed in the private sector, the more they will have a direct impact on the demand for birthing services provided in the public sector. We would regard these services as perfectly substitutable. Similarly, some same-day admitted patient services, such as renal dialysis and chemotherapy, could also be considered as perfectly substitutable. If they are not provided in the private sector then they must be provided in the public sector because they endanger the patient's life if not performed.

41 Alternatively, there are many admitted patient services that would not be regarded as substitutable. States perform few cosmetic surgery procedures, so changes in the private sector provision of these services would have little impact on the demand for State government services.

### *Level of substitutability*

42 Estimating the proportion of admitted patient expenses that are substitutable requires consideration of a number of factors:

- differences in the type of admitted patient activity in each sector
- private health insurance coverage
- State policies
- individuals' preferences.

43 A study from the Productivity Commission[6] on the differences and similarities between public and private hospitals concluded that the private sector, for overnight patients at least, provides treatment for very different injuries/illnesses to those provided in public hospitals. Public hospitals tend to focus more on emergency medical treatments while private hospitals treat more non-emergency surgical patients.

44 On the other hand, there appears to be considerably more overlap between the sectors in their same-day separations. Many of the procedures conducted were common to both sectors, including the four most frequent same-day separations overall, measured using Australian refined diagnosis-related groups (AR-DRGs). These included renal dialysis, chemotherapy, non-complex colonoscopy and lens procedures.

45 The Commission decided that, based on the information above, and on advice from the consultants, because private hospitals tend not to provide emergency-type services (40% of all admitted patient separations), the majority of those services should not be regarded as substitutable.

46 In addition, the national levels of private health insurance (47%) should also be taken into account. A person without private health insurance will rarely attend a private hospital (unless they are self-funded), regardless of the availability of private health services in their State. This gives us a level of potential substitutability of 28% (60% x 47%).

47 The Commission considered that the estimate of 28% substitutability should be considered as an upper bound. Other aspects considered by the Commission included the following.

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[6] *Public and private hospitals*, Productivity Commission Research Report, December 2009, using data from 2007-08.

- Gap payments are unaffordable for some – for some AR-DRGs, people with private health insurance still choose to be admitted to a public hospital because the additional cost, over and above the rebate from private health funds (the gap), is too great. Some people only take out private health insurance to claim the Medicare rebate for tax purposes. This may be evident in the ACT where residents have the highest private health insurance rates of all States, yet have below average use of private hospital services.
- Cosmetic-type surgery is regarded as non-emergency but should not be considered as substitutable because these procedures are predominantly provided in the private sector.
- Some patients who access a private facility interstate do so because there are lengthy waiting lists for private hospitals in their State or they cannot access a private specialist in their State. In this case, these procedures can't be regarded as substitutable because they don't impact on the public sector. Approximately 2% of all private hospital separations are from interstate patients.
- Some people consider that the quality of services provided in public hospitals in their State are at the same standard, or not appreciably different to, that provided in private hospitals. If people get the same standard of service in the public sector (with high quality doctors available) as they would in the private sector, then they can avoid out-of-pocket expenses. This could be a policy choice of the State government to provide a standard of service that is above average.
- There is considerable disparity among the States in the levels of private patients treated in public hospitals. In some States, an alternative to setting up private hospitals in certain locations is to offer visiting medical officers (VMOs) incentives to see private patients in public hospitals.
- While not necessarily targeted at private hospitals, there may be planning restrictions (at the State government and/or local government level) that could limit the expansion or availability of private facilities in some States. However, we are not sure whether the impact is materially different for each State.
- Non-emergency type procedures would be less costly than emergency procedures. Further, same-day procedures are less costly than overnight procedures.

48 We concluded that the 28% of potentially substitutable services represents an upper limit and estimate that the true figure would probably be between 10-20%. However, considering that we are not able to fully capture the impact of policy influences that some States may have on the location and/or degree of provision of private facilities in their State, the Commission has adopted a 15% substitutability level for admitted patient component expenses.

49 The ACT and the Northern Territory supported assessing a non-State sector adjustment, which would take into account substitutability of private and public

services, levels of private health insurance, and actual use of private services by State. The Northern Territory was broadly supportive of the methodology and approach taken by the consultant, and so considered that the appropriate level of substitutability is closer to 20%.

50 New South Wales said that a non-State adjustment should not be assessed for admitted patients given that the substitutability of these services is already accounted for in the SDC calculations. Queensland said that where substitutability exists in admitted patients, the percentage of substitutability would be low, and using data on the proportion of private patients in public hospitals suggested a level of substitutability of 6%.

51 South Australia did not support a level of substitutability within the range of 10-20% of admitted patients. It noted there is a significant variance in the level of private health insurance coverage between jurisdictions (a low of 38.9% in the Northern Territory and a high of 57.7% in ACT), and that the level of private service provision in each jurisdiction will also vary for a variety of reasons, including historical patterns of service delivery and deliberate policy decisions of government.

52 Tasmania did not dispute that there may be differences in the availability of private hospital services in comparable areas of different States, nor that there may be a level of substitutability of services. However, Tasmania noted it is yet to be established that any differences not already recognised by the application of the remoteness disability are not the result of other factors such as State policy, including licensing policies.

### *Calculating a non-State sector adjustment*

53 To calculate a non-State sector adjustment, the simplest and most appropriate assessment would be based on the level of private provision in each State. We decided to use the national average use by privately insured patients of private admitted patient services as our proxy measure.

54 As mentioned previously, the SDC assessment captures that people in more remote regions are more likely to be admitted to a public hospital. This reflects the fact that, in part, there are no private hospitals located in those regions. To ensure that we don't double count the high use of State services by certain population groups by attributing it to both SDC and the level of private services provided in the State, we have calculated our adjustment based on the level of private patients, standardised by Indigenous status, remoteness, SES and age.

55 The calculation is more easily explained in a step process.

- Determine the total State spending on substitutable admitted patient services — for example, total State admitted patient expenses of $29.1 billion x 15% substitutability rate.

- Assessed private patients — calculate the level of private patient services each State would need based on the national profile of privately insured patients (by Indigenous status, remoteness, SES and age). The substitutable admitted patient expenses are then apportioned across States.
- Actual private patients — obtain the actual level of privately insured patients in each State. Again, apportion the substitutable admitted patient expenses based on these State proportions.
- Subtract the actual levels from the assessed levels. This determines the assessed impact of the private sector on admitted patient services for each State.

56 This calculation is outlined in Table 7.

**Table 7 Non-State sector adjustment, admitted patients component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Substitutable admitted patient expenses | | | | | | | | | 4 362 |
| Assessed expenses | 1 435 | 1 127 | 825 | 473 | 316 | 84 | 86 | 17 | 4 362 |
| Actual expenses | 1 408 | 1 120 | 917 | 431 | 315 | 98 | 57 | 17 | 4 362 |
| Non-State sector adjustment | 27 | 7 | -92 | 42 | 1 | -14 | 29 | 0 | 0 |

Note: Based on Australian Institute of Health and Welfare and the Private Health Insurance Administration Council data.
Source: Commission calculation.

## *Data source*

57 To determine the assessed private patient levels across the States, we sought data on the national average use by privately insured patients of private admitted patient services. These data were sourced from the Australian Institute of Health and Welfare (AIHW), disaggregated by Indigenous status, remoteness, SES[7] and age. These data include privately insured patients in public and private hospitals.

58 While it could be argued that privately insured patients with no gap are the most likely to be substitutable with public sector patients, this is not necessarily the case. In the absence of a private facility, birthing mothers would use the public facility regardless of whether they would be prepared to pay extra to go private. In any case, data are not available (from the AIHW) to separately identify privately insured patients who had no gap.

59 National average use per capita for each population group is then multiplied by the number of people in the corresponding SDC group in each State to give the total assessed use of private admitted patients for each State.

[7] AIHW SES data for Indigenous and non-Indigenous people was based on SEIFA. This is consistent with the measure of SES used to calculate the non-State sector adjustment for other Health components.

60 To calculate the actual use of private admitted patient services in each State is more problematic. There are two data sources that we could use, both with their limitations. Data from the AIHWs *Australian Hospital Statistics* are not reported for the three small States because of privacy issues. In addition, not all private free-standing facilities in the ACT or the Northern Territory are included in the collection.

61 Adjustments would also need to be made to the data to ensure we took into account the State of residence of the patient, not the State location of the hospital.

62 Alternatively, data from the Private Health Insurance Administration Council (PHIAC) are available for all States, including the three small States. The data are provided on the residence of the patient, therefore, no cross-border adjustment is needed and the data includes all private patients in public and private hospitals.

63 However, PHIAC data are not available by SDC group, so the AIHW data are the most reliable data for determining national average use of private admitted patient services. The data from AIHW will reflect privately insured patients in both public and private hospitals, as will the PHIAC data.

## Location

64 We have recognised that differences between States in wage costs have a differential effect on the cost of providing admitted patient services across States. These influences are measured in a similar way for most expense categories and the methods are described in Chapter 22 — Wage costs.

## Bringing the admitted patients component together

65 Table 8 shows the total assessed expenses.

**Table 8 Assessed expenses, admitted patients component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| SDC assessed ($m) | 9 387 | 6 953 | 5 908 | 3 002 | 2 252 | 778 | 363 | 437 | 29 082 |
| Non-State sector adjustment ($m) | 27 | 7 | -92 | 42 | 1 | -14 | 29 | 0 | 0 |
| Adjusted assessed ($m) | 9 414 | 6 960 | 5 816 | 3 045 | 2 254 | 764 | 392 | 438 | 29 082 |
| Location factor | 1.005 | 0.987 | 0.988 | 1.042 | 0.990 | 0.971 | 1.026 | 1.048 | 1.000 |
| Total ($m) | 9 462 | 6 869 | 5 744 | 3 172 | 2 232 | 742 | 402 | 459 | 29 082 |
| Total ($pc) | 1 268 | 1 187 | 1 225 | 1 244 | 1 331 | 1 444 | 1 047 | 1 881 | 1 248 |

Source: Commission calculation.

# EMERGENCY DEPARTMENTS

## Socio-demographic composition

66 We consider that the features of the SDC profile that drive differences in admitted patient costs are similar to those that drive differences in emergency department (ED) costs. These include Indigenous status, remoteness, SES and age. We will use the same SDC breakdowns for EDs as we have used for admitted patients, but will use ED specific data from IHPA.

### *Data*

67 In the past, there have been limited data available on the use and cost of EDs by various population groups. However, with the establishment of IHPA, activity on EDs has been classified and costed, although the data are less comprehensive than the data on admitted patients. The classification systems in use are relatively new and the activity and costing data for these are less mature than for admitted patients.

68 Detailed ED activity and cost data are available for all principal referral and large hospitals with formal EDs. This makes up approximately 82% of the total presentations to EDs across the country. The other 18% of presentations are for medium and small hospitals, which are mainly block funded hospitals, and detailed demographic data on the use of these services are not available.

69 If we were to only use the detailed activity data from the known presentations, then we would not fully capture the greater use of ED services by Indigenous people and people in remote regions. This is because the block funded hospitals are disproportionately located in remote regions where there are a greater proportion of Indigenous people.

70 To ensure that there are no urban or non-Indigenous biases in the data, we sought detailed activity data from IHPA (based on the demographics of the patient) disaggregated by the remoteness region of the hospital location. The presentations in hospitals where we had no demographic data, predominantly block funded hospitals, were allocated the user profile of hospitals in the same remoteness region. Table 9 provides an overview of the total number of presentations where we have detailed activity data and where we only have total presentations.

71 While the proportion of presentations with known demographic characteristics in remote regions is low (38%), based on our analysis of the hospitals included, we are confident that they are representative of the total population living in remote regions.

72 We believe that making this adjustment provides us with a more accurate estimate of the cost for each population group.

**Table 9 ED presentations by remoteness of hospital, 2012-13**

| | Major cities | Inner regional | Outer regional | Remote | Very remote | Unknown | Total |
|---|---|---|---|---|---|---|---|
| Demographics recorded ('000) | 4 430 | 1 342 | 535 | 142 | 21 | 32 | 6 502 |
| Demographics not recorded ('000) | 110 | 514 | 496 | 142 | 126 | 0 | 1 388 |
| Proportion not recorded (%) | 2.4 | 27.7 | 48.1 | 50.0 | 85.5 | 1.5 | 17.6 |

Source: Special data request, IHPA.

73 Similar to admitted patient activity, each ED presentation is allocated an NWAU, based on variables such as the assigned triage category, mode of separation, principal diagnosis etc. We believe that the NWAUs for EDs are sufficiently robust enough to be used in our assessment and provide us with a more accurate measure of the use and cost of particular population groups than if we only assessed the number of presentations.

### *Calculating the socio-demographic composition assessment*

74 We have used the same assessment approach for the ED component as we used for the admitted patients component. That is, we calculated a national average net spending per capita for each population group and then multiplied that by the number of people in the corresponding SDC group in each State.

## Impact of the non-State sector

75 When a patient arrives at an ED they are assessed and assigned a category depending on the seriousness of their health condition. The National triage scale has five categories[8] that indicate the time by which a patient should receive care based on the severity of the patient's injuries.

76 While the more urgent presentations have no private alternative (although there are some private hospitals that offer emergency services), many of the less severe presentations are similar in nature to those services provided through GP clinics and nurse walk-in centres.

77 Based on this information, the Commission believes there is a strong conceptual case that the level of ED services provided in the public sector are partially influenced by similar services provided in the private sector. That is, there is a level of substitutability between the two.

78 Similar to the method adopted in the admitted patients component, we have decided that the impact on ED services should be captured directly through non-State sector adjustments, based on the proportion of expenses that are assessed as substitutable.

[8] *National health data dictionary*, version 14, AIHW.

### *Level of substitutability*

79 There are several studies that indicate a varied level of substitutability. Studies based on clinical assessments of ED presentations estimate the proportion that could have been managed by a GP.

- An AIHW clinical assessment indicated that approximately 38% of ED visits are potentially substitutable,[9] based on patients allocated to triage 4 or 5, who did not arrive by ambulance, police or correctional vehicle, were not admitted to the hospital or referred to another hospital and did not die.
- A study of three major metropolitan hospitals in Perth for the Medical Journal of Australia by Nagree et al. estimated that 10-12% of presentations could have been managed by a GP.[10] These attendances comprised 3-5% of total ED length of stay. This study concluded that the AIHW methodology overestimated the actual proportion of GP-type patient attendances.
- The ABS *Patient Experiences in Australia* study found that 23% of people who presented at the ED thought care could have been provided by a GP.

80 In addition to the above studies, one of the consultants identified an additional study by the Canadian Institute for Health Information (CIHI). It released a report in 2014 estimating that 20% of patients who were not admitted at the end of their ED presentation could have been treated by a GP. This equates to 17% of all ED presentations in the Canadian system and the equivalent of 14% of Australian ED presentations being potentially avoidable.

81 New South Wales, Queensland, South Australia and Tasmania all supported a substitutability level within the range of 15-20%, consistent with the view of the consultants.

82 The ACT and the Northern Territory both said that the AIHW figure (of close to 40%) should apply. They consider these data fit for purpose.

83 The Commission considered each of these studies and their limitations for our purposes.

- Compared with the other studies, the AIHW figure of 38% substitutability appears high. The consultant said that the methodology used is likely to be revised in future years, partly in response to a reasonable degree of disagreement about whether or not the AIHW methodology produces a reasonable result or not.
- The Perth study by Nagree et al. concludes that 10-12% of ED presentations could have been managed by a GP. However, we note that this study was

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9 *Australian hospital statistics 2011-12 — Emergency department care (AIHW)*. Note, the figure is based on larger hospitals only and does not include GP-type presentations to smaller hospital EDs.

10 Nagree et al., *Quantifying the proportion of general practice and low-acuity patients in the emergency department*, Medical Journal of Australia 198(11), June 2013.

confined to three metropolitan hospitals in Perth and may not be representative of other regions. Data from IHPA show that outside major cities, there are a greater proportion of triage 4 and 5 presentations to EDs (Table 10).

**Table 10 ED presentation rates per 1 000 population, by remoteness, 2012-13**

| Remoteness | All EDs | Triage 4 and 5 | Proportion triage 4 and 5 |
|---|---|---|---|
| Major cities | 275 | 140 | 51.1 |
| Inner regional | 456 | 264 | 57.9 |
| Outer regional | 546 | 319 | 58.4 |
| Remote | 833 | 543 | 65.2 |
| Very remote | 1 039 | 775 | 74.5 |
| Total | 347 | 190 | 54.9 |

Source: Special data request, IHPA.

- While both consultants did not support using the proportions from the ABS *Patient experiences survey*, we believe that the headline measure of 23% of people who presented at the ED thought care could have been provided by a GP, could be used as a general guide to the level of substitutability.
- The Canadian report, which translates into 14% of total ED presentations in Australia being potentially avoidable, could also be used as a general guide to the level of substitutability.

84 In addition to these studies, the Commission also considered State policies that actively try to encourage people with minor medical conditions to not present at the ED and to seek alternative care arrangements. This would seem to indicate that the level of substitutability is greater than very low levels, as suggested by New South Wales and Victoria.

85 On balance, after considering the relevant studies and their limitations, the views of the consultants, State policy decisions and State views, and the lower costs of triage 4 and 5 presentations, we believe that a substitutability level of 15% of component expenses is appropriate.

### *Calculating a non-State sector adjustment*

86 To calculate a non-State sector adjustment, the simplest and most appropriate assessment would be based on a measure of bulk billed GP throughput. This removes the income constraint faced by people. For example, some low SES people can't afford to go to a fee paying GP and so will automatically go to the ED, irrespective of the severity of the condition. We believe a measure of bulk billed GP throughput is closer to the concept that we want to measure.

87 The SDC assessment captures the fact that people in remote areas are more likely to present to EDs. This is likely, in part, to reflect the lower levels of GPs in those areas. Similar to the calculation in the admitted patients component, to ensure that we

don't double count the high use of State services by certain population groups by attributing it to both SDC and the level of GP services provided in the State, we have calculated our adjustment based on GP bulk billed benefits paid from Medicare, standardised by Indigenous status, remoteness, SES[11] and age.

88 The calculation is explained in a step-by-step process and outlined in Table 11.

- Determine the total State spending on substitutable ED services — for example, total State ED expenses of $4.1 billion x 15% substitutability rate.
- Assessed GPs — calculate the level of bulk billed services each State would need based on the national profile of people using GP services (by Indigenous status, remoteness, SES and age). The substitutable ED expenses are then apportioned across States.
- Actual GPs — obtain the actual level of bulk billed GP services in each State. Again, apportion the substitutable ED expenses based on these State proportions.
- Subtract the actual levels from the assessed levels. This determines the assessed impact of the private sector on ED services for each State.

**Table 11 Non-State sector adjustment, ED component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Substitutable ED expenses | | | | | | | | | 613 |
| Assessed expenses | 202 | 154 | 120 | 63 | 47 | 13 | 9 | 4 | 613 |
| Actual expenses | 221 | 155 | 123 | 47 | 45 | 12 | 5 | 5 | 613 |
| Non-State sector adjustment | -18 | -2 | -3 | 16 | 2 | 1 | 4 | 0 | 0 |

Note: Based on Medicare data on bulk billed GP benefits paid (also includes other non-referred services such as enhanced primary care and practice nurse items).

Source: Commission calculation.

## Location

89 As with the admitted patients component, we recognised that differences in wage costs have a differential effect on the cost of providing ED services across States.

[11] Medicare was only able to provide SES data for Indigenous and non-Indigenous people based on SEIFA. While it would be ideal to have the data based on IRSEO/NISEIFA, we have used the best available data.

## Bringing the emergency departments component together

90 Table 12 shows the total assessed expenses.

**Table 12 Assessed expenses, ED component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| SDC assessed ($m) | 1 279 | 949 | 864 | 442 | 300 | 116 | 52 | 87 | 4 089 |
| Non-State sector adjustment ($m) | -18 | -2 | -3 | 16 | 2 | 1 | 4 | 0 | 0 |
| Adjusted assessed $m) | 1 261 | 948 | 861 | 458 | 302 | 117 | 56 | 87 | 4 089 |
| Location factor | 1.005 | 0.987 | 0.988 | 1.042 | 0.990 | 0.971 | 1.026 | 1.048 | 1.000 |
| Total ($m) | 1 267 | 935 | 850 | 477 | 299 | 114 | 57 | 91 | 4 089 |
| Total ($pc) | 170 | 162 | 181 | 187 | 178 | 221 | 148 | 372 | 175 |

Source: Commission calculation.

# NON-ADMITTED PATIENTS

## Socio-demographic composition

91 We consider that the features of the SDC profile that drive differences in admitted patient and ED costs are similar to those that drive differences in outpatient and other non-admitted patient costs. These include Indigenous status, remoteness, SES and age. We use the same SDC breakdowns for non-admitted patients as we have used for admitted patients and EDs.

### *Data*

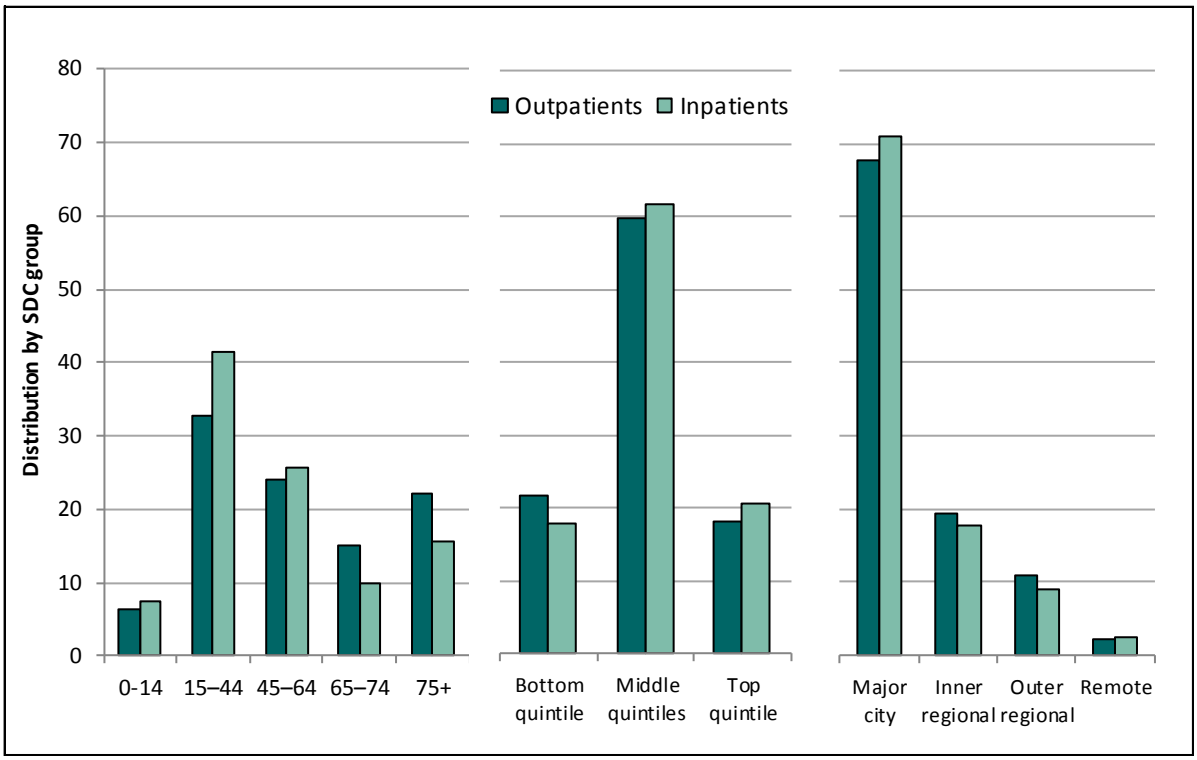
92 There are limited data available on the use and cost of non-admitted patient services provided in public hospitals by various population groups. While IHPA was asked to classify and cost non-admitted patient service activity, the data are not sufficiently mature enough to undertake a robust assessment. As a result, until such time as these data reach an acceptable quality, we will use the profile of people that use admitted patient services (from IHPA) as a proxy for those using non-admitted patient services.

93 Data from the ABS *National Health Survey* (NHS) show that the SDC profile of patients who visited a hospital as an inpatient are very similar to those that visited as an outpatient in terms of their age, SES and remoteness. This can be seen in Figure 4.

94 The NHS also shows that 50% of people who visited an outpatient clinic in the past two weeks had been admitted to a hospital within the past 12 months. Considering this information, we believe the relationship seems plausible. Based on the admitted

patient profile being a suitable proxy for outpatients by age, SES and remoteness, we assume that it is also a good proxy for Indigenous status.

**Figure 4 Inpatient and outpatient visits, by age, SES and remoteness, 2011-12**




Note: Visits or admissions in the past two weeks.
Source: ABS *National Health Survey*, TableBuilder 2011-12.

95 We consider that making an assessment using admitted patient services as a proxy for those using outpatient services is better than using data directly from the NHS. The demographic attributes available from the survey are not able to be cross-classified and the usage by Indigenous people of outpatient visits is combined with ED presentations and day clinic visits.

## *Calculating the socio-demographic composition assessment*

96 We have used the same assessment approach for the non-admitted patients component as we used for the admitted patients component. That is, we calculated a national average net spending per capita for each population group and then multiplied that by the number of people in the corresponding SDC group in each State.

97 We propose to use admitted patient separations rather than expenditure as the proxy, because we consider that the large variation in cost per separation in admitted patient services is unlikely to be reflected in non-admitted patient services.

## Impact of the non-State sector

98 The provision of non-admitted patient type care is complex. Services include a wide range of pre- and post-hospital and clinical treatments, including:

- the management of chronic conditions and pain management
- obstetrics, gynaecology, cardiology, oncology and other specialist services
- numerous ancillary services, often referred to as allied health, such as physiotherapy, chiropractic, dental, dietetics and optical
- pharmacy, pathology, and radiology and imaging services
- mental health and alcohol and drug treatment.

99 The majority of, if not all, services provided in public hospital outpatient clinics are also provided in the private sector. There are private gynaecologists, cardiologists, physiotherapists and chiropractors that all offer the same type of services as those provided in public hospitals. There are also pathology, radiology and imaging services that are provided in a private setting. As such, people have a choice to access a non-admitted patient service provided in a public or private setting.

100 The potential substitutability would be high for these services. However, while we agree that there is a private alternative for non-admitted patient type services, we are unsure as to what degree the quantity of these services provided in the private sector influence the level of services provided in the public sector.

### *Level of substitutability*

101 Many of the services that are included as outpatient and non-admitted patient services are largely dependent on the level of inpatient services provided in the hospital. If more surgeries are performed or more beds are opened up, then more outpatient and other non-admitted patient services, particularly specialists and other allied health services would be needed. These additional services would be largely independent of the level of non-admitted patient services provided in the private sector.

102 As mentioned in paragraph 94, the NHS found that 50% of outpatients had been admitted to hospital in the past 12 months. For most of these people, their visit seems likely to be connected to their earlier admission, and there would be lower levels of substitutability for this group, although not negligible. However, for the other 50% of visits without a previous admission, there would be some level of substitutability.

103 Based upon bulk billing rates across a range of non-admitted patient services (such as specialists, obstetrics, anaesthetics, pathology and imaging, and allied health), the consultant estimated a substitutability level of 55% for non-admitted patient services. Queensland said that the consultant's estimate was likely to be too high and that it

would be appropriate to exclude pathology and diagnostic imaging before estimating substitutability, as these services are generally bundled with a specialist consultation.

104 Tasmania considered it appropriate that the level of substitutability for this component is higher than the substitutability range proposed for the more complex ED component (10-20%), but lower than that proposed for the less complex community health services component (60-75%). The ACT said it would support a figure of 45-50% for the substitutable services.

105 The Northern Territory said the consultant's approach aligns closely with how outpatient services are provided, as it uses robust AIHW *Australian Hospital Statistics* data that provides a detailed breakdown of outpatient service delivery by service type.

106 We also investigated an alternative approach to calculate the level of substitutability, along the lines proposed by the consultants. Under this approach, we disaggregated all non-admitted patient services into broad groups and estimated the total State spending proportions for each group.[12] Each group was then discounted by the level of bulk billing rates as stated by Medicare.

- Allied health (physiotherapists, chiropractic, dental, dietetics and optical etc) – we consider the majority of these services are not substitutable because they are generally linked to an inpatient service and would be independent of the level of private provision outside the hospital. We estimate these services would make up approximately 10% of all non-admitted patient costs.
- Specialists (obstetrics, gynaecology, cardiology, oncology etc) – we consider that a bulk billing rate of 30% represents the level of comparable services provided in a private setting considering the price constraint is considerable for some specialists services. We estimate these services would make up approximately 55-60% of all non-admitted patient costs.
- Pathology and imaging – we consider that bulk billing rates of 85% and 75% respectively, represent the level of comparable services provided in a private setting considering the price constraint. We estimate these services would make up approximately 20-25% of all non-admitted patient costs.
- Other (mental health, alcohol and drug treatment etc) – in some States these services are provided in a hospital or in a community heath setting, or in most cases, both. We consider that a large proportion of these services could be provided in a private setting, similar to our arguments in the community health component (70% substitutability). We estimate these services would make up approximately 10-15% of all non-admitted patient costs.

[12] Estimates based on the individual occasions of service data presented in AIHW *Australian hospital statistics* 2012-13 and the average Medicare patient contribution for each service.

107 Based on estimated State spending and the level of bulk billing rates in each broad service area, we have estimated the level of substitutability using this approach is approximately 40-45%.

108 Bearing in mind the issue raised around bundling of pathology and imaging services, we consider that a level of 40% substitutability of component expenses is a reasonable estimate.

### *Calculating a non-State sector adjustment*

109 To calculate a non-State sector adjustment, the simplest and most appropriate assessment would be based on a measure of bulk billed specialist and pathology and imaging benefits paid. Similar to the argument for EDs, this removes the income constraint faced by people and is closer to the concept that we want to measure.

110 To ensure that we don't double count the high use of State services by certain population groups and the level of services provided in the State, we have calculated our factor based on bulk billed benefits paid from Medicare, standardised by Indigenous status, remoteness, SES and age.

111 The calculation is the same as for EDs but we use the value of bulk billed specialist, pathology and imaging benefits paid as our proxy measure and apply it to 40% of total non-admitted patient expenses. This can be seen in Table 13.

**Table 13 Non-State sector adjustment, non-admitted patients component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Substitutable non-admitted patient expenses | | | | | | | | | 1 635 |
| Assessed expenses | 539 | 413 | 319 | 168 | 125 | 36 | 25 | 11 | 1 635 |
| Actual expenses | 609 | 405 | 330 | 117 | 113 | 32 | 18 | 12 | 1 635 |
| Non-State sector adjustment | -70 | 7 | -11 | 51 | 13 | 5 | 6 | -1 | 0 |

Note: Based on Medicare data on bulk-billed specialist, pathology and imaging benefits paid.
Source: Commission calculation.

## Location

112 As with previous components, we recognised that differences in wage costs have a differential effect on the cost of providing non-admitted patient services across States.

113 We also consider that the costs of providing these services increase with increasing remoteness. Therefore, we have recognised the costs of providing services to different areas within a State in this assessment. This is because our measure of SDC in this component only recognises the greater use of services by people in remote

regions and not the additional costs of those groups (like the SDC in admitted patients and EDs). The methods are described in Chapter 23 — Regional costs.

## Bringing the non-admitted patients component together

114 Table 14 shows the total assessed expenses.

**Table 14 Assessed expenses, non-admitted patients component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| SDC assessed ($m) | 1 320 | 971 | 832 | 426 | 313 | 107 | 52 | 67 | 4 089 |
| Non-State sector adjustment ($m) | -70 | 7 | -11 | 51 | 13 | 5 | 6 | -1 | 0 |
| Adjusted assessed $m) | 1 250 | 979 | 821 | 477 | 326 | 111 | 58 | 67 | 4 089 |
| Location factor | 0.994 | 0.971 | 1.000 | 1.054 | 0.997 | 1.021 | 0.995 | 1.301 | 1.000 |
| Total ($m) | 1 239 | 948 | 819 | 501 | 324 | 114 | 58 | 86 | 4 089 |
| Total ($pc) | 166 | 164 | 175 | 197 | 193 | 221 | 150 | 354 | 175 |

Source: Commission calculation.

# NON-HOSPITAL PATIENT TRANSPORT

115 Non-hospital patient transport expenses comprise:

- land ambulance
- aero-medical ambulance (including the Royal Flying Doctor Service)
- Patient Assisted Travel/Transport Scheme (PATS).

116 We assess land ambulance expenses as part of hospital-based costs because we believe the disabilities that influence these expenses are similar to the disabilities that influence hospital-based services.

117 On the other hand, aero-medical services and PATS costs are disproportionately attributable to people in remote and very remote regions and as such, we assess these costs separately from other hospital-based costs.

## Socio-demographic composition

118 State provided data indicate that costs related to aero-medical services and PATS totalled $460 million in 2012-13, up from $420 million in 2011-12. This represents around 23% of the total net patient transport costs in the Government Financial Statistics (GFS).

119 State data also suggests aero-medical services and PATS costs are disproportionately provided to people in remote and very remote regions where spending is 30 times more per capita than in non-remote regions. As a result, we have applied a weight of

one to the population of each State living in non-remote areas and a weight of 30 to the population living in remote areas.

120 Total spending is then apportioned based on each State's share of their weighted population.

121 On the grounds of simplicity, the proportion of non-hospital patient transport costs compared with GFS net patient transport costs (23%) and the weights applied to remote populations (30 to 1) will be fixed for the duration of the 2015 Review period.

## Location

122 As with previous components, we have recognised that differences in wage costs have a differential effect on the cost of providing non-hospital patient transport services across States.

## Bringing the non-hospital patient transport component together

123 Table 15 shows the total assessed expenses.

**Table 15 Assessed expenses, non-hospital patient transport component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| SDC assessed ($m) | 107 | 73 | 108 | 94 | 43 | 10 | 5 | 41 | 481 |
| Location factor | 1.005 | 0.987 | 0.988 | 1.042 | 0.990 | 0.971 | 1.026 | 1.048 | 1.000 |
| Total ($m) | 107 | 72 | 106 | 97 | 42 | 10 | 5 | 43 | 481 |
| Total ($pc) | 14 | 12 | 23 | 38 | 25 | 19 | 13 | 175 | 21 |

Source: Commission calculation.

# COMMUNITY HEALTH

## Socio-demographic composition

124 There are limited national data available on the use and cost of community health centres and public health services. While there are partial data available on the use of cancer screening services or anecdotal evidence on the users of mental health and drug and alcohol services, these services only form part of the total community health spending by State governments.

125 As a result, we use the same SDC breakdowns as we have used for the hospital components which include Indigenous status, remoteness, SES and age.

### *Data*

126 Considering the diverse range of community and public health services provided by States, it would not seem appropriate to use the limited data on some health services provided in a community setting as a proxy for all community health services. Nor would it be appropriate to proxy the use of GP services, considering the relative use of GP services by Indigenous and low SES people compared with State provided community health services appears low.

127 In the absence of reliable and comprehensive national data, we have used the IHPA data on ED NWAUs for triage categories 4 and 5, as a proxy for community health services.

128 We consider that these triage categories are a better proxy than using all ED triage categories. Categories 1 to 3 involve treatment for life threatening or very serious conditions that are more complex and costlier. It is unlikely that community health services generally would have to deal with resuscitation or other emergencies of this nature. Triage categories 4 and 5 provide treatment for less severe injuries or minor illnesses. These are probably closer to the services provided in community health centres such as well baby clinics, home nursing services, family planning, and alcohol and drug rehabilitation.

129 ***Discount.*** While using IHPA data on ED NWAUs may not be completely accurate because those data measure the differential use of services within a hospital, it is hard to say that any other measure will provide a more accurate assessment. In saying that, we have concerns about how closely the socio-demographic profile of people using EDs reflects the profile of people using community health services. As such, we consider a medium discount of 25% is warranted.

### *Calculating the socio-demographic composition assessment*

130 We have used the same assessment approach for the community health component (based on NWAUs) as we used in the ED component. That is, we calculated a national average net spending per capita for each population group and then multiplied that by the number of people in the corresponding SDC group in each State.

131 A 25% discount means that 25% of total community health spending has been assessed on an equal per capita basis. The other 75% is allocated based on NWAUs from triage categories 4 and 5 as stated above.

## Impact of the non-State sector

132 There is significant variety both within and between States in how community health services are delivered. While the majority are provided in dedicated

community health centres, they can also be provided in schools, local councils and in clients' homes.[13]

133 In addition, there is considerable overlap in the services provided in the public and private sector. There are many similarities in the services provided by GPs and those provided in community health centres and public health programs. For example, a GP provides immunisation vaccines as do State funded professionals. GPs also assist people with drug rehabilitation programs, family planning, anti-smoking advice and other health promotion activities.

134 We consider this strong evidence of substitutability between GPs (and other similar private clinicians) and community health services. However, similar to the difficulties in non-admitted patients, we are unsure as to what degree the quantity of these services provided in the private sector influence the level of services provided in the public sector.

### *Level of substitutability*

135 For individual community health services, the level of substitutability is likely to vary.

- Community health centre services – health services provided in a community setting including domiciliary nursing services, well baby clinics, dental health, home nursing services, community health centre programs, family planning, alcohol and drug rehabilitation etc. The majority of these services can be provided by a GP or similar private clinician (including local governments).
- Public health services – activities for the protection and promotion of health and the prevention of disease, illness or injury. These include organised immunisation, health promotion, screening programs, communicable disease control, and prevention of hazardous and harmful drug use. Some of these services would have a private health provider alternative such as immunisation and some health promotion activities.
- Mental health services – mental health services provided in a community setting. Many services could be provided by a GP or similar private clinician but some services are provided by community organisations that are part-funded by State governments.
- Other health services – these include health research and administration and pharmaceuticals, medical aids and appliances etc. While the Commonwealth and many universities provide health research, we doubt the provision of any of these services would impact on State government provision.

136 State views varied considerably on the level of substitutability in this component. New South Wales, Victoria, Queensland and South Australia said that the Commission should err on the side of caution and apply a more conservative rate of 50%

[13] AIHW, *Australia's Health 2010*, pp. 356-357.

substitutability. New South Wales said that the private sector (including GPs, psychologists and allied health providers) overwhelmingly focus on less severe disorders such as anxiety and affective disorders, and provide planned, non-emergency treatment for those disorders while State services provide care for more severe disorders (e.g. psychoses, severe mood disorders, personality disorders).

137 Victoria said that while many individual elements of State funded community health services might also be performed by GPs or the private sector, there are many that are not. It is unlikely that increases in GP provision of family planning, well-baby and drug rehabilitation services will lead to a significant reduction in the need for deliberate, co-ordinated delivery of these services through State community health organisations.

138 On the other hand, Western Australia, Tasmania, ACT and the Northern Territory said that the level of substitutability was high. Tasmania contends that substitutability increases as the complexity of care decreases. Community health care is the least complex which means it has the highest substitutability.

139 Acknowledging the difficulties in determining a level of substitutability for these services, the view of one consultant was that that the level is likely closer to 50% than 75%. While noting the limitations of the data, the other consultant considered the bulk billing rates across a range of allied health services to confirm a substitutability proportion of 75% to be reasonable.

140 In the absence of any further information, the Commission considers that 70% would be a reasonable estimate of the substitutability of community health services.

141 Similar to the arguments for EDs and non-admitted patients, the simplest and most appropriate assessment would be based on a measure of bulk billed GP throughput. This removes the income constraint faced by people and is closer to the concept that we want to measure.

142 ***Discount.*** While using bulk billed GP services does not measure the entire community health services provided by the non-State sector, we have not been able to find a better indicator. In saying that, we have concerns about how closely the socio-demographic profile of people using GPs reflects the profile of people using other non-State provided community health services. As such, we consider a medium discount of 25% is warranted.

### *Calculating a non-State sector adjustment*

143 To ensure that we don't double count the high use of State services by certain population groups and the level of GP services provided in the State, we have calculated our factor based on bulk billed benefits paid from Medicare, standardised by Indigenous status, remoteness, SES and age.

144 The calculation is similar to that for EDs but it is applied to 70% of total community health expenses. This can be seen in Table 16.

145 In addition, a 25% discount means that 75% of substitutable community health services are allocated based on the national average SDC profile of people using bulk billed GP services, while 25% of substitutable expenses are allocated on an EPC basis.

**Table 16 Non-State sector adjustment, community health component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Substitutable community health expenses | | | | | | | | | 8 935 |
| Assessed expenses | 2 927 | 2 235 | 1759 | 936 | 679 | 192 | 134 | 72 | 8 935 |
| Actual expenses | 3 218 | 2 263 | 1795 | 690 | 657 | 170 | 76 | 66 | 8 935 |
| Non-State sector adjustment | -291 | -28 | -36 | 246 | 22 | 22 | 58 | 6 | 0 |

Note: Based on Medicare data on bulk billed GP benefits paid (also includes other non-referred services such as enhanced primary care and practice nurse items).
Source: Commission calculation.

## Grants for Indigenous community health organisations

146 The Indigenous and Rural Health Division (IRHD) grants, formerly known as the Office for Aboriginal and Torres Strait Islander Health (OATSIH) grants are provided to around 280 Indigenous organisations. They provide: clinical care and health education, promotion, screening, immunisation and counselling, as well as specific programs such as hearing health, sexual health, substance use and mental health.

147 The services provided by these non-government organisations are similar to those provided by State governments through community health centres and our assessment should reflect this.

148 We have developed a non-State sector adjustment based on the difference between each State's Indigenous SDC assessed expenses (as calculated in the community health SDC assessment) and the actual level of IRHD grants provided in each State. If a State's share of the total IRHD grants is higher than its share of the national Indigenous SDC profile, then it would be assessed as needing less GST compared to the other States. This can be seen in Table 17.

149 We believe that this more closely reflects the differential State Indigenous community health needs of IRHD grants than an assessment based solely on State Indigenous populations.

**Table 17 Non-State sector IRHD adjustment, community health component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| IRHD grants | | | | | | | | | 520 |
| Assessed expenses | 132 | 26 | 148 | 81 | 27 | 15 | 2 | 88 | 520 |
| Actual expenses | 106 | 44 | 105 | 84 | 41 | 9 | 4 | 127 | 520 |
| Non-State sector adjustment | 27 | -19 | 42 | -2 | -14 | 6 | -1 | -39 | 0 |

Note: Based on special data request, Department of Health.
Source: Commission calculation.

## Location

150 As with previous components, we recognised that differences in wage costs have a differential effect on the cost of providing community health services across States.

## Cross-border

151 Cross-border disabilities reflect the nature and geography of the ACT. Being a large centre surrounded by New South Wales means that the ACT provides many community health services to New South Wales residents. For example, the ACT's Queen Elizabeth II Family Centre (QEII) has a high non-ACT resident use.

152 The method used to calculate the general cross-border factor is described in Chapter 27 — Other disabilities.

## Bringing the community health component together

153 Table 18 shows total assessed expenses.

**Table 18 Assessed expenses, community health component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| SDC assessed ($m) | 3 957 | 2 962 | 2 708 | 1 409 | 921 | 363 | 169 | 276 | 12 765 |
| Non-State sector adjustment ($m) | -291 | -28 | -36 | 246 | 22 | 22 | 58 | 6 | 0 |
| Non-State sector IRHD adjustment ($m) | 27 | -19 | 42 | -2 | -14 | 6 | -1 | -39 | 0 |
| Adjusted assessed ($m) | 3 692 | 2 915 | 2 715 | 1 653 | 929 | 392 | 225 | 243 | 12 765 |
| Location factor | 1.005 | 0.987 | 0.988 | 1.042 | 0.990 | 0.971 | 1.026 | 1.048 | 1.000 |
| Cross-border factor | 0.995 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.095 | 1.000 | 1.000 |
| Total ($m) | 3 688 | 2 873 | 2 678 | 1 720 | 919 | 380 | 253 | 255 | 12 765 |
| Total ($pc) | 494 | 496 | 571 | 675 | 548 | 739 | 658 | 1 045 | 548 |

Source: Commission calculation.

## BACKCASTING HEALTH FUNDING

154 The terms of reference tell the Commission that the NHR funding should affect the relativities and that:

> NHR funding and corresponding expenditure relating to the provision of cross-border services to the residents of other States should be allocated to States on the basis of residence.

155 The Commission considers that the shift under the NHR to activity based funding (ABF) growth from 2014–15, in principle, represented a major change in Commonwealth-State relations and should, therefore, be backcast. However, we agreed with State views that the forecast data for the out-years are not sufficiently reliable because projected growth is still largely based on historical spending patterns.

156 As such, we decided to use the 2013-14 distribution as published in the Commonwealth's *Final Budget Outcome* (FBO), with an adjustment for cross-border, and backcast this distribution to earlier assessment years.

157 Backcasting would not be required in future updates as the actual distribution for each of the assessment years (taken from the FBO and with an adjustment for cross-border) from 2014-15 onward would flow through unadjusted. These years would reflect the actual difference in activity between States as well as the actual level of cross-border activity undertaken.

## BRINGING THE ASSESSMENT TOGETHER

158 Table 19 brings the assessed expenses for each component together to derive the total assessed expenses for each State for the category.

**Table 19 Category assessment, Health, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| **Admitted patients** | | | | | | | | | |
| Equal per capita | 1 248 | 1 248 | 1 248 | 1 248 | 1 248 | 1 248 | 1 248 | 1 248 | 1 248 |
| SDC | 10 | -46 | 13 | -70 | 95 | 267 | -302 | 545 | 0 |
| Non-State sector | 4 | 1 | -20 | 17 | 1 | -27 | 74 | 2 | 0 |
| Location | 6 | -16 | -16 | 52 | -12 | -36 | 32 | 60 | 0 |
| Total | 1 268 | 1 187 | 1 225 | 1 244 | 1 331 | 1 444 | 1 047 | 1 881 | 1 248 |
| **Emergency departments** | | | | | | | | | |
| Equal per capita | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 |
| SDC | -4 | -11 | 9 | -2 | 3 | 50 | -40 | 180 | 0 |
| Non-State sector | -2 | 0 | -1 | 6 | 1 | 3 | 10 | 0 | 0 |
| Location | 1 | -2 | -2 | 7 | -2 | -5 | 4 | 8 | 0 |
| Total | 170 | 162 | 181 | 187 | 178 | 221 | 148 | 372 | 175 |
| **Non-admitted patients** | | | | | | | | | |
| Equal per capita | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 | 175 |
| SDC | 1 | -8 | 2 | -8 | 11 | 32 | -41 | 101 | 0 |
| Non-State sector | -9 | 1 | -2 | 20 | 8 | 9 | 16 | -3 | 0 |
| Location | -1 | -5 | 0 | 9 | -1 | 4 | -1 | 53 | 0 |
| Total | 166 | 164 | 175 | 197 | 193 | 221 | 150 | 354 | 175 |
| **Non-hospital patient transport** | | | | | | | | | |
| Equal per capita | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| SDC | -6 | -8 | 2 | 16 | 5 | -1 | -8 | 148 | 0 |
| Location | 0 | 0 | 0 | 1 | 0 | -1 | 1 | 1 | 0 |
| Total | 14 | 12 | 23 | 38 | 25 | 19 | 13 | 175 | 21 |
| **Community health** | | | | | | | | | |
| Equal per capita | 548 | 548 | 548 | 548 | 548 | 548 | 548 | 548 | 548 |
| SDC | -18 | -36 | 30 | 5 | 1 | 160 | -108 | 585 | 0 |
| Non-State sector | -39 | -5 | -8 | 97 | 13 | 44 | 151 | 24 | 0 |
| Non-State sector - IRHD | 4 | -3 | 9 | -1 | -8 | 11 | -4 | -159 | 0 |
| Location | 3 | -7 | -7 | 23 | -5 | -16 | 14 | 26 | 0 |
| Cross-border | -3 | 0 | 0 | 0 | 0 | 0 | 52 | 0 | 0 |
| Total | 494 | 496 | 571 | 675 | 548 | 739 | 658 | 1 045 | 548 |
| **Category total** | 2 111 | 2 021 | 2 175 | 2 341 | 2 275 | 2 645 | 2 017 | 3 828 | 2 167 |

Note: Component disabilities may not add due to interactions.
Source: Commission calculation.

## Alternative presentation

159 Table 20 provides an alternative presentation using a factor approach. The table shows for each disability how the expenses per capita in each component and in total are affected by differences in State characteristics. Disability factors below one

indicate a State is assessed to need to spend less than average. Disability factors above one indicate a State is assessed to need to spend more than average.

**Table 20 Category factor, Health, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| **Admitted patients (component weight = 58%)** | | | | | | | | | |
| SDC | 1.008 | 0.963 | 1.010 | 0.944 | 1.076 | 1.214 | 0.758 | 1.437 | 1.000 |
| Non-State sector | 1.003 | 1.001 | 0.984 | 1.013 | 1.001 | 0.978 | 1.060 | 1.001 | 1.000 |
| Location | 1.005 | 0.987 | 0.988 | 1.042 | 0.990 | 0.971 | 1.026 | 1.048 | 1.000 |
| Component factor | 1.016 | 0.951 | 0.982 | 0.997 | 1.067 | 1.158 | 0.839 | 1.508 | 1.000 |
| A. Weighted factor | 1.009 | 0.972 | 0.990 | 0.998 | 1.038 | 1.091 | 0.907 | 1.292 | 1.000 |
| **Emergency departments (component weight = 8%)** | | | | | | | | | |
| SDC | 0.977 | 0.935 | 1.051 | 0.989 | 1.019 | 1.285 | 0.771 | 2.027 | 1.000 |
| Non-State sector | 0.986 | 0.998 | 0.996 | 1.036 | 1.008 | 1.016 | 1.055 | 0.998 | 1.000 |
| Location | 1.005 | 0.987 | 0.988 | 1.042 | 0.990 | 0.971 | 1.026 | 1.048 | 1.000 |
| Component factor | 0.967 | 0.921 | 1.033 | 1.067 | 1.017 | 1.262 | 0.846 | 2.122 | 1.000 |
| B. Weighted factor | 0.997 | 0.994 | 1.003 | 1.005 | 1.001 | 1.021 | 0.988 | 1.091 | 1.000 |
| **Non-admitted patients (component weight = 8%)** | | | | | | | | | |
| SDC | 1.008 | 0.957 | 1.012 | 0.952 | 1.064 | 1.185 | 0.769 | 1.574 | 1.000 |
| Non-State sector | 0.947 | 1.007 | 0.986 | 1.114 | 1.043 | 1.052 | 1.094 | 0.981 | 1.000 |
| Location | 0.994 | 0.971 | 1.000 | 1.054 | 0.997 | 1.021 | 0.995 | 1.301 | 1.000 |
| Component factor | 0.946 | 0.934 | 0.996 | 1.121 | 1.101 | 1.260 | 0.856 | 2.017 | 1.000 |
| C. Weighted factor | 0.996 | 0.995 | 1.000 | 1.010 | 1.008 | 1.021 | 0.988 | 1.082 | 1.000 |
| **Non-hospital patient transport (component weight = 1%)** | | | | | | | | | |
| SDC | 0.693 | 0.615 | 1.121 | 1.781 | 1.232 | 0.961 | 0.601 | 8.163 | 1.000 |
| Location | 1.005 | 0.987 | 0.988 | 1.042 | 0.990 | 0.971 | 1.026 | 1.048 | 1.000 |
| Component factor | 0.692 | 0.602 | 1.099 | 1.842 | 1.212 | 0.926 | 0.612 | 8.495 | 1.000 |
| D. Weighted factor | 0.997 | 0.996 | 1.001 | 1.008 | 1.002 | 0.999 | 0.996 | 1.071 | 1.000 |
| **Community health (component weight = 25%)** | | | | | | | | | |
| SDC | 0.968 | 0.934 | 1.055 | 1.009 | 1.002 | 1.291 | 0.802 | 2.069 | 1.000 |
| Non-State sector | 0.929 | 0.991 | 0.986 | 1.176 | 1.024 | 1.079 | 1.276 | 1.045 | 1.000 |
| Non-State sector - IRHD | 1.006 | 0.994 | 1.017 | 0.998 | 0.985 | 1.021 | 0.994 | 0.709 | 1.000 |
| Location | 1.005 | 0.987 | 0.988 | 1.042 | 0.990 | 0.971 | 1.026 | 1.048 | 1.000 |
| Cross-border | 0.995 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.095 | 1.000 | 1.000 |
| Component factor | 0.902 | 0.906 | 1.043 | 1.232 | 1.001 | 1.349 | 1.202 | 1.908 | 1.000 |
| E. Weighted factor | 0.975 | 0.976 | 1.011 | 1.059 | 1.000 | 1.088 | 1.051 | 1.230 | 1.000 |
| **Category factor** | 0.974 | 0.933 | 1.004 | 1.080 | 1.050 | 1.221 | 0.931 | 1.767 | 1.000 |

Source: Commission calculation.

## Influences not assessed in this category

### *Cultural and linguistic diversity*

160 We have decided not to make a separate adjustment for Cultural and linguistic diversity (CALD). CALD is discussed in Chapter 27 — Other disabilities.

### *Sex*

161 Sex was considered separately in our SDC assessments but we found that it was not material to disaggregate by this population characteristic. While males and females have different use and cost patterns, the difference in the distribution of populations between the States is small, hence disaggregating by sex does not result in any material difference.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

162 Table 21 shows the extent to which the assessment for this category moves the distribution of the GST away from an equal per capita distribution. It shows that GST revenue is redistributed to Queensland, Western Australia, South Australia, Tasmania and the Northern Territory.

**Table 21 GST impact, Health, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| Dollars million | -531 | -987 | 70 | 557 | 173 | 266 | -68 | 518 | 1 586 |
| Dollars per capita | -69 | -164 | 14 | 206 | 102 | 515 | -170 | 2 049 | 66 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.
Source: Commission calculation.

163 The main reasons for these redistributions are the differences between States in the proportions of their populations in the groups that are high or costly users of health services, along with differences between States in the provision of services provided by the non-State sector.

164 Some of the main reasons for the redistributions for each State are:

- New South Wales has higher than average levels of non-State sector provision of health services
- Victoria has a lower than average proportion of Indigenous people and fewer than average people with low SES, along with fewer than average people living in remote and very remote regions

- Queensland and Western Australia have above average Indigenous populations and more people living in remote and very remote regions. Western Australia has lower than average levels of non-State sector provision of health services
- South Australia and Tasmania have older populations, along with higher than average proportions of their populations with low SES
- The ACT has much lower than average proportions of Indigenous people and people with low SES, partially offset by lower than average levels of non-State sector provision of health services
- The Northern Territory has a much larger than average proportion of Indigenous people as well as a higher than average proportion of people residing in remote and very remote regions.

165 Table 22 provides a summary of the major reasons the assessment moves State GST revenue away from an equal per capita distribution.

**Table 22 Major reasons for difference from EPC, Health, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| SDC | | | | | | | | | |
| Remoteness | -521 | -412 | 353 | 30 | -10 | 264 | -103 | 399 | 1 046 |
| Indigenous status | -23 | -357 | 164 | 51 | -33 | 26 | -15 | 186 | 427 |
| Indigenous SES | 28 | -12 | 0 | 18 | 9 | -28 | -2 | -14 | 56 |
| Non-Indigenous SES | 142 | 21 | -33 | -132 | 121 | 28 | -81 | -65 | 312 |
| Age | 186 | 17 | -174 | -97 | 135 | -4 | -20 | -42 | 338 |
| Total SDC | -188 | -742 | 310 | -130 | 222 | 286 | -221 | 463 | 1 282 |
| Non-State sector | -399 | -37 | -99 | 416 | 5 | 18 | 109 | -13 | 548 |
| Location | 90 | -211 | -131 | 265 | -48 | -29 | 24 | 41 | 419 |
| Cross-border | -22 | 0 | 0 | 0 | 0 | 0 | 22 | 0 | 22 |
| Total | -531 | -987 | 70 | 557 | 173 | 266 | -68 | 518 | 1 586 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.
Disabilities may not add due to interactions.
Source: Commission calculation.

## CHANGES SINCE THE 2014 UPDATE

166 Table 23 breaks down the total changes since the 2014 Update into the impact of changing data sources, category-specific method changes, and changes in State circumstances in the 2015 assessment period.

**Table 23 Changes since the 2014 Update, Health**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Data changes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Method changes | 139 | -98 | 57 | -225 | 57 | 92 | -31 | 9 | 354 |
| Change in circumstances | 6 | -25 | 0 | 22 | 10 | 13 | -1 | -25 | 51 |
| Total | 145 | -123 | 57 | -203 | 67 | 105 | -32 | -16 | 374 |

Source: Commission calculation.

## Data changes

167 While we are using different datasets in this assessment, for example using IHPA data rather than AIHW data for the allocation of health spending by population groups, we consider that the dominant reason for changes since the 2014 Update is changes in method.

## Method changes

168 There are a number of category-specific method changes associated with this category since the 2010 Review.

### *Combining expenses to form a new Health category*

169 One major change in the health area is the creation of a Health category which combines expenses from all health services.

170 There is a strong similarity in the assessment approach, data sources and the services being provided in the health components. As such, we consider a single health assessment is warranted. Any disaggregation into separate categories appears arbitrary.

### *Moving from a subtraction model to a direct assessment*

171 In the 2010 Review, non-admitted patient and community health expenses were assessed using a subtraction method to take account of non-State services that substitute for State service provision. Under the subtraction model, we assessed total health expenditure of each State using an SDC model, and subtracted off the spending by the private and Commonwealth sectors in each State to derive the amount to be funded by each State.

172 We have decided to move away from this method of assessment for a number of reasons.

- ***Data improvements.*** The introduction of the NHR and IHPA has led to the availability of improved data on the use and cost of all hospital services particularly non-admitted patient services (emergency department and

outpatients). While still not ideal, and notwithstanding some uncertainty around the continuation of the data collection aspects of the reforms, these data now provide a more accurate understanding of the provision of non-admitted hospital services than was available in the 2010 Review.

- ***Level of substitutability.*** The subtraction model, conceptually, works with any level of substitutability, and importantly does not require an estimate of the level of substitutability. However, it is more accurate at high levels of substitutability. In this review, we concluded that the level of substitutability is less than was previously assumed. As such, the conceptual strengths of the subtraction model have been mitigated.
- ***Uncertainty in the SDC.*** The subtraction model used the ABS *National health survey* to measure visits to specified health professionals by different socio-economic groups. During the life of the 2010 Review, it became apparent that these specified health professionals did not fully reflect the diverse range of both State government and non-State health services. For example, the data do not fully capture the use of community health centre services. We believe the data used in the direct method will more accurately reflect the users of State provided community health services.
- ***Complexity.*** The subtraction model relied on a much wider range of data sources and a higher level of judgment in combining these data sources. The direct method is simpler in that it only uses data from two key sources, IHPA and Medicare.
- ***Contemporaneity.*** While some elements of the subtraction model were able to be updated annually, such as Medicare and private health insurance data, not all SDC elements were able to be updated. We now consider that the absence of an ability to update all elements may result in biases in the results. As such, we consider the direct method, which can be reliably updated annually has a significant advantage in a period when health expenditure patterns by the States, Commonwealth and private sector are changing rapidly.

173 Most States supported the move to a direct method of assessment. Only Western Australia preferred the subtraction model, saying it is conceptually simple and reliable, that the data problems with the method are limited and can be sufficiently resolved, that the direct method has larger data requirements, and that its implementation requires a high degree of judgment on many aspects of the assessment.

174 We believe that, while the direct approach and associated data are not perfect, these are the most appropriate and best available for the current period, and represent an improvement over the subtraction method.

### *A separate adjustment for the impact of the non-State sector on admitted patient services*

175 In the 2010 Review, the Commission decided not to make a separate adjustment for the effect of private hospitals on public hospital admitted patient services. It said that we assess the substitutability between public and private hospitals by using remoteness within our assessment of SDC.

176 We now believe that the levels of private provision in similar remoteness regions are sufficiently different to warrant a separate assessment.

### *Moving from AIHW data to IHPA data*

177 We have moved from using admitted patients data provided by the AIHW to data provided by IHPA. While we acknowledge that data from both organisations are of high quality, we believe the adjustments made by IHPA for Indigenous status, remoteness, etc and the adjustments for private provision, enable us to more accurately estimate the net cost for each population group.

178 In addition, using one data provider to measure the use and cost of all health services is an advantage.

### *Move from SARIA to ABS remoteness so no need for NT adjustment*

179 We have removed the adjustment in the admitted patients assessment for the lack of private hospital provision in Darwin. This is because we have moved from SARIA to ABS's standard classification of remoteness, where Darwin is now considered an outer regional area. This will account for the difference in private provision of admitted patient services in Darwin compared with other capital cities.

### *Changes to SDC groups*

180 ***Age groups.*** As explained in the admitted patients component, after assessing the materiality of various age groups, we found that it was not material to disaggregate age using more than five age groups.

181 ***Sex.*** In the 2010 Review, sex was separately assessed in the Community and other health category. In this review, we considered separately assessing sex in our SDC assessments but we found that it was not material to disaggregate by this population characteristic, at the $30 per capita threshold.

### *Category expenses net of user charges*

182 In the 2010 Review, only admitted patient expenses were assessed net of user charges. With the move away from the subtraction model, which assessed State expenditure for community health services on a gross basis, to a direct method,

where user charges are assessed on a net basis in the SDC calculation, we are now able to net off all health user charges from the category.

### Changes in State circumstances

183 The change due to State circumstances was driven by the rapid growth in the category size. State expenses on health services continue to grow at a faster rate than GST revenue. Therefore, GST has been redistributed to the States whose assessed expenses are above average over the assessment period, namely Queensland, Western Australia, South Australia, Tasmania and the Northern Territory.

## UPDATING THE ASSESSMENT

184 We recommend that data used in this assessment be updated when new data become available to ensure the relativities remain contemporary and consistent with the circumstances of the States. Our understanding is that the IHPA data are likely to be available on a more timely basis than the AIHW data were able to be. In this case the administrative data will be consistent with the assessment years across all the assessment years, that is, there will be no lagged data. On this basis, we expect:

- the following data would be updated annually:
  - national health spending by various population groups from IHPA
  - GP, specialist, pathology and imaging bulk billed benefits paid from Medicare
  - AIHW data on the national average use of private hospital services
  - PHIAC data on the level of private admitted patients in each State
  - IRHD grants provided in each State
- the following data would not be updated during the review:
  - the proportion of non-hospital patient transport costs compared with GFS net patient transport costs (23%) and the weights applied to remote populations (30 to 1) will be fixed for the duration of the 2015 Review period.

### Potential impact of the 2014-15 Commonwealth Budget

185 From 2014-15 to 2016-17, National health reform funding will be directly linked to the growth in public hospital activity provided in each jurisdiction. From 2017-18, the Commonwealth has indicated it will index its contribution for public hospitals funding by the CPI and population growth. State funding entitlements in 2017-18 are reported in Budget Paper No. 3 on an equal per capita basis.

186 Some States said that with the Commonwealth now intending to move away from funding based on public hospital activity, it can no longer be assumed that the IHPA data will improve or even continue beyond 2017-18. On the other hand, Tasmania's view is that even with the cessation of activity based funding in 2017-18 the data will continue to be available in some form. It said that this data series is a foundation data set for all States and is too important to States to allow it to lapse. Under the National Hospital Cost Data Collection (NHCDC) arrangements, which pre-dated the IHPA, the States and the Commonwealth shared the NHCDC coordination and reporting costs.

187 We concur with Tasmania's view that the IHPA data, or similar data collected from another organisation, will continue to be available beyond 2017-18 and can be used for the Health assessment. When we receive more information on data availability, we will advise States during the course of our annual updates.

# CHAPTER 13

# WELFARE

## SUMMARY OF THE ASSESSMENT

The Welfare category covers State expenses on family and child services, services for people with a disability and general welfare services. Expenses for each of these components are assessed separately.

States' assessed expenses recognise differences in:

- for family and child services, shares of State populations in the 0-14 age group, as well as shares of Indigenous children, children of low socio-economic status, those living in remote areas and living in or near small population centres as they are more costly to service
- for disability services, shares of people aged under 65 who meet the full coverage access requirements of the National Disability Insurance Scheme and, for the ACT, the use of some of its services by New South Wales residents and
- for general welfare, shares of State populations of pensioner and health care concession card holders and people of low socio-economic status.

The assessment also recognises the differences in wage costs between States and, for some services, the difference in cost of providing services in more remote parts of a State. Aged care costs in one State are included in the category but do not affect GST shares.

## WHAT IS INCLUDED IN THE WELFARE CATEGORY?

1 The Welfare category comprises recurrent expenses on:

- family and child services
- aged care services
- services for people with disability
- general welfare services.

2 Revenues from user charges are assessed on an equal per capita (EPC) basis in the Other revenue category. The ACT proposed that user charges be netted off category expenses, rather than included in the Other revenue category. However, we consider they are not affected by the same disabilities used to assess the various components

of welfare expenses. The amounts involved are small (less than 2% of category expenses) and a significant proportion of them relate to aged care, which do not impact on GST shares.

3 Table 1 shows welfare expenses were $15.3 billion in 2013-14.

**Table 1 Welfare category expenses, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Category expenses ($m) | 4 717 | 3 669 | 2 808 | 1 986 | 1 204 | 385 | 200 | 288 | 15 258 |
| Category expenses ($pc) | 632 | 634 | 599 | 779 | 718 | 749 | 521 | 1 182 | 655 |
| Proportion of operating expenses (%) | 7.4 | 7.9 | 6.6 | 7.5 | 8.0 | 8.3 | 4.9 | 6.3 | 7.4 |

Source: Commission calculation using State data.

4 Table 2 shows the share of State expenses directed to welfare rose from 7.0% in 2010-11 to 7.4% in 2013-14.

**Table 2 Welfare expenses as a proportion of State operating expenses**

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| Total for category ($m) | 12 614 | 13 901 | 14 179 | 15 258 |
| Total operating expenses ($m) | 180 682 | 189 260 | 195 316 | 207 408 |
| Proportion of total operating expenses (%) | 7.0 | 7.3 | 7.3 | 7.4 |

Source: Commission calculation using ABS Government Finance Statistics (GFS) and State data.

## How are services delivered?

5 States have policy and delivery responsibility for most welfare services other than aged care services. The Commonwealth plays a key role in developing national policy and reform directions, and provides significant funding to State governments.

6 Since the 2010 Review, there have been many changes to the way welfare services are provided, stemming from changes in Commonwealth-State responsibilities.

### *Family and child services*

7 By far the largest expense item under family and child services is State government funding for child protection and out-of-home care. Significant expenses are also associated with early intervention and family support (including intensive family support) services. Family and child services also cover State expenses on child care and after-school care but these represent only a very small proportion of expenses. Services may be delivered by government, non-government organisations, relative and kinship carers, and in some cases, by for-profit providers.

8 Child protection services are provided to protect children and young people aged 0-17 years who are at risk of harm within their families or in other settings, or whose

families do not have the capacity to protect them. Child protection notifications are investigated to determine whether they are 'substantiated'.

9 Out-of-home care services provide care for children and young people who are placed away from their parents or family home for reasons of safety or family crisis. The vast majority of children in out-of-home care live in home-based care, either foster care or with relative/kinship carers. Only around 5% of children, mainly children with complex needs, are placed in residential care.[1] States make financial payments to foster carers and relative/kinship carers (other than parents) providing out-of-home care.

## *Aged care services*

10 Under the aged care and disability services part of the *National Health Reform Agreement*, signed by all States except Western Australia, the Commonwealth Government has effectively assumed full policy and funding responsibility for aged care services, covering basic home care through to residential care. The Commonwealth has as a result taken over responsibility for basic community care and specialist disability services for older people (those aged over 65; over 50 for Indigenous people) while the States have assumed full responsibility for welfare and disability services for younger people, including the funding of community packaged care and residential care for younger people delivered under Commonwealth aged care programs. Some State government agencies are continuing to provide Home and Community Care (HACC) services for older people but now on the Commonwealth's behalf.

11 Victoria agreed to the new arrangements with effect from July 2015. The new arrangements have applied for the other States since July 2011. The only State expenses left for this function should be those of Western Australia.

12 For Western Australia, pre-existing policy and funding arrangements for aged care services will continue to apply. In particular, basic community care services will continue to be provided by Western Australia under the HACC program, with a continuing funding contribution from the Commonwealth.

## *Disability services*

13 Apart from the National Disability Insurance Scheme (NDIS) trials which are currently underway, there are three streams of disability services currently provided by the Australian and State governments.

- Specialist disability services are provided under the *National Disability Agreement* (NDA), for the most part by States, and include accommodation

[1] AIHW, *Child Protection Australia 2012-13*, Table A25.

support, community support, community access, respite, employment (a Commonwealth responsibility) and advocacy and information services.

- Mainstream services are provided by both levels of government and are aimed at ensuring access and to meet special needs of people with a disability (for example, in relation to public housing and education). Expenses associated with mainstream services are included in other expense categories.
- Income support and allowances are provided by the Commonwealth.

14 The States continue to provide NDA services for older people but the Commonwealth is now paying the States (other than Western Australia)[2] for the delivery of these services, through the Specialist disability services National partnership payment (NPP).

15 The NDIS has now entered the trial phase and is scheduled to move into the transition phase in July 2016. (See Volume 1, Chapter 2 — Main issues).

### *General welfare services*

16 General welfare services include concessions, homeless persons' assistance, prisoners' aid, care of refugees, Indigenous welfare services, women's shelters, and information, advice and referral services.

17 States provide water and energy concessions as well as rates and car registration and licence concessions.[3] (Student transport concessions are included in the Schools education category. Other transport concessions are included in the Transport category.)

## COMMONWEALTH FUNDING

18 The provision of welfare services is met by a number of funding sources including State own-source revenue, Commonwealth payments and the GST. The expenses funded by Commonwealth payments are assessed in the same way as State funded expenses and the actual revenue is treated as an offset to the assessed expenses.

19 Table 3 shows the major programs funded in 2013-14. It shows that the National Disability SPP is the largest.

20 As required by terms of reference, we have treated the Assisting preparation towards the launch of the National Disability Insurance Scheme NPP as having no impact on the relativities. We have also reversed the treatment of certain payments because the terms of reference no longer require that the change in Commonwealth-State

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2 Victoria from July 2015.

3 The States have relied upon a Commonwealth funding contribution towards the cost of these concessions but this funding ceased in 2013-14.

responsibilities in the area of aged care not influence the relativities. The payments made in respect of State responsibilities and for which needs are assessed will now impact on the relativities.

21 The Certain concessions for pensioners NPP ceased in 2013-14 but States continue to provide a range of concessions.

**Table 3 Major Commonwealth payments to States for welfare services, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| National disability SPP | 427 | 331 | 268 | 146 | 96 | 29 | 22 | 14 | 1 334 |
| Home and community care (a) | 0 | 378 | 0 | 162 | 0 | 0 | 0 | 0 | 540 |
| Certain concessions for pensioners (b) | 97 | 70 | 49 | 24 | 28 | 9 | 2 | 1 | 280 |
| Homelessness | 33 | 30 | 31 | 19 | 15 | 4 | 5 | 5 | 143 |
| Other | 12 | 23 | 1 | 2 | 2 | 1 | 7 | 30 | 79 |
| Total | 569 | 832 | 350 | 353 | 141 | 44 | 36 | 51 | 2 375 |

(a) From July 2015, Victoria will have passed across to the Commonwealth responsibility for aged care services and so will no longer be in receipt of the Home and community care payment.
(b) As a budget savings measure, this payment ended in 2013-14.
Source: Commonwealth of Australia's *Final Budget Outcome, 2013-14*.

22 A complete list of Commonwealth payments and their treatment is provided in Attachment 2 – Treatment of Commonwealth payments.

## CATEGORY STRUCTURE

23 The assessment of the Welfare category is undertaken separately for each of the following components:

- family and child services
- aged care services
- disability services
- general welfare.

24 Table 4 shows the assessment structure for the category, the disabilities that are assessed and the size of each component, using 2013-14 data.

**Table 4 Category structure, Welfare, 2013-14**

| Component | Component expense | Disability | Influence measured by disability |
|---|---|---|---|
| | $m | | |
| Family and child | 4 716 | Socio-demographic composition (SDC) | Recognises that Indigenous status and low socio-economic status (SES) of State populations aged 0-14 and where people live affect the use of services. |
| | | Location | Recognises the differences in wage costs between States and in the cost of providing services to different areas within a State. |
| | | Service delivery scale | Recognises the cost of providing services in small population centres. |
| Aged care services | 919 | None | Assessed equal per capita. |
| Disability services | 7 112 | NDIS - SDC (transition) | State proportions of total number of younger people who meet the (full coverage) access requirements of the NDIS. |
| | | NDIS - SDC (full implementation) | Assessed actual per capita. |
| | | Non-NDIS - SDC | State proportions of total number of younger people who meet the (full coverage) access requirements of the NDIS. |
| | | Non-NDIS - Cross-border | Recognises the cost to the ACT of providing services to people who are New South Wales residents. |
| | | Non-NDIS - Location | As above. |
| General welfare | 2 511 | Concessions - SDC | Recognises that low SES population characteristics affect the use and cost of providing services. |
| | | Other general welfare - SDC | Recognises that low SES population characteristics affect the use and cost of providing services. |
| | | Other general welfare - Cross-border | As above. |
| | | Location | As above. |

Source: Commission calculation.

# FAMILY AND CHILD SERVICES

## Socio-demographic composition

25 We have recognised the impact of age, Indigenous status, socio-economic status (SES) and remoteness on the cost of providing family and child services because there is a conceptual case these characteristics affect State costs and evidence to support it. We have made separate assessments of child protection expenses and

out-of-home care expenses because Indigenous use of each is materially different. No State put a contrary view.

### *Age*

26 Family and child services are directed to families with children. Our assessment is therefore based on the 0-17 age group. In deriving use rates, we relate child protection data to population data for the 0-14 age group as a proxy, as the ABS is unable to provide population breakdowns for the 0-17 age group.

### *Indigenous status*

27 Indigenous children are disproportionately represented in child protection services and out-of-home care numbers, with sufficiently different Indigenous use of each of these services to necessitate separate assessments (Table 5 and Table 6). Use of child protection services is measured by the number of substantiations, which refer to investigations to determine whether a notification that a child needs protection is 'substantiated'.

**Table 5 Children aged 0–17 in substantiations, 2012-13, by Indigenous status**

| | 2012-13 |
|---|---|
| | Rate per 1 000 children |
| Indigenous children | 46.8 |
| Non-Indigenous children | 7.1 |
| All children | 9.4 |
| Ratio of Indigenous/non-Indigenous | 6.6 |

Note: Population data relate to the 0-14 age group.
Source: AIHW, special data request.

**Table 6 Children aged 0–17 in out-of-home care, 30 June 2013, by Indigenous status**

| | 2012-13 |
|---|---|
| | Rate per 1 000 children |
| Indigenous children | 57.5 |
| Non-Indigenous children | 6.5 |
| All children | 9.4 |
| Ratio of Indigenous/non-Indigenous | 8.9 |

Note: Population data relate to the 0-14 age group.
Source: AIHW, special data request.

### *Socio-economic status*

28 Evidence shows that use of State services is strongly associated with low income.

29 The Australian Institute of Health and Welfare's (AIHW) child protection unit record data show greater rates of substantiation in poorer areas. We have based our SES measure on a purpose-built Indigenous specific Socio-economic Index for Areas for the Indigenous population (IRSEO) and a non-Indigenous specific SEIFA developed for the Commission by the ABS for the non-Indigenous population (NISEIFA). (These measures are discussed in more detail in Volume 1, Chapter 2 — Main issues.) We have used the bottom two quintiles as our proxy for low SES areas.

### *Remoteness*

30 We have taken account of differences in substantiation use rates between non-remote and remote locations.

31 Table 7 shows the number of substantiated cases per 1 000 children in 2012-13 disaggregated by Indigenous status, SES and remoteness, again based on our SEIFA measures.

32 Based on the available data, the bottom two quintiles accounted for 48% of all Indigenous substantiations and 61% of non-Indigenous substantiations in 2012-13. The overall share, across the Indigenous and non-Indigenous populations, was 58%.

**Table 7 Substantiations use rates by SES status, 2012-13**

| | Indigenous children aged 0-17 | Non-Indigenous children aged 0-17 |
|---|---|---|
| | Rate per 1 000 children | Rate per 1 000 children |
| Low SES | | |
| Non-remote | 48.6 | 11.9 |
| Remote | 52.4 | 8.9 |
| High SES | | |
| Non-remote | 42.3 | 4.7 |
| Remote (a) | 2.3 | 3.9 |

(a) The use rate for high SES, remote Indigenous children is based on a very small number of substantiation observations.

Note: Based on data for all States other than New South Wales, Queensland and Western Australia. Population data relate to the 0-14 age group.

Source: AIHW, special data request.

33 Because the SES status of children in out-of-home care cannot be determined by this method, we have used the same relative SES use rates for out-of-home care expenses.

## Data

34 We have decided to use AIHW child protection unit record data on substantiations and out-of-home care numbers. We recognise that substantiation rates can vary between States because of differences in child protection policies and practices. However, we have used the data to estimate national average rates of substantiation. Presently, we have substantiations and out-of-home care data by Indigenous status for all States and substantiations data further broken down by SES and remoteness, based on a postcode-IRSEO/NISEIFA mapping we provided to the AIHW, for all States other than New South Wales, Queensland and Western Australia.

## Calculating the socio-demographic composition assessment

35 The SDC assessment has been calculated by:

- splitting total spending between child protection and out-of-home care services
- inferring spending on Indigenous and non-Indigenous children using substantiations and out-of-home care numbers by Indigenous status
- splitting these expenses by SES and remoteness using data on substantiations.

36 State spending on family and child services has been split between child protection services and out-of-home care services using Productivity Commission State recurrent expense data on each, shown in Table 8. The Productivity Commission splits the family and child services into two additional services. Those services were allocated to child protection and out-of-home care services on a proportional basis, given they are both aimed at reducing the need for child protection and out-of-home care services.

**Table 8 State Government recurrent expenses on family and child services, 2012-13**

| | 2012-13 |
|---|---|
| | $m |
| Child protection services | 1 147 |
| Out-of-home care services | 2 070 |
| Intensive family support services | 304 |
| Family support services | 360 |
| Total | 3 882 |

Source: Productivity Commission, *Report on Government Services 2014*, Table 15A.1.

37 To identify spending on Indigenous and non-Indigenous children, expenses on child protection and out-of-home care services were each allocated on the basis of Indigenous and non-Indigenous substantiations and out-of-home care service user numbers for all States.

38 National average use rates by SES and remoteness for Indigenous and non-Indigenous children have been calculated by dividing substantiation numbers by the number of

0-14 year old children[4] in the corresponding Indigenous status/SES/remoteness cohort. The national average use rates are based on data from five States —Victoria, South Australia, Tasmania, the ACT and the Northern Territory. The SES and remoteness breakdowns are of children who were the subject of substantiations, based on postcode at the time of the first notification that was substantiated.

39 We multiply these use rates by State populations in each cohort to calculate assessed substantiation numbers by State by cohort. We then apportion the expenses on child protection services on Indigenous and non-Indigenous children by State using these assessed substantiation numbers. We also apportion the expenses on out-of-home care services on Indigenous and non-Indigenous children by State using these assessed substantiation numbers as we consider the address at notification to be a more accurate measure of needs than the carer's address. A State's total assessed expenses are then derived by adding its assessed child protection and out-of-home care expenses across all the cohorts.

40 The resulting family and child SDC assessed expenses per child are given in Table 9.

**Table 9 SDC assessed expenses per child, family and child services, 2013-14**

| | SES | Remoteness | Indigenous | Non-Indigenous |
|---|---|---|---|---|
| Child protection expenses | Low SES | Non-remote | 2 191 | 476 |
| | | Remote | 2 325 | 192 |
| | High SES | Non-remote | 1 846 | 176 |
| | | Remote | 110 | 140 |
| Out-of-home care expenses | Low SES | Non-remote | 4 840 | 782 |
| | | Remote | 5 137 | 315 |
| | High SES | Non-remote | 4 078 | 288 |
| | | Remote | 242 | 230 |

Source: Commission calculation.

## Location

41 We have recognised that differences in wage costs between States and in the cost of providing services to different areas within a State have a differential effect on the cost of providing family and child services across States. These influences are measured in a similar way for most assessment categories and the methods are described in Chapter 22 – Wage costs and Chapter 23 – Regional costs.

[4] We have used the 0-14 population as the ABS does not release an Indigenous breakdown of population by single year of age disaggregated by geography.

## Service delivery scale

42 We have recognised that States face different service delivery costs in certain parts of the State where the small size and dispersed nature of many communities leads to above average staffing levels. We have made a service delivery scale (SDS) assessment using an extrapolation of the SDS cost weight for police. The rationale and details of the approach taken are outlined in Chapter 24 – Service delivery scale.

## Bringing the family and child services component together

43 Table 10 shows the total assessed expenses.

**Table 10 Assessed expenses, family and child services component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| SDC assessed ($m) | 1 551 | 890 | 1 092 | 514 | 324 | 130 | 48 | 167 | 4 716 |
| Location factor | 0.992 | 0.976 | 1.005 | 1.038 | 1.001 | 1.033 | 0.986 | 1.277 | 1.000 |
| Service delivery scale factor | 0.998 | 0.995 | 1.002 | 1.005 | 1.005 | 1.005 | 0.993 | 1.050 | 1.000 |
| Total ($m) | 1 518 | 856 | 1 088 | 530 | 322 | 133 | 46 | 222 | 4 716 |
| Total ($pc) | 203 | 148 | 232 | 208 | 192 | 259 | 121 | 909 | 202 |

Source: Commission calculation.

# AGED CARE SERVICES

44 The introduction of the new aged care and related disability services arrangements which took effect for most States from July 2011 (and Victoria from July 2015), mean that Western Australia will be the only State with expenses on basic community care and NDA services for older people that the Commonwealth does not fund.

45 Since these changes, terms of reference for update reports have instructed the Commission not to allow the changes to influence the GST relativities. That direction is not part of the terms of reference for this review. Rather, we are instructed:

> where responsibilities for funding and delivering aged care and disability services has not been transferred to the Commonwealth by a State under the NHR Agreement, these responsibilities will continue to be assessed as State services for that State.

46 This review is the first time the changes will have an impact.

47 Because this is a major change in Commonwealth-State financial relations, we have backcast the changes. This means that, other than Western Australia, States will have no expenses on aged or disability services for older people. The Commonwealth will either fund them, or where they continue to be provided by the States, such as specialist disability services, States will be reimbursed. We have netted off the Basic community care NPPs from expenses for all States except Western Australia.

48 We have decided that the appropriate assessment of State spending and Commonwealth payments in this area is one which has no impact on the GST distribution.

49 In dealing with this issue the Commission had to consider a number of difficult conceptual issues before confronting the usual data and implementation questions.

50 Because both the Commonwealth and Western Australia are providing the same service, the boundary of what is a State service is blurred in this instance. The overall spending on this service is the sum of Commonwealth spending in some States and Western Australia's spending in its State. The average could form the basis of what would need to be spent to deliver average service levels in Western Australia and we consider this approach would be consistent with the intent of the terms of reference. In this instance, such an approach would avoid Western Australia as the only State undertaking any expenditure, directly influencing the GST distribution.

51 We also have to consider how to deal with the position that Western Australia is the only State not to accept what amounts to a Commonwealth payment for the delivery of this service at the same level as provided in other States. This suggests that, in determining the fiscal impact of the service on Western Australia, we should not only take into account the payment it receives from the Commonwealth, but also the implicit funding it has decided not to accept. This is analogous to a decision by one State not to raise a tax levied by other States, which the Commission treats by imputing revenue at the average tax rate.

52 Taken together, and consistent with the Commission's new approach to average policy, we have concluded that if Western Australia followed the average policy in this area, we would assess a certain level of spending and impute to it the same revenue from the Commonwealth. This would lead to this service having no net impact on its fiscal capacity, exactly the same position as for other States. Consequently, rather than undertake assessments which negate each other we have decided that it is simpler to ensure that expenses and Commonwealth payments in this area have no impact on the GST distribution. For this reason, Tasmania's proposal to make an assessment of needs for Western Australia's aged population as part of the disability services assessment is not considered necessary.

53 We have effected this no impact assessment by assessing States' aged care expenses EPC and treating the Basic Community Care NPPs as not impacting on the relativities. Because it is an EPC assessment, we have seen no need to adjust Victoria's and the other six States' recorded aged care expenses in the assessment years to reflect backcasting. This means that we are simply assessing EPC a larger amount of expenses than just Western Australia's aged care expenses.

## DISABILITY SERVICES

54 Consistent with the approach to the assessment of NDIS expenses discussed in Volume 1, Chapter 2 — Main issues, we have decided that during the transition to the NDIS, we will maintain dual disability services assessments — one for the NDIS and one for State expenses associated with existing services. Because the implementation of the NDIS is regarded as a major change in Commonwealth-State relations, we will backcast the change. That is, expenses in each of the three assessment years will be split between NDIS and existing disability services expenses in the respective proportions projected for the application year.

55 Because the Commonwealth has taken over responsibility for aged care services, which include disability services for the aged, this component covers only younger people — the population under 65 years of age (50 for Indigenous).

56 Commonwealth payments to all States other than Western Australia for the delivery of NDA services to older people on its behalf (through the Transitioning for aged and disability — Specialist disability services NPPs) will become a Commonwealth purchase and subtracted off State expenses.[5] The balance of the National disability SPP will continue to be treated as having an impact on the relativities.

57 However, as the transition to NDIS does not commence until 2016-17, the application year for the 2016 Update, we only need to make an assessment for existing disability services in the assessment years of this review.

### Socio-demographic composition

#### *Existing disability services*

58 Specialist disability services provided by the States under the NDA are aimed at helping younger people with disability and their carers achieve an enhanced quality of life and participate as valued members of the community.

59 With the introduction of the NDIS, we consider the data generated provide a better indicator of the need for State spending on these services than we used in the 2010 Review. We have decided to use the number of people who meet the (full coverage) access requirements of the NDIS as a proxy SDC driver of existing disability services. This is the same driver as we will use for services provided under the NDIS during the transition.

[5] Negotiations between the States and the Commonwealth over funding under the Transitioning Responsibilities for Aged Care and Disability Services National partnership, and the associated 'budget-neutral' adjustment to the Disability SPP, are still continuing. We may need to reassess the treatment of these payments depending on the outcome of those negotiations.

60 This is despite South Australia's view that there is a high level of unreliability in current NDIS eligibility projections. It cited a report prepared by the Scheme Actuary which has observed that the number of 'Tier 3' participants (the number of people who would receive funded supports under the NDIS) could end up being up to 100 000 lower than the Productivity Commission based estimate of 420 000. We do not share South Australia's concerns about the reliability of the NDIS data. A separate review of the Productivity Commission's estimates by PricewaterhouseCoopers found the number of participants could end up being around 40 000 higher. We consider considerable effort has been undertaken to develop a comparable set of data on the numbers of users in each State and the result is a policy neutral measure of the user population in each State.

### *NDIS*

61 During the transition period, the NDIS assessment will reflect individual States' proportions of the total number of people who meet the (full coverage) access requirements of the NDIS. Upon full implementation, State contributions to the scheme will be assessed APC. (Further information on the NDIS assessment and State views is provided in Volume 1, Chapter 2 — Main issues.)

62 We note the ACT's concerns that it will be disadvantaged by its more rapid movement to the full scheme because it will have taken on its eventual number of participants by the beginning of the transition period. However, while the ACT will incur relatively higher costs in moving from the existing disability services arrangements to the NDIS more quickly than the other States, it will be delivering a higher standard of service than the other States during the initial stages of transition.

63 Our assessment will not recognise these higher costs. However, the ACT's share of the GST will allow it to deliver the same average level of service as provided in all States. We note that while the Commonwealth encouraged all States to participate in trials of about 5 000, not all States committed to doing so; some opting not to participate at all; others opting to trial much smaller sites. This suggests the ACT's commitment to the full scheme at the commencement of transition is the result of its policy choice.

64 We also note the ACT's argument that the supplementary terms of reference requiring that State drawdowns of the DisabilityCare Australia Fund have no impact on the GST relativities reinforces its view that an actual per capita assessment of all NDIS expenses is necessary to take account of differences between States in the pace, and hence cost, of the transition process. We do not consider this to be the case. The supplementary terms of reference require the Commission to ensure State drawdowns have no impact on the GST relativities, but this has no implications for the rest of the assessment.

### *Calculating the socio-demographic composition assessment*

65 For the assessment of existing disability services, we have used State shares of the total number of younger people who meet the (full coverage) access requirements of the scheme in 2015-16.

66 From the 2016 Update (given backcasting), we will commence the NDIS transition years assessment, which we will also base on State shares of the total number of younger people who meet the (full coverage) access requirements of the scheme in each application year.

67 State draw-downs of the Medicare Levy from the DisabilityCare Australia Fund, which will begin in 2015-16, will not affect the GST Distribution as required by the terms of reference.

## Cross-border

68 To recognise the ACT's needs for disability services used by residents from New South Wales, we have applied a cross-border adjustment to 50% of non-NDIS disability expenses. Nationally, in 2012-13, a little over 50% of NDA services expenses, excluding employment services, related to accommodation support services[6], and hence would be delivered 'in the home' and have no cross-border element. We have assumed that a cross-border adjustment would be relevant to the remainder of NDA services.

## Location

69 We have recognised that differences in wage costs between States and in the cost of providing services to different areas within a State have a differential effect on the cost of providing non-NDIS disability services across States. These influences are measured in a similar way for most assessment categories and the methods are described in Chapter 22 — Wage costs and Chapter 23 — Regional costs. These and the cross-border influences will not be applied to NDIS spending in transition.

## Bringing the disability services component together

70 Table 11 shows the total assessed expenses.

[6] AIHW, 'Disability support services: Services provided under the National Disability Agreement 2012-13', *AIHW Bulletin 122*, July 2014, Table 1.2.

**Table 11 Assessed expenses, disability services component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| SDC assessed ($m) | | | | | | | | | |
| Existing disability services | 2 314 | 1 701 | 1 474 | 726 | 531 | 177 | 84 | 105 | 7 112 |
| NDIS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cross-border factor (a) | 0.998 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.047 | 1.000 | 1.000 |
| Location factor (a) | 0.992 | 0.976 | 1.005 | 1.038 | 1.001 | 1.033 | 0.986 | 1.277 | 1.000 |
| Total ($m) | 2 286 | 1 659 | 1 480 | 753 | 531 | 182 | 86 | 134 | 7 112 |
| Total ($pc) | 306 | 287 | 316 | 295 | 317 | 355 | 225 | 548 | 305 |

(a) Applies only to existing disability services.
Source: Commission calculation.

# GENERAL WELFARE

## Socio-demographic composition

71 The Commission has recognised low SES as an influence on the cost of providing general welfare services. General welfare services include concessions[7], homeless persons' assistance, prisoners' aid, care of refugees, Indigenous welfare services, women's shelters, and information, advice and referral services. After concessions, homelessness services are the largest item of expenditure, with net recurrent expenses of $591 million in 2012-13.[8] Services are clearly directed predominantly to people of low SES status.

72 We have made separate assessments for concessions and other general welfare services because they have different disabilities. General welfare services expenses were estimated to be $2.5 billion in 2013-14. Concessions were an estimated $2.0 billion.

### *Concessions*

73 We have assessed concessions using the number of pensioner concession card (PCC) plus health care card (HCC) holder numbers in each State as a proportion of State population. The eligibility requirements for these cards are set out by the Commonwealth and are the same across States.

74 Eligibility for water, energy and rates concessions by State by Commonwealth PCC holders and Commonwealth HCC holders are set out in Table 12. PCC holders in all States are eligible for concessions in all three areas. HCC holder eligibility is somewhat more restricted, varying by State and by concession.

[7] Concessions cover rebates made available to pensioners for council/land and water rates, utilities including energy and sewerage, motor vehicle registration and licences.

[8] Productivity Commission, *Report on Government Services 2014*, Table 18A.1.

**Table 12 State eligibility for water, energy and rates concessions**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT |
|---|---|---|---|---|---|---|---|---|
| Water | PCC | PCC/HCC | PCC | PCC | PCC/HCC | PCC/HCC | PCC/HCC | PCC |
| Energy | PCC/HCC | PCC/HCC | PCC | PCC/HCC (a) | PCC/HCC | PCC/HCC | PCC/HCC | PCC |
| Rates | PCC | PCC | PCC | PCC/HCC (b) | PCC/HCC | PCC/HCC | PCC | PCC |

(a) Concessions available to cardholders who live in areas of the State that experience prolonged periods of heat discomfort.
(b) Concessions available to Commonwealth seniors health card holders.
Note: PCC = pensioner concession card, HCC = health care card.
Source: Australian Government's website (http://australia.gov.au/services/service-task/apply-for/concessions-application) and State government websites.

75 Table 13 shows the number of PCC and HCC holders as a proportion of State population in 2013-14.

**Table 13 Pensioner concession card and health care card holders as a proportion of State population, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | % | % | % | % | % | % | % | % | % |
| Proportion | 24.4 | 25.0 | 24.2 | 18.6 | 28.6 | 32.7 | 14.2 | 19.4 | 24.1 |

Source: Centrelink and Department of Veterans Affairs.

## *Other general welfare services*

76 Other general welfare services cover a wide variety of services. We consider that the demand for services is mainly driven by social disadvantage. As a result, we consider that a broad indicator of social disadvantage is appropriate to measure needs. To do so, we have used the 2006 Census based Socio-economic Index for Individuals (SEIFI), adjusted for changes in the relative proportions of State populations with HCCs or PCCs[9] between the 2006 and 2011 Censuses. We note that the ABS is not proposing to update the SEIFI using 2011 Census data. The ABS is developing an experimental household level index. The Commission will consider its use if it becomes available in a future update.

77 We acknowledge that the 2006 Census SEIFI is dated and note some States' proposed discounting. Instead, we have adjusted the relative proportions of State populations in the bottom quintile by the changes in another measure of social disadvantage that could be updated. We found that the relative proportion of State populations with HCCs or PCCs (excluding age pension numbers) in 2006 correlated well with State 2006 SEIFI indexes. We used the change in that measure between the 2006 and 2011 Censuses to adjust the SEIFI measure to recognise how socio-economic disadvantages have changed. Table 14 illustrates the calculation.

[9] Age Pension recipients have been excluded since other general welfare services would be almost exclusively accessed by those below age pension age.

**Table 14 SEIFI index adjusted using the change between the 2006 and 2011 Censuses in the relative proportions of State populations with a health care card or pensioner concession card**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| | % | % | % | % | % | % | % | % | % |
| 2006 SEIFI (a) | 99 | 94 | 102 | 91 | 120 | 141 | 65 | 161 | 100 |
| 2006 HCC + PCC index | 97 | 102 | 101 | 88 | 112 | 138 | 59 | 133 | 100 |
| 2011 HCC + PCC index | 99 | 103 | 101 | 79 | 114 | 136 | 57 | 114 | 100 |
| Change between the two indexes (b) (%) | 3 | 2 | 0 | -11 | 2 | -1 | -2 | -14 | 0 |
| 2006 adjusted SEIFI (a) scaled by (b) | 102 | 95 | 102 | 81 | 121 | 140 | 64 | 138 | 100 |

Note: Age Pension recipients are excluded from the adjustment calculations.
Source: Commission calculation, derived from ABS 2006 Census SEIFI data and Centrelink and Department of Veterans' Affairs concession card holder data.

78 We considered a number of other measures, including the proportion of one parent families with dependants. However, most States were of the view that such a measure was too narrow. Similarly, household equivalised income only captures one measure of disadvantage and we do not consider that it reflects State needs appropriately.

79 Some States proposed instead the use of a disability based on the bottom quintile of the Indigenous and non-Indigenous population using our purpose-built Indigenous specific SEIFA (IRSEO) and a non-Indigenous specific SEIFA (NISEIFA). We use these as our standard approach to measuring SES in most other categories where it is assessed. However, in general welfare, service user data are not available to support an area-based socio-economic index approach.

80 Western Australia said homelessness rates should be considered as homelessness services represent the largest outlay covered by the other general welfare component, otherwise a large discount should be applied to a SEIFI-based assessment. However, homelessness rates are not a satisfactory indicator of State needs in this area because they are heavily policy influenced and their underlying cause is low socio-economic status.

81 A discount is not warranted as the proposed adjustment to the 2006 SEIFI gives an updated broad and reliable measure of low socio-economic status, which is the most appropriate indicator for the range of services covered by the other general welfare component.

## *Cross-border*

82 To recognise the ACT's needs for other general welfare services used by residents from New South Wales, we have applied a cross-border adjustment to these services.

### *Location*

83 We have recognised that differences in wage costs between States and in the cost of providing services to different areas within a State have a differential effect on the cost of providing other general welfare services across States. These influences are measured in a similar way for most assessment categories and the methods are described in Chapter 22 – Wage costs and Chapter 23 – Regional costs.

## Data

84 Because States do not classify their various concessions to the same government purpose classification (GPC) codes, we have obtained data on total State concessions other than transport concessions, via a State data request, and included them all in the general welfare component.

85 We have used PCC and HCC holder data from Centrelink together with data on PCCs issued by the Department of Veterans Affairs.

86 We have obtained SEIFI data from the 2006 Census.

## Calculating the socio-demographic composition assessment

87 Concessions SDC assessed expenses were estimated using State shares of PCC and HCC holder numbers. Other general welfare services were assessed using relative shares of State populations in the bottom SEIFI quintile based on the 2006 Census, adjusted for changes in the relative proportions of State populations with PCCs (excluding age pension numbers) or HCCs between the 2006 and 2011 Censuses.

## Bringing the general welfare services component together

88 Table 15 shows the total assessed expenses.

**Table 15 Assessed expenses, general welfare component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| SDC assessed ($m) | | | | | | | | | |
| Concessions ($m) | 644 | 513 | 401 | 168 | 170 | 59 | 19 | 17 | 1 992 |
| Other general welfare ($m) | 169 | 123 | 107 | 46 | 45 | 16 | 5 | 8 | 519 |
| Cross border factor | 0.995 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.095 | 1.000 | 1.000 |
| Location factor | 0.992 | 0.976 | 1.005 | 1.038 | 1.001 | 1.033 | 0.986 | 1.277 | 1.000 |
| Total ($m) | 811 | 633 | 508 | 216 | 215 | 76 | 25 | 26 | 2 511 |
| Total ($pc) | 109 | 109 | 108 | 85 | 128 | 148 | 66 | 108 | 108 |

Source: Commission calculation.

## BRINGING THE ASSESSMENT TOGETHER

89 Table 16 brings the assessed expenses for each component together to derive the total assessed expenses for each State for the category.

**Table 16 Category assessment, Welfare, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| **Family and child** | | | | | | | | | |
| Equal per capita | 202 | 202 | 202 | 202 | 202 | 202 | 202 | 202 | 202 |
| SDC | 5 | -49 | 31 | -1 | -9 | 50 | -78 | 483 | 0 |
| Location | -2 | -5 | 1 | 8 | 0 | 7 | -3 | 56 | 0 |
| SDS | 0 | -1 | 0 | 1 | 1 | 1 | -1 | 10 | 0 |
| Total | 203 | 148 | 232 | 208 | 192 | 259 | 121 | 909 | 202 |
| **Aged care** | | | | | | | | | |
| Total | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 |
| **Existing disability services** | | | | | | | | | |
| Equal per capita | 305 | 305 | 305 | 305 | 305 | 305 | 305 | 305 | 305 |
| SDC | 5 | -11 | 9 | -20 | 12 | 38 | -87 | 125 | 0 |
| Cross-border | -1 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 0 |
| Location | -3 | -7 | 2 | 12 | 0 | 10 | -4 | 85 | 0 |
| Total | 306 | 287 | 316 | 295 | 317 | 355 | 225 | 548 | 305 |
| **NDIS** | | | | | | | | | |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Concessions** | | | | | | | | | |
| Equal per capita | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 85 |
| SDC | 1 | 3 | 0 | -20 | 16 | 30 | -35 | -17 | 0 |
| Total | 86 | 89 | 86 | 66 | 101 | 116 | 50 | 69 | 85 |
| **Other general welfare** | | | | | | | | | |
| Equal per capita | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |
| SDC | 0 | -1 | 0 | -4 | 5 | 9 | -8 | 8 | 0 |
| Cross-border | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| Location | 0 | -1 | 0 | 1 | 0 | 1 | 0 | 6 | 0 |
| Total | 22 | 21 | 23 | 19 | 27 | 32 | 15 | 39 | 22 |
| **Category total** | 658 | 583 | 696 | 628 | 676 | 801 | 451 | 1 605 | 655 |

Note: Component disabilities may not add due to interactions.
Source: Commission calculation.

## Alternative presentation

90 Table 17 provides an alternative presentation using a factor approach. The table shows for each disability how the expenses per capita in each component and in total are affected by differences in State characteristics. Disability factors below one

indicate a State is assessed to need to spend less than average. Disability factors above one indicate a State is assessed to need to spend more than average.

**Table 17 Category factor, Welfare, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| **Family and child (component weight = 31%)** | | | | | | | | | |
| SDC | 1.027 | 0.760 | 1.152 | 0.997 | 0.954 | 1.247 | 0.616 | 3.387 | 1.000 |
| Location | 0.992 | 0.976 | 1.005 | 1.038 | 1.001 | 1.033 | 0.986 | 1.277 | 1.000 |
| SDS | 0.998 | 0.995 | 1.002 | 1.005 | 1.005 | 1.005 | 0.993 | 1.050 | 1.000 |
| Component factor | 1.005 | 0.731 | 1.147 | 1.028 | 0.949 | 1.281 | 0.596 | 4.493 | 1.000 |
| A. Weighted factor | 1.002 | 0.917 | 1.046 | 1.009 | 0.984 | 1.087 | 0.875 | 2.079 | 1.000 |
| **Aged care (component weight = 6%)** | | | | | | | | | |
| SDC | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Component factor | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| B. Weighted factor | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| **Existing disability services (component weight = 47%)** | | | | | | | | | |
| SDC | 1.016 | 0.964 | 1.031 | 0.934 | 1.038 | 1.126 | 0.716 | 1.409 | 1.000 |
| Cross-border | 0.998 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.047 | 1.000 | 1.000 |
| Location | 0.992 | 0.976 | 1.005 | 1.038 | 1.001 | 1.033 | 0.986 | 1.277 | 1.000 |
| Component factor | 1.004 | 0.940 | 1.035 | 0.968 | 1.038 | 1.162 | 0.738 | 1.797 | 1.000 |
| C. Weighted factor | 1.002 | 0.972 | 1.016 | 0.985 | 1.018 | 1.076 | 0.878 | 1.372 | 1.000 |
| **NDIS (component weight = 0%)** | | | | | | | | | |
| SDC | 1.016 | 0.964 | 1.031 | 0.934 | 1.038 | 1.126 | 0.716 | 1.409 | 1.000 |
| Component factor | 1.016 | 0.964 | 1.031 | 0.934 | 1.038 | 1.126 | 0.716 | 1.409 | 1.000 |
| D. Weighted factor | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| **Concessions (component weight = 13%)** | | | | | | | | | |
| SDC | 1.010 | 1.037 | 1.002 | 0.772 | 1.184 | 1.355 | 0.588 | 0.805 | 1.000 |
| Component factor | 1.010 | 1.037 | 1.002 | 0.772 | 1.184 | 1.355 | 0.588 | 0.805 | 1.000 |
| E. Weighted factor | 1.001 | 1.005 | 1.000 | 0.970 | 1.024 | 1.046 | 0.946 | 0.975 | 1.000 |
| **Other general welfare (component weight = 3%)** | | | | | | | | | |
| SDC | 1.017 | 0.953 | 1.021 | 0.813 | 1.217 | 1.399 | 0.638 | 1.380 | 1.000 |
| Cross-border | 0.995 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.095 | 1.000 | 1.000 |
| Location | 0.992 | 0.976 | 1.005 | 1.038 | 1.001 | 1.033 | 0.986 | 1.277 | 1.000 |
| Component factor | 1.003 | 0.930 | 1.026 | 0.843 | 1.217 | 1.445 | 0.688 | 1.762 | 1.000 |
| F. Weighted factor | 1.000 | 0.998 | 1.001 | 0.995 | 1.007 | 1.015 | 0.989 | 1.026 | 1.000 |
| **Category factor** | 1.005 | 0.891 | 1.063 | 0.959 | 1.033 | 1.224 | 0.689 | 2.452 | 1.000 |

Source: Commission calculation.

## Influences not assessed in this category

### *Indigenous cost weight for family and child services*

91 In the absence of evidence pointing to higher unit costs associated with Indigenous child protection cases, we have not incorporated either a remote Indigenous cost weight or an Indigenous cost weight.

92 The Northern Territory maintained that it costs more to provide child protection services to remote Indigenous children. In support of this contention, it noted the need for children under care to be placed in close proximity to family and community when possible. It also noted its employment of Remote Aboriginal Family and Community Workers and provision of family support services targeted at remote Indigenous communities. Of the States with a significant remote area population, only the Northern Territory and Queensland provide a remote loading for foster care/relative or kinship carer allowances. For those without special needs this loading is 10%. However, the loading is available to carers of both Indigenous and non-Indigenous children and we consider that the regional costs factor we incorporate into our assessment should take account of such loadings.

93 Productivity Commission data[10] also do not indicate any difference between Indigenous and non-Indigenous children in average time spent in out-of-home care.

### *A disability for Indigenous use of existing disability services*

94 We have not incorporated an explicit disability for Indigenous use of existing disability services.

95 The Northern Territory was of the view that the existing disability services assessment should take account of the greater use of services by Indigenous people. However, we consider that State shares of NDIS full scheme participant numbers, which we are proposing as the disability, will reflect this greater Indigenous service use.

### *Service delivery scale for non-NDIS disability services and general welfare*

96 We did not recognise a service delivery scale disability for the existing disability services as disability services are not generally provided in very small centres. Likewise, a disability is not appropriate for the concessions assessment within general welfare nor for homelessness services, which would account for the bulk of other general welfare expenses. This issue is discussed further within Chapter 24 - Service delivery scale.

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[10] Productivity Commission, *Report on Government Services 2014*, Table 15A.21.

### *A disability for refugees for other general welfare services*

97 We have not made allowances for refugees because any allowance would not materially affect the GST distribution given the relatively small numbers. In addition, we have no reliable data to indicate where refugees actually live.

### *Fly-in fly-out workers*

98 We did not assess the costs associated with fly-in fly-out workers. The issue of fly-in fly-out workers is dealt with in Volume 1, Chapter 2 — Main issues.

### *Cost of living*

99 We have not accepted State views that the impact of cost of living on the need for welfare services should be recognised in the assessment.

100 There is some anecdotal evidence that higher costs of living may increase demand for State services. A higher cost of living could result in greater financial stress for people on low incomes. This greater financial stress may lead to higher rates of homelessness and child protection cases. New South Wales also considered that concession expenses are partly driven by cost of living pressures. However, there are no data to quantify this impact. Further, no spatial measure of cost of living differences across States is available. The possibility of developing one has been explored by the ABS but it has concluded it is unable to do so.

101 We conclude that, while the conceptual case is plausible, the absence of reliable data means we cannot reliably make an allowance for cost of living differentials.

### *CALD*

102 We have not incorporated a cost adjustment for CALD. CALD is discussed in Chapter 27 – Other disabilities.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

103 Table 18 shows the extent to which the assessment for this category moves the distribution of the GST away from an equal per capita distribution. It shows that GST revenue is redistributed to New South Wales, Queensland, South Australia, Tasmania and the Northern Territory and away from the other States.

**Table 18 GST impact, Welfare, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| Dollars million | 26 | -443 | 206 | -72 | 38 | 79 | -85 | 251 | 601 |
| Dollars per capita | 3 | -74 | 42 | -27 | 22 | 153 | -214 | 992 | 25 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.

Source: Commission calculation.

104 The main reasons for these redistributions are the differences between States in the proportions of their populations in the groups that are high users of welfare services, along with differences between States in the cost of wage related inputs to welfare services. High or costly users of welfare services are Indigenous people and people living in areas of relative disadvantage (that is, with low SES).

105 Some of the main reasons for the redistributions for each State are:

- New South Wales has a slightly lower than average share of the Indigenous people, but this is offset by its slightly greater than average share of the low SES population.
- Victoria has a low share of Indigenous people. In addition, it has a relatively low share of the low SES population and relatively low costs associated with providing services to different areas within the State.
- Queensland has a relatively high share of Indigenous people and also a greater than average share of children and the low SES population.
- Western Australia has a relatively low share of the low SES population, but that is partly offset by its above average share of Indigenous people, relatively high wage costs and costs associated with providing services to different areas within the State.
- South Australia and Tasmania have relatively high shares of the low SES population. Tasmania also has an above average share of the Indigenous population, although South Australia has a below average share.
- The ACT has a relatively low share of the low SES and Indigenous populations. A small offset arises from its provision of services to some residents of New South Wales and its relatively high wage costs.
- The Northern Territory has a high share of the Indigenous population, which draw disproportionately on welfare services. It also faces relatively high costs associated with providing services to different areas within the State.

106 Table 19 shows State proportions of the Indigenous population, of children and of people from a low SES background.

**Table 19 State proportions of selected population groups, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | % | % | % | % | % | % | % | % | % |
| Indigenous | 2.9 | 0.9 | 4.3 | 3.6 | 2.3 | 4.9 | 1.7 | 29.5 | 3.0 |
| 0-14 | 18.9 | 18.3 | 19.8 | 19.1 | 17.7 | 18.5 | 18.5 | 22.3 | 18.9 |
| Low SES | 20.3 | 19.0 | 20.4 | 16.2 | 24.3 | 27.9 | 12.7 | 27.6 | 20.0 |

(a) Low SES comprises people in the bottom SEIFI quintile, calculated using the ABS 2006 SEIFI adjusted for the change in relative levels of HCC plus PCC numbers (excluding Age Pension numbers) between the 2006 and 2011 Censuses.

Source: Commission calculations using ABS data.

107 Table 20 provides a summary of the major reasons the assessment moves State GST revenue away from an equal per capita distribution.

**Table 20 Major reasons for difference from EPC, Welfare, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| SDC | | | | | | | | | |
| Remoteness (a) | 0 | 3 | -2 | -2 | -2 | -1 | 0 | 3 | 7 |
| Indigenous status | -11 | -242 | 120 | 29 | -19 | 19 | -11 | 116 | 283 |
| SES | 65 | -3 | -16 | -98 | 64 | 31 | -36 | -6 | 159 |
| Age | -2 | -41 | 52 | 8 | -23 | -2 | -3 | 10 | 70 |
| People with disability | 41 | -72 | 50 | -59 | 22 | 22 | -37 | 34 | 168 |
| Total SDC | 92 | -355 | 204 | -122 | 42 | 69 | -87 | 158 | 564 |
| Wage costs | 15 | -28 | -21 | 38 | -7 | -5 | 4 | 4 | 61 |
| Regional costs | -49 | -53 | 35 | 19 | 6 | 15 | -7 | 34 | 109 |
| Cross-border | -7 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 7 |
| Service delivery scale | -3 | -6 | 2 | 3 | 2 | 0 | -1 | 3 | 10 |
| Total | 26 | -443 | 206 | -72 | 38 | 79 | -85 | 251 | 601 |

(a) The impact of remoteness includes interactions.

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.
Disabilities may not add due to interactions.

Source: Commission calculation.

## CHANGES SINCE THE 2014 UPDATE

108 Table 21 breaks down the total changes since the 2014 Update into the impact of changing data sources, category-specific method changes, and change in State circumstances in the 2015 assessment period.

**Table 21 Changes since the 2014 Update, Welfare**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Data changes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Method changes | 51 | 31 | 20 | 132 | -163 | -46 | 25 | -49 | 259 |
| Change in circumstances | 1 | -18 | 11 | -12 | 7 | 5 | -4 | 10 | 33 |
| Total | 52 | 13 | 30 | 119 | -156 | -40 | 22 | -40 | 237 |

Source: Commission calculation.

## Data changes

109 We consider that all changes in this assessment are due to changes in method.

## Method changes

110 There are a number of category-specific method changes associated with this category since the 2010 Review. The net effect of all method changes was $259 million, with GST redistributions to New South Wales, Victoria, Queensland, Western Australia and the ACT, and away from the other States.

### *Family and child services*

111 The major change in the assessment of this component of welfare services stems from the availability for the first time of child protection unit record data. While data on the SES and remoteness characteristics of families of children subject to child protection investigations are not directly available from this new collection, we have been able to derive SES and remoteness breakdowns for both the Indigenous and non-Indigenous populations by assuming an individual family's SES can be proxied by the SES of all families living in their postcode area. The change in method moved GST revenue away from the Northern Territory, reflecting the lower measured use of services by the low SES Indigenous population.

### *Welfare services for the aged*

112 Since the 2010 Review, the Commonwealth has taken over State responsibilities in the areas of aged care services and disability services for older people. Needs relating to welfare-related aged care services are, including for Western Australia, assessed EPC. The move to an EPC assessment moved GST revenue primarily to Western Australia and the ACT, and away from South Australia and Tasmania, reflecting the relatively younger populations of the former and the relatively older populations of the latter.

### *Disability services*

113 During the NDIS transition period, we will introduce dual disability services assessments — one for the NDIS and one for State expenses associated with existing services delivered under the NDA. Both NDIS and existing disability services will be assessed using the population eligible for NDIS. Transition does not affect the 2015 Review period. After full implementation, an APC assessment will be adopted for NDIS services. The changes to the existing disability services assessment moved GST revenue primarily towards Western Australia and the Northern Territory and away from South Australia and Tasmania.

### *General welfare*

114 For the 2015 Review, all concessions other than transport concessions are included in the general welfare component of the Welfare assessment. For the 2010 Review, in contrast, water and electricity concessions were included within the Services to communities category. Concessions are assessed using the number of concession card holders, similar to how water and electricity concessions were previously assessed. There was consequently only a very modest resulting redistribution. The remainder of general welfare services is assessed using the relative State proportions of people in the bottom quintile of the ABS's 2006 SEIFI, adjusted to take account of the change in the relative proportion of State populations with PCCs (excluding those on Age Pensions) or HCCs between the 2006 and 2011 Censuses. The changes to the other general welfare assessment resulted in a significant redistribution away from the Northern Territory.

## Changes in State circumstances

115 Since 2010-11, State spending on welfare has increased by 20.8%, almost twice the rate of growth in the GST pool (11.3%). Replacing the 2010-11 average expenses with 2013-14 average expenses has therefore led to a redistribution of $33 million — with a State by State redistribution reflective of the size and pattern of the redistributions from EPC resulting from the 2015 Review (Table 18).

# UPDATING THE ASSESSMENT

116 We recommend that data used in this assessment be updated when new data become available to ensure the relativities remain contemporary and consistent with the circumstances of the States. On this basis we expect:

- the following data would be updated annually:
  - Productivity Commission data on recurrent expenditure on child protection and out-of-home care services (used to split family and child

services expenses between child protection services and out-of-home care services)

- AIHW data on Indigenous and non‑Indigenous substantiations and out-of-home care service user numbers
- AIHW substantiations data broken down by SES and remoteness categories, for Indigenous and non-Indigenous children, aggregated across States for which these breakdowns are available, using a purpose-built Indigenous specific SEIFA for the Indigenous population and a non-Indigenous specific SEIFA developed for the Commission by the ABS for the non-Indigenous population (the breakdowns are of children who were the subjects of substantiations, by SES and remoteness category at notification, based on postcode at the time of the first notification that was substantiated)
- the latest estimates of the total number of people anticipated to be covered, in the application year, by the NDIS when fully operational
- the anticipated NDIS share of disability expenses in the application year (disability expenses in each of the three assessment years will be split between NDIS and existing disability services expenses in the respective proportions for the application year)
- Centrelink and Department of Veterans' Affairs data on the number of PCC plus HCC holders by State (used in the assessment of concessions)

- the following data would be updated when updated data become available:
  - ABS 2011 Census data on the Socio-economic Index for Households, if and when it should become available, to replace the 2006 Census data based on the ABS's Socio-economic Index for Individuals, on which we are currently relying (together with the change in the relative proportion of State populations with HCCs or PCCs — excluding those on Age Pensions — between the 2006 and 2011 Censuses).

# CHAPTER 14

# HOUSING

## SUMMARY OF THE ASSESSMENT

The Housing category covers State spending on and revenue received from social housing services and expenses on home purchase assistance for first home buyers.

In assessing State spending we recognise there are differences in the socio-demographic composition of households that influence costs. We consider States face higher costs if they have above average shares of households that are Indigenous (especially those living in more remote areas), of low socio-economic status or living in more remote areas as these groups either use social housing more or cost more to service. Wage costs differences between States are also recognised.

Revenue raised from rent partly offsets State expenses. States with a greater proportion of high use households have a greater capacity to generate revenue, which is partly offset by the lower rents paid by low-income households and households living in remote and very remote regions.

We assess assistance for first home buyers in a way that does not affect GST shares.

## WHAT IS INCLUDED IN THE HOUSING CATEGORY?

1 The Housing category includes expenses on all social housing services, including those provided through general government and public non-financial corporations (PNFCs). More specifically, the category includes:

- consolidated expenses on public housing provided by general government and PNFCs, and subsidies to community housing providers
- private rental assistance to assist low-income households for bonds and rent payments (this is a very small amount of spending in the category and has been included with public housing expenses)
- home loans and other forms of home purchase assistance including interest rate assistance, grants and concessional stamp duty on conveyances to first home buyers.

2 The expenses exclude spending on:

- the provision of accommodation to State employees, such as teachers and police officers in remote areas, which is included and assessed in the relevant functional categories
- residential institutions mainly providing living quarters for people with special needs such as the young or the disabled
- homeless persons assistance.

3 Spending on the last two targets different populations from spending on social housing. The drivers of the expenses are similar to the drivers of spending on welfare services. They are assessed in that category.

4 Revenue from rents relevant to the category is separately identified and assessed.

5 In this review, for the purposes of equalisation, the Commission has decided to treat housing services provided through PNFCs as a general government function. Unlike many services provided through PNFCs, housing services have few commercial features. They depend on government funds to meet operating deficits and pay for major investments and the services stem from social policy objectives.

6 Housing PNFCs operate in most States except for Queensland, Tasmania and the Northern Territory. In these States, social housing services are delivered by general government agencies.

7 Investment in social housing now forms part of the investment assessment and land held by housing PNFCs is treated in the same way as general government land.

8 Table 1 shows that gross housing operating expenses net of depreciation were $5.0 billion in 2013–14. Revenue was $3.0 billion.

**Table 1 Housing category expenses and revenue, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Gross expenses ($m) | 2 368 | 859 | 817 | 1 068 | 522 | 132 | 99 | 200 | 6 066 |
| Depreciation ($m) | 376 | 189 | 157 | 136 | 93 | 26 | 16 | 72 | 1 065 |
| Gross expenses less depreciation ($m) | 1 992 | 670 | 660 | 932 | 429 | 106 | 83 | 128 | 5 001 |
| Revenue ($m) | -1 097 | -452 | -388 | -564 | -326 | -74 | -92 | -55 | -3 048 |
| Net expenses ($m) | 895 | 218 | 272 | 368 | 103 | 33 | -9 | 73 | 1 953 |
| First home owner expenses ($m) | 225 | 289 | 240 | 314 | 73 | 28 | 24 | 17 | 1 210 |
| Total expenses (a) ($m) | 1 120 | 507 | 512 | 682 | 176 | 61 | 15 | 90 | 3 163 |
| Total expenses (a) ($pc) | 150 | 88 | 109 | 267 | 105 | 118 | 40 | 368 | 136 |
| Proportion of operating expenses (%) | 1.8 | 1.1 | 1.2 | 2.6 | 1.2 | 1.3 | 0.4 | 2.0 | 1.5 |

(a) Net operating expenses excluding depreciation, plus first home owner expenses.
Source: Commission calculation using State data.

9 Table 2 shows that the share of States' housing net expenses was about 2.5% in 2010–11 but fell to about 1.5% in 2013–14.

**Table 2 Housing net expenses as a proportion of State operating expenses**

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| Total for category ($m) | 4 524 | 3 098 | 2 872 | 3 163 |
| Total operating expenses ($m) | 180 682 | 189 260 | 195 316 | 207 408 |
| Proportion of total operating expenses (%) | 2.5 | 1.6 | 1.5 | 1.5 |

Source: Commission calculation using ABS Government Finance Statistics (GFS) data and State data.

## How are services delivered?

10 There are four types of social housing.

- Public housing encompasses the public rental housing owned or leased by State governments. Most States provide public housing through public housing authorities, but Queensland, Tasmania and the Northern Territory provide it through State government departments.
- State-owned and managed Indigenous housing (SOMIH).
- Indigenous community housing organisation (ICHO) dwellings.
- Mainstream community housing managed by not-for-profit organisations. It offers medium- or long-term tenure for low-income individuals and families.

11 Public housing is the dominant component of the social housing stock but community housing has been growing rapidly in recent years, albeit from a low base. Table 3 shows the distribution of social housing dwellings by program.

**Table 3 Social housing dwellings by program**

| | June 2008 | June 2013 | Percentage growth | Dwellings as a share of total, 2013 |
|---|---|---|---|---|
| | No. | No. | % | % |
| Public housing | 337 866 | 328 340 | -2.8 | 78.0 |
| SOMIH | 12 778 | 10 084 | -21.1 | 2.4 |
| Community housing | 38 811 | 65 865 | 69.7 | 15.6 |
| Indigenous community housing | 19 583 | 16 773 (a) | -14.3 | 4.0 |
| Total | 409 038 | 421 062 | 2.9 | 100.0 |

(a) June 2012.

Source: Productivity Commission, 2014, *Report on Government Services 2014*, Table 17A.3.

## COMMONWEALTH FUNDING

12 The Commonwealth provides funding to States to assist them in meeting their housing services expenses. In addition to the National Affordable Housing Agreement (NAHA) funding, the Commonwealth provides States with National partnership payments (NPPs). The NAHA funding directly impacts on State fiscal capacities as it helps to fund social housing. The expenses funded by these payments are assessed in the same way as State funded expenses and the actual revenue is treated as an offset to the assessed expenses.

13 The Remote Indigenous Housing (RIH) NPP was previously assessed as having no impact on the relativities. However, service delivery in this area has changed and States now have greater responsibility over the funded services. The RIH requires States' authorities to become the major deliverer of housing for Indigenous people in remote areas of Australia by 2018. As a result, all States are transitioning their ICHOs into their State frameworks. This is happening at different rates in different States but by 2015-16, between a third and a half of houses will be covered.

14 We have decided that the RIH NPP should impact on State GST shares because payments are for services usually provided by States and needs are assessed in this category, and also in relation to housing infrastructure. In particular, these two assessments include an Indigenous cost weight, which recognises the higher costs of managing and maintaining Indigenous housing, including the impact of overcrowding. However, because of the gradual transfer of responsibility of remote Indigenous housing to State governments and to recognise that, to some extent and more likely in the early years, the NPP was not funding State expenses, we have decided to phase-in the impact treatment of the NPP starting from 2013-14.

15 While some States supported the changed treatment, Queensland and the Northern Territory did not. Queensland argued only 27% of its ICHOs had transitioned into the Queensland housing system and it was not the major deliverer of Indigenous housing. The Northern Territory said the Commonwealth was funding improvements to such housing that States did not fund and that, in any case, the payments should not impact as they were a continuation of a program previously quarantined by terms of reference. These arguments are not consistent with our understanding of the current program as set out above.

16 In addition, we note the Memorandum of Understanding (MoU) on Indigenous Housing, Accommodation and Related Services between the Northern Territory and the Commonwealth covered the period 2007–08 to 2010–11. While this MoU quarantined the funding from HFE, subsequent agreements, including the National Partnership Agreement on Remote Indigenous Housing (NPARIH), have not.

17 The Stronger futures in the Northern Territory NPP does not impact on State GST shares as the Commission was previously directed in terms of reference to treat the

payments in that way. The funding supports the provision of safe and healthy houses for Indigenous Australians. Service delivery has not changed under this NPP and so the payments continue to have no impact.

18 Table 4 details the major Commonwealth payments provided to States for housing services.

**Table 4 Commonwealth payments to States for housing services, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| National affordable housing SPP | 410 | 312 | 256 | 139 | 94 | 30 | 22 | 20 | 1 283 |
| Remote Indigenous housing NPP | 45 | 0 | 178 | 191 | 36 | 0 | 0 | 86 | 536 |
| Stronger futures in the Northern Territory housing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 51 | 51 |
| Other | 0 | 3 | 1 | 0 | 0 | 0 | 0 | 5 | 9 |
| Total | 455 | 314 | 435 | 330 | 131 | 30 | 22 | 162 | 1 879 |

Source: Commonwealth of Australia's *Final Budget Outcome, 2013-14.*
Note: Expenditure from funding under the Remote Indigenous housing NPP is assessed in the Investment category.

19 A complete list of Commonwealth payments and their treatment is provided in Attachment 2 – Treatment of Commonwealth payments.

## CATEGORY STRUCTURE

20 The assessment of the Housing category is undertaken separately for each of the following components:

- service expenses
- revenue
- first home owners grants and concessions.

21 Table 5 shows the assessment structure for the category, the disabilities that are assessed and the size of each component, using 2013-14 data.

22 We have undertaken separate assessments of service expenses and revenue instead of netting revenue off expenses because separate assessments recognise more simply the impact of location cost differences on assessed expenses.

**Table 5 Category structure, Housing, 2013–14**

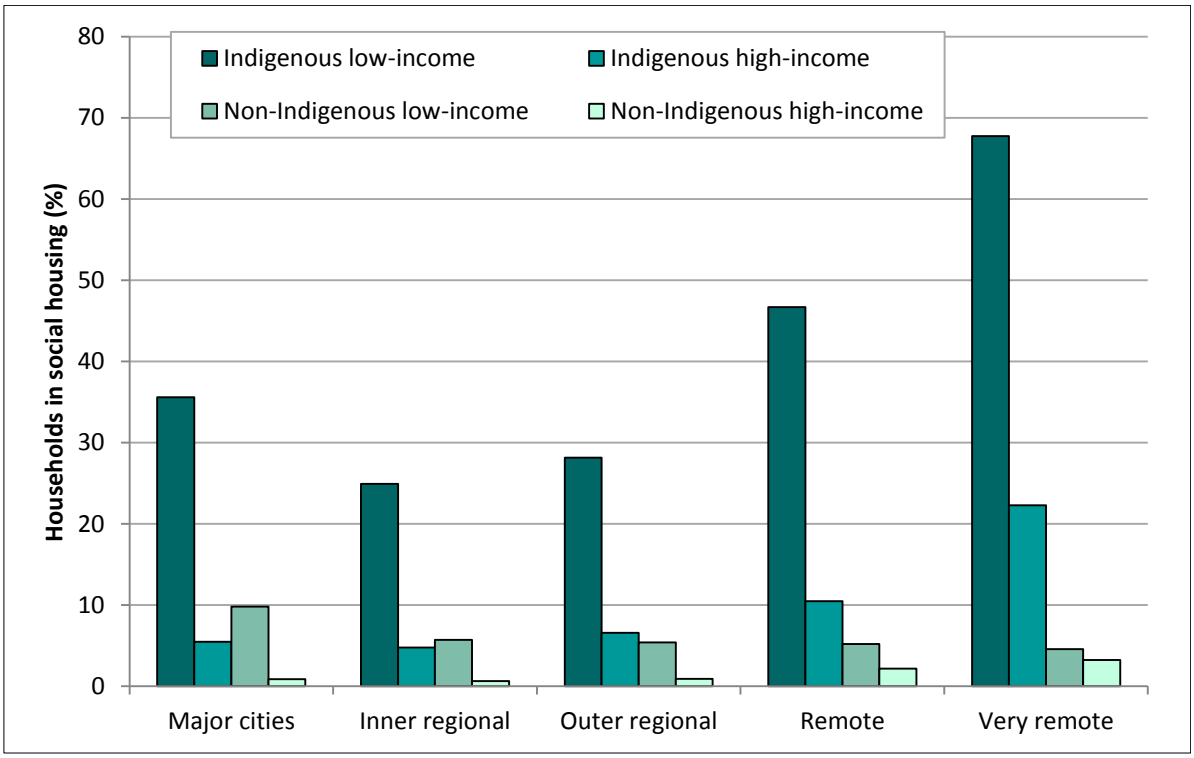
| Component | Component expense | Disability | Influence measured by disability |
|---|---|---|---|
| | $m | | |
| Social housing expenses | 5 001 | Socio-demographic composition | Recognises that income, Indigenous status and remoteness affect the use and cost of providing housing services. An Indigenous cost weight is applied. |
| | | Location | Recognises the differences in wage costs between States and in the cost of providing services to different areas within a State. |
| Revenue | -3 048 | Socio-demographic composition | Recognises that income, Indigenous status and remoteness affect the number of social housing households as well as the rent paid by households. |
| First home owner expenses | 1 210 | None | EPC assessment as there is no policy neutral reliable measure of first home owners. |

Source: Commission calculation.

## SOCIAL HOUSING EXPENSES

23 Social housing services are used primarily by households on low incomes, Indigenous households, and households in remote areas. We observe in Figure 1 the proportions of households in social housing by income, Indigenous status and remoteness. It shows, for instance, that the majority of Indigenous households with low incomes in very remote areas are living in social housing.

**Figure 1** **Proportion of households in social housing by Indigenous status, remoteness and income**




Note: Low-income households have a weekly equivalised gross income of less than $600 and high-income households have a weekly equivalised gross income of $600 or more.

Source: 2011 Census and Commission calculation.

## Socio-demographic composition

24 We have therefore assessed expenses on social housing services for each State on the basis of groups of people who use social housing more intensively:

- people on low income
- Indigenous people
- people in remote areas.

25 The assessment accepts that use for housing is household based rather than individual based. In terms of use, a household of one is the same as a household of four. We also recognise that, because of such influences as household size, mobility and overcrowding, it costs more to manage and maintain Indigenous houses than non-Indigenous houses.

26 Table 6 shows the proportion of households in social housing.

**Table 6 Proportion of households in social housing by Indigenous status, remoteness and income**

| | Indigenous | | Non-Indigenous | |
|---|---|---|---|---|
| | Low-income | High-income | Low-income | High-income |
| | % | % | % | % |
| Major cities | 35.6 | 5.5 | 9.8 | 0.9 |
| Inner regional | 24.9 | 4.8 | 5.7 | 0.6 |
| Outer regional | 28.2 | 6.6 | 5.4 | 0.9 |
| Remote | 46.7 | 10.5 | 5.2 | 2.1 |
| Very remote | 67.8 | 22.3 | 4.6 | 3.2 |

Note: Low-income households have a weekly equivalised gross income of less than $600 and high-income households have a weekly equivalised gross income of $600 or more.
Source: 2011 Census and Commission calculation.

## *Income*

27 Social housing in all States is designed to assist households with low incomes, and programs have eligibility limits for both household income and assets.

28 We have defined low-income households as those with an equivalised income of less than $31 200 a year ($600 per week).[1] An equivalised income of less than $600 per week is similar to average income eligibility thresholds for access to public housing for a single person (Table 7). The threshold approximately equates to the bottom 37% of households in the 2011 Census.

**Table 7 Public housing weekly income eligibility limits, 2014**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT |
|---|---|---|---|---|---|---|---|---|
| Single person ($) | 575 | 524 | 609 | 430 (a) | 970 | 524 | 674 | 736 |
| Couple, no dependants ($) | 795 | 906 | 755 | 580 (b) | 1 268 | 906 | 842 | 955 |
| Couple with two dependents ($) | 1 170 | 1 029 (c) | 999 | 815 (d) | 1 566 | 974 | 955 | 1 275 |
| Public housing proportion of all private dwellings, 2011 (%) | 3.9 | 2.9 | 2.9 | 3.5 | 5.7 | 4.9 | 7.6 | 6.2 |

(a) $610 for North West and remote areas.
(b) $580 for single income, $670 for dual income. Around 40% more for North West and remote areas.
(c) $1 060 if at least one child is between 13 and 17 years.
(d) $815 for single income, $930 for dual income. Around 40% more for North West and remote areas.
Note: Eligibility criteria for access to SOMIH and community housing are generally consistent with those for public housing. Eligibility is also subject to meeting an assets test.
Source: State housing authority websites; Productivity Commission, *Report on Government Services 2014*, Table 17A.3; and 2011 Census.

29 The recognition of differences in the proportion of low-income households in the assessment was supported by most States. Western Australia argued that actual

[1] Equivalised household income is derived as the amount of disposable cash income that a single-person household would require to maintain the same standard of living as the household in question, regardless of the size or composition of the latter.

household income should be used rather than equivalised income. However, we consider that this would not reflect the reality of social housing eligibility policies, which account for household size in addition to income. Western Australia also did not support an income assessment in the absence of a cost of living assessment. This issue is addressed below.

### *Indigenous status*

30 Data on users of social housing show that Indigenous households use social housing services more than non-Indigenous households, and involve higher operating costs per household than non-Indigenous households.

31 ***Use.*** The 2011 Census shows that Indigenous households make up 15.1% of households in social housing, compared with the 2.8% of Indigenous households in the general population.

32 States provide specialist programs for Indigenous households, recognising the greater need in this community for such services. New South Wales, Queensland, South Australia and Tasmania have SOMIH, and all States have ICHOs delivering housing services to Indigenous households.

33 ***Cost.*** Evidence shows it costs more to provide social housing to Indigenous households compared to non-Indigenous households. This is mainly due to larger household sizes, high mobility of the Indigenous population and overcrowding.

34 The 2011 Census also shows the average household with at least one Indigenous person had 3.3 people, whereas the average non-Indigenous household had 2.6 people. The high mobility of the remote Indigenous population necessitates additional tenancy management services to ensure that users of social housing are known, and are paying rents. Overcrowding increases wear and tear, which requires additional maintenance attendances.

35 Table 8 shows that, for 2011-12 to 2013-14, operating expenses per SOMIH dwelling are, on average, 31% higher than those for non-Indigenous households in public housing based on data we collected from States. Western Australia and the Northern Territory argued that the cost weight should be higher as it excludes expenses in their States. However, while only four States have SOMIH housing, the States that have it hold the majority of public housing dwellings.[2] The cost weight is slightly lower than the one derived using Productivity Commission data of 43% for the period 2010-11 to 2012-13.[3] We understand that the Productivity Commission data are on a net basis rather than gross like ours. We have confirmed with States that the data we are using correctly represents their costs.

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[2] Productivity Commission, *Report on Government Services 2014*, Table A17.5, dwellings at 30 June 2013.

[3] ibid., Tables 17A.1, 17A.3 and 17A.5 and Commission calculations.

36 The 31% cost differential for SOMIH dwellings includes an adjustment to remove the expenses associated with Indigenous households in public housing from total public housing expenses. The Indigenous households in public housing were assumed to cost the same per dwelling as SOMIH households within the same State.

37 We have decided to apply a 30% cost weight for the higher costs associated with Indigenous status. We do not consider that a discount is required because 85% of SOMIH dwellings are located in non-remote areas.[4] This should minimise any overlap with the Regional costs assessment, discussed later, because the majority of any higher costs of Indigenous housing in remote areas should not be captured in the calculated weight.

38 The Northern Territory argued for a higher cost weight in remote and very remote areas based on evidence that overcrowding was more prevalent in those regions. However, we consider that the existence of higher costs in remote and very remote areas is mostly captured by the Regional costs assessment.

**Table 8 Public housing (PH) and SOMIH recurrent expenses per dwelling, excluding Indigenous households living in PH**

| | NSW | Qld | SA | Tas | Total |
|---|---|---|---|---|---|
| | $ | $ | $ | $ | $ |
| 2011-12 | | | | | |
| PH (a) | 7 858 | 10 328 | 9 244 | 7 668 | 8 694 |
| SOMIH | 6 974 | 13 829 | 15 164 | 7 394 | 10 775 |
| 2012-13 | | | | | |
| PH (a) | 7 696 | 8 581 | 9 228 | 7 683 | 8 200 |
| SOMIH | 8 472 | 14 409 | 13 926 | 7 576 | 11 424 |
| 2013-14 | | | | | |
| PH (a) | 8 069 | 8 444 | 10 691 | 8 598 | 8 689 |
| SOMIH | 8 870 | 13 409 | 13 791 | 8 255 | 11 242 |
| Cost weights (b) | No. | No. | No. | No. | No. |
| 2011-12 | 0.89 | 1.34 | 1.64 | 0.96 | 1.24 |
| 2012-13 | 1.10 | 1.68 | 1.51 | 0.99 | 1.39 |
| 2013-14 | 1.10 | 1.59 | 1.29 | 0.96 | 1.29 |
| Average | 1.03 | 1.54 | 1.48 | 0.97 | 1.31 |

(a) PH costs have been adjusted using the proportion of Indigenous households in PH to impute non-Indigenous dwelling expenditure, assuming that Indigenous households in PH cost the same per dwelling as households in SOMIH within the same State.
The proportion of Indigenous households in PH for 2012-13 has been used as a proxy for the proportion of Indigenous households in PH for 2013-14.

(b) Cost weights have been calculated by dividing SOMIH costs by the adjusted PH costs.

Source: State data and Productivity Commission, *Report on Government Services 2014*, Tables 17A.4 and 17A.5 for the proportion of Indigenous households in PH.

[4] Productivity Commission, ibid., Table A17.6, dwellings at 30 June 2013.

### *Remoteness*

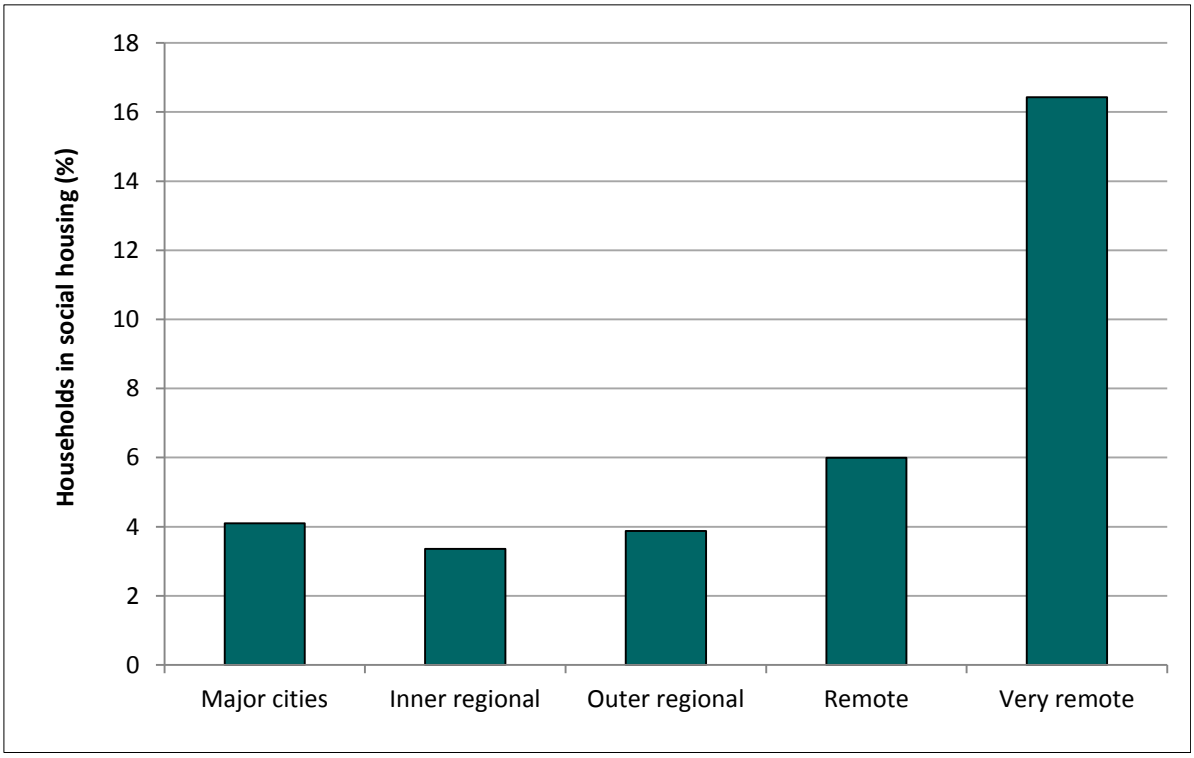
39 The proportion of the population in social housing also varies significantly by region. Figure 2 shows households in social housing as a percentage of total households split by remoteness using data from the 2011 Census.

40 Use rates of social housing are higher in remote and very remote regions compared to other regions, even allowing for higher Indigenous use. In very remote areas, over 16% of households live in social housing. This is partly due to limited private rental alternatives in remote regions. Based on this evidence, we have decided to assess the impact of remoteness.

41 Most States supported recognising the higher use and cost of housing services for households in different locations, although New South Wales opposed it. It said that low income was sufficient to capture differential needs across States and that including location and Indigenous status might introduce some double counting. We have avoided this by using cross-classified data to derive use rates.

42 There also should be no double counting between the Indigenous cost weight and the remoteness assessment. The Indigenous cost weight is calculated using mostly non-remote dwellings, as discussed in the previous section.

**Figure 2 Proportion of households in social housing by remoteness**




Source: 2011 Census.

## Data

43 We have measured the different use made of housing services by households classified by their income, Indigenous status and remoteness status, using 2011 Census data. We have used household numbers by landlord type. The landlord type, 'State or Territory housing authority' provides a measure of public housing plus SOMIH while the landlord type, 'Housing co-operative/community/church group' provides a measure of mainstream community housing plus ICHO housing.

44 The main advantage of using Census data is that all social housing types can be disaggregated by all relevant socio-demographic characteristics.

45 We chose not to use the alternative Australian Institute of Health and Welfare (AIHW) data for the following reasons.

- The coverage of social housing is limited. Mainstream community housing and ICHO information is collected through surveys completed by community housing organisations and through administrative data from State housing authorities. Mainstream community housing survey data disaggregated by income, Indigenous status and remoteness are not available for all States. For ICHOs, the only data available are dwelling numbers by remoteness. We acknowledge, however, that the Census may undercount the number of households in social housing.
- There are a significant number of households with unknown Indigenous status in the AIHW data. The Indigenous unknowns represent only 1% of Census social housing household data, and around 30% of the AIHW total public housing household data.

46 We do not consider that the annual availability of the AIHW dataset is a sufficient advantage for using it.

## Calculating the socio-demographic composition assessment

47 The SDC assessment was done in the following way.

- The number of social housing households by SDC group (Table 9) was multiplied by the Indigenous cost weight to derive the number of cost-weighted social housing households (Table 10).[5]
- The cost-weighted number of social housing households by SDC group was divided by the total number of cost-weighted social housing households to give the share of cost-weighted social housing households by SDC group (Table 11).
- Total social housing expenses, for each assessment year, were apportioned among SDC groups using the share of cost-weighted social housing households to give assessed social housing expenses by SDC group (Table 12).

[5] The State shares are adjusted in each assessment year to reflect annual population changes since the Census.

- The assessed expenses by SDC groups (Table 12) were divided by total actual households in each group to derive national average per household social housing expenses for each SDC group for each assessment year (Table 13).
- The per household social housing expenses by SDC group (Table 13) were multiplied by each States' number of actual households in each group. These values were summed to derive each State's assessed expenses due to SDC. (Table 15).

**Table 9 Social housing households by Indigenous status, income and remoteness, 2013-14**

| | Indigenous | | | Non-Indigenous | | |
|---|---|---|---|---|---|---|
| | Low-income | High-income | Total | Low-income | High-income | Total |
| | No. | No. | No. | No. | No. | No. |
| Major cities | 17 058 | 2 987 | 20 045 | 206 636 | 36 402 | 243 038 |
| Inner regional | 9 327 | 1 315 | 10 642 | 45 935 | 6 493 | 52 429 |
| Outer regional | 9 737 | 1 660 | 11 397 | 21 892 | 4 736 | 26 628 |
| Remote | 4 209 | 983 | 5 192 | 2 507 | 2 079 | 4 587 |
| Very remote | 9 776 | 1 757 | 11 533 | 806 | 1 411 | 2 217 |
| Total | 50 107 | 8 701 | 58 809 | 277 777 | 51 120 | 328 898 |

Source: 2011 Census, adjusted by State population growth over 2010-11 to 2013-14.

**Table 10 Cost-weighted social housing households by Indigenous status, income and remoteness, 2013-14**

| | Indigenous | | | Non-Indigenous | | |
|---|---|---|---|---|---|---|
| | Low-income | High-income | Total | Low-income | High-income | Total |
| | No. | No. | No. | No. | No. | No. |
| Major cities | 22 176 | 3 883 | 26 059 | 206 636 | 36 402 | 243 038 |
| Inner regional | 12 125 | 1 709 | 13 834 | 45 935 | 6 493 | 52 429 |
| Outer regional | 12 658 | 2 158 | 14 816 | 21 892 | 4 736 | 26 628 |
| Remote | 5 472 | 1 278 | 6 750 | 2 507 | 2 079 | 4 587 |
| Very remote | 12 709 | 2 284 | 14 993 | 806 | 1 411 | 2 217 |
| Total | 65 140 | 11 312 | 76 451 | 277 777 | 51 120 | 328 898 |

Source: Commission calculation.

**Table 11 Share of cost-weighted social housing households by Indigenous status, income and remoteness, 2013-14**

| | Indigenous | | | Non-Indigenous | | |
|---|---|---|---|---|---|---|
| | Low-income | High-income | Total | Low-income | High-income | Total |
| | % | % | % | % | % | % |
| Major cities | 5.5 | 1.0 | 6.4 | 51.0 | 9.0 | 60.0 |
| Inner regional | 3.0 | 0.4 | 3.4 | 11.3 | 1.6 | 12.9 |
| Outer regional | 3.1 | 0.5 | 3.7 | 5.4 | 1.2 | 6.6 |
| Remote | 1.3 | 0.3 | 1.7 | 0.6 | 0.5 | 1.1 |
| Very remote | 3.1 | 0.6 | 3.7 | 0.2 | 0.3 | 0.5 |
| Total | 16.1 | 2.8 | 18.9 | 68.5 | 12.6 | 81.1 |

Source: Commission calculation.

**Table 12 Assessed social housing expenses by Indigenous status, income and remoteness, 2013-14**

| | Indigenous | | | Non-Indigenous | | |
|---|---|---|---|---|---|---|
| | Low-income | High-income | Total | Low-income | High-income | Total |
| | $m | $m | $m | $m | $m | $m |
| Major cities | 274 | 48 | 321 | 2 549 | 449 | 2 998 |
| Inner regional | 150 | 21 | 171 | 567 | 80 | 647 |
| Outer regional | 156 | 27 | 183 | 270 | 58 | 329 |
| Remote | 68 | 16 | 83 | 31 | 26 | 57 |
| Very remote | 157 | 28 | 185 | 10 | 17 | 27 |
| Total | 804 | 140 | 943 | 3 427 | 631 | 4 058 |

Source: Commission calculation.

**Table 13 Per household social housing expenses by Indigenous status, income and remoteness, 2013–14**

| | Indigenous | | | Non-Indigenous | | |
|---|---|---|---|---|---|---|
| | Low-income | High-income | Total | Low-income | High-income | Total |
| | $ | $ | $ | $ | $ | $ |
| Major cities | 5 704 | 873 | 3 125 | 1 207 | 106 | 473 |
| Inner regional | 3 992 | 761 | 2 619 | 703 | 79 | 355 |
| Outer regional | 4 535 | 1 058 | 3 066 | 664 | 113 | 356 |
| Remote | 7 516 | 1 681 | 4 536 | 644 | 268 | 394 |
| Very remote | 10 883 | 3 561 | 8 287 | 567 | 398 | 446 |
| Total | 5 609 | 1 116 | 3 515 | 1 011 | 107 | 437 |

Note: The data in the table show, for each population group, apportioned national housing expenses divided by the number of actual households.

Source: Commission estimates.

48 Table 13 implies that States spend on average some $10 883 on every low-income Indigenous household in very remote areas, compared with $106 on every high-income non-Indigenous household in major cities because of differences in use

and unit cost.[6] This spending relates to all households; that is, the sum of households in social housing plus households not in social housing. The difference between the two figures reflects the higher use rate and cost of Indigenous households living in very remote areas compared to non-Indigenous households living in major cities.

## Location

49 We have recognised that differences in wage costs between States and in the cost of providing services to different areas within a State have a differential effect on the cost of providing housing services. These influences are measured in a similar way for most assessment categories and the methods are described in Chapter 22 — Wage costs and Chapter 23 — Regional costs.

50 However, we consider maintenance costs, which represent 25% of housing expenses, are affected by recurrent influences such as wage level differences and other influences, such as the cost of materials. The latter are better captured by differences in capital costs. We have therefore weighted the Rawlinson's based capital cost factors by 50% and the housing location factor by 50% to derive a factor which is applied to these expenses. The derivation of the Rawlinson's capital location cost factor is described in Chapter 21 – Infrastructure. It includes the 25% discount for services other than roads and urban transport.

51 We have combined the two location factors by weighting the housing location cost factor by 75% and the maintenance cost factor by 25%. This results in the Rawlinson's cost factor being applied to 12.5% of all social housing expenses and the location factor to 87.5%.

52 Table 14 shows the combined location factor and its effect on social housing expenses.

**Table 14 Location and capital cost factors, Housing, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| **Location factor (weight = 87.5%)** | | | | | | | | | |
| Factor | 0.993 | 0.972 | 1.001 | 1.050 | 0.998 | 1.024 | 0.993 | 1.295 | 1.000 |
| A. Weighted factor | 0.994 | 0.976 | 1.001 | 1.044 | 0.998 | 1.021 | 0.994 | 1.258 | 1.000 |
| **Capital cost factor (weight = 12.5%)** | | | | | | | | | |
| Factor | 1.006 | 0.966 | 0.961 | 1.093 | 1.011 | 0.971 | 1.044 | 1.319 | 1.000 |
| B. Weighted factor | 1.001 | 0.996 | 0.995 | 1.012 | 1.001 | 0.996 | 1.005 | 1.040 | 1.000 |
| **Combined location factor** | 0.995 | 0.972 | 0.996 | 1.055 | 0.999 | 1.018 | 0.999 | 1.298 | 1.000 |

Source: Commission calculation.

[6] The full costs of ICHOs and community housing are not included in GFS.

## Bringing the social housing expenses component together

53 Table 15 shows the total assessed expenses.

**Table 15 Assessed expenses, social housing expenses component, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| SDC assessed ($m) | 1 575 | 1 139 | 1 038 | 548 | 422 | 115 | 53 | 111 | 5 001 |
| Combined location factor | 0.995 | 0.972 | 0.996 | 1.055 | 0.999 | 1.018 | 0.999 | 1.298 | 1.000 |
| Total ($m) | 1 560 | 1 102 | 1 030 | 576 | 420 | 117 | 52 | 143 | 5 001 |
| Total ($pc) | 209 | 190 | 220 | 226 | 250 | 227 | 137 | 588 | 215 |

Source: Commission calculation.

# REVENUE

## Socio-demographic composition

54 In this assessment, we have recognised that different types of households pay different rents but not that there are differences in rent collection rates. This is because we found that the socio-demographic characteristics of households influence rents paid but were unable to observe material differences in rent collection rates.

55 2011 Census data were used to analyse rents paid, disaggregated by Indigenous status, income and location. Table 16 shows:

- households on higher incomes paid more rent than those on lower incomes
- rents paid decrease with remoteness
- Indigenous households in non-remote regions paid more rent than non-Indigenous households. However, on average, Indigenous households paid slightly less rent than non-Indigenous households.

**Table 16 Average weekly rents paid by households in social housing, by Indigenous status, income and location, 2011 Census**

| | Indigenous | | | Non-Indigenous | | |
|---|---|---|---|---|---|---|
| | Low-income | High-income | Total | Low-income | High-income | Total |
| | $pw | $pw | $pw | $pw | $pw | $pw |
| Major cities | 146 | 218 | 157 | 127 | 216 | 141 |
| Inner regional | 144 | 179 | 148 | 123 | 168 | 129 |
| Outer regional | 130 | 162 | 135 | 111 | 161 | 120 |
| Remote | 114 | 162 | 123 | 101 | 157 | 125 |
| Very remote | 76 | 95 | 78 | 85 | 92 | 89 |
| Total | 127 | 171 | 133 | 125 | 200 | 137 |

Source: Commission calculation based on 2011 Census.

56 As a result, we have developed an assessment of revenue that takes into account the average impact of the income, Indigenous status and remoteness status of households on rent raised in each State.

57 Queensland, Western Australia and the Northern Territory questioned the finding that some Indigenous households pay more rent than non-Indigenous households. However, this is what the Census data show and is supported by data from the Productivity Commission's *Report on Government Services 2014*. The Productivity Commission data show higher average weekly rents for SOMIH dwellings compared with public housing. Around 85% of SOMIH dwellings are located in non-remote areas.[7] This is consistent with Table 16, which shows that the higher rents paid by Indigenous households are mainly in non-remote areas.

58 In addition, it appears that rents paid are strongly influenced by the type and size of households as well as the nature of housing services eligibility criteria. For example, a 2008 report from the AIHW found that Indigenous households in SOMIH had a higher median weekly household income than households in public housing.[8]

59 In a report from the Australian Housing and Urban Research Institute, the authors said that it is clear that, in the majority of situations, SOMIH experiences higher average rents per dwelling than is the case for public housing.[9] This is probably due to the fact that the housing for Indigenous households is not as tightly targeted on income grounds as that for public housing in general.

60 We have not adjusted for differences in rent collection rates because Productivity Commission data show that rent collection rates are similar for Indigenous and non-Indigenous housing (Table 17). In any case, it is expected that the small gaps should decrease as State governments take over responsibility for Indigenous community housing. One of the expected outcomes of the National Partnership Agreement on Remote Indigenous Housing is ICHO rent reforms, leading to fair rent setting in line with that applying to public housing. This means generally rents will be a proportion of assessable income for a household and new rents will be collected regularly.

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7 Productivity Commission, op.cit., Table A17.6, dwellings at 30 June 2013.

8 Australian Institute of Health and Welfare: Storer J E & Wilson D A 2008, *Who receives priority housing and how long do they stay?* Bulletin series no. 63. Cat. no. AUS 105. Canberra: AIHW.

9 Dr Jon Hall and Professor Mike Berry, *Indigenous housing: assessing the long term costs and the optimal balance between recurrent and capital expenditure*, Australian Housing and Urban Research Institute, 2006.

**Table 17 Social housing rent collection rates**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | % | % | % | % | % | % | % | % | % |
| Public housing | | | | | | | | | |
| 2010-11 | 99.2 | 98.7 | 100.9 | 100.7 | 100.0 | 99.0 | 99.5 | 102.7 | 99.6 |
| 2011-12 | 99.1 | 98.5 | 99.4 | 100.7 | 100.3 | 98.6 | 99.7 | 99.0 | 99.3 |
| 2012-13 | 99.0 | 98.7 | 100.0 | 100.7 | 100.0 | 98.4 | 99.5 | 98.7 | 99.4 |
| SOMIH | | | | | | | | | |
| 2010-11 | 104.0 | .. | 99.3 | .. | 99.9 | 99.0 | .. | .. | 101.7 |
| 2011-12 | 100.0 | .. | 100.6 | .. | 100.7 | 98.6 | .. | .. | 100.5 |
| 2012-13 | 101.0 | .. | 99.8 | .. | 101.5 | 98.4 | .. | .. | 99.6 |
| Community housing | | | | | | | | | |
| 2009-10 | 96.1 | 98.1 | 99.3 | 99.6 | 99.7 | 100.2 | 101.6 | na | 97.7 |
| 2010-11 | 96.5 | 99.2 | 101.6 | 99.1 | 98.1 | na | 99.1 | na | 97.9 |
| 2011-12 | 101.9 | 98.8 | 99.4 | 100.1 | 100.0 | 102.2 | 98.1 | na | 100.6 |
| Indigenous community housing | | | | | | | | | |
| 2009-10 | 90.3 | 92.3 | 83.5 | 84.7 | na | 97.0 | na | 93.6 | 88.1 |
| 2010-11 | 100.7 | 100.1 | 93.0 | 88.7 | na | 98.2 | na | 71.2 | 94.9 |
| 2011-12 | 98.6 | 101.6 | 94.6 | 78.8 | na | 100.5 | na | 81.3 | 94.9 |

Note: '..' means not applicable and 'na' means not available.
Source: Productivity Commission, 2014, *Report on Government Services 2014*, Tables A17.30 to A17.33.

## *Data*

61 As for the SDC for the expenses assessment, we have used the 2011 Census for the revenue assessment.

## *Calculating the socio-demographic composition assessment*

62 The revenue SDC assessment was calculated using the same method as for the social housing expenses SDC assessment.

- The number of social housing households by SDC group (Table 9) was divided by the total number of social housing households to give the share of social housing households by SDC group (Table 18).[10] The Indigenous cost weight was not applied.
- Total revenue, for each assessment year, was apportioned among SDC groups using the share of social housing households weighted by relative rent paid per group (Table 19) to give assessed revenue by SDC groups (Table 20).

[10] The State shares are adjusted in each assessment year to reflect annual population changes since the Census.

- The assessed revenue by SDC group was divided by the total number of actual households in each group to calculate the national average per household rent paid by different types of households for each assessment year (Table 21).
- The per household revenue by SDC groups (Table 21) was multiplied by each States' number of actual households in each group. These values were summed to give each State's assessed revenue (Table 22).

**Table 18 Share of social housing households by Indigenous status, income and remoteness, 2013-14**

| | Indigenous | | | Non-Indigenous | | |
|---|---|---|---|---|---|---|
| | Low-income | High-income | Total | Low-income | High-income | Total |
| | % | % | % | % | % | % |
| Major cities | 4.4 | 0.8 | 5.2 | 53.3 | 9.4 | 62.7 |
| Inner regional | 2.4 | 0.3 | 2.7 | 11.8 | 1.7 | 13.5 |
| Outer regional | 2.5 | 0.4 | 2.9 | 5.6 | 1.2 | 6.9 |
| Remote | 1.1 | 0.3 | 1.3 | 0.6 | 0.5 | 1.2 |
| Very remote | 2.5 | 0.5 | 3.0 | 0.2 | 0.4 | 0.6 |
| Total | 12.9 | 2.2 | 15.2 | 71.6 | 13.2 | 84.8 |

Source: Commission calculation.

**Table 19 Share of social housing households weighted by rent paid per group, 2013-14**

| | Indigenous | | | Non-Indigenous | | |
|---|---|---|---|---|---|---|
| | Low-income | High-income | Total | Low-income | High-income | Total |
| | % | % | % | % | % | % |
| Major cities | 4.7 | 1.2 | 6.0 | 49.9 | 14.9 | 64.9 |
| Inner regional | 2.6 | 0.4 | 3.0 | 10.8 | 2.1 | 12.9 |
| Outer regional | 2.4 | 0.5 | 2.9 | 4.6 | 1.4 | 6.1 |
| Remote | 0.9 | 0.3 | 1.2 | 0.5 | 0.6 | 1.1 |
| Very remote | 1.4 | 0.3 | 1.7 | 0.1 | 0.2 | 0.4 |
| Total | 12.0 | 2.8 | 14.8 | 66.0 | 19.3 | 85.2 |

Source: Commission calculation.

**Table 20 Assessed revenue by Indigenous status, income and remoteness, 2013-14**

| | Indigenous | | | Non-Indigenous | | |
|---|---|---|---|---|---|---|
| | Low-income | High-income | Total | Low-income | High-income | Total |
| | $m | $m | $m | $m | $m | $m |
| Major cities | 144 | 38 | 182 | 1 522 | 455 | 1 977 |
| Inner regional | 78 | 14 | 92 | 329 | 63 | 392 |
| Outer regional | 73 | 16 | 88 | 141 | 44 | 185 |
| Remote | 27 | 9 | 36 | 14 | 18 | 33 |
| Very remote | 42 | 9 | 52 | 4 | 7 | 11 |
| Total | 364 | 85 | 450 | 2 010 | 588 | 2 598 |

Source: Commission calculation.

**Table 21 Per household revenue by Indigenous status, income and remoteness, 2013-14**

| | Indigenous | | | Non-Indigenous | | |
|---|---|---|---|---|---|---|
| | Low-income | High-income | Total | Low-income | High-income | Total |
| | $ | $ | $ | $ | $ | $ |
| Major cities | 3 004 | 685 | 1 766 | 721 | 108 | 312 |
| Inner regional | 2 085 | 493 | 1 408 | 408 | 62 | 215 |
| Outer regional | 2 115 | 616 | 1 482 | 347 | 85 | 201 |
| Remote | 3 028 | 963 | 1 973 | 300 | 192 | 228 |
| Very remote | 2 918 | 1 200 | 2 309 | 223 | 169 | 184 |
| Total | 2 543 | 682 | 1 675 | 593 | 100 | 280 |

Note: The data in the table show, for each population group, apportioned national housing revenue divided by the number of actual households.

Source: Commission estimates.

63 Table 21 implies that for every household in the population (including both social housing households and non-social housing households), States can expect to receive on average $1 675 in rent for each Indigenous household and $280 for each non-Indigenous household.[11] The differences in these values largely reflect the higher use by Indigenous households of social housing services.

## Bringing the revenue component together

64 Table 22 shows the assessed revenue.

**Table 22 Assessed revenue, revenue component, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Total ($m) | 977 | 726 | 618 | 328 | 255 | 64 | 37 | 42 | 3 048 |
| Total ($pc) | 131 | 125 | 132 | 129 | 152 | 125 | 96 | 173 | 131 |

Source: Commission calculation.

[11] The full revenue of ICHOs and community housing is not included in GFS.

## FIRST HOME OWNERS

65 We have decided to assess first home owner related expenses and tax expenditure on an EPC basis as a separate component of this category.

66 The changes to the First Home Owner Scheme (FHOS), which mainly became effective in 2012-13, mean that the 2010 Review actual per capita assessment is no longer appropriate. The *2008 Intergovernmental Agreement* gave States the capacity to change the value and coverage of the FHOS grants from July 2009. As a result, States have modified the eligibility and caps for FHOS grants.

67 In addition to FHOS, States provide:

- additional grants to first home owners
- tax expenditure to first home owners to eliminate or reduce their stamp duty payments.

68 We consider that all grants and concessions should be treated on a consistent basis and have included them all in this component of the category.[12] To make this change, the amounts of the tax expenditure on first home owner exemptions and concessions will be requested from States annually. These amounts will be included in this category and also added back to States' stamp duty on conveyances revenues so gross stamp duties are reflected in that category. Because the distribution of first home buyers is likely to differ from the distribution of overall property sales, completely separating first home buyer expenses and stamp duty on property conveyance will improve HFE.

69 In the 2014 Update, the FHOS scheme assessment was not material at $30 per capita. If we were to add the additional grants to first home owners and the value of the tax expenditure, as shown in Table 23, the assessment becomes slightly material for the ACT.

**Table 23 First home owners assessment, illustrative GST impact**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| GST Impact | 1 | 4 | -11 | 15 | -11 | -15 | 31 | -13 | 4 |

Note: We used 2013 Update data because this was the last update where the data for all years were available on a comparable basis.

Source: Commission calculation.

70 As a result, we investigated an assessment of State expenses on first home owners grants and concessions using the ABS first home owner data, as suggested by Victoria and the ACT. As far as we are aware this is the only dataset available on first home owners that is independent of the FHOS and presumably policy neutral. However, the

[12] In the 2010 Review, concessions were netted off revenue on conveyances.

data are not comprehensive as they cover only first home owners with a mortgage. Nonetheless, we considered most first home owners would have a mortgage and that the data should give a reliable indication of the differences in first home owner numbers in each State.

71 Table 24 compares the number of States' FHOS recipients with the ABS number of first home owners. The ABS first home owner numbers are about 15% lower than those collected under the FHOS and the differences vary between States. Queensland and Western Australia's data are reasonably similar while the ABS data for Tasmania and the ACT are lower by a third or more.

**Table 24 Comparison of ABS numbers of dwellings financed by first home buyers**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| FHOS recipients (a) | No. | No. | No. | No. | No. | No. | No. | No. | No. |
| 2008-09 | 59 488 | 42 265 | 34 464 | 20 362 | 12 523 | 3 951 | 2 845 | 1 375 | 177 273 |
| 2009-10 | 52 183 | 44 978 | 27 609 | 21 301 | 10 956 | 3 106 | 3 295 | 1 023 | 164 451 |
| 2010-11 | 32 512 | 27 958 | 15 870 | 12 400 | 6 567 | 2 016 | 2 557 | 743 | 100 623 |
| 2011-12 | 37 448 | 29 033 | 19 657 | 15 001 | 6 860 | 1 901 | 2 617 | 1 023 | 113 541 |
| ABS first home buyers (b) | | | | | | | | | |
| 2008-09 | 52 215 | 39 677 | 32 648 | 20 356 | 10 988 | 3 003 | 2 544 | 1 248 | 162 679 |
| 2009-10 | 40 062 | 39 253 | 23 743 | 18 939 | 8 628 | 2 169 | 2 216 | 832 | 135 842 |
| 2010-11 | 25 942 | 25 530 | 15 140 | 11 810 | 5 126 | 1 352 | 1 392 | 601 | 86 893 |
| 2011-12 | 29 590 | 26 374 | 19 350 | 15 205 | 5 407 | 1 250 | 1 426 | 827 | 99 429 |
| Difference (%) | % | % | % | % | % | % | % | % | % |
| 2008-09 | -12.2 | -6.1 | -5.3 | 0.0 | -12.3 | -24.0 | -10.6 | -9.3 | -8.2 |
| 2009-10 | -23.2 | -12.7 | -14.0 | -11.1 | -21.2 | -30.2 | -32.7 | -18.7 | -17.4 |
| 2010-11 | -20.2 | -8.7 | -4.6 | -4.8 | -21.9 | -32.9 | -45.6 | -19.1 | -13.6 |
| 2011-12 | -21.0 | -9.2 | -1.6 | 1.4 | -21.2 | -34.2 | -45.5 | -19.2 | -12.4 |

(a) Data exclude any first home owner grants provided by States in addition to the FHOS grants.
(b) ABS numbers of dwellings financed by first home buyers.
Source: Commission calculation using State data and ABS *Housing Finance Statistics*, cat. 5609.0.

72 We know that the FHOS data were collected on the same basis and were comparable, when State policies were identical. As a result, we do not consider the ABS data to be comparable between States and, therefore, fit for purpose.

73 The ACT argued that the ABS data should be used as the absolute differences between State shares of FHOS recipients and ABS first home owners are small. However, when the differences in State shares are expressed as proportions, the data are significantly different for some States (Table 25). This suggests that the ABS data are not fit for purpose.

**Table 25 State shares of FHOS grants and ABS dwellings funded by first home buyers**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| FHOS recipients (a) | % | % | % | % | % | % | % | % | % |
| 2008-09 | 33.6 | 23.8 | 19.4 | 11.5 | 7.1 | 2.2 | 1.6 | 0.8 | 100.0 |
| 2009-10 | 31.7 | 27.4 | 16.8 | 13.0 | 6.7 | 1.9 | 2.0 | 0.6 | 100.0 |
| 2010-11 | 32.3 | 27.8 | 15.8 | 12.3 | 6.5 | 2.0 | 2.5 | 0.7 | 100.0 |
| 2011-12 | 33.0 | 25.6 | 17.3 | 13.2 | 6.0 | 1.7 | 2.3 | 0.9 | 100.0 |
| ABS first home buyers (b) | | | | | | | | | |
| 2008-09 | 32.1 | 24.4 | 20.1 | 12.5 | 6.8 | 1.8 | 1.6 | 0.8 | 100.0 |
| 2009-10 | 29.5 | 28.9 | 17.5 | 13.9 | 6.4 | 1.6 | 1.6 | 0.6 | 100.0 |
| 2010-11 | 29.9 | 29.4 | 17.4 | 13.6 | 5.9 | 1.6 | 1.6 | 0.7 | 100.0 |
| 2011-12 | 29.8 | 26.5 | 19.5 | 15.3 | 5.4 | 1.3 | 1.4 | 0.8 | 100.0 |
| Absolute percentage point difference | | | | | | | | | |
| 2008-09 | -1.5 | 0.5 | 0.6 | 1.0 | -0.3 | -0.4 | 0.0 | 0.0 | 0.0 |
| 2009-10 | -2.2 | 1.5 | 0.7 | 1.0 | -0.3 | -0.3 | -0.4 | 0.0 | 0.0 |
| 2010-11 | -2.5 | 1.6 | 1.7 | 1.3 | -0.6 | -0.4 | -0.9 | 0.0 | 0.0 |
| 2011-12 | -3.2 | 1.0 | 2.1 | 2.1 | -0.6 | -0.4 | -0.9 | -0.1 | 0.0 |
| Difference as a proportion of FHOS recipients | | | | | | | | | |
| 2008-09 | -4.4 | 2.3 | 3.2 | 8.9 | -4.4 | -17.2 | -2.6 | -1.1 | 0.0 |
| 2009-10 | -7.1 | 5.7 | 4.1 | 7.6 | -4.7 | -15.5 | -18.6 | -1.5 | 0.0 |
| 2010-11 | -7.6 | 5.7 | 10.5 | 10.3 | -9.6 | -22.3 | -37.0 | -6.3 | 0.0 |
| 2011-12 | -9.8 | 3.7 | 12.4 | 15.7 | -10.0 | -24.9 | -37.8 | -7.7 | 0.0 |

(a) Share of FHOS grants by State. Data exclude State grants outside of FHOS.
(b) Share of ABS numbers of dwellings financed by first home buyers by State.
Source: Commission calculation using State data and ABS *Housing Finance Statistics*, cat. 5609.0.

74 Western Australia also preferred a differential assessment, suggesting that expenses should be assessed according to population growth by age group. We are not convinced that this method would recognise needs.

75 As we have been unable to identify a reliable policy neutral measure of first home owners, we consider an EPC assessment the only option.

76 Table 26 shows the assessed first home owner expenses.

**Table 26 Assessed expenses, first home owner component, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Total ($m) | 387 | 300 | 243 | 132 | 87 | 27 | 20 | 13 | 1 210 |
| Total ($pc) | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 |

Source: Commission calculation.

## BRINGING THE ASSESSMENT TOGETHER

77 Table 27 brings the assessed expenses and revenue for each component together to derive the total net assessed expenses for each State for the category.

**Table 27 Category assessment, Housing, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| **Social housing expenses** | | | | | | | | | |
| Equal per capita | 215 | 215 | 215 | 215 | 215 | 215 | 215 | 215 | 215 |
| SDC | -4 | -18 | 7 | 1 | 37 | 10 | -77 | 240 | 0 |
| Location | -1 | -6 | -1 | 12 | 0 | 4 | 0 | 64 | 0 |
| Total | 209 | 190 | 220 | 226 | 250 | 227 | 137 | 588 | 215 |
| **Revenue** | | | | | | | | | |
| Equal per capita | -131 | -131 | -131 | -131 | -131 | -131 | -131 | -131 | -131 |
| SDC | 0 | 5 | -1 | 2 | -22 | 5 | 35 | -42 | 0 |
| Total | -131 | -125 | -132 | -129 | -152 | -125 | -96 | -173 | -131 |
| **First home owners** | | | | | | | | | |
| Equal per capita | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 |
| Total | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 |
| **Category total** | 130 | 117 | 140 | 149 | 150 | 154 | 93 | 467 | 136 |

Note: Component disabilities may not add due to interactions.
Source: Commission calculation.

## Alternative presentation

78 Table 28 provides an alternative presentation using a factor approach. The table shows for each disability how the expenses per capita in each component and in total are affected by differences in State characteristics. Disability factors below one indicate a State is assessed to need to spend less than average. Disability factors above one indicate a State is assessed to need to spend more than average.

**Table 28 Category factor, Housing, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| **Service expenses (component weight = 81%)** | | | | | | | | | |
| SDC | 0.983 | 0.917 | 1.032 | 1.002 | 1.173 | 1.045 | 0.640 | 2.119 | 1.000 |
| Location | 0.995 | 0.972 | 0.996 | 1.055 | 0.999 | 1.018 | 0.999 | 1.298 | 1.000 |
| Component factor | 0.974 | 0.888 | 1.024 | 1.054 | 1.167 | 1.059 | 0.637 | 2.739 | 1.000 |
| A. Weighted factor | 0.979 | 0.909 | 1.019 | 1.043 | 1.135 | 1.047 | 0.708 | 2.400 | 1.000 |
| **First home owner grants and concessions (component weight = 19%)** | | | | | | | | | |
| Component factor | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| B. Weighted factor | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| **Category expense factor** | 0.979 | 0.909 | 1.019 | 1.043 | 1.135 | 1.047 | 0.708 | 2.400 | 1.000 |
| **Revenue (component weight = 100%)** | | | | | | | | | |
| Component factor | 1.001 | 0.959 | 1.009 | 0.984 | 1.165 | 0.958 | 0.734 | 1.322 | 1.000 |
| C. Weighted factor | 1.001 | 0.959 | 1.009 | 0.984 | 1.165 | 0.958 | 0.734 | 1.322 | 1.000 |
| **Category revenue factor** | 1.001 | 0.959 | 1.009 | 0.984 | 1.165 | 0.958 | 0.734 | 1.322 | 1.000 |
| **Category net factor** | 0.958 | 0.862 | 1.029 | 1.101 | 1.106 | 1.133 | 0.682 | 3.439 | 1.000 |

Source: Commission calculation.

## Influences not assessed in this category

### *Commonwealth Rent Assistance*

79 South Australia argued that community housing tenants tend to place a lower burden on State budgets than public housing tenants, reflecting the self-funded nature of community housing arrangements with the support of Commonwealth Rental Assistance (CRA).

80 While community housing tenants receiving CRA may cost States less than public housing tenants, we consider that our assessment takes this into account. We use the national average expenses on community and public housing, and the national average use of households with different socio-demographic characteristics applied to the number of households in each use group in a State to calculate assessed expenses on such housing in each State. Any differences between actual and assessed expenses are attributable to differences in State policies on the provision of community and public housing. Based on this, we consider that no adjustment is required for differences between the costs of community and public housing.

81 Furthermore, access to CRA presupposes the availability of private rental or community housing. If this is not available, then CRA, although a Commonwealth program available in all States with the same eligibility, cannot be accessed. More public housing might be required in those areas.

82 Our assessment recognises this by taking into account different use patterns of household groups disaggregated by income, Indigenous status and location. It

recognises that more public housing is required in remote areas than in major cities, thereby capturing differences in the private sector markets in similar locations as well as the socio-demographic composition of households.

83 In addition, the availability of above average levels of public housing in a State is likely to reduce the call on CRA. Tenants in CRA subsidised housing suffer more housing stress than tenants in public housing who pay a fixed proportion of their income so public housing tends to be the preferred option.

84 Over time States have provided a relatively stable amount of public housing, choosing to increase eligibility criteria and waiting lists, in response to increased demand for housing. As a result, as public housing waiting lists increase, the take up of CRA also increases. If States provided more public housing in response to increased demand, then levels of CRA would not change. It would appear the amount of CRA used in each State depends on the level of public housing made available, so the inverse of the CRA take-up cannot be used as a policy neutral measure of how much public housing States need to provide.

### *Cost of living*

85 We have not accepted the view that the impact of the cost of living on the need for public housing should be recognised in the assessment.

86 As the Commission noted in the 2010 Review report, accepting this case requires evidence that above average costs of living lead to higher provision of State services and that States determine the quantity of services they provide and the geographic allocation of them according to where demand for public housing is high because of cost of living differences.

87 There is some evidence that higher costs of living may increase demand for State services. However, there is no clear evidence that States react to the higher demand by increasing the services provided. In fact, we observed that some States have reacted to the higher demand by imposing tighter eligibility criteria on their services. This takes the form of reducing income thresholds or periodically reassessing eligibility. For example, Western Australia has tighter eligibility criteria than any other State, as shown in Table 7. In addition, it has only an average proportion of public housing.

### *Other possible impacts*

88 We have not made assessments in relation to other disabilities, such as the age of the public housing stock, adjustments for culturally and linguistically diverse (CALD) households and household size.

89 Any material differences in the age profile of the public housing stock across the States, assuming such differences exist, cannot be separated from State policy choice, and so any disability based on age of stock cannot be reliably calculated.

90 The assessment of the CALD disability is addressed in Chapter 27 — Other disabilities.

91 We have not assessed an additional cost weight based on household size as we consider these costs size are likely to have been captured by the Indigenous cost weight.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

92 Table 29 shows the extent to which the assessment for this category moves the distribution of the GST away from an equal per capita distribution. It shows that GST revenue is redistributed to Queensland, Western Australia, South Australia, Tasmania and the Northern Territory, and away from the other States.

**Table 29 GST impact, Housing, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| Dollars million | -42 | -115 | 19 | 38 | 23 | 10 | -17 | 85 | 174 |
| Dollars per capita | -6 | -19 | 4 | 14 | 13 | 19 | -43 | 337 | 7 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.
Source: Commission calculation.

93 The main reasons for these redistributions are the differences between States in the proportions of their households in the groups that are high or costly users of housing services, along with differences between States in rents paid. High or costly users of housing services are Indigenous households, households in remote regions and low-income households. Those paying less rent are mainly households in remote areas.

94 Table 30 shows State proportions of households that are Indigenous, on low income, or that live in remote and very remote areas.

**Table 30 Proportions of selected household groups in each State, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| | % | % | % | % | % | % | % | % | % |
| Remote and very remote | 0.7 | 0.1 | 3.5 | 7.4 | 4.5 | 3.8 | 0.0 | 40.2 | 2.6 |
| Indigenous status | 3.1 | 1.0 | 3.9 | 3.1 | 2.1 | 4.9 | 1.9 | 19.1 | 2.8 |
| Low-income | 38.0 | 37.6 | 36.7 | 31.2 | 41.9 | 46.9 | 18.6 | 24.1 | 37.0 |

Source: Census 2011, adjusted for State population growth over 2010-11 to 2013-14.

95 Some of the main reasons for the redistributions for each State are the following.

- New South Wales has a lower than average proportion of households living in remote areas. This is partly offset by its relatively higher wage costs and its relatively greater share of low-income households and Indigenous households.
- Victoria has a lower than average proportion of Indigenous households and households living in remote and very remote regions, and relatively low wage costs. It has an above average proportion of low-income households.
- Queensland and Western Australia have higher than average proportions of Indigenous households and more households living in remote and very remote regions. This is partly offset by below average proportions of low-income households. Western Australia also has above average wage costs, although Queensland has relatively low wage costs.
- South Australia has above average proportions of low-income households and households living in remote and very remote regions. This is partly offset by relatively low wage costs and a below average proportion of Indigenous households.
- Tasmania has above average proportions of Indigenous households and above average proportions of households on low income. While it has an above average proportion of households living in remote and very remote regions, these are mainly non-Indigenous households, which have a low use of social housing. It also has relatively low wage costs.
- The ACT has a relatively small low-income population with fewer than average Indigenous households and no remote locations. This is partly offset by relatively higher wage costs.
- The Northern Territory has a higher than average proportion of Indigenous households as well as a higher than average proportion of households living in remote and very remote regions. It also has relatively higher wage costs. This is partly offset by its below average proportion of low-income households.

96 Table 31 provides a summary of the major reasons the assessment moves State GST revenue away from an equal per capita distribution.

**Table 31 Major reasons for difference from EPC, Housing, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| SDC | | | | | | | | | |
| Remoteness | -40 | -15 | 3 | 26 | 3 | -6 | -1 | 32 | 62 |
| Indigenous status | 14 | -76 | 36 | 6 | -9 | 8 | -2 | 24 | 87 |
| Income | 17 | 12 | -11 | -25 | 20 | 1 | -12 | -2 | 50 |
| Total SDC | -10 | -79 | 28 | 6 | 14 | 4 | -16 | 53 | 105 |
| Regional costs | -19 | -21 | 14 | 7 | 2 | 6 | -3 | 13 | 43 |
| Wage costs | 9 | -16 | -12 | 22 | -4 | -3 | 2 | 2 | 35 |
| Total | -42 | -115 | 19 | 38 | 23 | 10 | -17 | 85 | 174 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.
Disabilities may not add due to interactions.
Source: Commission calculation.

## CHANGES SINCE THE 2014 UPDATE

97 Table 32 breaks down the total changes since the 2014 Update into the impact of changing data sources, category-specific method changes, and changes in State circumstances in the 2015 assessment period.

**Table 32 Changes since the 2014 Update, Housing**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Data changes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Method changes | -25 | -6 | 19 | 21 | 11 | -5 | -7 | -8 | 50 |
| Change in circumstances | 2 | 12 | -2 | -1 | -6 | -1 | 3 | -7 | 17 |
| Total | -23 | 7 | 17 | 20 | 5 | -6 | -4 | -15 | 48 |

Source: Commission calculation.

### Data changes

98 As this is a new category, we consider that all changes in the assessment are due to a change in method.

### Method changes

99 There are a number of category-specific method changes associated with this category since the 2010 Review. The net effect of all method changes redistributed GST to Victoria, Queensland, Western Australia and South Australia, and away from the other States.

### *Creating a new category and using household data*

100 Housing expenses and revenue have been assessed separately from welfare expenses, as the expense drivers differ for each category. This separation has allowed the assessment to be based on Census data on households in social housing cross-classified by income, Indigenous status and location.

### *Assessing PNFCs net expenses*

101 The category now covers PNFC expenses and revenue as well as general government expenses and revenues.

### *Assessing gross expenses and revenue*

102 Gross expenses and revenue are assessed separately.

### *Rent assessment*

103 Assessed rents were calculated by applying average rents paid by the different household groups to assessed households.

### *First home owners schemes*

104 First home owners grants, bonuses and stamp duty concessions are consolidated in the Housing category and assessed jointly based on States' population shares.

## Changes in State circumstances

105 Updating the assessment years resulted in a decrease in Housing net expenses, from $4.5 billion in 2010-11 to $3.2 billion in 2013-14. During this time, the GST pool has increased. The decrease in housing expenses resulted in a relative redistribution of GST to States with below average needs (New South Wales, Victoria, and the ACT) and away from most of the other States, as the housing assessment is applied to a smaller portion of the GST pool.

# UPDATING THE ASSESSMENT

106 We recommend that data used in this assessment be updated when new data become available to ensure the relativities remain contemporary and consistent with the circumstances of the States. On this basis we expect:

- the following data would be updated annually:
  - ABS GFS data on housing expenses and revenue
  - first home owner scheme expenses and tax expenditure

- the following data would be updated once during the review:
  - household numbers and rent paid by households will be updated when 2016 Census data or equivalent data are available
- the following data would not be updated during the review:
  - the weight applied to Indigenous households will be fixed for the duration of the 2015 Review period, unless new research becomes available.

# CHAPTER 15

# SERVICES TO COMMUNITIES

## SUMMARY OF THE ASSESSMENT

The Services to communities category covers State subsidies for the provision of electricity, water and wastewater services (utilities subsidies) and a range of expenses for administration of communities, community amenities and environmental services.

We assess above average costs:

- for utilities subsidies, in States with concentrations of people living in small remote and very remote communities as subsidies are typically higher for these communities
- for community development, in States with higher shares of people in discrete Indigenous communities as States typically spend more servicing such communities.

Our assessment also recognises differences in wage and non-wage costs between States and the higher cost of providing some of the services in more remote locations. Our assessment of most of the community amenities and environmental services do not affect GST shares.

## WHAT IS INCLUDED IN THE SERVICES TO COMMUNITIES CATEGORY?

1 The Services to communities category comprises recurrent expenses on:

- subsidies for the provision of electricity, water and wastewater services (utilities subsidies)
- administration and support of communities (including Indigenous communities)
- expenses related to environmental protection services, planning and development.

2 The Commission decided to consolidate the assessment of State concession expenses by reallocating those relating to water and electricity services to the Welfare category.

3 Expenses related to irrigation and other industrial uses of water are covered in the Services to industry category.

4 User charges relating to community development, community amenities and protection of the environment are assessed in the Other revenue category because the drivers of these user charges are not the same as the drivers of use and cost of the related services. User charges account for 19% of category expenses.

5 Table 1 shows the category expenses. Total services to communities expenses were $6.3 billion in 2013-14.

**Table 1 Services to communities category expenses, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Category expenses ($m) | 1 029 | 1 535 | 1 055 | 1 829 | 395 | 51 | 81 | 281 | 6 257 |
| Category expenses ($pc) | 138 | 265 | 225 | 718 | 236 | 99 | 210 | 1 153 | 268 |
| Proportion of operating expenses (%) | 1.6 | 3.3 | 2.5 | 6.9 | 2.6 | 1.1 | 2.0 | 6.1 | 3.0 |

Source: Commission calculation using State data.

6 Table 2 shows the share of State expenses on services to communities has been about 3% of total expenses over recent years.

**Table 2 Services to communities category expenses as a proportion of State operating expenses**

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| Total for category ($m) | 6 046 | 6 308 | 5 863 | 6 257 |
| Total operating expenses ($m) | 180 682 | 189 260 | 195 316 | 207 408 |
| Proportion of total operating expenses (%) | 3.3 | 3.3 | 3.0 | 3.0 |

Source: Commission calculation using ABS Government Finance Statistics (GFS) data and State data.

## How are services delivered?

### *Utilities subsidies – water and sanitation*

7 Water and sanitation services are mostly owned and delivered by State governments, either directly or through public non-financial corporations (PNFCs). Services are also delivered by the private sector, as in South Australia, and by local governments, as is the case for smaller communities in New South Wales and Queensland.

8 All States except the ACT provide subsidies for water and wastewater services (Table 3). Victoria provides limited subsidies to service providers. The subsidies in Tasmania support the reform of Tasmania's water and wastewater sector. New South Wales

provides subsidies to local governments under the Country Towns Water Supply and Sewerage Program.

9 Queensland, Western Australia, South Australia and the Northern Territory provide substantial subsidies, mainly supporting uniform tariffs which are intended to ensure customers are all charged the same rate across the State. Subsidies in Queensland have been decreasing as the State is moving toward greater cost recovery by phasing out the subsidy to its desalination plant.

**Table 3 State subsidies for water and wastewater services**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| 2010-11 | 77 | 5 | 133 | 372 | 161 | 13 | 0 | 36 | 797 |
| 2011-12 | 72 | 5 | 87 | 341 | 129 | 7 | 0 | 46 | 686 |
| 2012-13 | 53 | 8 | 127 | 320 | 81 | 3 | 0 | 54 | 646 |
| 2013-14 | 88 | 11 | 69 | 463 | 108 | 2 | 0 | 45 | 785 |
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| 2010-11 | 11 | 1 | 30 | 161 | 99 | 26 | 0 | 154 | 36 |
| 2011-12 | 10 | 1 | 19 | 143 | 78 | 13 | 0 | 197 | 30 |
| 2012-13 | 7 | 1 | 27 | 129 | 49 | 7 | 0 | 227 | 28 |
| 2013-14 | 12 | 2 | 15 | 182 | 64 | 4 | 0 | 184 | 34 |

Source: State provided data.

10 States provide significant subsidies for the provision of services in smaller, geographically isolated communities where full cost recovery is most difficult. The National Water Commission expects providers to generally cost recover in metropolitan, rural and regional areas but recognises that providers in small communities will often need to rely on Community Service Obligation payments because they cannot provide water services in an economically viable manner.

11 Evidence provided by States as part of the Data Working Party process shows that larger per capita subsidies are directed to smaller communities.

- Table 4 shows per capita operating expenses for Queensland's communities. It shows higher operating expenses in smaller communities. Subsidy data could not be provided.
- Table 5 shows Western Australia's per capita subsidy (operating and capital) and expense data by community size. Western Australia provides subsidies to all communities, including Perth. It too shows much greater per capita subsidies and expenses in smaller communities than in large ones.
- Table 6 shows data on per capita operating expenses and subsidies for five selected Northern Territory communities of different sizes, ranging from around 150 people (Pigeon Hole) to around 2 500 people (Wadeye). These communities were selected by the Northern Territory as being representative of communities

of similar size. The data from the Northern Territory show that per capita operating expenses and subsidies increase as community population decreases.

- Table 7 shows expenses and subsidies for the five administrative regions of South Australia. It shows a small per capita subsidy for Adelaide (Metro) but increasing per capita subsidies as population size falls.

**Table 4 Operating expenses by community size, Queensland, average of 2008-09 to 2010-11**

| | Operating expenses |
|---|---|
| | $pc |
| Less than 1 000 | 399 |
| 1 000 to 9 999 | 480 |
| 10 000 and over | 111 |
| Total | 115 |

Source: CGC special data collection, 2013.

**Table 5 Expenses and subsidies by community size, Western Australia, 2011-12**

| | Subsidies | Operating expenses |
|---|---|---|
| | $pc | $pc |
| Less than 1 000 | 1 630 | 1 910 |
| 1 000 to 9 999 | 516 | 765 |
| 10 000 and over | 42 | 241 |

Source: CGC special data collection, 2013.

**Table 6 Operating expenses and subsidies by community, Northern Territory, average 2008-09 to 2011-12**

| | Population | Subsidies | Operating expenses |
|---|---|---|---|
| | persons | $pc | $pc |
| Wadeye | 2 461 | 409 | 450 |
| Angurugu | 963 | 622 | 662 |
| Hermannsburg | 725 | 733 | 490 |
| Milyakburra | 201 | 1 611 | 1 572 |
| Pigeon Hole | 145 | 1 161 | 1 166 |

Source: CGC special data collection, 2013.

12 Table 7 also shows that the more remote areas of South Australia receive greater subsidies. This is supported by additional data for Western Australia, in Table 8. This shows that operating expenses are higher in remote areas for each community size, but that this is not always the case for subsidies. However, when all communities are included, expenses and subsidies are significantly higher in remote areas.

**Table 7 Operating expenses and subsidies by region, South Australia, 2011-12**

| | Population | Subsidies | Operating expenses |
|---|---|---|---|
| | persons | $pc | $pc |
| Metro | 1 182 788 | 7 | 245 |
| Outer metro | 165 266 | 153 | 695 |
| North | 122 513 | 197 | 1 017 |
| South east | 56 721 | 256 | 459 |
| Eyre | 29 588 | 1 427 | 1 681 |
| Total | 1 556 876 | 74 | 388 |

Source: CGC special data collection, 2013.

**Table 8 Expenses and subsidies by community size and remoteness, Western Australia, 2011-12**

| | Expenses | | Subsidies | |
|---|---|---|---|---|
| | Remote | Non-remote | Remote | Non-remote |
| | $pc | $pc | $pc | $pc |
| Less than 1 000 | 2 476 | 1 463 | 1 742 | 1 542 |
| 1 000 to 9 999 | 978 | 673 | 322 | 599 |
| 10 000 and over | 562 | 230 | 174 | 38 |
| Total | 890 | 256 | 383 | 70 |

Source: CGC special data collection, 2013.

13 Overall, the available information on how this service is provided and evidence provided by States suggests that it is average policy for States to provide subsidies to support uniform tariffs and more significant subsidies in small communities in remote areas. The subsidies in small remote communities are larger than elsewhere, not only because uniform tariff policies apply, but because additional support must be provided because the services are much more expensive to provide.

## *Electricity*

14 The National Electricity Market (NEM) is a wholesale generation market and operates across New South Wales, Victoria, Queensland, South Australia, Tasmania and the ACT, although not all areas of Queensland, South Australia and Tasmania are covered. Communities in these 'off-grid' areas are serviced either by smaller non-interconnected networks or by isolated generators.

15 The NEM is characterised by significant State ownership of assets throughout the supply chain. In New South Wales, Queensland and Tasmania, the State governments own the transmission and distribution networks and most of the generator assets. The ACT Government partially owns the distribution network company, ActewAGL. The Tasmanian and ACT Governments also have direct ownership stakes in retailers.

In contrast, in Victoria and South Australia, the generation, transmission and distribution networks, as well as the retailers, are all privately owned or leased.

16 Western Australia and the Northern Territory have independent systems, clustered around major users. Smaller and isolated communities are serviced by specialist providers, such as through the Indigenous Essential Services program in the Northern Territory.

17 All States except Victoria have regulated retail electricity prices which, in some States, are subsidised.

18 Table 9 shows State subsidies for electricity services. The majority of the subsidies are provided by Queensland, Western Australia and the Northern Territory, mainly to support uniform tariffs. In Queensland, uniform tariffs are set at the full cost recovery price of south-east Queensland[1], which means that subsidies for uniform tariffs are only paid to providers outside south-east Queensland. In contrast, subsidies for uniform tariffs cover all providers in Western Australia and the Northern Territory because prices are set below full cost recovery across the States, including in their metropolitan areas. In other States, tariffs vary according to location.

19 These States (Queensland, Western Australia and the Northern Territory) also have the largest 'off-grid' populations. Subsidies are also provided in South Australia and Tasmania to providers for their off-grid communities. In South Australia, the Remote Areas Energy Supplies (RAES) State/Independent scheme subsidises electricity costs in 13 remote communities, such as Maree and Cockburn. Subsidies are also provided to providers on the Bass Strait Islands in Tasmania.

**Table 9 State expenses on electricity services from the general government sector**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| 2010-11 | 0 | 2 | 399 | 470 | 11 | 7 | 0 | 107 | 997 |
| 2011-12 | 0 | 1 | 422 | 547 | 16 | 8 | 0 | 108 | 1 102 |
| 2012-13 | 0 | 1 | 648 | 517 | 19 | 8 | 0 | 108 | 1 301 |
| 2013-14 | 0 | 0 | 524 | 736 | 20 | 8 | 0 | 112 | 1 401 |
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| 2010-11 | 0 | 0 | 90 | 203 | 7 | 15 | 0 | 466 | 45 |
| 2011-12 | 0 | 0 | 93 | 229 | 10 | 16 | 0 | 465 | 49 |
| 2012-13 | 0 | 0 | 141 | 209 | 11 | 15 | 0 | 453 | 57 |
| 2013-14 | 0 | 0 | 112 | 289 | 12 | 15 | 0 | 461 | 60 |

Source: State provided data.

20 As for water, electricity subsidies tend to be provided to support uniform tariff policies and are larger for small off-grid providers in more remote areas.

[1] Uniform tariffs in south-east Queensland will cease from July 2015.

### *Community development*

21 Community development expenses cover a wide variety of State activity but can broadly be described as community related administration and planning including regulating land use, administering zoning laws and providing facilities for community health, recreation and culture. As specified in the ABS Government Purpose Classification (GPC, 2006), this component does not include expenses on the actual construction of housing, industrial buildings, public utilities or any other facilities.

22 In addition, States provide additional support for the governance and management of discrete Indigenous communities, in recognition of their greater needs due to their remoteness and smaller populations with low incomes.

### *Community amenities*

23 Expenses related to community amenities include design, installation, operation and maintenance of street lighting, provision of facilities such as public toilets, drinking fountains, bus shelters, cemeteries and crematoria.

24 There are no standard policies amongst States for the provision of these facilities. States provide these facilities either directly or by funding local governments.

### *Protection of the environment*

25 States provide a diverse range of environmental protection services including developing and monitoring pollution and air quality standards, pollution abatement and control, control and prevention of erosion of beaches and foreshores, flood mitigation in urban areas and research into pollution abatement and control.

## COMMONWEALTH FUNDING

26 The Commonwealth provides funding to States to assist them in meeting their services to communities expenses. The Sustainable Rural Water Use and Infrastructure Program (SRWUIP) is the major payment in this category. Payments to State governments impact on the relativities, while payments to local governments do not impact because they have been judged not to affect fiscal capacities.

27 The expenses funded by the SRWUIP payments to States are assessed in the same way as State funded expenses and the actual revenue is treated as an offset to the assessed expenses.

28 South Australia argued that a number of significant SRWUIP projects were for protection of the environment purposes and, therefore, should not impact on the relativities because related expenses cannot be assessed. We reviewed the projects covered by the SRWUIP and found that the majority of the payments were for agriculture and urban water supply, which are assessed differently. We note that the majority of projects for environmental protection purposes are funded in South Australia. We have decided not to treat protection of the environment projects differently from other SRWUIP projects because:

- they remain in the minority, with most occurring in one State
- we cannot be certain States have adopted a consistent classification of projects, which makes such a judgment between projects for different purposes difficult
- projects funded in each State are to some extent policy influenced because States can nominate the projects they wish the Commonwealth to support
- we would need to collect data annually from the States, and it is not clear that such data are sufficiently reliable.

29 The National Insurance Affordability Initiative payment, which aims to reduce flood risk and bring reductions in insurance premiums, was treated as no impact on the relativities. This is because the payment relates to protection of the environment services, and needs are not assessed due to a lack of information about what drives these expenses. This is consistent with the no impact treatment of the Bushfire Mitigation NPP.

30 The ACT argued that this payment was not intended for environmental purposes but to reduce the risk of natural disasters and lower the cost of insurance. It therefore considered that the payment should be assessed as impacting on the relativities. However, this type of expense is recorded as for protection of the environment in the ABS Government Financial Statistics.

31 Payments for purposes outside State responsibilities, such as the Implementing Water Reform in the Murray-Darling Basin payment, have been treated as having no impact on State fiscal capacities. The Stronger Future payments have been quarantined by the terms of reference.

32 Table 10 details the major Commonwealth payments provided to States for services to communities.

**Table 10 Commonwealth payments to States for services to communities, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $'000 | $'000 | $'000 | $'000 | $'000 | $'000 | $'000 | $'000 | $'000 |
| National urban water and desalination plan | 0 | 5 590 | 0 | 0 | 0 | 0 | 0 | 0 | 5 590 |
| National water security plan for cities and towns | 9 600 | 0 | 1 084 | 6 690 | 300 | 0 | 0 | 0 | 17 674 |
| Sustainable rural water use and infrastructure program | 55 409 | 181 613 | 11 909 | 1 421 | 45 697 | 27 471 | 2 259 | 553 | 326 332 |
| Other payments | 6 346 | 4 590 | 6 701 | 505 | 1 155 | 0 | 221 | 23 650 | 43 168 |
| Total | 71 355 | 191 793 | 19 694 | 8 616 | 47 152 | 27 471 | 2 480 | 24 203 | 392 764 |

Source: Commonwealth of Australia's *Final Budget Outcome, 2013-14*.

33 A complete list of Commonwealth payments and their treatment is provided in Attachment 2 – Treatment of Commonwealth payments.

## CATEGORY STRUCTURE

34 The assessment of the Services to communities category is undertaken in four components:

- utilities subsidies
- community development
- community amenities
- protection of the environment.

35 Table 11 shows the assessment structure for the category, the disabilities that are assessed and the size of each component, using 2013-14 data.

**Table 11 Category structure, Services to communities, 2013-14**

| Component | Component expense | Disability | Influence measured by disability |
|---|---|---|---|
| | $m | | |
| Utilities subsidies | 2 186 | Common subsidies | This is an EPC assessment because such subsidies, in the States they are provided, are provided to all State residents. |
| | | Differential subsidies | Recognises the cost of providing differential electricity, water and wastewater services to communities measured by the population in small communities in remote and very remote regions. |
| | | Location | Recognises the differences in wage costs between States and in the cost of providing services to different areas within a State. |
| | | Service delivery scale | Recognises the higher cost of providing electricity, water and wastewater services in remote areas. |
| Community development | 1 822 | Community development | Recognises the higher cost of providing community development services in discrete Indigenous communities. |
| | | Location | Recognises the differences in wage costs between States and in the cost of providing services to different areas within a State. |
| Community amenities | 52 | Community amenities | EPC assessment because there are no common policies in the provision and/or funding of these services across States. |
| | | Location | Recognises the differences in wage costs between States and in the cost of providing services to different areas within a State. |
| Protection of the environment | 2 196 | Protection of the environment | EPC assessment because the expenses cover a wide variety of services and cost drivers could not be identified. |
| | | Location | Recognises the differences in wage costs between States and in the cost of providing services to different areas within a State. |

Source: Commission calculation.

## UTILITIES SUBSIDIES

36 We have observed that States tend to subsidise the operations of water and electricity providers in a number of ways.

- Uniform tariffs ensure customers are all charged the same rate across the State. Queensland, Western Australia, South Australia and the Northern Territory have uniform tariff policies for water; Queensland, Western Australia and the Northern Territory have uniform tariff policies for electricity.
- The provision of water services in smaller, geographically isolated communities where cost recovery is not regarded as feasible is subsidised more heavily in most States. The provision of electricity services is subsidised more heavily in smaller off-grid communities, located mainly in remote areas.
- Special assistance is provided in a number of States for water reform (Tasmania), even in metropolitan areas where projects such as desalination plants have been supported (Queensland and South Australia).

37 We have decided to assess subsidies to water and electricity providers in one utilities assessment. This was generally supported by States.

38 We have decided to assess State utilities spending in two parts.

- We observe that when taking all States together, some part of State spending results in a common subsidy provided to all users. This could come from the operation of uniform tariff policies, some of which provide a subsidy even in metropolitan areas or for specific projects in these areas. This part of State spending is assessed equal per capita because it is provided to the vast bulk of State residents.
- In addition, residents outside metropolitan areas, principally in smaller and isolated communities, receive additional and differential subsidies to meet the higher cost of water and electricity provision. This part of State spending is assessed on the basis of a State's share of the population living in these communities.

39 States generally supported this approach, noting that people even in large towns outside metropolitan areas received a differential subsidy and that subsidies increased with remoteness and as communities became smaller.

40 New South Wales, however, did not support a differential assessment for small communities because it contended that the provision of subsidies to remote small communities was heavily influenced by policy choice. However, there is considerable reliable evidence that shows States, on average, do provide subsidies, particularly for small communities in remote and very remote areas.

41 While we have evidence that States pay differential subsidies, the data do not allow us to reliably calculate how these subsidies vary with remoteness or community size

on average across Australia. We cannot estimate reliably how subsidies in different classes of community vary from the average differential subsidy.

42 On balance we have decided on reliability grounds not to assess different differential subsidies **within** States for communities of different size and remoteness. However, we note that applying the standard allowance for remoteness would provide somewhat greater subsidies in the more remote areas of a State (see the section on location).

43 We have decided to assess a State's share of spending on differential subsidies on the basis of its share of people living in small remote and very remote communities as a policy neutral indicator of the people in each State requiring differential subsidies. While this indicator may not precisely capture the total number of people likely to receive differential subsidies in each State, we consider it provides an adequate proxy of relative needs, given the quality of the data available to us. States with a large proportion of their population in these small remote communities are also likely to have higher needs in relation to differential subsidies.

44 There is no distinct population threshold which defines a small community. There is evidence that States provide subsidies to providers in remote and very remote centres that are as large as Port Hedland and Alice Springs. In the absence of a clear community size threshold, we have chosen communities less than 1 000 population in remote and very remote areas as the threshold for our proxy measure.

45 More particularly, we have defined our proxy as communities with a population between 50 and 1 000. This extends the 2010 Review definition (communities between 200 and 1 000) because data provided by Western Australia and Queensland, for example, showed that communities smaller than 200 received water subsidies.

46 Western Australia argued that the Commission should use all the population in remote and very remote areas to measure needs instead of the population in communities of 50 to 1 000. While we accept that some communities with populations greater than 1 000 in remote and very remote areas receive a subsidy, we are not convinced that necessarily applies to most such communities of that size in those areas. Including them in our proxy may not improve the reliability of our assessment. Nor have we included people living on isolated farms and stations because they rely on their own water services and electricity production rather than subsidised community services. The exclusion of that population is material at the $10 per capita threshold for a data adjustment for the Northern Territory.

47 We have developed a method for identifying communities with populations below 200 in remote and very remote regions of Australia based on ABS mesh blocks.[2] The main criterion for identifying these communities was for them to have a population density of 100 persons per square kilometre, which is consistent with the ABS' approach to defining Urban Centres/Localities (UCLs) with populations greater than 200.

48 Table 12 shows the population residing in remote and very remote communities of 50 to 200 persons and 200 to 1 000 persons (using the ABS definition of UCL). Including communities with populations between 50 and 200 is material only for the Northern Territory.

**Table 12 Population in small communities in remote and very remote regions, 2011 Census**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Communities 50-200 (CGC) (persons) | 1 000 | 168 | 2 745 | 2 652 | 1 604 | 225 | 0 | 158 | 8 552 |
| Communities 200-1000 (ABS) (persons) | 4 911 | 1 732 | 27 303 | 25 562 | 12 552 | 4 640 | 0 | 21 691 | 98 391 |
| Total (persons) | 5 911 | 1 900 | 30 048 | 28 214 | 14 156 | 4 865 | 0 | 21 849 | 106 943 |
| Shares (%) | 5.5 | 1.8 | 28.1 | 26.4 | 13.2 | 4.5 | 0.0 | 20.4 | 100.0 |

Source: Staff calculations using ABS population data.

## *Apportioning expenses*

49 Table 13 shows State provided data on electricity and water subsidies. These were collected in two parts, subsidies paid for small remote communities (less than 1 000 inhabitants) and other subsidies.

50 Using that data we estimate that some 40% of total utilities spending is provided as subsidies for smaller more remote communities. However, taking into account that communities over 1 000 population can also receive subsidies, we have increased the proportion of State subsidies paid at differential levels from 40% to 50% to cover subsidies paid for centres larger than 1 000 population. Conceptually we should remove that part of the subsidy paid to small communities which represents the common subsidy. However, we are not convinced that data quality would allow a reliable adjustment.

[2] Mesh blocks are the smallest geographic region in the Australian Statistical Geography Standard and the smallest geographical unit for which Census data are available. In 2011, there were about 347 000 mesh blocks covering the whole of Australia without gaps or overlaps.

**Table 13 Proportion of subsidies for small remote communities, 2010-11 to 2012-13**

| | Uneconomic subsidies | Other subsidies | Total | Proportion of uneconomic subsidies |
|---|---|---|---|---|
| | $m | $m | $m | % |
| **Electricity** | | | | |
| 2010-11 | 453 | 547 | 1 000 | 45.3 |
| 2011-12 | 537 | 575 | 1 112 | 48.3 |
| 2012-13 | 548 | 770 | 1 318 | 41.6 |
| Average | 513 | 630 | 1 143 | 44.9 |
| **Water** | | | | |
| 2010-11 | 289 | 440 | 729 | 39.6 |
| 2011-12 | 262 | 347 | 609 | 43.0 |
| 2012-13 | 223 | 360 | 583 | 38.3 |
| Average | 258 | 382 | 640 | 40.3 |

Note: The total subsidies in this table differ from those in other tables as they are derived from separate data collections. These are the only data available for this split.

Source: State provided data.

## Location and service delivery scale

51 To recognise that subsidies in small communities in very remote areas are higher than those in remote areas, we have applied a regional costs weight using the general gradient (see Chapter 23 — Regional costs), discounted by 25% because that gradient is unlikely to be totally appropriate for water and electricity subsidies.

52 Because the need for independent power generation and water networks in small and remote communities leads to higher costs due to remoteness and diseconomies of small scale, we have also introduced a service delivery scale factor based on that used in the Schools assessment, again discounted by 25% (see Chapter 24 — Service delivery scale).

53 We have not applied a wage costs factor because we have no evidence that subsidies paid to electricity and water providers are influenced by wage levels.

## Influences not assessed in this component

### *Water availability and quality*

54 We have decided not to assess needs relating to water availability and quality because we do not have the data to measure how these influences affect the State subsidies to service providers.

55 Most of the information readily available about water availability and quality in Australia covers broad geographical areas. It is difficult to link water quality and

availability to individual communities. It is even more difficult to measure the impact of water quality and availability on the cost of providing water services.

56 For example, while water availability and quality in all areas of New South Wales and Victoria were classified as poor in the last review, providers mostly cost recovered. Queensland is moving towards cost recovery but its water availability and quality is not changing, as far as we are aware.

57 Data provided by Queensland and Western Australia for this review do not show a clear link between water availability and quality and per capita subsidies.

58 The decision not to take water availability and quality into account in the assessment has the general support of States except South Australia. It noted factors leading to higher water provision costs for that State included poor water quality, topographical characteristics and soil conditions. We understand this argument but it is not clear that greater costs of water provision due to these factors automatically translate into greater government subsidies and we have no data to measure the impact.

### *Distance from water source and source of water*

59 We did not assess needs relating to distance from water source and source of water. Western Australia provided data to calculate per capita expenses and subsidies by distance of a community from its water source and by source of water (surface and ground). The results were mixed. They did not provide evidence one way or the other that increasing distance from water source increased subsidies or that ground water was more costly to provide and required higher subsidies. Western Australia proposed that, as a practical solution, the Commission could assess Kalgoorlie (with its long expensive water pipeline supply) as 'remote' for the purposes of the water subsidy assessment. South Australia also said that distance from water source is a significant cost factor because of the need for extensive pipe networks.

60 There is a lack of comprehensive data to enable us to assess this need. To do an equitable assessment relating to water supply we would need to consider the costs of providing water through dams, underground sources and pipelines, and the costs associated with the distance to the water source for all States. An additional difficulty with pipelines would be the need to apportion the cost between agriculture and urban water use. We did not treat Kalgoorlie as a special case as there may be similar towns in other States facing similar problems.

### *Western Australia's electricity costs*

61 Western Australia proposed that its higher electricity generation costs, which were the rationale for subsidies paid to, among others, Perth residents, should be recognised as a disability.

62 It provided evidence to show that per capita generation costs of the NEM in the eastern States are substantially lower than those in the Perth-Kalgoorlie lower south west of Western Australia (the SWIS), which are in turn lower than those of the Karratha-Port Hedland network (the NWIS). Western Australia referred to the WA Public Utilities Office's *Electricity Market Review Discussion Paper*[3] which shows that electricity wholesale and retail costs are higher in Perth compared with those on the NEM because of higher generation costs.

63 However, that paper also attributes the higher generation costs to:

- Excess capacity – The system has substantial excess capacity in order to cater for extreme weather events. The cost of this unused capacity impacts on the wholesale and retail prices charged in Perth. However, in the NEM costs of excess capacity are borne by generators. Hence, a portion of any per capita cost difference across States is likely due to policy decisions about excess capacity and who bears the cost of this excess capacity.
- Industry structure – The way the industry is structured does not encourage efficiency and competition. For example, the report said that competition among generators is relatively weak. There is a comparative lack of retail contestability and transparency in contracts. Industry structure is also in large part a policy decision.
- The high cost of coal and gas – Western Australia is particularly reliant on gas. Because the State market is small and prices are relatively low, miners give priority to export over the domestic market. The relative reliance on coal and gas is in part a result of State policy decisions.

64 The report also noted that network costs are much lower in the Perth network than in the national grid (NEM).

65 Given this background, the Commission has considered two issues in its response to Western Australia's proposal.

- Is there a conceptual case that, where electricity supply costs are high in capital cities, States provide a subsidy?
- If there is a conceptual case, could a reliable assessment be constructed which satisfies assessment principles and guidelines, including policy neutrality?

66 With respect to the first point, from evidence presented to us, only Western Australia and the Northern Territory provide subsidies to residents of their capital cities. It could be the case that supply costs in all other capital cities, which are connected via the NEM, are the same and States do not need to consider the case for differential subsidies. However, it is also possible that supply costs do vary (and some evidence suggests that retail costs are different) but other States choose not to provide

[3] Available from Western Australia's Finance website (http://www.finance.wa.gov.au/cms/uploadedFiles/Public_Utilities_Office/Electricity_Market_Review/electricity-market-review-discussion-paper.pdf).

differential subsidies. On this basis, we have not been able to conclude that there is a clear conceptual case that States provide subsidies to capital city residents where supply costs are higher than average.

67 Even if we could be certain that a conceptual case exists, we would still need to construct a reliable assessment. Because the actions of Western Australia, including the subsidy provided to Perth residents, dominate observed spending, policy neutrality is a significant concern. To avoid this we require a policy neutral indicator of cost differences among capital cities on which to base an assessment. Deriving such an indicator is highly problematic principally because observed cost differences are significantly affected by State policy choices as the Public Utilities Office's *Electricity Market Review Discussion Paper*[4] notes, and as we have highlighted above.

68 Since the Commission has been unable to establish a clear conceptual case and because of the difficulties in constructing a reliable policy neutral assessment it has decided not to assess a disability for differences in electricity supply costs to capital cities as proposed by Western Australia.

69 ***Data issues.*** We consider that State support for communities, including the provision of electricity and water subsidies, is an area where better data would better enable us to evaluate State claims. For example, data on how differential water quality results in the need for differential water subsidies, or data on how electricity subsidies vary with centre size, location and access to grids of differing sizes would be helpful. While we appreciate the difficulty of collecting such data, without it, considering these State concerns will remain intractable.

## Bringing the utilities subsidies component together

70 Table 14 shows the assessed expenses for the utilities subsidies component.

**Table 14 Assessed expenses, utilities subsidies component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Common subsidies ($m) | 350 | 271 | 220 | 120 | 79 | 24 | 18 | 11 | 1 093 |
| Differential subsidies ($m) | 60 | 17 | 308 | 291 | 139 | 45 | 0 | 234 | 1 093 |
| Service delivery scale factor | 0.999 | 0.998 | 1.000 | 1.003 | 1.006 | 1.001 | 0.996 | 1.022 | 1.000 |
| Total ($m) | 409 | 288 | 526 | 409 | 217 | 69 | 18 | 249 | 2 186 |
| Total ($pc) | 55 | 50 | 112 | 161 | 130 | 134 | 47 | 1 020 | 94 |

Source: Commission calculation.

[4] Available from Western Australia's Finance website (http://www.finance.wa.gov.au/cms/uploadedFiles/Public_Utilities_Office/Electricity_Market_Review/electricity-market-review-discussion-paper.pdf).

## COMMUNITY DEVELOPMENT

71 States spend more on providing community development services in Indigenous communities.

72 Table 15 shows Indigenous community development expenses per Indigenous person residing in discrete Indigenous communities and the other community development expenses per person not residing in discrete Indigenous communities. It shows a much greater per capita spending on Indigenous people residing in discrete Indigenous communities.

73 As a result, we consider an assessment should distinguish between services to discrete Indigenous communities and services to other communities. We based our assessment on the proportion of a State's population living in discrete Indigenous communities and the population living outside those communities. A weight of 27.1 was applied to the population living in discrete Indigenous communities in 2013-14. This is the ratio of per capita expenses on Indigenous communities ($1 885) to per capita expenses on other communities ($70).

**Table 15 Per capita community development expenses, 2013-14**

| | Total |
|---|---|
| Indigenous communities (a) ($pc) | 1 885 |
| Other communities (b) ($pc) | 70 |
| Ratio (%) | 27.1 |

(a) Community development expenses per person in discrete Indigenous communities.
(b) Community development expenses per person not living in discrete Indigenous communities.
Source: ABS GFS and population data.

74 We have defined discrete Indigenous communities as Statistical Area 1s (SA1s) with populations that are more than 50% Indigenous. This is the same definition we adopted in the 2014 Update.

75 States generally supported this approach.

76 In addition, we have recognised the influence of population growth on capital grants to local government for community development purposes and of greater private sector investment on higher planning spending but not in this category. This is explained in paragraphs 91 and 92 of this chapter.

### Location

77 We have recognised that differences in wage costs have a differential effect on the cost of providing community development related services across States. The assessment of wage costs is discussed in Chapter 22 — Wage costs.

78 We also consider that the costs of providing this service increase with increasing remoteness. Therefore, we have recognised the costs of providing services to different areas within a State in this assessment. These influences are measured in a similar way for categories where they apply. The assessment of regional costs is discussed in Chapter 23 — Regional costs.

## Bringing the community development component together

79 Table 16 shows the total assessed expenses.

**Table 16 Assessed expenses, community development component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Community development expenses ($m) | 536 | 403 | 380 | 214 | 124 | 36 | 27 | 104 | 1 822 |
| Location factor | 0.975 | 0.955 | 1.033 | 1.077 | 1.002 | 1.013 | 0.960 | 1.405 | 1.000 |
| Total ($m) | 511 | 377 | 385 | 226 | 121 | 35 | 25 | 142 | 1 822 |
| Total ($pc) | 68 | 65 | 82 | 89 | 72 | 69 | 65 | 584 | 78 |

Source: Commission calculation.

# COMMUNITY AMENITIES

80 We have assessed expenses on community amenities services equal per capita because we consider State population shares the most suitable way of allocating expenses. States provide a very different range of services and differences in per capita spending seem policy driven. This was supported by States.

81 Table 17 shows total State expenses on community amenities. The majority of the subsidies are provided by Victoria, Western Australia and the ACT.

**Table 17 State expenses on community amenities**

| | $ million | $ per capita |
|---|---|---|
| 2010-11 | 230 | 10 |
| 2011-12 | 164 | 7 |
| 2012-13 | 52 | 2 |
| 2013-14 | 52 | 2 |

Source: ABS GFS data.

82 In addition, we have recognised the influence of population growth on capital grants to local government for community amenity purposes but not in this category. This is explained in paragraph 91 of this chapter.

## Location

83 As with the community development component, we have recognised that differences in wage costs and regional costs have differential effects on the cost of providing community amenities related services between and within States.

## Bringing the community amenities component together

84 Table 18 shows the total assessed expenses.

**Table 18 Assessed expenses, community amenities component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Community amenities expenses (EPC) ($m) | 17 | 13 | 10 | 6 | 4 | 1 | 1 | 1 | 52 |
| Location factor | 0.991 | 0.978 | 1.006 | 1.033 | 1.002 | 1.037 | 0.983 | 1.270 | 1.000 |
| Total ($m) | 17 | 13 | 11 | 6 | 4 | 1 | 1 | 1 | 52 |
| Total ($pc) | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 |

Source: Commission calculation.

# PROTECTION OF THE ENVIRONMENT

85 We have assessed the use of protection of the environment services equal per capita because the expenses cover a wide variety of services and cost drivers could not be identified. This was supported by States. Relative needs would be impacted by a variety of considerations, including physical features such as length of coastline, number of waterways, population size and distribution and industrial structure, but quantifying these impacts is not possible.

## Location

86 As with previous components, we have recognised the differences in wage costs have a differential effect on the cost of providing protection of the environment related services across States.

87 We did not recognise differences in regional costs because it is not always clear where these services are provided.

## Bringing the protection of the environment component together

88 Table 19 shows the total assessed expenses.

**Table 19 Assessed expenses, protection of the environment component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Protection of the environment expenses (EPC) ($m) | 703 | 545 | 442 | 240 | 158 | 48 | 36 | 23 | 2 196 |
| Location factor | 1.002 | 0.994 | 0.994 | 1.020 | 0.995 | 0.986 | 1.013 | 1.024 | 1.000 |
| Total ($m) | 705 | 542 | 439 | 245 | 157 | 48 | 37 | 24 | 2 196 |
| Total ($pc) | 94 | 94 | 94 | 96 | 94 | 93 | 95 | 96 | 94 |

Source: Commission calculation.

## BRINGING THE ASSESSMENT TOGETHER

89 Table 20 brings the assessed expenses for each component together to derive the total assessed expenses for each State for the category.

**Table 20 Category assessment, Services to communities, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| **Utilities subsidies** | | | | | | | | | |
| Common subsidies | | | | | | | | | |
| Equal per capita | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| Differential subsidies | | | | | | | | | |
| Equal per capita | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 | 47 |
| Small communities | -39 | -44 | 19 | 67 | 36 | 41 | -47 | 911 | 0 |
| Service delivery scale | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Total | 55 | 50 | 112 | 161 | 130 | 134 | 47 | 1 020 | 94 |
| **Community development** | | | | | | | | | |
| Equal per capita | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 |
| Community development | -6 | -9 | 3 | 6 | -4 | -9 | -9 | 347 | 0 |
| Location | -2 | -3 | 3 | 6 | 0 | 1 | -3 | 32 | 0 |
| Total | 68 | 65 | 82 | 89 | 72 | 69 | 65 | 584 | 78 |
| **Community amenities** | | | | | | | | | |
| Equal per capita | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Location | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Total | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2 |
| **Protection of the environment** | | | | | | | | | |
| Equal per capita | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 |
| Location | 0 | -1 | -1 | 2 | 0 | -1 | 1 | 2 | 0 |
| Total | 94 | 94 | 94 | 96 | 94 | 93 | 95 | 96 | 94 |
| **Category total** | 220 | 211 | 290 | 347 | 298 | 298 | 210 | 1 704 | 268 |

Note: Component disabilities may not add due to interactions.
Source: Commission calculation.

## Alternative presentation

90 Table 21 provides an alternative presentation using a factor approach. The table shows for each disability how the expenses per capita in each component and in total are affected by differences in State characteristics. Disability factors below one indicate a State is assessed to need to spend less than average. Disability factors above one indicate a State is assessed to need to spend more than average.

**Table 21 Category factor, Services to communities, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| **Utilities subsidies (component weight = 35%)** | | | | | | | | | |
| Common subsidies (weight 50%) | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Differential subsidies (weight 50%) | 0.170 | 0.063 | 1.402 | 2.431 | 1.767 | 1.867 | 0.000 | 20.434 | 1.000 |
| Service delivery scale | 0.999 | 0.998 | 1.000 | 1.003 | 1.006 | 1.001 | 0.996 | 1.022 | 1.000 |
| Component factor | 0.584 | 0.531 | 1.197 | 1.711 | 1.383 | 1.429 | 0.500 | 10.878 | 1.000 |
| A. Weighted factor | 0.855 | 0.836 | 1.069 | 1.249 | 1.134 | 1.150 | 0.825 | 4.451 | 1.000 |
| **Community development (component weight = 29%)** | | | | | | | | | |
| Community development | 0.918 | 0.890 | 1.038 | 1.073 | 0.944 | 0.891 | 0.889 | 5.433 | 1.000 |
| Location | 0.975 | 0.955 | 1.033 | 1.077 | 1.002 | 1.013 | 0.960 | 1.405 | 1.000 |
| Component factor | 0.876 | 0.832 | 1.049 | 1.132 | 0.926 | 0.883 | 0.836 | 7.470 | 1.000 |
| B. Weighted factor | 0.964 | 0.951 | 1.014 | 1.038 | 0.979 | 0.966 | 0.952 | 2.884 | 1.000 |
| **Community amenities (component weight = 1%)** | | | | | | | | | |
| Community amenities | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Location | 0.991 | 0.978 | 1.006 | 1.033 | 1.002 | 1.037 | 0.983 | 1.270 | 1.000 |
| Component factor | 0.991 | 0.978 | 1.006 | 1.033 | 1.002 | 1.037 | 0.983 | 1.270 | 1.000 |
| C. Weighted factor | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.002 | 1.000 |
| **Protection of the environment (component weight = 35%)** | | | | | | | | | |
| Protection of the environment | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Location | 1.002 | 0.994 | 0.994 | 1.020 | 0.995 | 0.986 | 1.013 | 1.024 | 1.000 |
| Component factor | 1.002 | 0.994 | 0.994 | 1.020 | 0.995 | 0.986 | 1.013 | 1.024 | 1.000 |
| D. Weighted factor | 1.001 | 0.998 | 0.998 | 1.007 | 0.998 | 0.995 | 1.004 | 1.008 | 1.000 |
| **Category factor** | 0.819 | 0.785 | 1.081 | 1.294 | 1.111 | 1.111 | 0.782 | 6.346 | 1.000 |

Source: Commission calculation.

## Influences not assessed in this category

### *Capital grants to local governments*

91 The Commission has introduced an assessment to recognise the impact of population growth on the need for local government infrastructure. The assessment is included in the Other expenses category because a significant proportion of the expenses relate to culture and recreation. Relevant local government grants recorded in the community development component were reallocated to the Other expense category. The assessment of grants to local governments is discussed in Chapter 20 — Other expenses.

### *Planning and development expenses*

92 The Commission has introduced an assessment to recognise the additional planning and regulation costs incurred by States to facilitate investment projects. States with expanding mining or other industries usually have higher levels of construction activity that result in higher project planning and approval expenses, including environmental assessment costs. An assessment of these expenses has been made in the Services to industry category. While some planning and development expenses such as expenses on environmental impact assessments are recorded in the Services to communities category, we have not reallocated them to the Services to industry category because they are mainly assessed EPC. The assessment of planning and development expenses is discussed in Chapter 19 – Services to industry.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

93 Table 22 shows the extent to which the assessment for this category moves the distribution of the GST away from an equal per capita distribution. It shows that GST revenue is redistributed to Queensland, Western Australia, South Australia, Tasmania and the Northern Territory and away from New South Wales, Victoria and the ACT.

**Table 22 GST impact, Services to communities, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| Dollars million | -407 | -382 | 113 | 229 | 48 | 15 | -25 | 410 | 814 |
| Dollars per capita | -53 | -64 | 23 | 84 | 28 | 28 | -64 | 1 620 | 34 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.

Source: Commission calculation.

94 The main reasons for these redistributions are the differences between States in the proportions of their populations living in small communities in remote and very

remote areas, along with the proportion of State populations living in discrete Indigenous communities.

95 Some of the main reasons for the redistributions for each State are:

- New South Wales, Victoria and the ACT have below average proportions of their populations living in small communities in remote and very remote areas, along with below average proportions of their populations living in discrete Indigenous communities.
- Queensland, Western Australia and the Northern Territory have above average proportions of their populations living in small communities in remote and very remote areas, along with above average proportions of their populations living in discrete Indigenous communities.
- South Australia and Tasmania have above average proportions of their populations living in small communities in remote and very remote areas, but below average proportions of their populations living in discrete Indigenous communities.

96 Table 23 provides a summary of how the assessment moves State GST revenue away from an equal per capita distribution.

**Table 23 Major reasons for difference from EPC, Services to communities, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Utilities subsidies | -312 | -274 | 93 | 186 | 63 | 22 | -19 | 242 | 605 |
| Community development | -97 | -102 | 23 | 37 | -14 | -6 | -7 | 166 | 226 |
| Community amenities | 0 | -1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Protection of the environment | 2 | -4 | -3 | 6 | -1 | -1 | 1 | 1 | 10 |
| Total | -407 | -382 | 113 | 229 | 48 | 15 | -25 | 410 | 814 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.
Components may not add due to interactions.
Source: Commission calculation.

## CHANGES SINCE THE 2014 UPDATE

97 Table 24 breaks down the total changes since the 2014 Update into the impact of changing data sources, category-specific method changes, and change in State circumstances in the 2015 assessment period.

**Table 24 Changes since the 2014 Update, Services to communities**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Data changes | -10 | -3 | 6 | -6 | 1 | 2 | -1 | 11 | 20 |
| Method changes | -87 | 55 | -17 | -98 | 39 | 61 | 15 | 31 | 202 |
| Change in circumstances | -1 | 0 | 1 | 3 | 4 | 1 | 0 | -7 | 8 |
| Total | -98 | 52 | -11 | -100 | 44 | 63 | 14 | 36 | 209 |

Source: Commission calculation.

## Data changes

98 Revisions to the expenses on Indigenous and non-Indigenous community development have resulted in increases to the weight given to Indigenous costs applied in the community development assessment. This increased GST revenue for States with above average populations in discrete Indigenous communities (Queensland, Western Australia and the Northern Territory), and away from the other States. For Western Australia, South Australia and Tasmania, the GST impact of the revisions to the Indigenous weighting was offset by downward revisions to total expenses.

## Method changes

99 There are a number of category-specific method changes associated with this category since the 2010 Review.

### *Introduction of utilities subsidies assessment*

100 We have introduced a utilities subsidies assessment to replace separate assessments of water and electricity subsidies. This assessment distinguishes between common and differential subsidies to water and electricity providers. The former is assessed EPC and the latter using the proportion of population living in small remote and very remote communities. The EPC assessment of common subsidies has reduced the GST revenue of Queensland and Western Australia.

101 We have used population living in small communities in remote and very remote regions instead of the total population in those regions to measure needs relating to electricity subsidies. This has resulted in reduced GST revenue for New South Wales and Western Australia. This is because these States have smaller shares of population in small communities in remote and very remote regions compared with their total population shares in those regions.

102 We have applied a regional cost disability to recognise that subsidies in small communities in very remote areas are higher than those in remote areas.

103 We have also included a service delivery scale factor, to recognise that States experience diseconomies in the provision of certain services to small isolated communities.

### *Definition of small communities*

104 Small communities now cover those with populations between 50 and 1 000 instead of 200 to 1 000.

### *Re-allocation of concession expenses to Welfare category*

105 The Commission has decided to consolidate the assessment of State concession expenses by reallocating those relating to water and electricity services to the Welfare category.

### *No longer assessing water availability and quality*

106 Needs associated with water availability and quality are no longer assessed. This has moved GST revenue from Queensland, Western Australia, South Australia and the Northern Territory towards the other States.

## UPDATING THE ASSESSMENT

107 We recommend that data used in this assessment be updated when new data become available to ensure the relativities remain contemporary and consistent with the circumstances of the States. On this basis we expect:

- the following data to be updated annually:
  - the water, wastewater and electricity subsidies which are based on State data
  - the community development, community amenities and protection of the environment expenses, which are based on ABS GFS data
  - the population by ARIA regions, which is used in the small communities and community development assessments
- the following data to not be updated during the review:
  - the 2011 Census proportions of State population living in communities with population 50 to 1 000 used to determine the small communities factor because the data are not available annually
  - the 2011 Census proportions of State population living in discrete Indigenous community used to determine the community development factor because the data are not available annually.

# CHAPTER 16

# JUSTICE

## SUMMARY OF THE ASSESSMENT

The Justice category consists of State spending on police services, law courts, legal services, prisons and corrective services. Associated revenues such as fees, fines, and user charges including property title changes and registrations of births, deaths and marriages, are assessed in the Other revenue category.

We have assessed above-average costs in States with higher than average concentrations of Indigenous people, young to middle-aged adults and people of low socio-economic status (SES), as they are more likely to come into contact with the justice system. However, we have assessed the cost of police, courts and prisons separately as the extent of the influence of Indigenous status, age and SES is not the same for all services.

Some services, namely community policing and civil court services are assessed in a way that does not affect GST shares.

Our assessment also recognises the differences between States in wage costs, the higher costs of providing services in remote and very remote locations and, for some services, the extra cost of providing services to small, dispersed communities. We have also included the additional costs of policing in the ACT in our assessment.

## WHAT IS INCLUDED IN THE JUSTICE CATEGORY?

1 The Justice category comprises expenses on police services, law courts and legal services, and prisons and corrective services.

2 Associated revenues from fees (including court fees, a large majority of which relate to civil court lodgements), fines (such as traffic fines), and user charges (such as property title services and registrations of births, deaths and marriages) are not netted off expenses in the category, but are included in the Other revenue category. This is because we consider the characteristics of people coming into contact with the justice system are different to those people paying fines and user charges. Therefore, as the revenue collected does not reflect the drivers of justice expenses, it is not appropriate to net these revenues off the category expenses.

3 Table 1 shows expenses in this category were $17.1 billion, or $734 per capita, in 2013-14.

**Table 1 Justice category expenses, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Police ($m) | 3 006 | 2 026 | 1 945 | 1 062 | 745 | 217 | 155 | 229 | 9 386 |
| Courts ($m) | 1 072 | 934 | 686 | 694 | 259 | 79 | 87 | 150 | 3 962 |
| Prisons ($m) | 1 149 | 685 | 596 | 824 | 251 | 60 | 55 | 140 | 3 761 |
| Total ($m) | 5 227 | 3 645 | 3 228 | 2 580 | 1 255 | 357 | 298 | 519 | 17 108 |
| Total ($pc) | 700 | 630 | 689 | 1 012 | 749 | 694 | 775 | 2 128 | 734 |
| Proportion of operating expenses (%) | 8.3 | 7.8 | 7.6 | 9.7 | 8.3 | 7.7 | 7.3 | 11.3 | 8.2 |

Source: Commission calculation using ABS Government Finance Statistics (GFS) and State data.

4 Table 2 shows the category as a share of State operating expenses. It shows that Justice expenses have remained roughly constant as a proportion of total expenses from 2010-11 to 2013-14.

**Table 2 Justice expenses as a proportion of State operating expenses**

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| Total for category ($m) | 14 918 | 16 005 | 16 200 | 17 108 |
| Total operating expenses ($m) | 180 682 | 189 260 | 195 316 | 207 408 |
| Proportion of total operating expenses (%) | 8.3 | 8.5 | 8.3 | 8.2 |

Source: Commission calculation using ABS GFS and State data.

## How are services delivered?

5 States have policy and delivery responsibility for most justice services.

### *Police services*

6 Police services can be broadly divided into four service delivery areas:

- community safety and support — which includes crime prevention programs, responding to emergencies and major incidents and calls for assistance
- road safety and traffic management — which includes the provision of speed cameras, random breath testing, attendance at accidents and crash investigations
- crime investigation — which covers arresting/apprehending criminals including interviews, evidence collection, forensic analysis and the provision of crime squads such as for gangs, organised crime, drug squad and special operations
- services to the judicial process — which include attending and preparing for court hearings and the transportation of defendants to court.

7 Police services are generally provided by general policing and more targeted units. General policing, which includes the work of general duties officers and traffic police, is provided throughout the State. More targeted units, such as the major crime squads and forensics, while provided for the entire State, are usually located in major cities or large regional centres. When a major crime is committed in remote areas, these units are transferred to those locations by road or air for the duration of the investigation.

8 In the ACT, police services are provided by the Australian Federal Police (AFP) under an arrangement between the ACT Government and the Commonwealth. All other States have their own police forces.

## *Court services*

9 Court services are provided in each State and are hierarchical in nature. Each level deals with criminal and civil matters but the seriousness and complexity of cases heard in each court level varies across States. They generally consist of:

- Magistrate's (or Local) Courts, that deal with summary offences and small civil claims
- District (or County) Courts[1] , which are intermediate courts that generally hear serious indictable offences except murder and treason
- a Supreme Court, which hears disputes more serious than those heard in the other courts, such as murder or treason and unlimited civil claims.

10 Children's courts are also provided by States and deal with matters involving young people.

11 District and Supreme courts are generally provided in the major cities. Magistrate's courts are in the major cities and regional centres. Offenders in remote regions are usually transported to a regional centre for trial. However, given the geographic nature of Australia, it is not always possible for people to attend a permanent court. Consequently, circuit courts travel to the more remote regions. Alternatively, video and audio conferencing facilities are provided to enable defendants or witnesses to be involved in a hearing from a remote location.

## *Corrective services*

12 Corrective services include the administration, support and operation of prisons and other places of secure detention, both Government administered and privately run, for convicted persons and alleged offenders. The facilities offer varying levels of security from maximum through to low security prison farms, sometimes as separate entities and sometimes as combined multi-level secure facilities. Further segregation

[1] District courts do not operate in Tasmania, the ACT or the Northern Territory.

of inmates occurs on the basis of age and sex to promote a safe environment for rehabilitation. Juvenile detention services are also provided by States for young offenders.

13 Prisons and juvenile detention centres are located so that family and community ties can be maintained. This aims to reduce the difficulty of re-entering the community after release and to reduce the incidence of recidivism. Prisons (and hence prisoners) tend to be located disproportionately more in inner regional, outer regional and remote areas, compared with the distribution of the general population.[2]

14 Community-based corrective services are also offered by the States to provide a non-custodial sentencing alternative, designed to release offenders into the community while subjecting them to corrective services supervision. This service is provided in a more dispersed manner.

## COMMONWEALTH FUNDING

15 Table 3 details the Commonwealth payments provided to States for justice services in 2013-14. The legal assistance services NPP is a purchase of services by the Commonwealth Government and so is treated as having no impact on the relativities. The Stronger Futures NPP is a continuation of the Northern Territory Emergency Response and Closing the Gap programs and is likewise treated as having no impact on the relativities in line with the terms of reference. Further information on the treatment of Commonwealth payments is available in Chapter 2.

**Table 3 Commonwealth payments to States for justice services, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Legal assistance services | 63 | 45 | 42 | 20 | 16 | 6 | 4 | 4 | 201 |
| Stronger futures in the NT - community safety and justice | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 | 40 |
| Total | 63 | 45 | 42 | 20 | 16 | 6 | 4 | 44 | 241 |

Source: Commonwealth of Australia's *Final Budget Outcome*, 2013-14.

16 A complete list of Commonwealth payments and their treatment is provided in Attachment 2 – Treatment of Commonwealth payments.

[2] Derived from ABS, 45170Do002_2013 *Prisoners in Australia, 2013*, Table 34.

## CATEGORY STRUCTURE

17 The assessment of the Justice category is in three components:

- police services (police)
- law courts and legal services (courts)
- prison and corrective services (prisons).

18 Table 4 shows the assessment structure for the category, the disabilities that are assessed and the size of each component, using 2013-14 data.

**Table 4 Category structure, Justice services, 2013-14**

| Component | Component expense | Disability | Influences measured by disability |
|---|---|---|---|
| | $m | | |
| Police | 9 386 | Community policing | Population shares. |
| | | Specialised policing – socio-demographic composition | Recognises that certain population characteristics affect the use and cost of providing services, for example Indigenous status, age, and SES status. |
| | | Service delivery scale | Recognises the additional costs of providing services from police stations in sparsely populated areas. |
| | | National capital | Recognises the additional costs incurred by the ACT as a result of its reliance on the AFP as the provider of its policing services. |
| Courts | 3 962 | Civil courts | Population shares. |
| | | Criminal courts – socio-demographic composition | Recognises that certain population characteristics affect the use and cost of providing services, for example Indigenous status, age, and SES status. |
| | | Service delivery scale | Recognises the additional costs of providing magistrate's Courts services in sparsely populated areas. |
| Prisons | 3 761 | Socio-demographic composition | Recognises that certain population characteristics affect the use and cost of providing services, for example Indigenous status, age, and SES status. |

Note: Wage costs and regional costs factors are applied to all components.
Source: Commission calculation.

## POLICE

### Socio-demographic composition

#### *Community policing versus specialised policing*

19 As for the 2010 Review, we have divided police services expenses equally between 'community policing' and 'specialised policing'. Specialised policing encompasses the work of targeted units (such as major crime squads and forensics), as well as those

aspects of policing which are driven by offender groups (such as call outs for assaults). While these services are provided for the entire State, some targeted units are usually located in major cities or large regional areas. When a major crime is committed in remote areas, these units may relocate to those locations for the duration of their investigation.

20 All States, with the exception of Western Australia and Northern Territory, were supportive of this 50:50 split of expenses. Western Australia and the Northern Territory remain of the view that only a small proportion of community policing expenses are directed at the population as a whole and that in general the majority of community policing is targeted at selected populations likely to commit crimes.

21 Table 5 shows the population to police ratios across States in 2013-14. We observe that States with higher proportions of Indigenous, low SES, or people aged 15-44 in their populations, such as Queensland, South Australia and the Northern Territory, have police to population ratios that are higher than average (Tasmania is the exception). States with lower proportions of these population groups, such as New South Wales and the ACT, have ratios that are lower than average. The staffing ratios across States have remained stable over time, with the Northern Territory showing the largest increase.

**Table 5 Operational police staff per 10 000 population by State, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Staffing ratio | 23 | 27 | 30 | 27 | 31 | 25 | 22 | 72 | 27 |

Note: Data are FTE staff except in the Northern Territory where data are based on a headcount at 30 June.

Source: Productivity Commission, *Report on Government Services 2015*, Table 6.1.

22 As the variances from average are generally small, except for the Northern Territory, we infer that States provide a relatively large base level of resources with which to service the population as a whole. In other words, we believe State Government spending on police forces are not driven solely by rates of crime, but are also aimed at providing adequate resources across the State to ensure public safety and to enhance the public's perception of their safety.

23 There are no readily available reliable data upon which to base a split between community and specialised policing. We therefore examined recent State budget papers and Police service annual reports to identify new information on the allocation of police resources to different activities. We have found that different types of police activities and their level of resourcing varied across States. Where information about types of policing was available, we made judgments as to whether the type of policing was specialised or community based. The information suggested that the breakdown between community and specialised types of policing ranged from about 30:70 (community: specialised) in Western Australia, to about 70:30 in

Tasmania, with an average of 55% community policing versus 45% specialised policing. We are therefore not persuaded that there is clear evidence upon which to base a move away from our position in the last review, splitting police expenses equally between community and specialised policing.

24 We have decided to assess community policing on the basis of State population (that is, equal per capita) and specialised policing on the basis of population adjusted for socio-demographic differences between the States (recognising that the incidence of crime is associated with certain population groups more than others).

### *Specialised policing*

25 States generally agreed that there was a conceptual case, supported by data, for adjusting State populations to recognise the over-representation of certain population segments in specialised policing work, namely:

- people aged 15-44
- Indigenous people
- people from disadvantaged (low) SES backgrounds.

26 We have chosen to use offenders as our proxy for the use of police services by different population groups, to represent the drivers of differing costs across States. We acknowledge that this is not a perfect proxy for a number of reasons, such as:

- some police activities do not involve a recorded offence
- the data do not provide any information on the cost of offences relating to different population groups, for instance, Indigenous offenders
- the data do not adequately capture differences in the complexity of police investigations, which may vary depending on the type of crime alleged to have been committed.

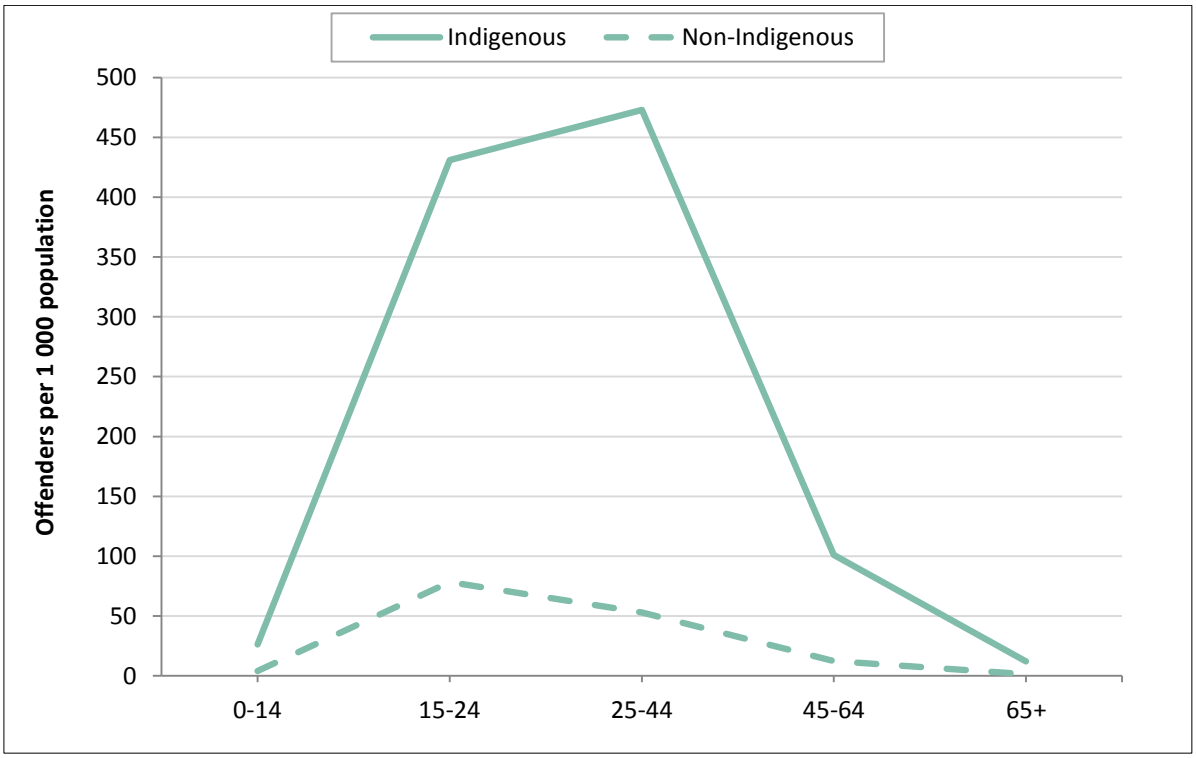
27 Nonetheless, we consider offenders to be the best available proxy for the cost drivers of police services.

### *Age and Indigenous status*

28 Figure 1 shows the number of offenders per 1 000 persons taken from the adjusted State data.[3] It shows Indigenous people are substantially over-represented in police offenders data and the number of offences involving people aged 15 to 44 is substantially higher than that of other age groups.

[3] State data on offenders by Indigenous status and SES have been split by age using the 2007 AIC National Police Custody Survey.

**Figure 1** **Offenders per 1 000 population, by age and Indigenous status, average 2010-11 to 2012-13**




Source: Commission calculation using State provided offenders data for 2010-11 to 2012-13, and AIC *National Police Custody Survey 2007* data.

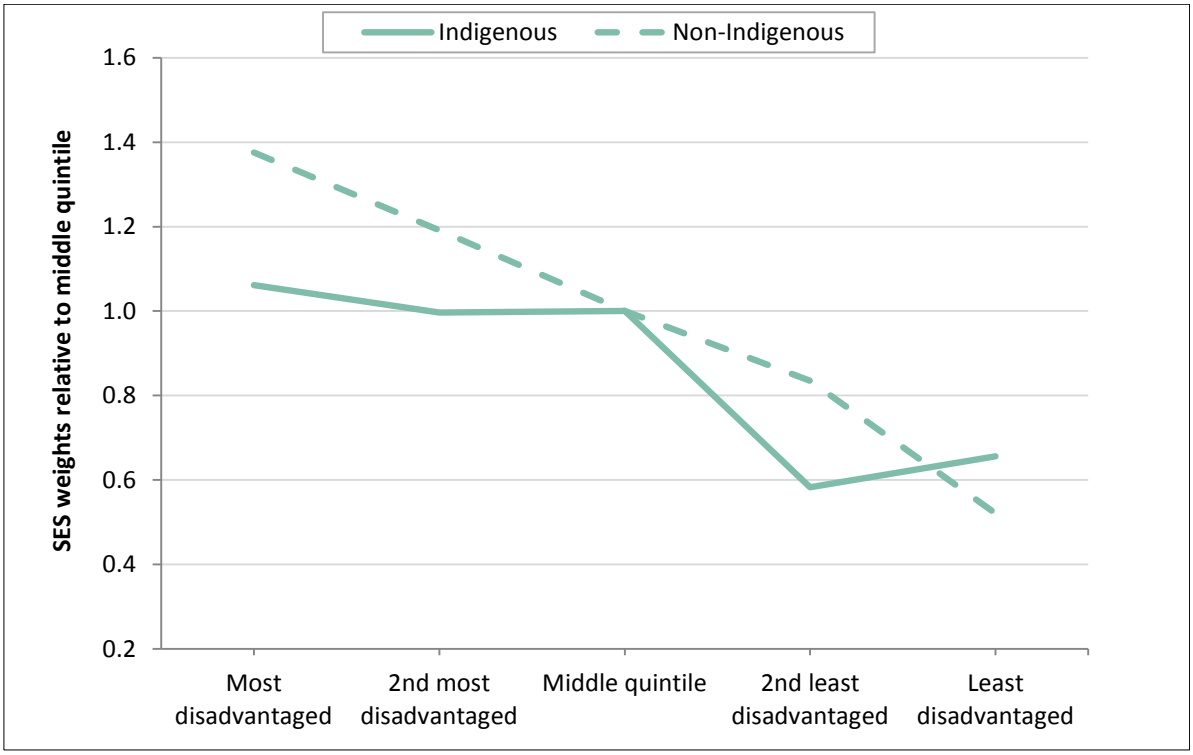
29 Based on the above evidence, we have included disabilities for Indigenous status and age (15-24, 25-44 and 45-64). Offender rates have not been used for the age groups 0-14 and 65 and over as it is not material to do so.

## *Socio-economic status*

30 Many studies, including those by the Australian Institute of Criminology and the New South Wales Bureau of Crime Statistics and Research, show a positive relationship between higher crime rates and low income, or high levels of socio-economic disadvantage.

31 We have used State provided data on offenders by Indigenous status and location (for which SES attributes were assigned) for the years 2010-11 to 2012-13 to calculate SES weights by Indigenous status, using the index of Indigenous Relative Socio-Economic Outcomes (IRSEO) and the Non-Indigenous Socio-Economic Index for Areas (NISEIFA) geographic classifications to assign SES characteristics. The SES weights calculated using these data are shown in Figure 2.

**Figure 2 SES offender rates relative to middle quintile, 2015 Review data**




Source: Commission calculation using State provided data.

32 In the 2010 Review, we decided to group the quintiles into three bands; most disadvantaged, middle quintiles, and least disadvantaged. Figure 2 indicates the middle three quintiles are not as similar to each other as was the case in the previous review. On balance, we have decided to retain three groupings, but consider that a grouping of the most disadvantaged two quintiles, the middle quintile, and the least disadvantaged two quintiles is the most reflective of relative offender rates by SES. Table 6 shows the weights to be applied for the 2015 Review period (using IRSEO and NISEIFA).

**Table 6 Police SES weights applied in the 2015 Review**

| | Indigenous | Non-Indigenous |
|---|---|---|
| Most disadvantaged 2 quintiles | 1.0 | 1.3 |
| Middle quintile | 1.0 | 1.0 |
| Least disadvantaged 2 quintiles | 0.6 | 0.7 |

Source: Commission calculation.

## *Data*

33 We have obtained our socio-demographic composition (SDC) splits using State provided data on offenders by Indigenous status and SES for the years 2010-11 to 2012-13, together with the AIC 2007 National Police Custody Survey data for age. We

do not assess spending on the small number of offenders aged 0-14 or 65 and over, as it is not material to do so.

34 The State data indicate that Indigenous people accounted for around 19% of all offenders. This result is consistent with ABS data on offenders for New South Wales, Queensland, South Australia and the Northern Territory for the same time period, (around 18%)[4]. This result is somewhat lower than the 33% Indigenous proportion of offenders in the AIC 2007 data.

35 The State provided data do not provide detail on age of offenders, so we have used the AIC 2007 distribution of offenders by age.

36 The Northern Territory was opposed to the use of the State provided data, arguing they suffer from data quality issues, such as unreported Indigenous status (17% of all offenders). It also noted that they contain traffic and penalty notice data for some jurisdictions, which may result in the Indigenous offence rate being understated. The Northern Territory argued the Commission should instead continue to use the 2007 AIC custody data until new AIC survey data become available. The Northern Territory also suggested the ABS data suffer from similar shortcomings so are not a reliable benchmark. No other State was opposed to the use of these data.

37 Our view is that the State provided data represent the most timely and reliable data available, and are of a higher standard than the AIC data used in the 2010 Review. They are fit for purpose. The data have been provided by seven States and contain many more observations than the AIC data, which were collected over a one month period in 2007. Comparisons between ABS offender data (which have traffic and penalty notices removed) and the State provided data showed very similar levels of Indigenous offending. Therefore we do not consider the Indigenous offence rate is being understated by the State provided data.

38 The Northern Territory also said that assigning the same SES weights to the most disadvantaged three quintiles of Indigenous persons under IRSEO (60% of the Indigenous population) did not make intuitive sense. The Northern Territory cited evidence that socio-economic status was a driver for Indigenous offending and the SES weights were not appropriately reflecting this.

39 The State provided data used in the 2010 Review did not differentiate between Indigenous and non-Indigenous people. We note that, under SEIFA, 50% of the Indigenous population fell within the most disadvantaged quintile. This means that the SEIFA based SES weights may have been disproportionately affected by the distribution of higher offending Indigenous people.

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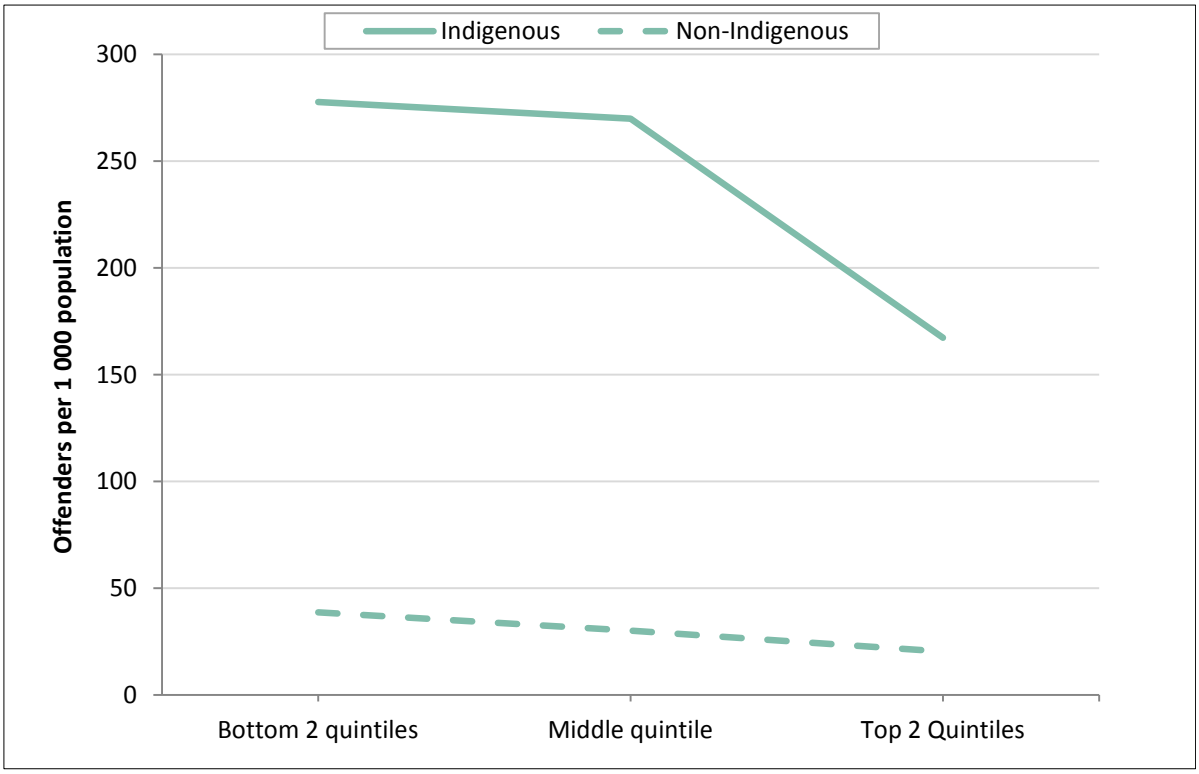
[4] From ABS 45190DO002_201213 *Recorded Crime – Offenders*, 2012–13, Table 17. ABS data are for selected offences and for New South Wales, Queensland, South Australia and the Northern Territory only.

40 We have observed in this review that, within the Indigenous population, SES is not a substantial driver of additional likelihood of offending, other than that the least disadvantaged Indigenous people are much less likely to offend than more disadvantaged Indigenous people. In contrast, we have observed that SES continues to be a driver of likelihood to offend in non-Indigenous people. Nonetheless, the data indicate that regardless of SES, the Indigenous population offend at much higher rates than the non-Indigenous population (see Figure 3).

**Figure 3 Offenders per 1 000 persons, by SES and Indigenous status**




Source: Commission calculation using State provided data.

41 Western Australia and the Northern Territory suggested the discount applied to SDC use weights in this assessment should be decreased from 25% as they were unlikely to be overstating the disabilities being measured. Most other States were supportive of retaining the 25% discount. We have decided to reduce the discount to the SDC use weights used in this assessment from 25% to 12.5%, because the data are of a higher standard than that used in the 2010 Review.

## *Calculating the socio-demographic composition breakdown of police expenses*

42 Police expenses data have been split 50:50 between community policing and specialised policing. Community policing expenses have been assessed equal per capita (EPC). Specialised policing expenses have been assessed as follows:

- The State provided data allows the proportion of offenders attributed to different SES groups to be calculated for Indigenous and non-Indigenous offenders. For example, 52% of non-Indigenous offenders are in the two most disadvantaged quintiles of the non-Indigenous population.
- AIC 2007 data are then used to split the State data into age groups.
- An offence rate for each Indigenous status/SES/age subgroup is calculated as the ratio of offenders to population. These rates are fixed for the duration of the review.
- The rates are then applied to the assessment year populations, to generate assessed offenders in those years. This means changes in the population structure over the review period will result in changes to the allocation of assessed spending.
- National spending on specialised policing is then allocated to each population subgroup on the basis of its share of assessed offenders in the assessment year.
- National spending on each subgroup is divided by the population in each subgroup to obtain the average per capita spending for that subgroup.
- The average per capita spending is multiplied by the corresponding number of people in that subgroup for each State to derive each State's spending on that subgroup. Changes in State population structure over the assessment years will result in changes to the allocation of assessed spending.
- Total assessed spending for each State is calculated as the sum of assessed spending on each population subgroup.

43 Table 7 gives an example of the total assessed spending per capita of providing police services, including general and specialised policing, to people with different characteristics.

**Table 7 National per capita spending on police services, by population group, 2013-14**

| | 0-14 | 15-24 | 25-44 | 45-64 | 65+ |
|---|---|---|---|---|---|
| | $pc | $pc | $pc | $pc | $pc |
| Indigenous | | | | | |
| Most disadvantaged 2 quintiles | 227 | 3 054 | 2 997 | 834 | 227 |
| Middle quintile | 227 | 3 054 | 2 997 | 834 | 227 |
| Least disadvantaged 2 quintiles | 227 | 1 923 | 1 889 | 591 | 227 |
| Non-Indigenous | | | | | |
| Most disadvantaged 2 quintiles | 227 | 767 | 571 | 310 | 227 |
| Middle quintile | 227 | 642 | 491 | 290 | 227 |
| Least disadvantaged 2 quintiles | 227 | 518 | 412 | 271 | 227 |

Source: Commission calculation.

## Location

44 We have recognised wage costs have a differential effect on the cost of providing police services across States. These influences are measured in a similar way for most assessment categories and the methods are described in Chapter 22 – Wage costs.

45 We have also recognised that police services are provided within communities of all levels of remoteness and that the costs of delivering services can vary between regions. More information is provided in Chapter 23 – Regional costs. Victoria suggested that the remote and very remote components of regional costs not apply, as major crime units are located in major cities or larger regional centres. We consider that the application of the regional costs factor is appropriate. The factor is calculated using State provided data on policing costs, which clearly show that costs increase with increasing remoteness.

## Service delivery scale

46 We have recognised that a State will face higher service delivery costs in certain parts of the State where the small size and dispersed nature of many communities leads to above average police staffing levels. The rationale and details of the approach taken are outlined in Chapter 24 – Service delivery scale.

## National capital

47 We have recognised the additional costs incurred by the ACT as a result of legislation requiring that the AFP provide its policing services (for more information refer to Chapter 27 — Other disabilities). This leads to higher costs because the ACT has no power to influence the terms and conditions of AFP employees and must pay officers involved in ACT policing the above average salaries paid under the AFP's wage agreements.

48 National capital expenses are included within the police component and are added directly to the ACT's assessed expenses.

## Bringing the police services component together

49 Table 8 shows the assessed expenses for the police component.

**Table 8 Assessed expenses, police component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| SDC assessed ($m) | | | | | | | | | |
| Community policing | 1 503 | 1 165 | 944 | 513 | 338 | 103 | 77 | 49 | 4 693 |
| Specialised policing SDC | 1 476 | 1 037 | 1 004 | 541 | 334 | 106 | 63 | 129 | 4 693 |
| Location factor | 0.989 | 0.963 | 1.007 | 1.068 | 0.998 | 1.040 | 0.981 | 1.349 | 1.000 |
| Service delivery scale factor | 0.998 | 0.995 | 1.002 | 1.006 | 1.006 | 1.005 | 0.992 | 1.058 | 1.000 |
| National capital ($m) | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 4 |
| Total ($m) | 2 923 | 2 098 | 1 956 | 1 126 | 671 | 218 | 141 | 253 | 9 386 |
| Total ($pc) | 391 | 363 | 417 | 442 | 400 | 424 | 366 | 1 039 | 403 |

Source: Commission calculation.

# COURTS

## Socio-demographic composition

50 Different drivers affect the use of civil and criminal courts, so we have split courts services into two sub-components, one for civil courts and one for criminal courts. The split between civil and criminal courts expenses was 38:62 in 2013-14 (Table 9). The ratio has not changed much over recent years and therefore we have adopted a 40:60 split of court expenses, which we intend to retain over the review period.

**Table 9 State recurrent expenditure, criminal and civil courts, 2013-14**

| | Criminal courts | Civil courts |
|---|---|---|
| | $m | $m |
| State expenditure | 795 | 489 |

Source: Productivity Commission, *Report on Government Services 2015*, Tables 7A.11 & 7A.12.

### *Civil courts*

51 The main users of civil courts are the general public and businesses. In the absence of data indicating differential use rates by different groups, we consider civil courts should be treated as though they are provided for the total population and so we have assessed civil court expenses on an EPC basis.

### *Criminal courts*

52 We consider that the level of criminal court services required in each State is due to the level of crime and hence the size of population groups more likely to be involved in crime. We use adjudicated defendants as our proxy for use of criminal court services by different population groups, to represent the drivers of differing costs across States. We treat all defendants as having the same cost, as we have no data

upon which to base differential cost weights for different types of defendants. As with police, we have incorporated Indigenous status, age and SES disabilities into the assessment.

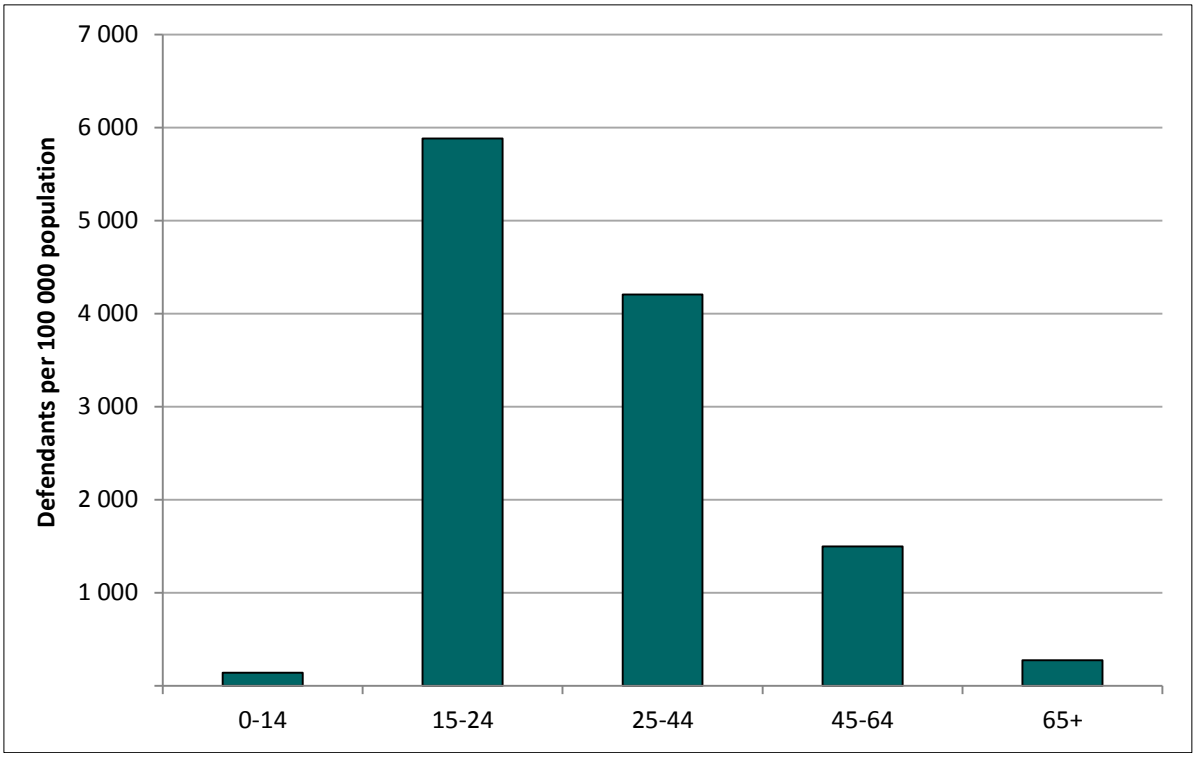
### *Age, Indigenous status and socio-demographic composition*

53 For the 2015 Review, States were asked to supply data on criminal courts adjudicated defendants by age, sex, Indigenous status and location for the years 2010-11 to 2012-13. New South Wales, Queensland, South Australia and the Northern Territory were able to supply data to this level of detail. Other States were not able to supply Indigenous status as it is not collected (or not of sufficient quality in the case of Western Australia) by the criminal courts.

54 Figure 4 shows the number of adjudicated defendants per 100 000 persons derived from the State provided data. It shows that people aged 15-44 have the highest offence rates.

55 Based on this evidence, we have included disabilities for Indigenous status and age (15-24, 25-44 and 45-64). This grouping is consistent with the police and prisons assessments. Defendant rates have not been used for the age groups 0-14 and 65 and over as it is not material to do so.

**Figure 4 Criminal courts defendants, by age, average 2010-11 to 2012-13**




Source: Commission calculation using State provided data from New South Wales, Queensland, South Australia and the Northern Territory.

56 The State data indicate that overall, Indigenous people are around six times more likely to appear in court compared with non-Indigenous people (Table 10).

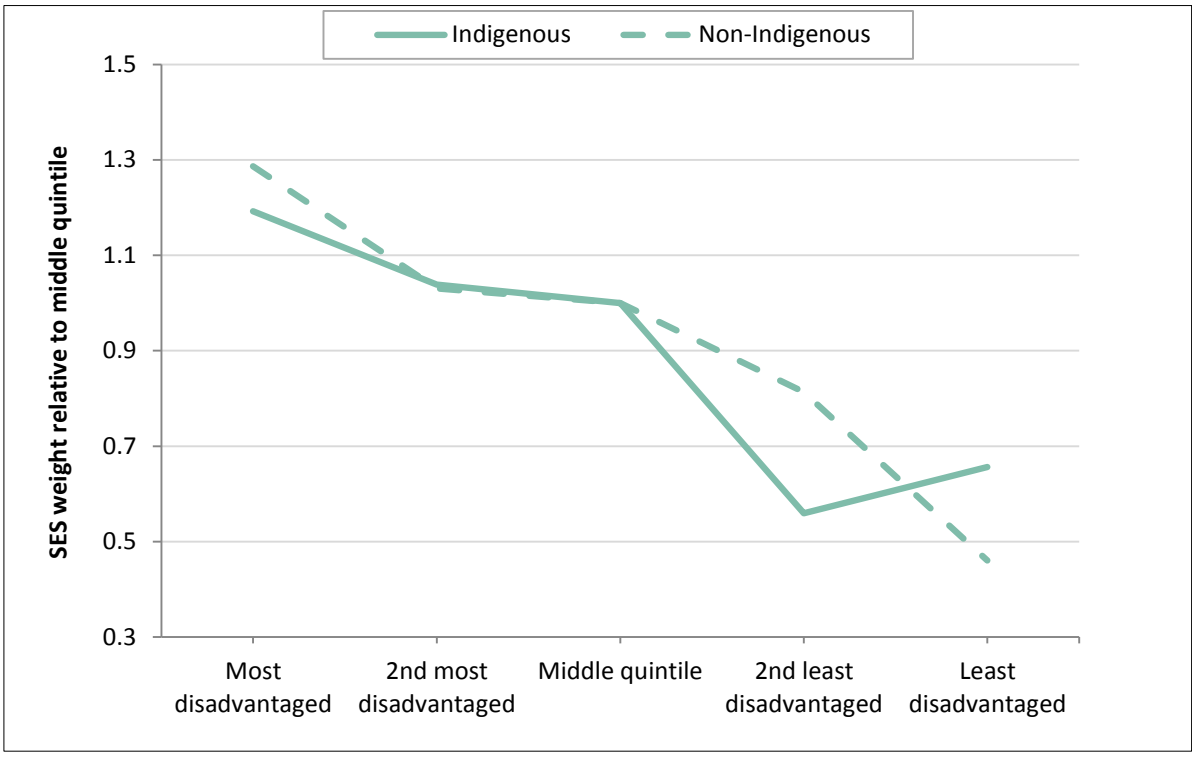
**Table 10 Criminal court appearances per 100 000 population by Indigenous status, 2010-11 to 2012-13**

| | no. per 100 000 |
|---|---|
| Indigenous | 11 476 |
| Non-Indigenous | 2 070 |

Source: Commission calculation using State provided data.

57 The State supplied data for location of adjudicated defendants also allows us to assign SES classifications (based on location) to the defendant numbers. This was not possible in the 2010 Review, where the SES weights from police were applied to courts and prisons. The SES gradients based upon the State provided defendants data for the years 2010-11 to 2012-13, for both Indigenous and non-Indigenous defendants, are shown below in Figure 5.

**Figure 5 SES weights for defendants relative to middle quintile, 2015 Review data**




Source: Commission calculation using State provided data.

58 Figure 5 shows that the 2nd most disadvantaged quintile is closer to the middle quintile than the most disadvantaged quintile. However, as only four States provided Indigenous defendant data, compared with seven providing Indigenous offender data, we do not consider this compelling enough evidence to change from the SES

groups applied in police. The SES weights applied in courts are shown in Table 11. The same weights are used in the prisons assessment.

**Table 11 SES weights for courts and prisons applied in the 2015 Review**

| | Indigenous | Non-Indigenous |
|---|---|---|
| Most disadvantaged 2 quintiles | 1.1 | 1.2 |
| Middle quintile | 1.0 | 1.0 |
| Least disadvantaged 2 quintiles | 0.6 | 0.6 |

Source: Commission calculation using State provided data on criminal courts defendants.

### *Data*

59 Our criminal courts SDC factor is based on ABS and State provided data. The age breakdown utilises annual ABS defendants with adjudicated outcomes data, aggregated across children's courts, magistrate's courts and higher courts.[5] We have not separately assessed defendants aged 0-14 or 65 and over, as it is not material to do so.

60 The further breakdown of these defendants' data by Indigenous status and SES has been obtained using State provided data for 2010-11 to 2012-13 on criminal court appearances by age, Indigenous status and location.

61 As for the 2010 Review, we have not applied a discount to the use rates derived from ABS criminal courts data along the lines of the discount applied to the specialised police services custody data. The defendants data used are a direct measure of cases before the courts, although no allowance for differences in complexity of charges heard or level of Indigenous workloads has been made.

62 Victoria argued for at least the minimum discount to be applied to the State provided data as only four States supplied sufficiently detailed information. We consider that the similar proportions of defendants between the 2010 Review data (which comprised data from all eight States) and the new data suggest that the new data are reliable. The Northern Territory suggested that the data suffered from similar issues to those they raised with the State provided offenders data. However, it did not consider a discount was warranted.

### *Calculating the socio-demographic composition breakdown of criminal courts service expenses*

63 Courts expenses data have been split 40:60 between civil courts and criminal courts (based upon historical data from the Productivity Commission). Civil court expenses have been assessed EPC.

[5] ABS Cat. No. 4513.0, *Criminal Courts Australia*.

64 Criminal courts expenses have been assessed as follows.

- ABS national data on defendants with adjudicated outcomes by age are allocated to Indigenous status and SES subgroups using State provided data, to provide shares of assessed defendants for each subgroup. For example, 53% of non-Indigenous defendants are in the two most disadvantaged quintiles of the non-Indigenous population. The Indigenous status and SES ratios are fixed for the duration of the review; however, changes in the age composition of defendants over the review period will result in changes in the allocation of assessed spending.
- National spending on criminal courts is then allocated to each population subgroup on the basis of its share of assessed defendants in the assessment year.
- National spending on each subgroup is divided by the population in each subgroup to obtain the average per capita spending for that subgroup.
- The average per capita spending is multiplied by the corresponding number of people in that subgroup for each State to derive each State's spending on that subgroup. Changes in State population structure over the assessment years will result in changes to the allocation of assessed spending.
- Total assessed spending for each State is calculated as the sum of assessed spending on each population subgroup.

65 Table 12 shows the assessed per capita expenses of providing courts services, including criminal and civil courts, to different population groups.

**Table 12 National per capita spending on court services, by population group, 2013-14**

| | 0-14 | 15-24 | 25-44 | 45-64 | 65+ |
|---|---|---|---|---|---|
| | $pc | $pc | $pc | $pc | $pc |
| Indigenous | | | | | |
| Most disadvantaged 2 quintiles | 68 | 1 555 | 1 554 | 642 | 68 |
| Middle quintile | 68 | 1 409 | 1 275 | 520 | 68 |
| Least disadvantaged 2 quintiles | 68 | 841 | 806 | 352 | 68 |
| Non-Indigenous | | | | | |
| Most disadvantaged 2 quintiles | 68 | 346 | 280 | 158 | 68 |
| Middle quintile | 68 | 292 | 221 | 133 | 68 |
| Least disadvantaged 2 quintiles | 68 | 200 | 161 | 108 | 68 |

Source: Commission calculation.

## Location

66 We have recognised wage costs have a differential effect on the cost of providing court services across States. These influences are measured in a similar way for most assessment categories and the methods are described in the Wage costs chapter.

67 We have also recognised that courts services can be provided within communities of all levels of remoteness and that the costs of delivering services can vary between regions. We have applied the police regional cost factor, discounted by 25% as it is extrapolated from policing data, to each State's assessed courts expenses. More information is provided in the Regional costs chapter.

## Service delivery scale

68 We have recognised that a State will face higher service delivery costs for magistrate's courts in certain parts of the State where the small size and dispersed nature of many communities leads to above average staffing levels. We do not consider that service delivery scale disabilities are relevant to higher courts (supreme and district courts) because these cases tend to be heard in major cities and regional centres. The rationale and details of the approach taken are outlined in Chapter 24 – Service delivery scale.

## Bringing the court services component together

69 Table 13 shows the assessed expenses for the courts component.

**Table 13 Assessed expenses, courts component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| SDC assessed ($m) | | | | | | | | | |
| Civil courts | 508 | 394 | 319 | 173 | 114 | 35 | 26 | 17 | 1 585 |
| Criminal courts | 750 | 522 | 508 | 272 | 174 | 55 | 29 | 67 | 2 377 |
| Service delivery scale factor (a) | 0.999 | 0.998 | 1.001 | 1.003 | 1.002 | 1.002 | 0.997 | 1.025 | 1.000 |
| Location factor | 0.989 | 0.963 | 1.007 | 1.068 | 0.998 | 1.040 | 0.981 | 1.349 | 1.000 |
| Total ($m) | 1 240 | 879 | 827 | 473 | 286 | 92 | 54 | 112 | 3 962 |
| Total ($pc) | 166 | 152 | 176 | 185 | 171 | 180 | 140 | 459 | 170 |

(a) Service delivery scale is only applied to magistrate's courts.
Source: Commission calculation.

# PRISONS

## Socio-demographic composition

70 We consider that all prisons expenses are influenced by the population groups with a higher rate of imprisonment, and so make a differential assessment of these costs. We use numbers of prisoners and juvenile detainees as our proxy for use of prison services by different population groups, representing the drivers of differing costs across States. We treat all prisoners as having the same cost, as we have no data upon which to base differential cost weights for different types of prisoners.

## *Age and Indigenous status*

71 The ABS publication *Prisoners in Australia* details the number of prisoners in each State disaggregated by age and Indigenous status. Indigenous prisoners represented 27% of the total prisoner population in Australia in 2013. Table 14 shows that in 2014 Indigenous people were, on average, 15 times more likely to be in prison than non-Indigenous people.

**Table 14 Imprisonment rates per 100 000 population by Indigenous status and State, 2014**

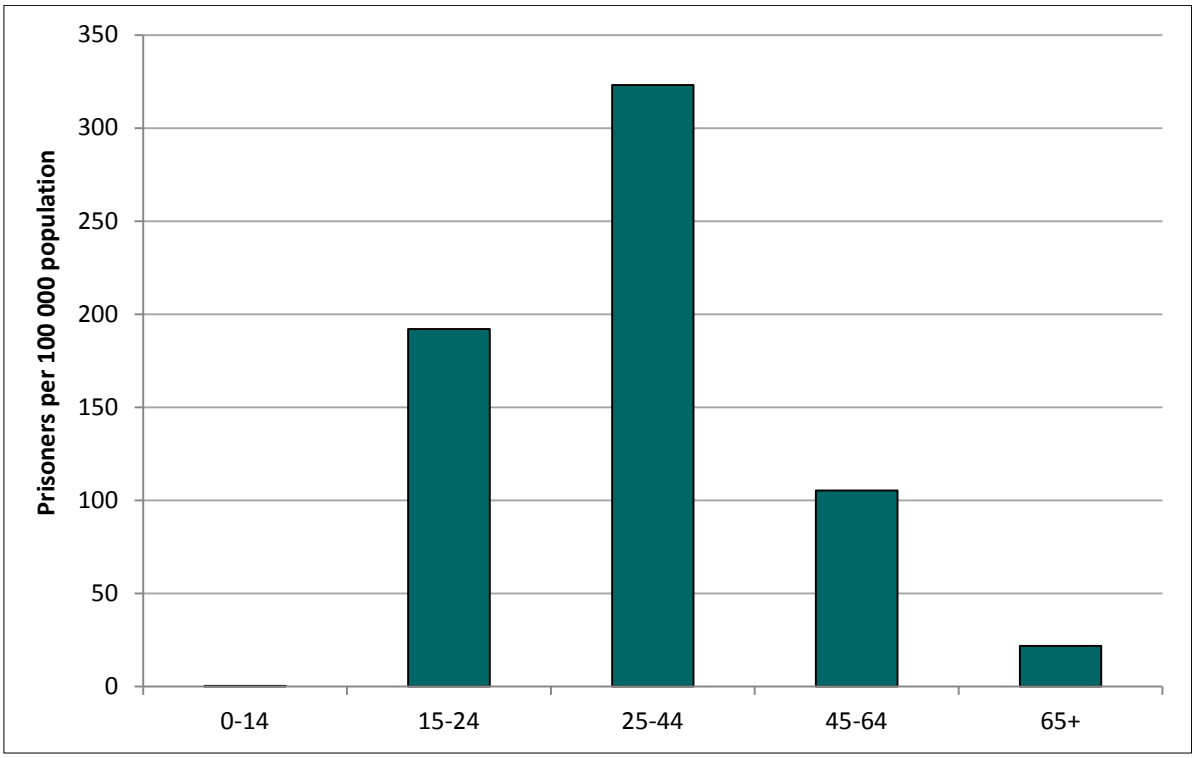
| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Indigenous rate | 1 700 | 1 436 | 1 558 | 3 013 | 2 016 | 417 | 1 220 | 2 390 | 1 857 |
| Non-Indigenous rate | 151 | 130 | 143 | 167 | 165 | 119 | 104 | 155 | 144 |
| Over-representation (a) | 11 | 11 | 11 | 18 | 12 | 4 | 12 | 15 | 13 |

(a) Indigenous over-representation is calculated by dividing Indigenous use rates (Indigenous prisoners divided by adult Indigenous population) by non-Indigenous use rates (non-Indigenous prisoners divided by adult non-Indigenous population).

Source: ABS, *Prisoners in Australia 2014*, Cat. No. 4517.0, Table 17.

72 Figure 6 shows the number of prisoners in Australia by age, including those in juvenile detention. The data show that prisoner rates are higher for people aged 25-44 than for other age groups.

**Figure 6 Number of prisoners in Australia per 100 000 persons, by age, 2014**




Source: ABS, *Prisoners in Australia 2014*, Cat. No. 4517.0, Table 3.

73 We have accordingly included disabilities for Indigenous status and age (15-24, 25-44, 45-64). As for specialised policing and criminal courts, we have not assessed expenses for prisoners in the age groups 0-14 and 65 and over as it is not material to include them.

### *Socio-economic status*

74 State provided data on offenders and defendants gives us a choice of the SES weights to apply in the prisons assessment. We consider that there are closer links between criminal court defendants and prisoners than with offenders, and so have applied the same SES weights and groupings to prisoners as used in the courts assessment. Table 11 shows the weights used in the courts and prisons assessment for the 2015 Review.

75 Victoria suggested that the minimum discount should be applied to the SES weights as they were derived from criminal courts defendant's data, as there cannot be complete certainty that the same use rates apply. No other State suggested a discount was warranted. We do not consider the use weights are likely to understate the scale of the disability, and have therefore not applied a discount.

### *Data*

76 Our prisons SDC factor is based on juvenile detention and prisoner data. We have used annual ABS data on prisoners by Indigenous status and age.[6] We have combined these data with annual data published by the Australian Institute of Health and Welfare (AIHW) on persons in juvenile detention by Indigenous status and age.[7] We have not separately identified or removed juvenile detainees or prisoners aged 0-14 or aged 65 and over, as it is not material to do so.

77 The further breakdown of these prisoner data by SES has been obtained using State-provided data for 2010-11 to 2012-13 on criminal court defendants by age, Indigenous status and location.

78 We have not assigned cost weights for different types of prisoners, as there is no data available to derive such a weight.

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6 ABS, Cat. No. 4517.0, *Prisoners in Australia*.

7 AIHW, *Youth Justice in Australia,* 2012-13.

### *Calculating the socio-demographic composition breakdown of prison expenses*

79 Prison expenses have been allocated across States as follows:

- ABS and AIHW national data on prisoners and juvenile detainees by age and Indigenous status are divided into SES groups using the weights calculated from State provided courts data. For example, 51% of Indigenous prisoners are allocated to the most disadvantaged two quintiles of the Indigenous population. These SES weights are fixed for the duration of the review.
- National spending on prisons is then allocated to each population subgroup on the basis of its share of assessed prisoners in the assessment year. Changes in the makeup of the prisoner population over the review period will result in changes to the allocation of assessed spending.
- National spending on each subgroup is divided by the population in each subgroup to obtain the average per capita spending for that subgroup.
- The average per capita spending is multiplied by the corresponding number of people in that subgroup for each State to derive each State's spending on that subgroup. Changes in State population structure over the review period will result in changes to the allocation of assessed spending.
- Total assessed spending for each State is calculated as the sum of assessed spending on each population subgroup.

80 Table 15 shows the assessed per capita expenses of providing prison services to different population groups.

**Table 15 National per capita spending on prisons by population group, 2013-14**

| | 15-24 | 25-44 | 45-64 |
|---|---|---|---|
| | $pc | $pc | $pc |
| Indigenous | | | |
| Most disadvantaged 2 quintiles | 2 742 | 4 420 | 1 247 |
| Middle quintile | 2 493 | 4 018 | 1 133 |
| Least disadvantaged 2 quintiles | 1 496 | 2 411 | 680 |
| Non-Indigenous | | | |
| Most disadvantaged 2 quintiles | 193 | 335 | 144 |
| Middle quintile | 161 | 279 | 120 |
| Least disadvantaged 2 quintiles | 96 | 168 | 72 |

Source: Commission calculation.

## Location

81 We have recognised wage costs have a differential effect on the cost of providing corrective services across States. These influences are measured in a similar way for most assessment categories and the methods are described in the Wage costs chapter.

82 We have also recognised that prisons tend to be located throughout a State and that the costs of delivering services can vary between regions. We have applied the police regional costs factor, discounted by 25% as it is extrapolated from policing data, to the prisons assessed expenses. More information is provided in the Regional costs chapter.

## Bringing the prisons component together

83 Table 16 shows the assessed expenses for the prisons component.

**Table 16 Assessed expenses, prisons component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| SDC assessed ($m) | 1 168 | 752 | 832 | 455 | 266 | 87 | 45 | 156 | 3 761 |
| Location factor | 0.989 | 0.963 | 1.007 | 1.068 | 0.998 | 1.040 | 0.981 | 1.349 | 1.000 |
| Total ($m) | 1 144 | 717 | 826 | 478 | 262 | 89 | 44 | 201 | 3 761 |
| Total ($pc) | 153 | 124 | 176 | 188 | 156 | 173 | 114 | 825 | 161 |

Source: Commission calculation.

## BRINGING THE ASSESSMENT TOGETHER

84 Table 17 brings the assessed expenses for each component together to derive the total assessed expenses for each State for the category.

**Table 17 Category assessment, Justice, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| **Police** | | | | | | | | | |
| Equal per capita | 403 | 403 | 403 | 403 | 403 | 403 | 403 | 403 | 403 |
| SDC - community policing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| SDC - specialised policing | -7 | -44 | 26 | 22 | -4 | 11 | -72 | 658 | |
| Service delivery scale | -1 | -2 | 1 | 2 | 2 | 2 | -3 | 23 | |
| Location | -5 | -15 | 3 | 27 | -1 | 16 | -8 | 140 | |
| National capital | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | |
| Total | 391 | 363 | 417 | 442 | 400 | 424 | 366 | 1 039 | 403 |
| **Courts** | | | | | | | | | |
| Equal per capita | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 |
| SDC - civil courts | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| SDC - criminal courts | -2 | -20 | 10 | 8 | 3 | 8 | -45 | 291 | |
| Service delivery scale (a) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | |
| Location | -2 | -6 | 1 | 11 | 0 | 7 | -3 | 59 | |
| Total | 166 | 152 | 176 | 185 | 171 | 180 | 140 | 459 | 170 |
| **Prisons** | | | | | | | | | |
| Equal per capita | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 | 161 |
| SDC assessed | -5 | -31 | 16 | 17 | -3 | 9 | -45 | 478 | |
| Location | -2 | -6 | 1 | 11 | 0 | 6 | -3 | 56 | |
| Total | 153 | 124 | 176 | 188 | 156 | 173 | 114 | 825 | 161 |
| Category total | 711 | 638 | 770 | 815 | 727 | 777 | 620 | 2 323 | 734 |

(a) Service delivery scale is only applied to magistrate's courts.
Note: Component disabilities may not add due to interactions.
Source: Commission calculation.

## Alternative presentation

85 Table 18 provides an alternative presentation using a factor approach. The table shows for each disability how the expenses per capita in each component and in total are affected by differences in State characteristics. Disability factors below one indicate a State is assessed to need to spend less than average. Disability factors above one indicate a State is assessed to need to spend more than average.

**Table 18 Category factor, Justice, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| **Police (component weight = 54%)** | | | | | | | | | |
| SDC - community policing | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| SDC - specialised policing | 0.982 | 0.890 | 1.064 | 1.055 | 0.990 | 1.027 | 0.821 | 2.633 | 1.000 |
| Location | 0.989 | 0.963 | 1.007 | 1.068 | 0.998 | 1.040 | 0.981 | 1.349 | 1.000 |
| Service delivery scale | 0.998 | 0.995 | 1.002 | 1.006 | 1.006 | 1.005 | 0.992 | 1.058 | 1.000 |
| National capital | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.031 | 1.000 | 1.000 |
| Component factor | 0.972 | 0.900 | 1.036 | 1.097 | 0.994 | 1.054 | 0.909 | 2.579 | 1.000 |
| A. Weighted factor | 0.985 | 0.945 | 1.020 | 1.053 | 0.997 | 1.029 | 0.950 | 1.866 | 1.000 |
| **Courts (component weight = 24%)** | | | | | | | | | |
| SDC - civil courts | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| SDC - criminal courts | 0.986 | 0.885 | 1.061 | 1.045 | 1.016 | 1.049 | 0.738 | 2.711 | 1.000 |
| Location | 0.989 | 0.963 | 1.007 | 1.068 | 0.998 | 1.040 | 0.981 | 1.349 | 1.000 |
| Service delivery scale (a) | 0.999 | 0.998 | 1.001 | 1.003 | 1.002 | 1.002 | 0.997 | 1.025 | 1.000 |
| Component factor | 0.977 | 0.893 | 1.037 | 1.091 | 1.005 | 1.057 | 0.826 | 2.701 | 1.000 |
| B. Weighted factor | 0.997 | 0.988 | 1.004 | 1.011 | 1.001 | 1.007 | 0.980 | 1.197 | 1.000 |
| **Prisons (component weight = 22%)** | | | | | | | | | |
| SDC assessed | 0.970 | 0.805 | 1.100 | 1.106 | 0.982 | 1.053 | 0.723 | 3.962 | 1.000 |
| Location | 0.989 | 0.963 | 1.007 | 1.068 | 0.998 | 1.040 | 0.981 | 1.349 | 1.000 |
| Component factor | 0.950 | 0.768 | 1.092 | 1.163 | 0.967 | 1.072 | 0.705 | 5.113 | 1.000 |
| C. Weighted factor | 0.994 | 0.975 | 1.010 | 1.018 | 0.996 | 1.008 | 0.968 | 1.452 | 1.000 |
| **Category factor** | 0.968 | 0.870 | 1.049 | 1.110 | 0.990 | 1.058 | 0.845 | 3.164 | 1.000 |

(a) Service delivery scale is only applied to magistrate's courts.
Source: Commission calculation.

## Influences not assessed in this category

### *Sex*

86 We have found during this review that it is not material to disaggregate by sex as part of our SDC assessment of Justice services. Whilst males vastly outnumber females in offences, prisons, and criminal court proceedings, the population distribution of males and females is so similar across States (approximately 50:50) that no State would receive a materially different GST share if sex were included in the assessments.

### *Indigenous cost weights*

87 As with the 2010 Review, cost weights for Indigenous status have not been incorporated in the assessments. We note the Northern Territory's view that the need to provide English language services and culturally appropriate services and programs for Indigenous people constituted a strong argument for introducing an

Indigenous cost weight. However, there are insufficient reliable data on which to base weights.

### *Public transport policing*

88 We have not incorporated a disability to reflect costs associated with deploying personnel to patrol urban transit networks, as argued by Victoria. While Victoria is in the process of establishing a sizeable security force for this purpose, other States' operations are on a significantly smaller scale. We estimate Victoria's spending to be in the order of $7 per capita, so that any assessment would be unlikely to be material.

89 In any case, it is likely that the characteristics of offenders on public transport are similar to offenders generally, so that the disabilities are being captured. If there were to be a separate assessment, the Commission would require evidence of a disability driven by offender groups other than those already recognised in the specialised policing component, that is, people aged 15-44, Indigenous people, and people from low SES areas.

### *Civil courts SDC assessment*

90 New South Wales suggested that a differential assessment of civil courts expenses may be appropriate. It provided evidence that civil courts expenses and activity are not distributed equally amongst the States on the basis of population. It did not provide evidence of drivers of this disability, but did suggest that factors such as industry composition or SES may be important. New South Wales would like this issue considered in the next review.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

91 Table 19 shows the extent to which the assessment for this category moves the distribution of the GST away from an equal per capita distribution. It shows that GST revenue is redistributed to Queensland, Western Australia, Tasmania and the Northern Territory, and away from the other States.

**Table 19 GST impact, Justice, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| Dollars million | -195 | -635 | 188 | 238 | -19 | 25 | -47 | 444 | 895 |
| Dollars per capita | -25 | -106 | 39 | 88 | -11 | 49 | -117 | 1 758 | 37 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.

Source: Commission calculation.

92 The main reasons for these redistributions are the differences in the proportions of State populations in the groups that are high users of justice services, along with differences between States in the cost of wage related inputs. The population groups that use justice services more are Indigenous people, people aged 15-44 and people living in areas of relative disadvantage (that is, with low SES).

93 Table 20 shows State proportions of Indigenous people, people aged 15-44, and people from a low SES background.

**Table 20 State proportions of selected population groups**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| | % | % | % | % | % | % | % | % | % |
| Indigenous population | 2.9 | 0.9 | 4.3 | 3.6 | 2.3 | 4.9 | 1.7 | 29.5 | 3.0 |
| Persons aged 15-44 | 41.2 | 42.7 | 42.0 | 44.1 | 39.6 | 36.8 | 46.8 | 48.6 | 42.0 |
| IRSEO - Most disadvantaged 2 quintiles | 1.0 | 0.1 | 1.3 | 2.2 | 1.3 | 0.2 | 0.0 | 22.0 | 1.2 |
| NISEIFA - most disadvantaged 2 quintiles | 42.3 | 37.2 | 38.2 | 29.0 | 48.9 | 54.6 | 8.2 | 10.7 | 38.6 |

Source: Commission calculation using ABS population data.

94 Some of the main reasons for the redistributions for each State are:

- Victoria and the ACT have a lower than average proportion of Indigenous people and fewer than average people of low SES.
- While New South Wales and South Australia have a higher than average proportion of people of low SES, this is more than offset by having a lower than average proportions of Indigenous people, and lower than average proportions of people aged 15-44.
- Queensland, Western Australia, and the Northern Territory have above average Indigenous populations, and Western Australia the Northern Territory have above average proportions of people aged 15-44. In addition, the Northern Territory has a considerably higher than average proportion of Indigenous people in the most disadvantaged two IRSEO quintiles.

95 Table 21 provides a summary of the major reasons the assessment moves GST revenue away from an equal per capita distribution. The largest influence comes from assessing a disability for Indigenous status, followed by the application of the police regional costs gradient.

96 Influences affect different States in different ways. For instance, Victoria and the ACT are assessed as requiring less GST for all influences except age, where they requires $29 million more. Western Australia is assessed as requiring more GST for each aspect of the assessment but less for non-Indigenous SES. Tasmania's high regional costs are responsible for more of its GST allocation than its combined SDC assessment.

**Table 21 Major reasons for difference from EPC, Justice, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| SDC | | | | | | | | | |
| Indigenous status | -26 | -412 | 190 | 59 | -38 | 30 | -17 | 215 | 494 |
| Indigenous SES | -34 | -26 | -8 | 51 | 8 | -23 | -7 | 39 | 98 |
| Non-Indigenous SES | 41 | -21 | 18 | -55 | 38 | 22 | -33 | -10 | 119 |
| Age | -67 | 29 | -13 | 43 | -15 | -18 | 11 | 30 | 112 |
| Total SDC | -86 | -430 | 187 | 97 | -7 | 11 | -47 | 275 | 570 |
| Regional costs | -97 | -106 | 76 | 45 | 12 | 29 | -14 | 54 | 216 |
| Wage costs | 39 | -71 | -52 | 95 | -19 | -12 | 10 | 11 | 155 |
| Total | -195 | -635 | 188 | 238 | -19 | 25 | -47 | 444 | 895 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.
Disabilities may not add due to interactions.
Source: Commission calculation.

## CHANGES SINCE THE 2014 UPDATE

97 Table 22 breaks down the total changes since the 2014 Update into the impact of changing data sources, category specific method changes, and change in State circumstances in the 2015 assessment period.

**Table 22 Changes since the 2014 Update, Justice**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Data changes | 1 | 7 | -2 | -3 | 1 | 0 | 0 | -5 | 9 |
| Method changes | -84 | 74 | 19 | 8 | 30 | 0 | -13 | -34 | 132 |
| Change in circumstances | -6 | -9 | 3 | 8 | 2 | 0 | -2 | 4 | 18 |
| Total | -89 | 72 | 21 | 14 | 32 | -1 | -14 | -35 | 139 |

Source: Commission calculation.

## Data changes

98 Changes due to data show the impact of revisions to the size of the category over this assessment period. This has had a minimal impact on this assessment.

## Method changes

99 There have been a number of method changes associated with this category since the 2010 Review. These are:

- the revision to the Indigenous offence rate in the specialised policing assessment
- the move from SEIFA to IRSEO/NISEIFA
- the decrease in the discount used in the specialised policing SDC assessment
- the removal of sex from the SDC assessments
- the introduction of a 25% discount to the police regional costs gradient when applied in the courts and prisons assessment.

100 The downward revision to the Indigenous use rate in the specialised policing assessment results in a decrease in assessed GST for Queensland, Western Australia, Tasmania and the Northern Territory, and an associated increase in assessed GST for New South Wales, Victoria, South Australia and the ACT.

101 The move to IRSEO/NISEIFA use weights results in GST being distributed away from New South Wales, Victoria, Tasmania and the ACT, and being distributed to Queensland, Western Australia, South Australia and the Northern Territory.

102 The decrease in the discount used in the specialised policing SDC assessment results in GST being distributed to Queensland, Western Australia, Tasmania and the Northern Territory, and away from New South Wales, Victoria and the ACT.

103 The final impact of these method changes results in GST being distributed away from New South Wales, the ACT and the Northern Territory and to the other States. The decrease in New South Wales' assessed GST is the result of the introduction of new SES weights, which offsets the impact of other method changes. The increase in Victoria's share of assessed GST is predominately the result of the reduction in the Indigenous use rate of specialised policing, which has an associated reduction in GST revenue for the Northern Territory. South Australia receives a higher GST allocation as a result of offsetting in the method changes.

## Changes in State circumstances

104 The change due to State circumstances was driven by the change in the population distribution of those groups that are high users of justice services. New South Wales and Victoria experienced small decreases in the proportion of people aged 15-44 and Indigenous persons in the most disadvantaged two quintiles, leading to a reduction in GST. Western Australia and the Northern Territory experienced growth in people aged 15-44, meaning their GST requirement increased.

## UPDATING THE ASSESSMENT

105 Data used in this assessment should be updated when new data become available, to ensure that the relativities remain contemporary and consistent with the circumstances of the States. On this basis we expect:

- the following data to be updated annually
  - ABS data on criminal courts adjudicated defendants and prisoners
  - AIHW data on juvenile detainees
- the following data to be reviewed if and when they become available, to determine their suitability to replace existing police data, whether they could be used to derive Indigenous cost weights, and whether the level of discounting is appropriate
  - AIC national police custody data
- the following data not to be updated
  - State data on offenders or criminal courts adjudicated defendants, and their associated SES weights
  - the proportion of spending allocated to sub-components for the police and courts components.

# CHAPTER 17

# ROADS

## SUMMARY OF THE ASSESSMENT

The Roads category covers State spending on the maintenance of roads, bridges (including tunnels) and other related services.

Our assessment of State roads costs is the result of summing separate assessments for rural roads, urban roads, local roads, bridges and other services. We have made separate assessments since the factors affecting each of these components vary. We use National Transport Commission (NTC) data on State spending to determine the size of each of these components.

We have assessed higher costs for States with:

- longer road networks – those with larger rural areas need to spend more on maintenance and repairs than other States
- greater traffic volumes as they require greater spending on traffic control and safety measures (such as signage and traffic lights) and
- greater heavy vehicle use, which causes greater pavement wear and tear that drives up minor and major maintenance to restore the pavement to acceptable service standards.

We have assessed costs for bridges, tunnels and other services in a way that does not affect State GST shares.

Our assessment also recognises the differences between States in wage costs and, for some rural road expenses, the higher costs of providing services in remote and very remote locations.

## WHAT IS INCLUDED IN THE ROADS CATEGORY?

1 The Roads category comprises recurrent expenses on:

- the maintenance and rehabilitation of roads, bridges and tunnels
- road safety, traffic management and other transport activities (such as driver licensing, motor vehicle registration, heavy vehicle regulation and road transport planning administration).

2 Roads construction expenses are not included as they are assessed in the Infrastructure assessment.

3 All revenues generated from user charges (about $1.8 billion in 2013-14) are assessed in the Other revenue category. The reasons are discussed later in the chapter.

4 Table 1 shows State recurrent expenditure on roads was $7.0 billion in 2013-14. The share of roads expenses to State budgets varied from 1.4% in South Australia to 5.0% in Queensland. The average was 3.4% for all States.

**Table 1 Roads category expenses, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Category expenses ($m) | 1 454 | 1 666 | 2 108 | 1 193 | 218 | 121 | 71 | 150 | 6 981 |
| Category expenses ($pc) | 195 | 288 | 450 | 468 | 130 | 236 | 185 | 617 | 300 |
| Proportion of operating expenses (%) | 2.3 | 3.6 | 5.0 | 4.5 | 1.4 | 2.6 | 1.7 | 3.3 | 3.4 |

Source: Commission calculation using State data.

5 Table 2 shows the share of State expenses directed to roads was steady at 3.4% from 2010-11 to 2013-14, except in 2012-13 when it was 3.5%.

**Table 2 Roads expenses as a proportion of State operating expenses**

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| Total for category ($m) | 6 223 | 6 519 | 6 739 | 6 981 |
| Total operating expenses ($m) | 180 682 | 189 260 | 195 316 | 207 408 |
| Proportion of operating expenses (%) | 3.4 | 3.4 | 3.5 | 3.4 |

Source: Commission calculation using ABS Government Finance Statistics (GFS) data and State data.

## How are services delivered?

6 States build and maintain roads for the purpose of moving people and goods within and between States. States own and are responsible for managing major roads (including highways), which connect localities within the State and connect the State to other States. Roads of lesser significance in both urban and rural areas are typically the responsibility of local governments. However, States decide which roads are State roads and which are local roads and those decisions differ between States. In some areas (usually sparsely populated ones), States manage roads that would normally be classified as local roads. This is typically because a local government does not exist or because it does not have the financial capacity to support those roads.

7 Differences between States in the length of their road networks reflect their different geography and settlement patterns. For example, the ACT's network comprises mostly roads within the Canberra urban area. By contrast, Queensland has a large road network. It has a large network of urban roads because of its many urban

population centres. Since these centres are scattered across a large land area, it also has a large network of rural roads connecting them.

8 State policy choices on the number of alternate routes between urban centres and the degree to which States give responsibility for roads to local government may also affect the length of State government roads.

9 Population density also affects the cost of roads. Roads in densely populated urban areas carry large volumes of traffic, including heavy vehicles, which are mostly moving within the urban area itself. Hence, the cost of maintaining urban roads is likely to differ from that of maintaining rural roads — the latter may span large distances but carry smaller traffic volumes.

## COMMONWEALTH FUNDING

10 The Commonwealth provides funding to States to assist them in meeting their road maintenance services expenses. The Commonwealth provides States with some National partnership payments (NPPs) that directly impact on State fiscal capacities as they are provided to assist with meeting road services expenses. The expenses funded by these payments are included in the category expenses.

11 Some NPPs related to this category, however, do not have an effect on State fiscal capacities. Payments for purposes outside State responsibilities, such as those to local governments, have been treated as having no impact on State fiscal capacities. These payments have been netted off the category expenses.

12 Table 3 details the major Commonwealth payments provided to States for road maintenance services. Only the nation building programs affect the relativities. Commonwealth payments for road construction are assessed in the Infrastructure assessment.

**Table 3 Commonwealth payments to States for road services, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Nation building program | 88 | 51 | 48 | 46 | 36 | 5 | 0 | 20 | 294 |
| Untied local roads grants | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 0 | 18 |
| Nation Building Program - Black spot projects | 24 | 13 | 14 | 6 | 4 | 2 | 1 | 1 | 64 |
| Total | 112 | 65 | 62 | 52 | 57 | 7 | 1 | 20 | 377 |

Note: Commonwealth payments for road construction are assessed in the Infrastructure category.
Source: Commonwealth of Australia's *Final Budget Outcome, 2013-14*.

13 A complete list of Commonwealth payments and their treatment is provided in Attachment 2 – Treatment of Commonwealth payments.

## CATEGORY STRUCTURE

14 The assessment of the Roads category is undertaken separately for each of the following components:

- rural roads
- urban roads
- local roads
- bridges
- other services.

15 Table 4 shows the assessment structure for the category, the disabilities that are assessed and the size of each component, using 2013-14 data.

**Table 4 Category structure, Roads, 2013-14**

| Component | Component expense | Disability | Influence measured by disability |
|---|---|---|---|
| | $m | | |
| Rural roads | 2 668 | Length and use | This component recognises that the length of the rural road network, traffic volume and heavy vehicle use influence the cost of providing roads maintenance services in rural areas. |
| Urban roads | 2 057 | Length and use | Identifies the length of the urban road network, traffic volume and heavy vehicle use as having impact on the cost of providing roads maintenance services in urban areas. |
| Local roads | 417 | Length | Recognises the differences between States in the cost of maintaining local roads managed by State governments. |
| Bridges | 264 | Equal per capita | While different drivers may affect bridges expenses, the Commission was not able to measure them. This is an equal per capita assessment. |
| Other services | 1 575 | Equal per capita | While other unmeasured factors may influence the cost of providing roads maintenance services, the Commission was not able to measure them. This is an equal per capita assessment. |

Note: The wages costs factor is applied to all components.
The component expenses and the division of rural and urban roads into length and use is calculated based on data from the National Transport Commission.
Source: Commission calculation.

## Component expenses

16 The Commission divides total road maintenance expenditure into the five components and their sub-components based on the classification of State spending provided by the National Transport Commission (NTC). Each component and sub-component derived from the NTC data are rescaled so that total spending matches total GFS expenses.

17 Allocation of the NTC data to the components and sub-components is based on work done by the NTC in estimating heavy vehicle road use charges. The NTC makes determinations of heavy vehicle registration charges, designed to offset the damage done to roads by these vehicles. To do this, it gathers data from States on what they spend on roads and decides what proportion relates to heavy vehicles and the volume of traffic. The residual, we assign to length by assumption. These data are also split by urban and rural roads.

18 We are able to split the NTC expense data into State spending on rural roads, urban roads, local roads, bridges and other services, as shown in

19 Table 5. For more information on the NTC categories, please see the appendix to this chapter.

**Table 5 Composition of roads expenses, 2010-11 to 2013-14**

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| | $m | $m | $m | $m |
| Rural roads | | | | |
| Road length | 606 | 606 | 786 | 797 |
| Traffic volume | 1 107 | 1 074 | 899 | 896 |
| Heavy vehicle use | 770 | 757 | 921 | 975 |
| Rural total | 2 483 | 2 437 | 2 606 | 2 668 |
| Urban roads | | | | |
| Road length | 198 | 298 | 245 | 357 |
| Traffic volume | 1 332 | 1 442 | 1 227 | 1 257 |
| Heavy vehicle use | 297 | 395 | 332 | 443 |
| Urban total | 1 827 | 2 135 | 1 804 | 2 057 |
| Local roads | 374 | 417 | 503 | 417 |
| Bridges | 296 | 282 | 285 | 264 |
| Other services | 1 244 | 1 248 | 1 541 | 1 575 |
| Total | 6 223 | 6 519 | 6 739 | 6 981 |

Note: These data have been rescaled to match total GFS expenses.
Source: Commission calculation using NTC data.

## RURAL ROADS

20 The assessment of rural roads recognises that the length of the rural road network, traffic volume and heavy vehicle use influence the cost of providing roads maintenance services in rural areas.

## Road length

21 A certain amount of road deterioration occurs because of factors such as the impact of weather and sunlight on the road surface and substrate, even if the road is not used. Therefore, a proportion of road maintenance and replacement costs are attributable to the length of roads a State needs to maintain.

22 However, there are long-standing difficulties relating to the reliability and comparability of State road length data, because they are affected by differences between the way States classify their roads, State policies on where roads are built and State policies on the allocation of responsibility for roads between the State and local governments.

23 In the 2010 Review, a measure of rural road lengths was developed using a mapping algorithm. The algorithm applied a uniform policy and identified existing roads connecting neighbouring localities larger than 400 people by the fastest route, using the ABS's Urban Centres and Localities (UCLs) to define those localities. A State's share of rural roads was set equal to its share of the roads identified using this uniform policy framework. In this way the assessment captures the national task delivered by the geographic distance of towns independent of State-specific decision on how many roads to build, or if they should be State or local roads. We have continued to use this algorithm in this review, updated to reflect changes to locality populations moving above and below 400 people.

### *Adjustment for sealed roads*

24 State policies vary on when to seal a road. While there is a relationship with traffic volume, other factors may also influence this decision (for example, roads that are subject to high rainfall are more likely to be sealed).

25 Unsealed roads have lower per kilometre maintenance cost than sealed roads. In the 2010 Review, Western Australia provided data suggesting the average maintenance cost per kilometre of unsealed roads was 44% that of sealed roads. However, this comparison was affected by higher urban road use, which is separately assessed. The Commission has exercised its judgment to set the cost of maintaining a kilometre of unsealed roads to be half that of a sealed road.

26 State data on unsealed road lengths suffer from the same comparability issues as their road length data. The Commission has treated minor rural roads identified in the mapping approach as unsealed roads. All other mapped roads (such as freeways, highways or main roads) are treated as sealed roads. In this way, a State's share of sealed roads is assessed independent of what roads it chooses to seal. Table 6 shows States' rural road length.

**Table 6 Rural road length, 2015 Review**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | km | km | km | km | km | km | km | km | km |
| Mapped length | | | | | | | | | |
| Sealed | 24 804 | 14 325 | 23 976 | 17 289 | 9 792 | 2 634 | 6 | 7 557 | 100 383 |
| Unsealed | 1 762 | 1 389 | 4 829 | 3 591 | 1 762 | 49 | 0 | 3 167 | 16 549 |
| Weighted length (a) | 25 685 | 15 020 | 26 391 | 19 085 | 10 673 | 2 659 | 6 | 9 141 | 108 658 |

(a) Sealed roads receive a weight of 1.0, unsealed roads receive a weight of 0.5.
Source: The mapped road lengths were sourced from a consultant's report.

27 Table 7 shows the assessed rural road length expenses for 2013-14.

**Table 7 Assessed expenses, rural road length, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Weighted length (km) | 25 685 | 15 020 | 26 391 | 19 085 | 10 673 | 2 659 | 6 | 9 141 | 108 658 |
| Location factor (a) | 0.970 | 0.896 | 1.076 | 1.169 | 1.033 | 0.954 | 0.878 | 1.271 | 1.000 |
| Expense ($m) | | | | | | | | | 797 |
| Total ($m) | 174 | 94 | 198 | 156 | 77 | 18 | 0 | 81 | 797 |
| Total ($pc) | 23 | 16 | 42 | 61 | 46 | 34 | 0 | 332 | 34 |

(a) The location factor is the combination of the wage costs factor and the regional costs factor. The regional costs factor is applied only to rural road length to recognise that the costs of providing rural roads increase with increasing remoteness.
Source: Commission calculation.

## Road use

28 Road use affects State expenses in two main ways.

- High traffic volumes require States to install and maintain traffic control and safety measures (such as signage and traffic lights). Failure to provide and support such 'road furniture' would have unacceptable consequences for road safety.
- Heavy vehicles cause pavement wear and tear, which require minor and major maintenance to restore the pavement to acceptable service standards. Road engineers say light vehicles cause little pavement damage.

### *Traffic volume*

29 Assessment of road use is based on traffic volume data from the Bureau of Infrastructure, Transport and Regional Economics (BITRE). Total vehicle kilometres travelled (VKT) measures the total distance travelled by all vehicles.[1] This measure treats a kilometre travelled by a car the same as a kilometre travelled by a heavy truck.

[1] Calculated as the number of vehicles multiplied by the distance travelled.

30 The traffic volume data from BITRE are based on the ABS' *Survey of Motor Vehicle Usage (SMVU)*.[2] BITRE adjust the SMVU data[3] and smooth it using averages from several survey years. BITRE also make adjustments to remove data relating to travel on local roads and to split the data between travel on urban and rural roads.

31 Table 8 shows the assessed rural traffic volume expenses for 2013-14.

**Table 8 Assessed expenses, rural traffic volumes, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Rural VKT (million km) | 11 933 | 9 930 | 8 818 | 4 758 | 3 949 | 1 083 | 0 | 618 | 41 090 |
| Location factor (a) | 1.005 | 0.988 | 0.989 | 1.038 | 0.991 | 0.974 | 1.023 | 1.044 | 1.000 |
| Expense ($m) | | | | | | | | | 896 |
| Total ($m) | 262 | 214 | 190 | 108 | 85 | 23 | 0 | 14 | 896 |
| Total ($pc) | 35 | 37 | 41 | 42 | 51 | 45 | 0 | 58 | 38 |

(a) This location factor includes the wage costs factor only.
Source: Commission calculation using BITRE traffic volume data.

## *Heavy vehicles*

32 Assessment of heavy vehicle use is also based on data from BITRE. Average gross mass-kilometres (AGM-km) measures the gross tonne-kilometres for a group of vehicles based on the NTC trend data on total mass of different heavy vehicle types and kilometres travelled.

33 AGM-km for each State is estimated by applying Australian average AGMs for each BITRE vehicle class (derived from NTC trend data[4]) to the kilometres travelled by each class of heavy vehicle in each State. As with the traffic volume measure, the heavy vehicle travel data have been adjusted to remove travel on local roads and to split the data between urban and rural roads.

34 Table 9 shows the assessed rural heavy vehicle use expenses for 2013-14.

[2] It uses the SMVU (ABS Cat. No. 9208.0) dataset 'Total distance travelled by area of operation'. This ensures that the traffic data reflect all travel in a State, not just travel by vehicles registered in that State.

[3] BITRE adjusts the SMVU data using data such as fuel sales, off-road use, fleet fuel use modelling and traffic data from monitored networks in cities.

[4] The NTC calculated trend data from the SMVUs for 2001 to 2007. We used the trend data to derive trend AGMs for the vehicle classes in the BITRE data.

**Table 9 Assessed expenses, rural heavy vehicle use, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Rural AGM (million km) | 48 017 | 36 095 | 37 584 | 23 974 | 18 690 | 3 957 | 0 | 2 826 | 171 143 |
| Location factor | 1.005 | 0.988 | 0.989 | 1.038 | 0.991 | 0.974 | 1.023 | 1.044 | 1.000 |
| Expense ($m) | | | | | | | | | 975 |
| Total ($m) | 275 | 203 | 212 | 142 | 106 | 22 | 0 | 17 | 975 |
| Total ($pc) | 37 | 35 | 45 | 56 | 63 | 43 | 0 | 69 | 42 |

Source: Commission calculation using BITRE heavy vehicle data.

## Bringing the rural roads component together

35 Table 10 shows the total assessed expenses on rural roads.

**Table 10 Assessed expenses, rural roads component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Road length | 174 | 94 | 198 | 156 | 77 | 18 | 0 | 81 | 797 |
| Traffic volume | 262 | 214 | 190 | 108 | 85 | 23 | 0 | 14 | 896 |
| Heavy vehicle use | 275 | 203 | 212 | 142 | 106 | 22 | 0 | 17 | 975 |
| Total ($m) | 710 | 511 | 600 | 405 | 268 | 63 | 0 | 112 | 2 668 |
| Total ($pc) | 95 | 88 | 128 | 159 | 160 | 122 | 0 | 459 | 114 |

Source: Commission calculation.

# URBAN ROADS

36 The assessment of urban roads recognises that the length of the urban road network, traffic volume and heavy vehicle use influence the cost of providing roads maintenance services in urban areas.

## Road length

37 Similar to the assessment of road length in the rural roads component, a certain amount of road deterioration occurs even if the road is not used. Therefore, a proportion of road maintenance and replacement costs are attributable to the length of roads a State needs to maintain.

38 However, State data on the length of urban roads are not comparable because of differences in road classifications, the allocation of responsibilities between State and local governments and definitions of urban areas.

39 As a result, we use State urban populations as a proxy for urban road lengths. This measure is consistent with the principal purpose of urban roads, which is to transport people and goods around the urban centre. Urban centres are defined as localities of

40 000 or more using the ABS's UCLs to define those localities. We have not adopted South Australia's approach which suggests that urban road length per capita would decrease with increasing city size. This is discussed in the Influences not assessed section later in this chapter.

40 Table 11 shows the assessed urban road length expenses for 2013-14.

**Table 11 Assessed expenses, urban road length, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Urban population ('000) | 5 511 | 4 490 | 3 471 | 1 942 | 1 169 | 254 | 383 | 117 | 17 337 |
| Location factor | 1.005 | 0.988 | 0.989 | 1.038 | 0.991 | 0.974 | 1.023 | 1.044 | 1.000 |
| Expense ($m) | | | | | | | | | 357 |
| Total ($m) | 114 | 91 | 71 | 41 | 24 | 5 | 8 | 3 | 357 |
| Total ($pc) | 15 | 16 | 15 | 16 | 14 | 10 | 21 | 10 | 15 |

Source: Commission calculation using ABS population data.

## Road use

41 Similar to the assessment of road use in the rural roads component, road use in urban areas affects State expenses through high traffic volumes and heavy vehicles. Our assessment uses the same data from BITRE but only includes data collected on vehicle use in urban areas.

42 Table 12 shows the assessed urban traffic volume expenses for 2013-14.

**Table 12 Assessed expenses, urban traffic volumes, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Urban VKT (billion km) | 35 | 30 | 24 | 13 | 7 | 2 | 2 | 1 | 115 |
| Location factor | 1.005 | 0.988 | 0.989 | 1.038 | 0.991 | 0.974 | 1.023 | 1.044 | 1.000 |
| Expense ($m) | | | | | | | | | 1 257 |
| Total ($m) | 385 | 328 | 264 | 145 | 74 | 25 | 28 | 9 | 1 257 |
| Total ($pc) | 52 | 57 | 56 | 57 | 44 | 48 | 72 | 36 | 54 |

Source: Commission calculation using BITRE traffic volume data.

43 Table 13 shows the assessed urban heavy vehicle use expenses for 2013-14.

**Table 13 Assessed expenses, urban heavy vehicle use, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Urban AGM (billion km) | 82 | 59 | 60 | 28 | 14 | 5 | 2 | 2 | 251 |
| Location factor | 1.005 | 0.988 | 0.989 | 1.038 | 0.991 | 0.974 | 1.023 | 1.044 | 1.000 |
| Expense ($m) | | | | | | | | | 443 |
| Total ($m) | 145 | 103 | 104 | 51 | 25 | 8 | 4 | 4 | 443 |
| Total ($pc) | 19 | 18 | 22 | 20 | 15 | 16 | 9 | 15 | 19 |

Source: Commission calculation using BITRE heavy vehicle data.

## Bringing the urban roads component together

44 Table 14 shows the total assessed expenses on urban roads.

**Table 14 Assessed expenses, urban roads component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Road length | 114 | 91 | 71 | 41 | 24 | 5 | 8 | 3 | 357 |
| Traffic volume | 385 | 328 | 264 | 145 | 74 | 25 | 28 | 9 | 1 257 |
| Heavy vehicle use | 145 | 103 | 104 | 51 | 25 | 8 | 4 | 4 | 443 |
| Total ($m) | 644 | 523 | 439 | 237 | 122 | 38 | 39 | 15 | 2 057 |
| Total ($pc) | 86 | 90 | 94 | 93 | 73 | 74 | 102 | 62 | 88 |

Source: Commission calculation.

## LOCAL ROADS

45 In areas of States where there is no local government (known as unincorporated areas) or where there are insufficient resources (or population) for the local government to support road maintenance, State governments step in and manage roads that would otherwise be managed by a local government.

46 The drivers of these costs are normally State geography and population settlement patterns. The local roads assessment recognises the differences between States in the cost of maintaining local roads managed by State governments.

47 The Commission could not map State managed local roads in the 2010 Review and measured the local road maintenance task using the length of minor roads in sparsely settled areas — defined as remote and very remote regions with a population density of less than 1 person per 100 square kilometres. We will continue to use this method in this review. We exclude those roads that are already included in the rural mapped roads to ensure there is no double counting between this measure and the rural road length measure. We have not included local road use because we cannot reliably attribute use to local road length.

48 Table 15 shows the total assessed expenses attributable to State managed local roads.

**Table 15 Assessed expenses, local roads component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Local road length (km) | 9 841 | 1 416 | 35 192 | 38 077 | 14 745 | 0 | 0 | 10 999 | 110 271 |
| Location factor | 1.005 | 0.988 | 0.989 | 1.038 | 0.991 | 0.974 | 1.023 | 1.044 | 1.000 |
| Expense ($m) | | | | | | | | | 417 |
| Total ($m) | 37 | 5 | 130 | 147 | 55 | 0 | 0 | 43 | 417 |
| Total ($pc) | 5 | 1 | 28 | 58 | 33 | 0 | 0 | 176 | 18 |

Source: Local road length was measured in a consultancy for the Commission.

## BRIDGES

49 This component recognises that different drivers affect bridges and tunnel expenses. However, because no reliable data can be found to support a differential assessment, the Commission has assessed bridge and tunnel maintenance expenses equal per capita adjusted for wage costs.

50 Table 16 shows total assessed expenses for bridges for 2013-14.

**Table 16 Assessed expenses, bridges component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Population ('000) | 7 465 | 5 787 | 4 687 | 2 549 | 1 677 | 514 | 384 | 244 | 23 308 |
| Location factor | 1.005 | 0.988 | 0.989 | 1.038 | 0.991 | 0.974 | 1.023 | 1.044 | 1.000 |
| Expense ($m) | | | | | | | | | 264 |
| Total ($m) | 85 | 65 | 53 | 30 | 19 | 6 | 4 | 3 | 264 |
| Total ($pc) | 11 | 11 | 11 | 12 | 11 | 11 | 12 | 12 | 11 |

Source: Commission calculation using ABS population data.

## OTHER SERVICES

51 The Roads category recognises other unmeasured factors that may influence the cost of providing roads maintenance services. The category includes expenses associated with corporate services, driver licensing and vehicle registration. These expenses may be driven by a number of factors including road length, population in the driving age groups, total population and number of registered vehicles. We have no way of allocating the other services expenses between the potential drivers. In the absence of a clear driver that produces a material difference to the distribution of GST revenue, we have assessed these expenses equal per capita.

52 Victoria said that the other services component should be differentially assessed using vehicle registration data (as used in the Motor taxes revenue assessment). While conceptually there may be links between the expenses and the number of vehicle registrations, such an assessment is not material for any State at the $30 per capita disability materiality threshold. On balance, we consider the expenses to be primarily driven by total population.

53 Table 17 shows the total assessed expenses for other road services for 2013-14.

**Table 17 Assessed expenses, other road services component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Population ('000) | 7 465 | 5 787 | 4 687 | 2 549 | 1 677 | 514 | 384 | 244 | 23 308 |
| Location factor | 1.005 | 0.988 | 0.989 | 1.038 | 0.991 | 0.974 | 1.023 | 1.044 | 1.000 |
| Expense ($m) | | | | | | | | | 1 575 |
| Total ($m) | 507 | 386 | 313 | 179 | 112 | 34 | 27 | 17 | 1 575 |
| Total ($pc) | 68 | 67 | 67 | 70 | 67 | 66 | 69 | 71 | 68 |

Source: Commission calculation using ABS population data.

## LOCATION

54 We have applied a location factor in the assessment of each sub-component in the assessment. This factor recognises the differences in wage costs between States in this assessment. These influences are measured in a similar way for most expense categories and the methods are described in Chapter 22 - Wage costs.

55 In addition, we also consider that the costs of providing rural roads increase with increasing remoteness. These influences are measured in a similar way for most expense categories and the methods are described in Chapter 23 - Regional costs. We have no data on the sub-State distribution of rural road use, and consider it to be very different from the distribution of population. Therefore, we have only applied regional costs to the rural road length sub-component.

## BRINGING THE ASSESSMENT TOGETHER

56 Table 18 brings the assessed expenses for each component together to derive the total expenses for each State for the category.

**Table 18 Category assessment, Roads, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| **Rural roads** | | | | | | | | | |
| Equal per capita | 114 | 114 | 114 | 114 | 114 | 114 | 114 | 114 | 114 |
| Road length | -9 | -15 | 7 | 21 | 12 | 4 | -34 | 241 | 0 |
| Traffic volume | -4 | -1 | 3 | 2 | 13 | 8 | -38 | 17 | 0 |
| Heavy vehicle use | -5 | -6 | 4 | 12 | 22 | 2 | -42 | 24 | 0 |
| Location | -3 | -12 | 9 | 19 | 4 | -5 | -14 | 31 | 0 |
| Total | 95 | 88 | 128 | 159 | 160 | 122 | 0 | 460 | 114 |
| **Urban roads** | | | | | | | | | |
| Equal per capita | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 | 88 |
| Road length | 0 | 1 | 0 | 0 | -1 | -5 | 5 | -5 | 0 |
| Traffic volume | -3 | 3 | 3 | 1 | -10 | -4 | 16 | -19 | 0 |
| Heavy vehicle use | 0 | -1 | 3 | 0 | -4 | -3 | -10 | -4 | 0 |
| Location | 0 | -1 | -1 | 3 | -1 | -2 | 2 | 4 | 0 |
| Total | 86 | 90 | 94 | 93 | 73 | 74 | 102 | 62 | 88 |
| **Local roads** | | | | | | | | | |
| Equal per capita | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 |
| Road length | -13 | -17 | 10 | 39 | 15 | -18 | -18 | 153 | 0 |
| Location | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| Total | 5 | 1 | 28 | 58 | 33 | 0 | 0 | 176 | 18 |
| **Bridges** | | | | | | | | | |
| Equal per capita | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Location | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 11 | 11 | 11 | 12 | 11 | 11 | 12 | 12 | 11 |
| **Other services** | | | | | | | | | |
| Equal per capita | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| Location | 0 | -1 | -1 | 3 | -1 | -2 | 2 | 3 | 0 |
| Total | 68 | 67 | 67 | 70 | 67 | 66 | 69 | 71 | 68 |
| **Category total** | 266 | 257 | 327 | 392 | 343 | 273 | 183 | 780 | 300 |

Note: Component disabilities may not add due to interactions.
Source: Commission calculation.

## Alternative presentation

57 Table 19 provides an alternative presentation using a factor approach. The table shows for each disability how the expenses per capita in each component and in total are affected by differences in State characteristics. Disability factors below one indicate a State is assessed to need to spend less than average. Disability factors above one indicate a State is assessed to need to spend more than average.

**Table 19 Category factors, Roads, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| **Rural roads (component weight = 38.7%)** | | | | | | | | | |
| Road length (30%) | 0.738 | 0.557 | 1.208 | 1.606 | 1.365 | 1.110 | 0.003 | 8.042 | 1.000 |
| Traffic volume (34%) | 0.907 | 0.973 | 1.067 | 1.059 | 1.336 | 1.195 | 0.000 | 1.437 | 1.000 |
| Heavy vehicle use (37%) | 0.876 | 0.849 | 1.092 | 1.281 | 1.518 | 1.049 | 0.000 | 1.578 | 1.000 |
| Location | 0.970 | 0.896 | 1.076 | 1.169 | 1.033 | 0.954 | 0.878 | 1.271 | 1.000 |
| Component factor | 0.830 | 0.771 | 1.118 | 1.389 | 1.395 | 1.065 | 0.001 | 4.017 | 1.000 |
| A. Weighted factor | 0.934 | 0.911 | 1.046 | 1.150 | 1.153 | 1.025 | 0.613 | 2.168 | 1.000 |
| **Urban roads (component weight = 26.7%)** | | | | | | | | | |
| Road length (17%) | 0.993 | 1.043 | 0.995 | 1.024 | 0.937 | 0.664 | 1.340 | 0.647 | 1.000 |
| Traffic volume (61%) | 0.951 | 1.064 | 1.057 | 1.017 | 0.821 | 0.918 | 1.299 | 0.640 | 1.000 |
| Heavy vehicle use (22%) | 1.016 | 0.948 | 1.183 | 1.009 | 0.776 | 0.866 | 0.481 | 0.778 | 1.000 |
| Location | 1.005 | 0.988 | 0.989 | 1.038 | 0.991 | 0.974 | 1.023 | 1.044 | 1.000 |
| Component factor | 0.977 | 1.023 | 1.062 | 1.055 | 0.824 | 0.840 | 1.156 | 0.700 | 1.000 |
| B. Weighted factor | 0.994 | 1.006 | 1.016 | 1.015 | 0.953 | 0.957 | 1.042 | 0.920 | 1.000 |
| **Local roads (component weight = 7.5%)** | | | | | | | | | |
| Road length (100%) | 0.279 | 0.052 | 1.587 | 3.157 | 1.858 | 0.000 | 0.000 | 9.535 | 1.000 |
| Location | 1.005 | 0.988 | 0.989 | 1.038 | 0.991 | 0.974 | 1.023 | 1.044 | 1.000 |
| Component factor | 0.276 | 0.050 | 1.549 | 3.235 | 1.819 | 0.000 | 0.000 | 9.825 | 1.000 |
| C. Weighted factor | 0.946 | 0.929 | 1.041 | 1.168 | 1.061 | 0.925 | 0.925 | 1.662 | 1.000 |
| **Bridges (component weight = 4.2%)** | | | | | | | | | |
| Bridges (100%) | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Location | 1.005 | 0.988 | 0.989 | 1.038 | 0.991 | 0.974 | 1.023 | 1.044 | 1.000 |
| D. Weighted factor | 1.000 | 1.000 | 1.000 | 1.002 | 1.000 | 0.999 | 1.001 | 1.002 | 1.000 |
| **Other services (component weight = 22.9%)** | | | | | | | | | |
| Other services (100%) | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Location | 1.005 | 0.988 | 0.989 | 1.038 | 0.991 | 0.974 | 1.023 | 1.044 | 1.000 |
| E. Weighted factor | 1.001 | 0.997 | 0.997 | 1.009 | 0.998 | 0.994 | 1.005 | 1.010 | 1.000 |
| **Category total** | 0.875 | 0.843 | 1.100 | 1.343 | 1.165 | 0.900 | 0.586 | 2.761 | 1.000 |

Source: Commission calculation.

## Influences not assessed in this category

### *Adjustment for road width*

58 The size of the road maintenance task would more accurately be measured on the basis of lane-kilometres, because this would take account of differences in the width of roads. However, the mapping approach was only able to measure rural roads on the basis of road length. The Commission did not make an adjustment for road width because it observed that the average number of lanes on rural roads was similar for all States.

59 Materiality testing for duplicating lanes on some significant rural roads and the inclusion of additional lengths in the current rural road length calculations indicated that even with extreme assumptions an assessment based upon lane-kilometres would be unlikely to be material for any State.

### *User charges*

60 States raise roads user charges from various sources such as road tolls and driver's licence fees. The capacity to raise these user charges is not the same as the disabilities used to assess road expenses. Given the degree of policy variation between States in use of toll roads and the broad demographic from which driver's licence fees are derived (including differing fees for various license classifications), we do not consider a net assessment of user charges appropriate in this category. As such, roads user charges are assessed in the Other revenue category.

### *Mining related expenditure*

61 The Roads category assumes that a reasonable approximation of average policy for developing a rural road network is for States to build roads between adjacent towns of 400 people or more.

62 However, some States claimed that this approximation did not accurately reflect the size of their road maintenance task. Queensland and Western Australia stated that there were unrecognised road maintenance costs resulting from road networks between mines, associated infrastructure and mining communities that connect towns of less than 400 people (which are therefore not recognised in the rural road length algorithm).

63 After receiving data from States, the Commission decided not to make an adjustment to the assessment for roads to mines. From the data, we could not develop a policy neutral method for comparing the additional roads not included in the synthetic road network that was material for any State. In addition, we also had concerns that some States were unable to adequately identify additional roads, leading to comparability issues of additional identified roads between States.

64 As part of the next review, it is our intention that this issue of the capacity of the current roads assessment to fully reflect what States do will need to be further investigated.

### *Density of road use*

65 In its submission to the 2015 Review, New South Wales said the assessment for road use relates expenses to population and overestimates the traffic volume and heavy vehicle expense needs of States with relatively lengthy road networks. It considered the pressure that traffic volumes place on roads and the need for traffic control and

safety equipment should be related to the size of the State road networks that bear the traffic volume load. It said the traffic volume per kilometre of road drives the relative need for spending on traffic control and safety.

66 New South Wales also said that similarly to traffic volume, the costs of heavy vehicle use for a State depend on the weight and distance travelled by heavy vehicles on the State's road network rather than simply to its population. It said relatively higher heavy vehicle use per kilometre of road could be expected to produce relatively higher rural road maintenance and rehabilitation expenses.

67 New South Wales said that adjusting the assessment to relate traffic volumes and heavy vehicle use to the length of a States' road network would provide a more appropriate assessment outcome.

68 We have not made any adjustments to our measures of road use to recognise density of road use. We measure the impact of road use in two ways:

- traffic volume measures the total distance travelled by all vehicles on a State's roads
- heavy vehicle use measures the total tonnage hauled over the total distance on a State's roads.

69 New South Wales is suggesting that the higher density of road use requires a greater maintenance requirement than a lower density of road use. We have no further data that shows the greater impact of high traffic frequency on road maintenance expenses. Unless data on indicators of road use (such as average annual daily traffic) become available, which are reliable, comparable across States and policy neutral, we cannot assess the density of road use as proposed by New South Wales.

70 Our measures of road use assume that a vehicle travelling over a two kilometre stretch of road causes the same pavement damage as the same vehicle travelling over a one kilometre stretch of road twice. For New South Wales' proposition to hold, the latter case would have to produce more pavement damage than the former case. It is not conceptually clear that this is what occurs, and in any case we have no data to quantify what the additional cost would be.

### *Urban road use and city size*

71 In its submission to the 2015 Review, South Australia argued that the assessment of urban road costs should recognise a fixed cost element and variable costs, which decrease with city size. It said that recognising even a slight downward gradient in the cost curve for urban roads would improve the consistency of the combined road and public transport assessment outcome.

72 We have addressed this issue in the Infrastructure chapter. In summary, South Australia's conceptual argument is not clear and we have not been able to test this case as the necessary data to assess urban road costs and city size are not available.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

73 Table 20 shows the extent to which the assessment for this category moves the distribution of the GST away from an equal per capita distribution. It shows that GST revenue is redistributed to Queensland, Western Australia, South Australia and the Northern Territory and away from New South Wales, Victoria, Tasmania and the ACT.

**Table 20 GST Impact, Roads, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| Dollars million | -302 | -284 | 150 | 289 | 79 | -16 | -51 | 135 | 653 |
| Dollars per capita | -39 | -47 | 31 | 107 | 46 | -31 | -129 | 536 | 27 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.
Disabilities may not add due to interactions
Source: Commission calculation.

74 The main reasons for these redistributions are explained below.

- New South Wales and Victoria have, in per capita terms, relatively small rural networks, lower rural traffic volume and rural heavy vehicle use and relatively few State-managed local roads. These disabilities were not outweighed by Victoria's above average urban network and urban traffic volume nor by the above average urban heavy vehicle use in New South Wales. Consequently, both States are assessed to be able to provide road maintenance services at below average cost.
- Queensland, Western Australia, South Australia and the Northern Territory have above average rural networks, rural traffic volume, rural heavy vehicle use and State managed local roads, leading to their above average assessed needs for delivering roads services.
- While it has above average rural disabilities, Tasmania has no assessed State managed local roads and below average urban disabilities, leading to an assessment that it can deliver road services at below average cost.
- The ACT has no assessed rural network, as well as no State-managed local roads. Consequently, it is assessed to be able to deliver roads services at below average cost.

75 Table 21 provides a summary of the major reasons the assessment moves State GST revenue away from an equal per capita distribution.

**Table 21 Major reasons for difference from EPC, Roads, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Rural roads | -161 | -166 | 69 | 130 | 82 | 5 | -50 | 93 | 378 |
| Urban roads | -20 | 15 | 28 | 16 | -31 | -8 | 7 | -7 | 66 |
| Local roads | -124 | -127 | 58 | 135 | 30 | -11 | -9 | 49 | 271 |
| Bridges | 1 | -1 | -1 | 1 | 0 | 0 | 0 | 0 | 2 |
| Other services | 3 | -5 | -4 | 7 | -1 | -1 | 1 | 1 | 11 |
| Total | -302 | -284 | 150 | 289 | 79 | -16 | -51 | 135 | 653 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.
Disabilities may not add due to interactions.
Source: Commission calculation.

## CHANGES SINCE THE 2010 REVIEW

76 Table 22 breaks down the total changes since the 2014 Update into the impact of changing data sources, category-specific method changes, and change in State circumstances in the 2015 assessment period.

**Table 22 Changes since the 2014 Update, Roads**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Data changes | 9 | 8 | 0 | -11 | -1 | 0 | 2 | -6 | 19 |
| Method changes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Change in circumstances | -1 | -7 | 5 | -1 | 2 | -1 | 0 | 3 | 10 |
| Total | 8 | 1 | 4 | -12 | 1 | -1 | 2 | -3 | 15 |

Source: Commission calculation.

## Data changes

77 We consider that data changes are mainly due to the minor changes to geography.

### *Geography*

78 The Commission will use the ABS' Urban Centres and Localities (UCLs) to define geographical areas in the Roads category. This is because they capture less of the surrounding hinterland of urban areas, which is more appropriate for determining urban boundaries for the urban and rural road length factors. It means that the rural road length algorithm and the urban population used in these factors would be recalculated using UCLs.

79 Previously, we used the ABS' Significant Urban Areas (SUAs) to define urban areas and determine urban populations in this category.

80 While UCLs will be used where possible in the Roads assessment, the SMVU data used by BITRE is loosely based on ABS's old Statistical Districts and Greater Capital City Statistical Areas. As there are no other comparable data appropriate for our purposes, the urban and rural road use factors would not be based on UCLs. This would be inconsistent with the road length factors, but we consider the effect will be minor.

81 All States supported the new approach.

## Method changes

82 There were no method changes in this assessment.

## Changes in State circumstances

83 There were only minor changes in the assessment due to changes in State circumstances.

## UPDATING THE ASSESSMENT

84 We recommend that data used in this assessment be updated when new data become available to ensure the relativities remain contemporary and consistent with the circumstances of the States. On this basis we expect:

- the following data would be updated annually:
  - National Transport Commission State (NTC) expenses data used to weight disabilities
  - Road use data from the Bureau of Infrastructure, Transport and Regional Economics
- the following data would not be updated during the review:
  - NTC trend data, which are only changed if the NTC update their data
  - NTC weights, which would only be updated in the NTC updates its heavy vehicle determinations
  - Urban-rural split, based on a six-year average of SMVU data
  - Unsealed rural road cost weight of 0.50.

## APPENDIX A: ALIGNING ROAD EXPENSES AND DISABILITIES

The Commission divides total road expenditure into its components and sub-components based on the work of the National Transport Commission (NTC), on which all States were represented. The NTC classifies expenses into 14 categories, and by urban and rural roads. It attributes costs to the type of road use that drives the need for different categories of expenditure. Where road use does not account for all need for expenditure on roads, the Commission has attributed that need for expenditure to road length.

Some categories of expenditure do not relate to the CGC's road expenditure category, but are classified to other categories, such as Investment, costs of borrowing, or support for local governments. These expenses are not included in our calculations.

We use this model to attribute NTC costs to our roads components, and then scale those expenses to reflect the total category expenditure.

The model can be seen in Table A-1.

**Table A-1 Calculating expense proportions applicable to roads components and disabilities, 2013-14**

| NTC Category | | Rural | | | Urban | | | Local roads | Bridges | Other services | Total category |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Road length | Traffic volume | Heavy vehicle use | Road length | Traffic volume | Heavy vehicle use | | | | |
| | | $m | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| A | Servicing and Operating | - | 299 | - | - | 526 | - | - | - | - | 825 |
| B1 | Routine maintenance | 141 | 223 | 223 | 41 | 65 | 65 | - | - | - | 757 |
| B2 | Periodic surface maintenance | 100 | 33 | 201 | 42 | 14 | 85 | - | - | - | 476 |
| C | Bridge Maintenance/Rehab | - | - | - | - | - | - | - | 246 | - | 246 |
| D | Road Rehabilitation | 501 | - | 410 | 249 | - | 204 | - | - | - | 1 364 |
| E | Low-cost Safety/Traffic | - | 280 | - | - | 565 | - | - | - | - | 845 |
| G1 | Corporate services | - | - | - | - | - | - | - | - | 831 | 831 |
| G2 | Enforcement of HV regulations | - | - | 75 | - | - | 59 | - | - | - | 134 |
| G3 | Vehicle registration | - | - | - | - | - | - | - | - | 395 | 395 |
| G4 | Driver licensing | - | - | - | - | - | - | - | - | 242 | 242 |
| H3-H5 | Spending on local access roads | - | - | - | - | - | - | 388 | - | - | 388 |
| Total | | 742 | 835 | 908 | 333 | 1 170 | 412 | 388 | 246 | 1 467 | 6 501 |
| Roads category expenses | | 797 | 896 | 975 | 357 | 1 257 | 443 | 417 | 264 | 1 575 | 6 981 |

Source: Commission calculation based on a special data request from the NTC.

# CHAPTER 18

# TRANSPORT

## SUMMARY OF THE ASSESSMENT

The Transport category comprises expenses relating to bus, rail (passenger and freight), and ferry services, ports and other maritime related services, and air transport.

States' transport expenses are assessed by allocating national aggregate expenses across jurisdictions on the basis of their population shares, adjusted for:

- urban centre size, recognising that the cost of State provided urban passenger transport services increases with urban centre population size
- non-urban population, recognising the costs of providing passenger and freight transport services between urban centres, and the location of these centres
- State differences in wage costs.

Separate assessments are made of net urban operating expenses and non-urban subsidies.

The main expense drivers are differences between States in the size of their urban centres and size of the non-urban population.

## WHAT IS INCLUDED IN THE TRANSPORT CATEGORY?

1 The Transport category comprises expenses relating to bus, rail (passenger and freight), and ferry services, ports and other maritime related services, and air transport. The expenses also include passenger concessions and State government administration expenses. Any user charges or other revenue are netted off.

2 We have separated the expenses into urban and non-urban transport expenses. Urban transport expenses cover public passenger transport in cities with a population over 20 000. We have chosen the 20 000 threshold because most public transport services are provided to cities above this size.

3 Urban net operating expenses include:

- consolidated operating expenses (including depreciation expenses) for the general government and public non-financial corporation (PNFC) sectors on passenger transport within urban centres, net of revenues
- subsidies to private providers and local governments.

4 Non-urban subsidies include capital and operating subsidies for passenger and freight transport between urban centres. It also includes subsidies to port corporations.

5 We have decided to assess urban net operating expenses instead of subsidies as in the 2010 Review. We have treated the provision of transport services, including those provided through PNFCs, as a general government function. Unlike many services provided through PNFCs, transport services have fewer commercial features. They depend on government funds to meet operating costs and pay for major investments; the services stem from social policy objectives; and government departments make the policy on service delivery and charges.

6 We consider that the move to a net expenses assessment is an improvement on the subsidies approach. Net expenses are more easily reconciled with State budgets than subsidies, which can take many forms and may reflect individual State arrangements. Overall, we think that net expenses are a better measure of what States spend on urban transport. In principle, the net expenses should be similar to the general government subsidies. However, we have found that the subsidies approach under-estimated the cost to governments of transport services in previous years. For example, the net expenses assessment now includes expenses relating to depreciation, which were previously assessed equal per capita, expenses funded through borrowing and all relevant revenue. The subsidies assessment did not include these. Table 1 shows the differences between the 2015 Review and the 2014 Update category expenses.

**Table 1 Category expenses, 2014 Update and 2015 Review**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| 2014 Update | | | | | | | | | |
| 2010-11 | 3 227 | 1 136 | 2 001 | 652 | 336 | 55 | 69 | 42 | 7 518 |
| 2011-12 | 3 851 | 1 371 | 2 211 | 705 | 465 | 62 | 77 | 34 | 8 775 |
| 2012-13 | 3 892 | 1 045 | 2 098 | 566 | 406 | 63 | 89 | 43 | 8 202 |
| 2015 Review | | | | | | | | | |
| 2010-11 | 3 657 | 2 151 | 2 009 | 723 | 389 | 49 | 85 | 59 | 9 122 |
| 2011-12 | 4 056 | 2 025 | 2 143 | 734 | 388 | 52 | 79 | 55 | 9 532 |
| 2012-13 | 4 723 | 2 148 | 1 874 | 784 | 487 | 58 | 81 | 64 | 10 220 |
| Difference | | | | | | | | | |
| 2010-11 | 430 | 1 015 | 8 | 71 | 54 | -6 | 16 | 17 | 1 604 |
| 2011-12 | 205 | 654 | -68 | 29 | -77 | -10 | 2 | 21 | 756 |
| 2012-13 | 831 | 1 103 | -224 | 218 | 82 | -6 | -8 | 21 | 2 018 |

Source: ABS Government Finance Statistics (GFS).

7 Some States argued for separate assessments of gross expenses and revenue. While it is possible that expenses and revenues have distinct drivers, the assessment method we have chosen (using regression analysis to estimate net expenses) should capture

the net impact of different drivers in cities of different sizes. In any case, due to data limitations, it is not possible to have separate expenses and revenue assessments where services are provided by the private sector.

8 Expenses and revenues of other PNFCs (such as ports corporations) remain out of scope and hence are not included in the category. Only subsidies or other payments paid to them from the general government sector are included. Most student transport services are included in the Schools education category.

9 Table 2 shows transport expenses were $11 billion in 2013-14.

**Table 2 Transport category expenses, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Category expenses ($m) | 5 125 | 2 872 | 1 631 | 841 | 483 | 64 | 77 | 64 | 11 156 |
| Category expenses ($pc) | 687 | 496 | 348 | 330 | 288 | 124 | 202 | 262 | 479 |
| Proportion of operating expenses (%) | 8.1 | 6.2 | 3.8 | 3.2 | 3.2 | 1.4 | 1.9 | 1.4 | 5.4 |

Source: Commission calculation using State data.

10 Table 3 shows the share of State expenses on transport increased slightly from 5.0% in 2010-11 to 5.4% in 2013-14.

**Table 3 Transport category expenses as a proportion of State operating expenses**

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| Total for category ($m) | 9 122 | 9 532 | 10 220 | 11 156 |
| Total operating expenses ($m) | 180 682 | 189 260 | 195 316 | 207 408 |
| Proportion of total operating expenses (%) | 5.0 | 5.0 | 5.2 | 5.4 |

Source: Commission calculation using ABS Government Finance Statistics (GFS) data and State data.

## How are services delivered?

11 Urban transport services are provided by State governments and private providers. States differ considerably in the way they provide these services. In capital cities, States use a mix of direct general government provision, service delivery through PNFCs or contracting with private providers to deliver services. In Queensland, the Brisbane City Council operates bus services. In large regional centres, services are provided through PNFCs or private providers. In smaller centres, States generally provide services by contracting with private providers.

12 At the time of the 2010 Review, States predominantly delivered urban passenger transport services through PNFCs or through contracts with private providers. While this is still the case, since then, some States have shifted towards providing urban passenger transport services (or at least some of the functions related to these services, such as integrated ticketing systems, timetabling and multi-modal interchanges and passenger safety) directly through the general government sector.

New South Wales, Queensland and South Australia have recently transferred functions and associated staff from PNFCs into their existing general government transport departments. These three States still contract out some services to the private sector.

13 The remaining States use a combination of PNFCs and private providers to provide services. However, the level of private provision is only significant in New South Wales and Victoria.

14 State governments are responsible for the public transport network and strategic planning. State governments control what services are delivered through public transport policies, legislation and the management of service delivery through contracts with, and funding for, service providers. All the services are delivered within the models/frameworks defined by State governments.

15 Concessions to certain groups of users, via reduced fares, are subsidised by States.

16 Non-urban services such as bus and rail passenger transport, rail freight and ports are operated by a mix of private providers and PNFCs.

## COMMONWEALTH FUNDING

17 The Commonwealth provides funding to States to assist them in meeting their transport expenses. There are two transport related payments, other than those to fund capital expenditure which are captured in the Investment assessment.

- The National reciprocal transport concessions payment impacts on the relativities. The payments ceased in 2013-14.
- The Seamless National Economy — National Rail Transport Safety Regulator payment does not impact on the relativities because it is meant to help the States achieve the Commonwealth objective of setting up a National Rail Safety Regulator. Final payments were made in 2013-14.

18 The Transport assessment is assessed separately from the Roads assessment. We acknowledge there is a relationship between the provision of road and transport services. However, we consider that as we reflect what States do in each assessment, the relationship is appropriately captured.

19 A complete list of Commonwealth payments and their treatment is provided in Attachment 2 – Treatment of Commonwealth payments.

## CATEGORY STRUCTURE

20 The Transport category is assessed in two components:

- net urban operating expenses
- non-urban subsidies.

21 Table 4 shows the assessment structure for the category, the disabilities that are assessed and the size of each component, using 2013-14 data.

**Table 4 Category structure, Transport, 2013–14**

| Component | Component expenses | Disability | Influence measured by disability |
|---|---|---|---|
| | $m | | |
| Urban transport | 9 850 | Urban centre size | Recognises that the cost of State provided urban passenger transport services increases with urban centre population size. |
| | | Location | Recognises the differences in wage costs between States. |
| Non-urban transport | 1 305 | Non-urban population | Recognises the costs of providing passenger and freight transport services between urban centres. |
| | | Location | Recognises the differences in wage costs between States and in the cost of providing services to different areas within a State. |

Source: Commission calculation.

## NET URBAN OPERATING EXPENSES

22 The characteristics of each city will influence how urban transport services are provided and the cost of providing the service. For example, larger cities will have rail transport, while smaller ones do not. Population density and the land area of the urban centre covered by the transport network also influence the cost of providing urban transport services. We have attempted to capture these influences through a simple model.

23 Evidence shows that the transport task increases as cities become more populous and that after fares and other revenues have been taken into account, State governments spend more per capita in larger cities than in smaller ones. Table 5 shows per capita net expenses for cities of different sizes. It also shows that, of the population living in urban centres with populations over 20 000, 73% live in cities with a population over 1 million (Sydney, Melbourne, Brisbane, Perth and Adelaide). This is where per capita net expenses are the highest.

**Table 5 Per capita net expenses by city size, average of 2009-10 to 2011-12**

| | 20 000 to 50 000 | 50 000 to 100 000 | 100 000 to 250 000 | 250 000 to 1 000 000 | 1 000 000 to 2 500 000 | 2 500 000 and over | Total |
|---|---|---|---|---|---|---|---|
| Population ('000) | 1 221 | 714 | 876 | 2 113 | 4 949 | 8 080 | 17 953 |
| Per capita net expenses ($) | 25 | 46 | 106 | 188 | 321 | 426 | 311 |

Source: Commission estimates based on State data.

24 We consider there is a conceptual case that per resident costs of urban transport increase as cities become larger and that evidence provided by States show that States incur greater costs per capita in providing urban transport services in larger cities.

25 The 2010 Review expert transport consultants[1] said that in general, the main reason the public transport operating subsidy per capita rises as city size increases is the greater quantity of travel per capita made by public transport, which necessitates the provision of more public transport services. They added that the number of trips per capita made on public transport rises as city size (that is, population) increases. The quantity of travel by public transport (that is, the public transport task, as indicated by passenger-kilometres of travel) rises even faster because average trip distance also rises as city size increases. Based on this, we consider urban population size is an appropriate proxy for the transport task.

26 Table 6 and Figure 1 show the relationship between per capita net expenses and the transport task as measured by per capita passenger-kilometres. The data show that, like net expenses, the per capita transport task increases with urban centre population size, which is consistent with the conceptual case.

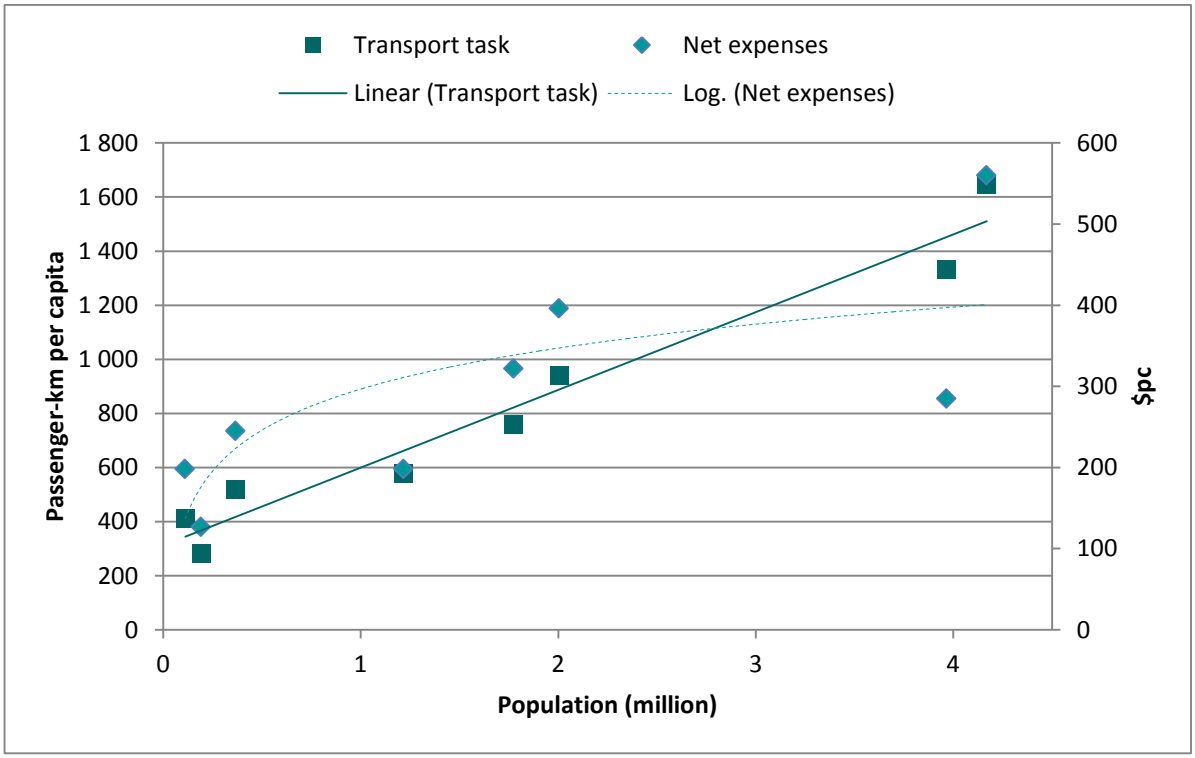
**Table 6 Per capita net expenses and transport task by capital city, average of 2009-10 to 2011-12**

| | Sydney | Melbourne | Brisbane | Perth | Adelaide | Hobart | Canberra | Darwin |
|---|---|---|---|---|---|---|---|---|
| Per capita net expenses | 560 | 285 | 396 | 322 | 198 | 127 | 245 | 198 |
| Per capita passenger-km | 1 647 | 1 330 | 940 | 760 | 577 | 283 | 520 | 410 |

Note: The per capita net expenses and per capita passenger-kilometres are not strictly comparable. The per capita net expenses are based on the ABS Significant Urban Areas, which only includes the major urban and near-urban reaches of each capital city. The per capita passenger-kilometres are based on Greater Capital City Statistical Areas, which are wider geographical areas including the small towns and rural areas surrounding the city. The passenger-kilometre data were obtained from *Long-term trends in urban public transport*, Bureau of Infrastructure, Transport and Regional Economics (BITRE) (2014).

[1] *2010 Review of State Government Subsidised Urban Public Transport Services: Consultant Advice*, Institute for Sustainable Systems and Technologies, University of South Australia, April 2009.

**Figure 1 Per capita net expenses and transport task by capital city**




Source: State data and BITRE.

27 In the 2010 Review, the Commission developed a relationship between urban city size and net per capita operating subsidies. The model estimated net per capita urban transport expenses by city using the logarithm of city population, as shown below.

$$Per\ capita\ net\ expenses_i = \alpha + \beta * ln(population_i)$$

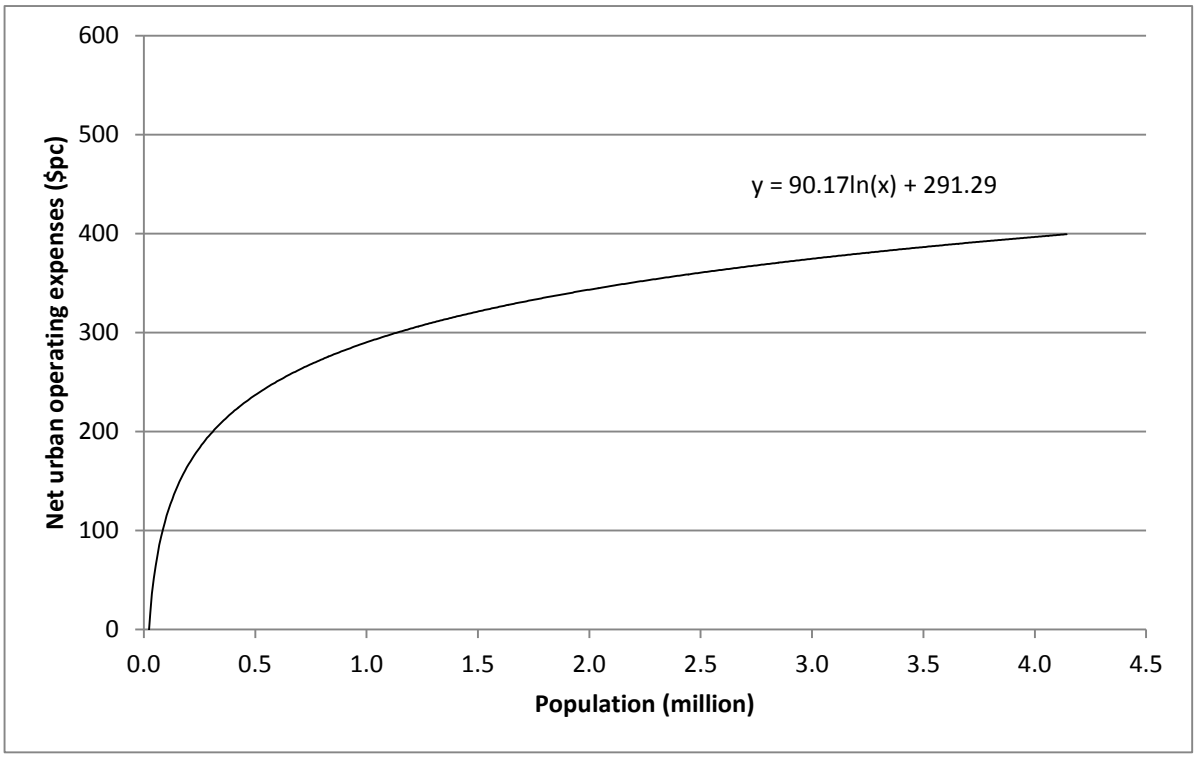
*where i is all cities with a population over 20 000*

28 We have based our current assessment closely on that model but modified it slightly.

- We use net expenses, not subsidies provided.
- We have included all cities with population over 20 000, not just those subsidised by governments.
- We have weighted the observations by population size.
- We have used updated net expense and population data.

29 Figure 2 shows the updated relationship.

**Figure 2 Per capita net expenses by urban population size, average 2009–10 to 2011–12**




Note: City data are not shown for confidentiality reasons.
Source: Special data request, State transport departments.

30 Some States have concerns with this assessment. However, it reflects what States do reasonably well. It is not volatile or overly sensitive to individual data points. The model has been updated with new data and gives very similar results to those of the 2010 Review.

31 We do not share Queensland and Western Australia's concerns about using population as the sole driver of net urban operating expenses. The approach we have adopted is meant to capture needs broadly and reflects the consultants' finding that the main reason public transport operating subsidies per capita rise as city size increases is the greater per capita use of public transport: the number of trips per capita made on public transport increases as the population rises and the public transport task, as indicated by passenger-kilometres of travel, rises even faster because average trip distance also rises as city size increases. This necessitates the provision of more public transport services and more complex services. The shape of the curve suggests the revenue raised reduces the slopes as city size increases but does not offset the higher expenses.

32 In this review, we have tested a number of additional influences, such as the presence of rail and topography. While we have found the presence of rail to be a significant variable, we have retained the 2010 Review model, updated with the most recent data, because it is simpler and more policy neutral. While the size of the task

influences whether rail is a viable mode, State policy on when it is introduced has an influence.

33 Some States expressed concerns about the Sydney data point, saying that the expenses are policy influenced and affected by inefficiencies. States noted the 2010 Review consultants' analysis, which suggested two thirds of the higher operating cost in Sydney could be attributed to a more intensive travel task, and one third to technical inefficiency. Queensland said the assessment is not policy neutral because New South Wales has an incentive to increase spending on public transport. Western Australia noted the influence of different policy settings.

34 Our approach is to provide States with the capacity to deliver services at the average standard and at the average level of efficiency. To do this, we average the experience of States without attempting to pre-adjust data for above or below average efficiency they might achieve. Sydney has an influence on the results in the same way that New South Wales influences national average expenses and factor calculations generally. With 32% of the population and about the same of total expenses, New South Wales' operations have a greater impact on the national averages than those of any other State. This reflects the average of what States do. In any case, the assessment is not overly sensitive to Sydney's per capita spending. A large reduction in Sydney's per capita spending would result in a comparably small change in GST distribution.

35 In an analysis prepared by the Queensland Government Statistician's Office (QGSO), Queensland said that total operating cost was a more policy neutral measure than the net operating expenses because fares are policy influenced. Queensland presented analysis showing that as total population increases, the total operating cost (as cost per passenger-kilometre) decreases. It said that this contradicted the Commission's assessment of increasing per capita costs.

36 As the Commission's consultants have previously advised, net operating expenses (or subsidies) provide a reasonable basis for an assessment of urban transport needs. The existence of an economy of scale is reflected in the assessment through the use of a logarithmic relationship. In any case, the data were unavailable for us to assess revenue and expenses separately.

37 The QGSO presented some analysis of the sensitivity of the assessment approach to a number of different changes (using geographical regions, small variations to the expenses of urban centres, changing the model used in the regression), which it argued showed that States' assessed expenses can vary markedly when reasonable and plausible changes are made to the assumptions and model inputs. We agree that other assumptions could have been made, which would have resulted in different GST distributions. However, we consider that the assumptions supporting the conceptual case and the assessment method we have implemented are reasonable and supported by the 2010 Review consultants.

## Urban centre definition

38 The urban centres included in the assessment and their populations are defined using ABS Urban Centres/Localities (UCLs) contained within Significant Urban Areas (SUAs). While the definition of urban centres may not capture perfectly the population serviced by the urban transport networks, we have adopted it because it is policy neutral. We do not consider that this definition should be consistent with that used in the roads assessment, as argued by South Australia, because we are measuring different services.

39 We have treated Newcastle, Wollongong and the Central Coast, the Sunshine Coast and the Gold Coast as separate cities, rather than amalgamating them with their principal cities because the demand for travel by public transport between these satellite areas and the principal city was low relative to public transport travel within each satellite area. This approach was supported by the consultants in the 2010 Review.

40 No State other than Queensland and Tasmania had concerns with the definition of cities.

41 Queensland's concerns related to the separation of the Gold Coast from Brisbane. It said that the ABS boundary definitions are dated, and do not capture recent updates to the Gold Coast train line (meaning more passengers commuting from the Gold Coast to Brisbane). These upgrades occurred in September 2006, August 2008 and December 2009. It provided analysis of similar areas that form part of the Greater Sydney area (rather than being separated out by UCL boundaries, as for specific areas within the Gold Coast).

42 We found that moving selected areas between the satellite and the capital city was not material. In addition, adding the whole of the Gold Coast to Brisbane because some areas had greater journey to work rates than in some areas of Sydney could not be justified because the combined Brisbane and Gold Coast per capita asset value would fall below those of Perth and Adelaide, which seems unreasonable.

43 Queensland provided some sensitivity analysis showing that the use of a different definition of urban centre would result in a different distribution of GST and concluded, as a result, that the conceptual case was weak. We disagree with Queensland's conclusion. We have used an ABS definition of urban centre. It is a robust and policy neutral measure that gives plausible comparative results for cities of different sizes.

44 Tasmania said that while the use of UCLs is policy neutral, there is potential for inconsistent allocation of total transport service region costs into costs by UCL. For example, it noted that the Commission used passenger data to split costs between Tasmanian cities, but used different apportioning of costs between Northern Territory cities.

45 Some States had difficulties providing expenses by urban centre. In those cases, we allocated the expense data into the various urban areas using the following approach. The first choice was to use passenger data to split expenses. This was the case for Brisbane and its satellites and the Tasmanian data. Where those data were not available, we used population shares, as for Maryborough and Hervey Bay. All the States concerned by these adjustments were asked for comments on the approach taken. The assessment is not sensitive to the different methods of apportioning the expenses between urban centres.

## Calculating the urban centre size assessment

46 We have used a regression analysis to estimate a relationship between per capita spending in cities with population over 20 000 and the logarithm of those cities' populations. This relationship was used to estimate the total assessed net operating expenses for each State, given the different size, distribution and number of their cities. In this way, we treat all data points equally, with none considered an outlier. The expenses are averaged over three years (2009-10 to 2011-12) to remove some volatility. We have tried to ensure that inter-urban expenses are not included with the expenses of the individual urban areas.

47 Urban centres that do not have State provided or subsidised urban transport services are given a net operating expenses value of zero. We consider this reflects better what States do in the regression. This is consistent with the Commission's usual approach to reflecting the situation of all Australians.

48 Similar to the 2010 Review, the net operating expenses relationship does produce an anomaly for smaller centres because the per capita net expenses falls to zero and then becomes negative as urban population falls to 20 000. The 2010 Review consultants said that due to scatter in the data for small urban centres, it may be appropriate to use a single per capita subsidy value for them. As for the 2010 Review, we have assigned the per capita net expenses for urban centres of 40 000 to all urban centres between 20 000 and 40 000 population as it more accurately reflected State net expenses levels. However, this did not have a material impact on redistributions.

49 The assessed net expenses are calculated by:

- deriving assessed net expenses for each city with a population over 20 000, calculated using the city populations and the regression coefficients
- summing the city assessed net expenses for each State.

50 The assessed expenses are then rescaled to match the ABS GFS urban transport net expenses.

51 The Commission decided not to discount this assessment because there is a strong conceptual case, the analytical model is based on one devised and justified by transport consultants engaged in the 2010 Review, a more complex model provided

only marginally greater explanatory power and the data are reliable and fit for purpose. The approach is thus very similar to the one used in the 2010 Review.

52 Data on city size are from the ABS and are reliable. While transport expense data are collected from the States we have no reason to believe they are not reliable. The data match expectation and are consistent with those provided in the 2010 Review. They are the best available estimate of the national spending.

## Location

53 We have recognised the differences in wage costs between States in this assessment. The factor was applied to net expenses rather than gross expenses because the extent to which higher fares can be charged because of higher wages is offset against gross expenses. The remaining net expenses would still be affected by high wage costs that are not cost recovered.

54 These influences are measured in a similar way for most expense categories and the methods are described in Chapter 22 — Wage costs.

55 We did not recognise differences in regional costs because we consider that they are already captured in the regression model.

## Bringing the net urban operating expenses component together

56 Table 7 shows the total assessed expenses.

**Table 7 Assessed expenses, net urban operating expenses component, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Net expenses assessment ($m) | 3 356 | 2 925 | 1 617 | 1 113 | 637 | 55 | 128 | 19 | 9 850 |
| Location | 1.005 | 0.988 | 0.989 | 1.038 | 0.991 | 0.974 | 1.023 | 1.044 | 1.000 |
| Total ($m) | 3 371 | 2 890 | 1 599 | 1 155 | 631 | 54 | 131 | 20 | 9 850 |
| Total ($pc) | 451 | 499 | 341 | 453 | 376 | 105 | 341 | 83 | 423 |

Source: Commission calculation.

# NON-URBAN SUBSIDIES

57 We have assessed non-urban operating subsidies based on the proportion of State populations that live outside capital cities. This broadly captures the size of the task faced by each State. This assessment was supported by States.

## Location

58 As with previous components, we have recognised that differences in wage costs have a differential effect on the cost of providing non-urban transport across States.

59 We have also applied a regional cost disability to recognise that distance between population centres increases costs. The conceptual case is supported by the evidence presented in Chapter 23 — Regional costs. This responds to the concerns of some States. Western Australia noted that it provided, along with Victoria, Queensland, Tasmania and the Northern Territory, subsidised services to populations in remote areas. Western Australia argued that compared to Victoria and Tasmania, it needed to cover a much larger area to service a similar level of population in remote areas. Victoria said that regional costs should not be applied to the Transport assessment because transport services do not require a skilled workforce and it can be sourced locally. However, wages are a smaller proportion of transport expenses than other government functions. The disability aims to recognise the costs associated with greater travel distances in non-metropolitan areas. We consider that the regional cost factor captures needs better than the rural road length factor, as suggested by Tasmania.

60 These influences are measured in a similar way for most expense categories and the methods are described in Chapter 23 — Regional costs.

## Bringing the non-urban subsidies component together

61 Table 8 shows the total assessed expenses.

**Table 8 Assessed expenses, non-urban subsidies component, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Population outside capital cities ('000) | 3 123 | 1 618 | 2 582 | 619 | 427 | 320 | 1 | 126 | 8 817 |
| State shares of population outside capital cities (%) | 35.4 | 18.4 | 29.3 | 7.0 | 4.8 | 3.6 | 0.0 | 1.4 | 100 |
| Non-urban transport assessed expenses ($m) | 462 | 240 | 382 | 92 | 63 | 47 | 0 | 19 | 1 305 |
| Location | 0.973 | 0.963 | 0.988 | 1.122 | 1.050 | 1.004 | 0.973 | 1.339 | 1.000 |
| Total ($m) | 452 | 231 | 379 | 103 | 67 | 48 | 0 | 25 | 1 305 |
| Total ($pc) | 61 | 40 | 81 | 40 | 40 | 93 | 0 | 103 | 56 |

Source: Commission calculation.

## BRINGING THE ASSESSMENT TOGETHER

62 Table 9 brings the assessed expenses for each component together to derive the total assessed expenses for each State for the category.

**Table 9 Category assessment, Transport, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| **Urban transport** | | | | | | | | | |
| Equal per capita | 423 | 423 | 423 | 423 | 423 | 423 | 423 | 423 | 423 |
| Urban centre size | 27 | 83 | -78 | 14 | -43 | -315 | - 89 | -343 | 0 |
| Location | 2 | -5 | -5 | 16 | -4 | -11 | 10 | 18 | 0 |
| Total | 451 | 499 | 341 | 453 | 376 | 105 | 341 | 83 | 423 |
| **Non-urban transport** | | | | | | | | | |
| Equal per capita | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 |
| Non-urban population | 6 | -15 | 26 | -20 | -18 | 36 | -56 | 20 | 0 |
| Location | -1 | -2 | -1 | 7 | 3 | 0 | -2 | 19 | 0 |
| Total | 61 | 40 | 81 | 40 | 40 | 93 | 0 | 103 | 56 |
| Category total | 512 | 539 | 422 | 494 | 416 | 198 | 341 | 186 | 479 |

Note: Component disabilities may not add due to interactions.
Source: Commission calculation.

## Alternative presentation

63 Table 10provides an alternative presentation using a factor approach. The table shows for each disability how the expenses per capita in each component and in total are affected by differences in State characteristics. Disability factors below one indicate a State is assessed to need to spend less than average. Disability factors above one indicate a State is assessed to need to spend more than average.

**Table 10 Category factor, Transport, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| **Urban transport (component weight = 88%)** | | | | | | | | | |
| Urban centre size | 1.064 | 1.196 | 0.816 | 1.033 | 0.898 | 0.255 | 0.788 | 0.189 | 1.000 |
| Location | 1.005 | 0.988 | 0.989 | 1.038 | 0.991 | 0.974 | 1.023 | 1.044 | 1.000 |
| Component factor | 1.068 | 1.182 | 0.807 | 1.072 | 0.890 | 0.248 | 0.806 | 0.197 | 1.000 |
| A. Weighted factor | 1.060 | 1.160 | 0.830 | 1.064 | 0.903 | 0.336 | 0.829 | 0.291 | 1.000 |
| **Non-urban transport (component weight = 12%)** | | | | | | | | | |
| Non-urban population | 1.106 | 0.739 | 1.456 | 0.642 | 0.674 | 1.648 | 0.008 | 1.363 | 1.000 |
| Location | 0.973 | 0.963 | 0.988 | 1.122 | 1.050 | 1.004 | 0.973 | 1.339 | 1.000 |
| Component factor | 1.081 | 0.714 | 1.444 | 0.723 | 0.710 | 1.660 | 0.008 | 1.832 | 1.000 |
| B. Weighted factor | 1.009 | 0.967 | 1.052 | 0.968 | 0.966 | 1.077 | 0.884 | 1.097 | 1.000 |
| **Category factor** | 1.070 | 1.127 | 0.882 | 1.031 | 0.869 | 0.413 | 0.713 | 0.389 | 1.000 |

Source: Commission calculation.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

64 Table 11 shows the extent to which the assessment for this category moves the distribution of the GST away from an equal per capita distribution. It shows that GST revenue is redistributed to New South Wales, Victoria and Western Australia, and away from the other States.

**Table 11 GST impact, Transport, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| Dollars million | 277 | 345 | -250 | 24 | -118 | -143 | -62 | -73 | 646 |
| Dollars per capita | 36 | 57 | -51 | 9 | -69 | -277 | -156 | -288 | 27 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.
Source: Commission calculation.

65 The urban transport assessment has a greater impact on the GST distribution than the non-urban transport assessment. New South Wales and Victoria receive an above average redistribution due to the size of their capital cities and the consequent high per capita spending on urban transport. States with large populations outside capital cities, most notably Queensland, need an above average amount of GST for non-urban transport. Location influences provide a small redistribution towards New South Wales, Western Australia, the ACT and the Northern Territory.

66 Some of the main reasons for the redistributions for each State are:

- New South Wales and Victoria have large capital cities which cost more per capita to service than any other cities. They have below average proportions of population living outside capital cities.
- Relative to New South Wales and Victoria, all other States have relatively lower per capita net expenses on urban transport.
- Queensland, Tasmania and the Northern Territory have above average shares of their populations living outside capital cities.

67 Table 12 shows the proportion of State populations living in population centres of various sizes.

**Table 12 State and national average population proportions in non-urban and urban areas**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| | % | % | % | % | % | % | % | % | % |
| Urban > 3 million | 58.2 | 72.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 36.5 |
| Urban 1 to 3 million | 0.0 | 0.0 | 44.9 | 75.7 | 74.5 | 0.0 | 0.0 | 0.0 | 22.7 |
| Urban < 1 million | 26.3 | 13.9 | 35.8 | 9.9 | 8.0 | 66.9 | 99.7 | 60.1 | 24.4 |
| Non-capital city population | 43.3 | 30.2 | 56.3 | 29.1 | 26.5 | 62.6 | 2.6 | 53.5 | 39.8 |

Note: The urban population under 1 million is defined as the population living in Significant Urban Areas (10 000 to 1 million).
Non-capital city population includes all urban areas outside capital cities, so the columns do not add to 100%.
Source: Commission calculation using ABS population data for 2013-14.

68 Table 13 provides a summary of the major reasons the assessment moves State GST revenue away from an equal per capita (EPC) distribution.

**Table 13 Major reasons for difference from EPC, Transport, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Urban transport | 212 | 507 | -388 | 35 | -74 | -167 | -36 | -89 | 754 |
| Non-urban transport | 61 | -113 | 161 | -71 | -41 | 24 | -29 | 7 | 253 |
| Location | 3 | -49 | -28 | 67 | -2 | -5 | 3 | 11 | 84 |
| Total | 277 | 345 | -250 | 24 | -118 | -143 | -62 | -73 | 646 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.
Disabilities may not add due to interactions.
Source: Commission calculation.

## CHANGES SINCE THE 2014 UPDATE

69 Table 14 breaks down the total changes since the 2014 Update into the impact of changing data sources, category-specific method changes, and change in State circumstances in the 2015 assessment period.

**Table 14 Changes since the 2014 Update, Transport**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Data changes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Method changes | 115 | 153 | -114 | 6 | -38 | -61 | -33 | -28 | 275 |
| Change in circumstances | 0 | 33 | -32 | 16 | -2 | -11 | 1 | -5 | 50 |
| Total | 116 | 186 | -146 | 22 | -40 | -72 | -32 | -34 | 324 |

Source: Commission calculation.

## Data changes

70 We consider that all changes in the assessment are due to a change in method.

## Method changes

71 There are a number of category-specific method changes associated with this category since the 2010 Review.

### *Scope of the category*

72 The category now covers public non-financial corporation (PNFC) expenses and revenue as well as general government expenses and revenues. As a result, we have assessed net expenses, rather than the general government sector subsidies to transport providers. Net expenses are greater than the subsidies previously assessed. This increase in total expenses increased the GST revenue to New South Wales, Victoria and Western Australia, which have above average needs.

### *Model*

73 We refined the regression model underpinning the urban net expenses assessment by including all cities with a population over 20 000 regardless of whether States were funding transport services or not. We have weighted the per capita net expenses for each city by the city's population size.

### *Urban centre definition*

74 We have changed our definition of urban centre. The urban centre included in the assessment and their populations are defined using ABS Urban Centres/Localities (UCLs) contained within Significant Urban Areas (SUAs), instead of UCLs. Using SUAs has removed the definition issues associated with capturing the populations of Hobart and Darwin in the 2010 Review.

### *Capital subsidies*

75 Capital subsidies to services providers are no longer assessed. The assessment of State transport infrastructure needs is now undertaken through depreciation in this category and investment in the Investment category.

### *Non-urban subsidies assessment*

76 A regional cost assessment has been added to the non-urban expenses assessment, which is otherwise unchanged.

## Changes in State circumstances

77 State net urban transport expenses have grown markedly faster than GST revenue between 2010-11 and 2013-14, 29% compared with 11%. This resulted in increased GST revenue for States with above average needs (New South Wales, Victoria and Western Australia) and away from the other States.

78 This effect was partly altered by differences in States' urban population growth. New South Wales recorded below average population growth over 2010-11 to 2013-14, which offset its increase in GST revenue from higher average expenses. By contrast, Western Australia's GST revenue gains were increased by above average population growth.

79 The changes to the non-urban expenses GST distribution were minimal.

## UPDATING THE ASSESSMENT

80 We recommend that data used in this assessment be updated when new data become available to ensure the relativities remain contemporary and consistent with the circumstances of the States. On this basis we expect

- the following data would be updated annually:
  - net urban public transport operating expenses
  - non-urban public transport subsidies
- the following data would not be updated during the review:
  - net urban public transport operating expenses by urban centre and, as a consequence, the regression results.

# CHAPTER 19

# SERVICES TO INDUSTRY

## SUMMARY OF THE ASSESSMENT

The Services to industry category covers State spending on the regulation and development of businesses and industries, and other economic affairs.

Our assessment recognises that States face differing costs for industry regulation but not for spending on business development. Additionally we have assessed regulatory expenses for agriculture, forestry and fishing separately from other industries as States regulate them differently. We have assessed higher costs:

- for regulation of agriculture, forestry and fishing, in States with a greater share of such businesses and greater shares of agricultural factor income
- for regulation of other industries, in States with above average shares of non-farm factor income and private non-dwelling construction.

Our assessment also recognises the differences between States in wage costs and, in the case of regulatory expenses, the higher cost of providing services to more remotely located regions.

## WHAT IS INCLUDED IN THE SERVICES TO INDUSTRY CATEGORY?

1 The Services to industry category comprises State expenses on the regulation and development of businesses and industries, and other economic affairs. Some spending relates to specific industries including agriculture, forestry, mining, manufacturing, tourism and construction. Other spending relates to all businesses, or to consumers.

- Examples of regulatory functions include business registration, licensing of tradespeople, livestock identification schemes, chemical and pesticide regulation, building codes, energy market regulation, product safety, occupational health and safety, consumer protection, mine safety, employment conditions and shop trading hours.

- Examples of business development activities include mineral exploration, agricultural irrigation systems, tourism and trade promotion, marketing and industry research and development.

2 While this category includes expenses related to a number of the regulatory functions performed by States, it does not include all State regulatory expenses. Similarly, the business development expenses in this category do not include all State economic development expenses, or all mining related expenditure identified by States. These costs are spread across a number of expense categories including Services to communities and Investment. The broader issue of mining related expenditure is discussed in the Main Report Chapter 2 — Main issues.

3 The category no longer includes vocational education and training (VET) expenses attributable to private training organisations. These expenses are included in the Post-secondary education category. This removes about $1.0 billion from the category in 2012-13. No State opposed this change.

4 User charges for the category were around $2.1 billion in 2012-13. Mining user charges are offset against other industry regulation expenses but agricultural and other user charges are not netted off expenses. The reasons for these decisions are discussed later in the chapter.

5 Table 1 shows services to industry expenses (net of mining user charges) were $5.9 billion in 2013-14. The share of services to industry expenses to State budgets varied from 1.2% in the ACT to 4.7% in Tasmania. The average was 2.9%.

**Table 1 Services to industry category expenses, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Agriculture, forestry, fishing ($m) | 589 | 466 | 572 | 365 | 150 | 94 | 6 | 63 | 2 305 |
| Other industries ($m) | 1 062 | 911 | 433 | 631 | 294 | 123 | 45 | 124 | 3 623 |
| Total expenses ($m) | 1 651 | 1 377 | 1 004 | 996 | 444 | 217 | 51 | 188 | 5 929 |
| Total expenses ($pc) | 221 | 238 | 214 | 391 | 265 | 423 | 133 | 769 | 254 |
| Proportion of operating expenses (%) | 2.6 | 3.0 | 2.4 | 3.7 | 2.9 | 4.7 | 1.2 | 4.1 | 2.9 |

Note: Category expenses are shown net of mining user charges.
Source: Commission calculation using State data.

6 Table 2 shows the share of State expenses on services to industry fell from 3.2% in 2010-11 to 2.9% in 2013-14.

**Table 2 Services to industry category expenses as a proportion of State operating expenses**

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| Total for category ($m) | 5 801 | 5 565 | 5 439 | 5 929 |
| Total operating expenses ($m) | 180 682 | 189 260 | 195 316 | 207 408 |
| Proportion of total operating expenses (%) | 3.2 | 2.9 | 2.8 | 2.9 |

Source: Commission calculation using ABS Government Finance Statistics (GFS) data and State data.

## How are services delivered?

7 Regulatory expenses account for about 40% of category expenses.[1] Regulation exists to protect consumers, the environment and the community, as well as promote fair trading and competition. Many regulations apply directly to businesses (for example, business registration). Others apply indirectly to businesses (for example, occupational health and safety), or relate to consumers (for example, consumer protection). The costs of regulation are being increasingly met through user charges.

8 Business development expenses account for about 60% of category expenses. All States provide assistance to develop the industries they have or would like to have. Business development can take many forms including marketing, tourism promotion and industry research and development. In the agricultural sector, some of these costs are met through levies on producers.

9 Services to industry are delivered from a central office location or 'on the ground' where businesses operate. For example, some agriculture and mining regulatory functions require on-site inspections or a regional presence. State provided data for the 2010 Review indicated that about 20% of services are provided outside metropolitan areas.

# COMMONWEALTH FUNDING

10 The Commonwealth provides funding to States for services to industry programs through National partnership payments (NPP). Many of these payments are considered to affect State fiscal capacities and are included in the category expenses. There are a small number of Commonwealth payments, including some of the larger ones, which fund State expenses which do not have an effect on State fiscal capacities. These payments have been netted off the category expenses.

[1] This proportion is based on State provided data for the 2010 Review. We have used the State data to split total category expenses into regulation and business development expenses because GFS are not sufficiently detailed to allow a split of services to industry expenses by purpose.

11 Table 3 details the major Commonwealth payments provided to States for services to industry. The first two payments do not affect the relativities.

**Table 3 Commonwealth payments to States for services to industry, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Seamless national economy NPP | 22 | 0 | 11 | 1 | 4 | 2 | 1 | 1 | 42 |
| South Australian River Murray Sustainability NPP | 0 | 0 | 0 | 0 | 24 | 0 | 0 | 0 | 24 |
| Coal seam gas and large coal mining development NPP | 7 | 4 | 7 | 0 | 1 | 0 | 0 | 0 | 20 |

Source: Commonwealth of Australia's *Final Budget Outcome, 2013-14*.

12 A complete list of Commonwealth payments to the States and their treatment is provided in Attachment 2 – Treatment of Commonwealth payments.

13 Apart from payments to States, the Commonwealth also provides direct assistance to industries. In principle, if these payments affect a State's fiscal capacity by relieving the State of a need to provide assistance they should be included in our assessments. In practice, the interstate distribution of these payments is unknown and it would be difficult to determine how they affect State fiscal capacities. For these reasons, the Commission does not take third party payments into account in the equalisation process.

## USER CHARGES

14 Where we have reliable data, and the drivers of revenue and expenses are the same, user charges are deducted from expenses before making an assessment.[2] We have treated user charges relating to different industries differently in this category, as explained below. User charges for 2012-13 are shown in Table 4.

**Table 4 User charges for the Services to industry category, 2012-13**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Agriculture, forestry and fishing | 163 | 158 | 429 | 64 | 40 | 28 | 1 | 13 | 895 |
| Mining | 126 | 0 | 124 | 76 | 0 | 2 | 0 | 7 | 335 |
| Other industries | 297 | 29 | 293 | 136 | 31 | 12 | 39 | 20 | 857 |
| Total | 586 | 187 | 846 | 275 | 71 | 42 | 40 | 39 | 2 087 |

Source: ABS GFS. Latest available data is for 2012-13.

[2] User charges not deducted from expenses are assessed equal per capita (EPC) in the Other revenue category.

15 We have not netted off agriculture user charges. These user charges mainly comprise agricultural levies to fund research and development, marketing and other activities that benefit the industry. Most of the activities funded by agricultural levies relate to business development. The revenue collected through agricultural levies is determined by producers and States have no discretion in how the monies are spent. As such they have no impact on State fiscal capacities. We could assess the revenue and offsetting expense on an actual per capita (APC) basis or we could assess both equal per capita (EPC). Since the revenue and expenditure are already assessed EPC it is simpler to retain the current treatment. Western Australia said agricultural levies are driven by the size of the industry and should be differentially assessed. We do not agree. While a State with a large agricultural sector may raise more revenue through agricultural levies it must spend this higher amount on programs to support the industry.

16 Mining user charges are deducted from other industry regulatory expenses before making an assessment. Mining user charges mainly comprise mine safety and inspection levies which fund regulatory services. The capacity of States to raise revenue from mining user charges is affected by the same factors as mining regulation expenses. South Australia, ACT and the Northern Territory supported netting off mining user charges. We consider the revenue data are reliable.

17 We have not netted off revenue for other industries because it includes a broad range of charges and the drivers are unclear. This decision has almost no effect on the GST distribution because the revenue primarily relates to expenses which are assessed EPC.

18 The category includes an allowance for regulatory costs related to investment projects. This allowance is net of user charges because the drivers of revenue and expenses are the same.

## CATEGORY STRUCTURE

19 The assessment of the Services to industry category is undertaken separately in each of the following components:

- agriculture regulation
- other industries regulation
- business development.

20 Table 5 shows the assessment structure for the category, the disabilities that are assessed and the size of each component, using 2013-14 data.

**Table 5 Category structure, Services to industry, 2013-14**

| Component | Component expense | Disability | Influence measured by disability |
|---|---|---|---|
| | $m | | |
| Agriculture regulation | 1 142 | Economic environment | Recognises the additional cost of providing regulatory services to the agricultural sector is determined by the number of businesses, size of the sector and population. |
| Other industries regulation | 1 163 | Economic environment | Recognises the additional costs of providing regulatory services to other industries are determined by the level of activity in the non-farm sector, level of private non-dwelling construction and population. |
| Business development | 3 623 | EPC | Business development expenses for all industries are assessed on an equal per capita (EPC) basis. |

Note: The wage costs factor is applied to all components. Regional costs are applied to regulation expenses.
Economic environment refers to the influence of factors such as the level of economic activity, level of construction activity and number of businesses.
Source: Commission calculation.

## Component expenses

21 The Commission divides services to industry expenses into three components and their sub-components, based on GFS data and State provided data for the 2010 Review.

22 Expenses are allocated to components and sub-components in three steps.

- Total category expenses are allocated to industries using GFS data. We have used two industry groups:
  - agriculture, forestry and fishing[3]
  - other industries.
- Industry expenses are classified as regulatory or business development expenses based on State provided data.
- Regulatory expenses for each industry are split into a number of sub-components based on the extent to which the component expenses are affected by:
  - the level of activity for the industry or sector
  - the number of businesses
  - population.

[3] Hereafter referred to as agriculture.

23 The expenses for each component and sub-component for 2013-14 are shown in Table 6. In 2013-14, over 75% of expenses for the category are assessed on the basis of population shares (that is, an EPC assessment is made).

**Table 6 Composition of services to industry expenses, 2013-14**

| | Agriculture | Other industries | Total |
|---|---|---|---|
| | $m | $m | $m |
| Regulation | | | |
| Size of industry/sector | 382 | 236 | 619 |
| Number of businesses (a) | 387 | 0 | 387 |
| Private construction activity | 0 | 446 | 446 |
| Population and other influences (b) | 372 | 481 | 853 |
| Total | 1 142 | 1 163 | 2 305 |
| Business development (EPC) | 1 163 | 2 460 | 3 623 |
| Total | 2 305 | 3 623 | 5 929 |

(a) No reliable business count data are available for other industries. Population (EPC) is used as a proxy. The spending allocated to this driver has been combined with spending affected by population and other influences.
(b) Other influences which could not be identified are assessed using population shares.
Note: The wage costs factor is applied to all components. Regional costs are applied to regulation expenses.
Source: Commission calculation.

24 Table 6 includes a sub-component that is affected by the level of private construction activity. This is explained in paragraph 30.

## *Reliability of component and sub-component expenses*

25 Most States expressed at least some concerns about the reliability of the 2010 Review survey data used to calculate component and sub-component expenses; although South Australia, Tasmania, the ACT and the Northern Territory said the Commission should continue to use the survey data. The ACT said a better assessment should be pursued outside the timeframe for this review. New South Wales, Queensland and Western Australia said the survey data are unreliable, subjective and out-of-date, and Queensland said the Commission should pursue a more data driven approach. Given the short timeframe for this review, we have decided to continue to use the survey results. We consider the alternative, an EPC assessment of all expenses in the category, would not provide a better equalisation outcome.

26 In the 2010 Review, the Commission applied a 12.5% discount to the weights used to calculate component and sub-component expenses due to reliability concerns. We have decided to remove this discount. This is in keeping with our decision not to discount estimates of total national expenditure. The Northern Territory agreed the discount should be removed but New South Wales, Victoria, South Australia,

Tasmania and the ACT said it should be maintained, or increased. While we understand the concerns States raised, the survey data provide the best available basis for disaggregating category expenses. We intend to examine new options for disaggregating category expenses in the next review.

## REGULATORY EXPENSES

### Industry regulation

27 We have made separate assessments of regulatory expenses for agriculture and other industries. The assessments measure the extent to which the component expenses are affected by the level of activity within the industry or sector, the number of businesses, level of private non-dwelling construction activity and size of the population.

28 We decided to separately assess regulation for the agricultural industry because it is more heavily regulated than other industries and we observe that States spend disproportionately more on regulation for agriculture to ensure food safety and appropriate environmental protection measures are in place. Agriculture regulation accounts for about 50% of regulation expenses and we consider a better equalisation outcome is achieved by separately assessing these expenses.

29 We considered having a separate component to assess mining regulation expenses but it was not material to split these expenses from other non-agricultural industries because net mining regulation expenses are very small. A number of States said the Commission should be consistent in how it tests the materiality of a disability, and making a separate assessment for mining regulation expenses would not be consistent with the materiality guidelines. Since there are no other expenses for which the size of the mining industry and number of mines are considered the relevant drivers, including a separate component for mining industry regulation is not material.

### Planning and regulation of investment projects

30 The Commission accepts there is a conceptual case for including a disability reflecting the additional planning and regulation costs incurred by States to facilitate investment projects. States with expanding mining or other industries usually have higher levels of construction activity that result in higher project planning and approval expenses, including environmental assessment costs. We have decided to assess these expenses using State shares of private non-dwelling construction expenditure. This will allow us to recognise the higher costs of mining States but not discriminate between industries.

31 The expense allowance we have included for this sub-component is based on State provided data on planning and regulation of investment projects for the three years from 2010-11 to 2012-13. We have set the total average net expense at $18 per capita ($410 million) in 2011-12, the first year of the 2015 Review assessment period. This amount will be indexed in following years, based on real growth in private non-dwelling construction and the price index for State and local government final consumption expenditure. This will capture growth in both the quantum of services and the cost of providing the services.

32 The State provided data indicate that most regulatory expenses related to investment projects are recorded in the Services to communities and Other expenses categories, where, apart from location allowances, they are assessed on an EPC basis. The dispersed allocation of these expenses in GFS made it difficult to implement an assessment based on the proposed category structure. However, since these expenses are currently recorded in categories where they are assessed EPC, it makes little difference where we make the assessment.

33 We have included this allowance in the Services to industry category because the services are similar to other regulatory services included in the category, and there is scope to make the assessment here without affecting the expense weights for other drivers of spending in Services to industry. For further discussion of this assessment including State views see Volume 1, Chapter 2 — Main issues.

## Data

34 The assessments of regulatory expenses are based on ABS data.

### *Level of activity*

35 The assessment of level of activity for agriculture and other industries is based on factor income estimates, sourced from the ABS publication *5220.0 Australian National Accounts: State Accounts*.

### *Number of businesses*

36 Data on the number of agricultural businesses are sourced from the ABS publication *7121.0 Agricultural Commodities Australia.* There are no reliable business count data for other industries. Population is used to proxy the number of businesses for other industries.

### *Level of private construction activity*

37 The assessment of private construction activity is based on current price estimates of private non-dwelling construction expenditure, sourced from the ABS publication *5220.0 Australian National Accounts: State Accounts*.

### *Indexation factors*

38 The indexation factors we will apply to the 2011-12 estimate of State spending on regulation costs related to investment projects is based on the State and local government final consumption expenditure (SLGFCE) chain price index, sourced from ABS publication *5204.0 Australian System of National Accounts* and the chain volume measure for private non-dwelling construction expenditure, sourced from the ABS publication *5220.0 Australian National Accounts: State Accounts*.

## Calculating assessed regulatory expenses

39 Table 7 shows how assessed expenses have been calculated for agriculture regulation. It recognises differences between States in the level of agricultural activity, number of agricultural establishments and population.

**Table 7 Assessed expenses, agriculture regulation, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Expenses influenced by level of agricultural activity | | | | | | | | | |
| Expense ($m) | | | | | | | | | 382 |
| Sector size ($b) | 6 | 9 | 7 | 7 | 5 | 2 | 0 | 0 | 36 |
| Sector size (%) | 17.7 | 24.4 | 18.8 | 18.7 | 13.6 | 5.6 | 0.0 | 1.2 | 100 |
| Assessed ($m) | 68 | 93 | 72 | 72 | 52 | 21 | 0 | 5 | 382 |
| Expenses influenced by number of agricultural businesses | | | | | | | | | |
| Expense ($m) | | | | | | | | | 387 |
| Businesses (no.) | 42 141 | 30 921 | 26 648 | 11 700 | 13 039 | 3 937 | 71 | 462 | 128 917 |
| Businesses (%) | 32.7 | 24.0 | 20.7 | 9.1 | 10.1 | 3.1 | 0.1 | 0.4 | 100 |
| Assessed ($m) | 127 | 93 | 80 | 35 | 39 | 12 | 0 | 1 | 387 |
| Expenses influenced by population ($m) | 119 | 92 | 75 | 41 | 27 | 8 | 6 | 4 | 372 |
| Total ($m) | 313 | 279 | 227 | 148 | 118 | 41 | 6 | 10 | 1 142 |
| Total ($pc) | 42 | 48 | 48 | 58 | 70 | 80 | 17 | 41 | 49 |

Source: Commission calculation.

40 Table 8 shows how assessed expenses have been calculated for other industry regulation expenses. It recognises differences between States in the level of economic activity, private construction activity and population. Expenses influenced by population in Table 8 include those attributable to the number of businesses because there are no reliable business count data for other industries.

**Table 8 Assessed expenses, other industries regulation, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Expenses influenced by level of economic activity in the non-farm sector | | | | | | | | | |
| Expense ($m) | | | | | | | | | 236 |
| Sector size ($b) | 363 | 261 | 221 | 217 | 68 | 17 | 20 | 16 | 1 184 |
| Sector size (%) | 30.6 | 22.1 | 18.7 | 18.3 | 5.8 | 1.5 | 1.7 | 1.4 | 100 |
| Assessed ($m) | 72 | 52 | 44 | 43 | 14 | 3 | 4 | 3 | 236 |
| Expenses influenced by level of private non-dwelling construction | | | | | | | | | |
| Expense ($m) | | | | | | | | | 446 |
| Construction activity ($m) | 21 549 | 16 232 | 41 111 | 48 702 | 5 366 | 761 | 970 | 8 665 | 143 356 |
| Construction activity (%) | 15.0 | 11.3 | 28.7 | 34.0 | 3.7 | 0.5 | 0.7 | 6.0 | 100 |
| Assessed ($m) | 67 | 51 | 128 | 152 | 17 | 2 | 3 | 27 | 446 |
| Expenses influenced by population ($m) | 154 | 119 | 97 | 53 | 35 | 11 | 8 | 5 | 481 |
| Total ($m) | 294 | 222 | 269 | 247 | 65 | 16 | 15 | 35 | 1 163 |
| Total ($pc) | 39 | 38 | 57 | 97 | 39 | 32 | 39 | 144 | 50 |

Source: Commission calculation.

## BUSINESS DEVELOPMENT EXPENSES

41 Business development expenses for all industries account for about 60% of category expenses and are assessed on an EPC basis. We based our estimate of total State spending on business development using data collected from the States for the 2010 Review.

42 All States provide assistance to support and develop the industries they have or would like to have, and business development can take many forms including marketing, tourism promotion and industry research and development. We observe there is no common policy on why States provide support for industries, when it is provided or how it is provided, and there is no agreement on what drives spending in this area.

43 We consider that all States support industries in a way that reflects their economy. So while States with large mining industries may provide more developmental support to the mining industry, States with other economic strengths support their industries. We do not therefore find that a conceptual case for a differential assessment has been established and we have assessed business development expenses EPC. Because this is a deliberative EPC assessment, any Commonwealth payments that fund State business development expenses are assessed so they impact the GST distribution.

44 Queensland, Western Australia and the Northern Territory did not support an EPC assessment of these expenses. Their views on the drivers of business development

expenses illustrate our difficulty in identifying the underlying drivers. Queensland and Western Australia said mining industry development expenses are different because they are only incurred by mining States and a large mining industry creates a greater need to spend. On the other hand, the Northern Territory said business development expenses are greater in emerging economies with smaller developed industrial bases and a relatively small population. Victoria and the ACT did not agree that mining States have higher business development costs. Victoria noted the high level of private sector investment in the mining industry and said this meant that the industry would require less government investment than other industries. New South Wales, Victoria, South Australia, Tasmania and the ACT supported an EPC assessment of these expenses.

45 Table 9 shows assessed business development expenses for all industries. These expenses are assessed EPC.

**Table 9 Assessed expenses, business development expenses, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| EPC ($m) | 1 161 | 900 | 729 | 396 | 261 | 80 | 60 | 38 | 3 623 |

Source: Commission calculation.

## LOCATION

46 We have recognised that differences in wage costs between States and in the cost of providing services within a State have a differential effect on the cost of providing services to industry across and within States. These influences are measured in a similar way for most assessment categories and the methods are discussed in Chapter 22 — Wage costs and Chapter 23 — Regional costs.

47 Most States supported a regional costs assessment although Victoria said it is not supported by evidence. We consider there is a conceptual case for recognising higher regulation costs for States with more businesses located outside major metropolitan areas. There are a range of regulation activities that require site visits, and the 2010 Review survey of expenses indicated about 20% of services to industry are delivered outside metropolitan areas. The Northern Territory said an earlier proposal to only apply the regional gradient to 20% of category expenses would not adequately recognise its disability, as it is more dispersed than other States. Similarly, Western Australia said the regional costs factor should be applied to all category expenses with an additional loading to recognise that relatively more services are delivered outside capital cities than implied by population distribution. We consider that applying the factor to regulation expenses (about 40% of category expenses) gives appropriate recognition to regional costs in this assessment. In the 2010 Review, there was no assessment of regional costs in this category.

48 The general regional costs factor is based on the geographic distribution of people but the distribution of businesses would be more appropriate for this assessment. In the absence of any readily available data on the geographic distribution of businesses, we have assumed the distribution of employment is the best available proxy for weighting the general regional costs gradient.

49 Table 10 shows the total assessed expenses for the category. The wage costs assessment is applied to all category expenses, including business development.

**Table 10 Assessed expenses, Services to industry, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Agriculture regulation ($m) | 313 | 279 | 227 | 148 | 118 | 41 | 6 | 10 | 1 142 |
| Other industries regulation ($m) | 294 | 222 | 269 | 247 | 65 | 16 | 15 | 35 | 1 163 |
| Location factor | 0.990 | 0.973 | 1.002 | 1.059 | 0.999 | 1.019 | 0.991 | 1.268 | 1.000 |
| Total regulation ($m) | 597 | 484 | 492 | 415 | 182 | 58 | 21 | 57 | 2 305 |
| Business development ($m) | 1 161 | 900 | 729 | 396 | 261 | 80 | 60 | 38 | 3 623 |
| Location factor | 1.004 | 0.990 | 0.990 | 1.033 | 0.992 | 0.977 | 1.020 | 1.038 | 1.000 |
| Total business development ($m) | 1 165 | 890 | 721 | 409 | 259 | 78 | 61 | 39 | 3 623 |
| Total ($m) | 1 762 | 1 374 | 1 214 | 824 | 440 | 137 | 82 | 96 | 5 929 |
| Total ($pc) | 236 | 237 | 259 | 323 | 263 | 266 | 213 | 394 | 254 |

Source: Commission calculation.

## BRINGING THE ASSESSMENT TOGETHER

50 Table 11 brings the assessed expenses for each component together to derive the total assessed expenses for each State for the category.

**Table 11 Category assessment, Services to industry, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| **Regulation of agriculture** | | | | | | | | | |
| Equal per capita | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 | 49 |
| Size of sector | -7 | 0 | -1 | 12 | 15 | 25 | -16 | 3 | 0 |
| No. of businesses | 0 | -1 | 0 | -3 | 7 | 6 | -16 | -11 | 0 |
| Population and other influences (EPC) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Location | 0 | -1 | 0 | 3 | 0 | 1 | 0 | 13 | 0 |
| Total | 41 | 47 | 48 | 61 | 70 | 82 | 17 | 52 | 49 |
| **Regulation of other industries** | | | | | | | | | |
| Equal per capita | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Size of sector | 0 | -1 | -1 | 7 | -2 | -3 | 0 | 3 | 0 |
| Construction activity | -10 | -10 | 8 | 40 | -9 | -15 | -11 | 91 | 0 |
| Population and other influences (EPC) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Location | 0 | -1 | 0 | 3 | 0 | 1 | 0 | 13 | 0 |
| Total | 38 | 37 | 57 | 101 | 38 | 32 | 38 | 181 | 50 |
| **Business development** | | | | | | | | | |
| Equal per capita | 155 | 155 | 155 | 155 | 155 | 155 | 155 | 155 | 155 |
| Location | 1 | -2 | -2 | 5 | -1 | -4 | 3 | 6 | 0 |
| Total | 156 | 154 | 154 | 161 | 154 | 152 | 159 | 161 | 155 |
| **Category total** | 236 | 237 | 259 | 323 | 263 | 266 | 213 | 394 | 254 |

Note: Disabilities may not add due to interactions.
Source: Commission calculation.

## Alternative presentation

51 Table 12 provides an alternative presentation using a factor approach. The table shows for each disability how the expenses per capita in each component and in total are affected by differences in State characteristics. Disability factors below one indicate a State is assessed to need to spend less than average. Disability factors above one indicate a State is assessed to need to spend more than average.

**Table 12 Category factors, Services to industry, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| **Agriculture regulation (component weight = 19%)** | | | | | | | | | |
| Economic environment (a) | 0.857 | 0.983 | 0.987 | 1.181 | 1.435 | 1.640 | 0.342 | 0.836 | 1.000 |
| Location | 0.990 | 0.973 | 1.002 | 1.059 | 0.999 | 1.019 | 0.991 | 1.268 | 1.000 |
| Component factor | 0.847 | 0.955 | 0.987 | 1.249 | 1.432 | 1.668 | 0.339 | 1.059 | 1.000 |
| A. Weighted factor | 0.971 | 0.991 | 0.998 | 1.048 | 1.083 | 1.129 | 0.873 | 1.011 | 1.000 |
| **Other industries regulation (component weight = 20%)** | | | | | | | | | |
| Economic environment (a) | 0.788 | 0.769 | 1.149 | 1.945 | 0.775 | 0.640 | 0.775 | 2.894 | 1.000 |
| Location | 0.990 | 0.973 | 1.002 | 1.059 | 0.999 | 1.019 | 0.991 | 1.268 | 1.000 |
| Component factor | 0.770 | 0.738 | 1.136 | 2.032 | 0.764 | 0.643 | 0.757 | 3.620 | 1.000 |
| B. Weighted factor | 0.955 | 0.949 | 1.027 | 1.203 | 0.954 | 0.930 | 0.952 | 1.514 | 1.000 |
| **Business development (component weight = 61%)** | | | | | | | | | |
| Equal per capita | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Location | 1.004 | 0.990 | 0.990 | 1.033 | 0.992 | 0.977 | 1.020 | 1.038 | 1.000 |
| Component factor | 1.004 | 0.990 | 0.990 | 1.033 | 0.992 | 0.977 | 1.020 | 1.038 | 1.000 |
| C. Weighted factor | 1.002 | 0.994 | 0.994 | 1.020 | 0.995 | 0.986 | 1.012 | 1.024 | 1.000 |
| **Category factor** | 0.928 | 0.933 | 1.018 | 1.271 | 1.032 | 1.044 | 0.837 | 1.549 | 1.000 |

(a) Economic environment refers to the influence of factors such as the level of economic activity, level of construction activity and number of businesses.

Source: Commission calculation.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

52 Table 13 shows the extent to which the assessment for this category moves the distribution of the GST away from an equal per capita distribution. It shows that GST revenue is redistributed away from New South Wales, Victoria and the ACT to the other States.

**Table 13 GST impact, Services to industry, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| Dollars million | -145 | -119 | 35 | 197 | 12 | 6 | -17 | 32 | 281 |
| Dollars per capita | -19 | -20 | 7 | 73 | 7 | 12 | -43 | 125 | 12 |

Note: The difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.

Source: Commission calculation.

53 The main reasons for these redistributions are the differences between States in the level of activity in different industries which affect State regulation costs along with differences between States in the wage costs.

54 Some of the main reasons for the redistributions for each State are as follows.

- For New South Wales, Victoria and the ACT, the below average need for spending is due to their relatively small agricultural industries and small shares of private non-dwelling construction activity.
- For Queensland and Western Australia the above average need for spending is due to their high level of economic activity in both the farm and non-farm sectors including non-dwelling construction. Western Australia also has high wage costs.
- For the Northern Territory, the above average need for spending is due to the high level of non-dwelling construction.
- For South Australia and Tasmania, the above average need for spending is due to their relatively large agricultural industries.

55 Table 14 provides a summary of the major reasons the assessment moves State GST revenue away from an equal per capita distribution.

**Table 14 Major reasons for difference from EPC, Services to industry, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Regulation of agriculture | -51 | -5 | 7 | 10 | 38 | 18 | -14 | -2 | 73 |
| Regulation of other industries | -90 | -84 | 39 | 150 | -22 | -10 | -4 | 21 | 210 |
| Regional costs | -11 | -11 | 6 | 7 | 1 | 2 | -1 | 6 | 23 |
| Wage costs | 10 | -18 | -13 | 24 | -5 | -3 | 2 | 3 | 39 |
| Total | -145 | -119 | 35 | 197 | 12 | 6 | -17 | 32 | 281 |

Note: The difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.
Disabilities may not add due to interactions.
Source: Commission calculation.

## CHANGES SINCE THE 2014 UPDATE

56 Table 15 breaks down the total changes since the 2014 Update into the impact of changing data sources, category-specific method changes, and change in State circumstances in the 2015 assessment period.

**Table 15 Changes since the 2014 Update, Services to industry**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Data changes | -24 | -6 | 6 | 3 | 18 | 9 | -7 | 1 | 38 |
| Method changes | -61 | -59 | 32 | 116 | -33 | -13 | 2 | 17 | 167 |
| Change in circumstances | -18 | -13 | 4 | 27 | -7 | -1 | -1 | 10 | 41 |
| Total | -104 | -79 | 42 | 146 | -22 | -5 | -6 | 28 | 216 |

Source: Commission calculation.

## Data changes

57 We consider that most changes in this assessment are due to method changes. There have been minor revisions to GFS estimates of State spending and ABS factor income by industry.

## Method changes

58 There are a number of category-specific method changes associated with this category since the 2010 Review.

- An assessment for regulation costs related to investment projects has been included in this category.
- Vocational education and training expenses previously included in this category have been moved to the Post-secondary education category. These expenses relate to government subsidised training provided by private RTOs and the measure of use in the Post-secondary education category recognises the need for State spending on these services.
- In the 2010 Review, user charges were assessed on an EPC basis in the Other revenue category. For this review, mining user charges have been deducted from other industry regulation expenses because we have reliable data and the drivers of revenue and spending are the same.
- The 12.5% discount applied to expense weights in the 2010 Review has been removed because we have decided not to discount estimates of total national expenditure.
- A general regional costs factor, based on the geographic distribution of employment, has been applied to regulatory expenses because these services are delivered throughout States, and States with more businesses in regional areas, face higher costs.

## Changes in State circumstances

59 The change due to State circumstances was largely driven by changes in State shares of agricultural output which is affected by seasonal conditions, and changes in State shares of private non-dwelling construction. Notably, Western Australia's share of agricultural output more than doubled between 2010-11 and 2013-14, driven mainly by increased wheat production. Western Australia, Queensland and the Northern Territory's shares of private non-dwelling construction grew between 2010-11 and 2013-14, increasing costs related to the regulation of investment projects. The Northern Territory's share of private non-dwelling construction increased more than five-fold largely due to new mining construction projects.

## UPDATING THE ASSESSMENT

60 We recommend that data used in this assessment be updated when new data become available to ensure the relativities remain contemporary and consistent with the circumstances of the States. On this basis we expect:

- the following data would be updated annually:
  - the amount of expenses allocated to agriculture and other industries
  - factor income data used to measure industry or sector size
  - number of agricultural businesses
  - private non-dwelling construction data used to assess regulation of investment projects
- the following data would not be updated during the review:
  - the proportion of industry expenses allocated to each component and sub-component
  - the expenditure allowance for regulation costs related to investment projects, although the 2011-12 amount will be indexed annually, using real growth in private non-dwelling construction and growth in the State and local government final consumption expenditure chain price index.

# CHAPTER 20

# OTHER EXPENSES

## SUMMARY OF THE ASSESSMENT

The Other expenses category is a residual category and includes, among other expenses, expenses on general public services, natural disasters and capital grants to local governments for community amenities. In addition, it is where assessed administrative scale expenses, native title and land rights expenses, national capital expenses (except those relating to police) and a location adjustment are recorded.

Most service expenses are assessed on the basis of State population shares, adjusted for differences between States in wage costs, the higher cost of providing services to more remotely located populations and the use of some ACT services by New South Wales residents. Natural disaster relief expenses are assessed based on actual costs and capital grants to local governments for community amenities are assessed using population growth.

The administrative scale assessment is discussed in Chapter 25, the native title and land rights and the national capital assessments are discussed in Chapter 27 and the location adjustment in Chapter 23.

## WHAT IS INCLUDED IN THE OTHER EXPENSES CATEGORY?

1 The Other expenses category comprises services and transactions not separately assessed in other expense categories. It includes:

- general public services — centrally provided services, including State legislatures and central administrative agencies that support State service delivery agencies and supervision of local government, general research and other administrative functions including GST administration
- other services not assessed elsewhere — expenses for recreation, culture and community amenities (such as libraries, public halls, art and sport facilities, national parks), public safety services other than those provided by police

services (such as emergency services and fire protection), communications and pipelines

- sundry purposes and transactions — public debt transactions (debt charges and interest charges on unfunded superannuation) and general purpose inter-government transactions (grants, advances or other inter-government transactions that cannot be allocated to other purposes)
- expenses on natural disaster relief
- capital grants to local governments for community amenities.

2 Associated user charges are included in the Other revenue category and assessed equal per capita (EPC) because we consider the drivers of user charges are not the same as the drivers of use of the related services. In this way, gross expense needs relating to the services in this category can be assessed.

3 We have also recorded expenses relating to:

- all administrative scale allowances
- all native title and land rights allowances
- national capital allowances except those relating to police
- a location adjustment.

4 The quantum of administrative scale expenses and the redistributive impact by category are shown in Chapter 25 – Administrative scale. For native title and land rights, and national capital expenses, the quantum and the redistributive impact are shown in Chapter 27 – Other disabilities. The assessment of the location adjustment is described in Chapter 23 – Regional costs.

5 Table 1 shows other expenses were $27.0 billion in 2013–14.

**Table 1 Other expenses category expenses, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Category expenses ($m) | 8 288 | 5 311 | 6 241 | 2 551 | 1 813 | 803 | 1 177 | 820 | 27 003 |
| Category expenses ($pc) | 1 110 | 918 | 1 331 | 1 001 | 1 081 | 1 563 | 3 066 | 3 362 | 1 159 |
| Proportion of operating expenses (%) | 13.1 | 11.4 | 14.7 | 9.6 | 12.0 | 17.3 | 28.7 | 17.8 | 13.0 |

Source: Commission calculation using State data.

6 Table 2 shows the share of State expenses on other expenses remained at around 13% between 2010–11 and 2013–14.

**Table 2 Other expenses as a proportion of State operating expenses**

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| Total for category ($m) | 23 013 | 24 727 | 24 241 | 27 003 |
| Total operating expenses ($m) | 180 682 | 189 260 | 195 316 | 207 408 |
| Proportion of total operating expenses (%) | 12.7 | 13.1 | 12.4 | 13.0 |

Source: Commission calculation using ABS Government Finance Statistics (GFS) data and State data.

## How are services delivered?

7 The diversity of services in this category means there is also a diverse range of service delivery processes. Large proportions of the legislative and general administrative services and some cultural and recreation services are delivered through major agencies and institutions located in metropolitan areas. Many cultural, recreational and public safety services are provided closer to where people live through State funding for local and community organisations or a network of State service delivery units. National parks expenses may be incurred in any part of a State with environmental or recreational value.

# COMMONWEALTH FUNDING

8 The Commonwealth provides funding to States to assist them in meeting these expenses. Most Commonwealth payments in the Other expenses category do not impact on the relativities. Some, like the general purpose assistance grants for local governments, are paid to third parties and needs are not assessed. Commonwealth natural disaster relief payments to the States under the Natural Disaster Relief and Recovery Arrangements (NDRRA) are also treated as having no impact on the relativities. They are netted off State expenses claimed under the NDRRA.

9 Other payments, like the Digital Regions Initiative, do impact on the relativities because they fund State services or assets. The expenses funded by these payments are assessed in the same way as State funded expenses and the actual revenue is treated as an offset to the assessed expenses.

10 The Commission has treated the ACT Emergency Services payment as having no impact on the relativities because needs to recognise the special ACT circumstances relating to the protection of Commonwealth buildings have not been assessed. This is consistent with the treatment of the payments made under the NPP for the Provision of Fire Services.

11 Table 3 details the major Commonwealth payments provided to States that fall within the Other expenses category.

**Table 3 Major Commonwealth payments to States for other expenses, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Local government - general purpose assistance | 359 | 271 | 227 | 140 | 77 | 37 | 25 | 17 | 1 152 |
| Natural disaster relief and recovery arrangements | 58 | 5 | 310 | 2 | 0 | 0 | 0 | 1 | 377 |
| Natural disaster resilience | 3 | 2 | 6 | 3 | 1 | 1 | 1 | 1 | 18 |
| 2018 Gold Coast Commonwealth games | 0 | 0 | 156 | 0 | 0 | 0 | 0 | 0 | 156 |
| 2014 G20 leaders' summit security | 0 | 0 | 84 | 0 | 0 | 0 | 0 | 0 | 84 |
| ACT municipal services | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 0 | 37 |
| Assistance to Tasmania to implement national policy reforms | 0 | 0 | 0 | 0 | 0 | 30 | 0 | 0 | 30 |
| State grants - Indigenous purposes | 0 | 0 | 1 | 4 | 3 | 0 | 0 | 15 | 24 |
| Provision of fire services | 4 | 3 | 3 | 1 | 1 | 0 | 5 | 2 | 18 |
| ACT emergency services | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 4 |
| Other | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| Total | 425 | 281 | 787 | 151 | 82 | 68 | 72 | 35 | 1 901 |

Source: Commonwealth of Australia's *Final Budget Outcome, 2013–14*.

12 A complete list of Commonwealth payments and their treatment is provided in Attachment 2 – Treatment of Commonwealth payments.

## CATEGORY STRUCTURE

13 The assessment of the Other expenses category is in four components:

- service expenses, which cover the bulk of the category
- natural disaster relief expenses
- capital grants to local governments for community amenities
- other assessments, which cover administrative scale, native title and land rights and national capital allowances.

14 Table 4 shows the assessment structure for the category, the disabilities that are assessed and the size of each component, using 2013–14 data.

**Table 4 Category structure, Other expenses, 2013–14**

| Component | Component expense | Disability | Influence measured by disability |
|---|---|---|---|
| | $m | | |
| Service expenses | 23 451 | Share of population, cross-border and location | Recognises States' population shares, the cost of providing labour and other resources between States and to different areas within a State, and the cost to the ACT of providing services to people who are New South Wales residents. |
| Natural disaster relief | 1 269 | Actual expenses | Recognises State costs of natural disaster relief. These are claims made under the Australian Government's natural disaster relief arrangements. Australian Government assistance is not included. |
| Capital grants to local governments | 168 | Share of population growth | Recognises the impact of population growth on the need for capital investment in community amenities. |
| Other assessments | 1 938 | Administrative scale | Recognises the unavoidable costs each State incurs to provide the policy and administrative infrastructure necessary to provide the minimum unavoidable service, regardless of the size of the task. |
| | 157 | Native title and land rights | Recognises State costs of settling native title and land rights claims made under Australian Government legislation. |
| | 0 | Location adjustment | Recognises differences in regional costs faced by cities of similar remoteness. |
| | 20 | National capital | Recognises the costs to the ACT due to Canberra's status as the national capital and seat of government. |

Source: Commission calculation.

## SERVICE EXPENSES

15 We consider the need for spending on services covered by this component largely reflects State population shares. There may be a range of reasons why States need to spend more than an equal per capita amount on these services, but we have only been able to reliably quantify two.

- Expenses on general public services, recreation, culture, national parks, communications and pipelines, and public safety services other than those provided by police services are affected by wage and regional cost differences.
  - We have recognised the differences in wage costs between States in this assessment. These influences are measured in a similar way for most categories. The assessment of wage differences is discussed in Chapter 22 – Wage costs.

- We consider that the costs of providing many of the services in this category increase with increasing remoteness. Therefore we have recognised the costs of providing these services to different areas within a State in this assessment. These influences are measured in a similar way for categories where they apply. The assessment of regional costs is discussed in Chapter 23 – Regional costs.

- Expenses on the ACT library, sports grounds and other cultural and recreational services are increased because of cross-border use by New South Wales residents. Cross-border disabilities reflect the nature and geography of the ACT. Being a large centre surrounded by New South Wales means that the ACT provides cultural and recreational services to New South Wales residents. The method used to calculate the general cross-border factor is described in Chapter 27 - Other disabilities.

16 We do not consider the cost of providing services and transactions such as general public services and administrative functions, public safety, culture and recreation, and public debt transactions, are influenced by particular population groups or that unit costs differ materially between States.

17 We have not assessed specific needs for national parks and wildlife services. The reasons for this are discussed later in the chapter.

18 We have, therefore, recognised three cost influences:

- State population shares
- cross-border use of services
- location.

## Calculating the service expenses assessment

19 The assessed service delivery expenses for each State were derived by:

- sharing aggregate service delivery expenses between States on the basis of their population shares (EPC)
- applying a cross-border factor to the proportion of service expenses relating to culture and recreation
- adjusting for wage cost disabilities
- applying a regional costs factor.

20 The cross-border disabilities have been applied to expenses related to culture and recreation, which include expenses on libraries, swimming pools, public halls, civic centres, museums and art galleries. This amounted to 13% of service expenses in 2013–14, and the cross-border factor is applied to this proportion (Table 5).

21 New South Wales argued that services covered by the cross-border assessment such as libraries and sports grounds are generally provided by local governments and

therefore needs for local government type services should not be assessed. However, most State governments provide library, sports grounds and other cultural and recreational services directly or grants to local governments to support these services. It is therefore appropriate to recognise the extent to which cross-border use of services increases costs in the ACT.

22 Regional costs and wage costs disabilities have been applied to expenses relating to recreation and culture, national parks and wildlife, pipelines and communications, and public safety and half of the expenses for general public services, intergovernmental transactions and other purposes. This amounted to 52% of service expenses in 2013–14, and the regional costs and wage costs factors are applied to this proportion (Table 5).

**Table 5 Proportion of service expenses to which cross-border and location disabilities apply**

| Year | Cross-border | Location |
|---|---|---|
| | % | % |
| 2010-11 | 15.4 | 56.6 |
| 2011-12 | 13.7 | 55.2 |
| 2012-13 | 15.2 | 60.0 |
| 2013-14 | 13.2 | 52.2 |

Source: Commission calculation.

23 Table 6 shows the total assessed expenses.

**Table 6 Assessed expenses, service expenses component, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| EPC expenses ($m) | 7 511 | 5 823 | 4 716 | 2 565 | 1 687 | 517 | 386 | 245 | 23 451 |
| Cross-border factor | 0.999 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.013 | 1.000 | 1.000 |
| Location factor | 0.997 | 0.985 | 1.000 | 1.027 | 0.999 | 1.012 | 0.997 | 1.152 | 1.000 |
| Total ($m) | 7 480 | 5 737 | 4 718 | 2 634 | 1 685 | 523 | 390 | 283 | 23 451 |
| Total ($pc) | 1 002 | 991 | 1 007 | 1 033 | 1 005 | 1 019 | 1 016 | 1 159 | 1 006 |

Source: Commission calculation.

## NATURAL DISASTER RELIEF

24 We have assessed natural disaster relief expenses on an actual per capita (APC) basis because we consider that the State expenses are not policy influenced and are sufficiently comparable to make a reliable assessment. Most States supported an APC assessment.

25 Natural disaster relief expenses reflect the net cost to States of damage caused by natural disasters after making claims to the Commonwealth under the Natural

Disaster Relief and Recovery Arrangements (NDRRA). A common framework has been established by the Commonwealth for claims and State expenses are reported under this framework. The Commission only considers natural disaster spending reported under this framework. Any State spending outside it is not included in the assessment.

26 Given the existence of the common framework, differences between the States in their per capita expenses are not subject to significant policy differences and can be attributed to the effect of factors beyond the control of individual States, such as the severity and incidence of natural disasters.

27 The framework has been further strengthened by the 2012 Determination[1], which requires stronger mitigation efforts, appropriate insurance and audited claims to be submitted in a timely manner. The Determination should therefore make State expenses comparable and help us to avoid large revisions and the situation of the past where some States have held over from submitting NDRRA claims for several years, pending auditing.

## Commonwealth review of the natural disaster relief assessment

28 In April 2014, the Australian Government asked the Productivity Commission to conduct an inquiry into the efficacy of current national natural disaster funding arrangements, including the interaction between Commonwealth natural disaster funding arrangements and relevant Commonwealth/State financial arrangements.

29 The Government's consideration of the report might change the nature of natural disaster relief arrangements and, if so, we may need to reconsider our assessment methodology.

## Calculating the natural disaster relief expenses assessment

30 Some States have requested that their natural expense data not be published. As a result, the assessed expenses for the natural disaster relief component are not shown. Table 16 shows the redistributive effect of the assessment.

# CAPITAL GRANTS TO LOCAL GOVERNMENTS FOR COMMUNITY AMENITIES

31 The Commission has introduced an assessment to recognise the impact of population growth on the need for State grants for local government infrastructure. Capital

[1] Australian Government, *Natural Disaster Relief and Recovery Arrangements, Determination of Terms and Conditions, 2012*.

grants to local governments fund the replacement and enhancement of existing assets, as well as meeting the needs of a growing population.

32 The 2010 Review assessments recognised the need for support for local government amenities to the extent that increased population results in greater population shares of the GST. However, there is a conceptual case that an assessment of capital grants on the same basis as recurrent grants does not fully recognise the impact of population growth on local government infrastructure. Unlike State owned assets, the Commission has not in the past given States the capacity to provide more local government capital grants per capita to States with faster growing populations.

33 To rectify this and to respond to arguments put by Western Australia and Queensland, we have recognised how capital grants to local governments for community development and amenities, and recreation and culture are affected by State population growth. Table 7 shows the value of capital grants to local governments for community amenities. Capital grants to local governments account for about 7.5% of total State spending recorded in these General Purpose Classifications (GPCs).

**Table 7 Capital grants to local governments for community amenities, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Total ($m) | 2 | 21 | 122 | 20 | 0 | 0 | 0 | 3 | 168 |
| Total ($pc) | 0 | 4 | 26 | 8 | 0 | 0 | 0 | 12 | 7 |

Note: Capital grants relate to the following GPCs: other community development, other community amenities, cultural facilities and services, recreational facilities and services not elsewhere classified (nec) and recreation and culture nec.

Source: ABS GFS data.

34 New South Wales, South Australia, Tasmania and the ACT did not support the proposed assessment. They said that if the Commission implemented it, it should be discounted significantly. Queensland, Western Australia and the Northern Territory supported it because it recognises some of their mining related expenditure.

35 The main arguments against the assessment were a weak conceptual case, the unreliability of the data and that all relevant drivers were not recognised.

36 The conceptual case is based on the same one underpinning the investment assessment. That is, population growth increases the demand for services and, consequently, for infrastructure, including for local government infrastructure which States help fund though capital grants. While there may be regional differences in population growth, we consider that State population growth is a good indicator of needs because it reflects the average population change in each State.

37 State expenses on grants to local governments are in scope as are expenses on any State direct provision of local government type services. We assess needs for State support for local government activities such as community development and

amenities, local roads, and culture and recreation. However, we have not included Commonwealth payments made through the States.

38 We consider that other influences on State spending on local governments are captured in the Commission's other assessments such as those for community development and amenities.

39 We consider the expenses on capital grants sufficiently reliable for use in the assessment. While spending by individual States suggests large differences in what States do, we consider that some of the differences are likely to be due to classification problems. Western Australia spent $943 million on its Royalties for Regions program in 2012-13.[2] Of these expenses, we estimate around $100 million would be classified as capital grants to local governments for community amenities. However, these are not recorded as such in GFS. As a result, the average expenditure is likely to be underestimated.

40 We have not discounted the assessment as the conceptual case has been demonstrated and the assessment method is sufficiently reliable. The assessment is likely to under-estimate needs because it is not clear that all relevant capital grants have been included. The population data are reliable and, while the population growth assessment is not material in this category, it is material in aggregate.

## Calculating the capital grants to local governments for community amenities assessment

41 Table 8 shows the derivation of the assessed expenses. The assessed expenses were derived by sharing the component expenses by the States' shares of population growth in a year.

**Table 8 Assessed expenses, capital grants to local governments for community amenities component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Population, 2012-13 ('000) | 7 357 | 5 681 | 4 609 | 2 480 | 1 662 | 512 | 378 | 239 | 22 918 |
| Population, 2013-14 ('000) | 7 465 | 5 787 | 4 687 | 2 549 | 1 677 | 514 | 384 | 244 | 23 308 |
| Population growth, 2012-13 to 2013-14 ('000) | 108 | 107 | 79 | 70 | 15 | 1 | 6 | 5 | 390 |
| Share of population growth, 2012-13 to 2013-14 (%) | 27.8 | 27.3 | 20.1 | 17.9 | 3.8 | 0.4 | 1.5 | 1.2 | 100.0 |
| Assessed expenses ($m) | 47 | 46 | 34 | 30 | 6 | 1 | 3 | 2 | 168 |

Source: Commission calculation.

[2] Government of Western Australia Department of Regional Development, *Royalties for Regions Progress Report 2012-13*, page 174.

## Influences not assessed in this category

### *National parks and wildlife services*

42 Western Australia, the ACT and the Northern Territory sought a separate differential assessment of national parks and wildlife services. Other States either agreed with the current treatment or did not comment.

43 We have investigated an assessment of national parks and wildlife expenses. We found that, despite national guidelines on the establishment of designated protected areas, significant differences remain between the States in numbers of parks and areas protected. The historical development of protected areas will continue to mean that some States will have considerably larger proportions of their jurisdictions protected. While it is difficult to attribute all these differences to State policies, undoubtedly, these have had a major impact. The Commonwealth also has had a major influence on the size of areas protected, particularly in Tasmania and the ACT.

44 We do not think it is possible to develop a reliable assessment of national parks and wildlife services needs given the uncertainties surrounding the policy influences on the number and size of national parks and the difficulty in obtaining reliable data to measure relative cost influences. Therefore, national parks are assessed using State populations, applying wage costs and regional costs effects.

### *Cost of borrowing*

45 We have not made allowances for the impact on public debt transactions of interstate differences in the cost of borrowing. We acknowledge States may face different borrowing costs but they are affected by several factors, especially their credit ratings, which are often policy influenced and do not constitute grounds for assessing disabilities.

46 The Northern Territory said its borrowing costs were 31 basis points higher than triple A rated States in 2012-13. It attributed that premium to the lower liquidity of its bonds and its lower credit rating, which it said was largely due to non-policy factors such as the narrowness of its economy and its relatively high debt arising from its early stage of development.

47 Informal advice from the Reserve Bank during this review indicates interstate differences in interest rates on securities of similar terms are predominantly driven by differences in credit ratings. The effects of State size were considered to be small.

48 Since the Northern Territory has been self-governing for over 30 years, a stage of development disability cannot be justified. Furthermore, sensitivity testing indicates a margin of over 45 basis points is required before a cost of borrowing factor would be material if outstanding borrowing remained at the 2011-12 level. If borrowing doubled, a 23 point margin would be required.

## OTHER ASSESSMENTS

49 The other assessments component includes administrative scale expenses, native title and land rights expenses, national capital expenses for the ACT and the location adjustment.[3]

50 The ACT did not support presenting the administrative scale, native title and land rights and national capital assessments within the Other expenses category because it said it reduced transparency and made it difficult to compare assessments with previous years. It preferred allocating these expenses to the relevant categories.

51 Recording these expenses to the Other expenses category is a presentational change only, but one which simplifies the presentation of assessments in other categories. We will continue to show the GST impact of the administrative scale, native title and land rights, and national capital assessments by category.

### *Administrative scale*

52 Administrative scale recognises costs incurred by a State in delivering services, which are independent of the size of the service population. It includes costs associated with:

- core head office functions of departments (for example, corporate services, policy and planning functions, but not all staffing and other resources delivering these)
- services that are provided for the whole of the State (for example, the legislature, the judiciary, the Treasury, the revenue office, and a State museum, but not all staffing and other resources delivering these).

53 The assessed administrative scale expenses for each category are shown in Table 9. The assessment of administrative scale is described in Chapter 25 — Administrative scale.

[3] Average expenses have been reduced in the functional categories to which these expenses relate. They have been added to the expenses included in this category.

**Table 9 Assessed administrative scale expenses, by category, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Schools education | 17 | 16 | 16 | 17 | 16 | 16 | 17 | 19 | 134 |
| Post-secondary education | 9 | 9 | 9 | 9 | 9 | 8 | 9 | 10 | 71 |
| Health | 22 | 22 | 22 | 23 | 22 | 21 | 23 | 25 | 181 |
| Housing | 9 | 9 | 9 | 9 | 9 | 8 | 9 | 11 | 72 |
| Welfare | 9 | 9 | 9 | 9 | 9 | 8 | 9 | 11 | 72 |
| Services to communities | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 30 |
| Justice | 24 | 24 | 24 | 25 | 24 | 23 | 25 | 25 | 193 |
| Roads | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 5 | 36 |
| Transport | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 32 |
| Services to industry | 25 | 24 | 24 | 26 | 25 | 24 | 17 | 26 | 192 |
| Other expenses | 115 | 113 | 113 | 121 | 113 | 111 | 118 | 121 | 925 |
| Total | 242 | 237 | 237 | 253 | 238 | 232 | 238 | 262 | 1 938 |

Source: Commission calculation.

## *Native title and land rights*

54 Native title and land rights expenses are related to the operation of the Commonwealth's native title and land rights legislation. The assessed expenses for each category are shown in Table 10. The assessment of native title and land rights expenses is described in Chapter 27 — Other disabilities.

**Table 10 Assessed native title and land rights expenses, by category, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Housing | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 4 |
| Services to communities | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 5 | 14 |
| Justice | 0 | 9 | 0 | 29 | 2 | 0 | 0 | 2 | 43 |
| Roads | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 4 |
| Services to industry | 0 | 0 | 8 | 9 | 0 | 0 | 0 | 3 | 20 |
| Other expenses | 8 | 3 | 23 | 21 | 6 | 0 | 0 | 11 | 72 |
| Total | 8 | 12 | 33 | 71 | 9 | 0 | 0 | 25 | 157 |

Source: Commission calculation.

## *Location adjustment*

55 The location adjustment recognises differences in regional costs faced by cities of similar remoteness. The assessment is described in Chapter 23 – Regional costs.

56 Table 11 shows the location adjustment.

**Table 11 Assessed expenses, location adjustment component, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Assessed expenses ($m) | -7 | -5 | -4 | 74 | -2 | -33 | 33 | -55 | 0 |
| Assessed expenses ($pc) | -1 | -1 | -1 | 29 | -1 | -65 | 85 | -226 | 0 |

Source: Commission calculation.

### *National capital*

57 National capital expenses are incurred by the ACT due to its role as the national capital. Specifically, we consider the existence of the National Capital Plan, which is not administered by the ACT Government, increases planning related costs incurred by the ACT (for example, it leads to a higher ratio of public to private land). National capital costs associated with wider roads are also included. The assessed national capital expenses are shown in Table 12. The national capital allowance for police services is assessed in the Justice category. The assessment of all national capital influences is described in Chapter 27 — Other disabilities.

**Table 12 Assessed national capital expenses, by category, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Roads | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 4 |
| Other expenses | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 16 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 20 |

Source: Commission calculation.

## Bringing the other assessments component together

58 Table 13 shows the assessed expenses for the other assessments component.

**Table 13 Assessed expenses, other assessments component, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Administrative scale ($m) | 242 | 237 | 237 | 253 | 238 | 232 | 238 | 262 | 1 938 |
| Native title and land rights ($m) | 8 | 12 | 33 | 71 | 9 | 0 | 0 | 25 | 157 |
| Location adjustment ($m) | -7 | -5 | -4 | 74 | -2 | -33 | 33 | -55 | 0 |
| National capital ($m) | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 20 |
| Total ($m) | 243 | 244 | 265 | 398 | 245 | 199 | 290 | 232 | 2 116 |
| Total ($pc) | 33 | 42 | 57 | 156 | 146 | 387 | 756 | 951 | 91 |

Source: Commission calculation.

## BRINGING THE ASSESSMENT TOGETHER

59 Table 14 brings the assessed expenses for each component together to derive the total assessed expenses for each State for the category.

**Table 14 Category assessment, Other expenses, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| **Service expenses** | | | | | | | | | |
| Equal per capita | 1 006 | 1 006 | 1 006 | 1 006 | 1 006 | 1 006 | 1 006 | 1 006 | 1 006 |
| Cross-border | -1 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 0 |
| Location | -3 | -15 | 0 | 27 | -1 | 12 | -3 | 153 | 0 |
| Total | 1 002 | 991 | 1 007 | 1 033 | 1 005 | 1 019 | 1 016 | 1 159 | 1 006 |
| **Natural disaster relief** | | | | | | | | | |
| Equal per capita | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 |
| Actual per capita | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| Total | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| **Capital grants to local governments** | | | | | | | | | |
| Equal per capita | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Population growth | -1 | 1 | 0 | 5 | -3 | -6 | -1 | 1 | 0 |
| Total | 6 | 8 | 7 | 12 | 4 | 1 | 7 | 8 | 7 |
| **Other assessments** | | | | | | | | | |
| Equal per capita | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 | 91 |
| Administrative scale | -51 | -42 | -33 | 16 | 59 | 369 | 536 | 991 | 0 |
| Native title and land rights | -6 | -5 | 0 | 21 | -1 | -7 | -7 | 95 | 0 |
| Location adjustment | -1 | -1 | -1 | 29 | -1 | -65 | 85 | -226 | 0 |
| National capital | -1 | -1 | -1 | -1 | -1 | -1 | 51 | -1 | 0 |
| Total | 33 | 42 | 57 | 156 | 146 | 387 | 756 | 951 | 91 |
| **Category total (a)** | 1 041 | 1 041 | 1 070 | 1 201 | 1 155 | 1 407 | 1 779 | 2 118 | 1 104 |

(a) For confidentiality reasons, natural disaster relief assessed expenses have been excluded.
Note: Component disabilities may not add due to interactions.
Source: Commission calculation.

## Alternative presentation

60 Table 15 provides an alternative presentation using a factor approach. The table shows for each disability how the expenses per capita in each component and in total are affected by differences in State characteristics. Disability factors below one indicate a State is assessed to need to spend less than average. Disability factors above one indicate a State is assessed to need to spend more than average.

**Table 15 Category factor, Other expenses, 2013–14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| **Service expenses (component weight = 87%)** | | | | | | | | | |
| Cross-border | 0.999 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.013 | 1.000 | 1.000 |
| Location | 0.997 | 0.985 | 1.000 | 1.027 | 0.999 | 1.012 | 0.997 | 1.152 | 1.000 |
| Component factor | 0.996 | 0.985 | 1.000 | 1.027 | 0.999 | 1.012 | 1.010 | 1.152 | 1.000 |
| A. Weighted factor | 0.996 | 0.987 | 1.000 | 1.023 | 0.999 | 1.011 | 1.008 | 1.132 | 1.000 |
| **Natural disaster relief (component weight = 5%)** | | | | | | | | | |
| Component factor | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| B. Weighted factor | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| **Capital grants to local governments (component weight = 1%)** | | | | | | | | | |
| Component factor | 0.868 | 1.101 | 1.001 | 1.633 | 0.530 | 0.169 | 0.929 | 1.106 | 1.000 |
| B. Weighted factor | 0.999 | 1.001 | 1.000 | 1.004 | 0.997 | 0.995 | 1.000 | 1.001 | 1.000 |
| **Other assessments (component weight = 8%)** | | | | | | | | | |
| Administrative scale | 0.390 | 0.492 | 0.608 | 1.192 | 1.705 | 5.432 | 7.445 | 12.915 | 1.000 |
| Native title and land rights | 0.153 | 0.311 | 1.037 | 4.120 | 0.784 | 0.000 | 0.000 | 15.140 | 1.000 |
| National capital | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 60.713 | 0.000 | 1.000 |
| Component factor | 0.358 | 0.464 | 0.624 | 1.720 | 1.610 | 4.261 | 8.330 | 10.472 | 1.000 |
| B. Weighted factor | 0.950 | 0.958 | 0.971 | 1.056 | 1.048 | 1.255 | 1.574 | 1.742 | 1.000 |
| **Category factor (a)** | 0.943 | 0.943 | 0.969 | 1.088 | 1.046 | 1.274 | 1.611 | 1.918 | 1.000 |

(a) For confidentiality reasons, natural disaster relief factors have been excluded.
Source: Commission calculation.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

61 Table 16 shows the extent to which the assessment for this category moves the distribution of the GST away from an equal per capita distribution. It shows that GST revenue is redistributed away from New South Wales and Victoria and towards the other States.

**Table 16 GST impact, Other expenses, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| Dollars million | -776 | -670 | 479 | 226 | 5 | 153 | 288 | 294 | 1 446 |
| Dollars per capita | -101 | -112 | 99 | 83 | 3 | 296 | 725 | 1 163 | 60 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.
Source: Commission calculation.

62 The main reasons for these redistributions are the differences between States in their expenses on administrative scale, natural disasters, native title and land rights, and location.

63 Some of the main reasons for the redistributions for each State are:

- New South Wales, Victoria and Queensland have below average needs for administrative scale expenses. The other States have above average needs.
- Queensland has above average needs for natural disaster relief expenses, and other States have below average needs.
- New South Wales, Western Australia, the ACT and the Northern Territory have above average wage costs while other States have below average wage costs.
- Queensland, Western Australia, South Australia, Tasmania and the Northern Territory have above average regional costs while other States have below average regional costs.
- Queensland, Western Australia and the Northern Territory have above average native title and land rights expense needs. Other States have below average expense needs.
- The location adjustment moves GST to Western Australia and the ACT and away from the other States, mainly Tasmania and the Northern Territory.
- The ACT has above average expense needs due to its status as the national capital.

64 Table 17 provides a summary of how the assessment moves State GST revenue away from an equal per capita distribution. By far, the administrative scale and natural disaster relief assessments have the largest impact on the GST distribution.

**Table 17 Major reasons for difference from EPC, Other expenses, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Cross-border | -6 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 6 |
| Wage costs | 24 | -43 | -32 | 58 | -11 | -8 | 6 | 6 | 93 |
| Regional costs | -52 | -56 | 37 | 20 | 7 | 16 | -7 | 36 | 116 |
| Administrative scale | -443 | -288 | -179 | 54 | 112 | 214 | 244 | 287 | 911 |
| Native title and land rights | -50 | -34 | 0 | 64 | -2 | -4 | -3 | 29 | 94 |
| Natural disasters | -216 | -236 | 661 | -75 | -89 | -25 | -17 | -3 | 661 |
| Capital grants to local governments | -15 | 1 | 4 | 20 | -7 | -4 | 0 | 0 | 26 |
| Location adjustment | -9 | -7 | -6 | 87 | -2 | -36 | 37 | -63 | 124 |
| National capital | -8 | -6 | -5 | -3 | -2 | -1 | 23 | 0 | 23 |
| Total | -776 | -670 | 479 | 226 | 5 | 153 | 288 | 294 | 1 446 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.
Disabilities may not add due to interactions.
Source: Commission calculation.

## CHANGES SINCE THE 2014 UPDATE

65 Table 18 breaks down the total changes since the 2014 Update into the impact of changing data sources, category-specific method changes, and changes in State circumstances in the 2015 assessment period.

**Table 18 Changes since the 2014 Update, Other expenses**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Data changes | 6 | -11 | -9 | 7 | 4 | 2 | 2 | -1 | 21 |
| Method changes | -114 | -37 | 85 | 87 | 12 | -16 | 26 | -44 | 211 |
| Change in circumstances | -167 | -219 | 424 | -7 | 3 | -14 | -9 | -13 | 427 |
| Total | -274 | -267 | 500 | 87 | 19 | -28 | 20 | -57 | 626 |

Source: Commission calculation.

## Data changes

66 Most of this change was due to revisions made to natural disaster relief expenses.

## Method changes

67 There are a number of minor category-specific changes associated with this category.

### *Change in the scope of the category*

68 All administrative scale and native title and land rights expenses and the roads component of the national capital assessment are now included in this category. These changes are presentational only and do not affect States' final assessed expenses.

69 Capital grants to local governments for community amenities are assessed according to population growth.

70 The location adjustment has been included in this category.

71 Expenses related to cultural and linguistic diversity are no longer assessed. This issue is further discussed in Chapter 27 - Other disabilities.

## Changes in State circumstances

72 There has been a sharp increase in the natural disaster relief expenses (net of Commonwealth assistance) claimed by Queensland in 2013-14 compared with 2010-11, leading to increases in its GST share. Its expenses principally relate to the flood and cyclone events of 2011 and 2012. On the other hand, New South Wales and Victoria expenses in 2013-14 were more than offset by Commonwealth reimbursements for expenditure incurred in previous years.

## UPDATING THE ASSESSMENT

73 We recommend that data used in this assessment be updated when new data become available to ensure the relativities remain contemporary and consistent with the circumstances of the States. On this basis we expect:

- all data used in this assessment would be updated annually:
  - natural disaster relief expenses
  - ABS GFS expense data and the proportions of service expenses to which the cross-border and location disabilities apply
  - capital grants to local governments for community amenities
  - data supporting the assessments of administrative scale, native title and land rights, national capital allowances, as described in Chapter 25 – Administrative scale and Chapter 27 – Other disabilities.

# CHAPTER 21

# INFRASTRUCTURE ASSESSMENTS

## SUMMARY OF THE ASSESSMENT

The Infrastructure assessments cover State investment in the acquisition of extra infrastructure and land, and depreciation of existing infrastructure.

We assess State investment as the amount each State would invest to finish the year with the average per capita stock of infrastructure, adjusted for its population growth, changes in other State circumstances affecting its asset requirements and relative cost levels.

The main driver of the assessment is population growth — other things being equal, faster growing States require more investment. Other important drivers are: changes in State populations and/or economic features affecting the quantity of services States must provide (such as the population of urban areas and the proportion of the population attending schools); the relative costs of infrastructure; and the average increase in infrastructure per capita.

Investment is assessed separately for urban and rural roads, urban transport, other services and land and other assets because different factors affect those functions. Investment in land and other assets is assessed on an equal per capita basis to ensure it does not affect the GST distribution.

Depreciation is assessed as the expense each State would incur if the average depreciation rate were applied to its assessed stock of infrastructure, adjusted for the relative costs of infrastructure. It is driven by the demographic and economic factors which determine the infrastructure States required to provide services and its cost.

## WHAT IS IN THE INFRASTRUCTURE ASSESSMENTS?

1 The Infrastructure assessments allow for the impact on State fiscal capacities of the infrastructure (buildings, roads, equipment) and land States need to provide services. They cover the total capital expenditure of the general government sector on non-financial assets which consists of:

- depreciation to recognise the use of existing infrastructure during the year

- investment in the acquisition of extra, or upgraded, infrastructure and land, where investment is defined as gross capital expenditure less depreciation.[1]

2 We have treated the activities of State owned housing and urban transport corporations as if they are general government sector activities. We did so because we concluded housing and urban transport services have strong similarities to the services provided by general government agencies, even when they are delivered by State public non-financial corporations (PNFCs). They are not fully commercial and depend on government funds to meet recurrent costs and pay for major investment; the services stem from social policy objectives; and governments make the major policies on service delivery and charges. Also, the services or parts of them are delivered by general government agencies in some States.

3 The main effect of this change is the inclusion of investment, depreciation and infrastructure stocks relating to housing and urban transport in the assessments. As a result, the effects of population growth and other changes in State circumstances on their infrastructure requirements are recognised. Expenditure by, and infrastructure of, other State PNFCs, such as those providing water, ports and electricity, is not reflected in the Infrastructure assessment.[2]

4 Table 1 shows infrastructure expenditure was $24.6 billion in 2013-14. The share of total outlays devoted to infrastructure varied from 5.8% in Tasmania to 15.2% in the ACT. The average was 11.2% for all States.

**Table 1 Infrastructure expenditure, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Investment ($m) | 3 609 | 1 537 | 3 602 | 2 099 | 582 | -3 | 325 | 220 | 11 970 |
| Depreciation ($m) | 4 156 | 2 517 | 2 943 | 1 333 | 801 | 273 | 349 | 283 | 12 655 |
| Total ($m) | 7 765 | 4 054 | 6 545 | 3 432 | 1383 | 270 | 674 | 503 | 24 625 |
| Total ($pc) | 1 040 | 700 | 1 396 | 1 346 | 825 | 526 | 1 755 | 2 062 | 1 057 |
| Share of total outlays (%) | 11.6 | 8.4 | 14.2 | 11.9 | 8.9 | 5.8 | 15.2 | 10.4 | 11.2 |

Note: Total outlays are the sum of total operating expenses and investment.
Source: Commission calculation using State data.

5 Table 2 shows the share of State total outlays directed to investment and depreciation fell from 16.7% in 2010-11 to 11.2% in 2013-14, because investment fell by 50% (or $12.0 billion).

[1] Investment is equivalent to 'net acquisition of non-financial assets' in the ABS Government Finance Statistics operating statement, which is defined as gross fixed capital formation less depreciation plus changes in inventories plus other transactions in non-financial assets. Commission figures for this review include the acquisition of non-financial assets by State housing and urban transport corporations but ABS GFS figures do not.

[2] State recurrent subsidies to their water and electricity corporations are captured in the Services to communities assessment and the infrastructure of those corporations affects the value of State net financial worth which is reflected in the Net borrowing assessment.

**Table 2 Infrastructure expenditure as a proportion of total State outlays**

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| Investment ($m) | 24 001 | 17 428 | 14 129 | 11 970 |
| Depreciation ($m) | 10 173 | 10 759 | 12 000 | 12 655 |
| Total ($m) | 34 174 | 28 188 | 26 129 | 24 625 |
| Total outlays (a) ($m) | 204 683 | 206 688 | 209 445 | 219 378 |
| Proportion of total outlays (%) | 16.7 | 13.6 | 12.5 | 11.2 |

(a) Total outlays are the sum of total operating expenses and investment.
Source: Commission calculation using ABS Government Finance Statistics (GFS) and State data.

## COMMONWEALTH FUNDING

6 The provision of infrastructure may be funded from State own source revenue, the GST or Commonwealth payments.

7 Infrastructure spending funded by Commonwealth payments which affect the relativities is assessed together with that funded from State sources. Revenue from the payments is considered to be available to fund State needs and partly offsets assessed expenditure.

8 Commonwealth payments for infrastructure are often lumpy and can involve large projects. In 2013-14, the funding was mainly provided through the Infrastructure Investment Programme. Table 3 shows the major Commonwealth payments for infrastructure.

**Table 3 Commonwealth payments to States for infrastructure, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Infrastructure Investment Programme | 1 902 | 1 644 | 579 | 229 | 16 | 60 | 0 | 64 | 4 493 |
| Building Australia Fund | 8 | 1 128 | 0 | 0 | 0 | 0 | 63 | 0 | 1 199 |
| Other programs | 246 | 198 | 265 | 295 | 69 | 17 | 12 | 112 | 1 213 |
| Total | 2 156 | 2 970 | 844 | 523 | 85 | 76 | 75 | 176 | 6 905 |

Source: Commonwealth of Australia's *Final Budget Outcome, 2013-14*.

9 Most Commonwealth infrastructure payments affect the GST distribution. Those which do not include:

- those the terms of reference direct us to exclude (such as payments under the Asset Recycling Initiative and reward payments under National partnerships)
- those where associated expenditure needs are not assessed
- 50% of the Commonwealth's contribution to the construction or upgrading of the national road and rail networks, including payments for projects listed in

the terms of reference such as WestConnex and the Western Sydney Infrastructure Plan in Sydney and the East-West Link in Melbourne.

10 A complete list of Commonwealth payments and their treatment is provided in Attachment 2 — Treatment of Commonwealth payments.

## Payments for the national road and rail networks

11 The Commission has decided to treat 50% of the Commonwealth's contribution to the construction or upgrading of the national road and rail networks so that it has no effect on the GST distribution. This decision extends the treatment of payments for national network roads adopted in the 2010 Review to payments for the national rail network. The decision is consistent with the recommendation of the GST Distribution Review that payments for nationally significant road and rail projects be treated in the same way. More discussion of this issue is in Volume 1, Chapter 2 — Main issues.

12 This decision has been implemented by excluding from the assessments 50% of the revenue States received from Commonwealth payments for the national road and rail networks and the expenditure they funded.[3]

13 Advice from the Commonwealth Department of Infrastructure and Regional Development was used to decide which projects and payments related to the national networks. In addition, the Supplementary terms of reference told us to exclude 50% of the payments for specified major road projects and all payments under the Asset Recycling Initiative.

14 Table 4 shows the per capita payments to each State in 2013-14 for the national road and rail networks. Half these payments have no effect on the GST distribution.

**Table 4 Commonwealth payments for the national road and rail network, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| National road payments | 208 | 278 | 122 | 82 | 7 | 5 | 0 | 135 | 171 |
| National rail payments | 45 | 195 | 0 | 7 | 0 | 66 | 0 | 0 | 41 |
| Total | 253 | 473 | 122 | 88 | 7 | 71 | 0 | 135 | 212 |

Source: Commission calculation based on advice from the Department of Infrastructure and Regional Development.

15 South Australia argued that when capital payments are excluded there should be a 'flow-on' adjustment to net financial worth because the excluded payments reduce the need for States to borrow. We have not adjusted net financial worth as we do

[3] In some cases, the payments were used to fund equity transfers to State public non-financial corporations which are not reflected in the GFS expenditure figures used by the Commission. When that was the case (for example for payments relating to the regional rail link project in Victoria), only 50% of the revenue States received from the Commonwealth payments was excluded.

not know what investment spending and borrowing States would have undertaken if the payments were not received.

## Dealing with prepayments

16 Victoria noted the Commission assesses the revenue impact of Commonwealth payments when they are received and the spending impact when the spending occurs, which can be some time later for major infrastructure projects. It said this introduces volatility into the GST distribution. It said the impacts on State fiscal capacities of the receipt of Commonwealth payments and the spending of those funds should both be assessed at the time of project expenditure.

17 We consider the current approach accurately captures the effects on State fiscal capacities when they occur. Prepayments increase State net financial worth when they are received[4] and this is recognised in the net borrowing assessment. The subsequent spending of the funds increases investment and reduces net financial assets and those effects are appropriately recognised when the spending occurs. This approach is also simpler as it avoids the need to adjust data each year to align the receipt and the spending of Commonwealth payments.

18 Victoria was also concerned prepayments may lead to some payments for the national networks not being treated appropriately if a new road or track is not declared as part of the national network until it is fully completed. Advice from the Department of Infrastructure and Regional Development on which projects are on the national networks generally appears to cover such possibilities. However, we will monitor and review the advice to ensure payments are treated appropriately and consistently with our understanding of the national networks.

## CATEGORY STRUCTURE

19 The Infrastructure assessment is in two parts:

- investment, which is sub-divided into roads, urban transport, other services and land
- depreciation expenses.

20 South Australia suggested transparency would be improved if housing was a separate component instead of part of the other services component. We have not assessed housing separately for practicality and simplicity reasons.

21 Table 5 shows the assessment structure, the disabilities assessed and the size of each component, using 2013-14 data.

[4] This arises because the funds can be retained and invested or used to postpone borrowing.

**Table 5 Assessment structure, Infrastructure, 2013-14**

| Component | Expense | Disability | Influence measured by disability |
|---|---|---|---|
| | $m | | |
| **Investment** | | | |
| Roads | 3 498 | Capital stock | Recognises the impact of road length, road use and bridges on the need for road infrastructure. |
| | | Population growth | Recognises the impact of differences between States in population growth on the need for road infrastructure. |
| | | Capital cost | Recognises the impact of differences between States in the cost of constructing roads. |
| Urban transport | 4 849 | Capital stock | Recognises the impact of city size on the need for urban transport infrastructure. |
| | | Population growth | Recognises the impact of differences in population growth on the need for urban transport infrastructure. |
| | | Capital cost | Recognises the impact of differences between States in the cost of urban transport infrastructure. |
| Other services | 1 379 | Capital stock | Recognises the impact of service use on the need for infrastructure. |
| | | Population growth | Recognises the impact of differences between States in population growth on the need for infrastructure. |
| | | Capital cost | Recognises the impact of differences between States in the cost of infrastructure. |
| Land | 2 243 | None | Assessed equal per capita. |
| **Depreciation** | | | |
| | 12 655 | Capital stock | Recognises the impact of differences in the quantity of infrastructure needed to provide services. |
| | | Capital cost | Recognises the impact of interstate differences in the cost of infrastructure. |

Source: Commission calculation.

22 Some States argued there is double counting in the investment and depreciation assessments because investment fully covers new infrastructure when it is acquired and depreciation covers it again as it is used up.

23 Those arguments overlook the role of depreciation in replacing assets and the way we define investment. We are convinced there is no double counting.

- Investment increases asset stocks through the acquisition of extra or upgraded assets and depreciation reflects the use or replacement of existing assets. We defined investment as total capital spending on non-financial assets less depreciation. Omitting investment or depreciation would omit part of infrastructure spending.
- Investment is mainly affected by factors that change the level of infrastructure required — population growth, other changes in State circumstances and changes in the average capital stock per capita. Depreciation, however, is

driven by the size of the capital stock at a point of time and the expected useful life of assets, as reflected in the average depreciation rate.

24 Some States suggested a gross capital spending assessment may overcome the perception of double counting. A gross approach would not sub-divide capital spending into its replacement and investment components, making it clear there is no double counting. For example, the gross approach suggested by South Australia would apply current population shares and current disability factors to total capital expenditure and also make a separate adjustment to capture the effects of changes in population shares and stock factors on infrastructure requirements.

25 Other gross approaches would sub-divide the assessment to reflect the underlying reasons for the spending. The sub-divisions could include spending to: cope with population growth; cope with other changes in circumstances; replace existing infrastructure; and increase the average stock per capita (or capital deepening).

26 Depending on the approach adopted, the GST outcome may differ slightly from that produced by the 2010 Review method.

27 We are not convinced a gross assessment is simpler or more transparent than the existing presentation. We, therefore, decided to retain the existing methodology.

## INVESTMENT

28 State investment spending varies noticeably over time. Table 6 shows the total investment for each component for 2010-11 to 2013-14.

**Table 6 Total investment, 2010-11 to 2013-14**

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 | 2013-14 |
|---|---|---|---|---|---|
| | $m | $m | $m | $m | % |
| Roads | 3 892 | 3 020 | 5 442 | 3 498 | 29.2 |
| Urban transport | 6 209 | 2 916 | 4 413 | 4 849 | 40.5 |
| Other services | 11 163 | 6 966 | 4 432 | 1 379 | 11.5 |
| Land (a) | 2 737 | 4 527 | -159 | 2 243 | 18.7 |
| Total | 24 001 | 17 428 | 14 129 | 11 970 | 100.0 |

(a) Includes investment funded by the 50% of Commonwealth payments for national road and rail projects which do not affect the GST distribution.

Source: ABS GFS data and State supplied information.

29 Table 7 shows the average value of infrastructure used in providing road, urban transport and all other services.

**Table 7 Average value of infrastructure per capita, 2010-11 to 2013-14**

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 | 2013-14 |
|---|---|---|---|---|---|
| | $pc | $pc | $pc | $pc | % |
| Roads | 7 418 | 8 045 | 8 579 | 8 794 | 41.4 |
| Urban transport | 2 893 | 2 874 | 3 075 | 3 120 | 14.7 |
| Other services | 8 474 | 9 128 | 9 145 | 9 344 | 44.0 |
| Total | 18 785 | 20 047 | 20 799 | 21 258 | 100.0 |

Source: State data returns.

## Assessment method

30 The assessment estimates the amount each State would invest to acquire extra infrastructure to ensure it finishes the year with the per capita stock of infrastructure it requires to provide the average services in its circumstances.

31 Each State's assessed investment in roads, urban transport and other infrastructure is calculated as the difference between the infrastructure it requires at the end of the year and the infrastructure it required at the start of the year, adjusted for factors affecting the cost of acquiring infrastructure. The formula is in Box 1.

32 The calculation of assessed investment allows for the effects of:

- population growth
- changes in other State circumstances affecting the quantity of infrastructure required to provide average services
- changes in the average stock of infrastructure per capita (capital deepening)
- relative cost levels prevailing during the year.

**Box 1 Calculation of assessed investment**

$$Assessed\ Investment = \left\{\left[\left(\frac{K_1}{P_1}\right) p_{i,1}\delta^u_{i,1}\right] - \left[\left(\frac{K_0}{P_0}\right) p_{i,0}\delta^u_{i,0}\right]\right\} \times \delta^C_{i,1}$$

Where:

$\delta^u_{i,1}$ *and* $\delta^u_{i,0}$ *are the disabilities affecting the quantity of infrastructure required by State i at the end and the start of the year*

$\delta^C_{i,1}$ *is the cost disability for State i at the end of the year*

$p_{i,1}$ *and* $p_{i,0}$ *are the populations of State i at the end and the start of the year*

$K_1$ *and* $K_0$ *are the Australian total value of infrastructure stocks at the end and start of the year*

$P_1$ *and* $P_0$ *are the Australian populations at the end and the start of the year*

## Population growth

33 State public documents indicate population growth increases the demand for State services and the infrastructure required to provide them.

- 'The growing population will require investment in additional basic services: local roads, utilities, healthcare and education. It will also require investment in transport infrastructure ….'[5]
- '... population growth is driving unprecedented demand for government services and infrastructure ...'[6]

34 States respond by investing in infrastructure, changing the total amount and the amount per capita over time. The observed investment of States and the observed average level of infrastructure form the starting point of our assessment.

35 The assessment is based on the view that, if States were alike, they would need the average per capita stock of infrastructure if they were to provide the average level of services under average service delivery policies. However, because population growth is not the same in all States, the assessment recognises States with above average population growth need to invest above average amounts.

36 Most States accept population growth affects investment, but they differ on whether the assessment accurately measures the effect. Chapter 26 – The impact of population growth on fiscal capacities indicates we have retained the 2010 Review methods which recognise population growth effects when the growth occurs and use a direct and proportional relationship between growth and infrastructure investment. It also outlines State arguments about the different ways population growth affects fiscal capacities and the Commission's decisions on those issues.

37 ***Measuring population growth.*** We have continued the 2010 Review methods where the average per capita asset values were derived using the same population figures as in all other calculations (at December of each year) and asset values at the following June. This was done to simplify the calculations.

38 In this review, we considered whether the accuracy of the assessments would be improved if the estimated resident population and asset values used to derive the average per capita value of infrastructure were aligned using June figures.

39 However, we concluded it would not materially improve equalisation outcomes.

## Quantity of infrastructure stock disabilities

40 States are not alike. Each State needs a State specific stock of infrastructure per capita (which reflects its specific characteristics) if it is to deliver the average level of

[5] Infrastructure NSW, State Infrastructure Strategy 2012-2032, p34.
[6] Western Australia 2013-14 Budget Paper 3, Economic and Fiscal Outlook, p37.

services to its residents. For example, if a State's population uses hospitals at above average rates, it warrants more hospital beds per capita. The quantity of stock disability measures these State specific requirements. For most services, the factors for the quantity of services States provide are used to measure the stock disabilities.

41 States accepted there is a link between service use and infrastructure stock requirements. They also generally accepted using service use factors to measure infrastructure needs was an appropriate, reasonable and simple approach, so long as analysis was done to ensure there is a link between service use and infrastructure needs. Some States said a few service use factors do not affect infrastructure. Some also said infrastructure needs vary less than proportionally to changes in service use.

42 We have proceeded on the basis that factors affecting the quantity of services States provide also affect infrastructure needs. A State which must provide a 10% above average quantity of services per capita is also likely to need 10% above average infrastructure. Above average service and infrastructure requirements arise if a State has: an above average proportion of its population in the service's target group (say, school children) or in groups which use the services more than others; or a below average proportion of the services provided by non-State providers. We have no basis for assuming changes in infrastructure are more or less than proportional to changes in service use over the longer term, although we acknowledge individual decisions to defer or advance investment may cause short-term variations in the relationship.

43 In some services, special programs or extra resources are provided for some groups of users which increase the cost per unit of service provided to them. For example, in schools, special programs may be provided for Indigenous students. These higher unit costs are reflected in the recurrent assessments. We examined these cases and included the unit cost effects only when there was a conceptual case and supporting data to indicate they flow-on to infrastructure requirements.

44 In the cases of roads and urban transport, there is evidence the effects on investment of factors such as road use, road length and city size differ from their effects on expenses. Specific assessments are used for these as set out below.

### *Quantity of stock disability for roads*

45 ***How road services are delivered.*** States build and maintain roads to enable people and goods to move within and between States. States own and are responsible for managing major roads (including highways), which connect localities within the State and connect the State to other States. Roads of lesser significance in both urban and rural areas are typically the responsibility of local governments.

46 The Commonwealth has defined a national land transport network containing linkages of strategic national importance. It is based on national and inter-regional

transport corridors including connections through urban areas, links to ports and airports, and intermodal connections that together are critical to national and regional economic growth, development and connectivity. These national network roads are recorded as State assets and States are responsible for them. The Commonwealth, however, provides a substantial proportion of the funds for their construction and also contributes towards their maintenance.

47 The road construction and upgrading projects States intend to undertake, including those on national network roads, are outlined in each State's capital program.

48 ***The approach to the quantity of stock disability for roads.*** We have continued to use the basic approach developed in the 2010 Review to assess road stock disabilities. The stocks of urban and rural roads are affected by road length, road use and bridge needs. The effects of each of those influences are weighted by the proportion of road capital expenditure they affect.

49 ***Making the urban/rural split for roads.*** Separate calculations are made for urban and rural roads to ensure the impact on investment of interstate differences in settlement patterns and the size of the road networks is captured appropriately. Making the separate calculations requires data on the value of road investment and road assets in urban and rural areas.

50 As noted in Chapter 17 – Roads, the ABS' Urban Centres and Localities (UCLs) of 40 000 or more have been used to measure urban areas in this review. Previously, urban areas were measured by using the ABS' Significant Urban Areas (SUAs). This change was made because UCLs cover less of the hinterland surrounding urban areas, which is more appropriate for setting urban boundaries for the urban and rural road length factors and is consistent with the approach used in the Urban transport assessment. The States supported the new approach.

51 The UCL-based measure of urban areas was used to collect data on urban population (used as a proxy for urban road length) and the urban/rural location of gross capital spending on roads, depreciation and road infrastructure.

52 The data provided by the States indicated, on average over the years 2011-12 to 2013-14, 59% of capital expenditure on roads took place in rural areas and 41% in urban areas. This allocation was quite different from one derived from data obtained from the National Transport Commission (NTC), the source of data used in the 2014 Update, which indicated 35% of capital expenditure was on rural roads and 65% on urban roads. Much of that difference arises because urban areas were measured more broadly in the NTC data than the UCL-based measure used by the Commission. The NTC data generally used significant urban areas but for some States, including New South Wales, they used local government areas which are larger than the UCLs and included some urban areas with populations below 40 000. There were also

differences in the coverage of the capital spending, including the treatment of land acquisition, in the two data sets.

53 We decided to allocate gross capital spending on roads to urban and rural roads using a blended split which is based two thirds on the data provided by the States and one third on the data obtained from the NTC. We adopted this approach because we have concerns about the reliability and interstate comparability of both data sets, but have more confidence in the State provided data. They were based on measures of urban/rural areas which more closely reflect the ones we sought to use. We consider this blended approach to deriving the average urban/rural allocation produces data which are sufficiently reliable for our purposes.

54 The value of road infrastructure, its allocation between roads located in urban and rural areas and the depreciation on those roads has been based on asset value data provided by each State for each assessment year. Those data indicate rural roads represented 68% of total road assets and urban roads were 32%.

55 We consider further work should be done in the next review to improve the quality of data on urban and rural roads and ensure the data are prepared on a consistent basis across States.

56 ***Are all the main drivers of road investment captured?*** The drivers of road stock requirements recognised in the assessments are:

- the length of State road networks which reflect the State geography and settlement patterns
- road use, which affects the design standards of the roads
- population which, in the absence of a more appropriate indicator, is used to measure the need for bridges.

57 Investment in national network roads is partly funded by Commonwealth payments. We concluded the size and interstate distribution of Commonwealth payments for projects on the national road network is affected by needs which are not adequately captured by the State based measures of the drivers of road stock requirements. This is reflected in the assessments by treating half the Commonwealth payments for projects on national network roads (and the national rail network) and the investment they fund in a way that does not affect the GST distribution.

58 Submissions from States and their capital programs indicated much of their recent road investment, especially for rural roads, has been aimed at upgrading roads, improving efficiency and increasing the capacity of their road networks.

59 Investment in these types of projects is influenced by road length and use. It is also affected by traffic intensity which creates a need for multi-lane, higher quality roads in heavily trafficked areas. However, we have not assessed a traffic intensity factor

because we do not have an indicator which is policy neutral, reliable and comparable across States.

60 South Australia argued the assessment should recognise urban road costs consist of a fixed cost element and variable costs which decrease with city size — that is, the relationship between costs and city size has the opposite gradient to the one for urban public transport. It said recognising even a slight downward gradient in the cost curve for urban roads would improve the consistency of the combined urban road and urban transport assessments. Western Australia also noted there was no recognition of any links between the need for urban transport services and urban roads in the two assessments.

61 This argument seems to imply the aggregate transport task in urban areas is relatively fixed — as the urban public transport task and costs increase with city size, the urban road task and costs decrease. It is not clear this is the case. The road transport task and the urban transport task could both increase with city size as urban transport does not provide a substitute for the movement of goods which is a large and increasing part of the road task. Furthermore, road infrastructure appears to become more sophisticated, complex and costly as city size increases. We have been unable to test these arguments in this review. It may be possible to do so in a future review if the necessary data on road traffic levels, infrastructure requirements and costs in cities of various sizes are available.

62 ***Are the weights given to each factor appropriate?*** All States accept the value of road stock is driven by the length of roads and road use. The debate has been about the relative contribution of those factors.

63 Prior to the 2010 Review, it was assumed length and use each affected 50% of road capital spending. During the 2010 Review, the Commission concluded data from the NTC provided more objective measures of the proportion of capital spending on road extensions and improvements directly attributed to heavy vehicles. The Commission considered spending not directly attributable to heavy vehicles was driven by road length.

64 This approach indicated 67% of capital expenditure on roads was driven by road length, 17% by road use (consisting of 6% driven by traffic volume and 11% by heavy vehicle use) and 16% by population.

65 States supported this approach. We have continued to use NTC data to determine the proportions of road capital spending affected by road length, heavy vehicle use, traffic volume and population.

### *Quantity of stock disability for urban transport*

66 The urban transport investment component covers the consolidated investment of the general government and public non-financial corporation (PNFC) sectors in urban

transport, including rail, bus and ferry services. It does not cover inter-urban passenger transport investment.

67 It is a new component in the assessment, in part, in response to the requirement in the terms of reference that the Commission consider developing a new transport infrastructure assessment. The activities of urban transport corporations are part of the assessment because we consider they provide services which are similar to general government services.

68 Further detail on the context for this assessment is in Volume 1, Chapter 2 – Main issues.

69 ***How are urban transport services delivered?*** States differ in the way they provide these services. In capital cities, the services are delivered by a mix of general government agencies, public corporations and private providers. In large regional centres, services are provided through public corporations and/or private providers. In smaller centres, States generally use private providers to deliver the services.

70 At the time of the 2010 Review, urban passenger transport services were mostly delivered by public corporations or private providers. Since then, some States, such as New South Wales, Queensland and South Australia, have shifted to providing the services (or aspects of them, such as integrated ticketing systems, timetabling and multi-modal interchanges) through general government agencies.

71 In terms of the transport modes, heavy and light rail are restricted to the five largest capital cities and their satellite cities. Rail services are highly capital intensive and require considerable investment and recurrent expenses. Buses are employed in virtually all urban centres with populations over 20 000.

72 The urban rail networks are State owned. Victoria owns the rail network through VicTrack (a public corporation) and leases it to private operators. The urban rail network in South East Queensland is owned by Queensland Rail and operated by the general government sector. The other three States with urban rail networks own and operate them in their capital cities through public corporations or, in the case of South Australia, directly through the general government sector.

73 New South Wales, Victoria and Queensland own and operate significant rail networks in large urban centres outside the capital cities. These are the Central Coast, Newcastle and Wollongong in New South Wales, Geelong in Victoria, and the Gold Coast and Sunshine Coast in Queensland.

74 State ownership of bus assets is more limited. New South Wales owns some in Sydney and Newcastle. South Australia owns some in Adelaide. The ACT and the Northern Territory own bus assets in Canberra and Darwin. Western Australia and Tasmania own bus assets in the capital cities and regional towns through their urban

transport corporations. All other States contract with private providers for bus services with assets owned and maintained by the providers.[7]

75 Table 8 shows there are State-owned urban transport assets in 24 cities with a population over 20 000.

**Table 8 Asset ownership for cities with population over 20 000**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | no. | no. | no. | no. | no. | no. | no. | no. | no. |
| Cities with State-owned assets (totally or in part) | 4 | 5 | 3 | 6 | 1 | 3 | 1 | 1 | 24 |
| Cities with no State-owned assets | 21 | 7 | 10 | 0 | 3 | 1 | 0 | 1 | 43 |

Source: State provided information and State government publications. The Sunshine Coast and the Gold Coast are each classified as a city.

76 ***Assessment method.*** The Commission has decided to assess investment in urban transport infrastructure in much the same way as other investment. It recognises:

- larger cities require more urban transport infrastructure per capita than smaller cities to deal with their larger transport task
- population growth is an important driver of investment
- interstate differences in the cost of infrastructure affect investment.

77 ***City specific infrastructure requirements.*** A simple population based model has been used to assess each State's share of the national urban transport infrastructure. It is based on our observation that urban transport infrastructure grows at a constant rate as cities get bigger. Assessed investment was then calculated by subtracting the State's assessed stock at the start of a year from its assessed end of year stock. A three year average of city populations has been used for each year to reduce any volatility in the stock disabilities.

78 Unlike the infrastructure assessments for most other services, we have not used the disabilities assessed for recurrent urban transport services to assess urban transport infrastructure requirements. We used infrastructure specific disabilities for urban transport (and roads) because they differ substantially from those for operating expenses. Figure 1 shows the shape of the relationship between city population and urban transport asset values differs from the shape of the relationship between city size and net operating expenses.

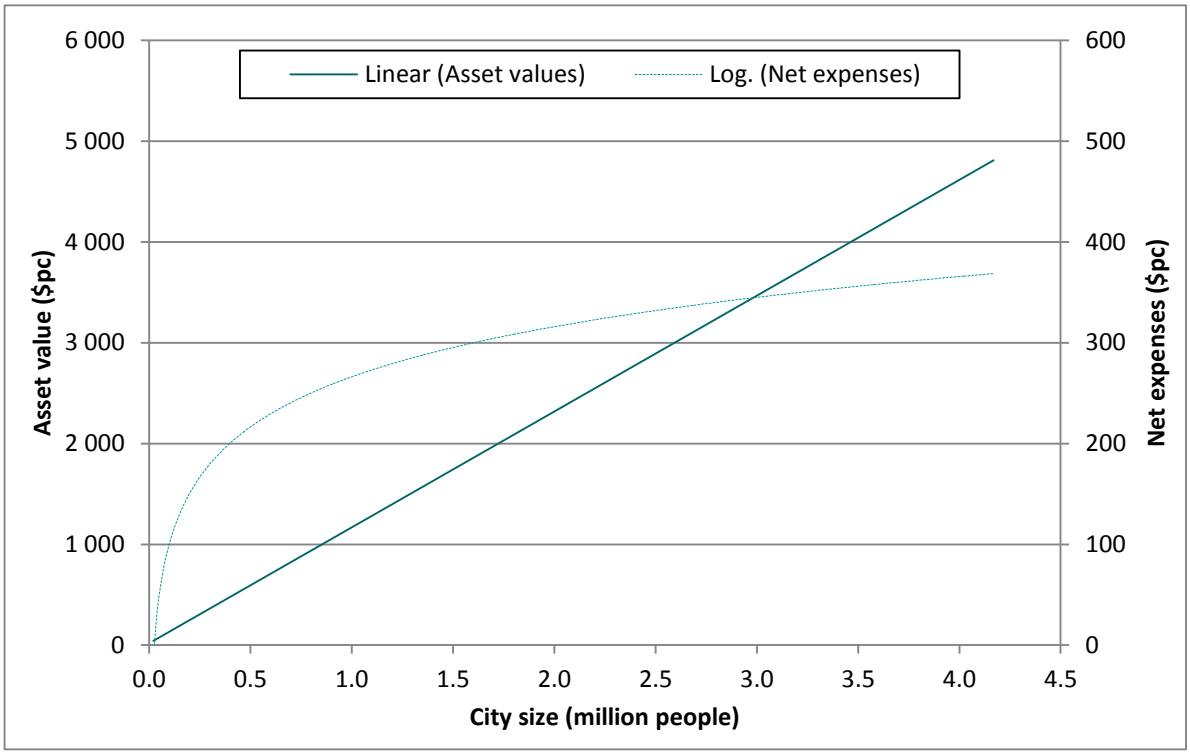
79 The population based model for urban transport infrastructure rests on the view that larger cities need much more stock per capita than smaller cities. The conceptual case for this view is strong. It reflects the findings of the consultants employed in the 2010 Review to advise on the Transport assessment methods. They found a high

[7] In Queensland, local governments own some bus assets.

correlation between the annual cost of capital charges and the population of each of the cities. They said this arose for two reasons.

- The number of trips per capita and trip length rise as city population increases and more assets are needed to carry the greater number of users.
- Diseconomies of scale mean larger cities need more capital than smaller cities to undertake the transport task. For example, more buses may be needed because of the slower average travel time in larger cities, or rail systems may be required to meet high levels of demand. Such effects may, however, be partly offset by greater productivity of the assets in larger cities, for example with higher average vehicle occupancy.

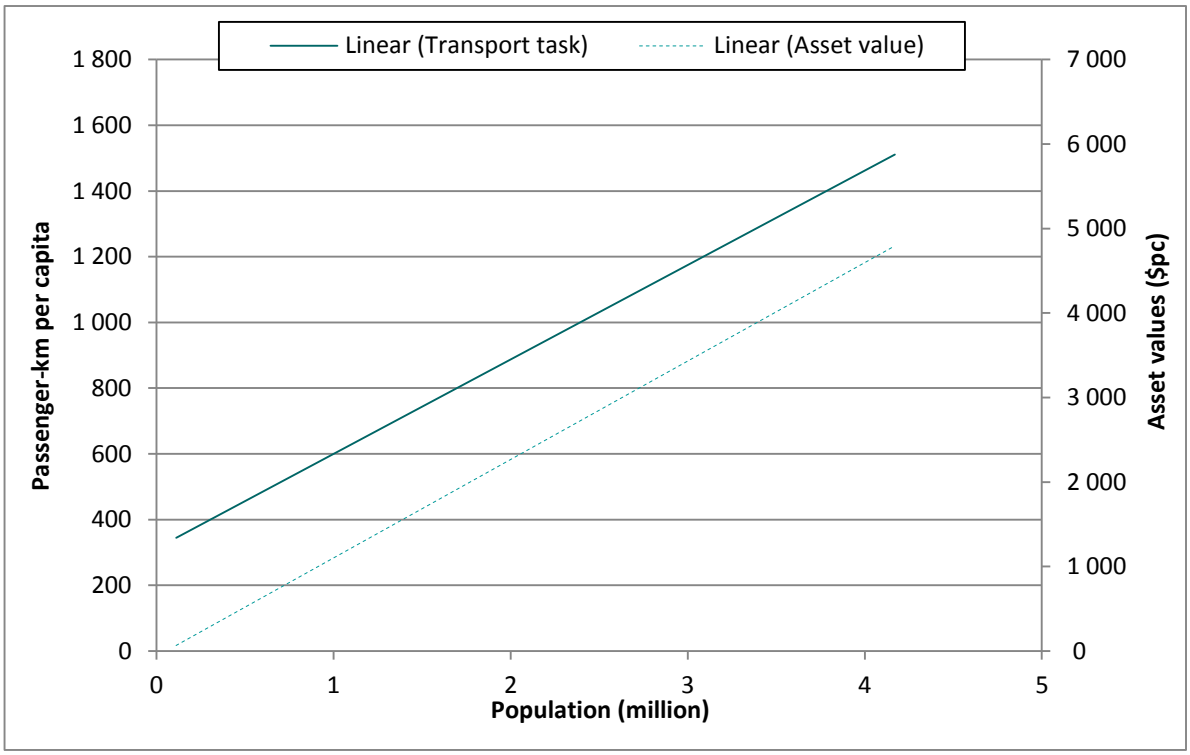
**Figure 1 Comparison of relationships between transport assets and net expenses and city size, 2011–12**




Source: Commission calculation.

80 The available data, summarised in Figure 2, indicate the per capita transport task and per capita asset values increase with urban centre population size.

**Figure 2** **Per capita asset values and transport task by capital city, average of 2010-11 to 2011-12**




Source: Data provided by the States and the Bureau of Infrastructure, Transport and Regional Economics.

81 Regression analysis during this review also showed the per capita value of State urban transport assets increased with city size. Table 9 shows those results.

**Table 9** **Stock of urban transport infrastructure by urban population size, 2011–12**

| City size | 20 000 to 50 000 | 50 000 to 100 000 | 100 000 to 250 000 | 250 000 to 1 000 000 | 1 000 000 to 2 500 000 | 2 500 000 and over | Total |
|---|---|---|---|---|---|---|---|
| Asset values ($pc) | 36 | 81 | 181 | 425 | 2 051 | 4 808 | 2 158 |
| Total population living in cities by size (million) | 1.1 | 0.8 | 0.9 | 2.3 | 5.1 | 8.3 | 18.4 |

Source: Commission calculation using data from State transport departments and ABS.

82 The regression analysis suggested per capita asset values increase linearly with city size and have an intercept that is close to the origin. While New South Wales, Victoria and the Northern Territory broadly supported that analysis, the other States did not because: the model was too simple; the data were not sufficiently reliable (for example the asset values were not comparable across States or cities); there were too few observations; the fitted line was driven by a few important observations, especially that for Sydney; and city boundaries were important.

83 Queensland also said the outcome of the regression analysis could not be assumed to represent average policy. It said there is no way to ascertain whether observed

differences in the actual stock values of large cities represented differences in policies, technical efficiency or an underlying need for different levels of stock.

84 Western Australia was concerned the regression analysis may have been driven by differences in State policies and the timing of investment. This was in the context of a large planned expansion of the Perth urban transport system to be completed in 2031. It was also concerned the analysis was not sufficient to show whether the relationship for small urban centres differed from that for capital cities. It, and the ACT, suggested a quadratic function fitted the data better than a linear one.

85 South Australia noted the slope of the asset value/urban population relationship appeared to be much steeper than that for depreciation expenses.

86 Further analysis done in the light of the State concerns indicated the assessment was insensitive to the slope of the relationship between city size and asset values, and thus insensitive to the data from any one city, or set of cities. The analysis showed assessed asset values would be entirely driven by the square of urban centre populations if the relationship between city size and asset values was linear and had a zero intercept. The analysis is summarised in Appendix A to this chapter.

87 We consider those simplifying assumptions are reasonable. The data are sufficiently accurate to show there is an upward sloping relationship between city size and assets per capita. It would remain upward sloping even if the asset values of a number of cities were substantially overstated or understated. The regression analysis and logic indicate a zero intercept is a reasonable assumption.

88 In their final submissions, all States except New South Wales and Victoria expressed reservations with or opposition to that population model. New South Wales and Victoria considered the conceptual case that larger cities require more assets per capita to deliver urban transport services has been established and is supported by the available data. They agreed the population model reduced the potential impact of any data quality issues and supported its use without a discount.

89 The other States, however, maintained the population model did not overcome their concerns about the conceptual case, the shape of the relationship between city size and per capita infrastructure (especially the conclusion it was a linear relationship) and the quality of the data (especially the potential for it to be policy influenced). Queensland considered the State-provided data were not sufficiently reliable for use in the regression analysis and so could not be used to support the population model. These States concluded that if the population model was used, a discount of at least 50% should be applied. Queensland suggested replacing the population model with a placeholder assessment based on State shares of urban population.

90 ***Population growth.*** The Investment assessment recognises population growth is an important driver of State investment. This is also appropriate for urban transport. However, in this case, growth in urban population, rather than total population, is the relevant driver.

91 ***Conclusion.*** The analysis done during this review indicated urban transport infrastructure requirements (in total and per capita terms) increase strongly with city size. This conclusion is supported by the views of the consultants engaged to consider urban transport matters in the 2010 Review. We have concluded the conceptual case is proven. We also consider the population model is a reasonable though simplified depiction of urban transport infrastructure needs.

92 Nevertheless, there are concerns about the shape of the relationship between city size and infrastructure requirements and whether other drivers, which we have not been able to measure, affect infrastructure requirements. To allow for those concerns, we assessed urban transport infrastructure requirements as the average of:

- those derived from the population model, which reflects the effects of city size and urban population growth
- those which reflect only urban population growth.

93 The effects of interstate differences in the relative costs of the assessed urban transport infrastructure requirements are recognised in the same way as they are for other investment (see paragraphs 126 to 128).

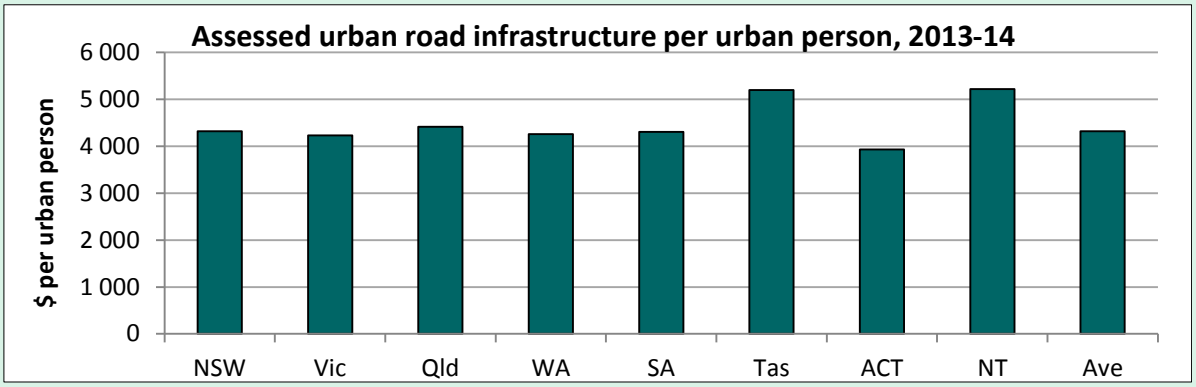
94 The simplified model includes all cities with populations over 20 000. The populations for these cities are defined using ABS Urban Centres/Localities contained within Significant Urban Areas. While the definition of urban centres may not capture exactly the population serviced by the urban transport networks, we have adopted it because it is policy neutral. The issue of the definition of city boundaries is discussed more fully in Chapter 18 — Transport.

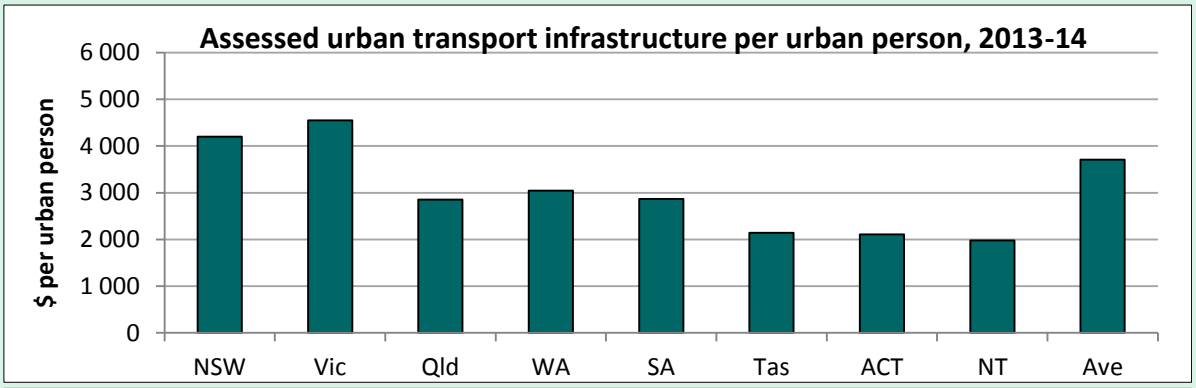
95 The inclusion of all urban centres with populations over 20 000 is consistent with the new approach to deciding average policy and with the assessment for urban operating expenses in the Transport category.

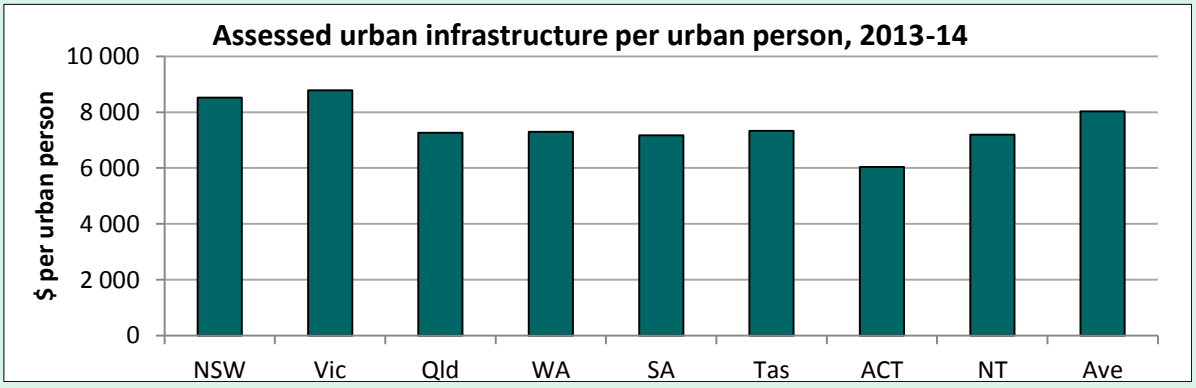
## URBAN INFRASTRUCTURE ASSESSMENTS

The terms of reference asked us to consider developing a new transport infrastructure assessment.

We have not developed a single assessment for transport infrastructure in urban areas. We have made separate assessments for urban roads infrastructure and urban transport infrastructure because it is the most transparent way of recognising the different drivers of roads and urban transport infrastructure. The following figures summarise the assessed transport infrastructure requirements per urban person for 2013-14.



### *Quantity of stock disability for other services*

96 Disabilities reflecting the quantity of infrastructure each State requires to provide the average level of services in its circumstances have been measured by reference to the factors affecting recurrent service delivery expenses.

97 In the 2010 Review, the derivation of the quantity of stock factors included a 12.5% discount as a simple means of excluding the impact of recurrent factors which do not affect infrastructure requirements. In this review, we took a different approach and examined each recurrent factor and explicitly excluded those which do not affect infrastructure from the calculation of the stock disabilities.

98 Our examination indicated most recurrent factors also affect infrastructure. Most States agreed with our conclusions. New South Wales was one of those States but it also said the 12.5% discount should remain because the recurrent factors are not accurate measures of stock needs. We consider the explicit exclusion of recurrent factors which do not affect infrastructure provides the best available measure of infrastructure needs and retaining the discount would result in infrastructure needs being understated. We, therefore, discontinued the discount.

99 The Northern Territory argued the presence of Indigenous students in schools increases the infrastructure requirements. It supported its case with data from a sample of 62 remote or very remote schools across all States except Tasmania and the ACT. The data indicated schools where more than 25% of the students are Indigenous have on average 3 or 4 extra facilities.[8] The Territory also said schools with large Indigenous populations tend to have larger, purpose-built rooms. We applied the recurrent Indigenous schools cost weight to Indigenous students in schools where over 25% of enrolments are Indigenous.

100 The Northern Territory also provided information to show housing provided for Indigenous tenants is larger, has higher specifications and costs more than public housing for other tenants. Consequently, we applied the recurrent Indigenous housing cost weight to housing provided specifically for Indigenous tenants.

101 Table 10 shows the recurrent factors which have little or no effect on infrastructure requirements and are excluded from the infrastructure assessments. Our examination of all recurrent factors is in Appendix B to this chapter.

[8] Extra facilities included rooms for supplementary education programs, rooms for cultural or well-being programs, kitchens dedicated to nutritional programs, rooms with technology to assist students with hearing difficulties and rooms to provide crèches for students with children.

**Table 10 Factors affecting recurrent expenses not applied to infrastructure**

| Category or factors | Comments |
|---|---|
| Schools — socio-demographic factors | Interstate differences in government school enrolments and service delivery scale factors have a proportionate effect on all recurrent inputs and infrastructure required to deliver school services. When more than 25% of a school's enrolments are Indigenous, extra infrastructure needs are noticeable and Indigenous cost factors are applied to Indigenous students in those schools.<br>Low SES and low proportions of Indigenous students may increase staffing but not necessarily school infrastructure. Low SES cost weights are not applied to assets. Nor are Indigenous cost weights if less than 25% of enrolments are Indigenous. |
| Non-government school factors | Non-government enrolments, the composition of those enrolments and other factors affecting State subsidies to non-government schools have no effect on the quantity of State infrastructure. They are not applied in the infrastructure assessments. |
| School transport | These services are usually acquired from non-government providers. Recurrent costs are affected but infrastructure requirements are not. |
| Post-secondary | Low SES and Indigenous cost factors do not have a major effect on physical assets. |
| Welfare — service delivery scale for child services | Child protection services in sparsely populated areas are usually provided by staff from nearby larger centres. This affects recurrent expenses but not infrastructure. The factors are not applied to infrastructure. |
| Housing — Indigenous cost weights | The greater propensity of Indigenous people to use government housing is captured. The Indigenous cost factor captures the extra costs of maintaining housing for Indigenous tenants. As housing built specifically for Indigenous tenants is often larger, with higher specifications and costs more than other public housing, the Indigenous cost factor is applied to the assessed number of Indigenous households in each State, as adjusted to reflect the average proportion of Indigenous households in Indigenous specific housing. It is not applied to the other housing stock. |
| First home owners | These expenses have no effect on State infrastructure requirements. |
| Police - national capital allowance | The factor reflects the higher wages paid to police in the ACT because they are Commonwealth employees. It is not included in the infrastructure assessments. |
| Other expenses — National capital factors | The factors allow for the maintenance of wider roads provided before self-government and extra planning functions arising from Canberra's national capital role. They do not provide for replacing or increasing the road stock or affect other infrastructure needs. They are not included in the infrastructure assessments. |
| Natural disasters factors | The factors cover all above average disaster assistance and rebuilding. They are not included in the infrastructure assessments to avoid double-counting. |
| Native title and land rights factors | These factors cover all interstate differences in costs of resolving and compensating claims. Including them in the infrastructure assessments would be double counting. |

102 ***How should the stock disabilities be combined?*** For services other than roads and urban transport, the stock disabilities are a weighted combination of the disabilities for each service. In this review, the weights are the average proportion of infrastructure used in providing each service.

103 All States agreed this is the most appropriate basis for weighting. It better matches the disabilities with the infrastructure they affect than the 2010 Review method which used the proportion of depreciation expenses as a proxy for the proportion of

infrastructure. That approach understated the proportion of infrastructure devoted to some services as it implied all infrastructure had the same depreciation rates.

104 The data on infrastructure used for each service were provided by the States. We consider the State data are a sufficiently robust and reliable basis for calculating the all-State averages required for the calculations.

105 The average proportion of infrastructure devoted to each service is in Table 11.

**Table 11 Average proportion of infrastructure used to provide services, other than roads and urban transport**

| | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|
| | % | % | % |
| Schools education | 25.1 | 24.5 | 24.3 |
| Post-secondary education | 3.7 | 3.5 | 3.0 |
| Health | 16.5 | 18.2 | 19.4 |
| Welfare | 1.0 | 1.0 | 1.1 |
| Housing | 22.7 | 22.3 | 22.4 |
| Services to communities | 3.4 | 3.2 | 3.2 |
| Justice | 7.8 | 7.7 | 7.6 |
| Transport (a) | 0.5 | 0.5 | 0.5 |
| Services to industry | 2.4 | 2.5 | 2.4 |
| Other expenses | 17.0 | 16.5 | 16.1 |
| Total | 100.0 | 100.0 | 100.0 |

(a) Excludes assets used for roads and urban transport.
Source: State provided data.

## Dealing with volatility in the stock factors

106 The quantity of stock disabilities assessed for the roads, urban transport and other services components for each of the years 2011-12 to 2013-14 have been derived as averages of the factors assessed for that and the previous three years. The three year averages are used to reduce the volatility in the year to year changes in the disabilities and to recognise that States do not necessarily respond immediately to changing circumstances. The same approach was used in the 2010 Review.

107 This approach means disabilities for individual services back to 2008-09 may affect the assessments. In some cases, such as health, housing and welfare services, data required to assess disabilities using the methods adopted in this review are not available for years prior to 2010-11. In those cases, disabilities for the earlier years have been based on the best available estimates.

## The assessed stock factors

108 Table 12 shows the roads, urban transport and other services three year average quantity of stock factors assessed for each State at the start and the end of 2013-14.

**Table 12 Assessed stock factors, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| Urban roads | | | | | | | | | |
| End of year factor | 0.991 | 1.023 | 1.019 | 1.019 | 0.927 | 0.787 | 1.216 | 0.782 | 1.000 |
| Start of year factor | 0.991 | 1.023 | 1.018 | 1.020 | 0.927 | 0.789 | 1.219 | 0.783 | 1.000 |
| Rural roads | | | | | | | | | |
| End of year factor | 0.803 | 0.687 | 1.148 | 1.447 | 1.311 | 1.103 | 0.212 | 5.824 | 1.000 |
| Start of year factor | 0.801 | 0.687 | 1.147 | 1.462 | 1.303 | 1.094 | 0.213 | 5.835 | 1.000 |
| Roads (a) | | | | | | | | | |
| End of year factor | 0.906 | 0.871 | 1.077 | 1.213 | 1.101 | 0.930 | 0.762 | 3.062 | 1.000 |
| Start of year factor | 0.905 | 0.871 | 1.076 | 1.220 | 1.097 | 0.927 | 0.764 | 3.069 | 1.000 |
| Urban transport | | | | | | | | | |
| End of year factor | 1.142 | 1.255 | 0.744 | 0.874 | 0.721 | 0.427 | 0.718 | 0.404 | 1.000 |
| Start of year factor | 1.144 | 1.254 | 0.745 | 0.870 | 0.723 | 0.428 | 0.720 | 0.405 | 1.000 |
| Other services | | | | | | | | | |
| End of year factor | 0.981 | 0.935 | 1.031 | 1.017 | 1.035 | 1.122 | 0.940 | 1.932 | 1.000 |
| Start of year factor | 0.981 | 0.936 | 1.030 | 1.016 | 1.034 | 1.121 | 0.942 | 1.946 | 1.000 |

(a) These factors are investment weighted combinations of the urban and rural roads factors.
Source: Commission calculation.

## Capital cost disability

109 Cost disabilities allow for interstate differences in wage levels, the price of materials and other unavoidable factors affecting the cost of services and infrastructure.

110 During this review, Western Australia and some other States said an explicit capital cost index should be used to measure the infrastructure cost disability instead of the recurrent interstate and regional cost factors used in the 2010 Review method.

111 A capital cost index is more appropriate than the recurrent cost factors if a reliable one is available, it is policy neutral and it is materially different from the recurrent factors. A capital cost index would reflect the mix and price of inputs used in producing capital rather than the mix and price of inputs used in service delivery. Capital cost indices also capture the effects on costs of city size, construction market conditions and environmental impacts which affect the building codes. Since those factors affect the costs of acquiring infrastructure and their effects vary from State to State and over time, they should be reflected in Commission assessments.

112 Several businesses produce capital or construction cost indices. Of those, we considered the indices published by Rawlinsons Australia[9] were the most suitable for our purposes. They cover Hobart and regional centres in each State, which are not covered in most other indices. They also cover a wider range of construction activities and they are suited to comparisons across locations and time (some other indices concentrate on comparisons over time for each location).

113 Rawlinsons publish two sets of construction cost indices.

- A capital city index, which shows costs in each capital city relative to Sydney. It is derived annually from a review of building costs for the most commonly constructed types of buildings, tender returns, market conditions and discussions with contractors, consultants and suppliers. Rawlinsons has advised the capital city indices are derived in a consistent manner across States and can be used for interstate comparisons.
- Regional indices, which capture construction costs in regional and remote areas of a State relative to its capital city. These indices are calculated by comparing the cost of a building in the capital city with the cost of a similar building in regional and remote towns. They provide consistently derived intrastate measures of cost differentials in each State but must be adjusted to include the interstate dimension.

114 Queensland noted the Commission used the Rawlinsons indices with a 50% discount in deriving the depreciation cost disability in the 1999 Review but discontinued that approach in the 2004 Review because it was considered inappropriate. It said the Commission should not use an index it previously considered was inappropriate.

115 However, we consider the circumstances which led to the previous decision no longer apply. The previous decision reflected concerns about the impact of State taxes and charges on the indices, volatility in the indices over time and possible double counting with other disability factors. Recent information indicates interstate differences in taxes and charges have a negligible effect on the indices and other method changes have removed the potential for double counting. Furthermore, we consider changes in State circumstances affecting the costs States incur in purchasing construction services affect their fiscal capacities.

116 ***Reliability.*** The Rawlinsons indices are prepared specifically to provide data on construction costs and variations in them. They are independent and widely used, including in arbitration cases, throughout Australia. They are regarded as the industry standard in construction cost indices.

117 The indices cover a wide range of construction in all capitals. The range of activities covered in regional centres is of necessity narrower. Similar methods are used in

[9] Rawlinsons Australian Construction Handbook, Edition 32, 2014 and previous years. See the Regional Variation Indices on page 875 (called capital city indices in this report) and the Regional Indices on pages 21 to 32 (called regional indices in this report).

preparing the indices for each capital city and for each region within States. The indices are therefore suitable and reliable indicators of inter-location and inter-temporal differences in construction costs.

118 The capital city construction cost indices are a composite of indices for many commonly constructed building types, including administrative buildings, retail, industrial, civic, hotel and residential buildings. Some States said the indices are unsuitable for Commission purposes because that coverage does not reflect the construction undertaken by States. While the indices do not specifically cover the types of buildings States construct, the breadth of their coverage means they provide a good guide to the underlying differences in construction costs and are suitable for our purposes.

119 ***Policy neutrality.*** Some States said the indices are an inappropriate basis for deriving cost factors because they may be affected by State policies in the following ways. Others said any State policy effects are minor and would not materially distort the indices.

- Differences in State taxes and charges. The indices may be affected by interstate differences in some taxes, such as payroll tax. However, the effects of these differences are minor as taxes and charges affect at most 5% of construction costs and State infrastructure contribution levies are not included in the indices. Adjusting the indices by the relative State revenue raising efforts introduces complexity and has a negligible effect on the GST outcome.
- Differences in specifications for State buildings. This effect is minimal because few State buildings have a direct impact on the capital city indices.
- Differences in building codes. A national building code sets uniform minimum standards but States and local governments can increase them, thereby introducing policy effects. States can also limit local government's ability to vary the codes. However, the building codes appear to be heavily influenced by technical requirements which would be broadly similar in similar circumstances. Queensland said its building code also deals with siting standards and energy efficiency which may have greater policy content. Tasmania and the Northern Territory said differences between the national minimum code and their codes are due to technical issues. The Northern Territory said its examination of State building codes found no evidence that State variations are inconsistent across areas with the same natural hazards.

120 We concluded differences in State policies have small effects on the indices.

121 ***Coverage.*** Some regional centres are not explicitly covered by the regional cost indices. The extent of coverage varies across States (it averages 80% of the population) and is lowest for Tasmania (60% of population) and the Northern Territory (68% of population).

122 Indices for centres not explicitly covered by the data were estimated by assuming those centres have the same regional cost index as the closest centre whose index is available and which has the same degree of remoteness and a similar population.

123 Overall State-wide indices were derived for each State by combining its capital city index and the indices for each regional centre. This was done as a population weighted combination of the capital city index and the product of the capital city index and the regional index for each region outside the capital city. [10]

124 Another coverage issue relates to the range of investment the indices cover. The Rawlinsons indices are based on a set of commonly constructed buildings. As road construction has a more limited range of materials, the indices may be less suitable as a guide to relative road construction costs if variations in the prices of road materials are markedly different from those for other construction materials. However, as the Northern Territory noted, such inputs are about 26% of road inputs and cost differentials for the other 74% are reflected in the indices.

125 In addition, while the construction cost indices capture the costs of equipment included in buildings, such as air conditioning, they do not capture the costs of other equipment used in service delivery, which represents 15 to 20% of investment. We are not, however, aware of unique State specific factors affecting equipment costs.

126 ***Conclusion.*** We consider using a construction cost index is a conceptually appropriate approach to measuring capital costs and the Rawlinsons indices are reliable and comprehensive indicators of relative construction costs. However, we have some concerns about how well the indices capture some cost differentials, such as those for road construction and equipment.

127 States, other than New South Wales and Queensland, supported or accepted this conclusion. Queensland preferred the continued use of cost disabilities derived from the recurrent wage and regional cost factors. Western Australia and the Northern Territory considered no discounting or at most a small discount was required. Western Australia also argued discounting towards an equal per capita or zero needs position was not appropriate. It said, since the Commission is seeking to improve on the factors implied by the recurrent cost factors, any discounting should be towards the recurrent factors rather than equal costs.

128 On balance and against the background of our concerns about the construction cost indices, we assessed the capital cost disabilities as a blend of undiscounted factors

[10] The regional indices available from the Rawlinsons publications reflect costs in each centre relative to the State capital city. They were multiplied by the capital city index to create indices relative to the Australian average. New South Wales said creating indices for regional centres in this way may not be sufficiently accurate. It said cottage style social housing in regional areas is cheaper than the forms of housing in densely populated parts of inner-Sydney. We consider any inaccuracy is unlikely to be significant as the regional loadings reflect cottage-style housing costs in regions relative to those in capital cities and cottage style housing costs are in the capital city indices.

based on the Rawlinsons construction cost indices and the recurrent wage and regional cost factors. The two sets of factors were averaged. Table 13 shows the 2013-14 undiscounted construction cost indices, the recurrent cost factors and the assessed capital cost factors for roads, urban transport and other services.

**Table 13 The construction cost, recurrent cost and assessed cost factors, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| Construction cost indices | | | | | | | | | |
| Roads (a) | 1.006 | 0.948 | 0.978 | 1.117 | 1.004 | 0.973 | 1.001 | 1.294 | 1.000 |
| Urban transport (b) | 1.012 | 0.975 | 0.968 | 1.057 | 1.000 | 0.997 | 1.034 | 1.217 | 1.000 |
| Other services | 1.006 | 0.966 | 0.961 | 1.093 | 1.011 | 0.971 | 1.044 | 1.319 | 1.000 |
| Recurrent wage and regional costs factors | | | | | | | | | |
| Roads (a) | 0.995 | 0.968 | 1.014 | 1.063 | 1.004 | 0.968 | 0.991 | 1.062 | 1.000 |
| Urban transport | 1.004 | 0.988 | 0.989 | 1.041 | 0.991 | 0.966 | 1.033 | 1.018 | 1.000 |
| Other services (c) | 1.000 | 0.982 | 0.993 | 1.050 | 0.993 | 0.980 | 1.023 | 1.098 | 1.000 |
| Assessed capital costs factors (d) | | | | | | | | | |
| Roads | 1.000 | 0.958 | 0.996 | 1.090 | 1.004 | 0.971 | 0.996 | 1.178 | 1.000 |
| Urban transport | 1.008 | 0.981 | 0.978 | 1.049 | 0.996 | 0.982 | 1.033 | 1.117 | 1.000 |
| Other services | 1.003 | 0.974 | 0.977 | 1.071 | 1.002 | 0.976 | 1.033 | 1.209 | 1.000 |

(a) An investment weighted combination of the factors for urban and rural roads. The urban roads construction cost indices reflect costs in State capital cities and other cities with over 40 000 people. The rural road indices reflect costs in centres of less than 40 000 people.
(b) Reflects construction costs in urban centres of over 20 000 people.
(c) A gross capital expenditure weighted combination of the factors for each service.
(d) An average of the construction cost indices and the recurrent factors.
Source: Staff calculations.

## Investment in land and non-produced assets

129 This review continues the approach adopted in the 2010 Review whereby stocks of general government land and investment in the acquisition of land and non-produced assets do not affect the relativities. Investment in land is assessed on an equal per capita basis. Our decision to treat housing and urban transport corporations as general government activities in this review has increased our measure of the value of general government land.

## Bringing the investment assessment together

130 Table 14 illustrates the calculation of assessed investment for 2013-14.

131 These calculations rely on service use data in all other expense assessments. Since most quantity of stock disabilities are derived from recurrent service use factors,

method and data changes introduced in this review in categories, such as health and education, also affect the investment assessment.

**Table 14 Investment assessment, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| Assessed infrastructure stocks at the end of the year | | | | | | | | | |
| Roads | 7 680 | 7 149 | 9 670 | 11 317 | 10 264 | 8 656 | 5 170 | 34 609 | 8 794 |
| Urban transport | 3 563 | 3 915 | 2 322 | 2 728 | 2 249 | 1 332 | 2 242 | 1 260 | 3 120 |
| Other services | 9 168 | 8 740 | 9 638 | 9 500 | 9 667 | 10 489 | 8 782 | 18 056 | 9 344 |
| Total | 20 411 | 19 804 | 21 630 | 23 545 | 22 180 | 20 477 | 16 194 | 53 924 | 21 258 |
| Assessed infrastructure stocks at the start of the year | | | | | | | | | |
| Roads | 7 552 | 7 009 | 9 502 | 11 101 | 10 137 | 8 593 | 5 075 | 34 155 | 8 644 |
| Urban transport | 3 338 | 3 646 | 2 168 | 2 505 | 2 122 | 1 264 | 2 100 | 1 179 | 2 912 |
| Other services | 9 131 | 8 678 | 9 565 | 9 329 | 9 681 | 10 555 | 8 755 | 18 041 | 9 285 |
| Total | 20 021 | 19 332 | 21 234 | 22 934 | 21 941 | 20 412 | 15 930 | 53 374 | 20 841 |
| Change in stocks (a) | 390 | 472 | 395 | 611 | 240 | 65 | 263 | 550 | 417 |
| Cost factor (b) | 1.001 | 0.969 | 0.980 | 1.063 | 0.996 | 0.980 | 1.015 | 1.161 | 1.000 |
| Cost adjusted assessed investment (c) | 391 | 457 | 387 | 649 | 239 | 64 | 267 | 639 | 417 |
| Assessed investment - land | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 |
| **Total assessed investment (d)** | 487 | 554 | 484 | 745 | 335 | 160 | 364 | 735 | 514 |

(a) Total assessed stocks at the end of the year less total assessed stocks at the start of the year.
(b) An investment weighted combination of the cost factors for each component.
(c) Assessed change in stocks multiplied by the cost factor.
(d) Table may not add due to rounding.
Source: Commission calculation.

## *Alternative presentation*

132 Table 15 provides an alternative presentation using a factor approach.

- For the roads, urban transport and other services components, it shows: the factors implied by the change in assessed stocks in the year (which reflects the extent to which the per capita investment the State must make to finish the year with its assessed capital stocks is above or below the average); each State's capital cost factor; and the weighted contribution of each component towards the total category factor.
- For land, each State is assessed to require the average per capita investment, which implies a factor of 1.000.

133 Disability factors below one indicate a State is assessed to need less than average investment. Factors above one indicate it needs above average investment.

134 Each State's assessed investment can be calculated by applying its category factor from Table 15 to the average per capita investment.

**Table 15 Category factor, Investment, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| **Roads component (component weight = 29%)** | | | | | | | | | |
| Change in stock factor | 0.845 | 0.926 | 1.107 | 1.431 | 0.838 | 0.416 | 0.630 | 2.996 | 1.000 |
| Capital cost factor | 1.000 | 0.958 | 0.996 | 1.090 | 1.004 | 0.971 | 0.996 | 1.178 | 1.000 |
| Component factor | 0.845 | 0.887 | 1.102 | 1.560 | 0.842 | 0.403 | 0.628 | 3.529 | 1.000 |
| Weighted factor | 0.955 | 0.967 | 1.030 | 1.164 | 0.954 | 0.826 | 0.891 | 1.739 | 1.000 |
| **Urban transport component (component weight = 41%)** | | | | | | | | | |
| Change in stock factor | 1.080 | 1.295 | 0.742 | 1.072 | 0.608 | 0.328 | 0.678 | 0.393 | 1.000 |
| Capital cost factor | 1.008 | 0.981 | 0.978 | 1.049 | 0.996 | 0.982 | 1.033 | 1.117 | 1.000 |
| Component factor | 1.089 | 1.271 | 0.725 | 1.125 | 0.606 | 0.322 | 0.701 | 0.439 | 1.000 |
| Weighted factor | 1.036 | 1.110 | 0.889 | 1.050 | 0.840 | 0.725 | 0.879 | 0.773 | 1.000 |
| **Other services component (component weight = 12%)** | | | | | | | | | |
| Change in stock factor | 0.629 | 1.042 | 1.226 | 2.856 | -0.228 | -1.101 | 0.447 | 0.247 | 1.000 |
| Capital cost factor | 1.003 | 0.974 | 0.977 | 1.071 | 1.002 | 0.976 | 1.033 | 1.209 | 1.000 |
| Component factor | 0.631 | 1.014 | 1.198 | 3.059 | -0.229 | -1.075 | 0.462 | 0.299 | 1.000 |
| Weighted factor | 0.957 | 1.002 | 1.023 | 1.237 | 0.858 | 0.761 | 0.938 | 0.919 | 1.000 |
| **Land component (component weight = 19%)** | | | | | | | | | |
| Component factor | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| Weighted factor | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| **Category factor** | 0.948 | 1.078 | 0.941 | 1.451 | 0.652 | 0.312 | 0.708 | 1.431 | 1.000 |

Source: Commission calculation.

## DEPRECIATION

135 This assessment provides States with the capacity to meet the depreciation expenses on their assessed infrastructure stocks assuming they applied the average depreciation rate. The assessment, however, does not include urban transport depreciation because those expenses are part of the net expenses covered by the urban transport assessment.

136 Each State's assessed depreciation is calculated by applying the observed average depreciation rate to its assessed stock of infrastructure and adjusting the result to allow for interstate differences in the cost of infrastructure.

137 However, we vary the way we construct the total assessed stock of infrastructure for this assessment by combining the components using their share of depreciation

expenses instead of their share of the asset stock. This ensures the assessment captures both the asset specific average depreciation weights and the interstate differences in the per capita requirement for assets.

## The depreciation cost disability

138 These disabilities reflect interstate differences in the price of infrastructure. They are a combination of the blended capital cost factors for each service, except urban transport[11], used in the investment assessment. As in the Investment assessment, the gross capital expenditure is used to weight the capital cost factors for each service.

139 Victoria was concerned the inclusion of this factor may introduce double counting as the depreciation charge is based on the value of assets and differences in the costs of acquiring assets are recognised in the investment assessment. However, there is no double counting as the assessed asset stocks used in the assessment are derived as the average per capita value of assets (not the value in each State) adjusted for interstate differences in use. They do not reflect interstate differences in asset costs.

## Bringing the depreciation assessment together

140 Table 16 shows the 2013-14 assessed stock and the capital cost factor for each State.

**Table 16 Depreciation assessment, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Assessed stock ($pc) | 17 158 | 16 324 | 19 053 | 20 002 | 19 472 | 19 985 | 15 397 | 45 408 | 18 138 |
| Average depreciation rate (%) | | | | | | | | | 3.0 |
| Estimated dep'n at average rate ($pc) | 514 | 489 | 570 | 599 | 583 | 598 | 461 | 1 359 | 543 |
| Capital cost factor | 1.002 | 0.966 | 0.986 | 1.080 | 1.003 | 0.973 | 1.016 | 1.195 | 1.000 |
| Assessed depreciation ($pc) | 512 | 470 | 560 | 644 | 582 | 580 | 466 | 1 616 | 543 |
| Assessed depreciation ($m) | 3 823 | 2 720 | 2 623 | 1 641 | 976 | 298 | 179 | 394 | 12 655 |

Source: Commission calculation.

### *Alternative presentation*

141 Table 17 provides an alternative presentation using a factor approach. It shows:

- the average per capita depreciation expenses for 2013-14

[11] Because urban transport depreciation is assessed with urban transport expenses.

- each State's stock factor (which reflects the extent to which the State's assessed capital stocks are above or below the average and so cause its depreciation expenses to be above or below the average)
- each State's capital cost factor (which shows the extent to which the unit costs of capital in the State are above or below the average).

142 Disability factors below one indicate a State is assessed to need to spend less than average. Disability factors above one indicate a State is assessed to need to spend more than average.

**Table 17 Category factor, Depreciation, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Average depreciation ($pc) | | | | | | | | | 543 |
| Stock factor | 0.946 | 0.900 | 1.050 | 1.103 | 1.074 | 1.102 | 0.849 | 2.503 | 1.000 |
| Capital cost factor | 1.002 | 0.966 | 0.986 | 1.080 | 1.003 | 0.973 | 1.016 | 1.195 | 1.000 |
| Assessed depreciation | 512 | 470 | 560 | 644 | 582 | 580 | 466 | 1 616 | 543 |

Source: Commission calculation.

## THE AGGREGATE INFRASTRUCTURE ASSESSMENT

143 Table 18 brings assessed investment and assessed depreciation together to derive total assessed infrastructure spending for each State.

**Table 18 Infrastructure assessments, total assessed expenditure, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Investment | 3 636 | 3 205 | 2 266 | 1 900 | 562 | 82 | 140 | 179 | 11 970 |
| Depreciation | 3 823 | 2 720 | 2 623 | 1 641 | 976 | 298 | 179 | 394 | 12 655 |
| Total assessed infrastructure | 7 459 | 5 925 | 4 890 | 3 541 | 1 538 | 380 | 319 | 573 | 24 625 |

Source: Commission calculation.

## INFLUENCES NOT ASSESSED IN THIS CATEGORY

### The effects of the physical environment

144 The issue of whether interstate differences in the physical environment lead to material differences in the costs of providing services, including the costs of acquiring infrastructure, has been debated in many previous method reviews. During this review, the Commission engaged consultants to advise on the issue.

145 The consultants examined the effects on infrastructure costs of topography, rainfall, temperature, wind, shrink/swell of soil and acid sulphate soil. They focussed on

those environmental features because technical specialists identified them as likely to have a material impact on the cost of constructing roads and buildings and reliable national data were available to measure the effects.

146 The consultants also said flooding and soil salinity may have material effects but they were unable to examine them. Data were not available to identify flood prone or soil salinity regions consistently across States or to develop reliable cost uplift factors.

147 The consultant's report indicated interstate differences in the physical environment affect the costs of constructing roads, schools and housing. Applying cost factors based on that advice to investment and depreciation costs would materially affect the GST distribution for the Northern Territory.

148 Many States expressed concerns about basing a physical environment factor on the consultant's report because they said the report omitted important environmental features such as flooding and fire. They were also concerned by the heavy reliance on the consultant's judgment and internal data to derive the cost impacts of the environmental influences and the potential for double counting if the capital cost factor is based on the Rawlinsons construction cost indices.

149 Other States acknowledged the omission of some environmental influences but argued the case for an environment factor remained strong. They said the report was a suitable basis for allowances because: it was independent; covered influences experts considered were likely to materially affect State costs; based on national data; and prepared specifically to address the Commission's requirements. The Northern Territory also said the construction cost indices are not markedly affected by environmental factors and discounting negates most of any impact.

150 We decided not to assess a physical environment factor because the inclusion of the Rawlinsons construction cost indices in the determination of the capital cost indices provides some recognition of environmental effects. We were also concerned the environmental influences not covered in the consultant's report may have significant cost effects which would partly offset those they were able to measure.

## Urban influences

151 Some submissions suggested further allowances for urbanisation were required because the urban influences captured by the 2010 Review methods, such as those in the urban roads assessment, covered only the need to service larger populations. They omitted the effects on infrastructure costs of the greater complexity of constructing infrastructure in urban areas and the need to acquire land.

152 We have continued to recognise urban influences on the need for infrastructure for roads and other services (such as health services) where services are used more intensively in urban areas. This review also introduced explicit allowances for the effects of city size on the infrastructure required for urban transport services.

However, no further allowances have been made because reliable data to measure any other urbanisation effects were not available.

## The effects of economic development

153 Some States have argued the infrastructure assessments do not capture the full effects of population growth or the effects of intrastate migration. These issues are discussed in Chapter 26 – The impact of population growth on fiscal capacities.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

154 Table 19 shows the extent to which the Infrastructure assessments move the GST distribution away from an equal per capita distribution.

**Table 19 GST impact, Infrastructure, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| Investment | | | | | | | | | |
| Dollars million | -539 | -71 | -25 | 1042 | -337 | -191 | -51 | 174 | 1 215 |
| Dollars per capita | -70 | -12 | -5 | 384 | -197 | -370 | -128 | 686 | 50 |
| Depreciation | | | | | | | | | |
| Dollars million | -240 | -459 | 68 | 288 | 66 | 21 | -30 | 286 | 730 |
| Dollars per capita | -31 | -76 | 14 | 106 | 39 | 41 | -76 | 1 133 | 30 |
| Total infrastructure | | | | | | | | | |
| Dollars million | -779 | -531 | 43 | 1 330 | -271 | -170 | -81 | 460 | 1 832 |
| Dollars per capita | -101 | -88 | 9 | 490 | -159 | -329 | -204 | 1 819 | 76 |

Note: The difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.
Source: Commission calculation.

155 Table 20 shows how each component of infrastructure expenditure moves the GST distribution away from an equal per capita distribution.

**Table 20 GST impact of each Infrastructure component, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| Investment | | | | | | | | | |
| Roads | -42 | -29 | 19 | 157 | -35 | -120 | -45 | 453 | 26 |
| Urban transport | 11 | 50 | -50 | 41 | -79 | -137 | -55 | -109 | 21 |
| Other services | -39 | -33 | 25 | 185 | -83 | -113 | -28 | 342 | 29 |
| Total investment | -70 | -12 | -5 | 384 | -197 | -370 | -128 | 686 | 50 |
| Depreciation | -31 | -76 | 14 | 106 | 39 | 41 | -76 | 1 133 | 30 |
| Total infrastructure | -101 | -88 | 9 | 490 | -159 | -329 | -204 | 1 819 | 76 |

Source: Commission calculation.

156 The tables show GST revenue would be redistributed to Queensland, Western Australia and the Northern Territory and away from the others. Some of the main reasons for that redistribution are differences between States in:

- population growth — States with above average population growth (such as Western Australia) need an above average share of investment and GST
- State specific per capita capital requirements — States where demographic and economic circumstances (such as larger cities and relatively more or less school students) and changes over time in those circumstances lead to above or below average per capita requirements for infrastructure, investment and GST
- relative costs of capital — States where the costs of acquiring infrastructure are above average (such as Western Australia and the Northern Territory) require an above average share of investment and GST and those where the costs are below average (such as Victoria and Queensland) require a below average share of investment and GST.

## CHANGES SINCE THE 2014 UPDATE

157 Table 21 dissects the total change since the 2014 Update into the impact of changing data sources, category-specific method changes, and change in State circumstances between 2010-11 and 2013-14.

**Table 21 Changes since the 2014 Update, Infrastructure**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Investment | | | | | | | | | |
| Data changes | -177 | -121 | 44 | 225 | -14 | -15 | -16 | 75 | 344 |
| Method changes | 125 | 250 | -322 | 102 | -115 | -51 | -20 | 31 | 508 |
| State circumstances | 12 | 114 | 28 | -58 | -15 | -19 | -8 | -55 | 155 |
| Total investment | -40 | 244 | -250 | 269 | -143 | -86 | -44 | 51 | 563 |
| Depreciation | | | | | | | | | |
| Data changes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Method changes | -35 | -117 | -37 | 70 | 29 | 13 | 2 | 75 | 189 |
| State circumstances | -13 | -29 | 11 | 11 | 5 | 0 | -1 | 14 | 42 |
| Total depreciation | -48 | -146 | -26 | 81 | 34 | 13 | 1 | 90 | 219 |
| Total infrastructure | -88 | 98 | -275 | 349 | -109 | -73 | -43 | 141 | 588 |

Source: Commission calculation.

## Data changes

158 The main changes in the coverage and source of data were as follows.

- The value of infrastructure stocks was allocated between roads, urban transport and all other services using the average proportion of State infrastructure devoted to those groups of services instead of the proportion of depreciation which was used as a proxy for asset proportions in the 2010 Review. This increased the proportion of total infrastructure allocated to roads and reduced that for the other services.
- As noted earlier, we refined the measure of urban areas used in the roads assessment in this review. The UCL-based measure of urban areas was used to collect updated data on urban population (used as a proxy for urban road length) and the urban/rural location of investment and road infrastructure; in some cases from a new source. It was also applied in deriving rural road length.
  - The urban/rural dissection of gross capital expenditure on roads was based two-thirds on data collected from the States and one-third on data obtained from the NTC. The NTC was the sole source of the data in the 2014 Update. The data on gross capital expenditure were used in conjunction with updated State data on road depreciation to calculate urban and rural road investment. The change in the data source and the updated data has increased the proportion of road investment allocated to rural areas in this review compared with the 2014 Update.
  - The urban/rural dissection of the investment funded by Commonwealth National Network Roads payments which do affect the GST distribution was based on data provided by the Department of Infrastructure and Regional Development on the location of projects supported each year. Those data were not collected for the 2010 Review and the dissection was assumed to be the same as that for the location of roads capital spending.
  - The value of road infrastructure located in urban and rural areas was based on updated data provided by each State for each assessment year. This reduced the urban proportion of total road stock to about 32% from the 40% used in the 2014 Update. The 2014 Update proportion was based on judgment informed by historical data on the location of assets collected during the 2010 Review.

  These changes increased the GST distribution of States with large rural road networks, especially the Northern Territory, Western Australia, and Queensland, and reduced them for the other States.
- The quantity of infrastructure stock disabilities in the other services component were calculated by combining the factors affecting the use of each service using the average proportion of State infrastructure devoted to the

service instead of the proportion of depreciation which was used as a proxy for asset proportions in the 2010 Review.

## Method changes

159 The basic approach to the Infrastructure assessments is the same as that in the 2014 Update, but there have been some changes in specific aspects of the method.

- Housing and urban transport activities and the associated infrastructure have been treated as general government services and fiscal needs have been assessed in the Infrastructure assessments. They were previously treated as public corporations with State holdings treated as part of net financial worth. This change means population growth, stock and cost disabilities have been assessed for housing and urban transport investment in this review whereas only population growth disabilities were assessed in the 2014 Update.
- Recognising interstate differences in the need to invest in urban transport infrastructure moved GST to New South Wales and Victoria.
- The inclusion of housing investment had a smaller impact, moving GST to Queensland, Western Australia and the Northern Territory.
- Capital cost disabilities are measured as the average of construction cost indices and recurrent wage and location cost factors, instead of just the recurrent cost disabilities as in the 2014 Update. Furthermore, the methods used to measure the recurrent factors have changed.
- The factors which capture interstate differences in the per capita infrastructure requirements are now based on only those recurrent service use factors the Commission considers affect infrastructure. In the 2014 Update a 12.5% discount was used as a simple means of excluding recurrent service use factors which did not affect infrastructure. The 12.5% discount has been deleted in this review.

160 The changes in methods and data used to measure the service use disabilities assessed for recurrent expenditures as described in other chapters of this report also flow through and affect the infrastructure assessments.

## Changes in State circumstances

161 The assessments for this review are more up-to-date than those of the 2014 Update, as they reflect State circumstances in 2013-14 and exclude 2010-11 circumstances. The differences between the State circumstances in those two years contribute to the changes in the GST distribution since the 2014 Update.

162 The most important change in circumstances affecting the infrastructure assessments is the change in relative population growth rates. Table 22 shows the relative growth rates for 2010-11 and 2013-14.

**Table 22 State population growth relative to the average, 2010-11 and 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| 2010-11 | 0.8 | 1.0 | 1.1 | 1.7 | 0.6 | 0.5 | 1.4 | 0.8 | 1.0 |
| 2013-14 | 0.9 | 1.1 | 1.0 | 1.7 | 0.5 | 0.2 | 0.9 | 1.1 | 1.0 |

Note: Relative growth rates are the State's growth rate divided by the Australian rate.
Source: Commission calculation based on ABS estimated resident populations.

163 Compared to 2010-11, the 2013-14 relative growth rate in Queensland, South Australia, Tasmania and the ACT were lower and that in Western Australia was slightly lower. These changes reduced their GST. Conversely, higher relative growth rates in New South Wales, Victoria and the Northern Territory increased their GST.

164 Other changes in circumstances between 2010-11 and 2013-14 which affect the GST distribution include:

- changes in the relative costs of acquiring capital — these were comparatively stable in most States but fell in Western Australia and Tasmania and rose in the ACT
- changes in the level of investment. It fell from $24 001 million in 2010-11 to $11 970 million in 2013-14. Table 23 shows this fall occurred in all components of investment, other than rural roads, and it was large for services other than roads and urban transport. Other things being equal, the reduced investment would reduce the GST of States with above average need to invest, such as Western Australia and the Northern Territory.

**Table 23 Expenditure on investment and depreciation**

| | Investment | | | | | | Depreciation |
|---|---|---|---|---|---|---|---|
| | Urban roads | Rural roads | Urban transport | Land | Other services | Total investment | Depreciation |
| | $m | $m | $m | $m | $m | $m | $m |
| 2010-11 | 2 417 | 1 475 | 6 209 | 2 737 | 11 163 | 24 001 | 10 173 |
| 2013-14 | 1 916 | 1 582 | 4 849 | 2 243 | 1 379 | 11 970 | 12 655 |

Source: Commission analysis based on ABS and State provided data.

## UPDATE PROCESS

165 We recommend data used in this assessment be updated when new data become available to ensure the relativities remain contemporary and consistent with the circumstances of the States. On this basis we expect:

- the following data would be updated annually:
  - the total investment and depreciation expenditure and Commonwealth payments
  - the value of State infrastructure stocks, including the value of urban transport infrastructure in cities with over 20 000 people
  - the urban-rural dissection of road capital spending, depreciation and asset stocks
  - State and urban centre populations
  - Rawlinsons construction cost indices
- the following data would be updated at longer intervals:
  - the list of centres classified as urban, which is fixed using 2011 Census data on centres of 20 000 people or more in that year.

# APPENDIX A – THE POPULATION MODEL FOR URBAN TRANSPORT

166 Box A-1 provides the arithmetic to show that if the relationship between city size and urban transport asset values is linear and has a zero intercept, assessed asset values are entirely driven by the square of urban centre populations.

**Box A-1 Independence of slope of curve**

The relationship between assessed urban transport assets per capita and city size is estimated as:

$$\frac{K_{ij}}{P_{ij}} = \propto P_{ij}$$

$$K_{ij} = \propto P_{ij}^2$$

where $K_{ij}$ is the value of urban transport assets required by State j for its ith city

$P_{ij}$ is the population of State j's ith city

$\propto$ is the slope of the line in the relationship between assets per capita and city size

The assessed value of urban transport assets required by State j is:

$$K_j = \sum_{i}^{all\ i} \propto P_{ij}^2$$

State j's share ($\beta_j$) of urban transport assets is:

$$\beta_j = \frac{\propto \sum_{i}^{all\ i} P_{ij}^2}{\propto \sum_{ij}^{all\ j} P_{ij}^2}$$

$$= \frac{\sum_{i}^{all\ i} P_{ij}^2}{\sum_{ij}^{all\ j} P_{ij}^2}$$

167 Box A-2 sets out the formulae used to calculate each State's assessed investment for urban transport. A three year average of city populations has been used for each year to reduce any volatility in the stock disabilities.

**Box A-2 Calculation of State shares of urban transport assets**

State j's share ($\beta_j$) of urban transport assets is:

$$\beta_j = \frac{\sum_{i}^{all\ i} P_{ij}^2}{\sum_{ij}^{all\ j} P_{ij}^2}$$

*Where*

$P_{ij}$ is the three year average of the population of State j's ith city

State j's investment ($I_j$) in urban transport assets is:

$$I_j = \beta_{j1} K_1 - \beta_{j0} K_0$$

Where subscripts 1 and 0 denote the closing and opening observations for the year.

# APPENDIX B

**Table B-1 Recurrent expense disabilities and their impact on infrastructure requirements**

| Category/ Disability | Influence or disability being measured | Link between disability and infrastructure | Included in infrastructure |
|---|---|---|---|
| **COMMON FACTORS (Disabilities applied to several expense categories)** | | | |
| Administrative scale | Allows for unavoidable costs incurred in providing the policy and administrative infrastructure for the minimum level of service, regardless of State size. | A State with a recurrent administrative scale disability will have higher capital costs per capita reflecting the need for additional office space and equipment. | Yes |
| Wage and regional costs | Recognises the effects on the costs of services of interstate differences in the cost of labour and regional differences in the cost of labour and non-labour inputs. | Differences between States and regions within States in the costs of labour and materials affect the costs of acquiring infrastructure. The impact of cost differences on infrastructure have been measured using the average of explicit construction cost indices and the recurrent wage and regional cost differentials. | Yes |
| Native title | Recognises extra costs incurred by the States due to the operation of the Australian Government's Native Title Act 1993. | All relevant costs are captured in the factors. Those costs are mostly administrative and negotiation expenses and compensation but also include any capital costs. Since any capital costs are captured in the expense assessments, applying the factor to infrastructure would be double counting. | No |
| Land rights | Recognises additional and unique costs of providing services in the Northern Territory because of the operation of the Australian Government Aboriginal Land Rights (Northern Territory) Act 1976. | All relevant costs are captured in the factors. Those costs are mostly administrative and negotiation expenses but also include any capital costs. Since any capital costs are captured in the expense assessments, applying the factor to infrastructure would be double counting. | No |
| Cross-border | Recognises cross-border use of services. | This use factor has a proportionate effect on all inputs. More service users imply more infrastructure. This factor is applicable to infrastructure. | Yes |

| Category/ Disability | Influence or disability being measured | Link between disability and infrastructure | Included in infrastructure |
|---|---|---|---|
| **SERVICE COSTS (Category specific disabilities)** | | | |
| **Schools education** | | | |
| Socio-demographic composition | Recognises interstate differences in the proportion of the population who are students. It also recognises Indigenous and students from low socio-economic backgrounds have different per unit service delivery costs and that services provided in remote areas cost more than those provided in other areas. | Interstate differences in government school enrolments have a proportionate effect on the quantity of labour, non-labour and infrastructure required to deliver school services. For example, more students imply more classrooms and equipment. This aspect of the factor is applicable to infrastructure.<br>Interstate differences in non-government enrolments will not affect infrastructure requirements.<br>Low SES cost weights are unlikely to result in a proportionate need for physical assets. Low SES students may increase the need for staff but not necessarily school size.<br>The Northern Territory provided data for a sample of 62 remote and very remote schools across all States other than Tasmania and the ACT which indicated schools where over 25% of enrolments are Indigenous have larger rooms and at least 3 extra facilities. The Indigenous cost weight has been applied to Indigenous students in those schools.<br>Remoteness cost weights are captured in the infrastructure cost factor. | Yes, but not non-government or low SES |
| Service delivery scale | Recognises the higher cost of providing schools education in small population centres. | A State that has more schools in sparsely populated areas is likely to face greater capital costs per capita. | Yes |
| Transport of school children | Recognises differences between States in the cost of providing transport services to students. | The average policy is to acquire school transport services from private contractors. There is no need for States to acquire physical assets. | No |
| **Post-secondary education** | | | |
| Socio-demographic composition | Post-secondary use | This use factor has a proportionate effect on the quantity of recurrent and capital inputs. The factor is applicable to infrastructure. | Yes |
| | Post-secondary cost influences (Indigenous status and socio-economic status) | Low SES and Indigenous cost weights are unlikely to affect physical assets. | No |

| Category/ Disability | Influence or disability being measured | Link between disability and infrastructure | Included in infrastructure |
|---|---|---|---|
| **Health** | | | |
| Socio-demographic composition | Recognises that on average different amounts are spent on people from some population groups because they use services at different rates and/or have different per unit service delivery costs. | The use and cost influences are likely to affect expenses and infrastructure similarly. More patients imply more (or bigger) health facilities and higher per unit service delivery costs often reflect a longer length of stay. This will affect the quantity of all inputs needed to deliver services. | Yes |
| Non-State sector | Recognises that non-State provided services are partially substitutable for State-provided services. | This factor reflects differential demand for State funded services which will affect recurrent expenses and infrastructure requirements similarly. | Yes |
| **Welfare** | | | |
| Socio-demographic composition | Recognises the use and cost of services are affected by the socio-demographic characteristics of State populations. | The use factors will have a proportionate effect on the quantity of all inputs required to deliver services. | Yes |
| Service delivery scale | Family and child - Recognises the additional cost of providing child protection services in sparsely populated areas. | Unlike police and schools services, child protection services in sparsely populated areas are usually provided by staff located in nearby centres. This will lead to more recurrent expenses but not more infrastructure. | No |
| **Housing** | | | |
| Socio-demographic composition | Recognises income, Indigenous status and location affect the use and cost of providing services. | The use factors will have a proportionate effect on the quantity of all inputs required to deliver services. | Yes |
| | | The Indigenous cost disability captures the extra costs of managing and maintaining housing used by Indigenous tenants. The Northern Territory argued this should be applied to infrastructure. However, to some extent the extra maintenance is a substitute for extra capital costs. It also said housing built specifically for Indigenous tenants tend to be larger, have higher specifications and thus cost more. To reflect this effect, the Indigenous cost weight has been applied to each State's assessed number of Indigenous households, to reflect the average proportion of Indigenous households occupying Indigenous specific properties. | Partly |
| First home owners | This is an equal per capita assessment. | There is no differential effect on recurrent costs or infrastructure. | No |

| Category/ Disability | Influence or disability being measured | Link between disability and infrastructure | Included in infrastructure |
|---|---|---|---|
| **Services to communities** | | | |
| Common subsidies | Some States are providing broad-based subsidies. | These subsidies are assessed equal per capita. There is no differential effect on recurrent costs or infrastructure.. | No |
| Differential utility subsidies | Recognises interstate differences in the cost of subsidies to small communities in remote regions for the provision of electricity, water and wastewater services. | Subsidies per capita may be larger if physical asset requirements per capita are greater. The factor is applicable to infrastructure. However, it has a low weight as most of the assets are owned by public corporations or non-State providers. | Yes |
| Community development | Recognises interstate differences in the costs of community development services in Indigenous communities. | This factor will have a proportionate effect on all inputs required to deliver services. It has a low weight as most assets are owned by non-State providers. | Yes |
| **Justice services** | | | |
| Socio-demographic composition | Recognises different population groups use justice services at different rates. | This use factor will have a proportionate effect on the quantity of all inputs required to deliver services. | Yes |
| Service delivery scale | Recognises the additional cost of providing services from police stations in sparsely populated areas. | A State that has more police stations in sparsely populated areas is likely to face greater capital costs per capita. | Yes |
| National capital | Recognises additional costs incurred by the ACT due to Canberra's status as the national capital. | The allowance is directly linked to police wages and does not affect infrastructure needs. | No |

| Category/ Disability | Influence or disability being measured | Link between disability and infrastructure | Included in infrastructure |
|---|---|---|---|
| **Roads** | | | |
| Urban road length | Recognises expenses are affected by the non-policy influenced length of urban road networks, proxied by urban populations. | Roads account for a large part of State physical assets. The disabilities aim to capture interstate differences in road maintenance costs. Road use and length affect the stock of assets. However, different weights are applied to road length and use disability factors in the maintenance costs and infrastructure assessments because the factors affect maintenance and capital costs differently. | Yes, but capital specific weights |
| Rural road length | Recognises expenses are affected by the length of rural roads. | | |
| Traffic volume and heavy vehicle use | Recognises the effect on costs of traffic volume and heavy vehicles. | | |
| Local roads | Recognises some States maintain roads normally managed by local governments. | Factors for local roads and other services do not have implications for State road infrastructure. | No |
| Other services | Recognises some road related expenses are not affected by length or use. | | No |
| **Transport services** | | | |
| Urban | Recognises differences between States in the average per capita expenses in urban areas of different sizes. | Since the relationship between infrastructure and city size differs from that for net recurrent expenses, the infrastructure relationship is used in the investment assessment. | Yes, but capital specific |
| Non-urban | Recognises the effects of different population settlement patterns on State spending on non-urban transport. | This use factor will have a proportionate effect on the quantity of all State inputs required to deliver services. This factor should be applied to physical assets. However, since most of the required assets are owned by public corporations, the factor has a low weight. | Yes |
| **Services to industry** | | | |
| Economic environment | Recognises interstate differences in the cost of services to industries are related to State population, industry size and the number of establishments. | This use factor will have a proportionate effect on the quantity of all inputs required to deliver services. This factor should be applied to infrastructure. | Yes |

| Category/ Disability | Influence or disability being measured | Link between disability and infrastructure | Included in infrastructure |
|---|---|---|---|
| **Other expenses** | | | |
| Natural disasters | Recognises State net expenses on natural disaster relief. | This factor recognises all extra recurrent and capital spending arising from natural disaster relief. It would be double counting if the factor was applied to physical assets. | No |
| **Other disabilities** | | | |
| National capital | Recognises additional costs incurred by the ACT that stem directly from influences that are unavoidable consequences of Canberra's status as the national capital and seat of government. | The allowance is linked to the impact of the National Capital Plan on the ACT's capital works program, road network and planning and development activities. It also recognises the above standard costs incurred by the ACT in operating a leasehold system. It recognises all extra costs, so should not be applied to capital stocks. | No |

# CHAPTER 22

# WAGE COSTS

## SUMMARY OF THE ASSESSMENT

The wage costs disability recognises that comparable public sector employees in different States are paid different wages, partly due to differences in labour markets beyond the control of State governments.

The methods and ABS data used in this assessment have not changed since the 2010 Review. Once new data from the ABS Characteristics of Employees survey is available in 2015, we will review the assessment.

We perform the assessment by estimating the additional costs relative to the national average wage each State government would have to pay for the 'average' employee. The difference is estimated using an econometric model of private sector employees, controlling for differences in education, industry, experience and other attributes known to affect wage levels. We have used private sector employee characteristics and wage levels as a policy-neutral benchmark, as public sector wages are heavily influenced by State policy.

The disability is assessed for all expense categories; the degree to which it applies varies depending on the proportion of labour costs in each category. We have applied a low level discount to the results to reflect some uncertainty in the data we use for the assessment.

## WHAT IS THE WAGE COSTS DISABILITY?

1 The wage costs disability recognises that comparable public sector employees in different States are paid different wages, partly due to differences in labour markets beyond the control of State governments.

2 We have assessed a wage costs disability, based upon relative wage levels in States for private sector employees, after allowing for differences in industry structure and workforce attributes.

3 A wage costs disability has been assessed in all expense categories, reflecting the extent to which wages contribute to recurrent costs in each category. The Infrastructure assessments use a combination of the recurrent factors produced by

this assessment and a capital cost index derived from the Rawlinson's construction costs index.

## The conceptual case

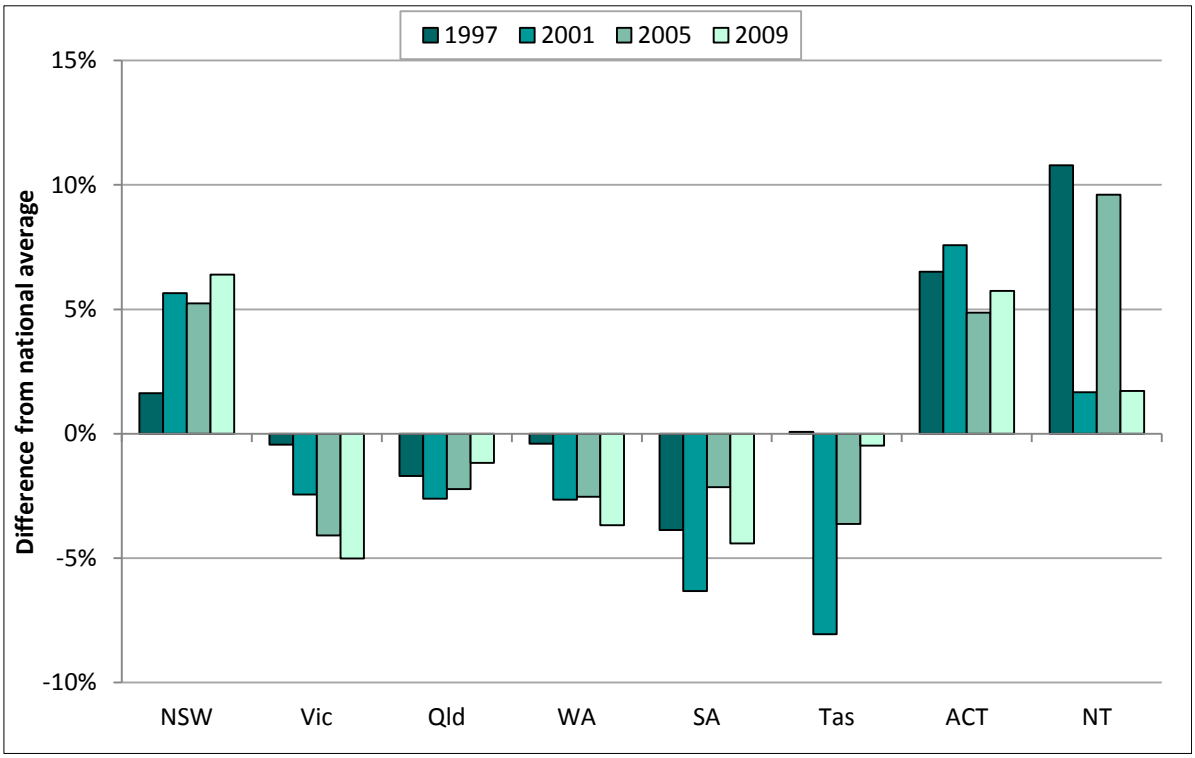
4 In this review we continue to consider there is a conceptual case that where there is free movement of labour between States, and between the public and private sectors within States, State governments will face wage pressures that are outside their control.

5 Wage levels may vary between States because of differences in the attributes of their workforces — a State that has more highly educated and skilled workers may have above average wages. There are also differences in the wages paid to comparable public (and private) sector employees in different States. It is the latter differences that we seek to capture.

## Evidence supporting the conceptual case

6 Figure 1 shows how public sector wage levels for comparable employees can vary considerably between States, using ABS Survey of Education and Training (SET) data from the 2009 survey. It also shows that a variance in public sector wage levels across States has existed over time.

**Figure 1 Relative Survey of Education and Training public sector wage levels**

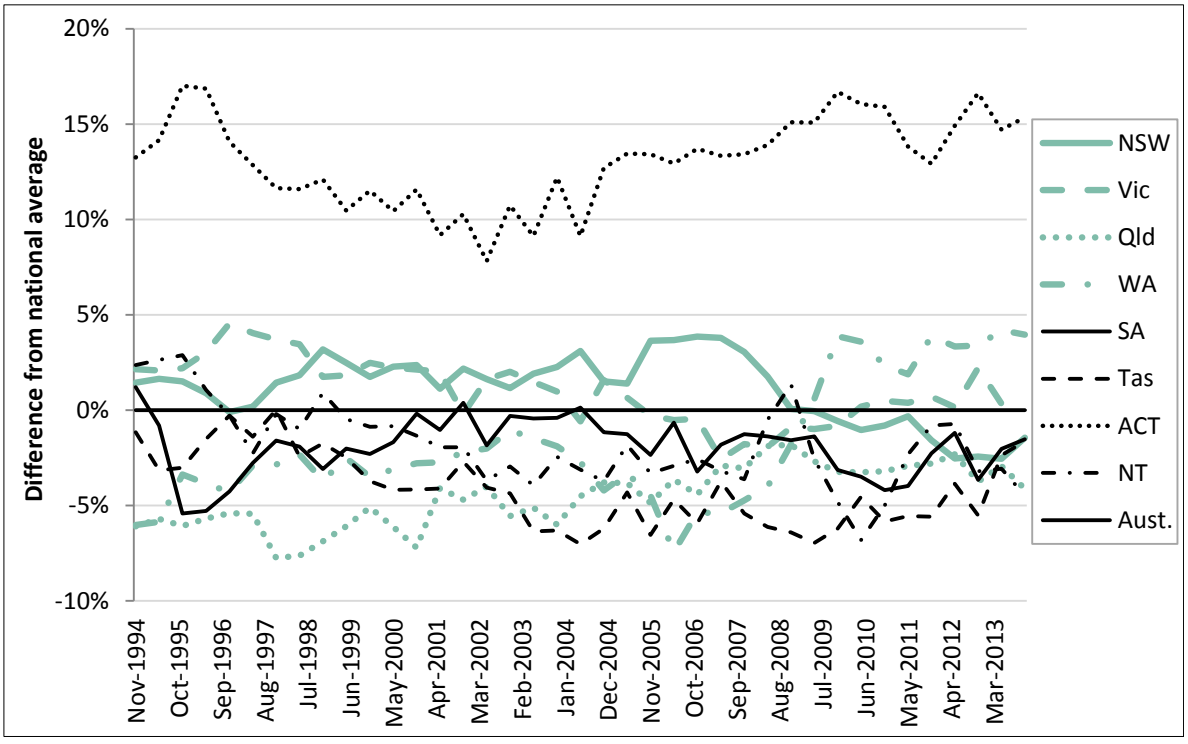



Source: Commission analysis of ABS *Survey of Education and Training* 1997, 2001, 2005 and 2009.

7 These observed differences in public sector wage levels are heavily influenced by State policies (for instance, Victoria and Queensland said it was now policy to limit wages growth to CPI or conditional on productivity measures). However, we consider circumstances beyond the control of State governments also drive some of the differences.

8 ABS Average Weekly Earnings (AWE) data also indicate that public sector wages have varied persistently over time. Figure 2 shows the relative wage levels across States for full time ordinary time earnings in the public sectors over the 20 years to November 2013. While unadjusted for differences in industry structure, workforce experience and qualifications, public sector wages exhibited a regular 20% differential (or 10% for seven of eight States).

**Figure 2 Relative public sector Average Weekly Earnings by State**



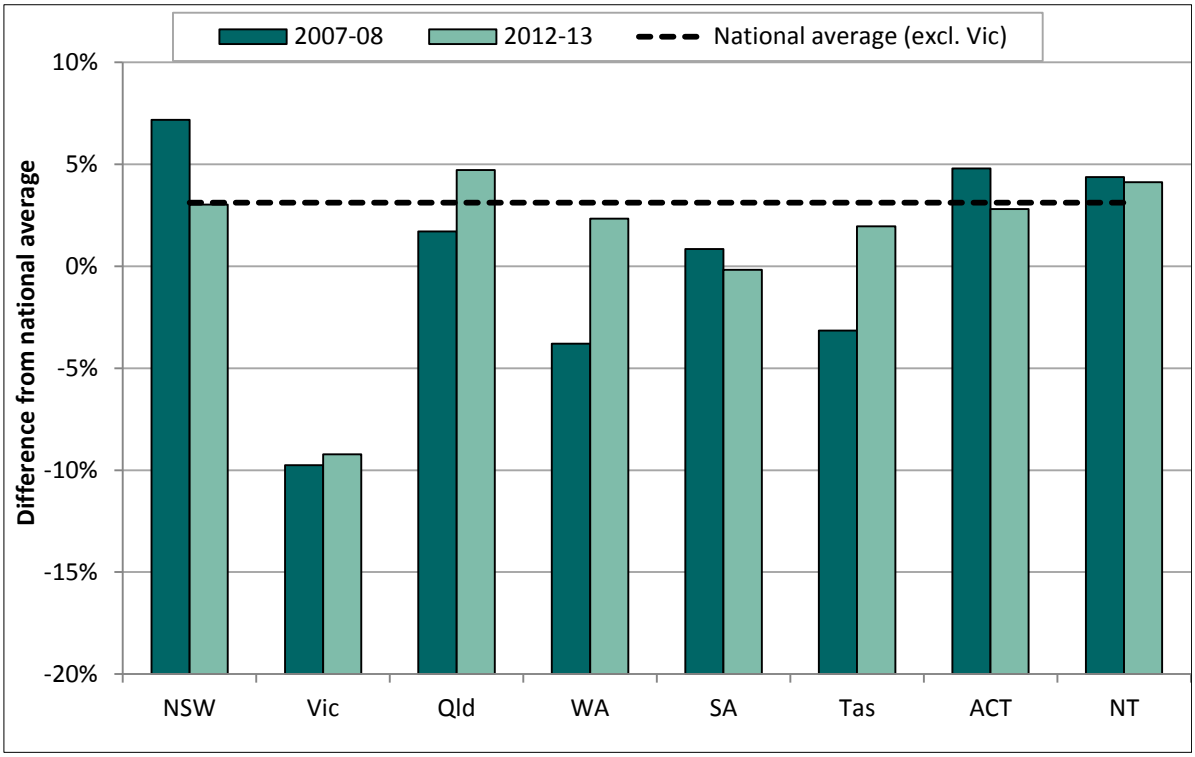

Note: The ACT reflects the concentration of senior Commonwealth public servants in Canberra.
Source: ABS, 6302.*1 Average Weekly Earnings Australia,* November 2013, Tables 14A-14H.

9 The AWE data also indicate States do change their relative public sector wage levels over time. For example, Figure 2 shows Western Australia moved from having the lowest relative wage levels in May 2006 to having the highest (with the exception of the ACT) by November 2009.

10 Some States argued that the Australian public sector labour market is inherently national in nature. This theory presumes employers in different States pay the same wage for comparable employees.

11 In the 2010 Review, we showed that award rates of pay for registered nurses varied significantly between States. Figure 3 shows by 2013, these pay rates had converged somewhat, with only Victorian nurses apparently earning significantly less than nurses in other States. While they are not as significant as they were in 2007-08, there are still differences in nursing wage levels across States.

**Figure 3 Relative award rates of pay, registered nurses, 2007-08 and 2012-13**

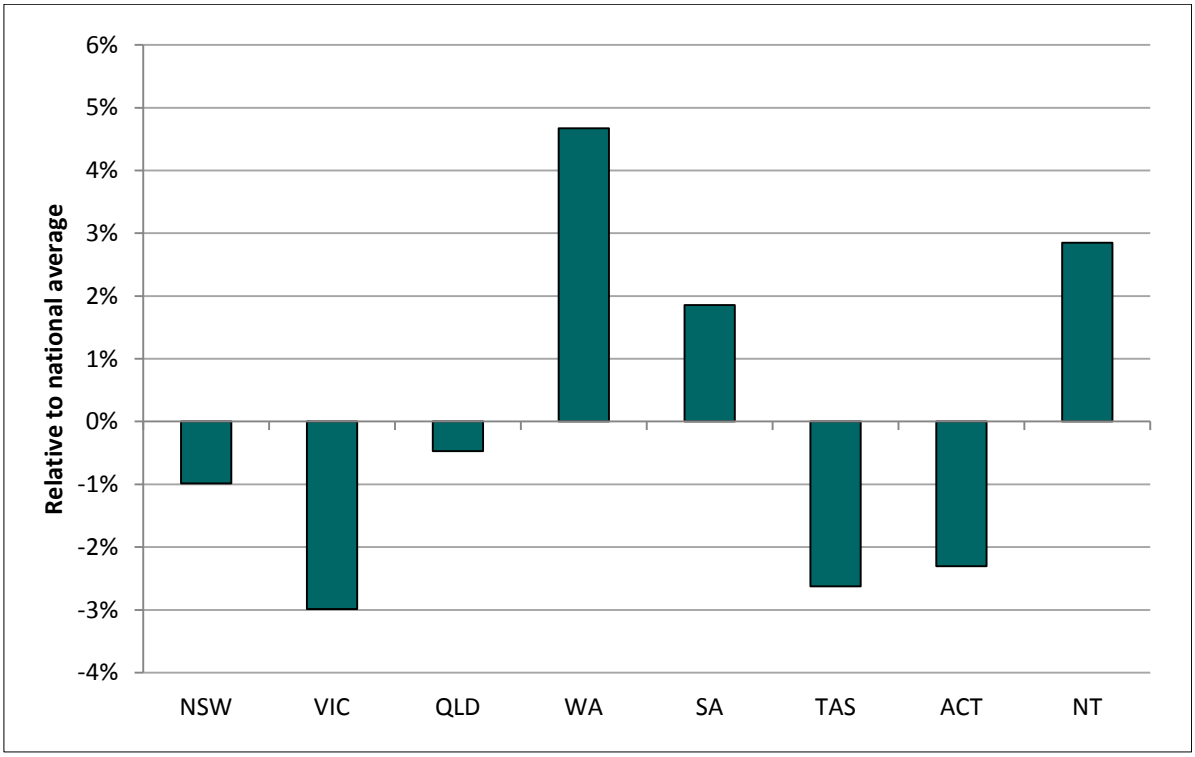



Note: Due to concerns about the comparability of Victorian data, a national average excluding Victoria has been shown, in addition to the national average.

Source: Australian Nurses Federation, *Nurses' Pay Check*.

12 Figure 4 shows that, as of October 2013, wage levels for comparable public sector teachers also varied across States.

**Figure 4 Relative public sector wage levels for comparable teachers, 2013**




Note: Low band wage levels for 4-year graduate teachers.
Source: Australian Education Union, Classroom teacher salary rates at October 2013.

13 In summary, while for some sectors of the public sector labour force there may be less difference across States in wage levels than previously, there are still differences. Across the entire public sector labour force, neither Figure 1 nor Figure 2 indicates relative public sector wages are converging. We therefore conclude there has been no clear move to a national labour market.

# MEASURING WAGE COSTS

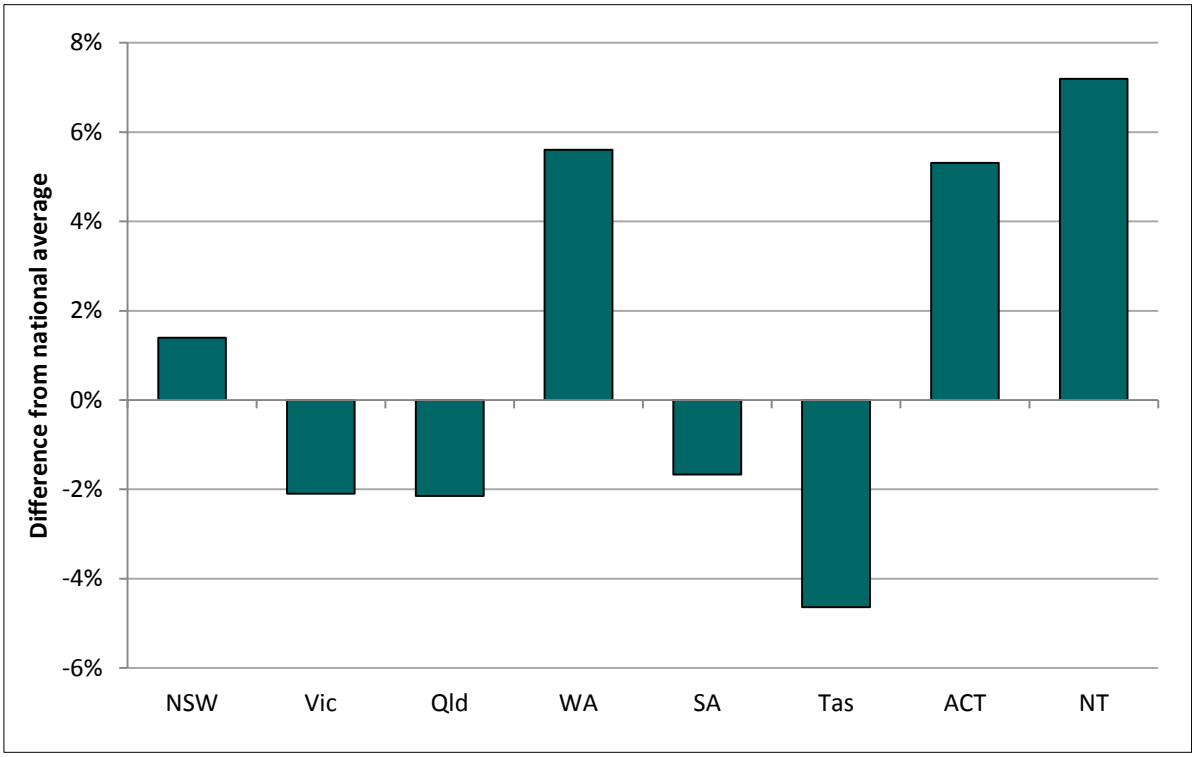
## Private sector differences as a proxy for public sector differences

14 We cannot directly compare public sector wages across States as it would not be consistent with our policy neutrality principle. It would allow State policies on wage setting to directly influence GST shares. Therefore, as in past reviews, private sector wages have been used as a policy neutral measure of interstate differences for the pressures on public sector wage levels. This assumption is based on the theory that private sector wage levels are freely determined by market driven influences and that public sector wages face the same pressures.

15 Figure 5 shows how private sector State relative wage levels for comparable employees can vary considerably between States, using SET data from the 2009

survey. We consider this to be compelling evidence that comparable private sector employees in different States earn different amounts.

**Figure 5 Relative private sector wage level for comparable employees, 2009**




Note: Wage levels are relative to national average wage levels.
Source: SET 2009.

16 As with public sector wages, AWE data indicate private sector wages have varied persistently over time. Figure 6 shows the differential across private sector wages has increased by more than that for public sector wages, more than doubling over the 20 years to November 2013, from around 15% to more than 30%. Again, there is no convergence.

17 New South Wales, Western Australia, the ACT and the Northern Territory said private sector wages are an appropriate proxy for public sector wages.

18 New South Wales believes the relationship between public sector and private sector wages holds in the long term, although it shows a weakening link in the 2009 SET. Western Australia said there are pressures that require public sector wages to remain competitive with private sector wages. It also agrees that the link holds in the long term.

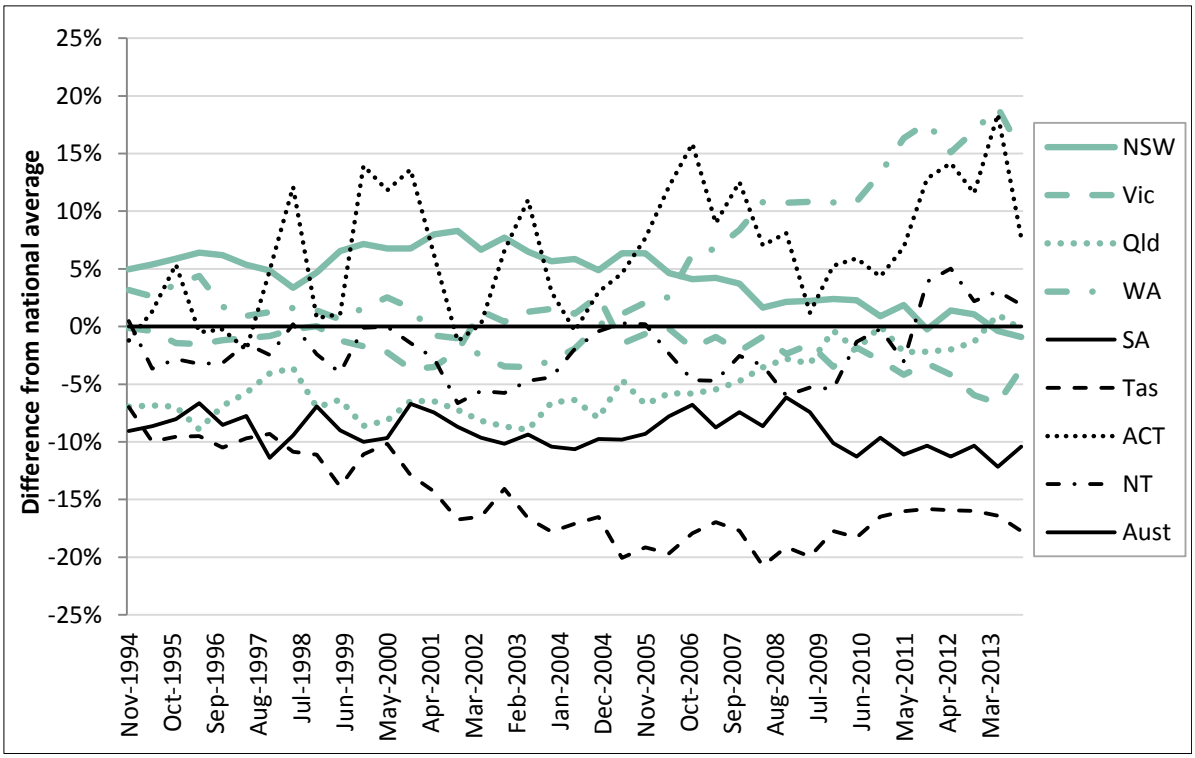
19 Victoria, Queensland, South Australia and Tasmania did not agree that private sector wages should be used as a proxy. Victoria and Queensland said private sector wages may have some influence on the wage setting process in the public sector, but other factors, such as a State's own general wage policy settings, and wage levels for comparable public sector employees in other States, play a more significant role.

20 Victoria and Queensland argued that while there may have been a relationship between public and private wages in the past, the deterioration in the relationship observed in the 2009 SET data was evidence that the relationship no longer exists. Queensland also provided an additional submission from the Queensland Public Service Commission in support of its position that private sector wages exert little pressure on most public wage setting negotiations.

21 South Australia said that while public sector wages are greatly affected by policy differences across States, for certain employee sub groups, private sector wages were not 'policy neutral', either. They provided a submission which argued that for some parts of the labour market the public sector was a large employer, and therefore must be dominant in wage setting.

22 Tasmania argued its private sector is too different from the public sector to appropriately measure the pressures faced in setting State government employee wages.

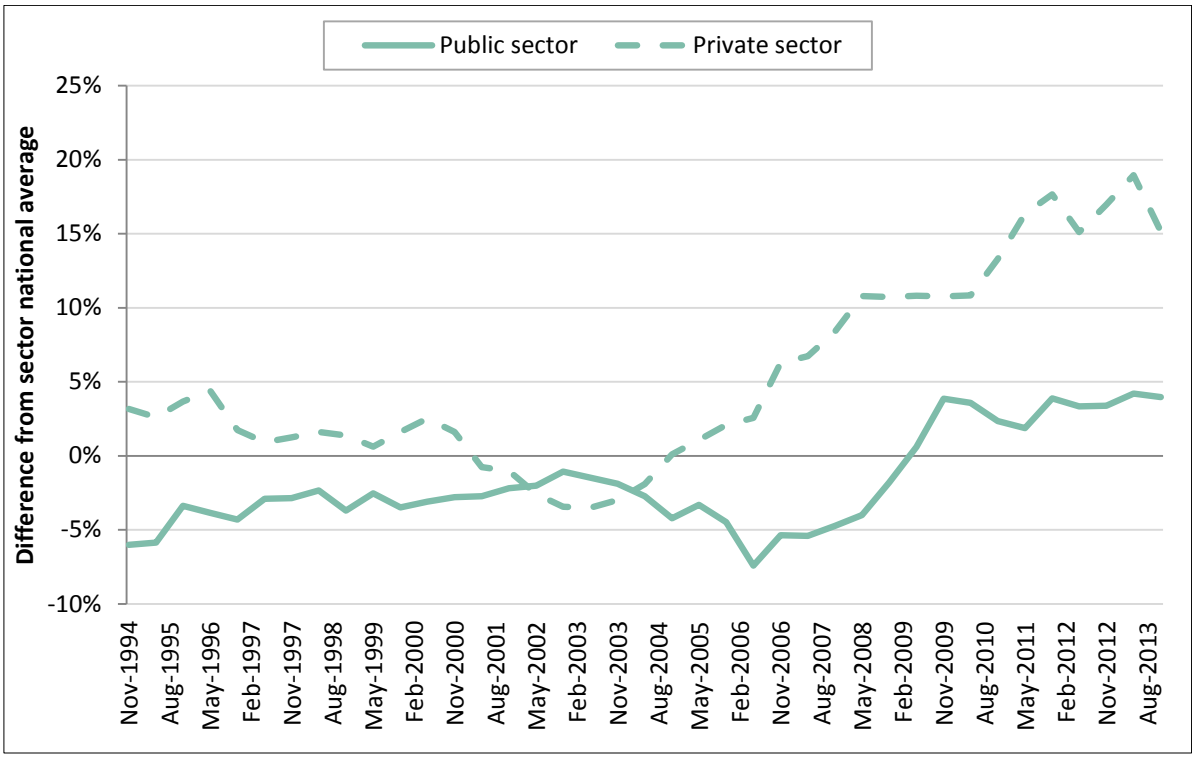
**Figure 6 Relative private sector Average Weekly Earnings by State**




Source: ABS, 6302.1 *Average Weekly Earnings Australia,* November 2013, Tables 14A-14H.

23 The AWE data show that movements in public sector wages follow movements in private sector wages. For example, Figure 7 shows Western Australia's moved relative public sector wage levels began increasing in May 2006. This movement lagged a similar upward movement in Western Australia's relative private sector wage levels, which began in May 2003.

**Figure 7 Public and private sector AWE relative to national averages, Western Australia**




Note: The public sector line shows the variance to the national average public sector wage while the private sector line shows the variance to the national average private sector wage. The public and private national average wages are not the same.

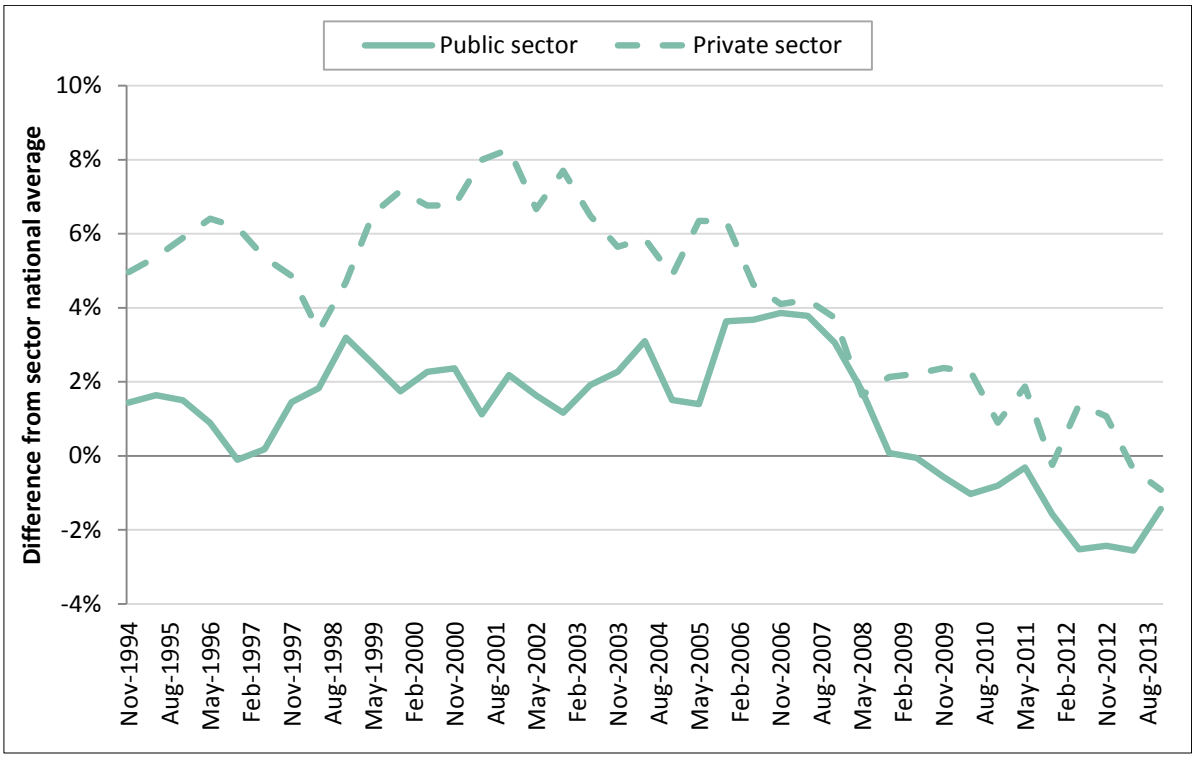
Source: ABS, 6302.1 *Average Weekly Earnings Australia,* November 2013, Tables 14A-14H.

24 Similarly, Figure 8 shows New South Wales' relative public sector wages began declining (from being well above average) in May 2007, lagging a decline in its relative private sector wage levels commencing in November 2005.

25 Charts for each State showing their public and private sector AWE relative to national averages are included at Appendix A to this chapter.

26 This assessment seeks to capture the external pressure on wages stemming from location effects. Even if a particular occupation were 100% public sector employees, a State would still face external pressures on wages stemming from cost of living, attractiveness of the location, or other factors outside of State control such as other occupations. While we accept that, at times, States act in the short term to place limits on public sector wage growth, our observations of the AWE data suggest these actions merely result in lags in public sector wages following private sector wage trends. Our view is that, over time, the link between private and public sector wages holds.

**Figure 8** **Public and private sector AWE relative to national averages, New South Wales**




Note: The public sector line shows the variance to the national average public sector wage while the private sector line shows the variance to the national average private sector wage. The public and private national average wages are not the same.

Source: ABS, 6302.1 *Average Weekly Earnings Australia,* November 2013, Tables 14A-14H.

## Using a regression model to estimate private sector wage differences between States

27 As in the last review, we have estimated wage level differences between States using an econometric model of wages of private sector employees, at whole of State level, which controls for differences in workforce attributes such as industry, occupation, qualifications and experience. Until the ABS Characteristics of Employees data become available we will continue to use the 2009 SET data in the regression analysis. We have updated the State differences from the SET regression using the relative change in the ABS's private sector Labour Price Index (LPI).

28 Conceptually, the optimum approach would be to measure wage differences of private sector employees with characteristics similar to public sector employees. Such an approach would mean that the assessment would reflect the pressures faced by States on wages for the types of people employed by States. However, there are data reliability and policy neutrality issues in pursuing an approach of identifying private sector workers comparable to public sector workers. The effect of reducing the utilised SET sample under such an approach, as argued by South Australia, would

increase the sampling errors, and potentially introduce policy neutrality concerns in certain segments of the labour force.

29 The current econometric model represents a 'next best' alternative. By measuring wage differences after controlling for differences in workforce attributes such as industry, occupation, qualifications and experience, it benchmarks State differences against the 'average' State, with the average industry structure, the average distribution of occupations and the average workforce qualifications and experience. Including only the private sector in the model maintains policy neutrality.

30 Victoria said that this approach may overstate interstate differences, as average wages (not controlled for differences in characteristics) of private sector employees show greater interstate variance than average public sector wages. We consider this merely indicates that public sector workforces are more similar between States than private sector workforces. Additionally, once all characteristics are controlled for, private sector wages do not vary any more than public sector wages. As such, we do not consider that the current approach is overstating wage cost differentials.

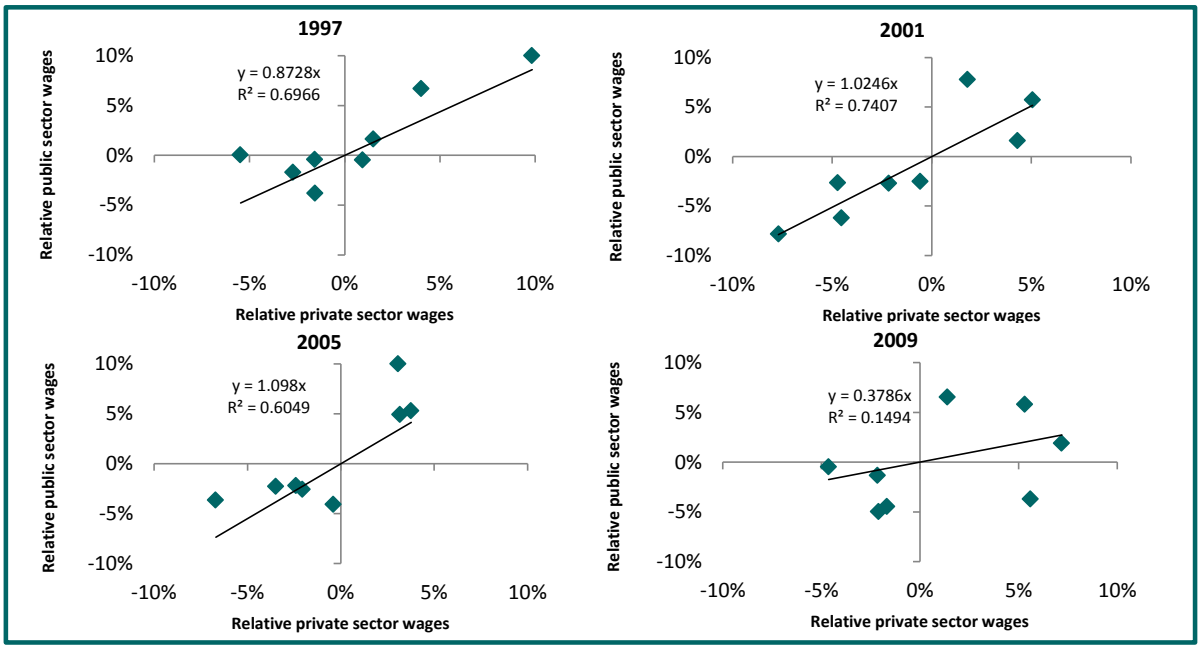
31 Both Western Australia and South Australia raised concerns about the model's capacity to identify comparable employees, in particular stemming from differences in worker productivity amongst States (technically, this relates to whether the model has any omitted variable bias). Western Australia argued States with labour shortages must necessarily accept lower quality workers while still paying high wages. While South Australia argued that States with lower quality workers must necessarily pay lower wages.

32 The model is fully specified to control for factors leading to variances in wages and has been reviewed a number of times. We have not found any evidence of omitted variable bias in the regression, particularly relating to the estimation of State coefficients, nor been presented with any statistical approach that demonstrates or controls for such a bias. In any case, as Western Australia and South Australia suggest, productivity effects could occur in both higher and lower wage States, so that we have no reason to believe any productivity effects would bias the results for any particular State more so than any other.

33 Data from the SET in 1997, 2001 and 2005 have shown that States where private sector wages were above average also had above average public sector wages. We considered this general relationship to be consistent with the proposition that the same underlying factors affect relative wages for both sectors. We observed that the correlation weakened in the 2009 SET, but consider a relationship between public and private sector wages has been maintained. We observe seven of eight States lie in a quadrant consistent with the proposition that the same underlying factors affect relative wages for both public and private sectors.

34 The SET relationships are shown in Figure 9 below.

**Figure 9** **Comparison of relative wages levels in public and private sectors as measured by SET**



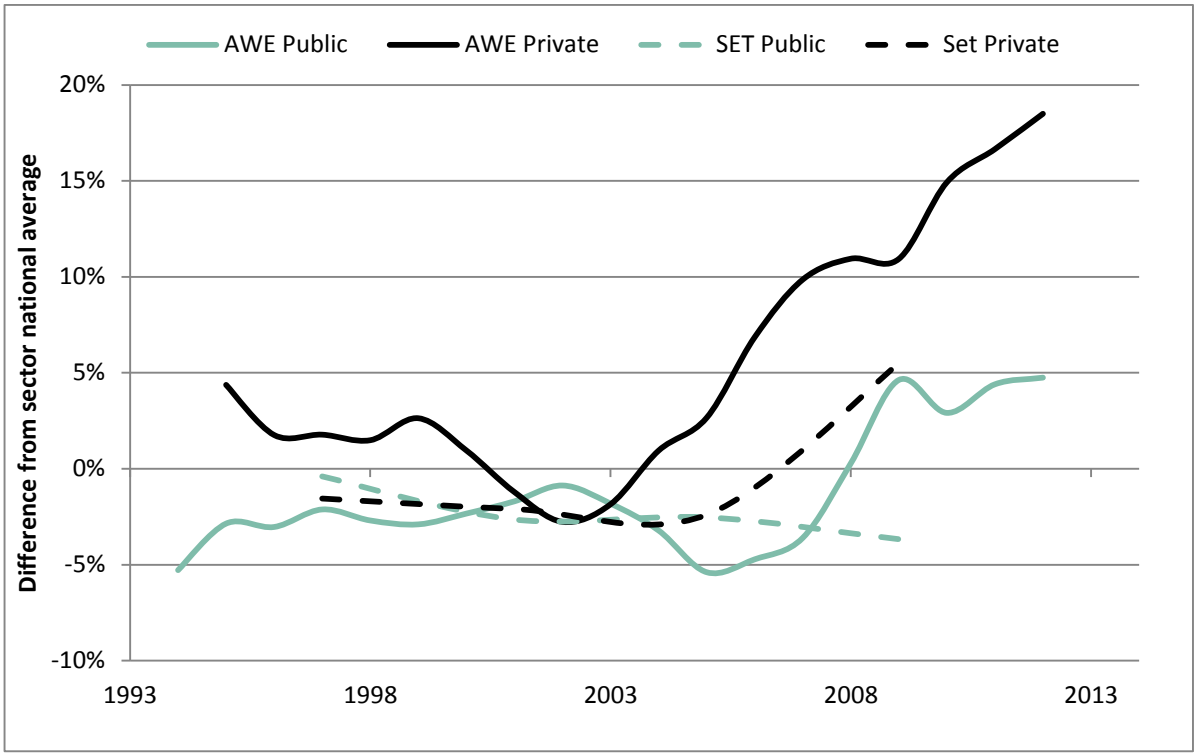

Source: Commission analysis of ABS SET 1997, 2001, 2005 and 2009.

35 Queensland provided a copy of a report prepared by its Statistician's Office. The major point in the report was that the slope of the line of best fit was not statistically different from zero in 2009 (implying no strong relationship between public and private sector wages). Queensland said that on this basis having no assessment of wage costs would result in a better HFE outcome. We consider that there is a strong conceptual case that there is a relationship between public and private sector wages, and note that the statistical analysis does not disprove this relationship. In the prior three SET years, a one-to-one slope also lay within the confidence intervals, so that we cannot be confident that the 2009 result is an indicator of a fundamental change in the relationship between public and private sector wages.

36 We have had consistent unequivocal evidence for a relationship for three surveys. We now have the latest survey with equivocal evidence. In the absence of any independent evidence of a major change in wage setting patterns in Australia, we have no reason to discontinue the assessment. The SET survey results provide the best estimates available, and we do not consider that on the available evidence no assessment would result in a better HFE outcome.

37 Western Australia raised concerns with the accuracy of the SET data, suggesting it understated Western Australia's public sector wage levels. While this may contribute to the weakened public-private relationship observed in 2009, the public sector results have no effect on the wages assessment. We have observed that for all States, there is a trend consistency between SET and AWE for relative private sector wages. Figure 10 shows this relationship for Western Australia.

**Figure 10 Western Australia wage levels relative to national averages, SET and AWE**




Source: ABS SET and AWE, various years.

38 New South Wales questioned whether all the variables currently standardised to remove their impact on wage cost differentials should be standardised. These factors, beyond the control of States, could simply be part of the fundamental differences between States. However, New South Wales supports continuing to use the 2009 SET updated by LPI until data from the new ABS Characteristics of Employees survey are available.

39 On balance, we consider the SET approach remains the most preferable. The assessment needs to standardise for influences outside the control of States. The comparable employee concept is important. While not able to include only those private sector workers comparable to public sector workers, the current approach does standardise to the average private sector profile.

## Adjustments to the SET results

40 In previous reviews, adjustments were made to the modelled outcomes for Tasmania and the ACT to allow for special features of the data and the labour markets in those States.

41 After the release of the 2009 SET, the Commission decided to discontinue the 25% discount applied to Tasmania's wage factor because Tasmania's private sector wages appeared to be a good proxy for measuring wage pressure faced by the Tasmanian Government. We retain the view that private sector wages remain a good proxy. The

atypical structure of Tasmania's private sector is what the regression is designed to account for.

42 The Commission also decided to discontinue the 1% upward adjustment applied to the ACT's wage relativity after the release of the 2009 SET, again as the 2009 relativity appeared to appropriately measure the pressure on public sector wages. We retain this view.

43 At the time of self-government, many ACT and Northern Territory government employees were members of the Commonwealth Superannuation Scheme (CSS), which was a more generous scheme than those offered by State governments. In the 2010 Review the Commission allocated superannuation expenses to individual categories and adjusted the wage costs assessment for extra costs.

44 While declining in its effect, as the number of current employees who are also members of the CSS declines, the CSS adjustment applied to the ACT and the Northern Territory represents a material non policy influence on the wage costs States face. As such, we have continued to apply this adjustment.

45 The Northern Territory argued that the adjustment should apply to all surviving members of the CSS schemes, rather than be assessed on the basis of current employees who are members. We consider that the current assessment is on an accrual basis, whereas the Northern Territory's proposal would make the assessment on a cash basis. The assessment of higher employer contribution rates for employee members takes account of the future benefit payments of the scheme, and so including retired members is not required.

## Where are wage costs disabilities applied?

46 Wage costs disabilities have been assessed in all expense categories, weighted to reflect the proportion of expenses attributable to labour costs. In the Infrastructure category, costs have been measured as an average of the recurrent wage cost factors generated by this assessment, and a capital cost index derived from the Rawlinson's construction costs index.

## Discounting

47 In the 2010 Review, the Commission decided to apply a 12.5% discount to the private sector wage relativities derived from the SET analysis, to reflect a low level of uncertainty around whether the SET data are sufficiently reliable, the econometric model controls for all relevant factors and that private sector wages are a good proxy for the pressures on public sector wages.

48 The SET data have since been updated with the release of the 2009 data, and the Commission decided in the 2011 update to retain a low level of discount as no information suggested the results were less reliable than previously.

49 New South Wales and the Northern Territory said a discount should either not be applied, or at least not be increased from the current low level discount (12.5%).

50 Victoria said the discount should be increased substantially if the assessment is to be retained. Victoria also said that using private sector wage differences overstates the effects of wage pressures on public sector wages. It said one way to address this was to scale the magnitude of the wage disability by the average variance in underlying public sector wages divided by the average variance in underlying private sector wages. Alternatively it said, based upon AWE data, a discount of 50% would provide an approximation of this approach.

51 Queensland, South Australia and Tasmania said the discount should be increased, as the SET data were no longer reliable due to their age and thus increased uncertainty.

52 South Australia suggested an alternative form of discount, by using the result obtained from the end point of the 95% (or appropriate) confidence interval in the direction of an EPC assessment.

53 Tasmania, the ACT and the Northern Territory agreed with the Commission's position that the level of discount should be reconsidered as new data become available.

54 While some States consider the conceptual case is weak, the Commission has concluded it is sufficiently strong to justify assessing a disability. In this context, views about the strength of the case are not an appropriate basis for increasing the discount. We share States' concern that the 2009 SET data are quite dated, but consider the process of updating the assessment each year using the LPI keeps it as contemporaneous as possible between the releases of detailed data such as SET. We do not consider this minor increase in uncertainty justifies an increase in the discount.

## CALCULATING THE WAGE COSTS FACTOR

55 The wage costs factor was derived from the State coefficients for whole of State relative private sector wages, output from the regression model based upon the 2009 SET data. Table 1 shows these coefficients. The coefficients represent the degree to which wages for comparable employees in each State differ compared to the reference State of Tasmania. The coefficients indicate that private sector wages are highest in Western Australia and the Northern Territory, and to a lesser extent New South Wales and the ACT.

**Table 1 SET regression model coefficients, 2009**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT |
|---|---|---|---|---|---|---|---|---|
| Coefficient | 0.061 | 0.026 | 0.026 | 0.102 | 0.031 | 0.000 | 0.099 | 0.117 |

Note: State coefficients are expressed as natural logarithms of relative private sector wages.
Source: Commission calculation.

56 The raw factors were derived as the exponent of the SET regression coefficients.

57 We have applied the relative growth in the LPI from the SET survey year to the assessment year for each State. To allow for concerns about data quality and changes in the relationship between public and private sector wages since the SET year, these factors were discounted using the low discount (12.5%).

58 We subsequently increased the wage costs in the ACT and the Northern Territory by up to 0.5% to allow for the higher costs they incur because some of their employees are members of the CSS. The Northern Territory's adjustment is doubled due to the cost of additional conditions attached to service for those members of the CSS at the time of self-government, such as allowance payments and annual interstate airfares.

59 Table 2 shows the process for 2013-14.

**Table 2 Wage costs factor calculation, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| Adjusted raw factor | 1.014 | 0.979 | 0.978 | 1.056 | 0.983 | 0.954 | 1.053 | 1.072 | 1.000 |
| Indexed by LPI | 1.009 | 0.977 | 0.979 | 1.072 | 0.983 | 0.950 | 1.042 | 1.079 | 1.000 |
| Discounted | 1.008 | 0.980 | 0.981 | 1.063 | 0.985 | 0.956 | 1.036 | 1.069 | 1.000 |
| CSS adjustment | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.003 | 1.004 | |
| Final factor | 1.008 | 0.980 | 0.981 | 1.063 | 0.985 | 0.956 | 1.039 | 1.073 | 1.000 |

Note: Interim factors are rescaled so as to generate an average of one. Where the average factor is shown as one, the State factors shown are the rescaled factors.
Source: Commission calculation.

## Wage proportions of expense categories

60 We have calculated the wage proportions of direct service delivery expenses using data from ABS Government Finance Statistics (GFS). This includes data on the wages paid by State owned public non-financial corporations, as part of bringing the activities of transport and housing public non-financial corporations within scope of HFE. However, upon consideration of the GFS data, we have elected to set the assessed proportion of wages for Housing, Roads and Transport to the average of the other categories, as we believe significant amounts of wage expenses in these categories are classified as other types of expenses, such as payments to contractors.

61 We assumed any grants and subsidies in a category had the same wage — non wage cost structure as that category's direct expense. For example, the wages proportion

of grants to non-government schools was assumed to be the same as that for government schools costs.

62 Western Australia considered that a number of the GFS expense items classified by the Commission as non-wage may have some wage component embedded, such as transfers to households for utility charges, which to some degree may factor in the wage costs of the utility provider. We consider classifying GFS expenses into those that primarily relate to wages paid within the State, and those that do not primarily relate to that driver should give the most accurate estimate of the proportion of State expenses relating to local wage pressures.

63 Table 3 shows the proportion of category expenses to which wage cost disabilities are applied. These proportions were obtained by averaging GFS data for the three years 2010-11 to 2012-13. As the annual proportions have remained relatively stable over the three years, we consider it unnecessary to update the proportions in future updates.

**Table 3 Proportion of wages by expense category, 2010-11 to 2012-13**

| | Wage expenses | Non-wage expenses | Proportion wages | Assessed proportion |
|---|---|---|---|---|
| | $m | $m | % | % |
| Schools education | 22 849 | 7 996 | 74.1 | 74.1 |
| Post-secondary education | 4 017 | 2 347 | 63.1 | 63.1 |
| Health | 33 781 | 17 398 | 66.0 | 66.0 |
| Housing (a) | 798 | 4 238 | 15.8 | 59.6 |
| Welfare | 4 146 | 6 162 | 40.2 | 40.2 |
| Services to communities | 1 461 | 3 057 | 32.3 | 32.3 |
| Justice | 11 339 | 4 618 | 71.1 | 71.1 |
| Roads (a) | 1 547 | 5 217 | 22.9 | 59.6 |
| Transport (a) | 3 204 | 5 100 | 38.6 | 59.6 |
| Services to industry | 2 656 | 2 395 | 52.6 | 52.6 |
| Other expenses | 7 419 | 15 417 | 32.5 | 32.5 |
| Total (ex. Housing, Roads and Transport) | 87 667 | 59 391 | 59.6 | 59.6 |

(a) The assessed proportion for Housing, Roads and Transport has been set to the average of the other categories.

Source: ABS Government Finance Statistics, Commission calculation.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

64 Table 4 shows the extent to which the assessment would move the distribution of GST away from an equal per capita distribution. The assessment shows New South Wales, Western Australia, the ACT and the Northern Territory are assessed as needing to spend more per capita to deliver services because of wage costs.

**Table 4 GST impact, Wage costs, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Dollars million | 341 | -617 | -455 | 827 | -161 | -108 | 83 | 92 | 1 342 |
| Dollars per capita | 44 | -103 | -94 | 305 | -94 | -210 | 208 | 363 | 56 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.
Source: Commission calculation.

## CHANGES SINCE THE 2014 UPDATE

65 Table 5 breaks down the total changes since the 2014 Update into the impact of changing data sources, method changes, and change in State circumstances in the 2015 assessment period.

**Table 5 Changes since the 2014 Update, Wage costs**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Data changes | 51 | 79 | 35 | -77 | -3 | -28 | -19 | -39 | 165 |
| Method changes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| State circumstances | -42 | -2 | -9 | 55 | 10 | -6 | -4 | 0 | 65 |
| Total | 8 | 77 | 26 | -22 | 7 | -34 | -23 | -39 | 119 |

Source: Commission calculation.

### Data changes

66 No new data have been used in this assessment, other than revisions to the wage proportions of each category.

67 However, data and method changes within the expense categories where the wages disability is applied have led to changes in the distribution of GST revenue resulting from this assessment. The data changes result in GST being redistributed to New South Wales, Victoria and Queensland, and away from the other States.

### Method changes

68 There have been no changes to this assessment. This is largely because we consider it premature to make changes at this time. The SET data are old, the collection has been discontinued, and we do not yet have the replacement data set, the ABS Characteristics of Employees survey. When this becomes available, we will reconsider whether the disability continues to exist, and if it does, the model used to measure it, whether wage levels should be based on whole of State or capital cities, whether a State specific regional cost allowance is required and the appropriate level of discounting.

## Changes in State circumstances

69 The change due to State circumstances was driven by the annual indexing of the factors using the LPI. The average wage growth over the last three assessment years has been different from the average wage growth over the previous three assessment years. This has resulted in GST being redistributed to Western Australia and South Australia, who experienced faster average wages growth, and away from the other States.

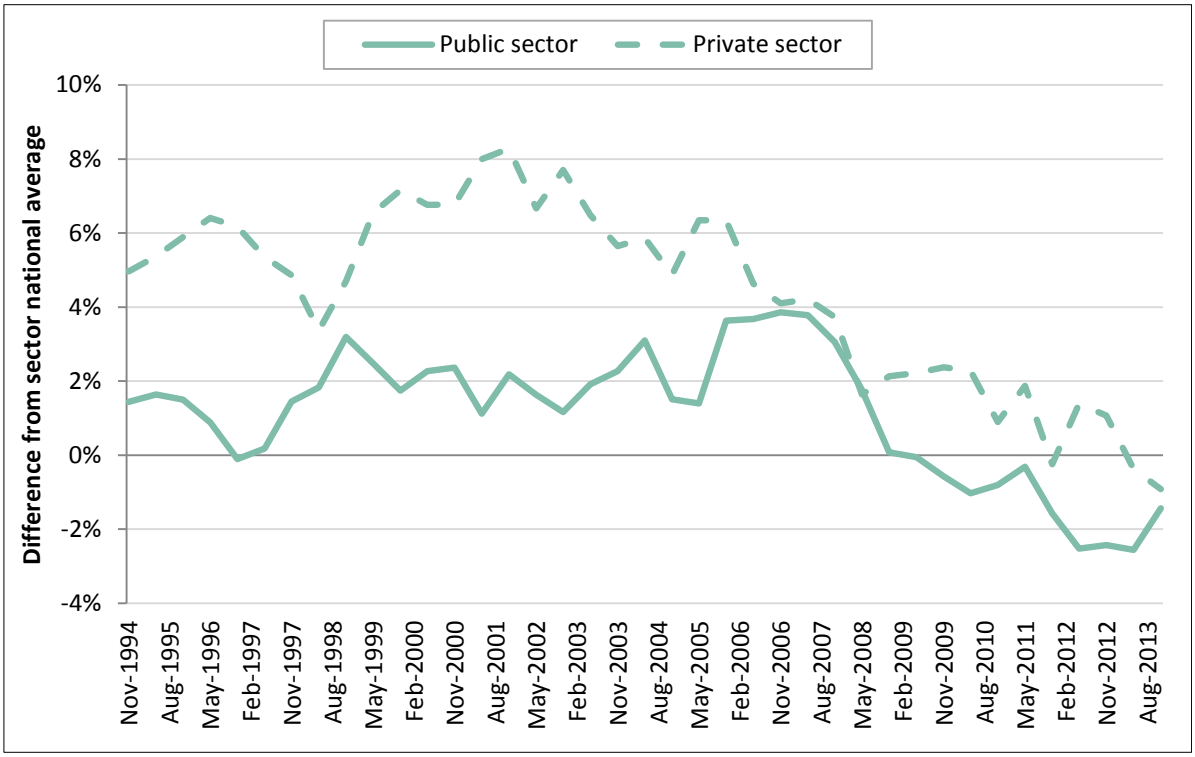
70 The ongoing reduction in CSS members in the ACT and the Northern Territory also contributed to the reduction in GST for those States.

## UPDATING THE ASSESSMENT

71 The methods used in this assessment are to be reviewed in consultation with States once the ABS Characteristics of Employees survey data become available, expected to be in the second half of 2015.

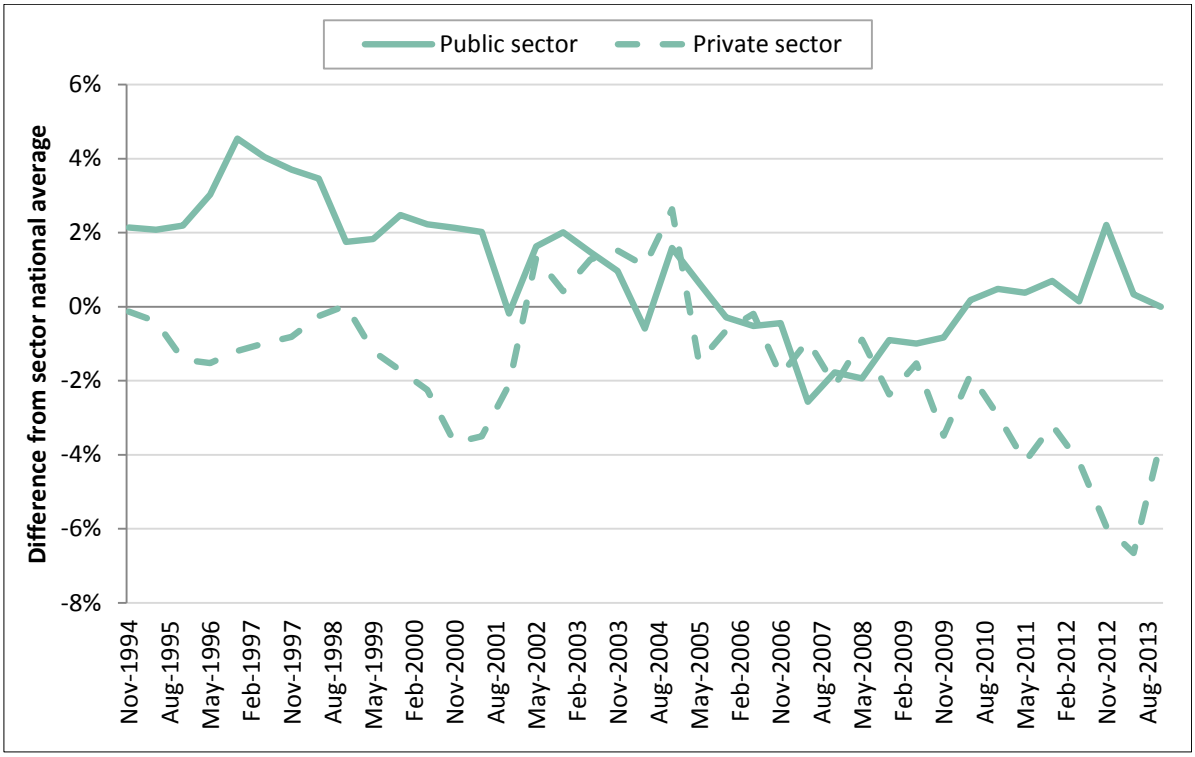
# APPENDIX A: PUBLIC AND PRIVATE SECTOR AWE RELATIVE TO NATIONAL AVERAGES, BY STATE

**Figure A-1 Public and private sector AWE relative to national averages, New South Wales**



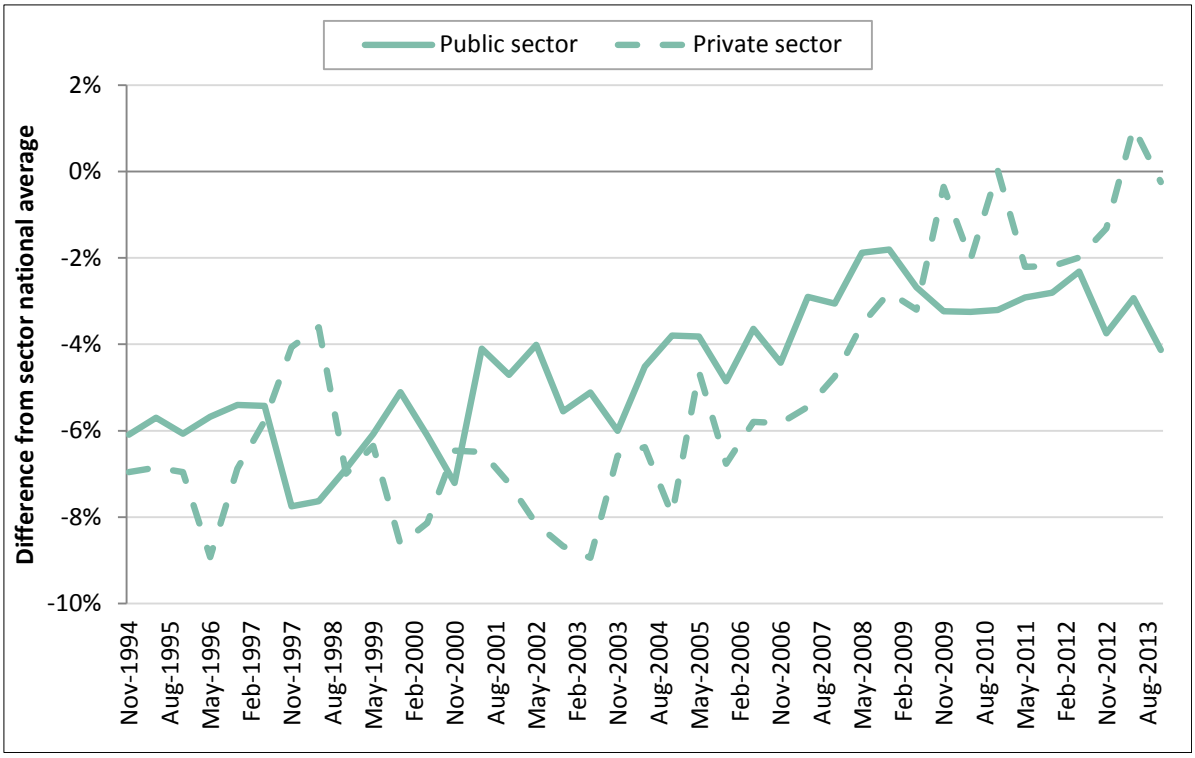

Source: ABS, 6302.1 *Average Weekly Earnings Australia*, November 2013.

**Figure A-2 Public and private sector AWE relative to national averages, Victoria**



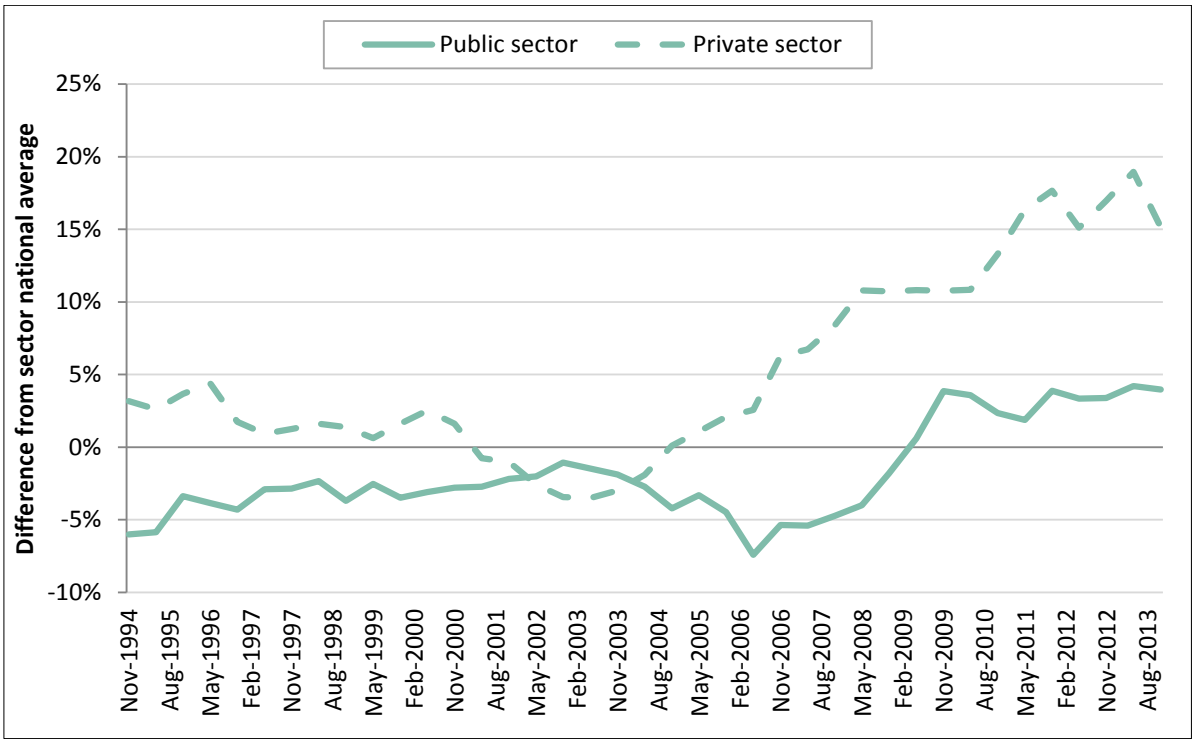

Source: ABS, 6302.1 *Average Weekly Earnings Australia*, November 2013.

**Figure A-3 Public and private sector AWE relative to national averages, Queensland**



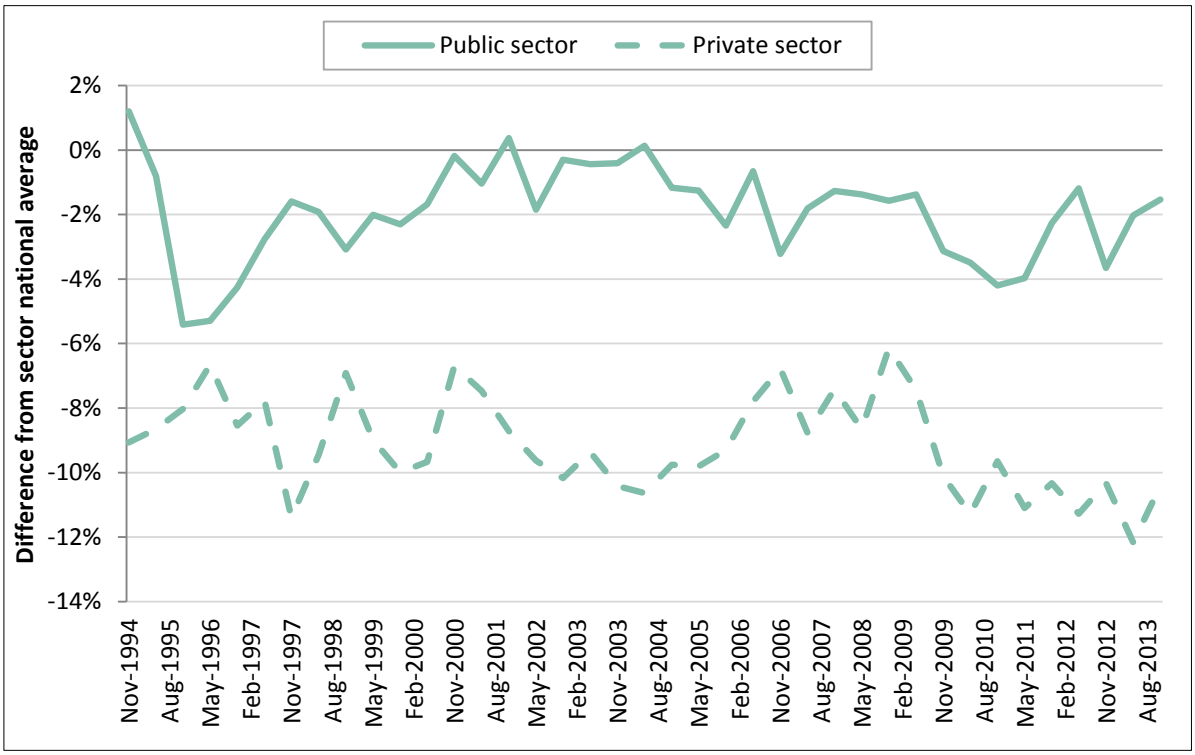

Source: ABS, 6302.1 *Average Weekly Earnings Australia*, November 2013.

**Figure A-4 Public and private sector AWE relative to national averages, Western Australia**



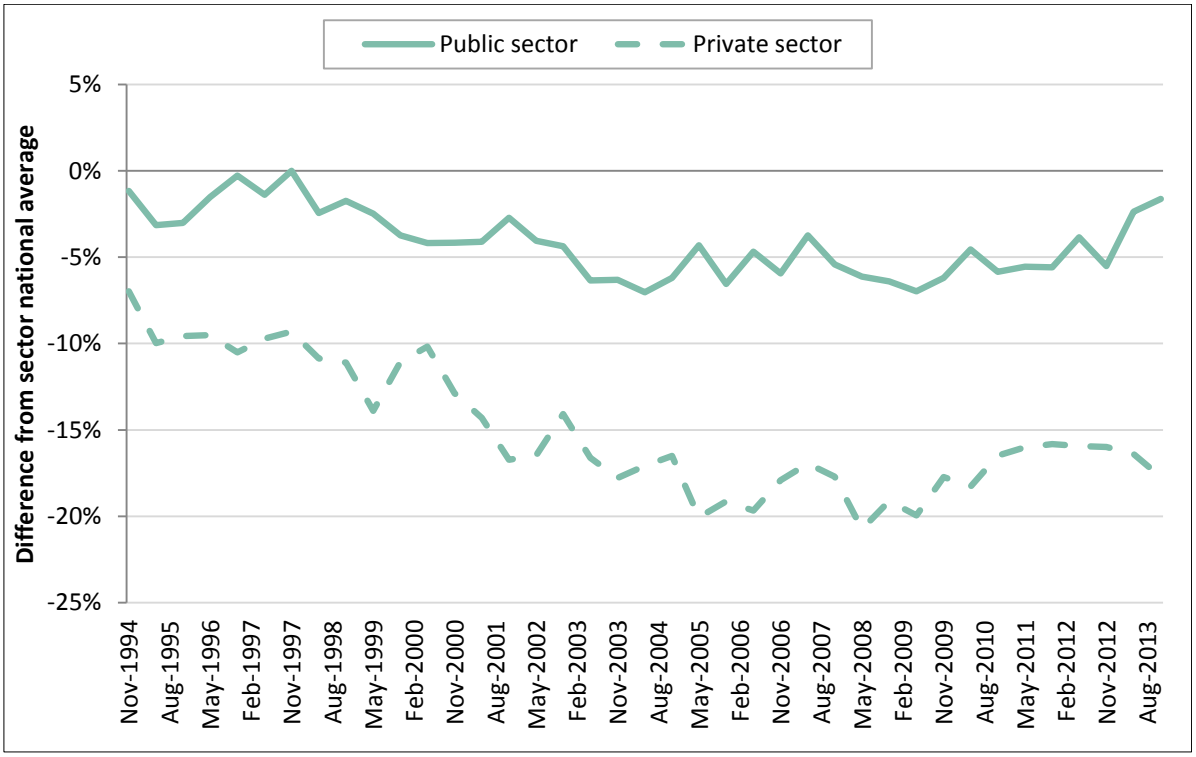

Source: ABS, 6302.1 *Average Weekly Earnings Australia*, November 2013.

**Figure A-5 Public and private sector AWE relative to national averages, South Australia**



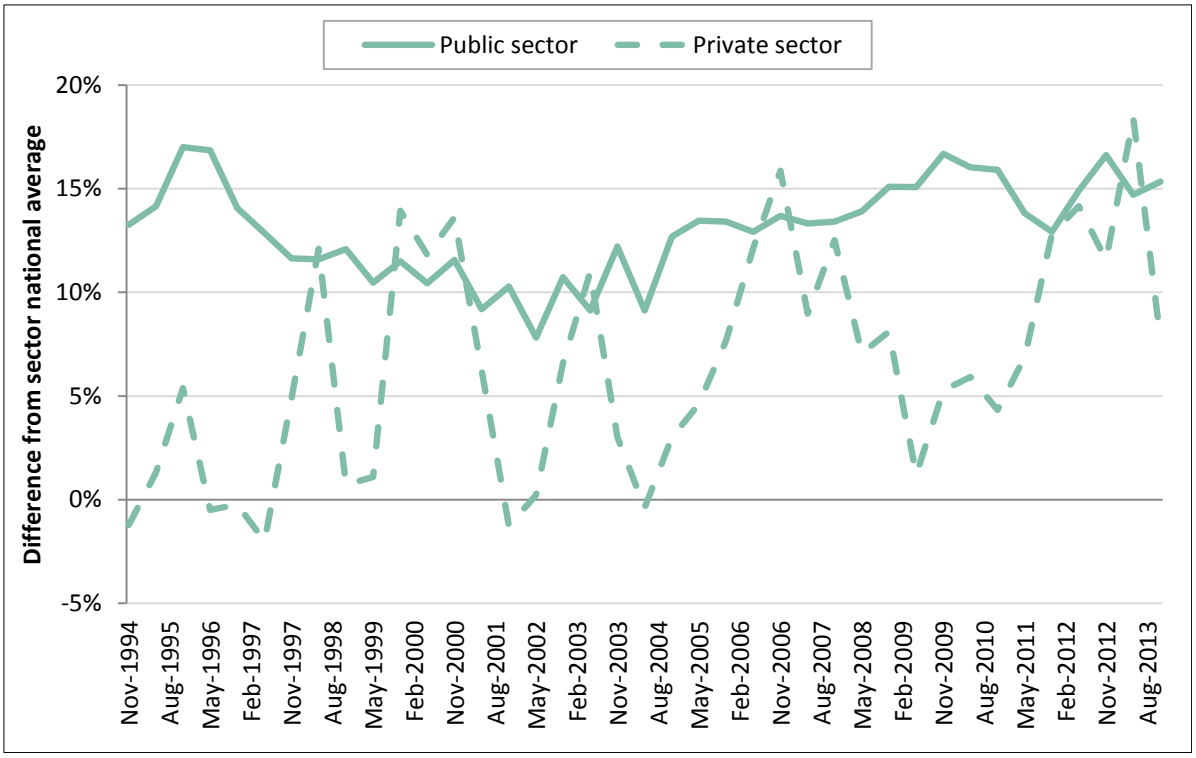

Source: ABS, 6302.1 *Average Weekly Earnings Australia*, November 2013.

**Figure A-6 Public and private sector AWE relative to national averages, Tasmania**



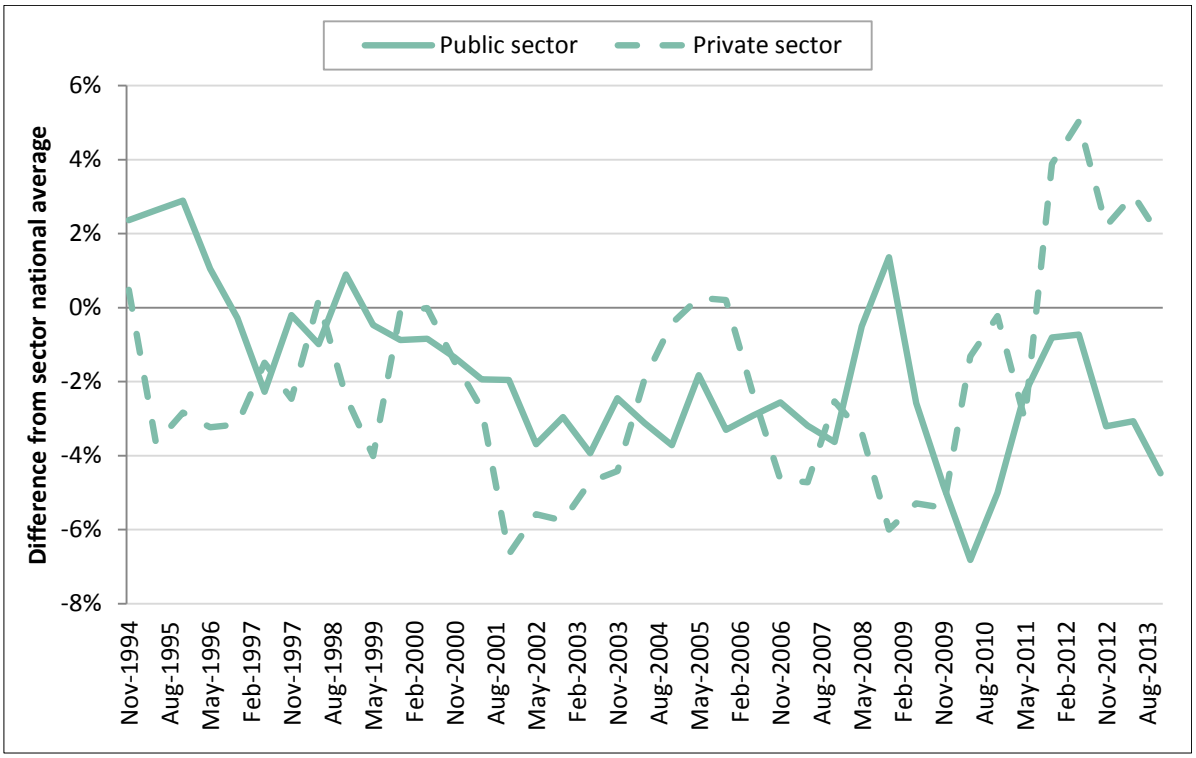

Source: ABS, 6302.1 *Average Weekly Earnings Australia*, November 2013.

**Figure A-7 Public and private sector AWE relative to national averages, ACT**




Source: ABS, 6302.1 *Average Weekly Earnings Australia*, November 2013.

**Figure A-8 Public and private sector AWE relative to national averages, Northern Territory**




Source: ABS, 6302.1 *Average Weekly Earnings Australia*, November 2013.

# CHAPTER 23

# REGIONAL COSTS

## SUMMARY OF THE ASSESSMENT

The Regional costs disability assessment recognises that the costs of delivering services to similar people can vary between regions. The impact of these cost differences on what States need to spend is estimated by applying a cost gradient measured on the basis of schools and police data, or an average of the two, to the client base for a category where there is a conceptual case for regional cost differences. What States need to spend in each category differs because States have different proportions of clients in each remoteness region.

Australian Curriculum, Assessment and Reporting Authority (ACARA) data were used to develop the schools regional costs gradient. Data provided by States were used to develop the police regional costs gradient.

## WHAT ARE REGIONAL COSTS?

1 States spend different amounts per capita on people in different regions. In some cases that is because the socio-demographic composition differs and that drives a different level of use. In some cases the cost of delivering even the same level of service varies; for example, because labour costs rise in more remote locations.

### The conceptual case

2 The variation in the cost of delivering services is largely due to cost increases as remoteness increases. Costs vary with remoteness because:

- remote locations are generally less desirable than urban areas hence higher wages or allowances are required for staff
- employee housing is more likely to be provided in remote areas where there are fewer accommodation alternatives
- extra costs are incurred on goods and staff travel over longer distances within a State

- additional inputs are often required (for example, the number of four wheel drive vehicles and additional fuel required for remote policing).

## Evidence supporting the conceptual case

3 For the 2010 Review we sought data from States on total cost and number of employees by region, for schools and police services. We used the data to calculate average costs (per full time equivalent employee) for each State-based Accessibility/Remoteness Index of Australia (SARIA) region for:

- wages
- employee housing
- other non-wage costs.

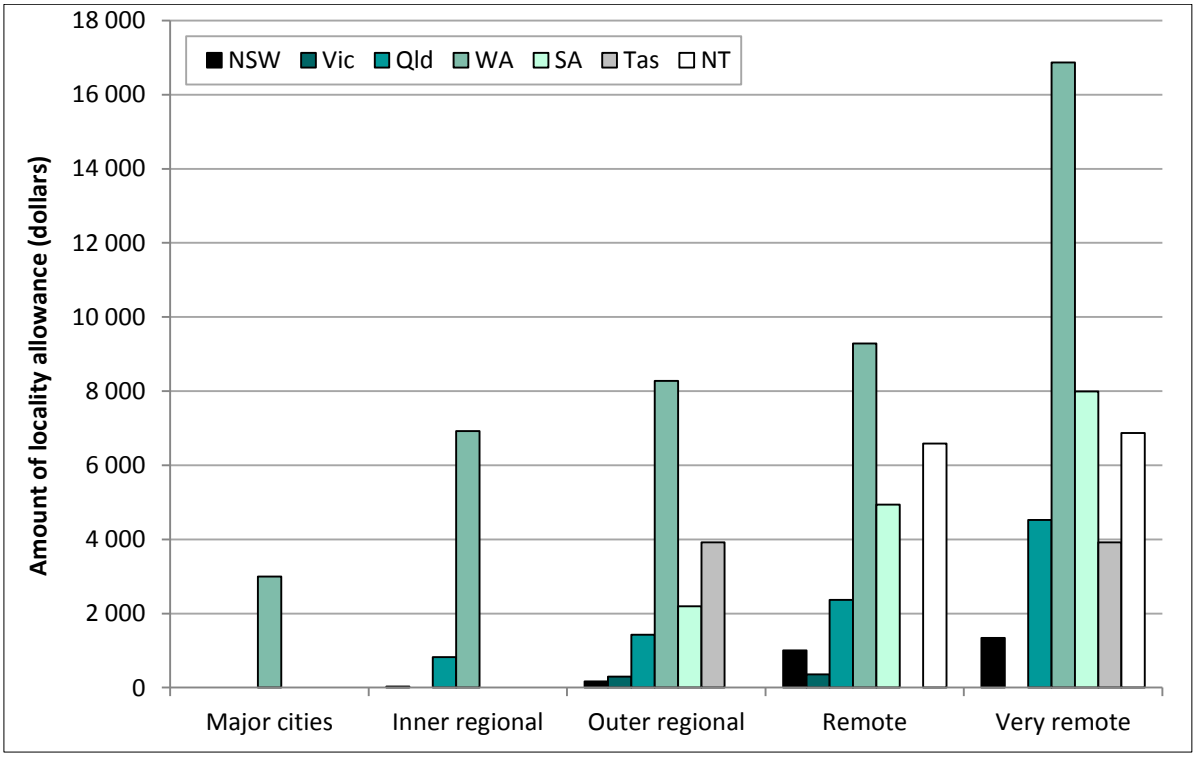
4 This analysis supported the conceptual case that regional cost differences exist in service delivery, as average costs generally increased with remoteness.

5 For the 2015 Review, we have conducted similar analysis using information on intrastate wage costs for teachers in each remoteness area. The conceptual case for regional cost differences in service provision costs in different regions was again supported. Figure 1 shows that regional allowances are paid to teachers in the majority of the States and generally rise with increasing remoteness.

6 In 2010, the Australian Curriculum, Assessment and Reporting Authority (ACARA) launched its My School website (http://www.myschool.edu.au/). The data collected by ACARA cover all State government schools (along with non-government schools) and are more detailed and comparable than data previously available. From these data we have been able to develop a fully-integrated regression model to measure how costs per student vary with regions, Indigenous status, socio-economic status and school size (assessed in service delivery scale). The regression model and the reliability of these data (including State concerns) are discussed in more detail in Chapter 10 — Schools education.

7 Regression modelling using ACARA data further supported the conceptual case for regional costs in respect of government schools. It predicts increased school funding as remoteness increases for schools that are otherwise similar.

**Figure 1 Average location related loadings paid to teachers, 2013**




Note: Bonuses only relate to remoteness or similar allowances. Career progression opportunities, subsidised housing and other in-kind support are excluded.

Source: State schools enterprise and related agreements.

## How we have measured regional costs

8 In some assessments it is not feasible, given the data, to separate differences in the use and cost of services in different locations and an integrated approach is used. For example, health costs vary with remoteness because of differences in use and cost. We merely observe the average spend per capita in the different areas. Schools and Health, except for the non-admitted patients' component, are assessed in this way.

9 A separate regional costs disability factor has been measured for police services using data provided by States.

10 In other assessments, we can identify the pattern of use across regions and have a good conceptual case that the cost of delivery also varies but without service specific data. In that case, we rely on the standard Regional costs assessment to adjust State spending for differences in regional costs.

11 This standard assessment is independent of factors like differences in use brought about by Indigenous concentrations and socio-economic status. We are confident it can augment our use assessments without double counting.

12 We have assessed a Regional costs factor in the following assessments:

- Post-secondary education
- Health
  - Non-admitted patients
- Housing
  - Service expenses
- Welfare
  - Family and child
  - Disability (non-National Disability Insurance Scheme only)
  - General welfare
- Services to communities
  - Community amenities
  - Community development
  - Small communities utilities subsidies
- Justice
- Roads
  - Rural roads expenses relating to road length
- Transport
  - Non-urban subsidies
- Services to industry
  - Agriculture regulation
  - Business regulation
- Other expenses
  - approximately 50% of service expenses
- Depreciation
  - Combined with wage factors and used to calculate capital costs factors, by averaging with Rawlinsons-based construction cost factors[1]
- Investment
  - Combined with wage factors and used to calculate capital costs factors, by averaging with Rawlinsons-based construction cost factors.[2]

[1] Discussed in Chapter 21 – Infrastructure.

[2] ibid., Chapter 21.

## DEFINING COMPARABLE AREAS: SARIA AND ABS REMOTENESS AREAS

13 We have used the ABS remoteness areas[3] to measure Regional costs for the 2015 Review, in place of the previously used SARIA. The most significant impact of this change is that Hobart and Darwin are classified as inner regional and outer regional areas, respectively.

14 We considered that, in terms of the cost of providing services and the pattern of service use by residents, Hobart and Darwin are more like regional cities of comparable size than they are like capital cities. As such, we concluded our remoteness classification should classify cities according to their size, and not their status as capital or non-capital cities. In turn, this meant we accepted State borders are permeable, as the calculation of remoteness in Tasmania and the Northern Territory must include a distance to the nearest city of over 250 000.

15 Treatment of capital cities, and the permeability of borders, are the two criteria that make SARIA a State-based classification. As we no longer consider these criteria to be important we now use ABS remoteness areas as our measure of remoteness.

16 As the Regional costs assessment has been based on ABS remoteness areas instead of SARIA, and as neither Tasmania nor the Northern Territory have cities over 250 000 people, their relative remoteness now reflect their distance from Melbourne and Adelaide respectively. This means the isolation of Hobart and Darwin from the large centres of manufacturing and importation, and the requirement for their officers to undertake additional and more expensive travel, are assessed within the Regional costs assessment.

17 Most States supported the move to ABS remoteness areas. However, Queensland and Western Australia were concerned about the ability of ABS remoteness areas to capture fiscal consequences, and appropriately assess the size, of remote communities given the assumptions of permeability and truncation.

18 We have observed the move to ABS remoteness areas results in changes to the distribution of populations by remoteness for some States, in part as a consequence of the truncation aspects of the ABS remoteness areas.[4] The truncation approach means that as distance from a major city increases, so does a community's remoteness. However, above 1 254 km, it no longer increases. This approach is based on a simplifying assumption that the additional 100 km from 1 254 km to 1 354 km does not add more isolation or more cost. The impact of this truncation is that despite being 2 400 km from Perth, Broome with 30 direct commercial flights to Perth

[3] The ABS remoteness areas are based on the Accessibility/Remoteness Index of Australia (ARIA).

[4] In the calculation of ARIA scores, distances from a large city are truncated. This truncation was not done in SARIA.

each week, is no longer classified as among the most remote communities in the country.

19 Under SARIA, Newcastle and Wollongong were classified as inner regional as they are not capital cities. Under ABS remoteness areas, as cities over 250 000 people they are classified as major cities.

20 We consider the ABS remoteness areas allow us to more accurately assess regional costs. However, we acknowledge that capital cities are not necessarily directly comparable to other cities of corresponding remoteness. An adjustment for this is considered later in this chapter.

## MEASURING REGIONAL COSTS

### Schools

21 We conducted regression analysis using ACARA data on costs in each government school in Australia. This gave estimates of the impact of Indigenous student numbers, school size, socio-economic status and remoteness on school costs. The coefficients for each remoteness area were used to derive regional cost differences for State government schools, which are shown in Figure 3.

22 State issues and concerns with the comprehensiveness, comparability and reliability of the ACARA data are discussed in Chapter 10 – Schools education. As part of our quality assurance processes, we have had our regression models externally verified. We are satisfied that the ACARA data are more comprehensive and more reliable than the data used in the 2010 Review. The combined service delivery scale (SDS) and regional costs results suggest some portion of costs considered to reflect SDS effects in the 2010 Review are now allocated to the regional cost effects in the 2015 Review.

### Police and other Justice services

23 We do not consider that there has been any significant improvement or standardisation of State police staffing data since gathering data for the 2010 Review. While weights could be recalculated using new data, we do not consider the likely minor revision to costs warrants the significant burden placed on the States by this request in the 2010 Review. As such we have continued to use the 2007-08 data, adjusted to reflect ABS remoteness areas instead of SARIA regions.

24 The Regional costs factor for police has been derived by:

- calculating a police cost gradient that uses 2007-08 police data relating to staffing numbers, wage costs (to which a junior staffing adjustment is applied), non-wage costs and housing costs; this is shown in Figure 3
- calculating the police use-weighted population for each ABS remoteness area across the assessment years
- applying the police cost gradient to the police use-weighted population; this produces a cost-weighted police client base
- calculating the regional cost factor as the ratio of each State's share of cost-weighted police clients to non-cost weighted police clients
- applying a low level discount to the resulting factors.

25 The gradient calculated from the police data is used throughout the Justice category, as we consider it is appropriate and simpler to apply a single regional costs assessment to all Justice components, rather than applying two different assessments in the one category.

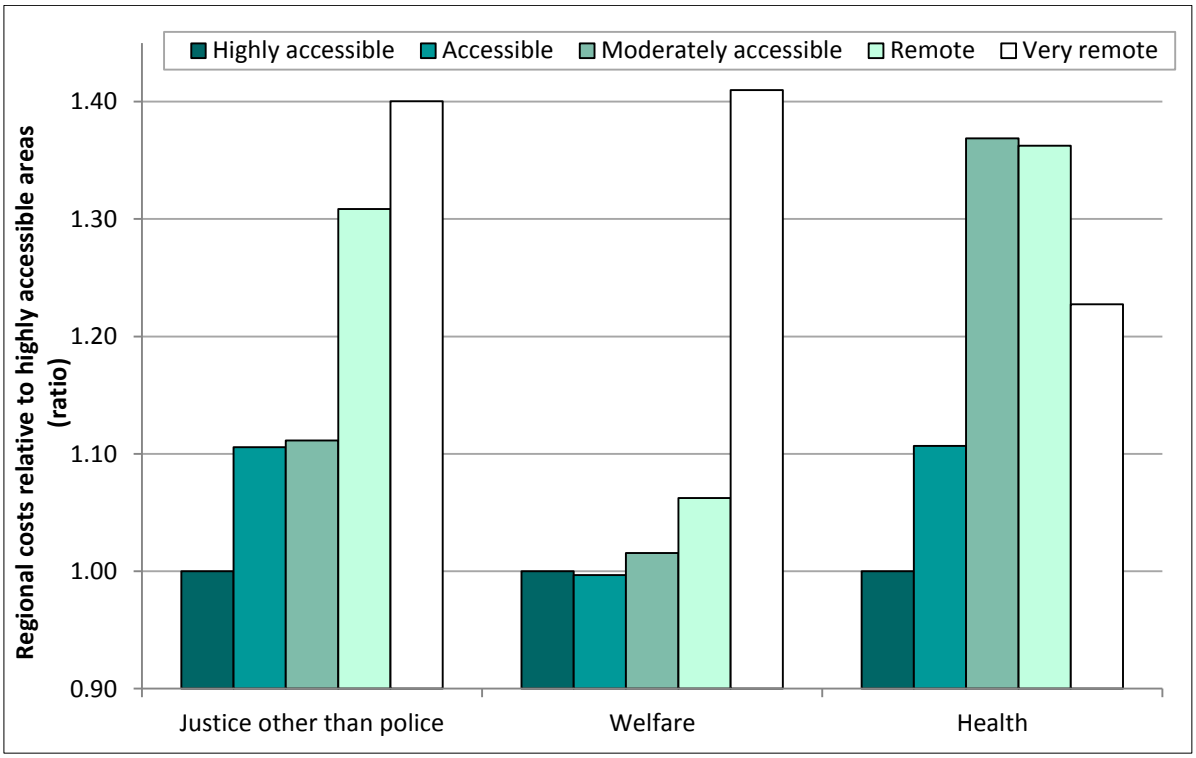
## WHERE ELSE SHOULD THE REGIONAL COSTS DISABILITY APPLY?

26 The Commission has considered a number of data sources in the development of the Regional costs assessment. At present appropriate regional costs data are only available for schools and police.

27 Some States considered there was not sufficient evidence to assess regional costs in categories other than Schools education and Justice. However, there is a strong conceptual case that costs associated with other categories also increase in more remote areas. In the 2010 Review, Queensland and other States provided evidence to support this. Some of the cost data provided by Queensland is shown in Figure 2.

28 We have not seen evidence that would lead us to change from this view. In the absence of data directly measuring costs in these areas, extrapolation is appropriate.

**Figure 2** **Queensland data on average cost per full-time employee in different departments**




Source: Data provided by Queensland prior to the 2010 Review.

## What disability should apply

29 The service provision models for schools and police do not apply to other services. The services are, however, provided in, or delivered to, communities of all levels of remoteness and are not usually centralised in major cities. Higher costs are faced in regional and remote areas when providing many services and these costs are independent of staffing rates (which relate to service delivery scale). It is plausible that location has a broadly similar impact on costs in each region.

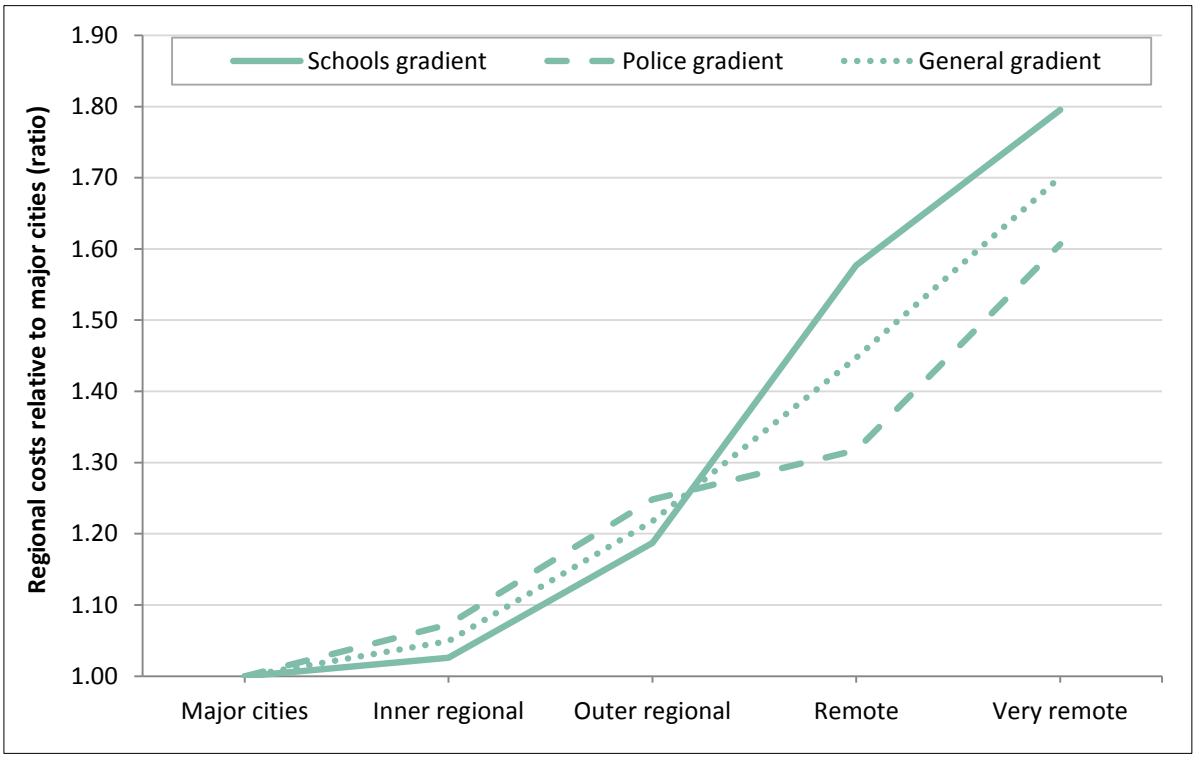
30 A number of States had concerns about extrapolating the schools gradient to other categories. We have decided that given the varying methods of service provision in the categories where the Regional costs disability affects costs, it is more appropriate to extrapolate a gradient based on two services – schools and police. We have calculated a general gradient by taking the average of the schools and police gradients. This not only draws on a broader range of service delivery models, but also creates a smoother gradient. It will assist in reducing the sensitivity of the gradient to changes in ACARA data over time.

31 The Regional costs factors for all categories other than Schools education and Justice have been derived using the general cost gradient and a client base applicable to the category. The steps taken are as follows:

- average relative costs of schools and police for each remoteness area to calculate a general cost gradient, as shown in Figure 3
- apply the general cost gradient to the relevant client base for each remoteness area; this produces a cost-weighted client base
- calculate total weighted and unweighted clients in each State
- calculate the regional cost factor as the ratio of each State's share of cost-weighted clients to non-cost weighted clients
- apply a medium level discount to the resulting factors.

32 The schools education, police and general gradients are shown in Figure 3.

**Figure 3 Schools, police and general regional costs gradients**




Source: Commission calculation using ACARA data (2012) and State provided data (2008-09).

33 Table 1 shows the assessments in which a regional costs disability is assessed, and the data used to do so. The conceptual case for regional costs differences applies to each of these categories.

**Table 1 Regional costs client base and gradient used for each assessment**

| Category or component | Client base | Gradient |
|---|---|---|
| Schools education | Enrolments | Schools |
| Post-secondary education | Government-subsidised contact hours | General |
| Health – non-admitted patients (a) | Population | General |
| Housing | Population | General |
| Welfare | Population | General |
| Services to communities | | |
| Community development | Use weighted population | General |
| Community amenities | Population | General |
| Small communities utilities subsidies | Use weighted population | General |
| Justice | Police use-weighted population | Police |
| Transport services – non-urban subsidies | Non-urban population | General |
| Roads - rural roads (road length expenses) | Assessed rural road lengths | General |
| Services to industry | Employed people | General |
| Other expenses – 50% of service expenses | Population | General |

(a) Regional costs for other components in the Health category are calculated within the socio-demographic composition disability.

## Discounting

34 Some States maintained that it was appropriate to increase the discount applied to categories other than Schools education while other States considered it would be appropriate to remove the discount altogether.

35 We consider the ACARA data are sufficiently reliable and no discount is required to their application in the Schools education assessment. However, extrapolation of the general cost gradient to other categories opens the assessment to a degree of uncertainty, as we are not accounting for potential differences in labour and non-labour input combinations across categories, or any differences in the regional cost gradient of skilled and unskilled labour. To recognise this, we have applied a medium discount to the regional costs factors for all categories where extrapolation occurs (including for Justice components other than police). This is a higher discount than was applied in the 2010 Review.

36 Despite issues of uncertainty, the conceptual case for the categories to which the regional costs disability is applied is strong, and the general gradient is the best method we have available for assessing the impact in these categories. Nonetheless, we recognise there is uncertainty about how well the general regional costs gradient reflects what is happening in other categories.

37 We have also continued to apply the low discount to the police regional costs factor. This reflects the more unreliable nature of the available police data in comparison to the available ACARA data.

38 We consider these discounts result in better equalisation outcomes. A medium discount is appropriate where extrapolation occurs and a low discount is appropriate for the police factor when applied directly to police.

## Summary of Regional costs factors

39 Table 2 shows the Regional costs assessment factors.

**Table 2 Regional costs assessment factors, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| Schools education - State own-funded | 0.981 | 0.978 | 1.010 | 1.029 | 1.020 | 1.042 | 0.965 | 1.431 | 1.000 |
| Post-secondary | 0.995 | 0.994 | 1.002 | 1.013 | 1.002 | 0.998 | 0.994 | 1.142 | 1.000 |
| Health - non-admitted patients | 0.989 | 0.984 | 1.013 | 1.012 | 1.007 | 1.052 | 0.971 | 1.241 | 1.000 |
| Housing | 0.989 | 0.984 | 1.013 | 1.012 | 1.007 | 1.052 | 0.971 | 1.241 | 1.000 |
| Welfare | 0.989 | 0.984 | 1.013 | 1.012 | 1.007 | 1.052 | 0.971 | 1.241 | 1.000 |
| Services to communities | | | | | | | | | |
| Community amenities | 0.989 | 0.984 | 1.013 | 1.012 | 1.007 | 1.052 | 0.971 | 1.241 | 1.000 |
| Community development | 0.973 | 0.962 | 1.039 | 1.056 | 1.007 | 1.028 | 0.948 | 1.372 | 1.000 |
| Small communities utilities subsidies | 0.999 | 0.995 | 1.002 | 1.003 | 0.945 | 0.904 | 1.000 | 1.649 | 1.000 |
| Justice | | | | | | | | | |
| Police | 0.983 | 0.977 | 1.021 | 1.022 | 1.009 | 1.074 | 0.955 | 1.282 | 1.000 |
| Courts and prisons | 0.986 | 0.980 | 1.018 | 1.019 | 1.008 | 1.063 | 0.961 | 1.242 | 1.000 |
| Roads - rural road length | 0.966 | 0.907 | 1.088 | 1.127 | 1.042 | 0.980 | 0.858 | 1.217 | 1.000 |
| Transport - non-urban transport | 0.969 | 0.975 | 1.000 | 1.081 | 1.060 | 1.031 | 0.951 | 1.284 | 1.000 |
| Services to industry | 0.986 | 0.983 | 1.012 | 1.025 | 1.007 | 1.043 | 0.971 | 1.221 | 1.000 |
| Other expenses | 0.989 | 0.984 | 1.013 | 1.012 | 1.007 | 1.052 | 0.971 | 1.241 | 1.000 |

Note: The regional costs component of the location factors applied to Investment and Depreciation cannot be separated from the wage costs component.
Source: Commission calculation.

## INTERSTATE NON-WAGE COSTS AND OTHER ISSUES

40 In the last review, the Commission accepted that non-wage costs differed between the States. It made a judgment based assessment of freight and travel costs to attempt to recognise the direction in which the differences in State non-wage costs might influence State expenses. The assessment was only material for Tasmania, the ACT and the Northern Territory.

41 Quality data to quantify influences that cause particular non-wage costs to be higher in some States than in others – the relative differences in these costs across States

and the quantum of expenses affected – were not available then and are not available in this review.

42 We have decided that the approach adopted in the 2010 Review was based on false precision and have adopted a different approach.

43 The use of the ABS remoteness areas classification in the Regional costs assessment instead of SARIA has compensated the two States for which the Interstate non-wage costs assessment was largest (Tasmania and the Northern Territory) by recognising their isolation through more remote classifications.

44 Under ABS remoteness areas, Darwin is classified as outer regional in the same way as Townsville, Cairns, Geraldton, Kalgoorlie and Mildura. As such, we would assess its costs as being about 8%[5] higher than in major cities. Under ABS remoteness areas, Hobart is classified as inner regional like Toowoomba, Ballarat, Mackay, Bunbury and Albury, with costs 1.7% above those in other State capitals.

45 While the majority of States supported ceasing the separate assessment of non-wage costs and recognising the major differences through the Regional cost assessment, Western Australia and the Northern Territory did not.

46 Western Australia said Perth is more isolated than an average capital city, and the Regional costs assessment classifies it as less isolated (just as isolated as most capitals, but less than Hobart or Darwin). It is also concerned that its remote and very remote areas are even more costly than remote and very remote areas in other States. It considers the economic environment in those areas differ from that in similar regions in other States and that it has to pay higher wages and housing costs.

47 The Northern Territory said the Interstate non-wage costs assessment captured different disabilities than those captured by ABS remoteness areas. It considers that as intergovernmental meetings and centres of production and importation are concentrated in the Eastern States, ABS remoteness areas fail to assess the full impact of non-wage costs to Darwin as their nearest city of 250 000 people is Adelaide rather than one of the eastern cities. It suggested increasing the quantum of costs included in the Regional costs assessment would address this issue.

48 The Commission has reviewed the outcomes of the Regional costs assessment and the extent to which it captures interstate non-wage costs in addition to intrastate costs. We considered the move to ABS remoteness areas, with the removal of the non-wage costs assessment, has improved the reliability of the assessment. However, like the SARIA classification, ABS remoteness areas do not fully capture all differences in the nature of capital cities and the interstate non-wage costs they face. We have considered whether adjustments may be necessary.

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[5] The general gradient, outer regional areas are 22% more expensive than major cities. However, with a 25% discount, and with only half of expenses attracting a regional gradient, total assessed costs are 8% above those in major cities.

49 Perth and Canberra were considered more isolated than the average capital city in the 2010 Review and the Interstate non-wage costs assessment recognised this. However, in this review, the ABS remoteness classification means they are assumed to face the same non-wage costs as Sydney and Melbourne. We do not consider this fully recognises the cost pressures faced in these cities. Perth is more isolated than the larger capital cities of Sydney, Brisbane and Melbourne, but it is still a large city and much more like the large capital cities in terms of its access to production, manufacturing and importation. Canberra is a much smaller city and not like other major cities in terms of production, manufacturing or importation.

50 We consider HFE outcomes would be improved if we made a judgment based non-wage cost assessment for Perth and Canberra based on 25% and 50% respectively of the regional costs allowance they would have received had they been classified as inner regional cities. This would recognise that Western Australia needs to spend an additional amount of $70 million and the ACT $30 million because of higher non-wage costs than other major cities.

51 The change in the regional classification has meant that Tasmania and the Northern Territory have received significantly more regional costs allowances. Compared with the non-wage cost allowances they received in the 2010 Review, this appears excessive, and may be due to some double counting of intra and interstate non-wage cost differences. We consider these States should not retain this full additional amount because Hobart and Darwin have some attributes of capital cities, as well as some attributes of inner regional and outer regional areas respectively. As a result, we consider we should reduce the impact of the regional cost assessment for both Darwin and Hobart by 50%. This reduces Tasmania's assessed expenses by approximately $30 million, and the Northern Territory's by approximately $55 million.

52 As a result of this, we have made the following judgment based assessments:

- Western Australia - plus $70 million
- the ACT – plus $30 million
- Tasmania – minus $30 million
- the Northern Territory - minus $55 million.

53 These adjustments are assessed as a separate component in the Other expenses category.

54 We consider with these adjustments the regional and interstate non-wage costs of all States have been recognised appropriately.

55 ***Summary.*** We accept there is a conceptual case for non-wage costs to be higher in some States than others for comparably remote areas. We consider this impact is better captured by the Regional costs assessment as we move from SARIA to ABS remoteness areas. This is because ABS remoteness areas' use of cities over 250 000 to

define ‘major city areas’ provides a reasonable indicator of cities with significant manufacturing resources and ports as well as where meetings are held. Greater distance from such cities reflects where freight and travel costs will be higher. This indicator stands in contrast to the often partial and incomplete data used in the Interstate non-wage costs assessment for previous reviews. However, because ABS remoteness areas do not capture all differences in the nature of capital cities and the interstate non-wage costs they face, we have made adjustments to recognise Perth, Canberra, Hobart and Darwin face costs that differ from other cities of corresponding remoteness.

### *State specific regional loadings*

56 Western Australia said its remote and very remote areas are even more costly than remote and very remote areas in other States. It considers that the economic environment in those areas differ and that it has to pay higher wages and housing costs.

57 Analysis of the Survey of Education and Training for the wages assessment has found that private sector wages are higher in the balance of Western Australia than in Perth, a pattern not repeated in other States. This supports the case that the regional costs gradient is steeper in Western Australia than elsewhere. However, the current wages assessment, by measuring State wide wages, already captures this disability.

58 As discussed in Chapter 22 – Wage costs, the Commission intends to to reconsider how the wage costs are assessed when the ABS’s 2014 Characteristics of Employees survey is available. This will have implications for whether a State specific regional loading is warranted. The Commission expects to resolve these issues for the 2016 Update.

## INFLUENCES NOT ASSESSED

59 ***Employer provided housing.*** Western Australia is concerned that the practice of private sector employers providing subsidised housing reflects part of the total remuneration paid to workers, but is not captured as wages in the SET. Western Australian employers are said to provide more of this, especially in the remote communities. Therefore, the SET underestimates Western Australian relative total private sector remuneration costs and the remuneration cost pressures on the Western Australian public sector.

60 From the census we have identified five non-government employer provided dwellings per 1 000 population in Western Australia compared with three across the country. We estimate this represents an additional wage cost of 0.1% above the

national average. Adjusting the wages assessment to include this cost would redistribute $2 per capita to Western Australia and would not be material.

61 ***Office accommodation.*** Western Australia said high office accommodation costs are a disability that could be reliably and materially assessed.

62 Office accommodation costs vary significantly within each capital city, as does the distribution of State public servants. For example, New South Wales has the second highest average CBD rent, but has the lowest proportion of people employed in State government administration in the CBD. It is not clear whether the high proportion of New South Wales public servants in Parramatta reflects the policy choice of New South Wales to avoid high CBD rents, or reflects the decentralised nature of Sydney relative to other cities.

63 Office accommodation data are available for the CBDs of State capitals with the exception of Hobart and Darwin. The data show CBD rents vary significantly between cities. However, our best estimate is that rent represents 2% of State budgets, and that 37% of State government administration is within capital city CBDs. An assessment developed on this basis is not material.

64 ***Electricity costs.*** The price of electricity varies between States because of differences in the generation and other costs. In the 2004 Review, we made an assessment of the resulting differences in costs faced by State governments in delivering services and Western Australia asked that we reintroduce this assessment.

65 However, while we observe there are differences in electricity prices across States, we are not confident that we can reliably isolate the impact of State policy on them. As we were therefore unable to build a reliable policy neutral assessment of the impact of electricity price differences on State budgets, we have not undertaken an assessment in this review.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

66 Table 3 shows the extent to which the Regional costs assessment would move the distribution of GST away from an equal per capita distribution. The assessment shows Queensland, Western Australia, South Australia, Tasmania and the Northern Territory are assessed as needing to spend more per capita to deliver services because of regional costs disabilities. This reflects the greater dispersion of the populations of these States compared with the average.

**Table 3 GST impact, Regional costs, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Schools education | -219 | -193 | 71 | 115 | 51 | 33 | -20 | 162 | 432 |
| Post-secondary | -12 | -12 | 2 | 11 | 1 | 0 | -1 | 11 | 25 |
| Health | -16 | -18 | 12 | 6 | 2 | 5 | -2 | 12 | 37 |
| Housing | -19 | -21 | 14 | 7 | 2 | 6 | -3 | 13 | 43 |
| Welfare | -49 | -53 | 35 | 19 | 6 | 15 | -7 | 34 | 109 |
| Services to communities | -21 | -24 | 19 | 16 | -3 | -1 | -2 | 17 | 52 |
| Justice | -97 | -106 | 76 | 45 | 12 | 29 | -14 | 54 | 216 |
| Roads | -10 | -20 | 15 | 12 | 3 | 0 | -2 | 2 | 32 |
| Transport | -17 | -11 | 0 | 16 | 7 | 1 | -1 | 5 | 30 |
| Services to industry | -11 | -11 | 6 | 7 | 1 | 2 | -1 | 6 | 23 |
| Other expenses | -52 | -56 | 37 | 20 | 7 | 16 | -7 | 36 | 116 |
| Location adjustment | -9 | -7 | -6 | 87 | -2 | -36 | 37 | -63 | 124 |
| Total | -534 | -532 | 281 | 361 | 87 | 69 | -23 | 291 | 1 238 |
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| Schools education | -29 | -32 | 15 | 42 | 30 | 63 | -51 | 642 | 18 |
| Post-secondary | -2 | -2 | 0 | 4 | 1 | -1 | -2 | 44 | 1 |
| Health | -2 | -3 | 2 | 2 | 1 | 10 | -6 | 46 | 2 |
| Housing | -3 | -3 | 3 | 3 | 1 | 11 | -7 | 53 | 2 |
| Welfare | -6 | -9 | 7 | 7 | 4 | 29 | -17 | 136 | 5 |
| Services to communities | -3 | -4 | 4 | 6 | -2 | -2 | -5 | 67 | 2 |
| Justice | -13 | -18 | 16 | 17 | 7 | 56 | -34 | 214 | 9 |
| Roads | -1 | -3 | 3 | 5 | 1 | -1 | -5 | 8 | 1 |
| Transport | -2 | -2 | 0 | 6 | 4 | 2 | -4 | 21 | 1 |
| Services to industry | -1 | -2 | 1 | 3 | 1 | 5 | -3 | 24 | 1 |
| Other expenses | -7 | -9 | 8 | 7 | 4 | 31 | -18 | 144 | 5 |
| Location adjustment | -1 | -1 | -1 | 32 | -1 | -70 | 92 | -247 | 5 |
| Total | -69 | -89 | 58 | 133 | 51 | 134 | -58 | 1 150 | 51 |

Source: Commission calculation.

## CHANGES SINCE THE 2014 UPDATE

67 Table 4 breaks down the total changes since the 2014 Update into the impact of changing data sources, method changes, and change in State circumstances in the 2015 assessment period.

**Table 4 Changes since the 2014 Update, Regional costs**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Data changes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Method changes | -362 | -173 | 98 | 103 | 100 | 73 | 23 | 138 | 535 |
| Change in circumstances | 4 | 1 | 2 | -3 | 0 | -1 | 0 | -3 | 7 |
| Total | -359 | -171 | 100 | 99 | 100 | 73 | 23 | 135 | 530 |

Source: Commission calculation.

## Data changes

68 There have not been any substantial revisions to data used in the Regional costs assessment since the 2014 Update.

## Method changes

69 ACARA data have been used in a regression in the 2015 Review to assess regional cost differences in an integrated Schools education assessment. Data provided by States were previously used to derive a cost gradient and factor.

70 The new method has resulted in a steeper schools gradient than was used in the 2014 Update.

71 We have changed the geography we use for this assessment from SARIA to ABS remoteness areas. This has increased the remoteness of Tasmania and the Northern Territory, resulting in significantly more GST being redistributed towards them and away from States which are now classified as less remote; that is, New South Wales, Victoria and Western Australia. Although, this change has been moderated for some States by a judgment based adjustment.

72 Table 5 shows the overall difference in redistributions when comparing an ABS remoteness approach that excludes a non-wage costs assessment and includes a judgment based adjustment and a SARIA approach which includes a non-wage costs assessment but not a judgment based adjustment.

**Table 5 GST impact of Regional costs assessment, alternative remoteness definitions, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| **SARIA approach** | | | | | | | | | |
| Regional costs | -202 | -462 | 213 | 301 | 6 | -15 | -55 | 214 | 734 |
| Interstate non-wage costs | | | | | | | | | |
| Freight | -56 | -36 | 10 | 19 | 9 | 22 | 17 | 14 | 92 |
| Travel | -18 | -13 | -7 | 9 | 3 | 10 | 4 | 14 | 39 |
| Total | -276 | -510 | 216 | 329 | 18 | 17 | -34 | 242 | 821 |
| **ABS remoteness areas approach** | | | | | | | | | |
| Regional costs | -524 | -525 | 287 | 274 | 89 | 105 | -60 | 353 | 1 109 |
| Location adjustment | -9 | -7 | -6 | 87 | -2 | -36 | 37 | -63 | 124 |
| Total | -534 | -532 | 281 | 361 | 87 | 69 | -23 | 291 | 1 089 |
| **Difference (from SARIA to ARIA)** | -258 | -22 | 66 | 32 | 70 | 52 | 11 | 49 | 269 |
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| **SARIA approach** | | | | | | | | | |
| Regional costs | -26 | -77 | 44 | 111 | 3 | -30 | -139 | 847 | 30 |
| Interstate non-wage costs | | | | | | | | | |
| Freight | -7 | -6 | 2 | 7 | 5 | 43 | 43 | 55 | 4 |
| Travel | -2 | -2 | -2 | 3 | 2 | 19 | 10 | 55 | 2 |
| Total | -36 | -85 | 44 | 121 | 10 | 32 | -86 | 957 | 34 |
| **ABS remoteness areas approach** | | | | | | | | | |
| Regional costs | -68 | -87 | 59 | 101 | 52 | 204 | -151 | 1 397 | 46 |
| Location adjustment | -1 | -1 | -1 | 32 | -1 | -70 | 92 | - 247 | 5 |
| Total | -69 | -89 | 58 | 133 | 51 | 134 | -58 | 1 150 | 45 |
| **Difference (from SARIA to ARIA)** | -34 | -4 | 13 | 12 | 41 | 102 | 28 | 193 | 11 |

Source: Commission calculation.

73 We have changed the categories to which we apply regional costs, and how we have attributed the differences.

- A regional costs factor was assessed for the Schools education category but these cost differences are now assessed within the SDC factor for the category.
- A regional costs factor is now assessed for the Post-secondary education category.
- In the Health category, regional cost factors were assessed for what are now the emergency department, non-admitted patients, and community health components. We now apply a regional cost factor to only non-admitted patients, as the cost differences in different regions are captured within the assessment for the other components.
- We now include a regional cost factor in the non-urban transport component of the Transport assessment.

- We now include a regional costs factor in the agriculture regulation and business regulation components of the Services to industry category.

74 A medium discount is now applied to all components where the police or general gradient is extrapolated.

75 We have discontinued the interstate freight and air travel assessments.

## State circumstances

76 There have been no significant changes in State circumstances. The small redistribution effect can be attributed to the trend of people moving to more urban areas. Consequently, the remote weights are applied to a smaller proportion of total population than they were in previous years.

# UPDATING THE ASSESSMENT

77 We will update data used in these assessments when new data become available to ensure the relativities remain contemporary and consistent with the circumstances of the States.

78 As more recent ACARA data become available we will recalculate the regional costs gradient. This new gradient will be applied in the Schools education assessment and will influence the general costs gradient applied to the other categories where the regional costs disability is assessed.

79 On this basis we will annually update the populations in each of the remoteness areas of each State. We will also update those categories using subsets of the population, as shown in Table 1.

80 The regional cost gradient for police will not be updated.

81 The rural road lengths will not be updated, although the general gradient that applies to them will incorporate new ACARA data.

# CHAPTER 24

# SERVICE DELIVERY SCALE

## SUMMARY OF THE ASSESSMENT

The Service delivery scale (SDS) disability assessment recognises that States experience diseconomies in the provision of certain services to small isolated communities. The disability reflects both the higher costs per unit of service associated with higher staffing levels and the effect of differences between States in the number of affected communities.

We have used ACARA data on the fixed cost per school and average school size to measure SDS in the Schools education category. This disability has been extrapolated to the Services to communities assessment.

We have used police staffing patterns to measure SDS in police and extrapolated this to courts and to family and child welfare services.

## WHAT ARE SERVICE DELIVERY SCALE COSTS?

1 The Service delivery scale (SDS) disability assessment recognises that States experience diseconomies in the provision of certain services to small isolated communities. It includes the higher costs incurred due to relatively higher staffing levels in those communities. States will therefore face higher than average costs in providing those services where a greater than average proportion of their service populations reside in those types of communities.

2 The disability therefore reflects both the higher costs per unit of service associated with higher staffing levels and the effect of differences between States in the number of affected communities.

3 We have assessed SDS disabilities for the Schools education category, police and courts expenses (within the Justice category), family and child welfare expenses (within the Welfare category) and small communities utilities subsidies (within the Services to communities category) assessments.

## The conceptual case

4 Small isolated communities impose above average costs on States because of:

- the indivisibility of labour
- unproductive travel time.

### *Indivisibility of labour*

5 The nature of some services means States must provide facilities in small communities, even if the potential use would not justify a separate facility in a larger community. For example, States establish small primary schools in isolated communities. While the size of the school population may not justify a full time teacher, at least one must be provided. The same may be true of specialised staffing positions. A small school may need specialised staff (such as a principal, teachers for the junior classes, teachers for senior classes, and so on), even if it produces above average teacher to pupil ratios.

6 Similar examples arise in police stations, courts (particularly where provided through circuit courts) and other services that are normally provided in close proximity to where people live.

### *Unproductive travel time*

7 Higher staffing may be required in isolated areas with low population density because the time a police officer, for example, spends travelling from one incident to another may be large, reducing the population they can serve.

8 A similar case can be made for services such as family and child welfare, where the service is not necessarily delivered by permanently stationed officers in small communities, but where regional staff may fly in to manage individual cases in small communities.

## Evidence supporting the conceptual case

9 The Australian Curriculum, Assessment and Reporting Authority (ACARA) publishes data on the finances and student profile of every school in Australia.

10 A regression of ACARA data showed that school size is highly predictive of how much funding it will receive. We also found that small schools are more commonly found in small isolated communities. This gave support to the conceptual case for SDS.

11 A similar pattern of SDS effects is evident in the police data provided by States prior to the 2010 Review. On average, large urban centres and areas close to them have

2.2 staff per thousand 'assessed clients'.[1] In areas more than 50 kilometres from a centre of 5 000 people, the average staffing level is 2.6; implying staffing levels are 15% higher than in the large urban centres.

## MEASURING SERVICE DELIVERY SCALE

12 States provide very small schools, police stations and other services in cities as well as in isolated communities, and these are often not as cost effective as larger establishments. However, we consider the policy neutral driver of the need for small establishments to be the isolation of the community. We assume that services in towns above a threshold population or within commuting distance of such towns do not suffer service delivery scale. In the 2010 Review, we defined SDS areas to be more than 50 km from a town of 5 000 people because analysis of Census data for State government employees indicated that, for school and police services, staffing levels were higher in these areas. We also considered, conceptually, that the 50 km threshold appeared to be a reasonable threshold distance given the nature of the services delivered.

13 Despite having a richer dataset, we have not identified a statistical technique to better identify the areas affected by SDS. While some States have asked us to change on the basis of our analysis of ACARA data, we accept our consultant's advice that 'there is no appropriate technique for this purpose as it is a conceptual, rather than data, question'. [2]

### Service delivery scale assessment — Schools education

14 The ACARA regression showed that in addition to an average cost of $7 941 per student, (including differences reflecting the socio-demographic profile of a school), there was a fixed cost of $186 734 per year per government school. This fixed cost incorporates fixed labour and other input costs which impact the additional SDS costs attributed to schools in SDS areas. ACARA data also showed that in SDS areas, the average school size was 122 students, while in non-SDS areas it was 398 students. We apportioned these fixed costs to the affected students, and found that the average cost in an SDS area is $10 433 per student, 11% higher than the $9 375 per student in non-SDS areas.

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1 An assessed client is calculated by applying the 2007-08 police use rates to ABS provided 2005-06 ERP disaggregated by State, SDS, SES, Indigenous status, age and sex.

2 The full report can be found on the Commission's website (https://www.cgc.gov.au/).

15 The SDS factor for the Schools education category was derived by:

- calculating the number of each State's government students attending schools in areas that experience SDS influences (areas located more than 50 km from an urban centre of 5 000 people or more) from the ACARA data
- deriving the number of government students in non-SDS influenced areas as the balance of students
- applying the ratio of students in SDS and non-SDS areas to the Schools Australia[3] student numbers
- determining the fixed cost per school using the ACARA regression and using this value to calculate the fixed cost per student in both SDS and non-SDS areas based on the average number of students in these schools
- calculating an SDS weight as the total cost per student in an average sized SDS school over the total cost per student in an average sized non-SDS school
- applying this weight (11%) to the SDS influenced students
- calculating the SDS factors as the ratio of each State's share of total weighted students over its share of total students.

16 We consider the measurement of the Service delivery scale weight for schools to be reliable and as such, a discount is not warranted for the SDS disability in the Schools education category.

17 Table 1 shows the results for these steps for the 2013-14 assessment year.

**Table 1 Service delivery scale assessment, Schools education, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Students in SDS areas ('000) | 26 | 13 | 27 | 21 | 19 | 4 | 0 | 9 | 117 |
| Students in non-SDS areas ('000) | 727 | 541 | 482 | 233 | 145 | 53 | 36 | 20 | 2 237 |
| Total students ('000) | 753 | 553 | 509 | 253 | 164 | 56 | 36 | 29 | 2 354 |
| Total weighted students (a) ('000) | 756 | 555 | 512 | 256 | 166 | 57 | 36 | 30 | 2 368 |
| Factor | 0.998 | 0.997 | 1.000 | 1.004 | 1.007 | 1.002 | 0.994 | 1.029 | 1.000 |

(a) Cost weighted government school students after applying service delivery scale weights.
Source: Commission calculation.

## Service delivery scale assessment — police and criminal courts

18 In discussions with the data working party, we formed the view that police staffing levels would not have changed significantly since the 2010 Review data request, and data standards would not have improved significantly. Given the significant burden that this data request placed on States in the 2010 Review, we have not repeated this

[3] ABS *Schools Australia,* Cat. No. *4221.0.* makes use of ABS data on fulltime equivalent enrolments. Using this student count rather than the ACARA student count ensures the student population maintains the same distribution across States as is used in the Schools education assessment.

data request. As a consequence of not changing the definition of SDS areas, and having no new data, we have not changed the method of calculating staff to client ratios for this review.

19 The SDS factor for police was derived by:

- estimating the number of each State's assessed police clients living in areas located more than 50 km from an urban centre of 5 000 people or more and in other areas in 2007-08[4]
- calculating assessed clients per capita in SDS and non-SDS areas in 2007-08 and applying this State-specific ratio to the SDS and non-SDS populations in the assessment years to determine the police client base for each State
- using 2007-08 police staffing numbers to calculate that national staffing ratios for SDS areas are 15% higher than for non-SDS areas
- applying the relative national staffing ratios to the client base for the assessment years to determine SDS weighted clients
- calculating the police SDS factor as the ratio of each State's share of weighted clients to unweighted clients
- applying a low level discount to the resulting factors to give the factor applied in the police assessment.

20 The data available for police is not as comprehensive and up to date as the data available for schools. Therefore, we apply a low level discount to the police SDS disability due to concerns including:

- whether the staffing data from different States are comparable
- whether the staffing data were representative of the national average pattern because New South Wales and Victoria could not provide data for individual police stations.

21 We applied the police factor with a medium discount to the magistrate's courts subcomponent within the courts component. A medium discount of 25% has consistently been applied where factors have been extrapolated for use in other category assessments.

22 Magistrate's court services are provided in SDS areas, and as such face diseconomies of scale due to the indivisibility of labour. We do not consider that SDS disabilities are relevant to higher courts, because these cases tend to be heard in major cities and regional centres.

[4] Police clients were calculated by applying the 2010 Review police assessment weights to disaggregated population.

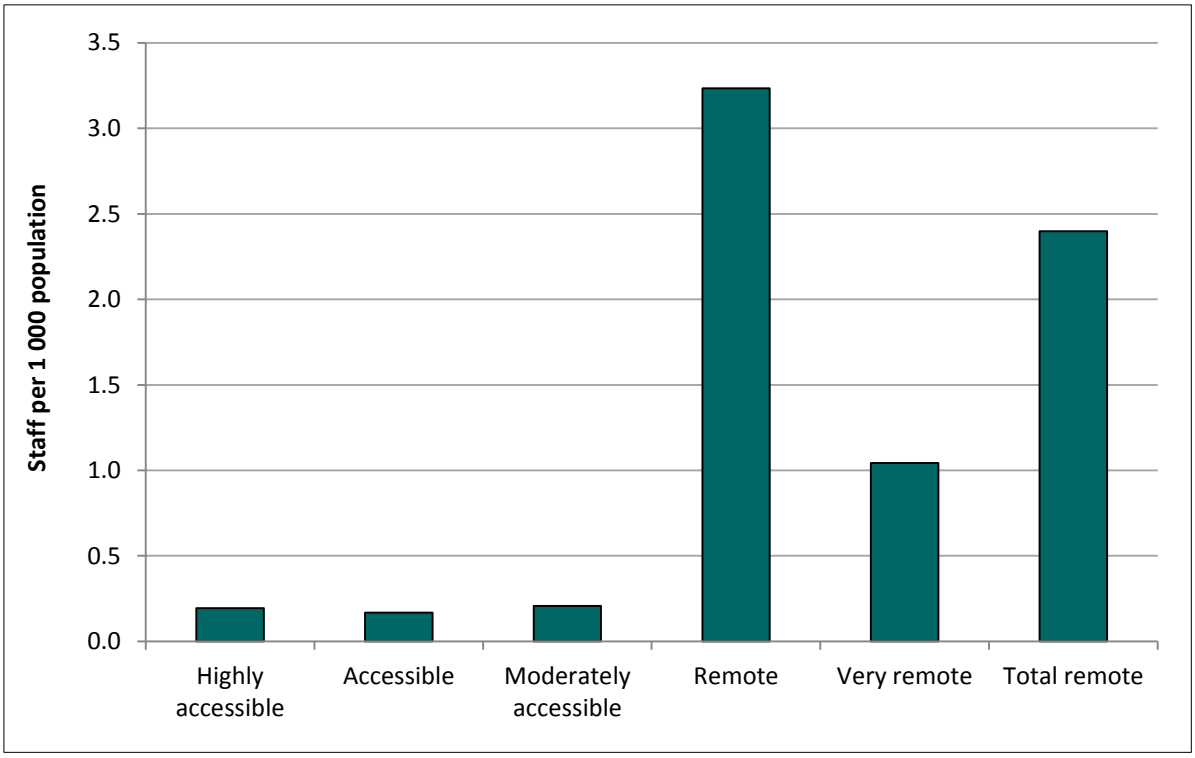
## Where else should the Service delivery scale disability be applied?

### *Welfare*

23 There is a strong conceptual case for recognising the SDS disability in family and child welfare. Data supporting this case is shown in Figure 1. The Department of Communities data provided by Queensland for the 2010 Review show that the staffing rate for the Department of Communities in remote areas is more than 16 times greater than in highly accessible areas. Staff consider that SDS is likely to explain some, although probably not all, of these higher staffing levels.

24 Victoria disagreed and sought more evidence. While we have not asked Queensland to update its data, we consider a conceptual case exists that welfare services are affected by unproductive travel to provide child protection services to more isolated areas.

**Figure 1 Staffing rate for the Queensland Department of Communities**




Source: Commission calculation based on Queensland submission, 2008-09.

25 Given the method of service delivery in this category, that of travelling to deliver services to a large area, we consider the effect to be closer to that experienced in police than schools. Although we have no empirical data relating to family and child welfare we consider we would be closer to achieving HFE if the police SDS factor were applied to family and child welfare expenses.

26 While there is a strong conceptual case for the applicability of SDS to family and child welfare, we are not convinced that similar disabilities are experienced for other welfare spending. We consider that homelessness and disability services are generally provided in non-SDS areas and clients are expected to travel to a service base rather than case workers travelling. Concessions, within general welfare, are also unaffected by the SDS disability because these services are not provided by case workers. Rather they are available to individuals across the State regardless of location or access to services.

27 The extrapolation of the police SDS disability to family and child welfare results in increased uncertainty. Again we have adopted a 25% discount in using an extrapolated factor.

### *Services to communities*

28 The subsidies paid for water and electricity services in small communities are assessed on the basis of populations in remote or very remote communities of between 50 and 1 000. However, we consider the communities more distant from towns such as Alice Springs, Broome or Mount Isa are likely to have higher service delivery scale type costs than those close to such towns.

29 To recognise this, we applied the SDS disability to the small communities utilities subsidies component of the Services to communities assessment. The schools education factor is applied to this component as we consider the travel required when providing this service is closer to that experienced in schools than in police. As we have extrapolated the schools factor we have applied a medium discount to recognise it may not fully explain SDS costs appropriately.

### *Health*

30 The Commission has considered whether hospital data support the case for SDS being applied in the Health assessment. Block funded hospitals were found to be no more expensive for comparable outputs than activity based funded hospitals. This suggests that SDS does not occur in health, and so we have not assessed it. This is discussed in more detail in Chapter 12 — Health.

### *Housing*

31 We accept that providing housing in remote and isolated areas comes with increased costs. The Northern Territory said that the SDS disability should apply to both tenancy management and maintenance costs incurred in SDS areas. It states that these costs are in part due to centralised tenancy management requiring significant travel to remote areas and increased travel requirements in providing maintenance.

32 We consider that tenancy management is not necessarily delivered by locally based staff in the way that schools and police are. It can be, but responsible staff are unlikely to be engaged full time in such a position in a small community. Labour is likely to be divisible. Any travel from adjacent communities is likely to be less regular than in the provision of police services. As such, SDS does not affect this proportion of housing expenses. Some proportion of maintenance costs are likely to be affected, but this proportion of total housing expenses is relatively small. As such, we consider applying SDS to the Housing assessment is not warranted.

33 Table 2 shows the user (client) base and cost weight to be applied for each category component with an SDS disability.

**Table 2 Client base and cost weights applied to category assessments**

| Component | Client base | SDS weight | Discount |
|---|---|---|---|
| Schools education - government schools | Government students | 1.11 | 0% |
| Justice - police | Assessed police clients | 1.15 | 12.5% |
| Justice - magistrate's courts | | Use discounted police factor | 25% |
| Welfare - family and child | | Use discounted police factor | 25% |
| Services to communities - small communities utilities subsidies | | Use discounted schools factor | 25% |

Source: Commission calculation.

34 Most States support the approach of applying an SDS disability to the assessments identified in Table 2.

## Service delivery scale and Regional costs

35 We measure service delivery scale in a way that captures the impact of diseconomies of scale stemming from service provision being on a smaller scale in isolated areas than in more accessible areas. The difference in costs for comparable sized services (including comparable sized schools) in different regions is captured in the regional costs assessment.

36 The level of the SDS effect has been found to be smaller in this review than in the 2010 Review. From the analysis of ACARA data, the additional costs attributable to students in SDS areas represent 11% of base student costs. The equivalent weight applied to school students in the 2010 Review was 40%. In contrast, Chapter 23 — Regional costs, observes that the analysis of ACARA data suggests that regional loadings should be higher in this review than in the 2010 Review. We are satisfied that the ACARA data are more comprehensive and more reliable than those data used in the 2010 Review. The combined SDS and regional costs results suggest that some portion of costs that were considered to reflect SDS effects in the 2010 Review are now being allocated to regional cost effects.

## Summary of Service delivery scale factors

37 Table 3 shows the government schools, police, magistrate's courts, small communities utilities subsidies and family and child services factors. No discount is applied to government schools, a low discount has been applied to the police factor and a medium discount has been applied to all other factors.

**Table 3 Service delivery scale assessment factors, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| Government schools | 0.998 | 0.997 | 1.000 | 1.004 | 1.007 | 1.002 | 0.994 | 1.029 | 1.000 |
| Police | 0.998 | 0.995 | 1.002 | 1.006 | 1.006 | 1.005 | 0.992 | 1.058 | 1.000 |
| Magistrate's courts | 0.998 | 0.995 | 1.002 | 1.005 | 1.005 | 1.005 | 0.993 | 1.050 | 1.000 |
| Family and child | 0.998 | 0.995 | 1.002 | 1.005 | 1.005 | 1.005 | 0.993 | 1.050 | 1.000 |
| Small communities utilities subsidies | 0.999 | 0.998 | 1.000 | 1.003 | 1.006 | 1.001 | 0.996 | 1.022 | 1.000 |

Source: Commission calculation.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

38 Table 4 shows the extent to which the assessment would move the distribution of GST away from an equal per capita distribution. The assessment shows Queensland, Western Australia, South Australia, Tasmania and the Northern Territory are assessed as needing to spend more per capita to deliver services because of SDS disabilities. These States have relatively more of their school students and police 'clients' in areas that experience SDS disabilities.

**Table 4 GST impact, Service delivery scale, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Schools education | -16 | -23 | 2 | 13 | 16 | 1 | -3 | 10 | 42 |
| Welfare | -3 | -6 | 2 | 3 | 2 | 0 | -1 | 3 | 10 |
| Services to communities | 0 | -1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Justice | -10 | -17 | 6 | 8 | 5 | 1 | -2 | 8 | 28 |
| Total | -30 | -46 | 10 | 24 | 24 | 3 | -5 | 20 | 82 |
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| Schools education | -2 | -4 | 0 | 5 | 10 | 2 | -7 | 38 | 2 |
| Welfare | 0 | -1 | 0 | 1 | 1 | 1 | -1 | 10 | 0 |
| Services to communities | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Justice | -1 | -3 | 1 | 3 | 3 | 3 | -4 | 31 | 1 |
| Total | -4 | -8 | 2 | 9 | 14 | 6 | -13 | 80 | 3 |

Source: Commission calculation.

## CHANGES SINCE THE 2014 UPDATE

39 Table 5 breaks down the total changes since the 2014 Update into the impact of changing data sources, method changes, and change in State circumstances in the 2015 assessment period.

**Table 5 Changes since the 2014 Update, Service delivery scale**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Data changes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Method changes | 141 | 171 | -28 | -123 | -94 | -9 | 20 | -77 | 332 |
| State circumstances | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 141 | 171 | -28 | -123 | -94 | -9 | 20 | -77 | 331 |

Source: Commission calculation.

## Data changes

40 There have not been any substantial revisions to data used in the Service delivery scale assessment since the 2014 Update.

## Method changes

41 The calculation of the SDS weight for schools now utilises ACARA data rather than State provided data.

42 We have introduced a new method for measuring regional costs in schools, based on a regression of ACARA data, as described in this chapter. The SDS disability is now smaller than it was in the 2010 Review. The combined SDS and regional costs results from this regression suggest that some portion of costs that were considered to reflect SDS effects in the 2010 Review are now being allocated to regional cost effects.

43 There have been no method changes in calculating the police factor.

44 A medium discount is now applied wherever extrapolation occurs.

45 We have changed the categories to which we apply SDS.

- Within the Schools education category SDS is only applied to State funding of government students.
- Small communities utilities subsidies within the Services to communities category is now assessed.
- Only police and magistrate's courts within the Justice category are assessed.
- Only family and child within the Welfare category is assessed.
- Community and other health services is no longer assessed.

- Housing is no longer assessed.

## State circumstances

46 There have been no significant changes in State circumstances.

## UPDATING THE ASSESSMENT

47 Data used in these assessments will be updated when new data become available to ensure the relativities remain contemporary and consistent with the circumstances of the States. On this basis we expect to annually update the populations in areas affected and those not affected by Service delivery scale in each State.

48 As more recent ACARA data become available, we will recalculate the SDS weight.

# CHAPTER 25

# ADMINISTRATIVE SCALE

## SUMMARY OF THE ASSESSMENT

States with small populations have intrinsically higher per capita costs because the minimum functions of government have to be spread over a smaller number of residents. The administrative scale disability assessment represents our recognition of those costs.

However, administrative scale is not an assessment of all fixed costs or 'non-front line services'. It is an assessment of the fixed cost which does not vary with service populations (the minimum cost). It includes costs associated with:

- core head office functions of departments such as corporate services, policy and planning functions, but not all staffing and other resources delivering them
- services that are provided for the whole of the State including the legislature, the judiciary, the Treasury, the revenue office and a State museum, but not all staffing and other resources delivering them.

Given the timeframe for this review, there has been insufficient time to develop a new method to re-estimate the minimum costs for this assessment. We have used data and the assessment method from the 2010 Review (itself based on 1999 and 2004 Review data). To improve the currency of the data, we have used the ABS State and local government final consumption expenditure (SLGFCE) deflator to index the quantum of expenses to the assessment years. While the data we have used are now dated, Productivity Commission data provided some support for the currency of our measure.

States that face higher per capita costs are the five less populous States. We have assessed below average costs for New South Wales, Victoria and Queensland.

## WHAT ARE ADMINISTRATIVE SCALE COSTS?

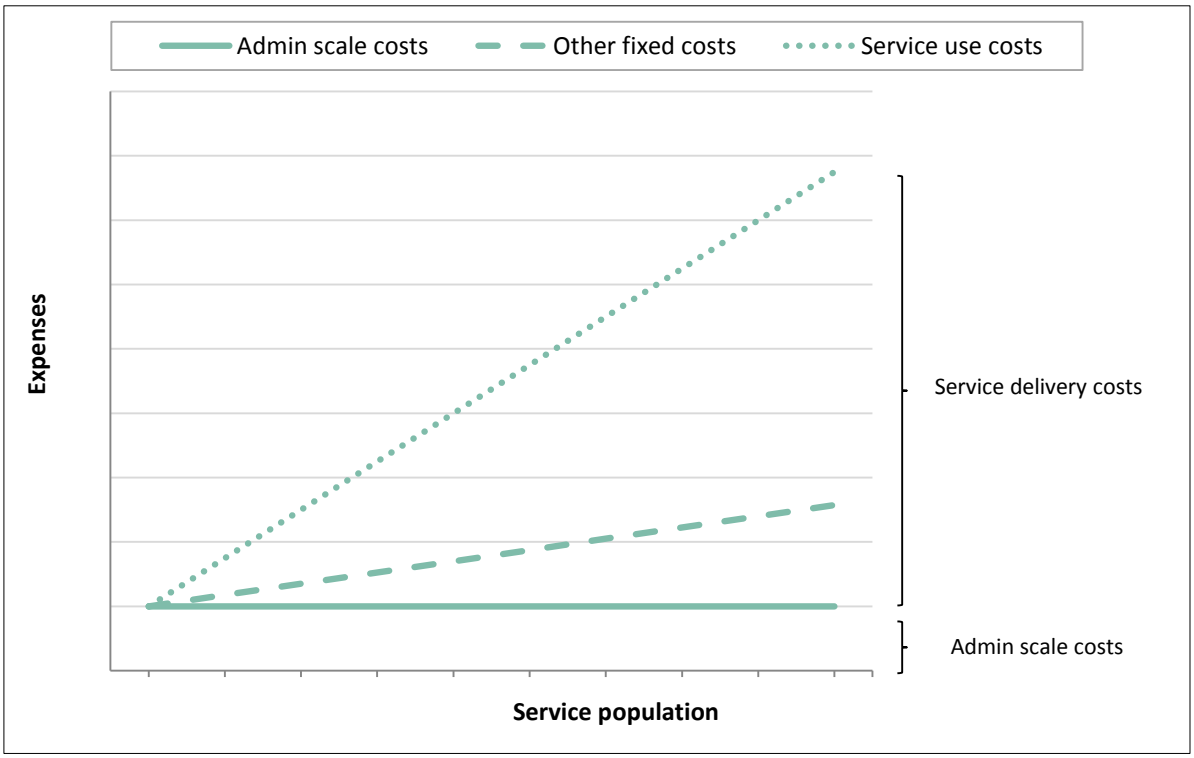
1 The administrative scale disability assessment recognises those costs incurred by a State in delivering services, whilst acting with average efficiency and following average policy, which are independent of the size of the service population. It includes costs associated with:

- core head office functions of departments (for example, corporate services, policy and planning functions, but not all staffing and other resources delivering them)
- services that are provided for the whole of the State (for example, the legislature, the judiciary, the Treasury, the revenue office, and a State museum, but not all staffing and other resources delivering them).

2 While the underlying concept we are aiming to measure has not changed, this definition differs slightly from that adopted in the 2010 Review. In that review, the definition referred to minimum administrative costs that would be incurred for a State with the population size of the smallest State. We consider the new definition to be more policy neutral, and to better convey the intention of capturing unavoidable initial service delivery set-up costs, incurred prior to the 'first' service user.

3 Administrative scale is not an assessment of all fixed costs or 'non-front line services'. It is an assessment of the fixed cost which does not vary with service populations (the minimum cost). Any remaining fixed costs are included in the service delivery component of each expense assessment and assessed according to the disabilities relevant to that component. Figure 1 illustrates the approach graphically.

**Figure 1 Graphical depiction of administrative scale costs**




Source: Commission illustration.

4 Implicit in the majority of our expense assessments is an assumption that other fixed costs and service use costs combined, increase in a linear fashion as service users

increase.[1] That is, while we identify diseconomies of small scale, we generally make no allowance for either economies, or diseconomies, of large scale in our assessments.

5 Other fixed costs and service use costs may vary differently. But we are not aware of any way to disentangle these costs simply, and have not generally sought to do so in this review. A regression of ABS GFS data on school expenses and student numbers suggested economies of large scale may exist in the delivery of school services. However, the explanatory power of the linear relationship was only marginally less, so we consider our assumption of linear growth in costs as service users rise to be reasonable. This aspect of State service delivery could be more fully explored in the next review.[2]

## The conceptual case for diseconomies of small scale

6 States with small populations have intrinsically higher per capita costs because the minimum functions of government have to be spread over a smaller number of residents. The Administrative scale assessment provides an allowance for this influence.

7 As the Administrative scale assessment is intended to capture the cost of providing services independent of the size of the service population, each State has the same requirement. The appropriate assessment is therefore an equal per State assessment, which implies a greater per capita cost for the less populous States.[3]

# MEASURING ADMINISTRATIVE SCALE EXPENSES

8 Assessing administrative scale expenses requires:

- establishing the quantum of administrative scale expenses
- indexing the quantum.

## Establishing the quantum

9 The Administrative scale assessment was the subject of considerable work in the 1999 and 2004 Reviews. This work was aimed at providing estimates of the minimum level of administrative resources for each function. The assessment was based on

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1 The exception is urban transport, which assumes diseconomies of scale are present in providing urban transport services.

2 A form of equation that indicates economies of large scale is a negative quadratic. The correlation coefficient ($R^2$) of this form was 0.991, higher than the linear form (no economies of scale) for the same data, at 0.989, and for the exponential form (diseconomies of large scale) at 0.859.

3 The ACT receives slightly less because it does not need to provide some services and the Northern Territory slightly more because it requires a dual service delivery mode.

analysis of the core central office and whole of State functions provided for all States. For each function, assessed costs were set to the lowest constructed cost at which any State could provide the function, without any reference to the volume of service delivery.

10 The work in the 1999 and 2004 Reviews suggested that the estimates were robust and that a full review was unlikely to produce a materially different assessment. We therefore used the 2004 estimates, indexed to reflect price level changes, as the basis for the 2010 Review assessment. Following the 2010 Review, revisiting the quantum of administrative scale costs was identified as a priority issue. In conjunction with the States, work commenced through the Data Working Party (DWP) in 2011 to better identify these costs. While the work of the DWP was not able to achieve a way of re-estimating the quantum of administrative scale costs, it did lead to the development, and acceptance by the Commission, of the revised definition used in this review.

11 Through the DWP and since the commencement of this review we have explored a number of options for establishing the quantum:

- collecting State departmental data that would allow a re-estimation of the quantum for one or more categories
- an examination of publicly available data (Productivity Commission and State annual reports)
- a regression approach
- the status quo, which would involve indexing the existing quantum.

12 The DWP process was used to seek detailed State department data. Despite some support from smaller States, no State was able to provide (due in part to privacy issues) sufficiently detailed workforce data from which new quantum amounts could be derived.

13 As a result we have not been able to develop a State data collection that would provide the detailed data allowing us to undertake analysis similar to that done in the 1999 and 2004 Reviews. We therefore looked at alternative options and data sources for determining the appropriate quantum of administrative scale expenses.

### *Schools education*

14 In exploring the options, we chose schools education because we consider this function to be the most homogenous at the State level and, therefore, likely to be the least affected by State policies. Productivity Commission data were obtained on out-of-school staff numbers and expenses. These are shown in Table 1.

**Table 1 Schools education staff and wage data, 2010-11**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| In school staff (no.) | 69 501 | 53 543 | 48 348 | 26 070 | 16 421 | 6 165 | 3 594 | 3 918 | 227 559 |
| In school expenses ($m) | 6 887 | 4 374 | 4 242 | 2 468 | 1 493 | 531 | 376 | 342 | 20 714 |
| Out of school staff (no.) | 2 072 | 1 317 | 2 837 | 1 349 | 1 179 | 301 | 314 | 493 | 9 862 |
| Out of school staff expenses ($m) | 240 | 187 | 265 | 155 | 113 | 27 | 18 | 38 | 1 043 |

Note: The data are for government school staff and students.
Source: Productivity Commission, *Report on Government Services, 2013*, Chapter 4, Tables 4A.1 and 4A.9.

15 These data show the minimum cost for out-of-school staff expenses across States is $18 million (for the ACT). The Productivity Commission data contain expenses not considered to be administrative scale type expenses (such as regional office staff expenses). However, the ACT's data would not include those types of expenses.

16 A regression was used to derive a relationship between Productivity Commission data on out-of-school staff[4] and student numbers.[5] The out-of-school data most closely aligns with our administrative scale concept. They encompass staff whose tasks are related to head office type activities, rather than staff engaged on front-line service provision (such as teachers or teachers' aides).

17 The results of this regression are shown in Figure 2. The form of regression equation used was one consistent with the Commission's view that there are economies of scale in providing school administrative services.[6] The intercept of the regression is the point at which there are no students and so would provide an estimate of the minimum number of out-of-school staff required by each State. In this case, 136 out-of-school staff.

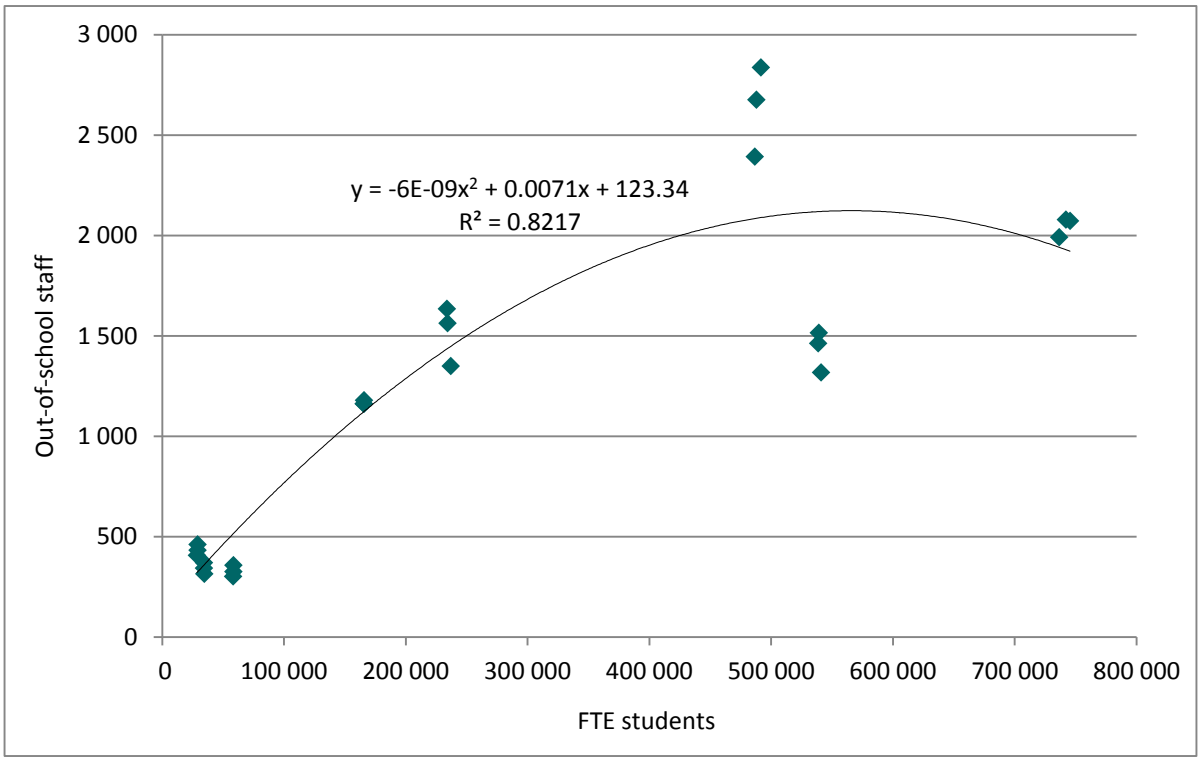
18 The national average out-of-school staff yearly wage is about $101 561 (based on Productivity Commission data for the three years 2008-09 to 2010-11). When applied to the 136 out-of-school staff estimate, this provides an administrative scale costs estimate for schools education services of $14 million.

[4] Out-of-school staff are those who usually spend the majority of their time engaged in duties outside schools. These staff may be in State or regional offices and include senior executive staff. Out-of-school employee related expenses represent all salaries, wages awards, allowances and related on-costs paid to out-of-school staff.

[5] The Productivity Commission data are sourced from the ABS Schools Australia (4221.0) data collection for student numbers and The Standing Council on School Education and Early Childhood (SCSEEC), (formerly the Ministerial Council for Education, Early Childhood Development and Youth Affairs (MCEECDYA)), unpublished data for staff and financial data.

[6] The correlation coefficient ($R^2$) of this form was 0.8185, higher than for the linear form (no economies of scale) for the same data, at 0.6871, and for the exponential form (diseconomies of large scale) at 0.688. The linear and exponential lines produce substantially higher intercept figures.

**Figure 2** **Regression using Productivity Commission data on out-of-school staff and students, data for 2008-09 to 2010-11**




Note: These data are government school staff and students only.
Source: Data obtained from Productivity Commission, *Report on Government Services, 2013*, Chapter 4, Tables 4A.1 and 4A.9.

19 New South Wales does not agree with this approach. It said the regression equation for Productivity Commission out-of-school staff does not provide in its constant term an indication of the number of staff needed to provide 'minimum' administrative services in States when the number of students is zero. Instead, New South Wales considers the constant term provides an indication of the scale variable costs derived from two sets of data when one set of data (FTE students) is set to zero, which is not what administrative scale costs are intended to measure.

20 New South Wales also said the Northern Territory should be excluded from the analysis, on the basis of it being a special case, in needing to provide an above average level of service in education (as well as health, welfare and housing) to operate its dual service delivery model for its Indigenous and non-Indigenous residents.[7]

[7] New South Wales said if the Northern Territory is excluded from the analysis, the estimate of the administrative scale cost for schools education reduces to $5.8 million. An alternative approach is to retain the Northern Territory, but discount its out-of-school staff by an amount consistent with the dual service delivery model overhead adjustment made in the assessment (6.7%). Under this approach the administrative scale costs estimate for schools education services is $13 million.

21 We disagree. We consider this regression provides a reasonable indication of school education administrative scale costs. We note the estimate is less than the out-of-school staff expenses for any State (Table 1) and close to our current estimate of $16 million. However, we also note that the out-of-school data cover a broader range of fixed costs (for example, regional office staff expenses), which would mean the $14 million estimate may be too high. At this stage, we do not have any way of further disaggregating out-of-school staff data.

22 South Australia said that a separate regression analysis of GFS data, on schools education expenses (along with earlier work on total State expenses), supported a 'step' increase in the quantum of administrative scale expenses (of two or three fold) to reflect current circumstances. Tasmania and the ACT also considered that the current quantum was likely understated, although not to the same extent.

23 The regression used ABS GFS expense data for the years 2008-09 to 2010-11, reflecting general government expenses by purpose for primary and secondary education. These expenses represent all expenses, including in and out of school staff, as well as non-wage expenses. We have not adjusted the ABS GFS expenses and consider these data to be as reliable as usual for ABS GFS data at the GPC level.

24 The regression produced an estimate ($189 million per State) that we consider is too high to be a realistic estimate of the minimum administrative costs for schools education. From Table 1, the dollar estimate derived from this regression is more than is spent by six out of eight States on out-of-school staff expenses. It is also much higher than our current figure of $16 million per State.

25 We think the GFS expenses reflect increasing variable fixed costs (education administration grows with increasing numbers of schools and teachers), leading to the regression results being overstated in terms of the concept of administrative scale expenses. In addition, as depreciation expenses are included, the result would reflect a capital component. Fixed costs of running schools (a service delivery scale concept rather than an administrative scale concept) would also be included in the result. We have no way to identify or quantify the various effects combining to produce the result of the regression. Therefore, we do not consider this approach suitable to estimate administrative scale costs.

26 We also examined State Department of Education annual reports to determine if the information they contain could assist in estimating a reliable administrative scale quantum. Since our concept is a minimum fixed cost, we examined the annual reports of the three smallest States.

27 Our examination of the Department of Education annual reports for Tasmania, the ACT and the Northern Territory encountered considerable difficulties. For example, each State has a different departmental structure and reports using different staffing classifications. We could not locate data on comparisons of teaching versus

non-teaching staff costs in the annual reports or department of education budget documents.

28 On balance, our examination of the three smallest States' annual reports and budget documents showed this method would not provide a sound basis for obtaining information on head office staff and costs.

### *The status quo*

29 This is the default position. If a reliable method of re-estimating the quantum cannot be found, we can continue to index the existing quantum.

30 Most States supported a proposal to retain the existing estimates of the quantum of administrative scale expenses, noting that there was insufficient time in the review to develop an updated assessment. While supporting the proposal, Victoria, Tasmania and the ACT said the development of an updated assessment should be a priority post the 2015 Review.

31 New South Wales said it is not possible to adequately define and reliably measure administrative scale costs and the assessment should be discontinued. Alternatively, it said that if the Commission considered equalisation required an assessment, the maximum discount, commensurate with the uncertainty of the data, should be applied. Victoria also supported applying the maximum discount to the assessment, because the age of the data on which the expenses have originally been determined will be over 10 years old in 2015.

32 Developing a new estimate of the quantum for this assessment has proved intractable. While the underlying data are old, two of the approaches considered, both based upon Productivity Commission data, provide support for the existing quantum (for schools education).

33 However, we have not been able to find data on front-line versus head office staff for services other than schools education. This means we have been unable to test the reasonableness of our administrative scale estimates for other categories.

34 We are not persuaded our current approach produces an assessment that is clearly either too high, or too low, as argued by some States. As a judgment-based estimate, we consider our approach provides the best available outcome and incorporates allowances for uncertainty. As described in Volume 1, Chapter 1 — Achieving horizontal fiscal equalisation, in these circumstances we do not consider discounting to be appropriate. On balance, we intend to retain the status quo and use the existing quantum, indexed to assessment year dollars.

## Indexing the quantum

35 All States that supported retaining the quantum of administrative scale expenses supported using the ABS State and local government final consumption expenditure (SLGFCE) deflator to index the quantum of expenses, with the exception of the Northern Territory. It said that a composite index of changes in the price of goods and services used in administrative tasks and wage levels, as measured by the consumer price index (CPI) and the labour price index (LPI), better reflected the factors that directly influence administrative scale costs.

36 Table 2 compares the growth, over the last five and ten years, of the composite index[8] and the SLGFCE deflator. The table shows there is not much difference between the two deflators. The difference is due to the slower growth in the CPI.

37 We consider the SLGFCE deflator provides a reasonable indexation of the minimum costs of providing head office type services. It is readily available, reflects State costs and does not require judgment to be made with respect to weightings, as for a composite index.

**Table 2 Comparison of methods of indexation**

| | CPI | LPI | Composite | SLGCFE |
|---|---|---|---|---|
| | % | % | % | % |
| 5 years | 15.0 | 16.4 | 15.4 | 15.1 |
| 10 years | 28.2 | 43.6 | 40.5 | 42.2 |

Source: Commission calculation based on: ABS, 6401.0 Consumer Price Index, Australia, Tables 1 and 2; ABS, 6345.0 Labour Price Index, Australia, Table 4a.; ABS, 5206.0 Australian National Accounts: National Income, Expenditure and Product, Table 4 Expenditure on Gross Domestic Product (GDP), SLGFCE chain price index. Calculation based on data for 2002-03 to 2011-12.

[8] The composite index gave a 20% weight to the CPI and an 80% weight to the LPI.

## CALCULATING ADMINISTRATIVE SCALE EXPENSES

38 Table 3 shows the non-location adjusted administrative scale expenses for 2013-14 by category. Administrative scale expenses in the table are based on the expenses identified for the 2004 Review, mapped to reflect the 2015 Review categories. They have been indexed by the SLGFCE and adjusted for superannuation.

39 As per the 2004 and 2010 Reviews, administrative scale expenses for two States have been adjusted in this review.

- The ACT does not need to provide the average level of service in areas where it has zero or very low needs — services to Indigenous communities, non-urban transport, primary industry and mining, fuel and energy. Accordingly, its assessment in categories where these services are provided in other States leads to a reduction in 2013-14 of $10 million.
- The Northern Territory needs to provide an above average level of service in the areas of education, health, welfare and housing. In these areas, it operates dual service delivery models for its Indigenous and non-Indigenous residents. Its assessment in categories where these services are provided leads to an increase of $6 million in 2013-14.

**Table 3 Assessed expenses, Administrative scale, non-location adjusted, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Schools education | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 18 | 134 |
| Post-secondary education | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 71 |
| Health | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 24 | 181 |
| Housing | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 10 | 72 |
| Welfare | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 10 | 72 |
| Services to communities | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 30 |
| Justice | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 193 |
| Roads | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 36 |
| Transport | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 32 |
| Services to industry | 25 | 25 | 25 | 25 | 25 | 25 | 17 | 25 | 192 |
| Other expenses | 116 | 116 | 116 | 116 | 116 | 116 | 116 | 116 | 925 |
| Total | 243 | 243 | 243 | 243 | 243 | 243 | 233 | 249 | 1 938 |

Note: Administrative scale expenses in the table have been indexed by the SLGFCE, and adjusted for superannuation for the ACT and the Northern Territory.
Source: Commission calculation.

40 The administrative scale expenses have also been adjusted to recognise the differential wage pressures faced by States in employing staff to provide the administrative services. The assessment of wage cost differences is discussed in Chapter 22 — Wage costs. Table 4 shows the location adjusted administrative scale expenses for 2013-14.

**Table 4 Assessed expenses, Administrative scale, location adjusted, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Schools education | 17 | 16 | 16 | 17 | 16 | 16 | 17 | 19 | 134 |
| Post-secondary education | 9 | 9 | 9 | 9 | 9 | 8 | 9 | 10 | 71 |
| Health | 22 | 22 | 22 | 23 | 22 | 21 | 23 | 25 | 181 |
| Housing | 9 | 9 | 9 | 9 | 9 | 8 | 9 | 11 | 72 |
| Welfare | 9 | 9 | 9 | 9 | 9 | 8 | 9 | 11 | 72 |
| Services to communities | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 30 |
| Justice | 24 | 24 | 24 | 25 | 24 | 23 | 25 | 25 | 193 |
| Roads | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 5 | 36 |
| Transport | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 32 |
| Services to industry | 25 | 24 | 24 | 26 | 25 | 24 | 17 | 26 | 192 |
| Other expenses | 115 | 113 | 113 | 121 | 113 | 111 | 118 | 121 | 925 |
| Total | 242 | 237 | 237 | 253 | 238 | 232 | 238 | 262 | 1 938 |

Note: Administrative scale expenses in the table have been adjusted by wage costs.
Source: Commission calculation.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

41 Table 5 shows the extent to which the assessment would move the distribution of GST away from an equal per capita distribution. Because administrative scale expenses are assessed on an equal per State basis, GST is redistributed to the less populous States of Western Australia, South Australia, Tasmania, the ACT and the Northern Territory, and away from the more populous States of New South Wales, Victoria and Queensland.

**Table 5 GST impact, Administrative scale, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| Dollars million | -443 | -288 | -179 | 54 | 112 | 214 | 244 | 287 | 911 |
| Dollars per capita | -58 | -48 | -37 | 20 | 65 | 414 | 613 | 1 137 | 38 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.
Source: Commission calculation.

## CHANGES SINCE THE 2014 UPDATE

42 Table 6 breaks down the total changes since the 2014 Update into the impact of changing data sources, category-specific method changes, and changes in State circumstances in the 2015 assessment period.

**Table 6 Changes since the 2014 Update, Administrative scale**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Data changes | -1 | -1 | 0 | 0 | 0 | 1 | 1 | 0 | 2 |
| Method changes | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| State circumstances | 12 | 7 | 4 | -5 | 0 | -2 | -7 | -8 | 23 |
| Total | 11 | 6 | 4 | -5 | 0 | -2 | -6 | -8 | 21 |

Source: Commission calculation.

## Data changes

43 There have been minor revisions to the SLGFCE deflator, leading to minor redistributions in the GST revenue.

## Method changes

44 There have been no method changes in this assessment. The same quantum of expenses applied in the 2010 Review have been remapped to 2015 Review categories.

## State circumstances

45 Between 2010-11 and 2013-14 administrative scale expenses grew by 3.3% (due to the increase in the SLGFCE deflator), while over the same period the GST pool grew by 11.3%. This had the effect of reducing the equalisation task, redistributing GST back towards the more populous States, New South Wales, Victoria and Queensland, and away from the other States.

## Presentational changes

46 There have been presentational changes to this assessment. All administrative scale expenses are now included in the Other expenses category, rather than being included separately in each expense category. For reasons of transparency, the quantum of administrative scale expenses and their redistributive impact in each expense category will continue to be separately identified.

47 While some States did not support this change, we consider it simplifies category assessments. Sufficient information is still available to allow those States to add back category allowances if they so wish.

## UPDATE PROCESS

48 The quantum of administrative scale expenses will be indexed each year based upon growth in the SLGFCE deflator.

49 We consider the development of an updated assessment should be a priority for the next review. However, we note the difficulties States face in providing data at sufficiently fine detail to enable updating the administrative scale expense quantum.

# CHAPTER 26

# THE IMPACT OF POPULATION GROWTH ON FISCAL CAPACITIES

## SUMMARY OF CHAPTER

The impact of population growth on State fiscal capacities is recognised through our assessments of the need for infrastructure, net borrowing and State capital grants to local governments for community development, culture and recreation facilities.

States with above average population growth require extra fiscal capacity if they are to provide each extra person with the average per capita level of infrastructure and the average per capita net financial worth (when it is positive) and provide the average per capita capital grants to local government to help community development. The assessments provide growth States with the fiscal capacity to make those above average expenditures when growth occurs but States make their own policy choices on when the expenditures are made.

During the review, States raised many arguments suggesting we understate or overstate the effects of population growth. In most cases, we consider our methods adequately deal with the issues and capture the bulk of the relevant population growth effects in a neutral, reliable and simple way. In other cases, the lack of data prevented us from testing the arguments and making adjustments to the methods.

1 The Commission's assessments recognise the impact of population growth on State fiscal capacities, especially its effects on investment and net borrowing. During this review, States made many arguments about the extent of that impact and whether we have correctly measured it. This chapter considers those arguments.

## BACKGROUND

2 Changes in State populations have an immediate impact on the GST distribution because each State's share is derived by applying its relativity factor to its population.

3 Population growth also affects the relativity factors because it has a major effect on infrastructure spending and the acquisition (or disposal) of financial assets. This chapter deals only with those effects.

4 In this chapter, we assume all States require the average infrastructure per capita to provide the average services (that is, there are no capital stock disabilities). This allows us to focus on the population growth effects.

5 With this assumption, total capital spending (new investment plus depreciation) can be broken into three elements which would be assessed in the ways outlined below.[1]

- ***Investment to accommodate growth.*** This is estimated as the average infrastructure stock per capita multiplied by the growth in population. It is assessed in accordance with a State's share of the population growth.
- ***Spending to replace infrastructure.*** This is the depreciation expenses recorded by all States. It is assessed equal per capita.
- ***Investment to increase average infrastructure stock per capita.*** This is total capital spending less the replacement and growth components. It is assessed equal per capita.

6 In this scenario, 30% of capital spending in 2011-12 to 2013-14 would be assessed on the basis of differential population growth. This would give each State the fiscal capacity to provide every extra person it receives with the average per capita infrastructure. The other 70% of capital spending would be assessed equal per capita.

7 Similarly, based on observed net borrowing and population growth in the years 2011-12 to 2013-14, about 10% of recorded net borrowing can be attributed to States incurring debt for each new resident at average debt levels per capita. That 10% would be assessed according to differential population growth. The remaining 90% can be attributed to an increase in debt per capita and would be assessed equal per capita.

8 There has been much debate about our assessment methods, which were developed in the 2010 Review. The GST Distribution Review said 'the changes to the capital assessment in the 2010 Review — including the population growth needs assessment — were a positive step forward'.[2] However, it thought the assessment could be simplified.

9 States with above average population growth support the methods because they receive extra GST to help them cope with growth at the time it occurs. Other States prefer approaches which redistribute funds more slowly as the infrastructure is used.

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1 Without the assumption, each component would include an adjustment for the effects of each State's circumstances on its per capita stock requirements. There would also be a fourth element of total capital spending to fund the effects of State demographic and economic circumstances on infrastructure per capita required to provide the average services. It is assessed by reference to changes in the capital stock disabilities.

2 GST Distribution Review, *Final Report*, October 2012, p. 98.

10 We have retained the 2010 Review approach. However, our decision to include the activities of housing and public transport corporations in the general government sector in this review means their land holdings no longer affect the GST distribution.

11 Table 1 shows the differences between the States in their population growth rates. While interstate differences in growth rates for total State population are generally the important factor, differences in growth of urban populations are relevant for some services such as urban roads and urban transport.

**Table 1 State population growth rates**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| Population growth rates (a) (%) | | | | | | | | | |
| 2010-11 | 1.1 | 1.4 | 1.6 | 2.4 | 0.9 | 0.7 | 1.9 | 1.1 | 1.4 |
| 2011-12 | 1.1 | 1.6 | 1.8 | 3.1 | 0.9 | 0.3 | 1.7 | 1.0 | 1.6 |
| 2012-13 | 1.3 | 1.8 | 2.0 | 3.7 | 0.9 | 0.1 | 1.8 | 2.8 | 1.8 |
| 2013-14 | 1.5 | 1.9 | 1.7 | 2.8 | 0.9 | 0.3 | 1.6 | 1.9 | 1.7 |
| Growth relative to average | | | | | | | | | |
| 2010-11 | 0.8 | 1.0 | 1.1 | 1.7 | 0.6 | 0.5 | 1.4 | 0.8 | 1.0 |
| 2011-12 | 0.7 | 1.0 | 1.2 | 2.0 | 0.6 | 0.2 | 1.1 | 0.7 | 1.0 |
| 2012-13 | 0.7 | 1.0 | 1.1 | 2.1 | 0.5 | 0.1 | 1.0 | 1.6 | 1.0 |
| 2013-14 | 0.9 | 1.1 | 1.0 | 1.7 | 0.5 | 0.2 | 0.9 | 1.1 | 1.0 |

(a) These are growth rates between State estimated resident populations at December in each year.
Source: Commission calculation based on ABS estimated resident populations.

12 Before considering the State submissions, it is worth noting the following.

- The Commission has not built a model of what investment a State 'needs' in an ideal sense to undertake given its demographic and other characteristics. It has:
  - observed that States invest in infrastructure each year and the recorded average stock per capita changes
  - built an assessment which would give all States the fiscal capacity to have the average stock per capita at the end of a fiscal year if it started the year with the then average stock per capita.
- The Commission has assumed the average stock of infrastructure is required to give States the capacity to deliver the average level of services.
- The Commission has not sought to capture the different age profiles of assets under average policy, and the fiscal implications of such differences on repair and maintenance expenses and operating efficiency.

13 The State arguments illustrate the evolutionary nature of Commission processes. The 2010 Review created assessments that capture the main effects of population growth and States are now seeking refinements. While the arguments have some validity, they are only partial. They would add to the complexity of the assessments and their likely impacts are difficult to quantify. The emphasis on simplification in the

references for this and the 2010 Reviews, and our reliability and materiality guidelines, were intended to constrain these types of enhancements to the methods.

## STATE ARGUMENTS IN THE 2015 REVIEW

14 States made many arguments about the population growth effects.

- Arguments seeking to increase the effects of population growth
  - Western Australia said States build ahead of growth which leads to excess capacity and growing States incur greater costs of underutilised capital. But other States said the extent of any unused capital is unknown because investment is lumpy and may occur in anticipation of growth or to overcome crowding from past growth.
  - Western Australia said the assessment understates the investment it requires because it only provides the fiscal capacity to acquire stock with the average depreciated values which are lower than current prices.
  - Western Australia said the assessment does not recognise the need for growth States to provide extra support to local government and community associations to help them provide community amenities and recreation and cultural facilities for their growing populations.
  - Western Australia said the assessment should recognise the rapid development of the mining industry created a need for it to help provide affordable housing in regional centres.
- Arguments seeking to reduce the effects of population growth
  - Some States, such as New South Wales, Victoria and Tasmania, said infrastructure does not respond to annual population changes and some of the effects of population growth are met by making capital 'work harder'.
  - Many States said population growth provides greater asset revaluations (especially revaluations of equity in State public non-financial corporations), which offset some of the dilution effects of growth on infrastructure stock per capita. Population growth also benefits the faster growth States by diluting the per capita value of their debts.
  - Victoria and Tasmania said the population growth allowances understate the needs of slower growing States. Victoria said investment is needed in slower growing States to support development, whereas faster growing States have high levels of private investment and less need to support growth. Tasmania said historic acquisition of assets and their age profile may mean low growth States have a greater need to invest in new infrastructure.
- Arguments about the costs of intrastate migration and stranded capital

- Queensland said intrastate migration creates an infrastructure burden, even if the total population does not increase. It said while the capital cost factors allow for the higher costs per unit of infrastructure, the extra infrastructure need itself is not recognised. Others said intrastate migration results in existing facilities in some places being larger than the current population requires but they cannot sell part of a facility and population dispersion prevents consolidation of service delivery.

15 It has also been noted that rapid population growth may create broader issues, especially congestion, which are not adequately recognised by the Commission.

## ARE THE NEEDS OF GROWTH STATES UNDERSTATED?

### The assessments do not allow for future growth

16 Western Australia argued States build infrastructure to cater for future growth (growth infrastructure) because it enables economic development to proceed efficiently and building larger facilities is cheaper per person served than smaller ones. It said regardless of how long States choose to wait before building growth infrastructure, if it is only built periodically, there will be underutilised capital and extra costs. Those extra costs include borrowing costs on the extra capital spending, extra management and maintenance costs, depreciation on the extra capacity and opportunity costs of investing in assets not required for the current population.

17 It argued growth States face the choice between the costs associated with underutilised infrastructure and the higher costs of incremental additions to capacity and the Commission should recognise one of them. It said this is a more significant issue for growth States as they have a higher proportion of underutilised growth infrastructure and associated costs.

18 This argument implies the Infrastructure assessment should aim to give growth States the fiscal capacity to hold more infrastructure per capita than average.

19 To quantify the size of this effect Western Australia turned to a consultancy which found there is an optimum 14 year cycle between episodes of new construction. Western Australia said this meant that at any time there would be underutilised capacity catering for seven years population growth. It suggested this component of infrastructure could be assessed properly by increasing each State's population by its trend growth rate for the past seven years. In essence, Western Australia sought a magnification of the population growth effects.

20 This proposal depends on the view that there is significant excess infrastructure in each year. There is no way of ascertaining if that is true, in part because there is no way of accurately measuring the utilisation of infrastructure to decide if there is over

or under utilisation. Anecdotal evidence suggests backlogs exist in some areas and in some States, while excess capacity might exist in other areas. It also suggests States may have options other than constructing extra infrastructure, such as leasing facilities or adopting short term measures such as demountable classrooms. Where the balance lies in any year is unclear.

21 We are not convinced opportunity costs should be recognised as they are not recorded in State accounts. In addition, while some costs may be increased, the more modern and less intensively used facilities may produce offsetting benefits in the form of reductions in other costs and higher standards of service.

22 The lack of data on the policy options of States, the extent of underutilised infrastructure and the costs or benefits of it mean it has not been possible to test the conceptual case or measure any net costs or benefits to States in this review.

23 The GST Distribution Review also concluded it was not necessary to provide extra fiscal capacity for States to invest in advance of population growth.

> The Panel understands that changes to the assessment of capital in the 2010 Review were designed to ensure that the needs of States experiencing rapid population growth (such as Queensland and Western Australia) are recognised as population growth occurs. The Panel does not agree that further changes are required to create capacity for States in advance of actual population growth.
>
> The Panel recognises that there is a risk that State funded social and economic infrastructure related to mining activity may not be fully utilised in the future if the level of mining activity declines. However, this type of risk exists for all States undergoing structural change, and the Panel has no basis for concluding that the resource States face relatively greater risk, or for assigning a value to this risk.[3]

## The assessments do not provide adequately for new infrastructure

24 Western Australia noted the assessments only give it the fiscal capacity to provide its new people with the depreciated value of infrastructure. It said a weighting should be applied to recognise the infrastructure provided to the new population is unavoidably less depreciated (and more expensive) than the average stock. Queensland also said there is a compelling case to recognise the extra costs of new infrastructure.

25 The argument centres on the concept of there being a quantum of infrastructure needed to deliver the average level of services. As that quantum ages, its service delivery capacity is unimpaired because it is maintained and refurbished as necessary, but it loses financial value. New people need that quantum of infrastructure for service delivery, but States have to fund it at new, not depreciated, values.

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[3] GST Distribution Review Panel, Final Report, October 2012, p.118.

26 This argument raises both conceptual and analytical issues. We could recognise acquiring new assets may be more expensive than the value of similar assets recorded on State balance sheets. However, any recognition of the extra costs would need to allow for both the additional fiscal burden and the offsetting fiscal benefits.

27 Such a process would recognise that, on average, faster growing States have younger assets. This could give rise to fiscal benefits.

- Lower than average repairs and maintenance expenses. In the past, States have argued older infrastructure raises these costs.
- Faster growing States may be able to capture scale economies in infrastructure not available to others. This may offset its higher cost.
- Modern infrastructure usually provides greater functionality or efficiency than older infrastructure, further reducing the quantum needed for average service delivery capacity and providing savings in operating costs.

28 Queensland said it doubted any maintenance cost differentials would have a big effect because new assets are a small proportion of total asset stocks, it is not clear growth States have significantly newer assets on average or that they have lower maintenance costs. It also said there does not appear to be evidence or a conceptual case that growth States require less stock because of scale economies or greater functionality. By contrast, South Australia said while growth States spend more on new assets, they acquire additional value for that money as their asset stocks have longer lives and service potential than those of low growth States. That is, growth States receive a higher standard of service.

29 Resolving those issues requires reliable information on: differences between the average value of existing infrastructure and new infrastructure of a similar capacity; how repairs, maintenance and refurbishment spending varies with infrastructure age; and age profiles of State assets. Such information was not available in this review.

30 Given the conceptual complexities and the absence of data we have not attempted to recognise that States may have different asset age profiles under average policy.

## Assessments do not recognise the need to support local government and community bodies

31 Queensland and Western Australia argued the GST distribution should recognise the extra community development expenses faced by high growth mining States.

32 Western Australia said its royalties for regions funding is directing considerable amounts to communities in remote and very remote areas with the aim of providing more liveable communities. It said assessments for community development and community amenities expenditure should allow for population growth effects and higher remoteness costs. It, however, acknowledged identifying the relevant

expenses could be difficult as they were often not classified appropriately in GFS. Queensland and the Northern Territory supported such an assessment.

33 New South Wales, Victoria, South Australia, Tasmania and the ACT said there is no conceptual case that population growth is the driver of needs, and the data are unreliable. South Australia suggested many other factors drive needs including population dispersion, the socio-economic status and age profile of residents in a local government area and possibly the proportion of Indigenous residents. These States said if the impact of population growth on support to local authorities is recognised, the assessment should be discounted significantly.

34 The 2010 Review assessment methods provided States with the fiscal capacity to make the average per capita grant to local government bodies, including those experiencing population growth, with a loading to reflect higher costs in remote communities. However, they did not fully allow States with faster growing populations to provide extra support to local government to help it provide the infrastructure growing communities require.

35 We observe higher levels of capital grants paid to local governments through the Royalties for Regions programs, particularly in Western Australia but also in Queensland and New South Wales. ABS data indicate State capital grants to local government for community development, culture and recreational purposes totalled about $170 million, an average of about $7 per capita, in 2012-13. We have decided these grants should be assessed on the basis of population growth and without any discount. While the effect on the GST distribution of this assessment by itself is immaterial, it supplements other population growth effects which are material and under our general assessment approach should affect the GST distribution. Further details of the assessment are in Chapter 20 — Other expenses.

## Assessments do not recognise the need for affordable housing in regional areas

36 Western Australia noted it has invested in affordable housing for non-government services workers in regional areas. In the three years to 2012-13, it spent $173 million on this housing and 90% of that was in the Pilbara. Western Australia said this spending is driven by population growth and the assessment of these expenses should recognise the higher costs and risks of providing services in remote areas.

37 All States provide social housing for people on low incomes and employee housing in regional areas. We recognise the differential needs for those services in the investment, housing and regional costs assessments. Western Australia appears to have a unique policy of providing affordable housing for service workers in high cost regional areas and its spending represents the national level of expenditure.

38 Most, if not all, of this capital expenditure appears to be classified as housing investment and has created assets owned by the Department of Housing. Under the approach to housing adopted in this review the investment, depreciation and housing assets are reflected in the Infrastructure assessment.

39 The assessment captures the population growth and capital cost implications of this investment. The subsequent depreciation effects of Western Australia's larger assessed capital stock are captured in that assessment. We have not recognised any other influences on these expenditures because data were not available to identify or measure them.

## ARE THE NEEDS OF GROWTH STATES OVERSTATED?

### The assessments overstate the need for extra infrastructure

40 Some States said some infrastructure needs are met by making capital 'work harder' (that is, improving infrastructure efficiency). As a result, infrastructure does not increase proportionately with service use. They wanted the growth effects discounted.

41 The assessments already recognise any improvements in infrastructure efficiency as they are part of the annual changes in per capita stocks reflected in the calculations. Since the population growth allowances give States the fiscal capacity to provide only the average per capita infrastructure for their new population, they presume that infrastructure has the average efficiency.

42 Any discounting of the population growth allowances would result in per capita infrastructure in growth States being below the average. Providing the average level of services would require them to adopt above average policies, which would be inconsistent with equalisation.

### Population growth may provide revaluation benefits

43 Most States accept that, other things being equal, population growth dilutes the value of non-financial assets (such as land and infrastructure), financial assets (such as equity in public corporations) and financial liabilities. Faster growing States incur an above average reduction in the per capita value of their assets which reduces their fiscal capacity. But that is partly offset by the benefit they gain from the above average reduction in their financial liabilities. Our methods capture the net impact of those effects on State fiscal capacities.

44 However, some States argue there is a positive link between population growth and the value of State assets such as land and equity in public corporations (part of which is land). As a result, faster growing States receive financial benefits through above

average asset revaluations which offset the effects of population dilution. These States argue a revaluation disability should be assessed.

45 The case for revaluation disabilities is not strong and we have not introduced any.

46 Analysis indicated weak links between the average annual growth in population and State net worth, net worth per capita, infrastructure per capita and equity per capita. However, we were unable to determine how much of the observed relationship was due to State actions which increased the stocks and the value of their assets and how much was due to revaluations.

47 We also note including the activities of housing and public transport corporations in the general government sector in this review means land held by those corporations, like other general government land, does not affect the GST distribution.

## Slower growing States need to invest to support development

48 Victoria said the assessments do not recognise the need of slower growing States to invest to support and stimulate growth. Western Australia and Queensland argue the assessments understate their need to invest to cope with the economic and social implications of growth which is occurring.

49 The investment assessments provide States with the fiscal capacity to make the average response to population growth and other changes in State circumstances affecting the use of services and related infrastructure. The amounts States invest may also be affected by other policy aims, including the provision of assistance to support and develop their economies. We observe there is no common policy on why States provide that support, when it is provided or how it is provided, and there is no agreement on what drives it. We consider all States invest in a way that reflects their population and economy. We have concluded these considerations should not have differential effects on the GST distribution.

# OTHER GROWTH RELATED ISSUES

## Migration and risks of stranded capital

50 The Infrastructure assessments provide each State with the fiscal capacity to hold the average per capita amount of infrastructure for every person in the State. If total population does not change but people move between regions, the assessment implies the extra infrastructure required in gaining regions is offset by reducing the stocks in losing regions — either by selling some or letting it depreciate. Each State follows its own policies in managing its fiscal capacity, including how it allocates resources across regions, how it deals with stranded capital and how it minimises the inefficient use of infrastructure.

51 Difficulties of reducing infrastructure stocks in regions suffering population losses may constrain the capacity of States to operate in this way, especially if the population losses exceed the depreciation rate. However, any impact on the GST distribution would be immaterial. Analysis of rural statistical areas which experienced a decline in population over the three years 2009 to 2012 revealed a total decline of only 14 231 people. Queensland and Western Australia had the lowest shares of population decline relative to their total population and the Northern Territory, Tasmania and South Australia the biggest shares.

52 We recognise the volatile nature of mining development may lead to changes in where people work and live and, as a consequence, where services are provided. But this is not unique to the mining industry. We have not identified any data that indicate mining States face more risk of stranded or inefficiently used infrastructure than other States or to quantify the level of risk. Given the low level of population decline in rural areas and the absence of other data to establish a conceptual case we have not made an assessment of the effect of intrastate migration and the risks of stranded capital.

## Congestion costs

53 It has been argued that the Commission's processes do not adequately take account of the costs of congestion associated with rapid population growth.

54 In a simplified way, congestion is a function of infrastructure capacity and the level of use. Our processes aim to allow for the effects of interstate differences in the underlying drivers of service use on the level of infrastructure States require and the services they need to provide, assuming they respond in the average way. That is, the processes give each State the fiscal capacity to have the average level of congestion. How each State chooses to use its fiscal capacity is a matter for its policies.

55 For example, if a State's road use increases at an above average rate, it receives the fiscal capacity to make above average investment in new roads. In the 2014 Update, the allowances for the effects of changes in road use on investment redistributed about $80 million to Queensland and Western Australia. Similarly, States with increasing school enrolments per capita are given the fiscal capacity to increase their stock of schools and have average levels of crowding.

56 The adequacy of our processes depends on whether we have captured the main elements of the links between road use (or enrolments) and investment (which appears to be the case) and whether States have applied the average policies. Equalisation should not address congestion which arises from a State's policy choices.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

57 Table 2 shows the extent to which the allowances for population growth would move the GST distribution away from an equal per capita distribution.

58 It shows population growth has a significant effect on the GST distribution. It redistributes GST to Queensland, Western Australia and the Northern Territory because they had well above average population growth from 2011-12 to 2013-14. GST is redistributed away from States with below average population growth in that period.[4]

**Table 2 Impact of population growth on the GST distribution, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| Investment | | | | | | | | | |
| Dollars million | -807 | -143 | 174 | 1 106 | -300 | -174 | -37 | 182 | 1 462 |
| Dollars per capita | -105 | -24 | 36 | 408 | -176 | -338 | -93 | 720 | 61 |
| Net borrowing | | | | | | | | | |
| Dollars million | 85 | -9 | -21 | -115 | 39 | 22 | 0 | -1 | 147 |
| Dollars per capita | 11 | -2 | -4 | -42 | 23 | 42 | -1 | -3 | 6 |
| Other expenses | | | | | | | | | |
| Dollars million | -15 | 1 | 4 | 20 | -7 | -4 | 0 | 0 | 26 |
| Dollars per capita | -2 | 0 | 1 | 7 | -4 | -7 | 0 | 1 | 1 |
| Total | | | | | | | | | |
| Dollars million | -737 | -151 | 157 | 1 011 | -268 | -156 | -37 | 181 | 1 349 |
| Dollars per capita | -96 | -25 | 32 | 373 | -157 | -303 | -93 | 717 | 56 |

Source: Commission calculation

## CHANGES SINCE THE 2014 UPDATE

59 The basic approach to measuring the effects of population growth is unchanged between the 2014 Update and this review. However, we have:

- assessed an extra allowance to recognise the effects of population growth on the need for States to provide capital subsidies to local government for community amenities and culture and recreation facilities
- transferred infrastructure of State housing and urban transport corporations from net financial worth to general government infrastructure and excluded the value of land owned by them from the assessments.

[4] The impact of population growth on investment shown in Table 2 is calculated as a State's above or below average population growth multiplied by the State's disability adjusted per capita infrastructure requirement. While Victoria and the ACT had above average growth over this period, their per capita infrastructure needs are below average, so some GST is redistributed away from them.

# CHAPTER 27

# OTHER DISABILITIES

## SUMMARY OF THE ASSESSMENT

This chapter contains a description of four small expense disabilities that we have assessed or considered.

- The national capital allowances recognises the unavoidable extra costs incurred by the ACT due to Canberra's status as the national capital or because of legacies inherited from the Commonwealth at self-government.
- The cross-border assessment recognises the additional costs incurred by the ACT when New South Wales residents use ACT services.
- The native title and land rights assessment recognises the additional costs incurred by the States due to native title and land rights claims.
- No assessment is made for cultural and linguistic diversity in any assessment in this review.

## NATIONAL CAPITAL ALLOWANCES

1 National capital allowances recognise the unavoidable extra costs incurred by the ACT because of Canberra's status as the national capital or because of legacies inherited from the Commonwealth at self-government.

2 In 1989, when the ACT was granted self-government, the Commonwealth established the National Capital Authority (NCA) to manage its continuing interest in the strategic planning and development of Canberra as the nation's capital. It did so, in part, through the development and management of the National Capital Plan. This plan places restrictions on some of the planning and development decisions in the ACT and can lead to higher costs for the ACT Government. These additional costs are not incurred by other States.

3 The National capital assessments also allow for additional costs incurred by the ACT as a result of the following cost legacies inherited at self-government.

- The ACT has no practical alternative but to use the Australian Federal Police (AFP) as the provider of its policing services. This leads to higher costs because the AFP pays above average salaries to its employees.

- Some of the arterial roads the ACT inherited from the Commonwealth at the time of self-government are wider than those in other States which leads to higher maintenance costs.

4 National capital allowances are calculated by directly assessing the impact of the national capital circumstances on the costs of providing services in the ACT.

## Police services

5 We accept that the ACT has no power to influence the terms and conditions of AFP employees and has no practical alternative but to use the AFP as the provider of its policing services.

6 We consider the above average wages paid by the AFP have increased the costs of providing the assessed level of policing services in the ACT by $3.9 million. As shown in Table 1, that amount has been calculated by:

- deriving a nominal level of ACT police staffing by applying an adjusted national average per capita level of police staff (sworn and unsworn officers combined) to the ACT population
- multiplying by the difference between average AFP and average State police staff salaries (sworn and unsworn officers combined) discounted for the wage costs factor to avoid double counting the higher underlying wage levels in the ACT.

7 We adjusted the national average staffing level because in the Justice services assessment we assess the ACT as needing less than the average police staff to population ratio as a result of its demographic characteristics. The ACT staffing level is calculated by multiplying the national average per capita level of police staff by the ACT's justice services socio-demographic composition factor and its population.

8 Data used in the assessment are taken from the Productivity Commission's Report on Government Services, which is considered to be a reliable and comparable third party source. As these data will be available annually, we will use them to update the assessment. However, due to the time lag in production and availability of these data, we have indexed the most recently calculated allowance using ABS' national public sector wage price index (since the allowance is for salaries).

**Table 1 National capital allowance, Police services**

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| A. Total staff | 66 514 | 67 156 | 67 770 | |
| B. Total population | 22 169 380 | 22 517 165 | 22 917 637 | |
| C. Average staff [C = A / B] | 0.003 | 0.003 | 0.003 | |
| D. ACT population | 364 833 | 371 108 | 377 927 | |
| E. Assessed staff [E = C * D] | 1 095 | 1 107 | 1 118 | |
| F. ACT socio-demographic composition factor | 0.886 | 0.885 | 0.881 | |
| G. Adjusted assessed staff [G = E * F] | 970 | 980 | 984 | |
| H. Average State salary (a) $ | 100 562 | 107 527 | 107 474 | |
| I. ACT labour factor | 1.033 | 1.033 | 1.029 | |
| J. Adjusted State salary [J = H * I] $ | 103 915 | 111 037 | 110 622 | |
| K. Average ACT salary (a) $ | 108 972 | 120 426 | 114 493 | |
| L. Difference [L = K - J] $ | 5 057 | 9 388 | 3 871 | |
| M. Assessed allowance [M = G * L] $ | 4 904 839 | 9 198 598 | 3 810 804 | 3 919 968 |

(a) Excludes payroll taxation because the AFP is exempt from paying payroll tax.
Source: Productivity Commission, *Report on Government Services 2014*.
ABS, Wage Price Index, Australia, 2014, Cat. No. 6345.0, Table 4a.

## Roads and planning allowances

9 We accept that the wider roads inherited from the Commonwealth at the time of self-government result in higher maintenance costs for the ACT. The allowance for wider roads will continue to be assessed until 2017-18 by which time roads existing at the time of self-government will have reached the end of their useful life.

10 We accept that the National Capital Plan does constrain planning and development decisions in the ACT and, as a result, imposes higher costs on the ACT.

11 In past reviews, a comprehensive exercise was undertaken by the ACT Treasury to estimate the additional maintenance costs arising from the wider arterial roads and the additional costs arising from the National Capital Plan. We believe those estimates are robust and reliable and, when appropriately indexed, remain acceptable. These allowances total $20.0 million in 2013-14 and are combined and assessed in the Other expenses category.

12 The allowances for the impact of the National Capital Plan and for Roads are in part labour related and should be indexed using a price index that takes account of both labour and non-labour costs. We have used the State and local general government final consumption expenditure implicit price deflator for this purpose and will continue to use this approach in updates. This is the national accounts aggregate that best reflects the expenditures of States.

## BRINGING THE ASSESSMENTS TOGETHER

13 Table 2 shows the National capital allowances assessed for 2010-11 to 2013-14.

**Table 2 Assessed expenses, National capital, 2010-11 to 2013-14**

| Category | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| | $m | $m | $m | $m |
| Justice services (AFP salary effect) | 5.1 | 9.5 | 3.9 | 4.2 |
| Roads | 3.6 | 3.7 | 3.7 | 3.7 |
| National Capital Plan | 15.8 | 16.1 | 16.3 | 16.3 |
| Total | 24.5 | 29.3 | 24.0 | 24.3 |

Source: Commission calculation.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

14 Table 3 shows the extent to which the assessment moves the distribution of the GST away from an EPC distribution. As the ACT is the only State that is assessed to incur national capital expenses, GST is redistributed to the ACT from the other States.

**Table 3 GST impact, National capital, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| Dollars million | -8 | -6 | -5 | -3 | -2 | -1 | 24 | 0 | 24 |
| Dollars per capita | -1 | -1 | -1 | -1 | -1 | -1 | 60 | -1 | 1 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.

Source: Commission calculation.

## CHANGES SINCE THE 2010 REVIEW

15 The only change in this review is to move the allowance for roads into the Other expenses category and combine it with the planning allowance. This is for presentational purposes only and has no impact on the GST distribution.

## CROSS-BORDER COSTS

16 Cross-border costs are incurred when residents of one State use the services provided in another. Usually, the cross-border flow of services is in both directions. For example, some New South Wales residents use ACT services and some ACT residents use New South Wales services. If the incoming and outgoing flow of services were exactly the same, the net effect would be zero and neither State would incur additional service delivery costs. However, the flow of some ACT services to New South Wales residents exceeds the flow of New South Wales services to ACT residents and the ACT incurs additional service delivery costs for which it may not be reimbursed by New South Wales.

17 A cross-border disability is assessed when a net cross-border flow of services results in a State incurring a material level of extra costs and it is not reimbursed by other States. The disability factor increases the number of people deemed to access services in one State and reduces the number deemed to access services in the other.

18 Cross-border flows can occur across any border (for example, the New South Wales-Queensland border around the region of Tweed Heads-Coolangatta, or the New South Wales-Victoria border around Albury-Wodonga). However, we have assessed separate cross-border disabilities to recognise the additional costs incurred by the ACT only. This is because Canberra acts as a major regional centre for south eastern New South Wales and the net costs incurred by the ACT are material. There is no evidence to suggest the net impact of other cross-border flows is material.

### The conceptual case for cross-border costs

19 Canberra is the principal service centre for government, commercial, tertiary education, retail and transport services for residents of the surrounding local government areas. Significant numbers of New South Wales residents regularly use ACT Government education, health and welfare, recreational and transport services. Reasons include convenience, employment in the ACT, unavailability of service in the local area, and a higher quality service provided by the ACT relative to that in surrounding New South Wales areas. Since these residents do not reside in the ACT, they do not generally contribute to ACT Government revenue through the payment of ACT taxes and charges.

20 A considerable and growing number of people live in the towns, rural sub-divisions and rural areas surrounding the ACT. For example, the population within about an hour's drive of the ACT is over 110 000 and that population has grown by 6.3% over the last five years. While they choose to live in New South Wales, many people have close connections to the ACT, often revolving around employment, retail and service facilities or family connections. People also come to the ACT expressly to use the State government services (especially education, hospital and related health

facilities). The result is that there are substantial flows of traffic into and out of the ACT on a daily basis.

## MEASURING CROSS-BORDER COSTS

21 We accept there is a strong conceptual case for assessing a cross-border factor based on net flows. However, while records of the place of residence of users for some services are very good, in others the nature of the service means records of service use are often not feasible or those that are taken may not be accurate. In the face of this variability in the amount and quality of data available, we have adopted a number of methods to calculate cross-border factors where a conceptual case for a net flow has been established. We adopted different approaches when:

- reimbursement arrangements are in place
- reliable data on net flows are available
- only partial data are available.

### Where reimbursement arrangements already exist

22 We consider that when reimbursement arrangements exist there is no need to assess a cross-border allowance.

23 This is the case for hospitals where the National healthcare agreement provides for bilateral agreements between States covering reimbursement of the costs of cross-border use of services. An individual bilateral health agreement has been negotiated between New South Wales and the ACT covering costs, including an allowance for the opportunity cost of capital, associated with services provided to admitted and non-admitted patients.

24 As a result, we recognise that cross-border costs for hospital services have already been addressed and a separate cross-border assessment will not be made.

### Where reliable data are available

25 In a few cases where service use is based on actual use, cross-border effects are automatically captured. For example, in the Roads category, the allowance for road use measures the actual use of roads by residents and cross-border travellers alike. Also, in the Schools category, service use is measured using actual enrolments, regardless of where the students live. In these cases, there is no need to assess a separate cross-border factor.

26 However, in most cases we assess service use on the basis of the characteristics of each State's population and a separate factor must be assessed if there is a strong conceptual case that there is a material net cross-border use. Where reliable data on

the cross-border use of services are available, we have used them. This is the case for Post-secondary education, where the assessment uses National Centre for Vocational Education Research (NCVER) data on the number of hours the ACT training system supplies to New South Wales residents and the number of hours the New South Wales training system supplies to ACT residents.

## Where only partial data are available

27 In other cases, the ACT used illustrative information for some services to mount a conceptual case that there are material levels of cross-border use of those and related services. These include the following.

28 ***Community health.*** Data supplied by the ACT in the 2010 Review indicated that around 10-12% of community health services in the ACT were provided to non-ACT residents. This ranged from around 40% of the post-natal services provided in the Queen Elizabeth II facility to 6% of alcohol and drug programs.

29 While we acknowledge that the figures do not allow for the use by ACT residents of community health services provided by New South Wales, we expect those numbers would be small. Overall, we conclude that, on a net basis, approximately 7-10% of ACT community health services are used by New South Wales residents.

30 ***Welfare.*** Indicative evidence provided by the ACT in the 2010 Review pointed to the cross-border flow for some welfare services having a material impact on ACT costs. However, collecting data on the address of the users of welfare services from New South Wales residents is difficult. Many had concerns that their eligibility for access to services would depend on their address and were unwillingly to provide an accurate response.

31 As such, we believe that, despite the lack of actual data, there is a conceptual case that some welfare services provided by the ACT are used by New South Wales residents and that the reverse flow is significantly smaller.

32 ***Other services.*** Data provided by ACT Library and Information Services in the 2010 Review indicated that there were large numbers of interstate members of ACT libraries and this represented 4% of all ACT library memberships. However, it noted that the majority of library services available to the public do not require a user to be a member of the library.

### *The general method*

33 Taken together, the conceptual arguments and the available information suggest that, on a net basis, between 7-10% of community health, some welfare, and cultural and recreational services provided by the ACT are used by New South Wales residents.

34 We have used a simple general method to allow for cross-border use of ACT services. Under this method, we increased the ACT population by an amount which, given national average use rates, would be equivalent to use of 7-10% of ACT services. That is, for services where we consider there is material net cross-border use, the assessed use of services in the ACT will be determined on the basis of the ACT population plus a proportion of the population of surrounding areas of New South Wales. The population of New South Wales is reduced by the same amount.

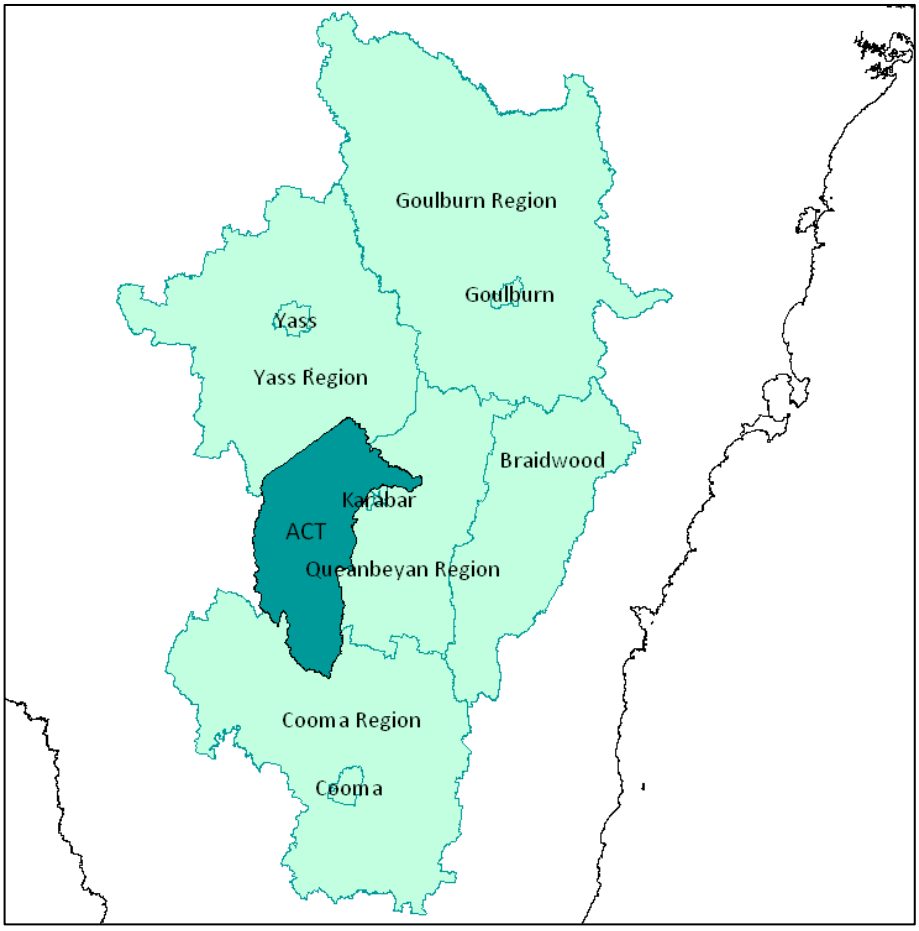
35 With an ACT population of 380 000 and national average use rates, a 7-10% cross-border use of ACT services is equivalent to approximately 33 000 extra residents. This equates to about 30% of the population of the Statistical areas level 2 (SA2s) in the surrounding parts of New South Wales and which are shown in Figure 1:

- Queanbeyan region
- Karabar
- Braidwood
- Cooma region
- Goulburn region
- Yass region.

36 The SA2s we have used were chosen on the basis that they are largely within an hour's drive from the ACT and it is not unreasonable to assume that many of their residents travel to the ACT on a daily or weekly basis for various purposes. While many New South Wales residents from outside this catchment area may also use ACT services, they would tend to do so on a less frequent basis. In the absence of better data, we consider the areas chosen reflect a reasonable compromise.

37 Basing the assessment on a proportion of the population of surrounding areas is a relatively simple approach which has the added advantage of recognising that the demand for ACT services may increase in the future as new developments occur in these areas as their population grows. We propose to update the population estimates of the surrounding regions annually.

**Figure 1 Catchment for the Cross-border assessment**




Source: Commission illustration.

38 By simply adjusting the ACT population, the method implies the socio-demographic profile of the cross-border users is the same as that of the ACT population. We acknowledge there might be a case to say the population of areas surrounding the ACT has a different socio-demographic profile and the actual profile should be reflected in the calculation. However, that would add complexity to the assessment and would imply more precision than is justified by other aspects of the assessment. We have decided, therefore, not to make such an adjustment.

39 The general method has been used in the following categories.

- Health — the cross-border factor is weighted so that it does not affect the hospital expenses in the category because they are covered in the bilateral agreement between New South Wales and the ACT for public hospital services.
- Welfare— the cross-border factor is weighted to ensure it is not applied to the child protection or aged care services expenses in the category because, normally, people must be a resident in the ACT to receive those services.
- Other expenses — the cross-border factor is weighted to ensure it only applies to the culture and recreation expenses in this category.

## The assessment method

40 Table 4 shows the 2015 Review categories where a cross-border disability has been assessed and the method of calculation.

**Table 4 Cross-border assessment, 2015 Review**

| Category | Expenses | Method |
|---|---|---|
| Schools | All service delivery expenses | Implicit in data |
| Post-secondary education | All service delivery expenses | Implicit in data |
| Health | Out-of-hospital health services | General method |
| Welfare | Out-of-home welfare services | General method |
| Roads | All service delivery expenses | Implicit in data |
| Other expenses | Culture and recreation | General method |

Source: Commission calculation.

41 Table 5 details the general method calculation for the raw cross-border factor for 2012-13. These factors are then weighted to reflect the proportion of expenses affected by cross-border costs.

**Table 5 Raw cross-border factor calculations, 2013-14**

| | | NSW | ACT |
|---|---|---|---|
| | | no. | no. |
| A. | State population | 7 465 224 | 383 896 |
| B. | Total population of catchment area (a) | 121 486 | |
| C. | Cross-border weight | -0.3 | 0.3 |
| D. | Cross-border population [D = B * C] | -36 446 | 36 446 |
| E. | Adjusted population [E = A + D] | 7 428 778 | 420 342 |
| F. | Weight raw factor [F = E / A] | 0.995 | 1.095 |

Source: State population from the ABS, December estimated resident population.
Population of surrounding New South Wales regions from the ABS, June estimated resident population.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

42 Table 6 shows the extent to which the assessment moves the distribution of the GST for the 2015 Review away from an equal per capita distribution. As New South Wales and the ACT are the only States affected by this assessment, GST revenue is redistributed to the ACT from New South Wales. The impact on the distribution of GST for the Schools and Roads categories are not included in the table because the measure of cross-border use is implicit in the assessment, and cannot be separately identified.

43 Table 6 shows the size of the GST redistribution due to cross-border influences in each category.

**Table 6 GST impact, Cross-border, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Health | -22 | 0 | 0 | 0 | 0 | 0 | 22 | 0 | 22 |
| Post-secondary | -18 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 18 |
| Welfare | -7 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 7 |
| Other expenses | -6 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 6 |
| Total | -52 | 0 | 0 | 0 | 0 | 0 | 53 | 0 | 53 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.
Disabilities may not add due to interactions.
Source: Commission calculation.

## CHANGES SINCE THE 2010 REVIEW

44 There have only been minor changes to the cross-border assessment in this review. The ABS has changed its geography for the 2011 Census and as a result, we have changed our geography from Statistical local areas (SLAs) to SA2s. The impact of this change is very small. In 2011 the relevant SLAs in the surrounding areas had a total population of 110 000. The relevant SA2s had a total population of 118 000.

## NATIVE TITLE AND LAND RIGHTS

45 This assessment recognises the additional costs incurred by the States due to the operation of:

- the Commonwealth's Native Title Act 1993
- the Commonwealth's Aboriginal Land Rights (Northern Territory) Act 1976.

### Native title

46 The Native Title legislation (*Native Title Act 1993*) was the result of a High Court decision which recognised Indigenous people's traditional rights on their land as common law.

47 Native title expenses include the costs of administering the legislation, compensating holders of native titles in the settlement of claims, and any on-going costs associated with joint management of land.

48 The expenses incurred in each State due to native title matters vary, depending on the number and type of native title claims made in the State and the compensation awarded in settling a claim.

### Land rights

49 The *Aboriginal Land Rights (Northern Territory) Act 1976* only applies in the Northern Territory and recognises the traditional connection and the ongoing cultural and social connection Indigenous Australians have to the land. It allows for areas of Crown Land (excluding land in towns) to be transferred to Indigenous Australians as a result of claims accepted by the Aboriginal Land Commissioner.

50 The Northern Territory incurs costs in negotiating claims and preparing submissions to the Commissioner and in challenging claims through the Federal and High Courts. Compensation or other arrangements relating to the settlement of a claim can also lead to on-going costs. Although there is a sunset clause in the legislation, with no new claims made since 1997, it is expected that costs associated with ongoing claims will proceed for many years.

## MEASURING NATIVE TITLE AND LAND RIGHTS EXPENSES

51 Native title and land rights expenses are small. They represent less than 1% of total combined State expenses. However, they are concentrated heavily in the Northern Territory and Western Australia and potentially can have a material effect on State budgets.

52 Table 7 shows the combined actual per capita expenses on native title and land rights for the period 2010-11 to 2013-14. It shows that Western Australia and the Northern Territory are the only States for which per capita expenses are material.

**Table 7 Native title and land rights expenses, 2010-11 to 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc | $pc |
| 2010-11 | 1 | 2 | 6 | 39 | 4 | 0 | 0 | 97 | 7 |
| 2011-12 | 1 | 2 | 7 | 28 | 4 | 0 | 0 | 106 | 6 |
| 2012-13 | 1 | 1 | 6 | 28 | 7 | 0 | 0 | 119 | 7 |
| 2013-14 | 1 | 2 | 7 | 28 | 5 | 0 | 0 | 102 | 7 |

Source: State data returns.

53 We consider the simplest and most reliable way of assessing what States need to spend because of Commonwealth native title and land rights legislation is to use data on what they actually spend. We consider that State spending is due to Commonwealth legislation and States have adopted uniform policies in response to their individual circumstances, including:

- the size of their remote Indigenous populations
- the number of Indigenous groups living traditional life styles who have retained a continuing connection to the land
- the history of land development and economic activity in a State
- the location of claims and competing interests in the areas claimed.

54 These factors influence the likely number of claims made and their nature and complexity. Table 8 shows remote Indigenous people are larger proportions of the population in the Northern Territory, Western Australia and Queensland and these States and South Australia have larger proportions of Indigenous land. It also shows the States with the largest number of claims outstanding per capita are the Northern Territory, Western Australia and Queensland. These States and South Australia have the largest per capita expenses.

**Table 8 Differences in State circumstances**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Remote Indigenous population (% of State population) | 0.131 | 0.002 | 0.797 | 1.434 | 0.398 | 0.151 | 0.000 | 23.450 | 0.637 |
| Active claimant applications (No. per '000 population) | 0.004 | 0.002 | 0.021 | 0.041 | 0.013 | 0.000 | 0.000 | 0.746 | 0.019 |
| Indigenous land proportion (% total land) | 0.5 | 0.0 | 3.2 | 14.4 | 20.7 | 0.2 | 0.0 | 44.8 | 16.0 |

Sources: ABS; *National Native Title Tribunal Report: Native Title, February 2012*; and Institute of Aboriginal and Torres Strait Islander Studies.

55 We have assessed native title and land rights disabilities using their actual spending. We consider State spending to be the result of Commonwealth policies and States have adopted common policies in response. Consequently, a State's actual expenses are used as the estimate of the amount it would spend under average policies.

56 The assessment for both land rights and native title expenses will be undertaken together in the Other expenses category.

57 Data on native title and land rights expenses will be collected from States every year. These collections will be subject to the Commission's quality assurance protocol, whereby any large or unexpected changes in expenses will need to be explained by the State providing the data. This will ensure data of sufficient quality are provided and the assessment remains contemporaneous.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

58 Table 9 shows the extent to which the native title and land rights assessment moves the distribution of the GST away from an equal per capita distribution.

**Table 9 GST impact, Native title and land rights, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| Dollars million | -50 | -34 | 0 | 64 | -2 | -4 | -3 | 29 | 93 |
| Dollars per capita | -7 | -6 | 0 | 24 | -1 | -8 | -8 | 115 | 4 |

Note: This table shows the difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.
Source: Commission calculation.

59 The assessment is based on the average of data from the 2011-12 to 2013-14 financial years. It shows that Western Australia and the Northern Territory are assessed as needing to spend more than the average per capita amount to cover the costs imposed by the Commonwealth legislation. It is expected these States would have above average expenses given their circumstances, such as the above average remote Indigenous populations, the characteristics of those populations, land development history, economic activity and claim numbers.

## CHANGES SINCE THE 2010 REVIEW

60 The only change in this review is to move all the Native title and land rights allowances into the Other expenses category. This is for presentational purposes only and has no impact on the GST distribution.

## CULTURAL AND LINGUISTIC DIVERSITY (CALD)

61 There is a strong conceptual case that people with poor English skills impose a higher cost in using State services than those with English as a first language. New South Wales and Victoria have both provided significant evidence supporting this conceptual case. For example:

- Data from Centrelink show a 30% higher cost of servicing people from non-English speaking backgrounds.
- In the NSW Department of Community Services (DoCs), on average, caseworkers spend 40% more time dealing with non-English speaking background clients than on other cases.
- The New South Wales Housing department spent $1.4 million on interpreters and its average weekly subsidy to non-English speaking tenants was $134 compared with $118 for other tenants.
- Victoria's analysis of hospital data found that patients requiring an interpreter had around 5% higher cost per separation.

62 However, there is also a strong conceptual case that people with poor English skills use services less than people with English as a first language. This can occur for a variety of reasons, including:

- AIHW has identified a 'healthy migrant effect' whereby Australia's immigration policies exclude people with chronic health conditions, therefore migrants may have less demand on Australia's health system
- people with poor English may receive some services from within their community rather than as part of a State government service.

63 This conceptual case for lower use is supported by evidence:

- from AIHW that people born in Australia have higher use than the overseas born in hospitals after controlling for SES and age
- from the census that people born in Australia have higher use than the overseas born in public housing, after controlling for household income

64 In this review, we have attempted to determine the net effect of these two potentially offsetting influences.

### *Classifying cultural groups*

65 The first step in determining the net cost of different population groups is to identify them appropriately. The Commission has, for several reviews, attempted to measure the impact that migrants and people with poor English skills have on State budgets. States have recommended, and we have attempted, various ways of defining this group. Most of these attempted definitions have not yielded reliable material assessments. In particular, it has been difficult to identify an objective definition of

CALD that can be applied to both administrative and population data. We have considered the following groups.

- ***Humanitarian refugees.*** This is a very small population, with little information on either service use, or State of residence.
- ***People born in non-main-English speaking countries.***[1] People born in non-main-English speaking countries are a very heterogeneous population, with large numbers of people with proficient English, and cost patterns very like the Australian born population.
- ***People with low proficiency in English.*** It is very difficult to relate the concept of self-assessment of proficiency in English in the census, with the definition used in service use, where service providers assess a person's proficiency.
- ***People who need assistance from translators.*** There is no data on the number of these people in the population, only on their use of services.

66 We consider the most reliable way of consistently identifying different cultural groups is to use country of birth. To use detailed country of birth, rather than aggregating to a broad concept like 'people born in a non-main-English speaking country' allows us to identify the subtle differences between different population groups.

67 Victoria considers that country of birth does not accurately reflect the underlying driver of higher costs: language proficiency. However, we consider the language based measures (requirement for a translator, self-assessed proficiency in English, preferred language) are not consistent. It is very difficult to ensure that people are consistently identifying these attributes in different settings.

68 We acknowledge that country of birth is not an ideal measure of the driver of higher cost. However, we consider that if people with poor English do systematically incur higher use and cost of State services that should be evident in birthplace groups with low levels of English fluency.

## *Cost and use*

69 We have analysed Victorian data to determine the nature and extent of CALD influences on admitted patient services among non-Indigenous people. We have also considered New South Wales data on public housing and community services.

70 We consider that there is a conceptual case that in a range of functions, people with poor English skills increase the costs to States of providing services. However, we consider that birthplace groups have significantly greater differences in use. The largest single birthplace group, those born in the United Kingdom, have 9% higher

[1] Mainly English speaking countries include, as well as Australia, the UK, New Zealand, USA, Canada and South Africa. All other countries are classified as non-main English speaking countries.

than average non-Indigenous use of public housing, and 16% lower than average use of hospitals.

71 There is evidence that while some birthplace groups have higher than average use and/or cost for at least some services, other birthplace groups have lower use and/or costs. However, there is no strong evidence about which States' mix of birthplace groups would lead to a higher than average cost profile, and which would lead to a lower than average cost profile.

72 The Victorian data on all admitted patient separations found that use and cost varied considerably for people born in different countries. We found the net effect of this is that disaggregating non-Indigenous hospital use by country of birth has a virtually negligible effect on New South Wales (+$3 per capita) and Victoria (-$4 per capita). For a very large component of State expenses, New South Wales and Victoria have a mix of migrants that include some high cost groups and some low cost groups. The net effect is negligible.

73 The regression of ACARA data we undertook for the Schools assessment showed the students from a language background other than English had lower costs per student than those from an English speaking background.

74 In the post-secondary education assessment used in the 2014 update, we found the enrolment in post-secondary education was 3% higher for non-Indigenous non-remote people who spoke English at home than for similar people who did not speak English at home.

### *Judgment based assessments*

75 New South Wales argues that many assessments have strong conceptual cases but weak data. It cites cross-border services for community health, welfare services and library and information services and the administrative scale assessment. We agree with this analogy that both have a conceptual case. However, the CALD assessment also has a conceptual case supported by evidence for lower use. In other examples, the Commission considers it has poor data on the exact size of a disability, but has confidence in the direction the redistribution should be. CALD may have an impact on State budgets but the Commission is not confident whether, in net terms, States with large CALD populations have higher or lower costs. As such, no assessment can be made.

### *Conclusions*

76 We accept the contention by Victoria and New South Wales that people with poor English have a higher cost of using services than people proficient in English. It was our acceptance of this contention that led us, in 2010, to make an assessment of the additional costs faced by this group.

77 However, in attempting to find strong evidence for a CALD disability, we have identified that while costs are often higher for CALD populations, use rates are generally lower. In 2010 we considered that we had a strong conceptual case that having a large CALD population increased the costs for State governments. We now consider that it may have an impact, but it is not clear whether having a large CALD population increases or decreases the overall cost of delivering State services.

78 As such, we no longer accept the conceptual case that States with large CALD population have higher costs, and as such no longer make any assessment of CALD populations. We have discontinued using language spoken at home in the Post-secondary education category, and the general assessment of CALD in the Other expenses category.

# CHAPTER 28

# NET BORROWING

## SUMMARY OF THE ASSESSMENT

Net borrowing reflects the extent to which the States' total outlays on service delivery and investment in infrastructure exceed their total revenue.

We assess how much each State would need to borrow if it were to finish a year with the average per capita net financial worth, assuming it began the year with the average value at that time.

Interstate differences in population growth rates are the only driver of differences in net borrowing recognised in this assessment. When net financial worth is negative, as is currently the case, we assess States with above average population growth with more per capita borrowings.

1 As noted in Chapter 1 — Implementing Equalisation, the Commission has decided to continue equalising State net financial worth per capita. This is done through the net borrowing assessment.

## WHAT IS IN THE NET BORROWING ASSESSMENT?

2 Net borrowing is the amount by which the total outlays[1] of the State general government sector exceed its total revenue. It now includes the net borrowing of State housing and urban transport public non-financial corporations because we decided to treat their services as general government activities. When a State's total outlays exceed its total revenue, it must borrow or liquidate financial assets, thereby reducing its net financial worth. Conversely, when its total revenue exceeds total outlays, it saves and increases its net financial worth.

3 Net financial worth consists of cash, deposits and equity in public corporations less liabilities. Treating the services provided by State housing and urban transport corporations as general government activities does not change State net worth (the total of State infrastructure, land and net financial worth). However, it changes its composition. The value of infrastructure and land held by State housing and urban

[1] Total outlays are the sum of total operating expenses and investment in infrastructure and land.

transport corporations is transferred from net financial assets to State infrastructure and land holdings.

4 Table 1 shows total net borrowing was $11.4 billion in 2013-14. Net borrowing varied between 2.2% of total outlays on service delivery and investment in Victoria and 15.7% in the ACT. The average was 5.2%.

**Table 1 Net borrowing, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| Net borrowing ($m) | 2 428 | 1 076 | 2 666 | 2 490 | 1 664 | 211 | 696 | 137 | 11 368 |
| Net borrowing ($pc) | 325 | 186 | 569 | 977 | 992 | 410 | 1 814 | 563 | 488 |
| Share of total outlays (%) | 3.6 | 2.2 | 5.8 | 8.7 | 10.6 | 4.5 | 15.7 | 2.8 | 5.2 |

Note: Total outlays are the sum of total operating expenses and investment in infrastructure and land.
Source: Commission calculation using State data.

5 Table 2 shows net borrowing funded 12.7% of State total outlays on service provision and investment in infrastructure in 2010-11 and 5.2% in 2013-14.

**Table 2 Net borrowing as a proportion of total State outlays**

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| Total net borrowing ($m) | 26 018 | 19 952 | 22 488 | 11 368 |
| Total outlays ($m) | 204 683 | 206 688 | 209 445 | 219 378 |
| Proportion of total outlays (%) | 12.7 | 9.7 | 10.7 | 5.2 |

Note: Total outlays are the sum of total operating expenses and investment in infrastructure and land.
Source: Commission calculation based on ABS Government Finance Statistics (GFS) and State data.

6 Table 3 shows how net financial worth, as measured by the Commission,[2] has varied since 2010-11.

**Table 3 Net financial worth, 2010-11 to 2013-14**

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| | $m | $m | $m | $m |
| Total financial assets | 232 941 | 220 188 | 242 931 | n.a. |
| Total liabilities | 252 775 | 315 715 | 317 830 | n.a. |
| Net financial worth (a) | -19 834 | -95 529 | -74 899 | -91 357 |

(a) GFS general government net financial worth at the end of each financial year as adjusted to treat housing and urban transport public corporations as part of the general government sector.
Source: ABS GFS and State provided data.

[2] The Commission adjusts the net financial worth calculated by the ABS to exclude the infrastructure and land owned by housing and urban transport corporations.

## ASSESSMENT APPROACH AND CATEGORY STRUCTURE

7 This assessment estimates how much each State would need to borrow (or save) in the year if it is to have the average per capita net financial worth at the end of each year, assuming it began the year with the average value at that time.

8 Each State's assessed net borrowing is the difference between:

- its population share of total State net financial worth at the end of the year
- its population share of total State net financial worth at the start of the year.

9 Population growth is the only disability recognised in this assessment. Most States accept that, other things being equal, population growth dilutes the value of net financial worth. However, some also argue there is a positive link between population growth and the value of many State assets, such as equity in public corporations, which provides financial benefits that partly offset the effects of population dilution.

10 As noted in Chapter 26 — The impact of population growth on fiscal capacities, the case that States with higher population growth experience greater increases in the value of their assets is not strong. We, therefore, have not assessed a revaluation disability.

11 Table 4 shows the assessment structure, the disabilities assessed and the size of the assessment, using 2013-14 data.

**Table 4 Category structure, Net borrowing, 2013-14**

| Component | Net borrowing | Disability | Influence measured by disability |
|---|---|---|---|
| | $m | | |
| Net borrowing | 11 368 | Population growth | Recognises the per capita value of State net financial worth is reduced by population growth. |

Source: Commission calculation.

## BRINGING THE ASSESSMENT TOGETHER

12 Table 5 shows each State's assessed net financial worth and the Australian total at the start and the end of 2013-14 was negative (liabilities exceed financial assets). In this circumstance, States with above average population growth are assessed to be able to undertake above average borrowing and still have the average per capita value of net financial worth at the end.

**Table 5 Assessed net borrowing, 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Assessed net financial worth at end of year | -29 261 | -22 683 | -18 373 | -9 992 | -6 573 | -2 014 | -1 505 | -956 | -91 357 |
| Assessed net financial worth at start of year | -25 677 | -19 827 | -16 086 | -8 654 | -5 802 | -1 789 | -1 319 | -835 | -79 989 |
| Calculated net borrowing (a) | 3 584 | 2 857 | 2 287 | 1 338 | 772 | 226 | 186 | 120 | 11 368 |
| Discount (b) | 7 | -4 | 0 | -12 | 6 | 3 | 0 | 0 | 0 |
| Assessed net borrowing | 3 591 | 2 853 | 2 287 | 1 326 | 778 | 229 | 186 | 120 | 11 368 |
| Assessed net borrowing ($pc) | 481 | 493 | 488 | 520 | 464 | 445 | 484 | 493 | 488 |

(a) Net borrowing reduces net financial worth.
(b) The impact of discounting the assessment by 12.5%.
Source: Commission calculation.

13 In the 2010 Review, the Commission discounted the assessment by 25% because it was not confident all the factors affecting net financial worth were assessed and there were some data quality concerns. The changes in the treatment of housing and urban transport in this review reduce those concerns but do not remove them entirely. We, therefore, reduced the discount to 12.5%.

## WHAT IS THE IMPACT ON THE GST DISTRIBUTION?

14 Table 6 shows the extent to which the Net borrowing assessment moves the GST distribution away from an equal per capita distribution.

**Table 6 GST impact, Net borrowing, 2015-16**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| Dollars million | 85 | -9 | -21 | -115 | 39 | 22 | 0 | -1 | 147 |
| Dollars per capita | 11 | -2 | -4 | -42 | 23 | 42 | -1 | -3 | 6 |

Note: The difference from an equal per capita assessment derived using 2011-12 to 2013-14 assessed expenses and 2015-16 GST.
Source: Commission calculation.

15 This redistribution reflects the interstate differences in population growth rates and the negative net financial worth in 2011-12 to 2013-14. When States hold net financial liabilities (net financial worth is negative) population growth reduces the per capita value of those liabilities. The reduction is greater for States with above average population growth and their GST requirements are reduced. The GST requirements of States with below average growth are increased.

## CHANGES SINCE THE 2014 UPDATE

16 Table 7 shows how the impact of the net borrowing assessment on the GST distribution has changed since the 2014 Update. It dissects that change into the impact of changing data and category-specific method changes and changes in State circumstances over the 2015 Review assessment period.

**Table 7 Changes since the 2014 Update, Net borrowing**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Redist |
|---|---|---|---|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m | $m | $m | $m | $m |
| Method changes and data revisions | 183 | 3 | -65 | -219 | 68 | 36 | -7 | 2 | 292 |
| Change in circumstances | 21 | -11 | -1 | -34 | 16 | 8 | 0 | 0 | 46 |
| Total | 204 | -8 | -66 | -253 | 84 | 44 | -7 | 2 | 334 |

Source: Commission calculation.

## Method changes

17 The Net borrowing assessment methods have changed because, in this review, the activities of State housing and urban transport corporations and their associated infrastructure were treated as general government activities with fiscal needs assessed directly. They were previously treated as public corporations.

18 This change in the treatment of housing and urban transport corporations has changed our measure of State government net financial worth. We treated the corporations' assets and liabilities as if they were general government sector assets and liabilities. As a result, our calculations show the net financial worth of States was negative in each year. This has the following implications for the GST distribution.

- Population growth effects arising from land held by housing and urban transport corporations are no longer assessed because general government land holdings are assessed on an equal per capita basis and have no impact on the GST distribution.
- Treating the infrastructure of housing and urban transport corporations as general government sector assets means the population growth effects on that infrastructure are no longer assessed in the Net borrowing assessment but they are assessed in the Investment assessment.
- Other factors affecting infrastructure required for housing and urban transport services, such as the socio-economic status of State populations and city size, are now assessed in the Investment assessment but they were not recognised in the 2014 Update assessments for investment or net borrowing.

19 A further consequence of the changed treatment of housing and urban transport corporations was that it reduced the uncertainty the Commission had about the 2010 Review assessment and reduced the need for a discount. That uncertainty arose

from the possibility potential factors were not recognised. These factors include the possibility State capacities to hold net financial worth were not equalised at the start of the review period and possible links between population growth and the value of financial assets. Treating land held by housing and urban transport corporations on an equal per capita basis deals with part of that uncertainty and a lower 12.5% discount allows for the remainder.

## Data changes

20 There have been revisions to the ABS data on the value of net financial worth and the level of net borrowing. These revisions had small effects on the GST distribution.

## Changes in State circumstances

21 The assessment is affected by changes in the value of net financial worth and the pattern of State population growth between 2010-11 and 2013-14.

22 States borrowed less in 2013-14 ($11.4 billion) than they did in 2010-11 ($26.0 billion). Nevertheless, the value of net financial worth (as calculated by the Commission) at the end of 2013-14 (-$91.4 billion) was lower than that in 2010-11 (-$19.8 billion), which reduced the GST requirements of States with above average population growth because the per capita value of their financial liabilities fell by more than the average. The GST distribution of the other States was increased.

23 State population growth relative to the average has also changed in terms of which States are above or below average and the extent of the difference, as shown in Table 8. States with relatively stronger population growth can borrow more (while keeping their per capita debt at the average), using this to fund expenses and investment, and so are assessed as needing less GST.

**Table 8 State population growth relative to the average, 2010-11 and 2013-14**

| | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Ave |
|---|---|---|---|---|---|---|---|---|---|
| 2010-11 | 0.8 | 1.0 | 1.1 | 1.7 | 0.6 | 0.5 | 1.4 | 0.8 | 1.0 |
| 2013-14 | 0.9 | 1.1 | 1.0 | 1.7 | 0.5 | 0.2 | 0.9 | 1.1 | 1.0 |

Note: Relative growth rates are the State's growth rate divided by the Australian rate.
Source: Commission calculation based on ABS estimated resident populations.

# UPDATING THE ASSESSMENT

24 We recommend data used in this assessment be updated when new data become available to ensure the relativities remain contemporary and consistent with the circumstances of the States. On this basis we expect the data on net borrowing, net financial worth and population would be updated annually.