



COMMONWEALTH GRANTS COMMISSION

DRAFT ASSESSMENT PAPER CGC 2003/57

DEBT CHARGES

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NOTE

Included in this paper are the results of preliminary calculations based on the methods proposed throughout the paper and using the data currently available. Those results are indicative only and should be seen as work in progress. Ongoing changes are being made to standards and factor calculations as new data come to hand. Moreover, the calculations have been done using a prototype assessment system and are subject to ongoing revision as checking processes proceed.

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BACKGROUND

1. The Commission has had a Debt Charges assessment for many years. However, the assessment in none of its previous guises has received much support. In fact, it has been heavily criticised. As a result, the improvement of the Debt Charges assessment has been a high priority of the Commission for the 2004 Review.

Why does the Commission want to equalise States' capacities to pay debt charges?

2. Debt charges are the interest payments made by States to service their borrowings. Fiscal equalisation aims to give each State the capacity to fund an amount of capital that would enable it to provide the standard level of services to its residents. The Depreciation assessment provides each State with the capacity to fund the capital stock it would use on an annual basis in providing a standard level of service. The Debt Charges assessment recognises each State's need to pay interest on its borrowings.

3. To ensure that each State has the standard capacity to pay interest on its borrowing, the Commission derives a standardised amount of borrowings on which each State must pay debt charges at standardised costs. Any assessment of debt charges needs must therefore relate to differences among States in their **quantity** of borrowing and in the **cost** of that borrowing.

4. Differences in the cost of borrowing have been reflected in an interest rate factor, which measured the non-policy related differences in the interest rates faced by particular States, which mainly arise for scale reasons.¹

5. Deriving a measure of the differences between States in the quantity of borrowing they need to undertake to deliver standard services has been much more difficult. The Commission developed what it called a framework to do so. It is no more than a method of calculating a disability factor.

Why do States borrow?

6. A State borrows to finance deficits and capital expenditure on capital stock and financial assets. Off-setting the need to borrow are surpluses, depreciation, capital-related revenues and capital grants. This is similar to the way a commercial enterprise operates. It borrows to finance operating losses and capital expenditure, with the need to borrow off-set by retained earnings, depreciation and injections of capital.

¹ At this point, the 2004 Review figures do not include a cost of borrowing factor. Its inclusion depends on suitable evidence being provided to the Commission on present differentials in borrowing rates.

7. Thus borrowing is the net result of capital expenditures on assets and budget deficits, less any depreciation and capital receipts from all sources. The Debt Charges factor calculation needs to capture this net borrowing requirement.

8. The debt charges States pay today reflect their past borrowings. We need to reflect this in the assessment and have done so in the past by accumulating expenditures and deducting accumulated receipts, starting from 1961-62. This was chosen as the starting point because it was the earliest year for which data were available.

9. We also need to reflect in the assessment the characteristics of each State that have caused it to have a higher or lower need to borrow. In the past, the Commission has recognised that different population characteristics generate different demands and different purchase prices result in different borrowing needs. Whether an historical series of disabilities is required or present day ones has been the subject of debate.

10. The Debt Charges assessment is thus complicated because:

- (i) present debt charges relate to past accumulations of debt;
- (ii) it is difficult to discern a standard policy on the way States have financed debt charges over the last 40 or so years because State policies on indebtedness have changed, as have accounting and budgeting approaches²;
- (iii) there is the question of whether present day requirements for assets or past drivers of borrowing should be taken into account;
- (iv) the scope of potential disabilities is very broad (for example, South Australia suggested recently that States have differential needs to borrow to finance redundancies);
- (v) some influences on the need to borrow (such as deficits and surpluses, and some capital grants) have already been equalised;
- (vi) Commission methods on the treatment of various components of State budgets, such as capital grants, have changed over time; and
- (vii) data quality and availability is difficult because they must cover so many past years.

11. The Commission has therefore devoted considerable effort to resolving these issues, including through:

- (i) the operation of a working party of Commission staff and State Treasury officers to advise the Commission on the best overall approach, as well as more detailed implementation issues;

² From cash to accrual.

- (ii) further contributions from the States in main submissions, rejoinder submissions, special submissions, workplace discussions, bilateral discussions, and emails and telephone conversations (some submissions included reports by consultants);
- (iii) the engagement of a consultant to identify alternatives to the approach used in the 1999 Review;
- (iv) an information session in November 2002; and
- (v) discussions at the 2002 conferences.

Capital working party

12. After the 1999 Review, States agreed to a working party process to give further consideration to the assessment of depreciation and debt charges expenses. The working party met three times, and States' views were presented orally and in writing. Consultants were engaged to assist the working party.

13. Unlike the Depreciation category, where there was broad conceptual agreement, the very foundations of the Debt Charges assessment were under scrutiny — even the most fundamental issue of what was being measured was a matter of contention. This led to a thorough examination of the merits of the 1999 Review and a range of other models.

14. The Working Party Report to the Commission set out six different conceptual approaches to the Debt Charges assessment for the Commission's consideration.

- Option 1 — equalising holding costs of assets and maintenance of net assets per capita;
- Option 2 — equalising holding costs of assets;
- Option 3 — direct assessment of annual capital expenditure needs;
- Option 4 — equal per capita assessment;
- Option 5 — the 1999 Review approach based on the modelling of State borrowing policies and practices, with corrections; and
- Option 6 — simplified Debt Charges assessment based on a standard debt to assets ratio.

15. The Commission concluded that Option 5 had the best potential to fulfil the objective of the assessment — to equalise the capacity of the States to meet debt charges on borrowings. It also had the best potential to:

- (i) reflect what States do (borrow to finance net accumulated deficits and capital expenditure);

- (i) recognise the disabilities States face in funding borrowings on an annual basis; and
- (ii) be policy neutral.

Do States have differential needs relating to borrowings?

16. Once the objective of the Debt Charges assessment was decided — to equalise the capacity of the States to meet debt charges on borrowings on an annual basis — the Commission then addressed what the drivers of these borrowings were.

17. To answer this question, the Commission chose, as in the past, to model State standard behaviour in relation to borrowing. It did this because the changes in State policies relating to financing of debt charges over time and changes in approaches to accounting and budgeting make it difficult to discern standard policy. It then sought to decide whether States had differential needs relating to each of the items that made up their borrowings. *Discussion Paper CGC 2002/26 Debt Charges* set out an attempt to identify and measure State differential needs relating to the different components of net borrowings.

18. The model set out in the Discussion Paper assumed that State borrowings were the net result of capital expenditures on non-replacement assets, financial assets and budget deficits, less any capital receipts from all sources. Thus, State borrowings were calculated by adding the items for which States needed to borrow and subtracting the receipts. For many of these items, needs were not assessed, either because this had already occurred elsewhere (such as the budget result and some capital grants) or because needs were considered not to vary (such as land purchases and sales, and other capital outlays and receipts).

19. Capital expenditures on non-replacement assets (rather than capital expenditures on all assets) were considered the basis of the model. Consistent with standard commercial practice, States should not need to borrow to replace any assets that have been depreciated. This is because the depreciation costs they incur on their revalued assets should fund any replacement assets to their original standard.

20. Capital expenditures on non-replacement assets were calculated by subtracting accumulated depreciation from accumulated capital expenditures on all assets. The result of the calculation can be seen as being broadly similar to the written-down value of capital stock. We standardised this by applying the non-replacement capital expenditure disability factor to it.

21. The model assumed that States had differential needs relating primarily to:

- (i) accumulated State **capital expenditures on non-replacement assets** because:
 - Differences in State population characteristics result in different demands for non-replacement assets to deliver the same standard of service. For example, a State with an older population will require more health facilities, but fewer school buildings.

- The price at which these assets can be purchased can vary because of differences in the costs of building in different locations, different building requirements because of the physical environment and so on.
- The time at which States were required to purchase their assets affects the amount borrowed because of price changes over time.

(ii) **capital grants** received from the Australian Government because these are available to reduce State borrowing needs. Actual grants received by individual States were to be deducted because States receive different per capita amounts and these are the amounts that each State's borrowing would have been reduced by.

(iii) **costs of borrowing** faced by States.

22. The model assessed no needs on:

(i) **debt charges relating to financial assets.** This is because the amount of debt charges incurred on borrowings for financial assets depends on State policies on whether to hold more or less financial assets on which they can earn interest. This has a consequential effect on how much a State needs to borrow and will affect the amount of debt charges paid.

(ii) **outlays on land purchases and other capital or receipts relating to land and asset sales and other capital receipts.** We accepted that States were likely to have different capacities to raise revenue, and incur different costs in purchasing. However, no needs were to be assessed because the amounts involved were relatively small when compared with total capital expenditure, policy neutral assessments were difficult to develop and the additional complexity was not judged to be worthwhile.

(iii) **State budget results.** In equalising States' operating expenses and revenue, all States are given the same capacity to fund their **budget deficits** or to use a **budget surplus** to fund capital expenditure. Therefore, the impact of budget results³ on States borrowing should be assessed on an equal per capita basis.

23. Figure 1 shows the components of the Debt Charges standard and how they were to be assessed.

³ From 1998-99 onwards, capital grants treated by inclusion will be reflected in the budget result. This will adjust State needs and we can assume in the Debt Charges factor calculation that all States have the same capacity to obtain revenue from capital grants from that time. However, the needs met by capital grants in years prior to 1998-99 will not be recognised unless they are taken into account in the Debt Charges framework. As a result, we are proposing to deduct accumulated actual capital grants received prior to 1998-99 (treated by inclusion) from capital expenditures. In later years, we need do nothing.

Figure 1 DEBT CHARGES STANDARD COMPONENTS

Debt Charges on...	Are there different needs?
Capital expenditures on non-replacement assets	Yes - a disability factor was calculated.
Financial assets	No – very policy influenced. Equal per capita (EPC) assessment.
Capital expenditure on land and other capital outlays	Yes - but small and too hard to assess. EPC.
Capital receipts from sale of assets and land	Yes - but small and too hard to assess. EPC.
Capital grants	Yes – capital grants reduce State borrowing requirements. Deduct actual grants.
Budget result	No – States are equalised to achieve the same budget result. EPC.

How the Debt Charges category disability factor was to be calculated

24. The debt charges category factor was to be calculated using the model, as set out in Table 1 of *Discussion Paper 2002/26 Debt Charges*. The calculation began with what States **needed to spend** (to finance non-replacement capital assets, other capital outlays and budget deficits), and subtracted from that the capital **receipts** they received (budget surpluses and capital receipts). This gave an estimate of what States needed to **borrow**.

25. In the calculation of the factor, disabilities were to be recognised in two places: to recognise States’ differential needs for non-replacement capital assets, and in the actual distribution of capital grants. Disabilities were to be assessed to recognise that differences in population characteristics, cost and timing of purchase (assets purchased later will cost more) affect the quantity of borrowing for non-replacement capital assets.

26. The interest rate disability was to recognise that smaller States face higher interest rates than larger States.

State views

27. Although some Heads of Treasury preferred other options, it was agreed at the October 2002 Conference that the Commission should pursue Option 5 — a modified version of the 1999 Review approach based on States’ borrowing policies and practices.

28. Victoria expressed a preference for an approach using a standard debt to assets ratio on the grounds of simplicity. However, it was prepared to accept a modified version of the 1999 Review approach. Western Australia supported an approach based on the economic cost of capital but was prepared to accept a modified version of the 1999 Review approach, provided it was developed appropriately.

29. Tasmania, however, strongly opposed a modified version of the current approach. It expressed a preference for an approach using a standard debt to assets ratio. It expressed concerns about its standardised debt charges expenses, calculated using the modified 1999 review approach. It was also concerned that the different options produced significantly different results and argued that tweaking the current approach was not a sufficiently thorough response to this issue.

30. In its rejoinder submission,⁴ Tasmania re-iterated its opposition to the adoption of a modified version of the 1999 Review approach, arguing that:

- (i) the resulting factors (as outlined in *Discussion Paper 2002/26 Debt Charges*) were implausibly different from the factors implemented for other categories; and
- (ii) the differing results of different methodologies are of particular concern given the finding of South Australia's consultant that the proposed approach does not result in factors of 1.0000 when disabilities are removed from it.

31. Noting that the *direction* (if not the quantum) of the Commission's assessments was not often disputed, Tasmania supported an equal per capita (EPC) assessment until a more broadly accepted approach could be developed.

32. Other States largely accepted that the Commission would proceed to refine the 1999 Review assessment and raised concerns relating to:

- (i) the treatment of borrowings to purchase financial assets;
- (ii) the under-statement of the Debt Charges standard;
- (iii) the length of the accumulation period;
- (iv) the omission of debt at the start of the accumulation period;
- (v) the treatment of 1993-94 depreciation;
- (vi) the non-replacement capital expenditure disability factor (including the use of per capita accumulation);
- (vii) the effect of differential population growth on a State's per capita levels of assets and liabilities;
- (viii) the treatment of capital grants;
- (ix) the calculation of standard net borrowings;
- (x) the treatment of land sales and purchases;

⁴ Tasmania was the only State to raise concerns about the model in its rejoinder submission.

- (xi) the treatment of other capital receipts; and
- (xii) contemporaneity and the impact of population under-enumeration.

Structure of this paper

33. This paper provides a summary of the 1999 Review assessment and of the approach proposed for the 2004 Review. It discusses the calculation of the standard and each of the three factors to be applied, the first of which (quantity of borrowing) is the most complex. For a full discussion of the issues and State views, please refer to the attachments. Because of the complexity of the assessment, the focus of the paper is on providing a picture of the assessment rather than a detailed account of each issue.

1999 REVIEW ASSESSMENT

Description of the category

34. The Debt Charges category comprised expenditure on underwriting and floating government loans and interest payments for those functions within the scope of the Commission's equalisation budget. Administrative costs associated with public debt management were not included in this category. All debt charges relating to general government were assessed within the Debt Charges category.

35. Table 1 shows the gross standard expenses for six financial years. In 2001-02, the category redistributed \$342 million in grants to New South Wales and the Northern Territory, and represented 2.86 per cent of total gross standard expenses. This percentage has fallen steadily since 1996-97 when it comprised 6.12 per cent.

Table 1 DEBT CHARGES — GROSS STANDARD EXPENSES, 2003 UPDATE

	1996-97	1997-98	1998-99	1999-2000	2000-01	2001-02
\$pc	225.34	195.12	185.76	173.19	149.67	143.42
% of total gross standard expenses	6.12	5.05	4.08	3.74	3.08	2.86

Assessment structure

36. The Debt Charges assessment had one component and one factor, which was calculated using a model of State borrowing practices. However, this factor could be conceptualised as having three separate parts, relating to the quantity of borrowing required, the cost of borrowing and an adjustment to account for the ACT's unique circumstances.

Calculation of the Debt Charges category factor

37. The factor was intended to reflect the differences between the States in the quantity of borrowings they required to provide services to their populations and the cost of that borrowing. The Commission took into account both cost and demand influences when estimating the factor.

38. Standardised net borrowings for each State were calculated by accumulating the result of past deficits and surpluses on operating and capital budgets. As debt charges in one year arise from the total net borrowings over many previous years, items used to calculate the standard net borrowing for a review year were the amounts accumulated from 1961-62⁵.

39. Some components of net borrowings were standardised to reflect differences between the States in their need for assets, their ability to fund depreciation, and their receipts from capital grants. Standard amounts of other items were included but no needs were assessed because the Commission concluded there were no differences between States, the needs were too uncertain to assess or they had already been taken into account in the operating budget.

40. Thus, the factor was calculated by:

- (i) applying a capital expenditure disability factor comprising Depreciation category disabilities (75 per cent) and the implied global disabilities derived from summing the standardised expenditures for all categories (25 per cent) to per capita standard expenditure on new fixed assets, second hand assets and other capital outlays in each year from 1961-62;
- (ii) subtracting standardised depreciation, actual capital grants, standard other capital receipts and the standard recurrent budget result for the relevant year;
- (iii) accumulating these figures;
- (iv) adjusting this result for differences in the cost of borrowings incurred by States;
- (v) dividing the resultant figures by the standard net borrowing to obtain raw category disability factors; and
- (vi) making a further adjustment for the ACT to recognise the reduced needs for debt applying to the territory in the period before self-government⁶.

⁵ The first for which the required Government Finance Statistics were available.

⁶ The ACT phase-in adjustment was to apply over a fifteen year period from the time self-government was introduced.

41. Figure 2 shows the way the factor was calculated for the Debt Charges assessment in the 1999 Review.

42. Table 2 provides the disabilities calculated for the Debt Charges category for each year of the 2003 Update.

Table 2 DEBT CHARGES — CATEGORY FACTORS, 2003 UPDATE

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
1997-98	1.20816	0.93368	0.73940	0.91481	0.95000	0.82824	0.52999	2.79167	1.00000
1998-99	1.21194	0.93352	0.72582	0.91442	0.94204	0.81520	0.59995	2.89639	1.00000
1999-2000	1.21517	0.93335	0.70854	0.92051	0.93713	0.80727	0.66992	2.99532	1.00000
2000-01	1.21759	0.93966	0.68545	0.92295	0.94217	0.78732	0.73989	3.06593	1.00000
2001-02	1.21172	0.94185	0.68436	0.93024	0.95125	0.78755	0.81989	3.00738	1.00000

Figure 2 DEBT CHARGES FACTOR CALCULATION — 1999 REVIEW^(a)

Per capita cumulative standard expenditure on new fixed assets, land and other capital outlays
<i>multiplied by</i>
Capital expenditure disability factor (75% Depreciation, 25% Stock-Weighted Recurrent)
<i>equals</i>
Per capita cumulative standardised expenditure on new fixed assets and other capital outlays
<i>minus</i>
Per capita cumulative standardised depreciation ^(b)
<i>minus</i>
Per capita cumulative actual capital grants received ^(c)
<i>minus</i>
Per capita cumulative standard other capital receipts ^(d)
<i>minus</i>
Per capita cumulative recurrent budget result (including depreciation) ^(e)
<i>equals</i>
Per capita standardised net borrowings
<i>multiplied by</i>
Interest rate disability
<i>equals</i>
Per capita adjusted standardised net borrowings
<i>divided by</i>
Standard net borrowings
<i>equals</i>
Raw category disability factor
<i>multiplied by</i>
ACT phase-in adjustment
<i>equals</i>
Adjusted category disability factor

- (a) Cumulative amounts used in the framework were from 1961-62 to 1998-99.
- (b) Standard depreciation was deducted in all years to 1992-93 and standardised depreciation from 1993-94.
- (c) Capital grants included both general purpose and specific purpose grants accumulated from 1972-73. While actual amounts were used from 1991-92 inclusive, standard amounts were used for earlier years.
- (d) Other capital receipts excluded the capital grants separately identified, included land and second hand asset sales, and included receipts from equity disposals, such as of PTEs.
- (e) Calculated as in-scope GFS recurrent revenue *less* in-scope recurrent expenditure *less* standard depreciation

PROPOSED CATEGORY DEFINITION AND STRUCTURE

Scope of category

43. ***Should the Debt Charges standard be calculated on a net basis?*** In the 1999 Review, interest paid on borrowings for the purchase of financial assets (if any) was included in the Debt Charges standard and the category disability factor applied to it.

44. *Discussion Paper 2002/26 Debt Charges* proposed that debt charges arising from financial assets borrowings for financial management purposes should be assessed on an EPC basis.

45. **State Views.** Heads of Treasury agreed at the October 2002 Conference that no needs should be assessed on debt charges relating to financial assets. This is because the amount of debt charges incurred on borrowings for financial assets depended on State policies on whether to hold more or less financial assets on which they can earn interest. This has a consequential effect on how much a State needs to borrow and would affect the amount of debt charges paid.

46. Most States (New South Wales, Victoria, Western Australia, South Australia and Tasmania) supported the use of a net assessment to achieve this objective. Queensland, the ACT and the Northern Territory supported a gross assessment.

47. Western Australia further argued that, if a net assessment were not undertaken, the Debt Charges assessment should include a differential assessment of States' need to borrow to purchase financial assets and fund superannuation liabilities. Western Australia argued that high population growth States experienced a net disadvantage from the exclusion of these items from the standard and the framework because the standard level of financial assets is much higher than the level of non-debt liabilities. Because these are highly substitutable with debt, there was a strong case either to:

- (i) extend the Debt Charges framework to encompass these items;
- (ii) change the assessment of categories such as Interest Earnings, Contributions from Public Corporations, and Superannuation; or
- (iii) ensure that the Debt Charges framework provided States with the capacity to borrow to maintain the standard level of these assets and liabilities.

48. **Commission decision.** The Commission accepts the views of Heads of Treasury that needs should not be assessed for debt charges paid on borrowings relating to financial assets. To avoid assessing any needs, the Commission has decided to net all interest earnings off debt charges paid. Interest earnings are earned on financial assets held by States and are largely State policy determined. States could choose to have no interest earnings and less debt charges.

49. This approach creates a new Debt Charges standard which relates only to borrowings to finance new assets and budget deficits. This approach simplifies the assessment by removing any requirement to include transactions relating to financial assets in estimating the debt charges category factor. In the event of standard net debt charges being negative, however, no needs would be assessed for any State, or the Commission would need to reconsider its approach. The adoption of a net standard should address Western Australia's concern about assessing needs for per capita financial assets.

50. The Commission proposes to net interest earnings off the Debt Charges standard.

51. ***Adjustment for lack of consistency in accounting.*** Commission staff are investigating whether an accounting adjustment will be required to interest earnings before they are offset against the debt charges States report in GFS. It appears that, unlike the other States, Queensland, the ACT and Tasmania include interest earned from superannuation provisions in their General Government Interest Earnings. It is also understood that the new accounting standard may require all States to report in this way. The Commission will work with the ABS to ensure that the standard for the category is constructed using comparable State data. For the draft assessments, interest earned on superannuation provisions by Queensland and the ACT have been deducted from interest earnings before they were offset against debt charges. The treatment of this interest earned on superannuation provisions is an issue to be resolved. We are investigating whether it should be included in the Other Revenue category or offset against the nominal interest paid on outstanding superannuation liabilities. We are inclined to include it in the Other Revenue category (and have done so in the draft assessments).

52. ***Should the Debt Charges standard be inflated?*** In its rejoinder submission, New South Wales argued that the Debt Charges standard was under-stated as States increasingly funded capital purchases from recurrent revenues. It suggested that the Debt Charges standard should be re-weighted to reflect a standard return on governments' accumulated capital expenditures.

53. The Commission supports the principle of basing assessments on what States actually do. To the extent that States fund capital expenditure from recurrent revenues, this is captured in the budget result included in the calculation of the borrowing quantity factor calculation. Thus, the Debt Charges standard should not be inflated.

54. ***Summary of Commission decisions.*** The Commission proposes:

- (i) to assess debt charges net of interest earnings; and
- (ii) to work with the ABS to ensure consistency between the States in the GFS debt charges and superannuation figures used to construct standards.

55. The Debt Charges category will therefore be defined as 'expenses on underwriting and floating government loans and interest payments for those functions within the scope of the Commission's equalisation budget, net of administrative costs associated with public debt management and any interest earned by States in relation to

functions within the standard budget, including interest earned by housing authorities and on behalf of trading enterprises’.

Structure of assessment

56. It is proposed that the category have one component and two factors:

- (i) a quantity of borrowing factor — to reflect States’ different borrowing needs for reasons such as capital grants received, the timing of new capital expenditure and stock disabilities; and
- (ii) an ACT phase-in adjustment factor — to reflect the ACT’s low debt position in 1988.

57. This is similar to the structure used in the 1999 Review, but without a cost of borrowing factor. There are also some important differences in the calculation of the quantity of borrowing factor.

QUANTITY OF BORROWING FACTOR

Why do we need a quantity of borrowing factor?

58. There are differences in the amount of borrowing undertaken by States that are beyond their control. Hence a factor is needed to estimate these differential needs.

59. State input was essential to the re-development of this factor. In Attachments B and C, we have provided a detailed account of the States’ views and the analysis behind the proposed factor. Within the paper, we have attempted to provide a description of the proposed approach that is as simple as possible.

How is the proposed quantity of borrowing factor calculated?

60. This calculation is based on assumptions underpinning State borrowing practices. Because they have changed over time, we have used a model which approximates what we understand are financial practices today. We have assumed that States need to borrow to fund accumulated capital expenditures and budget deficits that cannot be funded by other available receipts, including depreciation provisions, capital grants and other capital receipts. We assume the following.

- (i) States do not need to borrow for replacement capital because depreciation funds are available. This is because, using standard accounting practices, the revalued items have been depreciated, providing funds to replace such items to the original standard.

- (ii) States have the same per capita need for the value of capital stock to be used in service provision today unless differences in present demand and cost factors caused by non-policy influenced State characteristics cause these per capita needs to differ.
- (iii) States have the same per capita need for capital stock to be used in service provision unless stock was purchased at different times when prices were lower.
- (iv) Capital grants, revenue from land and second hand asset sales, and receipts from equity disposals, such as the sale of PTEs decrease State borrowing requirements for non-replacement assets.

61. The Commission proposes not to assess needs for land purchases, other capital outlays, land sales, other capital receipts, and financial assets.

62. ***Accumulation period.*** A 30-year accumulation period was proposed in the Discussion Paper, mainly for simplicity reasons. Although an unlimited accumulation period starting when the States were created would be the technically correct way to assess needs, the GFS data we require are not available for the full period.

63. The Commission proposes to retain the accumulation period starting from 1961-62 but to add an estimate of the standard amount of debt held by States in that year.⁷

64. ***Method of accumulation.*** Western Australia, South Australia and Tasmania argued that, for each data item in the quantity of borrowing factor calculation, the per capita figures should be based on accumulated national total expenditure or revenue divided by the population of the relevant assessment year rather than accumulated States per capita standards based on historical population shares, as was done in the 1999 Review method.

65. The Commission proposes to accumulate expenditure and revenue in the way proposed by Western Australia, South Australia and Tasmania to ensure the per capita amounts are the same for every State in the years of assessment. This will bring the Debt Charges assessment more into line with other category assessments and will address South Australia's concern about the category factor equalling one when disabilities have been removed.

66. Each State's accumulated quantity of borrowing would be calculated as set out in Figure 3. Items in bold are differential assessments.

⁷ This was obtained from Barnard, A. (1987), 'Government Finance', in W. Vamplew (ed.) *Australians: historical statistics*. Fairfax, Syme & Weldon Associates, Broadway, N.S.W.

Figure 3 2004 REVIEW — DEBT CHARGES QUANTITY OF BORROWING FACTOR

Proposed Assessment as at August 2003

A	Accumulated standard per capita expenditure on fixed assets and second-hand assets <i>Minus</i>
B	Accumulated standard per capita depreciation <i>Equals</i>
C	Accumulated standard per capita non-replacement capital expenditure <i>Multiplied by</i>
D	Capital expenditure disability factor (takes account of a State's standardised stock profile and the timing of its population growth) <i>Equals</i>
E	Accumulated per capita standardised non-replacement capital expenditures <i>Plus</i>
F	Accumulated standard per capita land purchases and other capital outlays <i>Equals</i>
G	Accumulated per capita standardised expenditure on non-replacement capital, land and other capital outlays <i>Minus</i>
H	Accumulated standard land sales and per capita other capital receipts <i>Minus</i>
I	Accumulated standard per capita recurrent budget result (including depreciation and included capital grants from 1998-99) <i>Equals</i>
J	Borrowings gross of capital grants <i>Minus</i>
K	Accumulated per capita capital grants (APC before 1998-99, none thereafter) <i>Equals</i>
L	Per capita standardised net borrowings <i>Divided by</i>
M	Standard net borrowings <i>Equals</i>
N	Debt charges quantity of borrowing factor for 1961-62 onwards (discounted to 85 per cent) <i>Plus</i>
O	EPC factor to account for pre-existing gross debt at 30 June 1961 (discounted to 15 per cent) <i>Equals</i>
P	Quantity of borrowing factor

67. **Step one.** The first step of the calculation (lines A and B) derives accumulated non-replacement capital expenditure. This tells us the standard amount of non-replacement capital expenditure since 1961 (line C).

68. **Step two.** Line D standardises accumulated non-replacement capital expenditure by taking account of two further influences on a State's quantity of borrowing needs. These are stock disabilities and the timing of new capital expenditure.

69. **Step three.** Lines F, G, H and I add and deduct standard amounts for influences for which needs are not assessed. Adding to borrowing needs are land purchases and other capital outlays. Off-setting such needs are land sales and other capital receipts. The budget result is also added, with a deficit adding to States' need to borrow and a surplus reducing it. The standard budget result is used because recurrent needs have already been equalised.

70. **Step four.** Until the first year of the 2004 Review (1998-99), capital grants were not treated in the same way as grants for recurrent expenses. Therefore, a State that received a capital grant did not need to borrow to fund the relevant asset. Their full amount was therefore considered to be available to reduce State borrowing requirements. The actual amount of grants is deducted in line K. From 1998-99, capital grants are being treated by inclusion where relevant to the scope of the equalisation budget. As a result, only a standard amount is available to reduce State borrowing needs. This amount is included in the standard budget result.

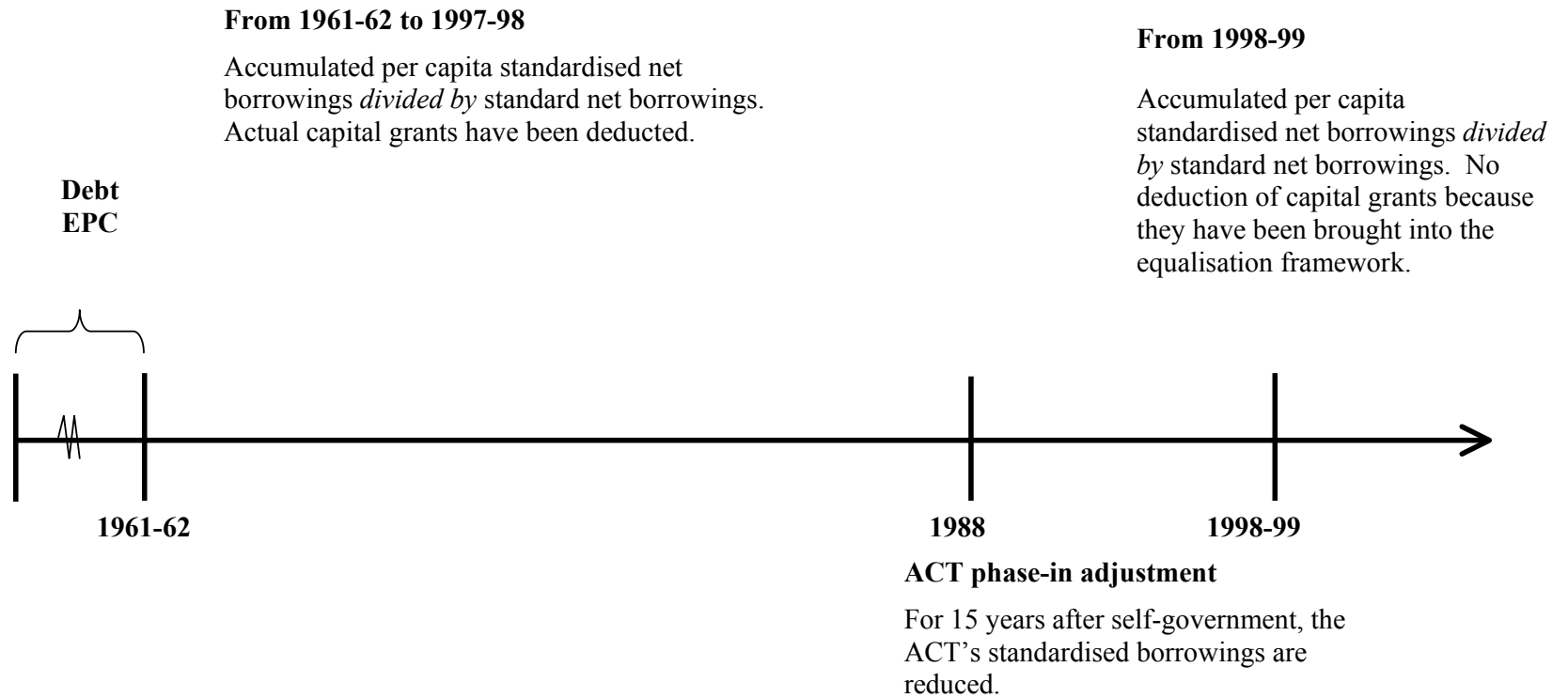
71. **Step five.** These accumulated borrowing needs are divided by the average to give us a **quantity of borrowing** disability factor for 1961-62 onwards. This is discounted to 85 per cent to reflect that, on average, 85 per cent of State debts have been created since 1961-62 (line N).

72. **Step six.** Line O is an EPC assessment of State debts prior to 1961-62. The EPC factor is discounted to 15 per cent.

73. **Step seven.** Line P is the combination of Line M and Line N.

74. A diagrammatical representation of the quantity of borrowing factor is provided in Figure 4.

Figure 4: DEBT CHARGES DIAGRAM



How would non-replacement capital expenditure be standardised?

75. As explained in Attachment B, the Commission has identified the following drivers of non-replacement capital expenditure:

- (i) the timing of growth in demand for particular facilities (either through overall population growth or growth in particular demand groups or intrastate migration);
- (ii) the present demand profile of residents;
- (iii) construction costs;
- (iv) changing standards or expectations;
- (v) technology;
- (vi) changes in service delivery policy;
- (vii) industry attraction and development and improving the international standing of cities;
- (viii) changing demands for improvements in quality of life; and
- (ix) the use of privately financed projects (to the extent that some States spend more than others as a result of their inability to generate savings from PFPs).

76. We consider that most of these drivers relate to changes which will affect all States and be reflected in the standard (such as changes in technology); and the stock profile of States, which can be captured by recurrent disabilities. In addition, the timing of population growth will affect needs for non-replacement capital expenditure, with more recently purchased stock costing more than that purchased when price levels were lower. Ideally, the model would reflect changes in the composition and location of the population (for example the growth in the number of school students and intrastate migration). However, for simplicity, we have used aggregate population growth.

77. The Commission proposes that the disability factor to be applied to non-replacement capital expenditure would have two sub-factors:

- an appropriate composite of depreciation and other relevant recurrent disabilities; and
- a measure matching the timing of new capital expenditure with price levels.

78. The composite of recurrent disabilities and timing of capital expenditure measures would be multiplied because their effects are inter-related.

79. **Composite of recurrent disabilities.** There is a good conceptual basis for recognising States' needs for differences in the use and construction costs of stock between States. Data are available to measure these needs with an acceptably low margin of error. The composite would consist of the Depreciation disability factor, the capital subsidy assessment in the Urban Transit disability factor, the housing maintenance assessment in the Housing disability factor and the arterial roads and bridges assessments in the Roads disability factor.

80. **Timing of capital expenditure.** Because of inflation, the timing of capital expenditure influences the quantity of borrowing required. We needed a policy neutral indicator of when a State would require non-replacement capital expenditure and decided that aggregate population growth would be the best measure. The factor was calculated as follows.

- (i) Two series of non-replacement capital expenditure by State and year (assumed to be driven by population growth) were set out. One was based on current prices, the other on real prices.
- (ii) Each series was accumulated.
- (iii) The ratio of accumulated current prices non-replacement capital expenditure to accumulated real prices non-replacement capital expenditure was calculated for each State and for Australia.
- (iv) The factor was derived by dividing the State ratios by the Australian ratio. The following table shows the factors.

Table 3 TIMING OF CAPITAL EXPENDITURE FACTOR

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Timing of capital expenditure factor	0.98399	0.97793	1.05072	1.05331	0.97158	0.95785	1.12136	1.13604

Would needs be assessed for land purchases and sales, and other capital outlays and receipts?

81. There was a range of views on this issue. New South Wales proposed that the Commission distinguish between the sale of land and buildings (where local markets are involved) and other sales (which should be assessed EPC). Queensland argued that the Commission's assessment should take account of smaller States' lesser abilities to raise money from asset sales, raising the possibility of an economic environment factor to measure disabilities. Western Australia argued that capital receipts should be netted from capital expenditure. South Australia supported a net assessment, where receipts from land sales and other capital receipts would be offset against capital expenditures before capital disabilities were applied. Tasmania opposed the netting of asset sales on the basis that different disabilities should apply to expenditure and revenue.

82. The Commission accepts the conceptual case that different needs are likely to exist in relation to these items. It also considers the differences may be material. However, it proposes not to assess needs for these items, partly for simplicity, and partly because it considers that the margin of error in attempting to do so would be unacceptably large. Also the netting off of land sales and other capital receipts is not favoured because it would mean that the assessment would not fully recognise the needs relating to debt charges paid on standardised borrowings.

How would capital grants be treated in the calculation?

83. In the 1999 Review, capital grants were treated as out of scope of the equalisation budget. However, they were included in the derivation of the quantity of debt factor because they were available to meet the capital expenditures of the recipient States. State actual capital grants were deducted from standardised non-replacement capital expenditure.

84. The Commission proposes to retain this approach for the period before the first year of the 2004 Review assessment period. This means that, prior to 1998-99, the actual capital grants received will be deducted from a State's capital expenditure needs.⁸

85. After that time, capital grants treated by inclusion will not be a separate item in the calculation because they will feature in the budget result. State capital grants will already have been deducted from operating needs, so that in the calculation of State borrowing requirements, the assumption can be that all States have available an equal per capita amount of grants.

Would needs be assessed for lack of contemporaneity or population under-estimation?

86. South Australia and Tasmania argued that the assessment should recognise the impact on borrowing needs of a lack of contemporaneity. The Northern Territory made the same argument for under-estimation of their population between Censuses.

87. The Commission does not consider it appropriate to adjust the Debt Charges assessment to account for past under-equalisation. It adopts a 'no-regrets' approach to its calculations and does not make retrospective adjustments. The Commission also considers that the assessment is already complex enough without making such an adjustment.

88. Therefore, it proposes to make no adjustment to the assessment to account for the effects of lack of contemporaneity or population under-estimation.

Commission decisions — quantity of borrowing factor

89. The Commission proposes to:

⁸ Staff are investigating whether and how to estimate a proportion of grants that should be treated by exclusion.

- (i) retain the accumulation period starting from 1961-62;
- (ii) accumulate expenditure and revenue in the way proposed by Western Australia, South Australia and Tasmania to ensure the per capita amounts are the same for every State in the years of assessment;
- (iii) add the standard level of gross debt in 1961 to States' borrowing needs;
- (iv) standardise accumulated non-replacement capital expenditure (calculated by deducting standard depreciation from standard capital expenditure) by applying a sub-factor using the following measures:
 - an appropriate composite of depreciation and other relevant recurrent disabilities; and
 - a measure matching the timing of new capital expenditure with price levels.
- (v) assess no differential needs for land purchases and sales, other capital receipts and other capital outlays;
- (vi) deduct actual capital grants for years in which capital grants were not included within the scope of the equalisation budget; and
- (vii) make no adjustment for lack of contemporaneity or under-enumeration.

COST OF BORROWING FACTOR

1999 Review

90. In the Debt Charges category, an interest rate disability was assessed to account for differences in the unit borrowing costs faced by States. In the 1999 Review, the interest rate disability for the smaller States was reduced, based on information on differences in long-term bond rates between States, with an adjustment for policy differences. Per capita standardised net borrowings were multiplied by the interest rate disability to provide per capita adjusted standardised net borrowings.

91. The disability factors were as follows.

Table 4 INTEREST RATE FACTORS – 2003 UPDATE

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Interest rate factors	1.00000	1.00000	1.00000	1.00500	1.01500	1.03000	1.03000	1.03000

State views

92. Victoria was concerned that a large part of the interest rate differentials between States reflected past and present policies, which it considered were the main drivers of the assessments of sovereign debt prepared by ratings agencies. Victoria asked the Commission to remove these policy influences in its adjustment of interest rates.

Commission decision

93. There is a conceptual case that, all other things such as policy being equal, the size of a State influences the interest rates it faces. This is supported by the ratings agency Standard and Poors, which has told Commission staff that the size and diversification of a State's economy are factors that it considers when determining credit ratings. It also commented that a State would derive a 'liquidity benefit' from issuing a larger (rather than smaller) amount of bonds.⁹ Other factors considered by ratings agencies are contingent liabilities, the amount of debt held (including by PTEs), ongoing finances, policies, financial flexibility and relations with the central government.

94. Any such differences may be material because there are large differences in the size and nature of the economies of States. However, data are not available to quantify the differences because, as noted by staff at Standard and Poors, they would be unable to separately identify the influence of a State's size on its overall rating. In these circumstances, the Commission is concerned about the high margin of error associated with continuing the approach used in the 1999 Review, particularly as the analysis on which it is based is now several years old. The calculation of debt charges needs used in this paper does not include a cost of borrowing factor. However, we will review the need for such a factor if smaller States can demonstrate that they pay higher interest rates as a result of the size and diversification of their economies, and can provide evidence which would enable us to make an appropriate adjustment.

⁹ Personal communication, 4 August 2003.

ACT PHASE-IN ADJUSTMENT

1999 Review method

95. The ACT phase-in adjustment reflected the benefit to the ACT of its debt position in 1988, at the time of self-government. The ACT was advantaged relative to other States because it inherited a relatively small amount of debt on self-government. The phase-in adjustment accounted for this advantage.

96. The disability factors were as follows.

Table 5 ACT PHASE-IN ADJUSTMENT FACTORS 2001-02

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
ACT phase-in adjustment factors	1.00601	1.00601	1.00601	1.00601	1.00601	1.00601	0.80442	1.00601

97. The phase-in adjustment calculated the number of years since self-government (say, 5) and multiplied the ACT's category disability factor by that number divided by 15 (say, 5/15). As more time elapsed since self-government, the ACT's category disability factor was multiplied by a greater fraction. This was to continue until the 2006 Update, when its factor would be multiplied by one (15/15). Other States' factors were adjusted accordingly.

Commission decision

98. The Commission accepts that there is a conceptual case for recognising that the ACT's borrowing requirements are less than those of other States because it inherited little debt at self-government. Its borrowing requirements will approach those of other States over time as it takes full responsibility for funding State-like borrowing levels. The ACT phase-in adjustment has recognised this in an appropriate way.

99. The Commission proposes to continue this adjustment until it expires in the 2006 Update. Its factor will be multiplied by 13/15 in 2002-3. There is no need for an adjustment for the Northern Territory because more than 15 years have elapsed since self-government.

PROPOSED ASSESSMENT FOR THE 2004 REVIEW

100. Table 6 summarises the assessment structure for the Draft Assessment for the 2004 Review.

Table 6 DEBT CHARGES, PROPOSED ASSESSMENT STRUCTURE FOR THE 2004 REVIEW

Expenses component	Component weight	Factors	Basis of calculation
Debt Charges	100	Quantity of borrowing	Calculates needs as per Figure 3.
		ACT phase-in adjustment	Calculates the number of years since self-government and multiplies the ACT's category disability factor by that number divided by 15 (say, 13/15).

Calculating the category factor

101. Table 7 shows the calculation of the category factor for 2001-02. Two multiplicative factors were applied in a single component.

Table 7 DEBT CHARGES — DERIVATION OF CATEGORY FACTOR FOR 2001-02

Factors	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Quantity of borrowing factor (QOB)	1.06364	1.02875	0.99719	0.95168	0.78007	0.67490	1.14036	0.91673
ACT phase-in adjustment (PI)	1.00601	1.00601	1.00601	1.00601	1.00601	1.00601	0.80442	1.00601
CATEGORY FACTOR	1.06765	1.03263	1.00096	0.95527	0.78302	0.67745	0.91529	0.92019

Note: The third line does not equal the product of lines one and two because the category factor has been rescaled.

Calculation formula

102. The following formula was used to calculate the category factor.

$$\text{Category Factor} = \text{QOB} * \text{PI}$$

Standardised expenses

103. Table 8 shows the category factors calculated for the Draft Assessment for the 2004 Review compared with the category factors assessed for this category in the 2003 Update.

Table 8 COMPARISON OF CATEGORY FACTORS, 2003 UPDATE AND THE DRAFT ASSESSMENT FOR THE 2004 REVIEW

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
2003 Update	1.21172	0.94185	0.68436	0.93024	0.95125	0.78755	0.81989	3.00738
Draft Assessment - 2004 Review	1.06765	1.03263	1.00096	0.95527	0.78302	0.67745	0.91529	0.92019

104. The changes are not totally unexpected. Queensland had a very low factor in the 1999 Review, which was unlikely to stay once differences in price at the time of borrowing were recognised. The Northern Territory had a very high factor in the 1999 Review because of some high factors applied to non-replacement capital expenditure. All parties agreed that these disabilities were not appropriate.

105. The main changes since the 1999 Review are:

- (i) the removal of the cost of borrowing factor at this stage;
- (ii) the use of a net standard;
- (iii) the addition of pre 1961 debt to States' borrowing needs;
- (iv) the deduction of accumulated depreciation from capital expenditure before the application of the non-replacement capital expenditure disability factor;
- (v) the deduction of actual capital grants for years prior to the 2004 Review;
- (vi) the re-working of the new capital expenditure disability factor to better reflect stock needs and to take account of the timing of new capital expenditure;
- (vii) the EPC treatment of land purchases and sales; and
- (viii) the accumulation of expenditure and revenue in such a way as to ensure the per capita amounts are the same for every State.

106. These changes mean that:

- (i) The removal of the cost of borrowing factor redistributes grants to New South Wales, Victoria and Queensland.
- (ii) the timing of capital expenditure assessment redistributes grants to Queensland, Western Australia, the ACT and the Northern Territory;
- (iii) the removal of recurrent disabilities redistributes grants away from the Northern Territory and towards Queensland;

- (iv) the use of the same standard redistributes grants to Queensland, Western Australia, the ACT and the Northern Territory; and
- (v) the actual per capita treatment of pre-1991-92 capital grants redistributes grants away from Tasmania and the Northern Territory (although this has a relatively small impact on grant shares).

107. The EPC treatment of State debt at June 1961 brings the factors closer to one (this has also had a relatively small impact on grant shares). Table 9 shows the standardised expenses assessed for this category for 2001-02 in the draft assessment compared with those assessed in the 2003 Update. Please note that standard expenses are lower for the 2004 Review because a net standard has been used (that is, debt charges minus earnings from financial assets).

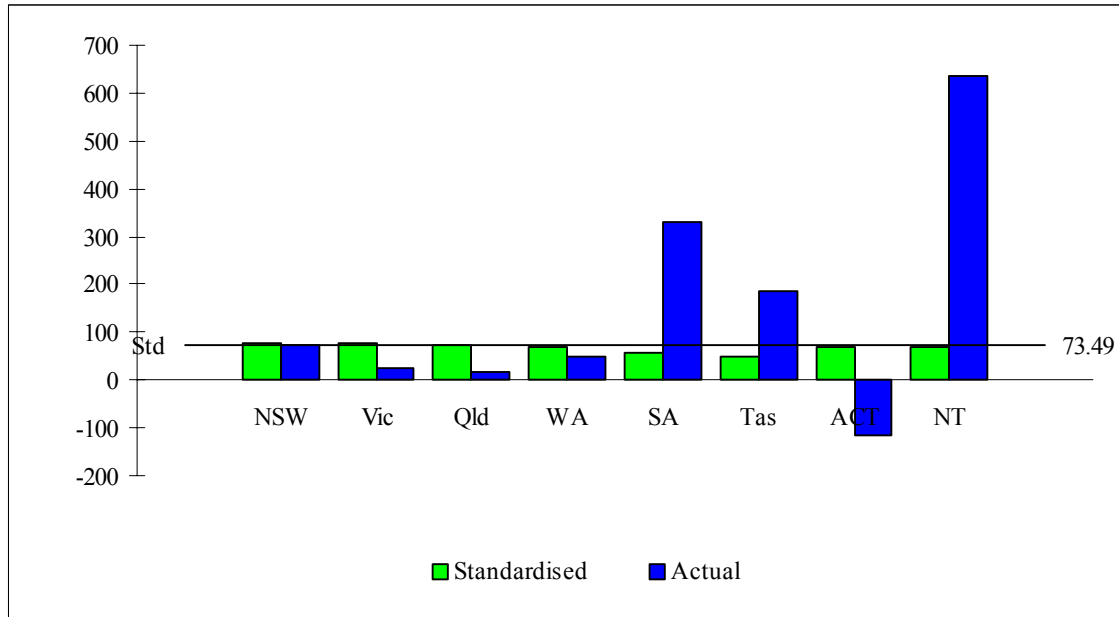
Table 9 ACTUAL AND STANDARDISED EXPENSES, 2001-02

	Standard	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
2003 Update Actual Expenses									
\$ per capita	143.42	137.99	102.84	107.22	165.33	212.72	246.75	174.18	942.86
2003 Update - Standardised Expenses									
\$ per capita		173.75	135.14	98.19	133.50	136.42	112.97	116.12	431.20
2004 Review Actual Expenses									
\$ per capita	73.5	72.2	26.4	17.6	47.7	328.6	184.4	-113.9	635.0
2004 Review Draft Assessment - Standardised Expenses									
\$ per capita		78.5	75.9	73.6	70.2	57.5	49.8	67.3	67.6

The actual expenses figure for the ACT is negative because interest earnings exceeded interest payments.

108. Figure 5 shows the gross expenses per capita for 2001-02 in terms of standardised, estimated and gross standard expenses

Figure 5 PER CAPITA DEBT CHARGES EXPENSES — STANDARDISED, ACTUAL AND STANDARD, 2001-02



109. We note that Queensland is a low debt State, while South Australia, Tasmania and the Northern Territory have high levels of debt. The Northern Territory’s actual per capita debt charges expenses are significantly higher than those of other States, and its standardised expenses. This situation may be due to policy-driven capital expenditure, or it may reflect a need to undertake such expenditure in order to provide the standard level of service provision. We note that standardised expenses for Queensland and Western Australia have grown closer, which we believe to be consistent with their needs.

Effect of assessment on grants

110. Table 10 shows the redistribution of grants resulting from the assessment in the 2003 Update and in the Draft Assessment for the 2004 Review.

Table 10 EFFECT OF ASSESSMENT ON GRANT DISTRIBUTION — DEBT CHARGES

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total ^(a)
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Contribution to 2003 Update relativities ^(b)	278.4	-60.6	-209.1	-30.2	-16.1	-17.7	-21.3	76.6	355.0
Contribution to 2004 Review Draft Assessments relativities ^(b)	49.0	17.5	-1.8	-10.0	-33.6	-15.8	-3.0	-2.3	66.5
Total change ^(c)	-229.4	78.1	207.3	20.2	-17.6	1.9	18.4	-78.9	325.8

(a) Total redistribution.

(b) Assuming same pool and a constant population.

(c) This figure shows the change in the amount redistributed among the States between the 2003 Update and the 2004 Review Draft Assessment. It does not necessarily equal the difference in the total contributions to the relativities between the two inquiries.

111. Compared to an equal per capita assessment, the Draft Assessment redistributed \$6.5 million away from Queensland, Western Australia, South Australia, Tasmania, the ACT and the Northern Territory to the other States. This is \$268.5 million less than in the 2003 Update.

Reality check

112. One of the criticisms of the previous Debt Charges assessment was that its results were counter-intuitive, assessing large positive needs for both the largest State and the smallest State. This raises the question of what drives the volume and cost of borrowing for a State. The following factors have been identified:

- (i) the price level at the time when non-replacement capital expenditure was required;
- (ii) differences in stock needs and construction costs;
- (iii) the level of capital grants and debt forgiveness received; and
- (iv) the interest rate charged (although this is not included in the assessment at this stage).

113. Tasmania has argued that the Debt Charges disability factor should be broadly consistent with other disability factors. However, of the drivers listed above, only one (characteristics of the population) directly supports the view that Debt Charges factors should be similar to the factors derived for other assessments. Another (interest rate charged) may also be relevant because States with larger disabilities assessed may also have to pay higher interest rates. However, the timing of capital expenditure and the level of capital grants received might not correlate (or might inversely correlate) with other measures of disadvantage. For this reason, a comparison of Debt Charges disability factors with other disability factors would not provide a useful reality check.

114. Conducting a reality check for this assessment is difficult. This is partly because of the separate drivers listed above, some of which may operate in different directions. More importantly, however, the long time frame over which needs are assessed means that any reality check must take account of shifting needs over time as well as current needs.

ATTACHMENT A
ISSUES RELATING TO THE DEBT CHARGES STANDARD

1. There are three relevant issues:
 - (i) ensuring that needs are not assessed for borrowings used to purchase financial assets;
 - (ii) whether to equalise the States' per capita capacities to hold financial assets; and
 - (iii) whether to inflate the Debt Charges standard.

Borrowings for financial assets

2. ***1999 Review.*** In the 1999 Review, any interest paid on borrowings for the purchase of financial assets was included in the Debt Charges standard. The category disability factor was applied to the whole standard.

3. ***Commission proposals.*** *Discussion Paper 2002/26 Debt Charges* proposed that debt charges arising from financial assets borrowings for financial management purposes should be assessed on an EPC basis. The paper discussed two possible methods to achieve this, favouring the first:

- (i) including standard financial assets expenditure in the Debt Charges assessment framework, assuming no needs relate to PTE equity or they were recognised in past capital expenditure; or
- (ii) applying the Debt Charges disability factor only to the proportion of the category expenditure that related to non-financial assets.

4. Another method considered was to net interest earnings off the Debt Charges standard.

5. ***State views.*** At the October Conference and in rejoinder submissions, most States (New South Wales, Victoria, Western Australia, South Australia and Tasmania) supported the use of a net assessment to achieve the objective of not assessing needs for interest paid on borrowings used to purchase financial assets. Queensland, the ACT and the Northern Territory supported a gross assessment.

6. New South Wales supported an EPC treatment of debt charges relating to financial assets and preferred applying the disability factor to the relevant proportion of the category expenditure.

7. Victoria supported an EPC treatment of debt charges relating to financial assets but said that this could be achieved by use a category standard net of interest earnings.

8. Queensland supported the proposals in the discussion paper. It said that it did not borrow to purchase financial assets 'to stay in the market' but noted that all States held interest-earning assets along with debt. Nonetheless, it argued that the proposed treatment risked introducing asymmetry into the assessment relating to public trading enterprises (PTEs). The purchase of equity in PTEs should not, in principle, be treated differently from direct funding of infrastructure relating to, say, electricity. It suggested that appropriate disabilities be assessed for expenditure on equity in PTEs (reflected in State interest earnings).

9. In its rejoinder submission, Western Australia supported an assessment net of interest earning, arguing that this would take the assessment closer to a single consolidated assessment of net financial assets.

10. At the October Conference, South Australia expressed likely support for an assessment net of interest earning. At the November Conference, it argued that a gross assessment would constitute a grant design inefficiency because States with positive debt charges needs could borrow gratuitously to raise the Debt Charges standard. In its rejoinder submission, South Australia argued that netting interest earnings was best. As an alternative, to overcome data problems, it proposed that the Commission calculate the ratio of interest earnings to interest expenditures, and use this to estimate expenditure on financial assets. During its Bilateral Discussions held in April this year, South Australia advised that net debt charges would not give a reliable standard because of volatility and because interest earned from Queensland's Superannuation trust funds, and included in GFS figures, would produce the wrong result. It proposed that the ratio of financial assets to gross debt as per the GFS general government balance sheets be used as the dilution factor in the framework.

11. At the October Conference, Tasmania strongly supported a net approach for the reasons outlined by Victoria. In its rejoinder submission, Tasmania repeated its support for the Debt Charges standard to be net of earnings from financial assets, noting that:

- (i) the level of debt is partly a policy choice;
- (ii) a gross assessment gives some States the opportunity to manipulate grant outcomes; and
- (iii) a net assessment would resolve the issue of how to assess debt charge on borrowings to purchase financial assets.

12. The ACT supported a gross assessment.

13. The Northern Territory opposed the netting of interest on the grounds that interest receipts:

- (i) did not negate debt charges paid on borrowings;

- (ii) did not relate conceptually to the assets being used to provide services;
and
- (iii) have different disability factors applied to them.

It noted that interest receipts were already subtracted in the recurrent budget result item of the assessment, that interest receipts were already included in the standard budget, and that the large net creditor position of some States would significantly reduce the standard.

14. **Analysis.** Under the ABS GFS classification, financial assets cover:

- (i) cash and deposit;
- (ii) advances paid;
- (iii) investments, loans and placements;
- (iv) other non-equity assets such as accounts receivable; and
- (v) equity.

15. We interpret the States' use of the term to cover the five items mentioned above. Queensland specifically singled out equity in PTEs, arguing against an EPC treatment. Most other States supported an EPC treatment of financial assets.

16. Some States supported the netting off of interest earning to achieve this, or modifications to the proposed approach. A number of States have argued that interest payments for items (i) to (iii) equate to interest earnings in any one year under accrual accounting. Based on further discussions with States, it appears that items (iv) and (v) are responsible for only a negligible amount of interest earnings.

17. Because items (iv) and (v) are small, it may be easier for simplicity reasons to also treat them on an EPC basis.

18. In 2001-02, standard interest earnings were \$24.15, meaning that a net Debt Charges standard would have been \$119.27.

19. **Commission decision.** As noted in the draft assessment paper, the Commission proposes to assess debt charges net of interest earnings as this would be the most effective way to ensure an EPC treatment of debt charges arising from borrowing for financial assets. This approach is not contrary to the Northern Territory's statement that interest receipts do not negate debt charges paid on borrowings and that different disabilities apply. In fact, what it recognises is that interest earnings are largely State policy determined and that States could choose to have no interest earnings and less debt charges. Disabilities relating to borrowing for the provision of non-replacement infrastructure will continue to be recognised. In the event of net debt charges being negative, however, no needs would be assessed for any State unless the Commission changed its approach.

Effect of population growth on per capita financial assets and non-debt liabilities

20. **1999 Review method.** The 1999 Review method did not assess needs for the effect of population growth on per capita financial assets and non-debt liabilities, although the accumulation approach attempted to recognise this effect.

21. **State views.** At the November Conference, Western Australia raised the issue of high population growth States potentially seeing their per capita level of net financial assets diminish. It asked:

if an EPC assessment of revenue from financial assets were appropriate in year one, whether it could also be appropriate in year five, if one State had seen its per capita revenue earning capacity drop sharply (because of population growth) while other States had not?

Western Australia suggested that this should be addressed in the Debt Charges assessment through a differential assessment of States' need to borrow to purchase financial assets.

22. In its rejoinder submission, Western Australia developed the argument further. It noted that the Debt Charges framework accounted for the effect of population growth on:

- (i) the need for non-replacement capital expenditure; and
- (ii) the per capita level of debt.

However, it did **not** account for the effect of population growth on:

- (iii) the per capita level of financial assets and associated revenue capacity;
or
- (iv) the per capita level of non-debt liabilities (principally superannuation).

23. Western Australia argued that high population growth States experienced net disadvantage from the exclusion of items (iii) and (iv) from the framework because the standard level of financial assets was much higher than the level of non-debt liabilities. Because these were highly substitutable with debt, it argued that there was a strong case either to:

- (i) extend the Debt Charges framework to encompass these items;
- (ii) change the assessment of categories such as Interest Earnings, Contributions from Public Corporations, and Superannuation; or
- (iii) ensure that the Debt Charges framework provides States with the capacity to borrow to maintain the standard level of these assets and liabilities.

24. Western Australia argued that a net assessment would ensure that the impact of population growth on the per capita level of interest earnings would be taken into

account. However, it noted that separate assessments would still be required for non-interest earning assets and non-debt liabilities.

25. **Commission decision.** As noted above, the Commission proposes to net interest earnings off the Debt Charges standard. This will address Western Australia's concern about financial assets.

26. With respect to non-interest earning assets, if these relate to financial assets, we consider that they are not relevant to State capacity to provide services. If they relate to non-financial assets, the debt charges assessment recognises needs for them.

27. With respect to superannuation liabilities, in equalising State capacities to fund superannuation, we consider that States are given the same capacity to hold superannuation liabilities.

Inflation of the Debt Charges standard

28. **1999 Review method.** The Debt Charges standard was calculated by adding States' expenditure on debt charges and dividing it by the population.

29. **State views.** In its rejoinder submission, New South Wales argued that the Debt Charges standard was under-stated as States increasingly funded capital purchases from recurrent revenues. It suggested that the Debt Charges standard be re-weighted to reflect a standard return on governments' accumulated capital expenditures.

30. **Commission decision.** The Commission supports the principle that assessments should be based on what States actually do. To the extent that States fund capital expenditure from operating surpluses (recurrent revenues), the inclusion of the budget result in the factor calculation should reflect this. Thus, the Debt Charges standard should not be inflated.

ATTACHMENT B
QUANTITY OF BORROWING FACTOR —
NON-REPLACEMENT CAPITAL EXPENDITURE DISABILITY SUB-FACTOR

1999 Review

1. The Commission applied a factor to accumulated capital expenditure. This factor was derived from the depreciation category disability (75 per cent) and the general recurrent disabilities (25 per cent). It was intended to assess needs for the mix of capital required and construction cost differences.

Commission proposal

2. The Commission proposed that this factor should be changed so that it reflected the differential impact on borrowing needs of:

- (i) cost and demand factors affecting per capita new capital needs for a given population; and
- (ii) the timing of new capital expenditure (with price rises making later expenditure more costly).

3. *Discussion Paper 2002/26 Debt Charges* proposed that this factor be applied only to non-replacement capital expenditure in each year, and therefore be changed to account for the impact of population growth on the need to borrow and other relevant changes which impacted on the need for new capital, such as change in composition of the population. The proposed factor was based on the view that non-replacement capital expenditure was driven by:

- (i) the timing of population growth (that is, the price level when new capital was required);
- (ii) construction costs at the time; and
- (iii) the demand for the different types of government services due to the socio-demographic composition of the population.

4. The second and third drivers were assumed to be reflected in the depreciation disabilities, but the timing of population growth required an additional factor, which was calculated as follows.

- (i) States were allocated their population shares of capital expenditure for each year of the accumulation period based on each year's population shares.

- (ii) Each State's capital expenditure was then summed over the accumulation period to obtain total capital expenditure for each assessment year.
- (iii) Each State's accumulated total capital expenditure was then divided by its population share at the start of the accumulation period.
- (iv) Each State's per capita accumulated total capital expenditure was then divided by the standard expenditure for Australia to obtain factors.

Further State views

5. The proposal was supported by Queensland, Western Australia and the Northern Territory. However, the proposed factor was criticised as being difficult to understand, inaccurate and partial. At the November Conference, New South Wales, Victoria, South Australia and Tasmania said that they did not understand the basis for it. There was also disagreement over whether such a factor would be warranted if there were no inflation. In the rejoinder submissions, there were further comments and New South Wales, Western Australia and South Australia proposed alternatives.

6. ***New South Wales.*** At the November Conference, New South Wales noted that its calculations showed that population growth, rather than inflation, was dominant in the calculation of this factor. New South Wales argued that while there may be a case for a disability to account for inflation, the methodology proposed by the Commission went beyond this. In its rejoinder submission, New South Wales suggested:

- (i) the use of either an average population or the population of the middle year as the benchmark; and
- (ii) the use of real capital expenditure in the calculation.

7. It also argued that this factor should be discounted due to the broadness of the inflation measure (not State-specific) and the use of only past (not expected) population change.

8. ***Victoria.*** At the November Conference, Victoria noted that a faster growing population could provide an advantage because the average age of buildings would be lower and the State could take advantage of innovations in design and technology (resulting in recurrent savings in such areas as staffing and utilities). In its rejoinder submission, Victoria stated that it was unconvinced of the need for this factor. Further, it argued that the proposed 'broad brush' approach was inappropriate because of differing growth rates within States and the impact of compositional change on capital needs. It re-iterated its argument that older capital stock had higher associated costs.

9. ***Queensland.*** At the November Conference, Queensland strongly supported the population growth factor, arguing that the timing of borrowing was relevant to a State's debt charges expenses. Unlike Western Australia, Queensland argued that the factor was

not dependent only on inflation. It could also be justified on the basis that, once it had reached a certain 'age', debt could be assumed to have been repaid, thus reducing a State's debt charges needs. Queensland also asked the Commission to consider the impact on capital needs of intrastate migration. In its rejoinder submission, Queensland re-stated its support, arguing that the impact of population growth and intrastate migration had been under-recognised across assessments.

10. **Western Australia.** At the November Conference, Western Australia supported the factor, arguing that, in the presence of inflation, population growth affects the level of debt incurred by a State. It explained the basis of the factor in the following terms: if two States purchase exactly the same amount of stock over a period, the State that purchases it later will pay more (because of price rises) and hence have a higher level of debt charges. Without inflation, the two States would pay the same amount for the stock. In its rejoinder submission, Western Australia emphasised the importance of the timing of non-replacement capital expenditure (due to inflation) and proposed a different method of incorporating population growth and inflation into the assessment. This would involve:

- (i) constructing a time series of the national quantity of capital stock;
- (ii) applying capital stock disabilities to calculate a standardised quantity of capital stock for each State;
- (iii) calculating the change in quantity of standardised stock for each State for each year; and
- (iv) applying the price of capital in each year to the change in quantity of stock to calculate each State's standardised non-replacement capital expenditure.

11. Western Australia suggested the use of recurrent disabilities as a proxy for capital stock disabilities. It saw the consideration of intrastate migration as unnecessary, particularly if population shifts were sufficiently slow to match reduction in service capacity through the depreciation of existing assets.

12. Western Australia disputed the argument that slow growth States were disadvantaged by having old capital stock through high maintenance costs and low productivity. It noted that each State is given the capacity to hold stock at the national average value of the stock. Therefore, high growth States must fund the difference between the average value of stock and the cost of new stock.

13. **South Australia.** At the November Conference, South Australia stated that it did not understand the basis of the population growth factor and requested further analysis. South Australia disagreed with Queensland that debt could be assumed to have been repaid after a certain number of years, noting that the equalisation framework made no allowance for this. South Australia argued that the important issue was the timing of capital expenditure, and that this was not necessarily linked to population growth. South Australia argued that replacement capital expenditure also necessitated borrowing and that for a slow

growing State this could be at a higher price level than the new expenditure of a fast growing State.¹⁰

14. At the November Conference, South Australia pointed out that the depreciation disability 'mix' used would need to take account of the States' disabilities in the areas of housing, urban transit and roads.

15. In its rejoinder submission, South Australia expanded its arguments against the proposed population growth factor as follows.

- (i) It is wrong to argue that the factor is required because of an inability to size projects correctly in the context of fast growth. In fact, States with static or declining populations face greater costs due to 'stranded assets'.
- (ii) Per capita capital stock requirements between States are the same, so there is no differential need for debt charges based on growth rates.
- (iii) This factor is responsible for flaws in the proposed Debt Charges assessment that result in differential factors even when disabilities are removed (supported by its consultant's report).
- (iv) Because accumulated non-replacement capital expenditure is a stock figure, it is appropriate to apply disabilities based on population characteristics at a point in time (rather than changes over time).
- (v) The proposed model has two forms of population adjustment (the adjustment made in calculating the accumulated standard for items to allow for different rates of population growth among States and the population and inflation disability factor), resulting in double-counting.

16. **Tasmania.** At the November Conference, Tasmania stated that it did not understand the basis of the population growth factor. In its rejoinder submission, Tasmania opposed the proposed factor, arguing that:

- (i) it would exacerbate the existing tendency of the Commission's model to punish States with low population growth;
- (ii) there are several drivers of capital expenditure, including demographic change;
- (iii) the relationship between population change and demand for capital is more complex than the discussion paper suggested;

¹⁰ This factor is not intended to apply to replacement capital expenditure, on the basis that depreciation is available to purchase replacement assets. However, as South Australia pointed out, depreciation has only been assessed since 1993-94.

- (iv) population growth is already captured in the standard; and
- (v) capital stock, rather than capital expenditure, is the appropriate item for examination.

17. Tasmania supported the use of recurrent disabilities to measure the need for non-replacement capital expenditure, arguing that characteristics that increase demand for services will also increase demand for associated capital.

18. ***Australian Capital Territory.*** At the November Conference, the ACT questioned whether population turnover or interstate migration, rather than population growth, drives capital expenditure. The ACT argued that the timing of capital expenditure would even out over time because States that purchased capital earlier would also need to replace it earlier (a similar point to that made by South Australia). It also suggested that the Commission conduct further analysis and consider other possible drivers of capital expenditure.

19. ***Northern Territory.*** At the November Conference, the Northern Territory strongly supported the proposed population growth factor. In its rejoinder submission, it reiterated this position, arguing that such a factor would recognise an important cost driver of the Northern Territory's non-replacement capital expenditure needs. It also supported the use of construction cost and socio-demographic composition assessments from the depreciation assessment.

Analysis

20. There are two main issues:
- (i) how to assess disabilities relating to capital expenditure needs; and
 - (ii) what disabilities to assess.

21. ***Approaches to assessing disabilities.*** We have concluded that there are two ways to capture State needs for debt charges arising from differing needs in relation to capital expenditure:

- (i) a flow approach; and
- (ii) a stock approach.

22. We consider that both approaches should produce the same results. The issue is which approach calculates needs in the most transparent, simple and effective way. Both approaches can recognise similar disabilities.

23. The main difference between the two approaches is that:

- (i) under the flow approach, needs would be assessed in relation to net¹¹ annual borrowings for new (non-replacement) capital expenditure and the budget deficit, calculated for every year of the accumulation period before accumulation occurred; and
- (ii) under the stock approach, needs would be assessed in relation to borrowings for net accumulated new capital expenditure and budget deficits, that is, on the written down value of the stock in the years relevant to the review period.

24. The stock approach assumes that, other things being equal, States will need the same per capita amount of stock in a year to provide the average level of service and it is on this amount that it should hold borrowings.

25. In both approaches, the per capita amount of borrowing depends on States' circumstances. This means that the standard amount of new capital expenditure in the flow approach and the stock in the stock approach would need to be adjusted to reflect these differences. The differences include those flowing from population characteristics, both today and over time, costs of purchasing stock in different locations and at different times and so on.

26. In the framework proposed in *Discussion Paper CGC 2002/26*, it was assumed that expenditure on replacing existing assets would be funded from depreciation (already equalised) and that expenditure incurred in acquiring new assets was the result of annual changes in population size, population composition and time of purchase (construction costs). Needs had to be assessed to meet requirements for new assets (non-replacement capital expenditure) in each year. These disabilities were approximated using the depreciation disabilities, with an adjustment for population growth and inflation.¹²

27. For the stock approach, those factors which cause differences in the amount of stock required in the review period are relevant. These will reflect existing differences in population characteristics and costs of stock. However, because the amount of borrowing for each State's stock will also depend on its time of purchase and the price at that time, an adjustment for differences between the States in this is also required.

28. Figure B 1 shows the main differences between the flow and the stock approach.

¹¹ Net of any relevant capital receipts and budget surpluses.

¹² Staff now recognise that it was mis-specified.

Figure B 1 COMPARISON OF THE FLOW AND STOCK APPROACHES

Flow Approach	
1.	Standard new capital expenditure for each year of the accumulation period (currently 1961-62 to present).
2.	For each year of the accumulation period, apply relevant flow disability factors (based on annual changes) to standard new capital expenditure.
3.	For each year of the accumulation period, add/subtract the other elements of the Debt Charges framework (that is. capital outlays treated EPC, capital receipts (including capital grants) and budget result).
4.	Accumulate the result to obtain standardised net borrowing.
Stock Approach	
1.	Accumulate standard new capital expenditure for each year of the accumulation period (currently 1961-62 to present).
2.	To the accumulated expenditure, apply relevant stock disability factors. Stock factors reflecting population needs of the review period would need to be adjusted to reflect the quantity of stock purchased at different times and the cost of the stock at time of purchase. A respecified population growth and inflation factor may be appropriate.
3.	Add/subtract the other elements of the Debt Charges framework, which will have been accumulated (that is. capital outlays treated EPC, capital receipts (including capital grants) and budget result).
4.	This will result in standardised net borrowing.

29. Under the flow approach, disabilities that measure changes in State circumstances would be appropriate, while, under the stock approach, disabilities that measure needs for levels of stock would be appropriate. However, the disability assessments for capital stock would need to capture the effect on the borrowings for the stock of changing circumstances over time.

30. This would lead to another difference between the two approaches in that, under the flow approach, capital expenditure needs arising from the timing of overall population growth would be captured on a year to year basis, while, under the stock approach, the effect of population growth would be captured by giving each State an equal per capita share of the accumulated capital expenditure, adjusted to reflect time and cost at purchase.

31. In summary, we would expect that if disabilities were calculated correctly, both methods would provide the same results. It seems that the main difference is that the stock approach has the potential to be simpler in calculation and presentation as it would not involve the calculation of disabilities for each of the 40 odd years of the accumulation period. However, it could become quite complex if we attempted to make adjustments for changes in population characteristics over time. We are proposing to adjust only for differences due to changes in population size.

32. The stock based approach to calculating disabilities is preferable. This is because it is simpler to calculate and present one set of factors to apply to accumulated capital expenditure rather than applying a different set of factors to each of the 40 odd years of accumulation period. It is demonstrably an approximation of all State needs, but, we consider a reasonable one.

33. ***What disabilities should be assessed?*** For the stock approach, we reconsidered the appropriate disabilities that should be applied to accumulated non-replacement capital expenditure or the written down value of the stock.

34. The cost and demand drivers of non-replacement capital expenditure¹³ are outlined in the following table. Next to each, we have identified how we propose to reflect it in the non-replacement capital expenditure disability factor.

¹³ Most of these were identified by Emcorp Consulting and Dakima Consulting.

Table B 1 COST AND DEMAND DRIVERS OF NON-REPLACEMENT CAPITAL

Driver	Examples	Proposed treatment
The timing of growth in demand for particular facilities (either through overall population growth or growth in particular demand groups or intrastate migration)	Because of inflation, a recent growth State could be expected to pay more for a given asset than an early growth State.	The impact of the timing of overall population growth is reflected in the timing of population growth assessment. However, for simplicity, the impact of the timing of growth in particular demand groups and intrastate migration has not been assessed.
	Because of different interest rates at different times, a State's borrowings may be higher due to the timing of its purchases.	The materiality of the issue of interest rates is unclear. Changes in interest rates are cyclical and unlikely to be consistently high when a particular State experiences population growth. It is not proposed to assess needs for interest rates.
The use profile of residents	States which need to use more assets per capita will need to borrow more on a per capita basis.	Reflected in depreciation disability factor
Construction costs	Impact of locality allowances on costs	Reflected in depreciation disability factor
Changing standards or expectations	Air-conditioning, wheelchair access and the removal of asbestos ¹⁴	Reflected in the standard, which measures the average capital stock needs
Technology	Information technology in schools, and hospital equipment	Reflected in the standard and in the depreciation disability factor, which measures a State's capital stock needs
Changes in standard service delivery policy	Growth of secondary colleges	Reflected in the standard, which measures the average capital stock needs
Industry attraction and development and improving the international standing of cities	Road and public transport improvements	Reflected in depreciation disability factor, which measures a State's capital stock needs
Changing demands for improvements in quality of life	Museums, art galleries, theatres, libraries and sporting facilities, and quality of infrastructure in rural and regional areas ¹⁵	Reflected in the standard, which measures the average capital stock needs
Increase in the use of privately owned assets	Use of PFPs for schools — some States may not be able to realise savings	The treatment of this item will depend on the Commission's approach to PFPs.

¹⁴ In February 2003, the New South Wales government announced that at least 100 schools require the removal of asbestos material or fibro fragments. Three of the schools may need major removal or remediation of the school grounds. Stapleton, J., '100 schools need asbestos removal after further finds', *The Australian*, 4/02/03, p. 6.

¹⁵ For example, the Queensland Government announced that it was planning to spend over half of its capital budget outside Brisbane in an effort to improve 'livability'. Hon. Terry Mackenroth MP, 'Budget Funds Target Regions', 18 June 2002.

35. Because of the identification of these drivers, we consider that the non-replacement capital disability factor should have two multiplicative components:

- (i) category disability factors that reflect the capital stock needs of States;
and
- (ii) an assessment matching the timing of asset purchases caused mainly by population growth with price levels, so as to account for the higher nominal cost of later growth.

36. **Capital stock needs of States.** If a State has higher or lower capital needs because of its population characteristics and unit cost structures, this should be reflected in its Debt Charges disability factor. Spending driven by many of the drivers in the above table will affect all States, but not equally. Higher per capita capital needs will flow through to higher per capita debt charges needs. These needs can be captured by the Depreciation disability factor, the capital subsidy part of the Urban Transit disability factor, and the capital-related part of the Roads and Housing disability factors.

37. **Timing of population growth.** No State denies that population growth has an impact on the demand for capital expenditure. Population growth is relevant as its timing will impact on the cost of infrastructure. We consider that giving each State the same per capita amount of accumulated capital infrastructure will capture the effect of population growth but it will not capture the impact of inflation. In short, population growth has been matched with the relevant price level so that late growth States' higher needs are recognised.

38. In response to the proposal to assess higher needs for late growth States, Victoria made the point that early growth States were disadvantaged by the higher recurrent costs associated with older capital. It said that stock purchased earlier was likely to be cheaper, but that it was also likely to be inferior in terms of design and technology. States with older stock may have to spend money improving or replacing it in order to achieve the same level of service as States with newer stock. For example, prison and hospital design have improved so that staff productivity is enhanced, resulting in recurrent savings. However, underlying this argument is the assumption that recent growth States gain the benefit of improved design without incurring any real additional cost. It is not clear that this is the case.

39. For example, two States now have a population of 100 and they need 100 units of assets to provide services to their populations. State A's population was 100 at time 0 and it purchased its assets at \$1 per unit. It had to borrow to fund all the assets and thus had to borrow \$100. State B had no population until today, some time later. The price per unit of assets is now \$5 because of inflation. State B has to borrow at least \$500 to provide the required assets. If these assets were upgraded by State A and provided by State B using the improved technology of the day, both States would need to borrow more than their initial \$100 (revalued and depreciated) and \$500, but arguably the same amount more for this purpose. Thus there is a price disability relating to time of purchase but no disability relating to 'quality' of the asset.

40. For simplicity reasons, only aggregate population growth (rather than growth in population sub-groups) has been used.

41. To the extent that intrastate migration results in ‘hidden’ needs for capital expenditure that cannot be offset by asset sales, there is a case for a disability to be assessed. For example, a State may have no overall population growth, but experience a decline in one region and growth in another. The current approach assumes that a State can re-locate assets to where they are needed. This is a difficult area for the following reasons.

- (i) To what extent is an ‘inability’ to sell excess assets a policy choice, and over what period of time is it reasonable to allow for this?
- (ii) What level or proportion of population movement constitutes a threshold for affecting capital needs? Does the population in an area have to decline by 10 per cent, 20 per cent or 100 per cent, and increase in another area or areas by the same amount? If movement is spread across many areas, is there a real impact on infrastructure needs, or can it be absorbed?
- (iii) How would we set the region boundaries (for example, what areas comprise south-east Queensland)? The definition of a region is more likely to be geographically-based than population-based, and would vary depending on the function of the asset.

42. We consider that the difficulties associated with assessing this potential source of disadvantage outweigh the benefits of addressing it. The impact on costs is uncertain and the measurement of movement problematic, meaning that the margin of error would be too high.

ATTACHMENT C QUANTITY OF BORROWING FACTOR — OTHER ISSUES

1. The quantity of borrowing factor elicited much comment from the States. This attachment provides a more detailed discussion of the issues than that provided in the body of the paper. The issues discussed in this attachment are:

- (i) the time-frame and method used for accumulating needs;
- (ii) the treatment of capital grants;
- (iii) the treatment of land purchases;
- (iv) the treatment of other capital receipts;
- (v) the treatment of pre 1993-94 depreciation;
- (vi) the impact of lack of contemporaneity and under-enumeration and.

Accumulation time-frame and method

2. **1999 Review.** States' borrowing requirements were calculated by adding standardised capital expenditure and subtracting available revenue. The expenditure and revenue data were time series starting from 1961-62 to present. These data series were accumulated for each year of the assessment period.

3. For example, in the 2003 Update, the assessment period was 1998-99 to 2001-02, which meant that for the assessment year 1998-99, the data series would be accumulated from 1961-62 to 1998-99. The series would be accumulated for each State based on their population share in each year of the accumulation period. For example, for the year 1961-62, New South Wales was given its then population share of the different expenditure and revenue data.

4. The accumulated series for each year of the assessment period was then divided by the State population corresponding to each year of the assessment period.

5. **Commission proposal.** *Discussion Paper 2002/26 Debt Charges* proposed to stop the current open-endedness of the accumulation period and to set it at 30 years. This was mainly intended to reduce the complexity of the calculations required.

6. **Further State views - length of accumulation period.** New South Wales suggested a shorter period, perhaps ten or 15 years. In its rejoinder submission, Queensland supported a fixed 30 year period, arguing that it is reasonable to assume that debt is repaid within that period. It demonstrated this by comparing States' borrowings at 30 June 2000 (\$41.5 million) with their borrowings at 30 June 2001 (\$35.4 million). However, at the November Conference, Western Australia argued that the accumulation period should begin

at the earliest point possible and continue to grow. It argued that we should not drop debt off the end because the assessment framework does not allow for repayment. In its rejoinder submission, Western Australia re-iterated this argument, noting that a fixed period would penalise States whose capital stock was purchased earlier. It suggested that the period begin as early as possible, perhaps 1927. The South Australian consultant agreed, arguing that a limited accumulation period understated the borrowings for every State, particularly slow growing States. He provided data to show that this effect was material. Tasmania supported an indefinite accumulation period on the grounds that:

- (i) repayment of debt will result in a reduced borrowing requirement in the year in which it occurs; and
- (ii) the analysis of South Australia's consultant shows that limiting the accumulation period would have a material impact on the associated disabilities that are calculated.

7. ***Further State views - method of calculation.*** In its rejoinder submission, Western Australia argued that per capita standard borrowings were calculated incorrectly (at the expense of high population growth States). It proposed that they be calculated on the basis of assessment year populations applied to the total level of debt in the assessment year.

8. South Australia's consultant argued that the accumulation process was flawed as it led to a standard not equal to one, largely because the process adjusted for the effects of population change over time. It argued that it should be removed, particularly if a separate population growth and inflation factor was to be included, as this would result in double counting. In its rejoinder submission, Tasmania suggested that each component be accumulated in absolute terms and divided by the population.

9. ***Inclusion of pre 1961 debt in accumulated borrowings.*** Western Australia argued in its rejoinder submission that the Debt Charges assessment attempted to construct the current level of standardised debt. If this were correct, it was not sufficient to add accumulated changes in debt levels — we must begin the calculation with a standardised level of debt.

10. ***Commission decision.*** As reported in the main body of the paper, the Commission proposes to:

- (i) maintain 1961-62 as the starting point for the accumulation period;
- (ii) change the accumulation method to that proposed by Western Australia, South Australia and Tasmania; and
- (iii) include standard gross debt as at 1961 for the six States in existence at that time.

Treatment of capital grants

11. **1999 Review.** Actual capital grants were deducted from State borrowing requirements because States did not need to borrow to fund associated assets. Any decision to treat some capital grants by inclusion¹⁶ would necessitate a reconsideration of their treatment in the Debt Charges assessment.

12. **Preliminary State views.** New South Wales wanted the Commission to ensure that there would be no double-counting of needs relating to capital grants. In its rejoinder submission, Victoria argued that actual (rather than standard) capital grants for the years prior to 1998-99 should be deducted in the calculation of the Debt Charges disability factor. This was because capital grants for that period had been treated by exclusion.

13. In its rejoinder submission, Queensland agreed that standard capital grants should be deducted if capital grants are treated by inclusion.

14. Western Australia said that it would continue to be necessary for the Debt Charges factor calculation to deduct capital grants from accumulated capital expenditure in the years prior to their treatment by inclusion. Otherwise equalisation of these past grants would not be fully achieved. It added that under the inclusion approach, capital grants would (like recurrent grants) become part of the standard budget and would disappear from the calculation of debt charges (apart from their impact on the standard budget result).

15. South Australia argued that items purchased with excluded capital grants should be removed from standard expenditure on fixed assets and second-hand assets. This would also require that depreciation applying to such assets also be removed from standard depreciation expenses. It also suggested that grants be amortised in the Commission's assessments.

16. It also argued that:

- (i) all grants before 1991-92 should be treated by exclusion (the first year in the Debt Charges assessment for which actual grants are used as opposed to standard grants); and
- (ii) after 1991-92, the actual level of grants treated by inclusion should be deducted from standardised expenditure on non-replacement capital assets.

17. In its rejoinder submission, Tasmania proposed that standard capital grants be deducted when calculating the Debt Charges standard on the grounds that capital SPPs often fund projects beyond the scope of ordinary government activity.¹⁷

18. The Northern Territory agreed with the proposal that actual grants be deducted prior to the 2004 Review years, and standard grants be deducted after that. In its

¹⁶ Capital grants will be assessed for inclusion/exclusion according to the same principles used for recurrent grants.
¹⁷ Such grants (and any associated capital expenditure in the Debt Charges framework) would be treated as out of scope so they would not affect a State's standardised borrowing needs.

rejoinder submission, the Northern Territory supported the proposed treatment of capital grants.

19. **Commission proposal.** In *Discussion Paper 2002/11, Treatment of Capital Grants*, the Commission said it proposed to treat capital grants the same way as recurrent SPPs. This approach was generally supported by the States.

20. **Further State views.** At the November 2002 Conference, some States argued that bringing capital grants within the scope of the equalisation budget had implications for their treatment within the Debt Charges assessment. This was because needs relating to capital grants would be assessed twice — once through their treatment by inclusion and a second time by deducting actual capital grants from borrowing needs.

Commission decisions

21. It was agreed during discussions at the conference that an EPC treatment of capital grants within the Debt Charges assessment for the years where capital grants were included within the scope of the equalisation budget would remove double-counting. This would mean that actual capital grants would continue to be deducted for years prior to those included in the 2004 Review (1997-98 and earlier). From 1998-99, no specific deduction of capital grants would be required as the budget result would include standard capital grants.

22. **Treatment of pre 1998-99 grants.** As noted above, the Commission proposes that actual pre 1998-99 grants should be deducted from calculated standardised capital expenditures as they were available to meet them. Otherwise, a State that had received a grant (and therefore had not needed to pay interest for that asset) would be assessed as having the same debt charges needs as a State that had not received a grant (all other things being equal). It could be argued that this was fair because States accepted capital grants on the understanding that they would be treated this way. However, the fact remains that States that received grants did not need to borrow and pay debt charges for the relevant assets.

23. **Included grants from 1998-99.** For included capital grants provided in or after 1998-99, the Commission proposes that the standard level of grants be deducted in the Debt Charges assessment through the deduction of the standard budget result. This is because a State that receives grants treated by inclusion has already had its GST revenue adjusted for any above or below standard amount of grant.

24. **Excluded capital grants from 1998-99.** As noted above, the Commission proposes that items purchased with excluded capital grants should remain in both standard expenditure on fixed assets and second-hand assets, and also in the depreciation standard (thus cancelling each other out). This is because such items have not influenced borrowing needs.

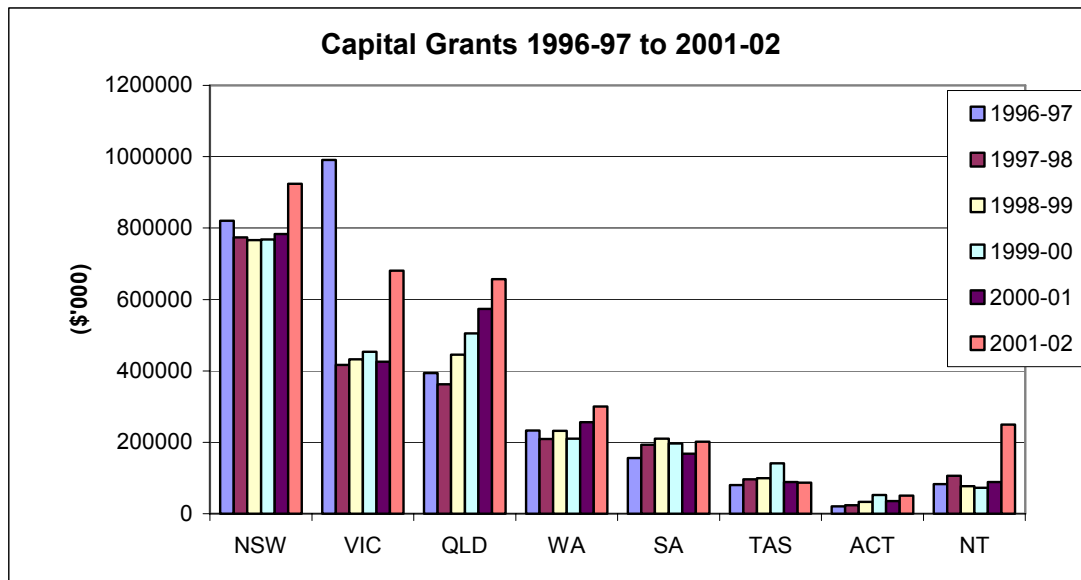
25. The following table summarises the treatment of capital grants.

Table C 1 TREATMENT OF CAPITAL GRANTS IN THE 2004 REVIEW DEBT CHARGES ASSESSMENT

Needs met (from 1998-99)	Depreciation Standard	Debt Charges Standard	Debt Charges Factor
Inclusion			
Asset forming	In (automatically)	No impact (no need to borrow if asset financed by a capital grant)	From 1998-99 – in Budget Result only Pre 1998-99 deduct Σ actual SPPs from Σ Capex
Non-asset forming	Not in – add as operating expense to function	No impact	From 1998-99 – in Budget Result only Pre 1998-99 deduct Σ actual SPPs from Σ Capex
Exclusion	Deduct from standard	No impact	Deduct from Σ Capex in all years before disabilities applied
Out of Scope	Out (by GFS classification)	No impact	Out (by GFS classification)

26. **Amortisation.** To be consistent with what States do, the Commission proposes that grants not be amortised. We do not consider that this approach will cause problems with the assessment. At this point, Commission staff have not been able to test the volatility of the included grants, but do not expect it to be high. Staff have charted total grants for each State and there is some volatility. However, included grants should be less volatile. For example, funding for the Alice Springs to Darwin railway generated a sharp surge in SPPs to the Northern Territory, but this would not be treated by inclusion.

Figure C 1 CAPITAL GRANTS 1996-97 TO 2001-02



Note: For illustrative purpose, the graph uses the total capital grants for the years.

Land purchases

27. ***1999 Review.*** In the 1999 Review, the same disabilities were applied to expenditure on non-replacement fixed assets and land purchases, while other capital outlays were assessed on an EPC basis.

28. ***Preliminary State views.*** In November 2000, Queensland argued that debt charges arising from land purchases should be assessed EPC. Depreciation disability factors were inappropriate because land did not depreciate and the influences behind these factors were often not relevant to the price of land.

29. ***Commission proposal.*** The Commission proposed an EPC treatment of land purchases.

30. ***Further State views.*** Queensland, Western Australia, Tasmania and the Northern Territory supported an EPC assessment of land purchases.

31. South Australia supported a net assessment, where receipts from land sales would be offset against capital expenditures before capital disabilities were applied.

32. ***Commission decision.*** The Commission proposes to assess land purchases on an EPC basis. Adding net land purchases to the first line of the assessment would result in the non-replacement capital expenditure disability factor being inappropriately applied to this expenditure. They will therefore be added after needs relating to new capital have been calculated.

Other capital receipts

33. ***1999 Review.*** Other capital receipts were assessed EPC.

34. ***Preliminary State views.*** In July 2001, New South Wales proposed that the Commission distinguish between the sale of land and buildings (where local markets are involved) and other sales (which should be assessed EPC). In November 2000, Queensland argued that the Commission's assessment should take account of smaller States' lesser abilities to raise money from asset sales. It raised the possibility of an economic environment factor to measure disabilities.

35. In August 2001, South Australia proposed that revenue from asset sales be netted from expenditure at the start of the assessment. However, in July 2001, Tasmania argued that netting would be inappropriate because it would have the effect of applying capital expenditure disabilities to the ability to raise revenue from asset sales.

36. ***Commission proposal*** *Discussion Paper 2002/26 Debt Charges* proposed that capital receipts be assessed EPC.

37. ***Further State views.*** No further views were received from States.

38. ***Commission decision.*** The Commission proposes to assess other capital receipts EPC for simplicity purposes. The netting off of other capital receipts is not favoured because it would not fully recognise the needs relating to debt charges paid on standardised borrowings.

Treatment of pre 1993-94 depreciation

39. ***1999 Review.*** *Discussion Paper 2002/26 Debt Charges* said that, in the 1999 Review, depreciation expenses were subtracted from total standardised capital expenditures. The depreciation expenses subtracted were standardised depreciation expenses from 1993-94 onward (the first year for which depreciation needs were assessed) and standard depreciation expenses for the prior years.

40. ***State views.*** Queensland, South Australia, Tasmania and the Northern Territory supported the proposal to subtract standard depreciation for these years from the total capital expenditure standard before the application of disabilities.

41. However, South Australia argued that it was not appropriate to assess needs for only non-replacement capital expenditure for the years prior to 1993-94. It argued that needs relating to all capital assets should be assessed. The factor for non-replacement capital expenditure is premised on the assumption that debt charges do not need to be assessed for replacement capital expenditure. This is because the equalisation framework assesses needs for depreciation. However, as South Australia noted, depreciation needs have only been assessed since 1993-94.

42. ***Commission decision.*** The model of States' borrowing behaviour we are using says that depreciation should be deducted to calculate expenditure on non-replacement capital. Therefore, standard depreciation will be deducted in all years.

Lack of contemporaneity and under-enumeration

43. ***Contemporaneity.*** It has been argued that the lack of contemporaneity in the assessment framework means that States with increasing needs are under-equalised relative to other States. This would result in greater borrowing needs for such States to enable them to deliver the standard level of services.

44. In its rejoinder submission, South Australia argued that due to the absence of full contemporaneous assessments, States with a rising trend in relativities must borrow to fund a standard level of service. It argued that the potential impact on a State's borrowing needs is significant, and that either a three year period should be introduced, or the Debt Charges assessment should allow for a debt charges need arising from debt acquired to fund a continually accumulated difference between the Commission's assessed financial assistance requirements and general revenue payments actually received.

45. The South Australian consultant provided data to show the extent of over-equalisation due to this approach, as shown in Table C 2.

46. Tasmania also argued that lack of contemporaneity resulted in under-equalisation of debt charges needs, and that this could be addressed by applying a standardised budget result rather than an equalisation budget result in calculating the operating result component of the Debt Charges assessment.

47. ***Commission decision.*** The Commission's approach to equalisation is that it makes no retrospective adjustments if States have been under or over-equalised in the past. It adopts a 'no regrets' approach. Therefore, it proposes not to make an adjustment for the lack of contemporaneity.

Table C 2 DEVIATIONS FROM FULL EQUALISATION ARISING FROM NON-CONTEMPORANEITY OF ASSESSMENTS, 1996-97 TO 2000-0

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
General Revenue Assistance Grants								
1996-97	6 221	4 622	3 982	2 077	2 026	826	338	1 029
1997-98	6 343	4 690	4 035	2 093	2 057	829	332	1 057
1998-99	6 638	4 899	4 249	2 185	2 144	865	361	1 104
1999-2000	7 018	4 942	4 310	2 148	2 183	914	424	1 138
2000-01	7 327	5 173	4 574	2 204	2 329	961	460	1 199
Standardised Deficit \$m								
1996-97	6 550	4 434	3 785	1 963	2 107	879	424	979
1997-98	6 273	4 668	4 059	1 865	2 182	905	434	1 050
1998-99	6 438	4 622	4 272	2 089	2 336	1 009	428	1 250
1999-2000	6 473	4 604	4 663	2 183	2 358	1 042	448	1 306
2000-01	6 894	4 961	4 854	2 065	2 479	1 096	495	1 382
Extent of over-equalisation (GRAGs less Standardised Deficit)								
1996-97	-329	188	197	114	-81	-53	-86	50
1997-98	70	22	-24	228	-125	-76	-102	7
1998-99	199	276	-23	96	-192	-144	-67	-146
1999-2000	545	338	-353	-35	-175	-128	-23	-168
2000-01	433	212	-281	139	-150	-135	-35	-183
5 year total	918	1035	-483	543	-723	-536	-313	-441

Source: South Australia's rejoinder submission based on CGC 2002 Update supporting Information Volume.

48. *Under-equalisation resulting from under-estimation.* In its main submission, the Northern Territory argued that from 1981 to 1996, the ABS consistently under-estimated the Northern Territory's population, resulting in reduced general revenue grants of about \$125 million for that period. It proposed that this be addressed through the Debt Charges assessment by:

- (i) calculating the impact of population errors on the distribution of general revenue grants by year and State; and
- (ii) expressing the cumulative amount for each State in per capita terms and adding it to per capita standardised net borrowings.

Each State's need to borrow would be increased if it had experienced under-equalisation and decreased if it had been over-equalised. This was based on the premise that under-

equalisation would require a State to increase its borrowing to fund the standard level of services for its residents, and vice versa.

49. ***Commission decision.*** As noted in the main body of the paper, the Commission does not wish to adjust the Debt Charges assessment to account for past under-equalisation. It understands that the 2002 Census results have indicated that the problem of intercensal under-estimation has diminished with the use of improved estimation methods since the 1996 Census. Such under-estimation should not be a problem in the future. In addition, the Commission does not make retrospective adjustments for changes for revisions to past data. It uses the latest available information but does not compensate States for any past inaccuracies which influenced the level of equalisation achieved. Therefore, it proposes to make no adjustment to the assessment to account for the effects of under-enumeration.