



Government of **Western Australia**  
Department of **Treasury**

Western Australia's Submission to the  
**Commonwealth Grants  
Commission's 2015  
Methodology Review**

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## Executive Summary

This submission responds to the *Significant Changes since the Draft Report* Commission Position Paper (CGC 2014-04) circulated by the Commonwealth Grants Commission (CGC) on 1 December 2014. It builds on our July 2013, February 2014, April 2014, September 2014, October 2014 and November 2014 submissions.

The Position Paper states that the CGC intends, at a late stage in the 2015 Review, to re-examine all assessments. It is our hope that the CGC will continue to consult the States in this process. This would be in line with the requirement in the CGC's terms of reference to consult, and would also be helpful in avoiding unfortunate last minute decisions such as the 2010 Review mining revenue assessment (which was overly sensitive to royalty rate changes).

We are always happy to talk through issues with the CGC; indeed, this may often be the most efficient way to sort through the multifarious arguments and evidence and arrive at some common ground, whether this be agreement on method or agreement on the core areas of dispute. While we have had opportunities to put forward views, we have had limited opportunity to debate these issues with CGC staff and gain an understanding of the CGC's perspective.

Following is a brief description of what is addressed by each chapter in this submission.

- The ***Internal Consistency of Assessments*** chapter explains why the CGC should:
  - be careful of discounting expenditure assessments;
  - discount the revenue assessments across the board; and
  - apply a relativity floor (the Western Australian Government supports a 75% floor on the relativities).

- The Mining Revenue and Contemporaneity chapter explains why:
  - removing time lags is important to achieving horizontal fiscal equalisation (HFE) and improving States' budget management;
  - relativities based on forward estimates with ex post adjustments are a good approach;
  - time lags are particularly significant for the iron ore and North West Shelf royalty assessments, where the CGC's lagged average assessments will give a particularly poor HFE outcome.
- The **Health Assessment** chapter explains why we continue to have significant concerns with the proposed new assessment of non-State services.
- The **Welfare Assessment** chapter explains why:
  - location costs should be applied broadly in the Welfare category; and
  - the proposed method for assessing other general welfare demands places too much weight on low socio-economic status.
- The **Urban Transport Infrastructure Assessment** chapter explains why:
  - all the data concerns with the Draft Report model are equally relevant to the new proposed population squared model;
  - conceptually, we expect a non-linear relationship between per capita urban transport stock and population size; and
  - for a capital assessment, a non-linear relationship will give very different results to a linear relationship.
- The **Nationally Significant Infrastructure Projects** chapter explains why the latest proposal regarding grants for rail, while not in itself objectionable, highlights the fragmentary approach to the recognition of national interest needs.

With regard to the CGC's proposals relating to **Mining Related Expenditure** and **Regional Cost Gradient**, we are, with one exception,<sup>1</sup> happy with these proposals (indeed very happy that the CGC has provided some recognition of mining related expenditure needs). However, as we have fully documented in previous submissions, there are large issues in relation to Western Australia's mining related expenditure needs, regional costs and interstate non-wage costs that remain to be addressed.

There are a few areas where we are continuing to pursue data analysis, and will forward any significant findings to the CGC.

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<sup>1</sup> We do not agree with the CGC's proposed 12.5% discount to the general regional cost curve, as this assessment is likely to already be conservative (as discussed in the **Internal Consistency of Assessments** chapter of this submission).

# 1. Internal Consistency of Assessments

## **Key Points**

- It may be helpful if the CGC were able to consult with States on the outcome of its reality/internal consistency check.
- The CGC should be careful of discounting expenditure assessments that are already likely to be conservative.
- We believe that the CGC should discount its revenue assessments across the board due to:
  - only partial equalisation of related expenditures; and
  - uncertainty as to whether observed revenue bases reflect average policy.
- The CGC should consider a relativity floor to reflect the uncertainties associated with very high levels of redistribution. A floor can be funded equal per capita so that it does not have a disproportionate impact on States with high needs.

Paragraph 4 of the Position Paper<sup>1</sup> says:

States should also be aware the Commission intends, at a late stage in the review, to re-examine all assessments, including all discounts, to ensure they pass a reality test and are internally consistent. This is consistent with our assessment guidelines.

Consultation with States on the outcome of this re-examination may be helpful in identifying possible oversights, such as occurred with the Mining Revenue assessment in the 2010 Review.

We agree that there is a need for consistency across assessments, including discounts.

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<sup>1</sup> CGC 2014-04, *Significant Changes since the Draft Report*, page 2.

## Discounting

The CGC has a long standing practice of discounting in response to uncertainty in the assessments, which it reiterated in its Draft Report (page 33, paragraph 67):

We consider discounting is an appropriate means of dealing with uncertainty in assessments. Assessments might have a level of uncertainty attached to them because the indicator we are using may not be a good proxy of what we are trying to measure or because data are of poor quality, either not fully comparable across States or not representative of the situation in all States.

We agree with this approach. However, it is important to avoid double-counting in the discount process. This will occur where an already conservative assessment is further discounted (examples include wages and regional costs, where our submissions have noted that the assessments understate Western Australian costs).

Prime examples of the need for discounting are the urban transport expense and asset assessments, which are based on observed expenses and assumed cost functions, but should be based on average policy expenses and cost functions that reflect identified drivers of expense and revenue.

Apart from data quality issues, uncertainty particularly impacts on the revenue base measures. For consistency, the CGC's calculations should only assess revenue capacity to the same extent it has equalised the associated expenditures. However, this is unlikely to be the case because of:

- partial equalisation of expenditures now and in the past, particularly those related to economic development; and
- uncertainty as to whether observed revenue bases reflect the revenue bases that would occur under average policy.<sup>2</sup>

Accordingly, the observed revenue bases are unlikely to be a good proxy of what the CGC is trying to measure, which should be addressed by discounting the revenue assessments.

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<sup>2</sup> We note that the HFE principle itself requires revenue assessments to be based on each State making "the same effort to raise revenue from its own sources".

## Relativity Floors

Relativity floors are not a popular concept among the States, as currently the only beneficiary would be Western Australia, at the cost of other States.

Nevertheless, we believe the concept has merit and should be considered by the CGC.

- Firstly, very high levels of redistribution to or from a State are likely to have a significant margin of uncertainty. Given the problems of incomplete and non-policy neutral assessments, it is appropriate for the CGC to err on the side of caution and limit the extent to which it will take GST funding away from any individual State. Very high levels of redistribution do not hurt a State that receives too much money, but do hurt a State that gives too much money.
- Secondly, as it can be funded on an equal per capita basis, a relativity floor need not have a disproportionate impact on States with high needs.

Western Australia believes that a relativity floor is an essential part of reform of federal-state financial relations.

Western Australia has expressed concerns about the problems of non-contemporaneous assessments, sensitivity of the mining revenue assessment to individual State royalty rate choices, and current lack of full recognition of the costs of economic development. Given Western Australia's current low relativity, an appropriate floor would effectively address these problems, at least temporarily.

## 2. Mining Revenue and Contemporaneity

### **Key Points**

- We appreciate the CGC's consideration of this issue.
- The CGC's focus on the 'single objective' of HFE, as distinguished from the four supporting principles (including contemporaneity), is perplexing.
  - We see the four supporting principles as helping to define a principle that otherwise lacks sufficient definition to be operationalised in an unambiguous way, which is an important issue for accountability.
  - The contemporaneity principle was introduced to clarify HFE.
- Only relativities that use up-to-date data can achieve full HFE as well as:
  - capturing structural or long period cyclical shifts in a timely manner;
  - eliminating inefficient State budgeting due to fiscal illusion created by time lags;
  - allowing HFE to stabilise rather than destabilise State finances (currently relativities often exaggerate revenue cycles); and
  - equitably sharing revenue volatility, as well as revenues, across States.
- Alternative approaches are unlikely to work well. Longer smoothing may further delay adjustments to structural changes, while selective adjustments involve equity issues and judgements on structural changes.
- Revisions and ex post adjustments (depending on the details of the process) are a natural part of producing contemporaneous relativities that are fully consistent with HFE. The lagged three-year average is in effect a long drawn out process of estimation and correction.
- Contemporaneity is a particularly important issue for Western Australia's mining revenue capacity. The current time lag will result in an estimated HFE shortfall for Western Australia in 2015-16 of \$832 million for iron ore royalties and \$438 million for North West Shelf grants. Other States, we believe, are much less affected by time lags.
- Using the lagged three-year average is equivalent to assuming a \$US92.6 per tonne iron ore price in 2015-16, compared to the current spot price of \$US69.5 per tonne.

## HFE and the Contemporaneity Principle

We appreciate the CGC's consideration of the contemporaneity of the mining revenue assessments, an issue that we raised only this year. Western Australia has previously been content with a lagged average approach to equalisation (albeit with reservations about the choice of a three-year average). However, the dramatic change in our budget circumstances (from growth to collapse in iron ore prices), and anomalies relating to the redistribution of our declining North West Shelf grants, have shown clearly to us that a lagged average approach causes significant distortions in State budgeting when there are structural changes (either sudden or gradual).

It seems to us that, if fiscal equalisation is to be implemented, it must either be contemporaneous or with a time lag. The HFE principle does not specify which of these applies. Therefore, the HFE principle is in this sense undefined and requires a supporting principle.

We note that the CGC introduced the contemporaneity principle in the 2010 Review to make it clear that it did not support the concept of HFE being achieved with a time lag. The CGC switched from a five-year average to a three-year average (at significant cost to Western Australia) in order to better reflect the circumstances of the grant (i.e. application) year.

We understand that supporting principles are not necessarily set in stone, but desirably they should change in response to in-principle considerations, rather than implementation issues such as data availability. Implementation issues are important but can usually be worked through.

We summarise the in-principle case for relativities that use up-to-date data as follows:

- consistent with achieving full HFE;
- captures structural or long period cyclical shifts in a timely manner;
- eliminates inefficient State budgeting due to fiscal illusion created by time lags;
- allows HFE to stabilise rather than destabilise State finances (currently relativities often exaggerate revenue cycles); and
- equitably shares revenue volatility, as well as revenues, across States.

Alternative approaches are unlikely to work well. Longer smoothing may further delay adjustments to structural changes, while selective adjustments involve equity issues and judgements on whether changes are enduring or cyclical (which is often not evident until after the fact).

The reliance on forward estimates, with subsequent corrections, is a natural part of producing contemporaneous relativities that are fully consistent with HFE. This should not be seen as a negative. Volatility in GST relativities is expected to be small compared to the potentially large budget volatility that occurs in the absence of contemporaneity. The lagged three-year average is in effect a much more drawn out process of estimation and correction.

The CGC considers that projections are too unreliable to use. However, by using the lagged three-year average, the CGC has in effect already been using projections of the circumstances in the grant year – by (with some exceptions) assuming that those circumstances will be the same as the historical data years. This approach is likely to be even more unreliable in future years.

If the process of determining relativities annually in February is retained, relativities for 2016-17 and onwards would need to include ex post adjustments to correct errors in previous relativities. This is not in principle a difficult process.

Alternatively, the Commonwealth could issue additional terms of reference (e.g. after the April 2015 meeting of the Council on Federal Financial Relations) to allow the CGC to revise its relativities every six months or so.

We think the CGC's task is to produce the most contemporaneous relativities that it can. Governments can, if they wish, agree to update these relativities during the financial year. If they do not, the CGC can pick up the errors in the next annual update.

The CGC has suggested that ex post adjustments to compensate for errors in relativity estimates would undermine contemporaneity in those years. However, if a State receives a HFE shortfall due to CGC data not matching actual outcomes then it would be left with a higher per capita debt in the following year. An ex post adjustment would expeditiously address that debt (far quicker and more transparently than the three-year averaging process).

Using forecasts for the grant year also enables States (either individually or as a group, and potentially with assistance from the CGC) to compare the grant year relativities with likely outcomes as more data and more accurate forecasts become available. Under the lagged average, States have to anticipate how the grant year relativity will be effectively corrected over a long time frame.

Finally, we note that the Commonwealth itself makes ex post adjustments to GST grants in the following year for differences between estimates and outcomes for the size of the GST grant pool and population shares. These ex post adjustments are calculated on the basis of the relativities for the year to which the adjustments relate, so the relativities themselves are in effect applied over a combination of two years.

## **Contemporaneity in the Mining Revenue Assessment is a Particularly Important Issue for Western Australia**

Mining Revenue is almost certainly the category where correct application of the contemporaneity principle would be the most material.

In particular, our estimates suggest that the lagged three-year average will fail to achieve HFE by wide margins for iron ore and North West Shelf grants.<sup>1</sup>

In 2015-16, based on our Mid-year Review projections, we estimate that the lagged three-year average would cost Western Australia (compared to an unlagged assessment):

- \$832 million (\$306 per capita) for iron ore royalties;<sup>2</sup> and
- \$438 million (\$161 per capita) for North West Shelf grants.

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<sup>1</sup> References to North West Shelf grants in this chapter include the excise compensation.

<sup>2</sup> Assuming a mineral by mineral assessment, with no discounting, and ignoring the proposed iron ore 'fines' transitional allowance (which is only temporary).

To illustrate for iron ore, Western Australia's Mid-year Review (finalised 3 December 2014) projects a 2015-16 delivered iron ore price of \$US77.3 per tonne. Based on our estimates, the CGC's lagged three-year average implies a projected 2015-16 iron ore price of \$US92.6 per tonne.<sup>3</sup>

- The price would have to average over \$US84.9 per tonne for 2015-16 before the three-year lagged average would produce a closer result than an unlagged assessment, based on current Mid-year Review forecasts.
- The 3 December 2014 spot price was \$US69.5 per tonne.

Although there are price fluctuations in minerals other than iron ore, these do not have as significant an impact on HFE outcomes. To illustrate, Table 1 below shows a historical series of the contribution of coal to New South Wales' and Queensland's data (i.e. assessment) relativities, compared to the contribution of iron ore for Western Australia (all based on a mineral by mineral assessment).

As shown by the table, the range of variation over the last decade is much greater for Western Australia (0.726) than for either Queensland (0.190) or New South Wales (0.029).

We also believe that time lags for other assessments do not have as significant an impact on HFE outcomes.

If the CGC decides to continue to apply HFE on the basis of old data, it should at least provide a large discount to the Mining Revenue assessment to help address the problems we have outlined.

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<sup>3</sup> This is not a straight average of the prices applying in the lagged three-year average. Rather it is the price required in 2015-16, under projected quantities and exchange rate, to produce the same HFE outcome from an unlagged assessment as from a three-year lagged assessment.

**Table 1: Contribution of mineral to data year relativities  
under a mineral by mineral assessment <sup>(a)</sup>**

<b>Data year</b>	<b>NSW Coal</b>	<b>Qld Coal</b>	<b>WA Iron ore</b>
2004-05	-0.005	<b>-0.061</b>	<b>-0.120</b>
2005-06	+0.004	-0.100	-0.172
2006-07	+0.003	-0.086	-0.195
2007-08	-0.001	-0.079	-0.235
2008-09	<b>+0.011</b>	<b>-0.251</b>	-0.410
2009-10	-0.002	-0.139	-0.350
2010-11	-0.004	-0.170	-0.667
2011-12	-0.013	-0.168	-0.678
2012-13	-0.017	-0.113	-0.646
2013-14 <sup>(b)</sup>	<b>-0.018</b>	-0.114	<b>-0.846</b>
<b>Maximum /less minimum</b>	<b>0.029</b>	<b>0.190</b>	<b>0.726</b>

Source: Western Australian Treasury estimates using CGC data.

(a) Calculated by dividing needs by population share of GST grant pool.

(b) Western Australian Mid-year Review estimates (which reflect published final budget outcome royalty collections for New South Wales and Queensland).

### 3. Health Assessment

#### *Key Points*

- There is much confusion in the proposed assessment of non-admitted patient services, which has been accentuated by the lack of engagement of the CGC with the States.
  - The level of ‘potentially avoidable’ public sector activity (e.g. emergency department presentations that would not have occurred if a private provider had been available) has been allocated across States in a way that severely discounts the observed differences across States in private sector activity. No evidence has been put forward to justify this assumed discount, and it is inequitable.
  - Problems have been compounded by loose discussion on ‘substitutability’; trying to separately assess three service areas (i.e. emergency departments, outpatient services and community) that are used together in response to a lack of access to private services; and by confining the assessment to a limited range of private services (e.g. the lack of access to non-bulked billed private services is assumed not to impact on public sector demand).
- The proposed assessment has similarities, and similar problems, to the assessment used by the CGC prior to the 2010 Review. The recognition of these problems led to the new method in the 2010 Review which the CGC now proposes to replace.
- The 2010 Review method is transparent, being based on the principle that, under a standard policy, communities should have the same standard of health services (allowing for relevant circumstances). This transparency allows data issues to be identified and addressed.
- The proposed assessment is not transparent and very difficult to support with data. In addition, whether it is equitable can only be judged by comparing whether it gets the same results as the 2010 Review method.

This is an important category for Western Australia, reflecting the low level of private sector provision of services in the State, and the very high cost of services in remote areas. The CGC's Draft Report (page 182) stated that:

We face a choice between the simplification we sought and retaining the 2010 Review methodology, updated to reflect changing circumstances, which we find difficult to resolve at this point in time, but which developments over coming months might make easier to resolve by the time of the final report. We see the approach contained in this attachment as a placeholder pending further consultation with States and in particular, we seek State views on whether a simpler approach, along the lines in this attachment or the 2010 Review approach, is appropriate at this time.

Between the release of the CGC's Draft Report and its Position Paper, Western Australia provided four substantive submissions on the health assessment.<sup>1</sup> There has been no formal response to the issues we have raised.

We also recently provided comments on two consultants' reports circulated by the CGC.

We will not attempt a full summary of the material we have provided, which remains valid. Some key points on the proposed assessment of non-admitted patient services are as follows.

## Conceptual Clarity

The CGC has not stated what it is conceptually aiming to quantify with its substitutability percentages for emergency departments (EDs), outpatient services and community services. Our best guess is:

The proportion of costs/activity that relates to services that would not have been performed in the public sector if bulk billed private services were readily available.

It is very difficult for our Health Department to comment on the proposed percentages in the face of ambiguity about definitions. Nevertheless, WA Health will provide what feedback it can on the CGC's latest proposals in its Health Substitutability paper.

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<sup>1</sup> September 2014 submission on Draft Report, 24 October 2014 email to CGC staff; 20 November 2014 letter from Acting Under Treasurer Michael Barnes to the CGC, 21 November 2014 email to CGC staff.

## Calculating Non-state Services Factors

The CGC has allocated public substitutable spending across States in a way that severely discounts the observed differences across States in private sector activity.

Taking ED services as an example, the CGC's Health Substitutability paper identifies substitutable ED expenses as \$555 million<sup>2</sup> (i.e. 15% of ED expenses). Our understanding of what the CGC has done is as follows.

- Calculate a base distribution of the \$555 million (Row A in Table 1), based on a hypothetical standard profile of bulk billed general practitioner (GP) services. This profile is consistent with the CGC's socio-demographic composition assessment for EDs, and hence warrants no additional needs assessment.
  - The plausibility of relating the size of avoidable public spending to aggregate GP services in this way is questionable, but the end result is not affected by this assumption (as it is only variation from this base that will affect needs).
- Adjust the base distribution by 11% (roughly) of the observed difference between the standard and actual distribution of bulk billed GP services (Row B in Table 1) to yield an adjusted distribution of the \$555 million (Row C in Table 1).
  - The 11% comes from assuming that the difference between the standard and actual distribution of bulk billed GP services should be scaled by the ratio of \$555 million to the total value of bulk billed GP services (around \$5 billion).
  - What justifies this scaling factor? There is no evidence and it is implausible.

A more plausible assumption is that the base distribution should be adjusted for 100% of the difference between the standard and actual distribution of bulk billed GP services (Row D in Table 1) to yield a revised adjusted distribution of the \$555 million (Row E in Table 1).

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<sup>2</sup> This is probably significantly understated but, as is illustrated, the size of this estimate does not matter.

**Table 1: Alternative non-state service adjustments for EDs  
(15% substitutability)**

	NSW \$m	Vic \$m	Qld \$m	WA \$m	SA \$m	Tas \$m	ACT \$m	NT \$m	Total \$m
A Base distribution	183	139	108	57	43	12	8	4	555
B CGC discounted adjustment	-19	0	-3	16	2	1	3	0	0
<b>C CGC adjusted distribution</b>	<b>164</b>	<b>139</b>	<b>105</b>	<b>73</b>	<b>45</b>	<b>13</b>	<b>11</b>	<b>4</b>	<b>555</b>
D Non-discounted adjustment	-171	0	-27	144	18	9	27	0	0
<b>E Revised adjusted distribution</b>	<b>12</b>	<b>139</b>	<b>81</b>	<b>201</b>	<b>61</b>	<b>21</b>	<b>35</b>	<b>4</b>	<b>555</b>

As noted above, the \$555 million in estimated substitutable ED expenses is likely to be an underestimate. Table 2 replicates Table 1 assuming that the level of substitutable ED expenses is 30% rather than 15%. As assessed by the CGC, differential needs would double (Row B). However, we consider that differential needs should not change (Row D).

**Table 2: Alternative non-state service adjustments for EDs  
(30% substitutability)**

	NSW \$m	Vic \$m	Qld \$m	WA \$m	SA \$m	Tas \$m	ACT \$m	NT \$m	Total \$m
A Base distribution	366	278	216	114	86	24	16	8	1,110
B CGC discounted adjustment	-38	0	-6	32	4	2	6	0	0
<b>C CGC adjusted distribution</b>	<b>328</b>	<b>278</b>	<b>210</b>	<b>146</b>	<b>90</b>	<b>26</b>	<b>22</b>	<b>8</b>	<b>1,110</b>
D Non-discounted adjustment	-171	0	-27	144	18	9	27	0	0
<b>E Revised adjusted distribution</b>	<b>195</b>	<b>278</b>	<b>189</b>	<b>258</b>	<b>104</b>	<b>33</b>	<b>43</b>	<b>8</b>	<b>1,110</b>

## Scope of the Private Sector

The CGC's assessment should reflect all the private sector service gaps that place pressure on public health services, not just bulk billed general practitioner (GP), specialist, pathology and imaging services. Many geographical areas (e.g. within Western Australia) have limited or no access to private medical services, regardless of whether they are bulk billed or not. If there are no services, States have to substitute for what in other geographical areas are provided by bulk billed and non-bulk billed private services.

- This is consistent with what we believe the CGC's measure of substitutable State spending to be.
- Bringing in all the relevant private spending is needed to capture the correct private spending relativities, and the absolute magnitude of this spending, which are both needed to assess the substitution effect on States (as in the illustrative calculation we provided above).

## State Services as Silos?

The CGC's proposal to separately assess three service areas (i.e. EDs, outpatient services and community) has multiplied data requirements. A reading of the CGC's recent Health Substitutability paper shows that these data issues are not resolved.

More problematically, these areas work together in response to a lack of access to services – if an ED is not there to support the community, some other service will be. It does not seem to make much sense to break apart an inter-related system, and it can be quite misleading to analyse the components separately.

- As a hypothetical example, if ED services were to only partially compensate for GP shortages, community services may pick up the slack, so that the empirical relationship between ED services and GPs may look different from the empirical relationship between community services and GPs.
- We have provided the CGC with copies of media statements from the Western Australian Health Minister that highlights the diverse range of services State governments provide when there is a lack of private sector provision, particularly in remote communities.

## 4. Welfare Assessment

### **Key Points**

- Location cost should be applied broadly in the welfare category.
  - In particular, payments for concessions will be influenced by the costs of services to which the concessions apply, so such payments should not be excluded when calculating the relevant location factor.
- We are concerned that the CGC's proposed methodology for assessing other general welfare demands places too much weight on low socio-economic status (SES).
  - The assessment should either incorporate all factors which influence needs, such as cost of living and availability of accommodation, or be heavily discounted.

### **Concessions and Other General Welfare – Location Costs**

Western Australia's November 2014 submission on wage and regional cost factors indicated that the proposed assessment of location cost factors such as wages may underestimate the proportion of expenses affected by these costs.<sup>1</sup> This would include the welfare category. We consider that making fine judgements regarding when to apply these factors is likely to underestimate their influence.

The CGC's Draft Report estimates that 32% of welfare expenses were affected by wage costs.<sup>2</sup> We understand that the CGC's assessment of interstate wage costs does not apply to the value of concessions in this subcomponent of welfare, although it does to the administration of the concessions.

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<sup>1</sup> *Western Australia's Comments on the Calculation of Wage and Regional Cost Factors*, 26 November 2014, page 3.

<sup>2</sup> *Draft Report on State Revenue Sharing Relativities*, CGC, page 416.

However, location influences are general influences, which permeate the cost of providing public services. The need to provide concessions will be greater when the cost of providing the services for which the concessions are provided is higher. Also, concessions are typically provided as a percentage of the cost charged, which will reflect location influences. Consequently, location factors should apply to the cost of the concessions themselves.

## Other General Welfare – Service Demands

We are concerned that basing this assessment solely on an SES measure would be distortionary. We understand that this subcomponent of the welfare category largely comprises housing, and we focus our analysis on that area.<sup>3</sup>

The difficulty of relying solely on SES is illustrated by Table 1 below.

**Table 1: Comparison of SES and Homelessness Rates**

State	SES <sup>(a)</sup> %	Homelessness <sup>(b)</sup> rate per 10,000 people	Cost of Living <sup>(c)</sup> \$
NSW	96	40.8	68,023
Vic	91	42.6	65,884
Qld	99	45.8	64,599
WA	88	42.8	65,951
SA	116	37.5	63,547
Tas	137	31.9	64,076
ACT	63	50.0	67,537
NT	156	730.7	67,406
Australia	100	48.9	66,073

(a) Relative State proportions of population in the bottom SEIFI quintile. *Draft Report on State Revenue Sharing Relativities*, Commonwealth Grants Commission, page 231.

(b) *ABS 2049.0: Census of Population and Housing: Estimating Homelessness*, 2011, Australian Bureau of Statistics, page 8.

(c) Capital city cost of living compared to Sydney, June 2013. *NATSEM Household Budget Report: Cost of Living and Standard of Living Indexes for Australia September 2013*, page 18.

The table shows variations in the rates of homelessness that are too great to be accounted for by policy differences.

The homelessness rate is highest in the Northern Territory, which also has the highest proportion in the bottom SEIFI quintile.

<sup>3</sup> *Draft Report on State Revenue Sharing Relativities*, CGC, page 229.

However, the second highest homelessness rate is in the ACT, which has the lowest proportion in the bottom SEIFI quintile. Tasmania is towards the other end of both scales, with the second worst SES and the lowest rate of homelessness.

These anomalies may be partly explained by differences in cost of living and accommodation availability. The cost of living data in Table 1 relates to capital cities and may not be reflective of regional areas. Nevertheless, there are some interesting observations to be made. The ACT's second highest homeless rate coincides with it having the second highest cost of living, while Tasmania's lowest rate of homelessness coincides with Hobart having the second lowest cost of living. Furthermore, South Australia's second lowest rate of homelessness coincides with Adelaide's lowest cost of living. The low population growth rates of South Australia and Tasmania suggest that accommodation availability is less of an issue in these States.

The importance of regional issues is suggested by our analysis of data cubes for ABS 2049.0, which shows that, at the 2011 Census, 40% of Western Australia's homeless people were in "Western Australia – Outback".

Neither SES nor cost of living/accommodation issues emerge as a clear single driver of rates of homelessness.

Nevertheless, it seems a reasonable conclusion that drivers of variations in homelessness are complex, and that an assessment would have to recognise multiple factors. If homelessness demands were assessed on the basis of only one variable, such as SES, that assessment would have to be heavily discounted.

## 5. Urban Transport Infrastructure Assessment

### *Key Points*

- The proposed population squared model is almost identical to the Draft Report model. Both assume a linear relationship between population and per capita infrastructure asset values.
  - Therefore, all the data concerns with the Draft Report data analysis are equally relevant to the population squared model.
  - There are very few data points for larger urban centres, and the data is affected by different service delivery policies across States.
- Conceptually, we expect a non-linear relationship as the value of urban transport capital stock per capita is likely to plateau for very large cities. For a capital assessment, a non-linear relationship will give very different results to a linear relationship.
  - From our indicative modelling, we propose that the CGC apply at least a 75% discount to an assessment that is based on a linear relationship.

In the Draft Report, the CGC modelled per capita transport infrastructure asset values against urban centre population, and derived a straight line with a close to zero intercept. The CGC now proposes assuming that transport infrastructure asset values are proportional to the square of urban centre population.

The “new” assessment is a minor tweak of the Draft Report assessment. It continues to reflect an assumed linear relationship between per capita asset values and population, but with the intercept now exactly zero.

CGC staff have confirmed that if the intercept had been constrained to zero, then the Draft Report results shown in Table 5 of the Position Paper<sup>1</sup> would be identical to the ‘square of population’ results.

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<sup>1</sup> CGC 2014-04, *Significant Changes since the Draft Report*, page 10.

## Shape of Relationship

We agree with the CGC that the relationship between per capita asset value and population is upward sloping and that it has an effectively zero intercept. However, we continue to dispute the CGC's assumption that the relationship is linear.

Accordingly, we do not understand the CGC's claim that "the conceptual case is strong" for the population squared model, as this requires a strong conceptual case for a linear relationship.

- In our September 2014 submission, we noted that there is a conceptual case for a less than linear relationship at larger population sizes, reflecting the unsustainability of continually increasing the additional capital stock per additional population and the benefits for urban transport of increasing density (including high passenger demand).
- The relationship at lower population sizes could be more complex, as public transport systems develop and rail is introduced.

As we noted (and illustrated) in our February 2014 submission, there is a lack of data to determine the shape of the curve. There are few data points for larger urban centres, and this data is affected by policy differences in service provision and investment timing differences.

- CGC staff have argued that because the curve is fitted through all States' data, it reflects average policy. However, if the data points were adjusted to reflect average policy, there is no guarantee that the curve would still be linear.

It is difficult to comment further on data, as the CGC has not been able to make its latest data available to date.

The linearity (or lack thereof) is critical to the capital assessment. This is because the CGC is required to determine the growth in asset values, which will depend on how the slope of the curve varies across population sizes.

We have done indicative modelling to compare linear, quadratic and sigmoidal relationships between population size and per capita asset values. We have made judgements about what might be a reasonable range of quadratic and sigmoidal curve shapes and compared the impact of equal rates of population growth in Sydney and Perth, based on Sydney being 2.3 times the size of Perth.<sup>2</sup>

- A linear relationship implies that 130% more per capita investment would be required in Sydney than Perth.
- A quadratic relationship implies that 15-40% more per capita investment would be required in Sydney than Perth.
- A sigmoidal relationship implies that Sydney's per capita investment requirement ranges between 25% less than Perth to parity with Perth.

We will provide the spreadsheet containing this analysis (however, the specific numbers should not be relied on).

What is important is the scope for results based on non-linear curves to be substantially different from the linear relationship assumed by the CGC. The shape of the curve (whether linear or non-linear) is in principle an empirical question, although in practice data are not available to the States for this task.

We reach the following conclusions.

- The CGC's statement that "concerns about the sensitivity and non-policy neutrality of asset data have been reduced" by its new assessment is not tenable.
- The CGC should substantially discount an assumed linear relationship. The 50% discount used in the Draft Report is considered inadequate, reflecting the modelling results above. We propose a discount of at least 75%. A 100% discount would also be defensible.

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<sup>2</sup> As per the CGC's 2012-13 data for its 2014 Update urban transport recurrent assessment.

## 6. Nationally Significant Infrastructure Projects

### *Key Points*

- The CGC's latest proposal highlights the need for a more comprehensive approach to the recognition of national interest needs.

We note the CGC's decision to discount by 50% its assessment of Commonwealth payments for projects that affect the national rail network, on the basis that they reflect needs relating to national significance.

The Commonwealth has taken a leadership role in establishing a viable national rail network for long-distance heavy freight, reflected in the fact that it owns most of the national rail network. Therefore, this decision seems to reflect stronger grounds than the similar approach taken for national network roads, where there is a closer concurrence of national and State interests and some national network roads are not strongly related to national interests.

As we have previously noted, States do much to advance the national interest, only some of which is currently recognised through the CGC's assessments.

In particular, Western Australia has undertaken considerable expenditures on economic development, from which the bulk of the revenue benefits accrue to the Commonwealth and, through fiscal equalisation, the other States.

These expenditures (including enhanced housing and amenities in remote towns, provision of social and economic infrastructure to facilitate future development, and assistance to the North West Shelf project<sup>1</sup>) should be assessed by the CGC.

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<sup>1</sup> As discussed in our September 2014 submission, expenditures on the North West Shelf project should be recognised by only assessing the net revenues derived from the project.