



**Australian Government**  

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**Commonwealth Grants Commission**

**2017 UPDATE**

**NEW ISSUES FOR THE 2017 UPDATE  
— THE WAGE COSTS ASSESSMENT**

**STAFF DISCUSSION PAPER  
CGC 2016-18-S**

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## BACKGROUND

- 1 The wage costs assessment recognises that comparable public sector employees in different States are paid different wages, partly due to differences in labour markets that are beyond the control of States.
- 2 The Commission undertook a comprehensive review of the wage costs assessment in the 2016 Update.<sup>1</sup>

### The wage costs assessment

- 3 Following its comprehensive review, the Commission decided it would:
  - measure the relative private sector wage paid to comparable employees in different States and use their divergence from the average as an indicator of how public sector wages in each State would diverge from their average
  - estimate these private sector wage differentials (the modelled outcomes) using an econometric model and microdata from ABS surveys
  - use the annual Characteristics of Employment Survey (CoES) as the source of its microdata
  - apply a low discount (12.5%) to the modelled outcomes because it reflected the level of its concerns about the data and the method used in the assessment
  - apply a Commonwealth Superannuation Scheme (CSS) adjustment to the ACT and the Northern Territory in the 2016 Update, whilst noting that it intended to consult with States on the adjustment's materiality during 2016.

### 2017 Update new issues discussion paper

- 4 In the new issues paper,<sup>2</sup> staff said they would provide States with the estimates of wage cost differences once the ABS had released its 2015 CoES.
- 5 Staff noted information on educational attainment would be available in the 2015 CoES data. The 2014 CoES data did not include that information.
- 6 Staff also said they intended to retest the materiality of the CSS adjustment and recommend the Commission remove it if it was not material.
- 7 State responses to the new issues paper are discussed later.
- 8 This paper provides illustrative GST distributions for simulations using variations of the Wage costs factors. As data for the 2017 Update are not yet available, these simulations were undertaken using 2016 Update data, but replacing the 2016 Update

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<sup>1</sup> *Report on GST Revenue Sharing Relativities*, 2016 Update, Chapter 3 wage costs, page 62 to 80.

<sup>2</sup> *New issues for the 2017 Update*, Staff Discussion Paper CGC 2016-05-S.

Wage costs factors with the relevant variation. The resulting relativities were applied to estimated State populations and estimated GST revenue published in the 2016 Update.

## COES VARIABLES THAT ARE NOT AVAILABLE EVERY YEAR

9 This section provides information on the materiality of:

- the education variables
- the trade union membership variable.

### The education variables

10 Educational attainment is an important driver of wage costs. It has been included in the Commission’s econometric model in every year except 2014-15. It was not included in that year because, due to issues with ABS processing, the 2014 CoES data did not include information on educational qualifications. This information is included in the 2015 CoES and is expected to be included in future datasets.

11 Staff have estimated the impact of the education variables by calculating 2015-16 outcomes with and without the education variables.

12 Table 1 shows the impact of the education variables on the modelled outcomes.

**Table 1 Relative private sector wages, with and without education variables, 2015-16**

2015-16 CoES	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
	%	%	%	%	%	%	%	%
No education variables	0.3	-1.4	-0.5	5.3	-2.8	-7.9	6.3	5.0
Education variables	0.1	-1.6	-0.3	5.5	-2.5	-7.0	5.6	6.0
Change	-0.2	-0.2	0.3	0.2	0.2	0.8	-0.7	0.9

Source: Commission staff analysis using ABS SET and 2015 CoES data.

13 Table 2 confirms including the education variables in the econometric model is material —it changes at least one State’s GST outcome by more than \$10 per capita.<sup>3</sup>

<sup>3</sup> Since we are testing the materiality of variables to be included in the econometric model, staff consider the appropriate threshold to apply is the \$10 per capita data threshold, not the \$30 per capita disability threshold.

**Table 2 GST impact of the education variables, 2016-17**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total (a)
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
No education variables	242	-481	-333	819	-241	-170	82	83	1 225
Education variables	220	-501	-313	829	-235	-163	78	87	1 213
Difference	-22	-20	20	10	6	6	-4	3	46
	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc
No education variables	31	-79	-68	305	-140	-328	206	334	50
Education variables	28	-82	-64	309	-136	-316	195	348	50
Difference	-3	-3	4	4	4	12	-10	14	2

(a) Total difference from an equal per capita assessment.

Source: Commission staff calculation.

- 14 Given education qualifications data are material and the data should be available in future CoES, staff propose to recommend the Commission use education qualifications in its econometric model this year and in the future.

### The trade union membership variable

- 15 The ABS collects data on trade union membership every second year. The variable was included in the 2014 CoES and so influenced the 2014-15 modelled outcomes. Staff have estimated the variable's materiality by recalculating the 2014-15 outcomes after omitting the variable.

- 16 Table 3 shows the impact of this variable on the modelled outcomes.

**Table 3 Relative private sector wages, with and without the trade union membership variable, 2014-15**

2014-15 CoES	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
	%	%	%	%	%	%	%	%
With the variable (a)	0.9	-1.5	-1.8	7.7	-4.8	-8.9	3.2	9.2
Without the variable (b)	0.9	-1.4	-1.9	7.6	-4.8	-8.9	3.4	9.1
Change	0.0	0.1	-0.1	-0.1	0.0	0.0	0.2	0.0

(a) This is the 2014-15 modelled outcomes using 2014 CoES data with the trade union variable.

(b) This is the 2014-15 modelled outcomes using 2014 CoES data without the trade union variable.

Source: Commission analysis using 2014 CoES data.

- 17 Table 4 confirms including the variable in the Commission's econometric model was not material.<sup>4</sup>

<sup>4</sup> The inclusion of this variable did not change any State's GST outcome by more than \$10 per capita.

**Table 4 GST impact of the trade union membership variable, 2016-17**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total (a)
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
With the variable	321	-562	-453	897	-229	-145	76	95	1 388
Without the variable	322	-556	-460	894	-228	-144	77	95	1 388
Difference	-1	-6	7	3	-1	0	-1	0	10
	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc
With the variable	41	-92	-93	334	-133	-280	191	381	57
Without the variable	41	-91	-94	333	-132	-279	193	381	57
Difference	0	-1	1	1	-1	-1	-3	1	0

(a) Total difference from an equal per capita assessment.

Source: Commission staff analysis using 2014 CoES data.

- 18 The trade union membership variable is available every second year. Given it is not material, staff propose to recommend that the Commission leave this variable out of its econometric model in the future, even when the data are available.

## RECOMMENDATIONS

Staff propose to recommend to the Commission that it:

- continue to include the education variables in its econometric model because they are material
- exclude the trade union membership variable from its econometric model as it is not material.

## STATE SUBMISSIONS ON THE WAGE COSTS ASSESSMENT

- 19 In their submissions to the 2017 Update, States raised four issues:

- the general discount
- the CSS adjustment
- a State specific adjustment for Tasmania
- State access to the ABS 2015 CoES data.

### The general discount

- 20 **State submissions.** Victoria, Queensland and South Australia said the discount was too low. They considered there were other factors that affected public sector wages that were as conceptually significant as private sector wages. They supported increasing the discount.

- 21 The ACT disagreed. It noted CoE data were more up-to-date than the quadrennial SET data. It suggested the CoE data were more reliable because they were based on a larger sample size, which should improve the regression model's accuracy and reduce volatility. It argued that if the CoES data produced more reliable and accurate outcomes, the discount should be removed.
- 22 **Staff view.** The Commission considered the level of the discount in its comprehensive review. It also noted the next few updates were likely to incorporate higher quality contemporaneous data, but it did not propose reducing the discount when that happened. States have not provided additional evidence to support a change in the discount for reasons other than those the Commission took into account in its review.
- 23 In the absence of new evidence, staff propose to recommend the Commission make no change to the level of the discount.

## A State specific adjustment for Tasmania

- 24 **Background.** The Commission last assessed a specific adjustment for Tasmania in the 2010 Review. It did so because data from the 1997, 2001 and 2005 SET indicated:  
there are constraints on the variation of public sector wages, and ... there are likely to be bounds within which public sector wages lie.<sup>5</sup>
- 25 The Commission concluded relative public sector wages in Tasmania could not fall as low as the SET data suggested its relative private sector wages had fallen. On that basis, it applied a 25% discount to Tasmania's modelled outcome. It discontinued the adjustment in the 2011 Update, because Tasmania's modelled outcome using the new 2009 SET data suggested its relative private sector wages no longer fell outside the bounds within which public sector wages lay.
- 26 In the 2016 Update, Tasmania's modelled outcome using 2014 CoES data suggested its relative private sector wages were 8.9% below average, well outside the range found for public sector wages.<sup>6</sup> However, the Commission considered that using the indexed SET estimates for the first two assessment years mitigated the effect of the new CoES data, putting Tasmania's average relative private sector wages at 6.2% below average. While this was below the public sector wage differential for a comparable employee in Victoria, it was not so far below as to be infeasible. Accordingly, the Commission did not make an adjustment for Tasmania.
- 27 **State submissions.** Tasmania asked what the Commission would do if its modelled outcome using the new 2015 CoES data produced a result similar to that produced by the 2014 CoES data.

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<sup>5</sup> *GST Revenue Sharing Relativities*, 2010 Review, Volume 2, Chapter 24 Location costs, page 505, paragraph 27.

<sup>6</sup> The State with the next lowest public sector wage level was Victoria. Its public sector wage differential for a comparable employee in 2014 was 5.7% below average.



- 28 **Staff view.** Table 5 shows Tasmania's modelled outcome for 2015-16 is 7.0% below average. While this is less than its 2014-15 modelled outcome (8.9% below average), it is higher than its 2013-14 modelled outcome (5.0% below average). The combined average of using indexed SET estimates for the first assessment year and CoES data for the last two assessment years puts Tasmania's average relative private sector wages at 7.0% below average.
- 29 Staff do not believe Tasmania's 2015-16 modelled outcome is so extreme that it warrants an adjustment in addition to the general discount. Staff propose to recommend the Commission not make an adjustment for Tasmania.

## The CSS adjustment

- 30 **Background.** The Commission found this adjustment was not material in the 2016 Update. However, as this materiality was identified very late in the process with insufficient opportunity to consult with States, it left the adjustment in place.
- 31 The CSS disability is based on the estimated number of Territory employees in the CSS. These numbers are declining as employees retire, which is causing the CSS adjustment to decline over time. The Northern Territory's adjustment is declining faster than the ACT's adjustment. At some point, the adjustment will cease to be material.
- 32 **State submissions.** Most States said this adjustment should be discontinued if it is no longer material.
- 33 The ACT and the Northern Territory disagreed. They said:
- under existing protocols, the Commission cannot make a change to an assessment method in an update
  - the CSS adjustment was not a separate disability but was part of the wage costs disability and, therefore, the appropriate materiality threshold was the \$10 per capita data threshold not the \$30 per capita disability threshold.
- 34 **Staff view.** Staff have retested the materiality of the CSS adjustment and found that it is not material in the 2017 Update. It redistributes \$12 per capita for the ACT and \$6 per capita for the Northern Territory.
- 35 Staff believe removing the CSS adjustment in these circumstances is consistent with what the Commission foreshadowed it would do in its comprehensive review. There are other examples where the Commission foreshadowed how its assessment methods would evolve in upcoming updates (for example, the ending of the transitional arrangements to bring States' unfunded superannuation liabilities into the equalisation process, and the ending of the ACT's national capital allowance for the additional cost of wider roads).
- 36 Staff do not view the CSS adjustment as a data adjustment. It is an assessment of unavoidable legacy costs that are in addition to, but separate from, the wage costs

differentials of comparable employees. Staff believe the appropriate threshold to apply is the \$30 per capita disability threshold, rather than the \$10 per capita data threshold.

37 Staff propose to recommend the Commission discontinue the adjustment.

### **State access to CoES data**

38 **State submissions.** Queensland asked the Commission to assist States to achieve access to the ABS data used in the regression model. It said that, without that access, key elements of the wages assessment would remain opaque to States.

39 **Staff view.** The Commission does not have the ABS data. The Commission outposted an officer in the ABS to run its econometric model. In the 2014 Update, staff provided States with the code used in the Commission's regressions. States were able to negotiate with the ABS for access to the data, and use our code in their testing. Staff also provided States with the diagnostic results of the Commission's regressions.

40 Staff propose to provide the same support to States in this update.

## **RECOMMENDATIONS**

Staff propose to recommend to the Commission that it:

- not change the level of the general discount
- not introduce a State specific adjustment for Tasmania
- remove the CSS adjustment as it is no longer material.

## **WAGE COSTS ESTIMATES FOR THE 2017 UPDATE**

41 Table 5 shows the modelled outcomes for:

- 2012-13, which were derived from 2009 SET data, updated for changes in the WPI between the SET survey year (2009-10) and 2011-12
- 2013-14, which were derived from 2009 SET data, updated for changes in the WPI between the SET survey year and 2012-13
- 2014-15, which were derived from 2014 CoES data
- 2015-16, which were derived from 2015 CoES data with the education variables included but the trade union membership variable excluded.

**Table 5 Relative private sector wages, 2017 Update**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
	%	%	%	%	%	%	%	%
2012-13 (a)	1.0	-2.3	-2.2	7.3	-2.3	-4.6	4.4	7.6
2013-14 (a)	0.9	-2.3	-2.1	7.2	-1.7	-5.0	4.2	7.9
2014-15	0.9	-1.5	-1.8	7.7	-4.8	-8.9	3.2	9.2
2015-16 (b)	0.1	-1.6	-0.3	5.5	-2.5	-7.0	5.6	6.0

(a) These estimates are from 2009 SET data, updated for changes in the ABS Wage Price Index.

(b) These estimates are based on 2015 CoES data, including the education variables but excluding the trade union membership variable.

Source: Commission staff calculation.

42 It shows that in 2015-16, non-policy influenced private sector wages were:

- above average in Western Australia, the ACT and the Northern Territory
- about average in New South Wales and Queensland
- below average in Victoria, South Australia and Tasmania.

43 Table 6 shows the resulting (undiscounted) private sector factors. A factor greater than one signifies a State that experienced private sector wage levels for a comparable employee in excess of the average in that year.

**Table 6 Private sector factors, 2017 Update**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ave
2012-13	1.010	0.977	0.978	1.073	0.977	0.954	1.044	1.076	1.000
2013-14	1.009	0.977	0.979	1.072	0.983	0.950	1.042	1.079	1.000
2014-15	1.009	0.985	0.982	1.077	0.952	0.911	1.032	1.092	1.000
2015-16	1.001	0.984	0.997	1.055	0.975	0.930	1.056	1.060	1.000

Source: Commission staff calculation.

44 Compared with the 2012-13 SET based assessment, the 2015-16 CoES assessment imply relative private sector wage levels have:

- risen in Victoria, Queensland and the ACT
- fallen in New South Wales, Western Australia, South Australia, Tasmania and the Northern Territory.

45 Table 7 shows the derivation of the wage costs factors for 2015-16.

**Table 7 Calculation of wage costs factor, 2015-16**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Ave
Raw private sector factors (from Table 6)	1.001	0.984	0.997	1.055	0.975	0.930	1.056	1.060	1.000
Public sector wage costs factors (a)	1.001	0.986	0.998	1.048	0.978	0.938	1.049	1.052	1.000

(a) These are derived by applying the 12.5% general discount to the raw private sector factors.

Source: Commission staff calculation.

46 Table 8 shows the 2016 Update GST distribution had the recommended wage costs factors been used in place of those that were assessed in that update. It also reflects the removal of the CSS adjustment for the ACT and the Northern Territory.

47 Table 8 shows that New South Wales, Western Australia, the ACT and the Northern Territory would be assessed to require more than an equal per capita share of GST to deliver services because of their higher relative wage levels. The other States would be assessed to require less than a per capita share because of their lower relative wage levels.

**Table 8 Illustrative effect on the GST distribution of wage costs assessment, 2016-17**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total (a)
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
2016 Update	321	-562	-453	897	-229	-145	76	95	1 388
New wage costs factors	220	-501	-313	829	-235	-163	78	87	1 213
Difference	-101	61	140	-68	-7	-19	2	-8	203
	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc
2016 Update	41	-92	-93	334	-133	-280	191	381	57
New wage costs factors	28	-82	-64	309	-136	-316	195	348	50
Difference	-13	10	29	-25	-4	-36	5	-33	8

(a) Total difference from an equal per capita assessment.

Source: Commission staff calculation.

48 Table 8 also shows that, compared with the 2012-13 SET assessment (Table 6), the 2015 CoES assessment led to:

- falls in the share of GST for New South Wales, Western Australia, South Australia, Tasmania and the Northern Territory because their relative wage levels fell
- increases in the share of GST for Victoria, Queensland and the ACT because their relative wage levels increased.

## SEEKING STATE VIEWS

State views are sought on:

- Whether the Commission's econometric model should:
  - continue to include the education variables because they are material
  - exclude the trade union membership variable as it is not material?
- Whether Tasmania's modelled outcomes fall outside the bounds within which public sector wages lie and require an adjustment in addition to the general discount?