2023 Update – seeking state views on wages data

Issue

On 16 December 2022, the ABS released the information required for the Commission to calculate the wage costs factor for each state for 2021-22. The data were able to be shared from 4 January 2023.

The data may have been influenced by the impact of COVID-19 lockdowns. The relevant survey was conducted in August 2021.

A decision must be made whether the data provide an appropriate basis for applying the Commission's method of estimating states' relative wage costs. The Commission would welcome state views on this matter.

Next steps

This paper sets out:

- the wage costs factor for each state, using 2021-22 data
- the unusual degree of volatility in the 2021-22 data
- evidence that suggests COVID-19 lockdowns affected the data
- alternative approaches for incorporating the 2021-22 data.

The Commission would welcome state views on this issue by **Friday 20 January 2023**.

Commission staff will hold a multilateral meeting with state Treasury officials on Tuesday 17 January. The meeting will be recorded. Commission staff also welcome direct contact from state Treasury officials to discuss these issues. The relevant contacts are Tim Carlton and Phil Harber.

Estimates of wage cost factors for 2021-22 using ABS data

States pay their public sector employees different amounts. Since 2004, the Commission has used a regression of private sector wage levels to produce a policy neutral measure of the relative public sector wage costs in each state.

- The regression draws on the Characteristics of Employment survey (conducted every August). It predicts a person's most recent pay, given a range of attributes including of variables such as occupation, industry, sex, migrant status and state. The Commission uses this to measure the difference in prevailing wages for otherwise comparable employees in different states.

- 'Hours usually worked' is also an important variable in the regression that affects a person's pay. In any given month, there are a significant number of people working fewer than their usual hours. For most workers, particularly permanent employees, this does not affect their salary, and such people are included within the model. For casual employees, while their hours worked may vary, their usual hours are generally

thought to be a reasonable proxy for the hours they are paid and are included in the model on this basis.

The Commission calculates a wage costs factor for each assessment year. Table 1 shows the preliminary factor for each assessment year in the 2023 Update. The most recent factor is highlighted.

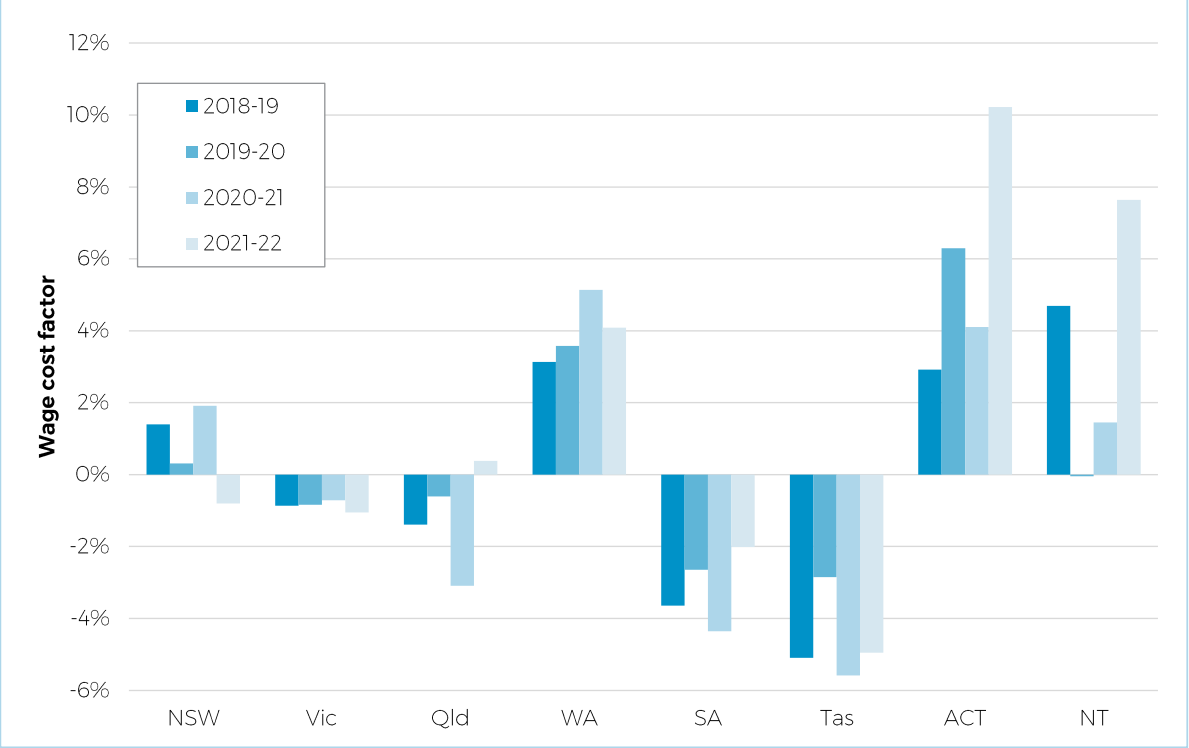
Table 1 Preliminary estimates of relative wages (compared with the average) in the 2023 Update years

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ave
2019-20	0.3%	-0.8%	-0.6%	3.6%	-2.7%	-2.8%	6.3%	0.0%	0.0%
2020-21	1.9%	-0.7%	-3.1%	5.2%	-4.4%	-5.6%	4.1%	1.4%	0.0%
2021-22	-0.8%	-1.1%	0.4%	4.1%	-2.0%	-4.9%	10.3%	7.7%	0.0%

Source: Commission calculation

Figure 1 shows these factors in a column chart, and includes 2018-19.

Figure 1 Estimates of relative wages (compared with average), 2018-19 to 2021-22

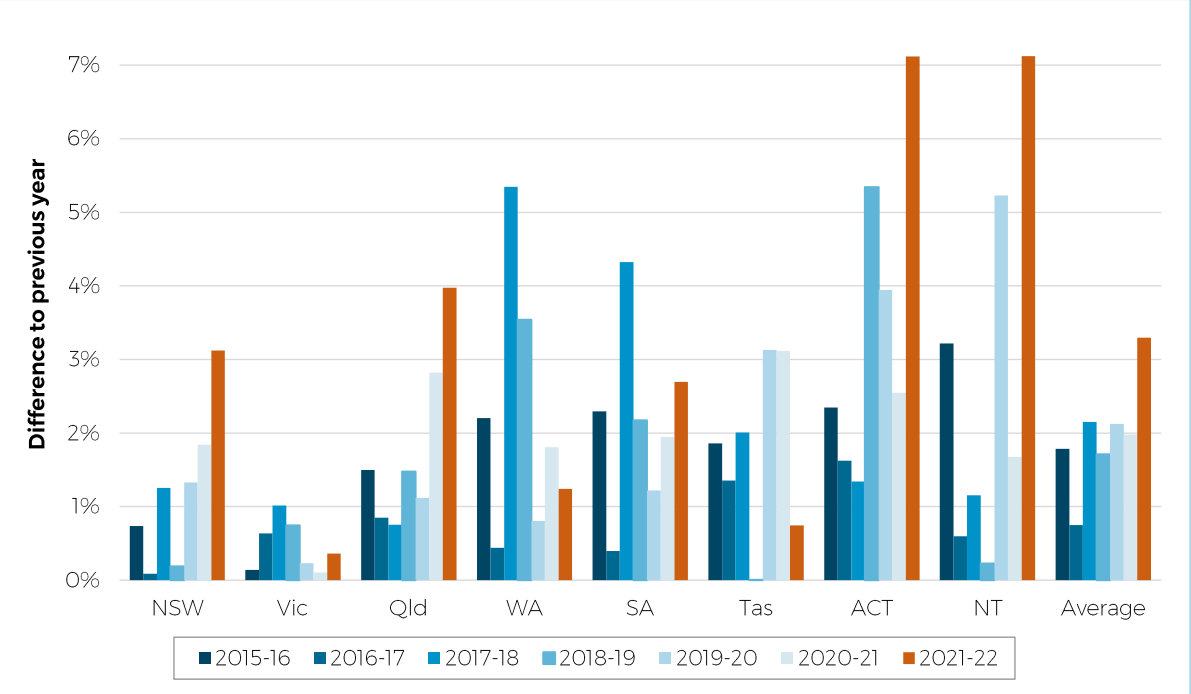


Unusual aspects of 2021-22 data

Between 2020-21 and 2021-22 there were significant movements in the measured wage levels for some states. The changes were large by historical standards. Figure 2 shows the absolute value of the difference between the estimates in each year and the previous year.

The 2021 estimates (in orange) exhibit the largest year-on-year change for the average across all states since the Commission started using this data set. It is the largest change for 4 states (New South Wales, Queensland, the Northern Territory and the ACT). The estimates for New South Wales and Queensland reflect the most statistically significant change given the sample sizes for these states are large compared with most states.

Figure 2 Absolute difference to previous year estimates



Possible reasons for the unusual degree of volatility in 2021-22 data

As shown in Figure 2, the sampling variability of this survey remains significant, particularly for smaller states. In seeking to explain the unusually high variation from 2020-21, the Commission closely examined the data to see if there could be an additional explanation.

The survey was conducted in August 2021, when 5 states (New South Wales, Victoria, Queensland, the ACT and the Northern Territory) were at least partially in lockdown.

The Commission explored whether this might have affected the data. It made several observations.

Observation 1. There was a significant increase in the number of respondents working fewer hours for 'lockdown consistent' reasons (Table 2).

There were 3 reasons in the survey for working fewer hours that align with economic impacts of lockdowns ('underemployed or stood down', 'other reasons'). This paper refers to these as 'lockdown-consistent' reasons.

Table 2 Reasons for working fewer hours than usual

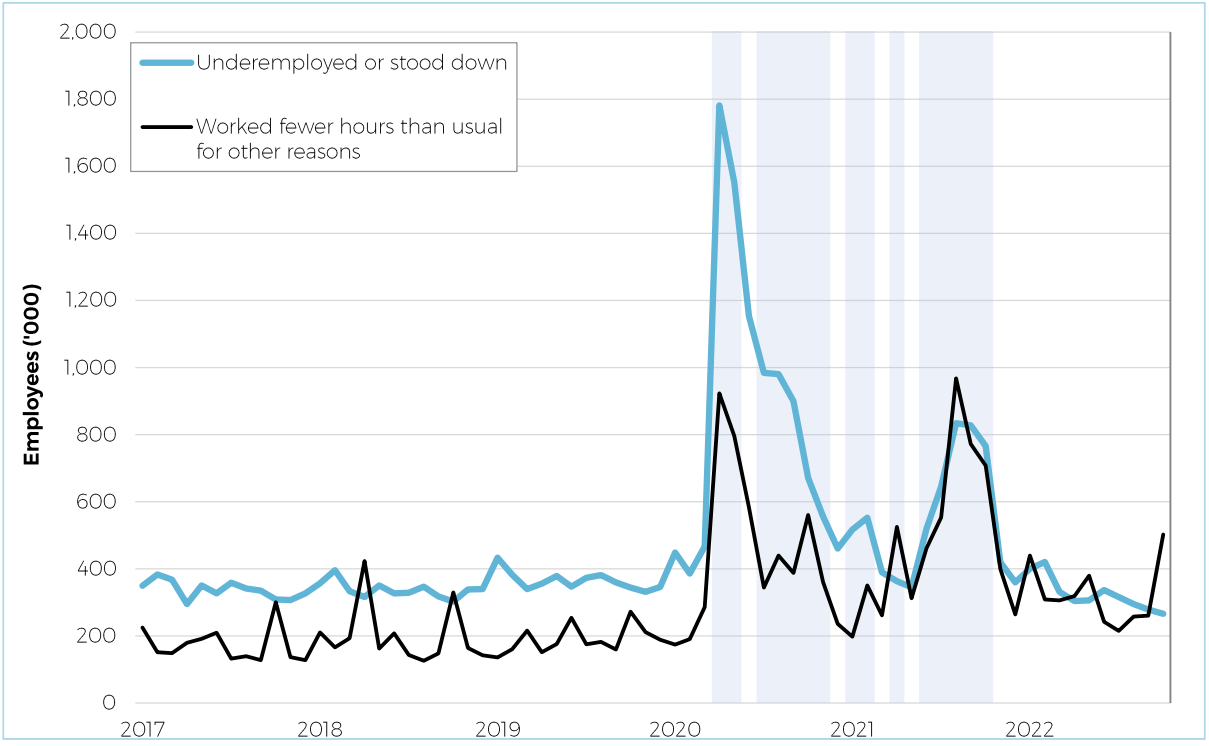
	Aug 2017	Aug 2019	Aug 2021	Aug 2022
	'000	'000	'000	'000
Did not work fewer hours than usual / Not applicable	17,273	17,690	17,254	17,961
Annual leave, holidays, flextime, or long service leave	779	900	510	839
Began, left or lost a job during the week	12	15	26	16
Maternity / Paternity leave	80	91	120	108
Own illness or injury or sick leave	571	538	450	761
Personal reasons, study, caring for sick or injured family	283	301	282	352
Seasonal work or end of season	21	30	18	18
Standard work arrangements or shift work	412	441	402	478
strike, plant breakdown or bad weather	48	55	49	62
Underemployed or stood down	341	381	834	295
Worked fewer hours than usual for other reasons	139	182	968	257
Total	**19,957**	**20,624**	**20,914**	**20,940**

Note: Includes both private and public sector workers

Observation 2. This increase aligns with lockdown periods (Figure 3).

Peaks in the number of employees working fewer than usual hours for both reasons tend to occur at the same time as lockdowns:

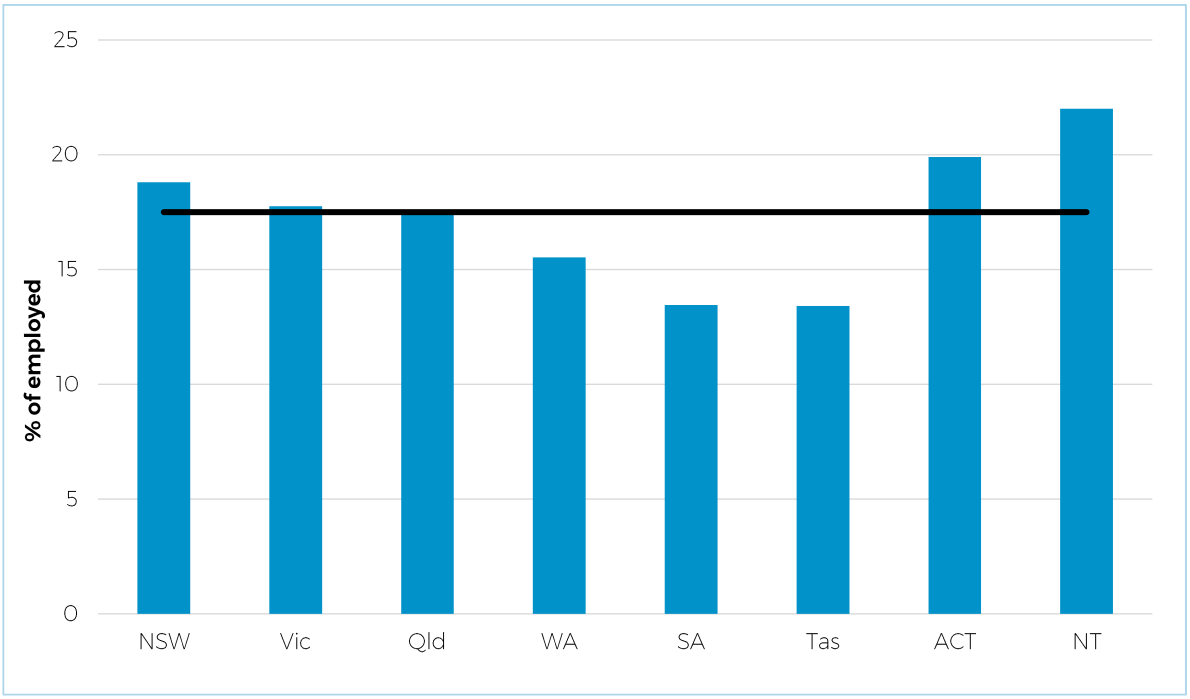
Figure 3 Number of employees who both worked fewer than usual hours and gave 'lockdown-consistent' reasons



Note: Includes both private and public sector workers

Observation 3. Respondents in lockdown-affected states were more likely to have reported working fewer hours than those in other states, shown in Figure 4.

Figure 4 Proportion of employed respondents who worked fewer than usual hours for any reason, August 2021



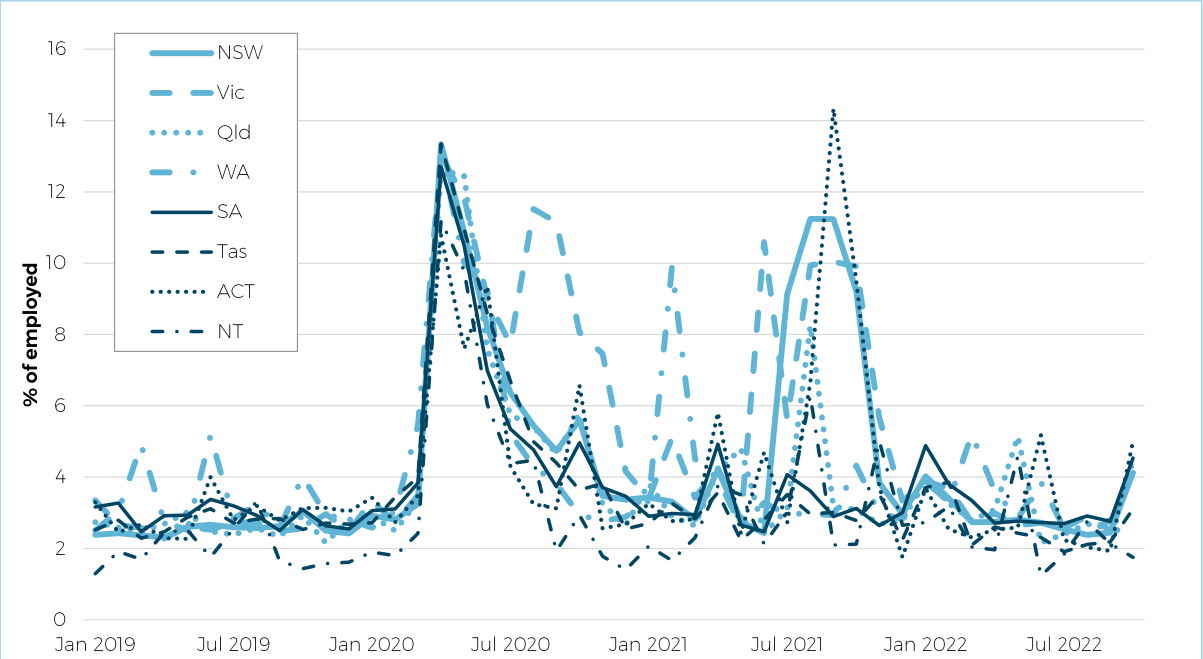
Note: Includes both private and public sector workers

Observation 4. Respondents in lockdown-affected states (who worked fewer hours) were more likely than before to work fewer hours for 'lockdown-consistent' reasons, shown in Figure 5 and Figure 6.

States not in lockdown maintained pre-COVID-19 rates of answers to these questions (as shown in Figure 6), while lockdown-affected states increased these responses significantly.

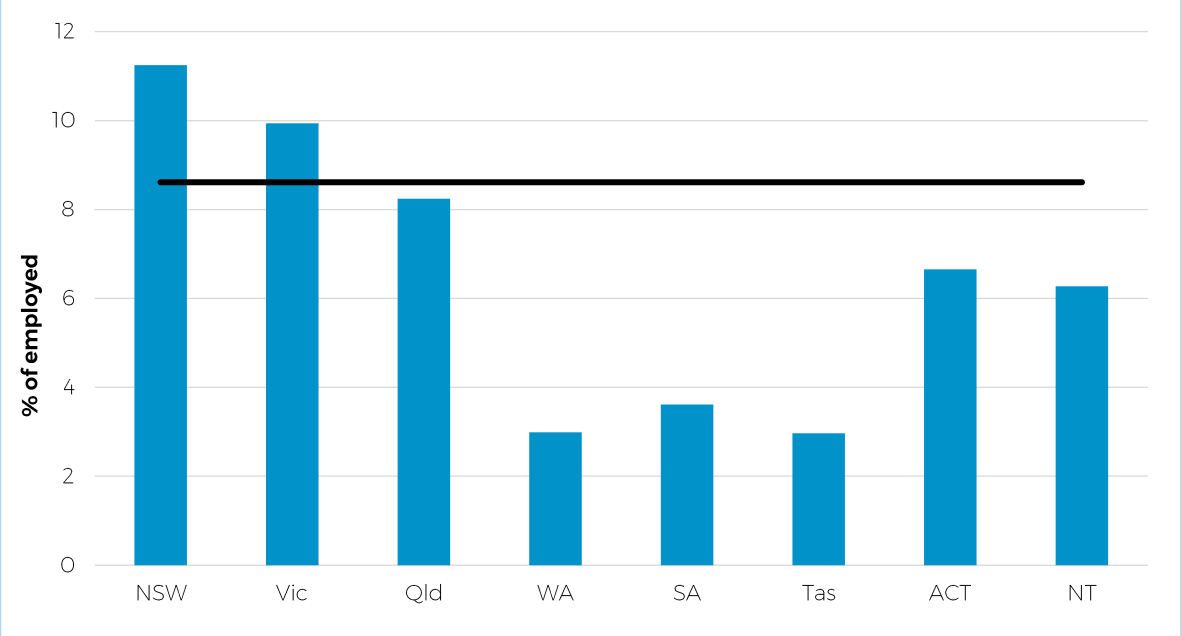
Prior to 2020, states had similar proportions of respondents working fewer than usual hours for these reasons. In periods where only some states have elevated proportions, others typically remained at their pre-COVID-19 levels:

Figure 5 Proportion of employed respondents who worked fewer than usual hours and gave 'lockdown-consistent' reasons, by state



In the August 2021 survey, states in lockdown had elevated proportions of employees working reduced hours, while those not in lockdown had maintained pre-COVID-19 proportions:

Figure 6 Proportion of employed respondents who worked fewer than usual hours for 'lockdown-consistent' reasons, August 2021

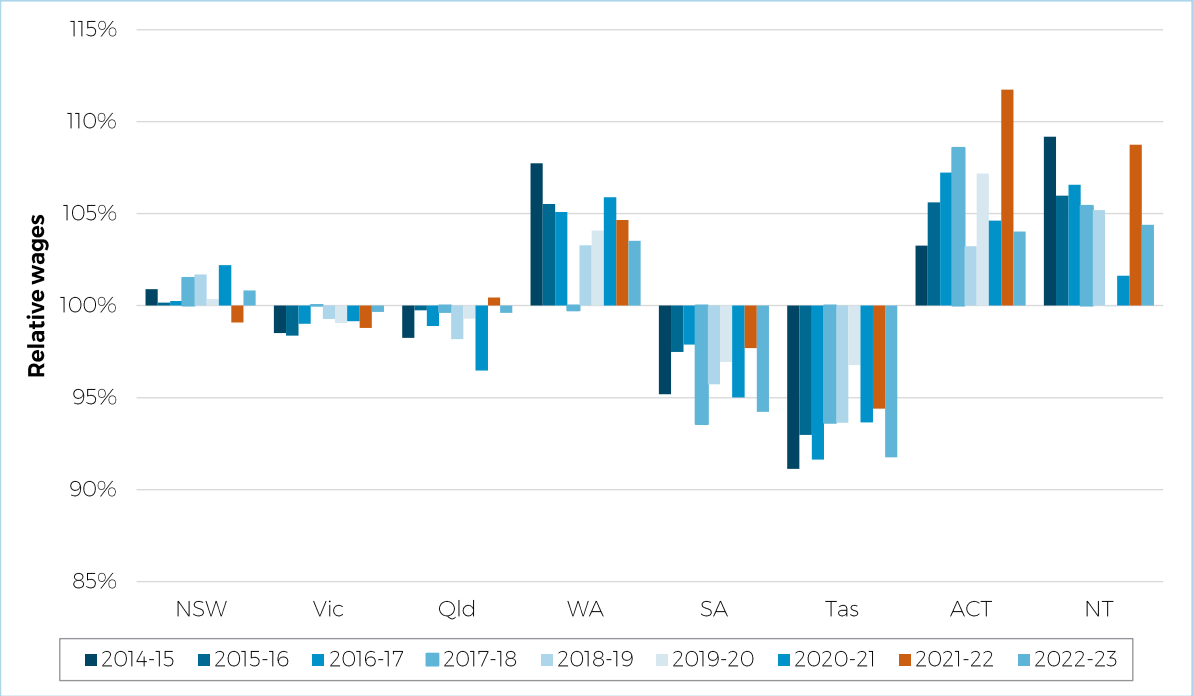


Note: Includes both private and public sector workers

For example, around 10% of New South Wales and Victorian employed respondents worked fewer hours than usual and gave 'lockdown-consistent' reasons. This proportion was higher in states experiencing lockdowns.

Observation 5. Preliminary data from the 2022 survey are close to the 5-year average, supporting the view that the 2021 data contain anomalies (Figure 7).

Figure 7 Estimated relative wages over time



Note: 2022-23 figures are preliminary estimates only and will be adjusted in December 2023

Observation 6. Estimated wage pressures on states that were in lockdown were generally lower, and pressures were generally higher on those that were not.

The two largest lockdown-affected states follow this pattern (estimated wage pressures reduce), while the pattern does not hold for the other affected states (see Table 1).

Because the two largest states dominate outcomes and also were most strongly affected by lockdown measures, they drive the average. It is not surprising therefore that other states do not necessarily move in a way that is consistent with the assumption that lockdowns equal lower estimate of wage pressures when compared with the national average.

This also explains why the pattern holds for South Australia and Tasmania (estimated wage pressures increase), but not for Western Australia.

Implications of these observations

COVID-19 related lockdowns in some states resulted in a significant number of people in these states working fewer than their usual hours. The Commission is concerned that the use of the 2021-22 wage data in the model, will create a significant bias in relative wage costs for the 2023 Update.

In August 2021, there were significantly more people than usual who worked fewer than their usual hours, because they were underemployed or stood down, or for 'other reasons'. While they were on reduced working hours and had their earnings reduced, their 'usual' hours may not have changed.

This would mean that their measured hourly wage rate fell. In turn, this would reduce the coefficient of states with an above average number of such people, in a way that does not reflect the underlying wage pressures in each state.

Possible approaches for incorporating the 2021-22 wage data

One option is to incorporate the 2021-22 data into the wage model without any adjustments. However, as noted, the evidence suggests this could introduce a significant bias in relative wages in the 2023 Update.

Should it be considered appropriate to respond to this bias, the Commission could potentially:

- use an alternative measure of hours worked, such as actual hours worked, or hours of work used to calculate most recent pay, to replace 'usual hours' worked in the model
- adjust the ABS data to remove respondents who worked fewer than their usual hours because there was no work, not enough work, they were stood down, or 'other reasons'.

Use alternative measure of hours worked

The 2020 Review method uses 'Hours usually worked' as one predictor of wages. This creates a disconnect with pay when permanent workers are stood down or work overtime, or when casual workers work more or less than their usual hours. Consequently, the assessment is sensitive to local economic shocks.

It may be possible to use a more direct measure of the hours used to calculate the most recent pay. This is collected in the Characteristics of Employment Survey, along with actual earnings on the most recent payslip. This has a more direct link to the Commission's measure of wages than usual hours worked or actual hours worked in the reference week (which often does not align with the most recent completed pay period) for both casual and permanent employees.

There are practical constraints with this option:

- it would be difficult to ensure this approach is sufficiently robust in the time available for the 2023 Update, although the Commission will continue to explore whether this option is practicable.
- such an approach could be viewed as a change in method, and therefore more appropriately considered in a methodology review. Alternatively, it could be understood as the use of more relevant data given the circumstances, rather than a change in method.

Adjust the data to remove identified respondents

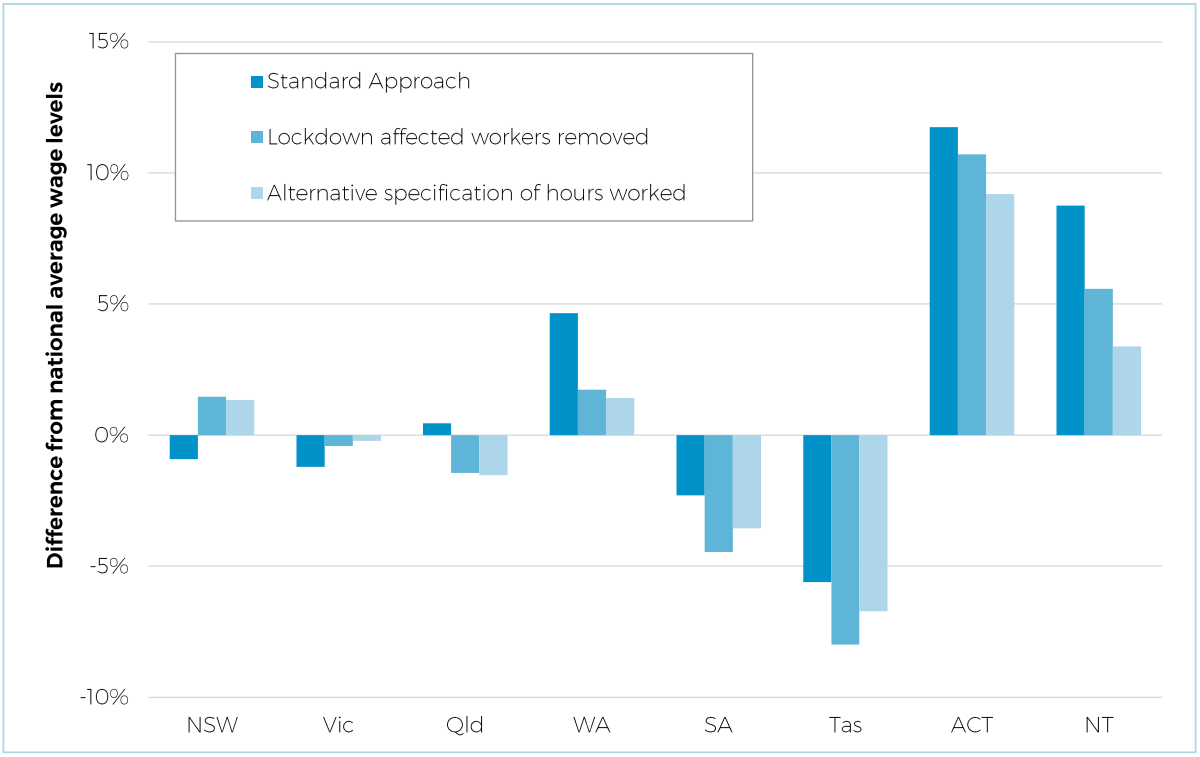
Another option would be to remove from the August 2021 regression model the 12% of private sector employees who worked fewer than their usual hours because there was no work, not enough work, they were stood down, or 'other reasons'.

Under this approach, the relative wage levels shown in Figure 1 for 2021-22 (the standard approach) would be adjusted to remove the estimated impact of lockdown affected workers on wage levels (see Figure 8).

This has the advantage of maintaining a consistent method with earlier assessment years, and removes the bias in the model caused by individuals whose working hours were affected by lockdowns. Removing these observations increases the explanatory power of the model, suggesting that they were systematically biasing the estimates.

However, it would potentially remove some data that would have brought relevant information to the regression. For instance, a significant reduction in hours worked during the lockdown may have been associated with some downward pressure on wages.

Figure 8 Possible adjustment to 2021-22 wage costs



State views

The Commission would welcome the views of states on the issues raised in this paper, particularly on the options for incorporating the 2021-22 wage data in the 2023 Update. Could comments please be provided by Friday 20 January 2023.