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

Western Australia's Submission to the

Commonwealth Grants Commission's 2020 Methodology Review

Draft Assessment Papers

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Executive Summary

This submission is based on the current terms of reference for the 2020 Review. Western Australia's positions on the issues raised in this submission remain relevant even with the Commonwealth Government's proposed reforms to the horizontal fiscal equalisation (HFE) system.

Western Australia would be very concerned with any suggestion that the 2020 Review does not need to consider the adverse impacts of current or future methods on Western Australia, due to the Commonwealth's reforms.

The 2020 Review remains a priority for Western Australia even if the Commonwealth's HFE reforms are implemented.

Improving HFE

Western Australia considers that the Commonwealth Grants Commission's (CGC's) current methods do not reflect HFE, and that fundamental reforms are needed to achieve a better approximation to HFE. Improving HFE involves the following key changes.

- **Transparency** is a key concern in the implementation of HFE. A lack of transparency is one of the major reasons that HFE is not currently working well.
  - Transparency needs to improve at the level of both principles and assessments. Principles for implementing HFE need to be clear and consistent with each other (not conflicting as currently), and any trade-offs (due to conflicting principles or practical considerations) need to be based on transparent and consistent criteria. Assessments need to be inherently simpler and maintain a clearer relationship to HFE. Data mining and mechanical simplification is not transparent.
- **Policy neutrality** needs to be markedly improved. In particular, the level of policy neutrality in the mining revenue assessments is very low; much lower than the tax assessments, which themselves have policy neutrality issues.
- **Underlying disabilities** should be recognised as far as possible (i.e. the drivers of differences in spending and revenue requirements), rather than their detailed manifestations. This can lead to simpler and more equitable assessments of taxes/royalties and spending requirements.
- **Equity** needs to be improved. For example, it is inequitable that Western Australia should bear all the costs of enabling the North West Shelf project, but have the vast majority of the revenues equalised away.

- **Outliers** need to be better recognised. HFE cannot be achieved when disabilities in some States are not accounted for due to excessive reliance on national datasets (e.g. costs in very remote areas and State-specific costs).

- **'What States do'** needs to be better reflected in the CGC's assessments. The current narrow approach to what States do has multiple problems. It is inconsistent with policy neutrality, it neglects all the dynamics of what States do, it blurs the distinction between policy and disability, it fosters a data-driven rather than conceptually-driven approach to assessments, and it is applied selectively.

  - Selectivity is starkly illustrated by the fact that Western Australia's policy dominates the CGC's assessment of iron ore and nickel royalties, because Western Australia dominates mineral production, but the circumstances unique to Western Australia that led to the Royalties for Regions program have not been recognised in the CGC's assessments.

- **Materiality** thresholds need to be applied more transparently, and accompanied by a shift to broader underlying disabilities.

  - Thresholds are currently applied in a selective, poorly documented and multi-layered fashion, with a risk of bias from dropping off parts of assessments. Thresholds should only be applied to broad disabilities, not the elements that feed into their calculation.

- **Conservatism** should be applied in a systematic fashion by the CGC as a means to deal with uncertainty as to whether an assessment matches true HFE and where the direction of any errors is unknown.

  - The CGC presently applies conservatism in an *ad hoc* way through decisions to discount or not undertake assessments.

  - A State's fiscal capacity should be presumed to fully or partly reflect its own effort if there is no or partial evidence to the contrary. Hence, when the CGC is unsure how much funding should be redistributed away from a State, the CGC should err on the side of caution.

- **Practicality** considerations mean that the CGC can only ever aspire to 'reasonable HFE', but must be used in a balanced way.

  - Practicality should not be used as excuse to construct methods that avoid policy neutrality and the reality of 'what States do' in favour of easy-to-implement calculation methods (based on judgements about same effort and narrow views of what States do) that ultimately have no transparent link to HFE.

- **Volatility** in the GST assessments should be reduced. Narrowly-based, non-policy neutral and unstable CGC methods, and inadequate recognition of costs, are a significant part of the problem. Time lags should also be minimised.

- Genuine **simplification** is needed. This should not be through *ad hoc* approaches that weaken HFE, but through an approach that strengthens HFE by focussing on underlying drivers.
  - A mechanically simpler process that does not retain a transparent relationship to HFE cannot be said to be simplification.
- **Discounting** needs to be applied in a coherent fashion. The CGC has applied discounting in some circumstances and not others using different justifications. Although not acknowledged by the CGC, the main justification for discounting is conservatism in the GST redistribution.
  - A global discount should be considered as an alternative to a profusion of individual discounts.

Current assessments

We have identified a range of areas where current assessments are unsatisfactory. Issues can be dealt with by refining current CGC methods or general reform.

- Taxes
  - The CGC's assessments of taxes are overly driven by assumptions and judgement in an attempt to replicate a particular view of 'what States do' at the expense of other supporting principles.
  - The CGC should move to assessments based on underlying revenue bases, without adjustments for exemption thresholds, progressive rates of tax and elasticity.
- Mining Revenue
  - The CGC uses observed revenue bases, which are policy influenced and hence not fully fit for purpose. To address this, the CGC should discount the mining revenue assessment. The *ad hoc* 100% discounts for mining bans proposed by the CGC do not recognise the issues around these bans and are a partial response to a general problem of policy influence.
  - The CGC should implement a global revenue base assessment for simplicity, to reflect that States take a holistic view to revenue raising and to reduce sensitivity to changes in royalty rates down to be comparable with taxes (i.e. less than 10%). Overall HFE is only roughly achievable, and not well achieved at present in terms of policy neutrality and what States do, so the global measure does not have to be perfect to provide a better HFE outcome than is currently achieved.
  - In the absence of a global revenue assessment, Western Australia recommends using a fixed standard royalty rate that can be reasonably applied across all minerals. We suggest a rate of 5% or 6%.

  - The CGC should recognise the State's costs in developing the North West Shelf project by allowing Western Australia to retain a large proportion of remaining North West Shelf revenues.

- School Education
  - The CGC's assessments do not reflect the level of Western Australia's spending on schools. As the CGC's assessments are quite uncertain, the Western Australian spending may be indicative of unassessed need.
  - The CGC needs a broader approach concentrating on accurately measuring the underlying drivers of need.
- Post-secondary Education
  - We support a review of the Indigenous cost weight, and consider that the CGC's proposed loadings in regional and remote areas are too low.
- Health
  - The CGC's 'direct method' for assessing low private services provision substantially understates Western Australia's cost pressures. This method is conceptually and mathematically flawed and based on very narrow analysis of private/public substitutability issues.
  - The CGC's assessments also inadequately account for Western Australia's rural and remote costs, wage costs, and low access to residential aged care.
  - Higher wage costs in Western Australia are driven by a combination of incentives for high cost and unattractive working locations, unproductive travel time, variable workloads in small hospitals (for which there is limited capacity to flexibly adjust staffing) and a chronically deficient supply of health personnel.
- Housing and Welfare
  - The CGC does not adequately capture the cost of providing housing in Western Australia's regional and remote areas.
  - Agreements with the Commonwealth on State contributions to the National Disability Insurance Scheme (NDIS) should not be overridden by HFE, as the Commonwealth has full policy control in this area.
  - An equal per capita (EPC) assessment should be applied to concessions, other general welfare, aged care and non-NDIS services.
- Electricity Subsidies
  - The CGC should recognise that electricity subsidies are needed not just for remote and very remote regions but also because the Western Australian South West Integrated System is more costly to service than the National Electricity Market.

  - A differential electricity subsidy should be assessed for all remote and very remote urban centres, not just those within the 50-1,000 population range.

- Water Subsidies

  - The assessment needs to address Western Australia's harsh and diverse climatic and water quality conditions. Given the difficulty of obtaining comparable measures of the wide range of issues that affect water provision, we propose an assessment based on actual per capita costs less revenues from water charges under average policy.

  - Western Australia's circumstances for delivering water services (and electricity) are unique, making comparisons using national indicators difficult.

- Other Community Development

  - Land management expenses should be assessed as proportional to land area, potentially together with other land area affected expenses, such as geological survey and any other relevant services to industry, national parks and environmental protection.

- Justice

  - The 50:50 split of police expenses between crime-related and community policing is incorrect.

  - The regional cost adjustment for police, courts and prisons does not adequately reflect the additional expenses Western Australia incurs.

  - We consider that the current assessment does not reflect the drug use (with flow on impacts) and drug enforcement issues that Western Australia faces. We suggest that the CGC explore an additional disability or a better assessment based on the underlying drivers of crime.

- Roads

  - The CGC should retain its 'synthetic network' (with some refinements) and its current approach to urban road length. The use factor picks up differences in whether or not roads are sealed and the number of lanes, so there is no need to reflect these in the length factors.

  - There should <u>not</u> be a separate assessment for bridges and tunnels (as this is only a component of a wider set of geographic factors). Geographic factors, together with the other services component, should be reallocated to the urban and rural road components.

  - All State expenses on local roads should be retained in the local roads component.

  - Articulated trucks should be disaggregated into at least two classes to take account of heavier loads.
  - The 'National Network' grants have no relationship to needs.
- Transport
  - A policy neutral assessment of public transport expenditures is not feasible. Policy and disability are entangled, there is no clear conceptual basis for a service standard or underlying disability, and international evidence provides no guidance. An EPC assessment of public transport expenditure and investment is considered the most appropriate assessment method.
- Services to Industry
  - An EPC assessment of business development expenses is unjustified because there is a conceptual case to assess business development in support of existing industry. If an assessment is considered too difficult, it is appropriate to net these expenses off revenues.
  - A regional cost factor should apply to the entire category.
- Capital
  - The CGC should introduce an assessment of the higher costs resulting from volatile economic growth.
  - We don't support proposed cosmetic changes that would reduce the conceptual transparency of the assessment or would encourage a shift away from the broadly-based nature of the assessment.
- Wages
  - The CGC's wage costs model appears to be underestimating wage costs differences between States.
  - Not all industry sectors are subject to the same wage pressures. As the composition of the private and public sectors are different, category-specific adjustments (e.g. for health) become necessary.
  - The 12.5% discount for wages is inappropriate.
- Administrative scale
  - The CGC's conceptual framework for this assessment includes an 'other fixed costs' component, which requires further consideration, as the CGC may be understating administrative scale disabilities.

1. Principles and Assessment Guidelines

Key Points

- A lack of transparency is one of the major reasons that HFE is not working well. The CGC should improve its approach to transparency, including to:
  - explain how it implements the HFE principle and makes fair compromises in an information-constrained world; and
  - develop assessments that are inherently simpler and maintain a clearer relationship to HFE.
- Policy neutrality is critical to demonstrating that the 'same effort' requirement of HFE is achieved, and needs much greater emphasis.
  - The mining revenue assessments have a much lower degree of policy neutrality than the tax assessments – they shouldn't be discriminated against.
- The CGC should better reflect the totality of 'what States do', including more emphasis on the underlying drivers of fiscal capacity.
- The CGC can help address volatility in GST relativities by:
  - minimising time lags;
  - developing methods that are robust and stable over time to allow forecasting certainty;
  - using broader and more policy neutral assessments to reduce volatility; and
  - ensuring that methods adequately reflect States' costs, so that jurisdictions do not have to choose between adequately servicing the community and maintaining prudent Budget settings.
- The practicality principle acknowledges that the CGC can only ever aspire to 'reasonable HFE'. A reasonable outcome should reflect:
  - a strong focus on policy neutrality – practicality should not be an excuse for prioritising 'what States do' over policy neutrality;
  - a degree of conservatism in the overall GST redistribution; and
  - a focus on simplicity and underlying drivers − a good method roughly quantified will usually be better than a bad method well quantified.
- Materiality thresholds currently lack transparency and risk biased assessments.
  - They should be applied within a framework that considers broader indicators, rather than just mechanically dropping off immaterial details.
  - Materiality thresholds should only be applied to disabilities, not the elements that feed into their calculation.
- Discounting is currently being applied in a selective and inconsistent way.
  - A global discount should be considered as an alternative to a profusion of individual discounts.

This chapter responds to the CGC's September 2017 position paper on *The Principle of HFE and its Implementation*. It also raises issues arising from the Productivity Commission's (PC) report on *Horizontal Fiscal Equalisation*[1], insofar as these are relevant to the current 2020 Review terms of reference.

Transparency

A key issue raised in the PC's report on *Horizontal Fiscal Equalisation* is lack of transparency in the CGC's processes. Western Australia agrees that transparency is a key concern in the implementation of HFE and considers that a lack of transparency is one of the major reasons that HFE is not currently working well.

We consider that improving transparency will require the following (many of these issues are considered later in this chapter and in following chapters):

- the principles that support HFE are clearly identified and complementary (not as currently competing) so that potentially arbitrary judgements in favour of one principle over another are not required;
- the assessments transparently exhibit the principles that support HFE (e.g. same effort/policy neutrality is not currently well evidenced) and have a clearly explained conceptual basis (e.g. the current assessments of transport services and health non-State services do not have such an explanation);
- that the CGC explains how considerations of practicality (including trade-offs and tools such as discounting and materiality thresholds) are used in a consistent way and a balanced way that does not bias HFE (e.g. discounting and materiality thresholds are currently used in an *ad hoc* way);
- that assessments are not unreasonably complex, are well documented, include examination of the pros and cons, and reflect decisions on all issues that are well supported by evidence and reasoning (recent Reviews have seen a significant decline in standards on these issues. In addition, the CGC has increasingly adopted a national-centric approach to identifying and quantifying disabilities, without checking how well this holds up on a State-by-State basis);
- that the role of unsupported judgement (i.e. judgement that lacks conceptual or empirical support) is minimised, and well documented when used (e.g. the CGC should avoid making trade-offs between principles, but if this continues the basis for making consistent trade-offs needs to be explained. The CGC should also avoid 'deliberative' EPC assessments that are not evidenced);
- that all significant issues raised by the States are clearly identified in the central reports and meaningfully addressed (this was not done in the 2015 Review); and

[1] Productivity Commission (2018), *Horizontal Fiscal Equalisation*, Inquiry Report No. 88.

- uncertainties of implementation of HFE are highlighted in the central reports (interested parties have been misled for many years by over-confident assertions about the achievement of HFE).

HFE principle

The CGC's definition of the HFE principle is a high level definition. There is limited guidance by the CGC on how it is intended to be operationalised.

The CGC has said that:

> The Commission takes the view that the terms of reference are clear: it is to recommend how the GST should be distributed in accordance with the 'principle of HFE' as clearly understood and accepted by all governments when they signed the 1999, and subsequent, IGAs.[2]

However, it is obvious that, while States signed onto a principle, they have not understood the CGC's implementation of it.

Queensland has noted that:

> The Commonwealth Grants Commission (CGC) has, over many years, applied an ever-evolving set of principles to assist it to conceptualise HFE.[3]

New South Wales has noted:

> The Commonwealth has made some provision of untied funding to states for the purposes of HFE since the time of federation. However, the interpretation of HFE and method of application has changed over time. The costs and benefits of this change have not been adequately accepted by the community.[4]

Adding to the lack of clarity is that HFE takes precedence over the supporting principles, which are themselves described in vague terms and often competing with each other.

The CGC has noted:

> In practice, the Commission often has to evaluate alternative methods which embody mixtures of these [supporting] principles and has to decide trade-offs among them – for example, between methods that capture what States do in detail and methods that are policy neutral. The Commission has not set rules for how it would decide the appropriate approach in any such cases, nor has it established a

[2] Commonwealth Grants Commission (2017), *The Principle of HFE and its Implementation*, Commission Position Paper CGC 2017-21, page 8.

[3] Queensland Government (2017), Queensland Government Submission: Productivity Commission Inquiry into Horizontal Fiscal Equalisation, June 2017, page 5.

[4] New South Wales Government (2017), Submission to the Productivity Commission Inquiry into Australia's System of Horizontal Fiscal Equalisation, July 2017, page 2.

> hierarchy among the principles. As required, judgement is used to devise the best overall equalisation result.[5]

In respect of these trade-offs, the PC has noted that:

> In some instances, it appears that the CGC applies its own discretion when considering trade-offs between equity and efficiency. And its consideration of trade-offs has varied over time, as shown recently with the mining assessment.[6]

There have been significant changes in approach over time, including:

- in 2004, an apparent recalibration of the mining assessment from a clear assessment of underlying capacity to an assessment that looks at 'what States do';
- in 2010, the introduction of a direct assessment of capital needs; and
- see-sawing conceptual approaches to the assessment of health non-State services in 2010 and 2015.

The CGC's 'discretion' and its changes in approach over time raise questions about how same revenue raising 'efforts' and service 'standards' are to be conceptually understood (as distinct from the methods used to calculate them).

For example, looking at the five main CGC method changes in the mining revenue assessment over time, and the four main CGC method changes in the public transport assessment over time, it is very unclear what the CGC's fundamental aims for these assessments currently are, and whether they differ from past aims.

The view might be taken that HFE is, in the main, aimed to be delivered through a representative tax system (RTS) assessment on the revenue side and something similar (though with significant differences) on the expenditure side. On this view, assessments such as mining revenue and public transport are 'difficult' cases requiring essentially *ad hoc* solutions.

However, HFE defined in this way is a pragmatic collection of methods, not a principle. Anwar Shah notes that mining revenue is the 'Achilles Heel of RTS'.[7] He questions whether, given the non-comparable bases used by the CGC [in 2006] to assess Australian revenue, HFE is doing any better than a macro tax base indicator.

We suggest that the 'difficult' cases, far from being distractions to the main game, are useful in providing insight on the appropriate operational aims of the HFE principle.

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5 Commonwealth Grants Commission (2015), *Report on GST Revenue Sharing Relativities 2015 Review – Volume 1*, page 30.

6 Productivity Commission (2018), *Horizontal Fiscal Equalisation*, Inquiry Report No. 88, page 172.

7 Anwar Shah (2006), World Bank presentation, *International Practices in Fiscal Equalization*, International Workshop on Building New Countryside and Promoting Balanced Regional Development for a Harmonious Society, 21-26 August.

Overall, we consider that there is a strong case for the CGC to apply a more transparent approach to how it implements the HFE principle. This must not be arbitrary, but transparently guided by how best to achieve HFE and make fair compromises in an information-constrained world.

This endeavour would be greatly assisted if the CGC were to better engage with States on matters of principle. Unfortunately, the CGC's position paper on the HFE principle provided little in the way of reasoned responses to issues raised in States' submissions on principles. It is through a sustained and well-reasoned debate on these issues that the CGC will have the best chance to achieve a process that avoids some of the criticisms of arbitrariness and unfairness that have been levelled at the GST distribution process.

Supporting principles

Policy neutrality

The CGC indicates that policy neutrality "aims to ensure that State policy choices have minimal direct influence on HFE assessments and conversely, that HFE has minimal direct influence on State policy choices".[8]

The CGC argues in its HFE principles position paper for a relatively limited application of policy neutrality in the assessments (for example, generally not considering policy impacts on revenue bases;[9] and accepting a 50%, rather than 'minimal' (say 10%), direct policy influence from tax/royalty rate measures).

We accept that 'complete' policy neutrality is not feasible, but consider that policy neutrality needs much greater emphasis. This is because policy neutrality is critical to proving that the 'same effort' requirement of HFE is being achieved.

Instead, the CGC appears to be over-relying on the 'what States do' principle and its opinion/judgement of what is the 'same effort'.

We consider that the CGC's assessments should as far as possible **demonstrably** be based on the 'same effort' requirement. This necessitates policy neutrality. Without policy neutrality, HFE is not transparently achieved. Yet, contrary to the CGC's current approach, policy neutral measures can get quite far away from a narrow view of 'what States do'.

[8] Commonwealth Grants Commission (2017), *The Principle of HFE and its Implementation*, Commission Position Paper CGC 2017-21, page 19.

[9] The CGC is considering revenue base tax elasticity adjustments, and generally excluding minerals whose development is banned in some States.

Two aspects of the CGC's assessments are of particular concern from a policy neutrality perspective.

1. Much larger GST losses from royalty rate changes compared to tax rate changes:
   - The mining assessments suffer from excessive lack of policy neutrality in royalty rate setting.
   - While a unilateral decision to change tax rates will lead to an offsetting GST impact of less than 10% in all States, Western Australia faces much higher offsetting GST impacts for mining royalty changes – 88% for iron ore, 89% for nickel, 60% for gold and 28% for bauxite. If lithium were to be separated from 'other minerals', Western Australia would face an 89% offsetting GST impact.
     - These GST impacts (which are widely known to the Western Australian community and industry, including all sides of Western Australian politics) affect the State's willingness and capacity to change royalty rates and pursue more general royalty reforms.
   - A greater than 10% GST loss also applies for Queensland royalty increases on coal, bauxite and onshore petroleum, South Australian royalty increases on copper and onshore petroleum, and Northern Territory royalty increases on bauxite and minerals classified to the 'other minerals' component.
2. Large GST impacts from economic development and regulatory policies:
   - Non-EPC revenue assessments all suffer from the problem that an increase in a State's revenue capacity leads to a GST loss of all but a population share of this capacity, regardless of whether this reflects policy or economic circumstances. Revenue capacity growth may relate to growth in economic activity or growth in prices.
     - For example, State land release, zoning and infrastructure policies could increase land prices, affecting States' capacity to raise revenue from land tax and conveyance duty.

Unlike taxes, mining faces a double whammy in terms of lack of policy neutrality for both revenue rate setting and revenue capacity development. The current approach to measuring revenue capacity therefore discriminates against mining revenue (and Western Australia). This issue needs to be resolved as a matter of priority.

For an even-handed outcome across States and revenue sources, the GST impact of a royalty rate change should be no more than 10%. This goal is achievable.

Perhaps the most systematic solution is the use of global revenue indicators, based on measures such as adjusted GSP, or an appropriately combined amalgam of State's revenue bases.

A global economic activity indicator would have the additional benefit of reducing the GST impact of some policy effects on individual revenue bases (e.g. land prices), and ensure that policy effects on economic development are treated in an even-handed way across all sectors of economic activity.

The CGC has acknowledged that broad indicators of revenue capacity would improve policy neutrality, but "does not agree that this would necessarily result in an improved HFE outcome when appropriate regard is had to all supporting principles"[10]. We understand that this reflects a narrow interpretation of 'what States do' and a judgement about the need to weigh competing imperatives of policy neutrality and 'what States do' (and possibly practicality).

However, it does seem perverse to define 'what States do' in a way that sets it up in competition with policy neutrality (see below for further discussion of this principle). Moreover, in the end, if a method reflects 'what States do' and is not policy neutral, then HFE has not been achieved.

While a broad revenue indicator is unlikely to be perfect for a number of reasons, it may be a case of 'rough justice is better than no justice'.

The *Mining Revenue* chapter considers global revenue indicator measures and also provides alternative approaches to achieving comparable policy neutrality in the mining revenue assessment to other revenue assessments.

What States do

Western Australia's 2017 submission on principles discussed issues relating to this principle at some length, but the CGC has not explained its position on these issues.

We continue to support a broad approach to 'what States do'. We are concerned that a narrow approach to 'what States do' neglects the totality of 'what States do', blurs the distinction between policy and capacity, obscures the underlying drivers that States are responding to, sets up an unnecessary conflict between policy neutrality and 'what States do', and creates assessments of uneven quality (because of data limitations).

Some specific examples of problems with a narrow approach are as follows.

- It promotes a view that disabilities are generated by policy, yet this perspective is only selectively applied. For example:
  - the CGC assesses disabilities for remote area services and public transport in large cities because that is what States do. In the former case there is an underlying need, while in the latter case an underlying need is not demonstrated; and

[10] Commonwealth Grants Commission (2017), *The Principle of HFE and its Implementation*, Commission Position Paper CGC 2017-21, page 20.

- the CGC assesses iron ore and nickel royalties on the basis of (essentially) Western Australia's royalty rates, because that is what States do and Western Australia is (essentially) the only State with these resources. There is in the mining revenue assessment no distinction between underlying revenue capacity and policy.
    - Yet, the CGC made no allowance for the unique circumstances that led to the Royalties for Regions program being implemented in Western Australia (i.e. large per capita revenues generated in the regions, past underinvestment in the regions due to lack of infrastructure assessments in the GST until 2010-11, hollowing out of communities and higher private development costs due to high property prices and labour shortages, broad perception of a long-term boom). Western Australia was the only State in this position, but the CGC did not implement its 'what States do' approach in this case.

- It promotes a micro approach to the analysis of disabilities, which encourages pointless precision and is potentially misleading. For example:
    - the 'national market' argument for public sector wage setting, which even if true (it probably is not), would imply different quality public sector labour forces, leading in turn to other costs or different standards of service; and
    - the argument to exclude private dentistry from the assessment of public dental services because of limited direct substitutability, which even if true (it has not been established) neglects the impact that the greater ill-health flowing from lack of dental treatment has on the public sector.
- It neglects the dynamics of 'what States do'. For example:
    - if a State does not have iron ore, it might tax other minerals instead, and if none are available, it might tax land; and
    - if a State has lower land values or smaller businesses, it might set lower tax thresholds and progressivity scales.
- Assessments are driven by data rather than a focus on underlying drivers of need. For example:
    - the CGC uses standard measures of disability such as ARIA and indexes of socio-economic status (SES) to match against State spending data. 'Very remote' areas as defined by ARIA are all assumed to be equally costly to service. SES indexes are assumed to be equally valid drivers of need across Australia;
    - the assessment of health non-State services factors reflects a specific subset of private services for which the CGC believes that adequate data are available;
    - the land tax assessment is split into a data-intensive assessment and a general indicator assessment (currently EPC on materiality grounds);

  - data constraints mean that economic development that enhances the national public interest (for which differential HFE is appropriate, as there are different opportunities across States) is not distinguished from economic development that does not enhance the national public interest (for which differential HFE is not appropriate, as there are no conceptual disabilities);
  - large datasets in education and health have led to finely disaggregated assessments, but with continuing doubts about whether drivers of need have been appropriately captured; and
  - rather than assessing the common underlying drivers of housing, welfare, health, justice and education, the CGC captures their partial effects across the individual categories, which requires micro data that is only sometimes available.

- Assessments are more likely to be influenced by the GST distribution. For example:
  - in areas where spending requirements and revenue raising capacity are very unequally distributed across States (e.g. spending in very remote areas and taxing of minerals) the standard rates of spending and taxing may be influenced by the GST distribution (due to its impact on States' fiscal capacity) and therefore not necessarily be fully reflective of underlying needs; and
  - States' capacity to spend on discretionary programs such as economic development and service improvements for the disadvantaged may be significantly affected by the assessment of these costs in the GST – for example, lack of recognition of differential costs across States for such activities would limit States' capacity to sustain differential spending levels in the long term.

Practicality and contemporaneity

These principles acknowledge that, due to limitations in data and understanding, the implementation of HFE can only ever aspire to be 'reasonable HFE', and achieved with time lags.

- That exact HFE cannot be achieved, except by chance, means that the merits of any proposed change to an assessment cannot simply be judged on the basis of whether the results differ from those of the current assessment.

The CGC considers these principles to mean that:

- "assessments should be based on sound and reliable data and methods and be as simple as possible …";
- relativities "are practical for States to incorporate into their budget management processes"; and

- the CGC should "seek to minimise the lag between the years in which reliable data are available … and the year in which the resulting relativities are applied."[11]

GST relativity volatility

The PC found that:

> Features of Australia's HFE system can exacerbate the fiscal impact of economic cycles when States experience large economic shocks.[12]

However, it also found that:

> The most effective response to a lack of contemporaneity lies with the States themselves, and with the necessity for State Treasuries to factor the assessment period and GST lag into their budget management processes.[13]

We accept that Western Australia has a responsibility to budget prudently in the face of large revenue volatility, including GST volatility, no matter whether we believe the GST grant is adequate or not.

Nevertheless, as acknowledged by the PC:

> Concerns around fairness also relate to the timing of WA's low relativities… These concerns are not necessarily misplaced, as the current system's approach to contemporaneity poses the potential for HFE to amplify the impact of large economic shocks on State budgets in the short to medium term.[14]

The GST distribution should be designed to minimise this inequitable treatment as far as practical.

The CGC aims for relativities that are practical to incorporate in States' budget processes. In theory, any time lag might seem practical. However, the CGC data relativities are revised annually; methods are often imperfect and liable to change; and jurisdictions do not have well developed budget forecasts beyond the forward estimates.

Western Australia experienced four years of a GST relativity in the thirties coinciding with a domestic recession in the State. While the current GST relativity of 47.3% is an improvement, it is still very low compared to the underlying relativity. Most States in similar circumstances would be likely to find this a challenging situation.

The Commonwealth's GST reforms would partially address Western Australia's revenue volatility issues but more can be done, and appropriate implementation of the CGC's practicality and contemporaneity principles would assist.

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11 Commonwealth Grants Commission (2017), *The Principle of HFE and its Implementation*, Commission Position Paper CGC 2017-21, page 3.

12 Productivity Commission (2018), *Horizontal Fiscal Equalisation*, Inquiry Report No. 88, page 38.

13 *ibid.,* page 38.

14 *ibid.,* page 165.

Apart from considering changes to the time lags, the CGC can ensure that the Western Australian community is not unnecessarily disadvantaged (by its economic volatility and unique circumstances) through appropriate methodology design.

- Methods should be robust and stable over time to allow forecasting certainty. As outlined in this submission, we consider that many of the current methods are not robust. Robustness is a pre-requisite for stability.
- Methods should be sufficiently broad to reduce volatility. Extreme disaggregation of assessments makes the GST outcomes unnecessarily volatile.
- Methods should be policy neutral, so that revenue or expenditure measures by us or other States do not destabilise the GST.
- Methods should adequately reflect States' costs, so that jurisdictions do not have to choose between adequately servicing the community and maintaining prudent Budget settings.

What happens when sound methods and fit-for-purpose data are not available?

The practicality principle does not provide guidance when sound methods and fit-for-purpose data are not available. Yet imperfect knowledge is the norm for the CGC, and as a result the CGC does not achieve HFE.

- Policy neutral measures of revenue bases are unavailable.
- Many State and private activity datasets that are needed for the expenditure assessments are imperfect or not available. Even very sophisticated datasets like the national hospital activity database fall significantly below the fitness-for-purpose requirement.
- The ways that community disadvantage drives spending needs are not well understood.
- Some disabilities require data that is not directly observable, such as interstate and regional relative cost pressures borne by the public sector.
- 'What States do' is not well understood in a number of categories.

Faced with these challenges, the CGC has developed an essentially *ad hoc* range of techniques.

- Use EPC assessments.
- Use discounts.
- Use materiality thresholds.
- Use data not fully fit for purpose.

- Use proxy measures.
- Use generic geographical classifications.
- Use general indicators.
- Assume that revenue bases reflect standard effort.
- Focus on particular aspects of 'what States do'.

We would like to see more systematic consideration of the best approach to delivering HFE in an environment of imperfect knowledge. As guiding principles, we suggest:

- Some conservatism in the aggregate GST redistribution from EPC, reflecting uncertainty in the estimation of HFE. If there is no evidence or only partial evidence to the contrary, a State's fiscal capacity should be presumed to fully or partly reflect its own effort. This is similar in principle to the motivation behind the CGC's discounting principle (discussed further below).
- Maintain a strong focus on policy neutrality. It would be perverse for the practicality principle to be interpreted as "we can't do policy neutrality, so let's do 'what States do'."
- Data needs to be the servant, not the driver, of methods. A good method roughly quantified will usually be better than a bad method well quantified. An understanding of underlying drivers is key to the development of good methods.
- Excessive complexity, or lack of appropriate data, are signals to look for different ways of conceptualising the issue in order to deliver HFE.

Materiality thresholds

We consider that the CGC needs to review its approach to materiality, as there are significant transparency issues, there is no incentive to seek simpler conceptually-sound assessments, and biased outcomes are increasingly likely as the materiality threshold increases.

Particular problems include the following.

- The approach to materiality is mechanical – immaterial bits are dropped off rather than seeking a broader assessment that captures fiscal drivers at a more fundamental level.
- There is no compilation of all the materiality tests and their outcomes.
- The materiality thresholds are applied selectively and non-transparently. In practice, a lot of judgement is used and much detail remains in the assessments. Relevant parts of the *Assessment Guidelines for the 2020 Review* are as follows.

  - "Separate assessments will be made when they are materially different from other assessments or if the assessment is easier to understand if undertaken in a separate category."
  - "The Commission will include a disability in its final assessments if … removing a disability has a significant impact on the conceptual rigor and reliability of assessments."[15]

- The materiality thresholds are applied at multiple points – data adjustments, disabilities, disaggregation within disabilities, and categories. This creates the following issues.
  - Materiality applied at one point may affect materiality at another.
  - The accuracy of material aggregate disabilities is reduced.
  - A lot of effort goes into generating accurate data by the States and CGC, and many disabilities are put together from small data. Yet the CGC can disregard a data adjustment worth up to $10 per capita in GST ($80 million for New South Wales or $26 million for Western Australia).
  - Disaggregation within disabilities, such as for age and remoteness, involves the question of selecting bands for age, remoteness, etc. When materiality considerations cause a departure from natural banding (based on data availability and consideration of natural breakpoints in a continuous measure of a disability), finding breakpoints in a transparent and consistent way is difficult.
  - Category contributions to disabilities are often much smaller than the current $30 per capita materiality threshold used for disaggregating within disabilities.

We consider that materiality thresholds need to be applied within a framework that considers broader indicators.

In addition, we consider that significant materiality thresholds should only be applied to disabilities.

- The appropriate level of data adjustment and disaggregation within disabilities is usually quite clear, reflecting:
  - the general quality and availability of data;
  - availability of data to support disaggregation; and
  - conceptual considerations that set the appropriate number and of disaggregation breakpoints.

[15] Commonwealth Grants Commission (2017), *The Principle of HFE and its Implementation*, Commission Position Paper CGC 2017-21, pages 39-40.

Discounting

The CGC's approach to discounting appears incoherent in terms of conceptual basis and practical application.

With regard to the conceptual issue, "the Commission considers discounting as a tool to better achieve HFE".[16] However, it also states that "while conceptually differences in tax rates or State development policies may affect the observed bases, the Commission's view is that discounting does not necessarily move assessments in a direction appropriate to achieving HFE".[17]

The problem with this view is that discounting the best available information almost always entails a risk of moving one or more jurisdictions away from a better HFE outcome. In this respect, the issue for mining revenue bases (which are not discounted) is conceptually no different to wages (which are discounted).

- The CGC has expressed some concerns with the wage assessment, but these concerns are contestable, are only a subset of possible concerns, and in no way constitute evidence of systematic upwards bias.
- For example, we consider that the wages assessment significantly understates the State's wage pressures (see the *Wages* and *Health* chapters), so that discounting would move the assessment even further away from HFE for Western Australia.

The CGC also appears to be more willing to discount for the impact of State policies in expenditure areas than on revenue bases.

In many circumstances in the world of finance and investment there is a willingness to trade off a maximum likelihood estimate against the risk of error. On this basis, some form of discounting of HFE is defensible.

However, the CGC's selective approach to discounting is not defensible. Virtually all the assessments involve conceptual or data inadequacies. For example, ABS data is uncertain and sometimes (e.g. national State accounts) substantially revised.

As suggested above, there should be some conservatism in the aggregate GST redistribution from EPC. Discounting, when appropriately used, can facilitate this conservatism. However, overall, rather than a profusion of subjective discounts, we would prefer a global discount to the GST relativities.

16 *ibid.,* page 33.

17 *ibid.,* page 34.

2. Simplified Assessments

Key Points

- Simplifying the assessments will improve policy neutrality, encourage a broader interpretation of 'what States do', and provide greater transparency, accountability and public understanding.
  - It also addresses concerns with available data.
- Simplification is not about dropping immaterial bits or using fewer moving parts to approximate current HFE methods (whose reliability often cannot be readily ascertained). A mechanically simpler process that does not retain a transparent relationship to HFE cannot be said to be simplification.
- Simplification is about careful and sustained analysis to improve HFE and make its achievement more transparent and accountable − less reliant on contestable judgements, more understandable, more transparently reflecting HFE principles and more open to informed critique.
  - This appears to be the essence of the PC's findings and recommendations.
- We consider that the CGC should investigate global assessments of expenditure disability factors, desirably using measures that better reflect underlying drivers of costs and use less data.
  - Notably, the derivation of disabilities from analysis of large datasets has not alleviated doubts about reliability. Data analysis (particularly when it focusses on national-level associations rather than State-specific associations) is too blunt a tool to reliably impute underlying (causal) cost drivers – such analysis needs to be grounded in a good conceptual understanding of the cost drivers.
- Simpler revenue assessments are discussed in the *Taxes* and *Mining Revenue* chapters.

Western Australia has long advocated that the CGC adopt broader, simpler assessment methods. Although this chapter builds on this approach, other chapters in this submission that address individual assessments are generally based on the CGC's current and proposed methods.[18]

[18] However, simpler methods are proposed in the *Taxes* and *Mining Revenue* chapters.

Why simplify the approach?

A major rationale for simplifying assessments is that it gives greater policy neutrality, which is critical to demonstrating that the 'same effort' requirement of HFE is achieved.

In addition, a simplified approach leads to greater transparency, which leads to better accountability through a better understanding of, and ability to debate, the system.

Simplification can also encourage greater focus on underlying drivers and a broader view of 'what States do'.

- As it stands, the CGC's approach to assessing disabilities is in some respects opposed to assessing underlying disabilities, because disabilities tend to be 'found' through a micro analysis of available data. Where a conceptual case for disabilities is developed through observation and theory, there is a tendency to discard or modify the case when the data proves difficult to 'fit' in with that concept. Further comments are provided in the *Principles* chapter.

The current more complex, micro approach arguably:

- obscures broader drivers;
- allows inconsistencies across categories;
- takes a selective approach to 'what States do';
- makes it difficult for observers to assess whether or not the methods are acceptable; and
- delivers false precision.

CGC concerns often relate to the lack of availability of national datasets and, even when they are available, concerns about shortcomings of the data or difficulties in unambiguously discerning 'what States do' from data analysis. The use of simplified assessments may require less data and promote a focus on underlying drivers.

The PC considered the use of a single broad indicator to improve policy neutrality and simplify the HFE system. It concluded that a single (unadjusted) indicator arguably does not exist and suggested that:

> A better approach is likely to involve using multiple indicators to measure States' fiscal capacities, though with much greater simplification and focus on policy neutrality than the current system.[19]

[19] Productivity Commission (2018), *Horizontal Fiscal Equalisation*, Report no. 88, page 199.

Simplification may also bring more consistency between the assessment of expenditures (currently using spending patterns matched to indicators of underlying need) and the assessment of States' revenue raising capacities (currently based on a narrow legal incidence approach).

For taxes, we describe a simpler approach in the *Taxes* chapter. Global revenue assessments and aggregated mining assessments are considered in the *Mining Revenue* chapter.

CGC analysis

The CGC considers various approaches to simplification in its April 2018[20] staff research paper, finding that no alternative expense or revenue approach is consistent with the equalisation principle. The paper suggests that the CGC's materiality thresholds form the only objective and integrated simplification approach that is consistent with the equalisation principle.[21]

One of the problems with the CGC analysis is that the CGC tends to evaluate the validity of each approach by how it differs from the current assessments. As discussed in the *Principles* chapter, we don't agree that current methods deliver HFE.

There are also other problems, which are particularly evident in the CGC's expenditure analysis. The expense alternatives considered by the CGC were:[22]

- a weighted subset of the existing expense assessments, using regression analysis;
- a weighted subset of State attributes (such as remote populations), using regression analysis;
- regressions of State actual spending;
- national government spending by State; and
- using an average of past expense assessments to estimate future spending requirements.

However, these approaches are all destined to fail, because they are based on the idea that the primary objective of simplification is fewer moving parts. A mechanically simpler process that does not retain a transparent relationship to HFE cannot be said to be simplification, and these options do not do so.

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[20] Commonwealth Grants Commission (2018), *A Broader Assessment Approach*, Staff Research Paper CGC 2018-02-S, April 2018.

[21] *ibid.*, page 22, paragraph 94.

[22] Global approaches are discussed in the *Mining Revenue* chapter.

Additionally:

- the first three approaches rely on regression analysis, which presumes that the regression model specification is correct, and for which results will be unreliable when using a small number of States or small proportions of the population;
- national government spending is affected by different factors from State spending, and the absence of national government spending can require the presence of State spending; and
- past expense assessments would require a period of reliable and quality assessments to find a benchmark, and would not reflect changing circumstances.

Materiality thresholds are not enough

General issues with the CGC's approach to materiality thresholds are discussed in the *Principles* chapter. Here we focus on simplification issues.

The CGC's use of materiality thresholds acts to simplify HFE calculations by excising minor disabilities, but it does nothing to simplify the assessment of larger disabilities. Within these assessments, the CGC attempts to measure with fine precision. However, it is often constrained by a paucity of reliable, comparable data. Where such data can be found, the CGC attempts to make assessments with more rigour.

- This inconsistent approach creates a bias towards assessments for which data can be found. It is not possible to identify, let alone quantify, all micro issues. The result is that 'low hanging fruit' affects the GST distribution, whereas those more difficult issues do not, despite potentially having strong conceptual cases and large impacts on HFE.
- The CGC should use materiality thresholds as a tool to focus on the important influences of States spending, rather than as an instrument to prune micro assessments.

Rather than relying on materiality thresholds to drive simplicity, the CGC should aim for inherently simpler and more comprehensive and transparent ways to undertake assessments that properly focus on policy neutrality and a broader concept of 'what States do'.

Materiality thresholds should then be applied to each disability at the end of the process.

The PC review

The PC has recommended increased materiality thresholds. In these circumstances, if the CGC continues to use the thresholds as a blunt instrument to cut out small disabilities; there is significant likelihood of HFE being compromised. The PC noted that the CGC found that an increase in materiality thresholds to $100 per capita would remove seven expense disabilities and three revenue disabilities.[23]

Our understanding is that the PC's intent was to employ higher materiality thresholds as a means to simplify the CGC's assessments, rather than to mechanically remove disabilities. In this regard, the PC considered that:

- the CGC should be a strong neutral voice on HFE, to communicate the processes and decisions undertaken in order to ensure the HFE system meets its objective;[24]
- accountability could be further boosted by enabling greater scrutiny of the CGC's calculations and data;[25]
- the CGC should make public its calculations of State data, such as adjustments to State tax bases;[26]
- there is considerable scope to adopt a simpler set of more policy-neutral indicators;[27] and
- higher materiality thresholds would also assist with a move towards using simpler and more policy-neutral indicators… To be effective, these changes should be implemented together.[28]

From a bilateral discussion with the PC following the release of its report into HFE, Western Australia understands that the PC made the above recommendations as a package.[29]

Simplicity is more than just materiality, and moreover, simplicity is bound up with greater transparency and accountability, including greater public understanding. Achieving these objectives requires broader, simpler assessments that more clearly reflect policy neutral outcomes and underlying disabilities. Complex and/or partial assessments cannot achieve this.

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[23] Productivity Commission (2018), *Horizontal Fiscal Equalisation*, Report no. 88, page 208, referring to Commonwealth Grants Commission (2018), *A Broader Assessment Approach*, Staff Research Paper CGC 2018-02-S, April 2018.

[24] *ibid.*, page 182.

[25] *ibid.*, page 188.

[26] *ibid.*, page 190.

[27] *ibid.*, page 200.

[28] *ibid.*, page 209.

[29] Also see: Productivity Commission (2018), *Horizontal Fiscal Equalisation*, Report no. 88, page 218, "Taken together, these methodological changes would result in considerable simplification to the HFE system (and thus strengthen transparency), while also strengthening policy neutrality in some areas."

How simplicity can be achieved

We noted above that fewer moving parts is not an appropriate simplification if the relationship to HFE becomes more obscure. Simplification is essentially about improving HFE and making its achievement more transparent and accountable − less reliant on contestable judgements, more understandable, more transparently reflecting HFE principles and more open to informed critique.

As such, we do not see simplification as an optional add-on, but as an essential part of a HFE review.

Other chapters consider our proposals for revenue simplification. Here we provide some comments about expenditure simplification.

The key principle to any expenditure simplification is using measures that better reflect underlying drivers of costs and at the same time use less data.

- The chapters on health, education and justice suggest that the derivation of disabilities from analysis of large datasets has not alleviated doubts about the reliability of assessments. Data analysis (particularly when it focusses on national-level associations rather than State-specific associations) is simply too blunt a tool to reliably impute underlying (causal) cost drivers. Ultimately, reliable analysis needs to be grounded in a good conceptual understanding of the cost drivers. From this starting point, simpler data analysis can help provide a quantitative understanding of the cost drivers.

We consider that the CGC should investigate using a global approach to determine States' disabilities, rather than its current category-by-category approach. Assessments on this basis for administrative scale and native title already exist.

- For example, what States do is spend more on:
  - populations in certain age groups;
  - Indigenous people;
  - populations in more remote areas;
  - services when there is less non-State service provision;
  - people of lower socio-economic status (SES); and
  - infrastructure for population growth.

Spending data to support global assessments for these factors would be derived from analysis of State spending for each driver across all sectors, similar to current CGC analysis in many of the individual expense categories.

The most conservative approach is for the global assessments to mirror current category assessments. For example:

- a standard set of age bands could be used, with estimates of the spending related to each band, e.g. driven by schools education for the young or health needs for the old;
- State wage levels could be captured by applying current wage disabilities (which are the same in all categories) to the total State wage bill;
- costs associated with Indigeneity/SES could be based on a standard Indigeneity/SES classification, with estimates of the spending related to each segment of the population in the classification matrix; and
- regional/remote costs could be based on a standard geographic classification of remoteness, a standard cost for each level of remoteness, and the estimated demand for services in each remoteness level in each State.

However, the CGC can go further than this. We provide a couple of examples.

For SES, the CGC could consider which measures best capture underlying (causal) disabilities, as opposed to measures that only provide a correlation with disability. Measures that exhibit strong correlation with disability at the national average level may miss important State-specific circumstances that modify the average experience in those States. These issues may be important in better understanding State-specific circumstances in education and justice.

- One indicator of the robustness of an SES measure is whether it performs well at the individual State level (abstracting from policy differences), not just nationally.

For regional costs, the CGC should recognise that ARIA-type measures are ultimately a mathematical construct, and need to be tailored to fit underlying cost drivers. The CGC could consider reforms to the current ARIA+ measure to better reflect underlying cost drivers at a global level, such as a continuous ARIA score, removal of distance limits, introduction of a sixth region, or indicators of different circumstances within ARIA-comparable regions to capture State-specific circumstances.

More substantial reform could consider wholly different cost functions that would reflect underlying drivers at a deep level and substantially reduce data requirements.

We acknowledge that difficulties would arise in determining underlying drivers for some current assessments, and that some category-specific disabilities (such as in Roads, Services to Industry and Utility Subsidies) are not readily assimilated into global disabilities. However, we consider these difficulties to be less than those involved in creating reliable micro-level assessments.

Like the current micro assessments, developing robust simplified assessments will require time and resources, but the dividend should be a better and more transparent HFE.

Once the new methods are settled, the resultant simplification would be pronounced. The disability factors could be recalibrated at each Review.

3. Taxes

Key Points

- The claim that a number of tax assessments are 'achieving HFE' is unsubstantiated.
- The CGC's assessments of taxes are overly driven by assumptions and judgement in an attempt to replicate a particular view of 'what States do' at the expense of other supporting principles.
  - Adjustments for exemption thresholds and progressive rates of tax create distortions in assessments.
  - State responses to different tax base distributions cannot be captured through average progressive tax rates.
  - An assessment based on underlying revenue bases, without adjustments, would be policy neutral, more transparent, and better fit the available data.
- Elasticity adjustments would not improve HFE and would reduce transparency.

The CGC's tax assessments should be made on the basis of the entire tax revenue bases, without adjustments for exemption thresholds, progressive rates of tax and the differing scope of taxes across States. Adjustments could be made for genuinely untaxable activity (e.g. to remove wages paid to Commonwealth employees from the payroll tax base). This approach would remove layers of CGC judgement and assumptions and help to address issues with policy neutrality, the distortions associated with threshold and progressive rate adjustments, and the availability of appropriate data.

Policy neutrality

The HFE principle requires the CGC to calculate fiscal capacities if each State 'made the same effort to raise revenue from its own sources'. The more that the CGC brings policy considerations into its tax assessments, the less likely it is that those assessments will be policy neutral.

- States respond to differing revenue base characteristics through policy settings, in order to raise the required revenue without overburdening the tax payer.

Tax bases themselves are also heavily impacted by government policies (see case study below). These policies are not accounted for by the CGC, which effectively assumes that they are consistent across the States.

Revenue assessments should use only the underlying drivers to avoid policy impacts.

A case study – policy and land values

Land values are heavily influenced by State policies.

A Reserve Bank of Australia (RBA) report found that zoning policies raised detached house prices (and by extension land values) by 73% above marginal costs in Sydney, 69% in Melbourne, 42% in Brisbane and 54% in Perth.[30] This illustrates that zoning policies materially affect land prices (and therefore tax revenues) and that the magnitudes of the effect differs across States.

There are a number of other policy choices that would also impact on land values, including regulations, taxes, business development expenditures, and the provision of services and infrastructure.

As the CGC's land tax assessment does not account for these policies, it effectively punishes States that may have increased their land tax base through other policy choices.

Thresholds and progressive rates

The CGC applies a set of derived average progressive tax rates and thresholds in an attempt to duplicate 'what States do'. While this structure may look like average State implementation of particular tax policies, it does not accurately capture State tax capacities that reflect what States actually do, and is not policy neutral. In fact, many CGC adjustments introduce policy biases.

An example is when the CGC applies an 'average' exemption threshold. As Western Australia has noted previously, thresholds are employed for numerous purposes. For example, a payroll tax exemption threshold could be set to:

- exempt small businesses from the legal liability of payroll tax as a means of providing them with a competitive edge;
- exempt small businesses from the legal liability of payroll tax due to high administration and compliance costs;
- exempt a certain proportion of the State's businesses from payroll tax; and/or
- reflect government policy to raise a certain amount of revenue from payroll tax, where the threshold provides a way of ensuring that adequate revenues are collected.

Thresholds vary between jurisdictions due to differences in broader economic and fiscal conditions, which help drive the policy considerations mentioned above.

- By imposing an 'average' threshold, the CGC introduces a distortion, as it cannot factor in these broader considerations of government.

[30] Kendell, R. and Tulip, P. (2018), *The Effect of Zoning on Housing Prices*, Reserve Bank of Australia Research Discussion Paper – RDP 2018-03, https://www.rba.gov.au/publications/rdp/2018/2018-03.html.

Payroll tax is an example, where the tax threshold is chosen to exempt small businesses, subject to affordability.

- The CGC's method currently defines the small business threshold as having a payroll of less than about $800,000.[31]
- However, private sector wages and business size distributions vary across States, and are deemed to be beyond the control of the State. If you were to define a small business on the basis of staff employed or exempting a proportion of the revenue base, rather than a dollar threshold, the assessment is distorted.
- For example, with the average threshold set at $800,000, in a State with an average wage of $50,000, a small business will be one with 16 or fewer employees. For a State with an average wage of $80,000, a small business will be one with 10 or fewer employees. Hence setting an average payroll threshold will capture a substantially different number of businesses in each State.

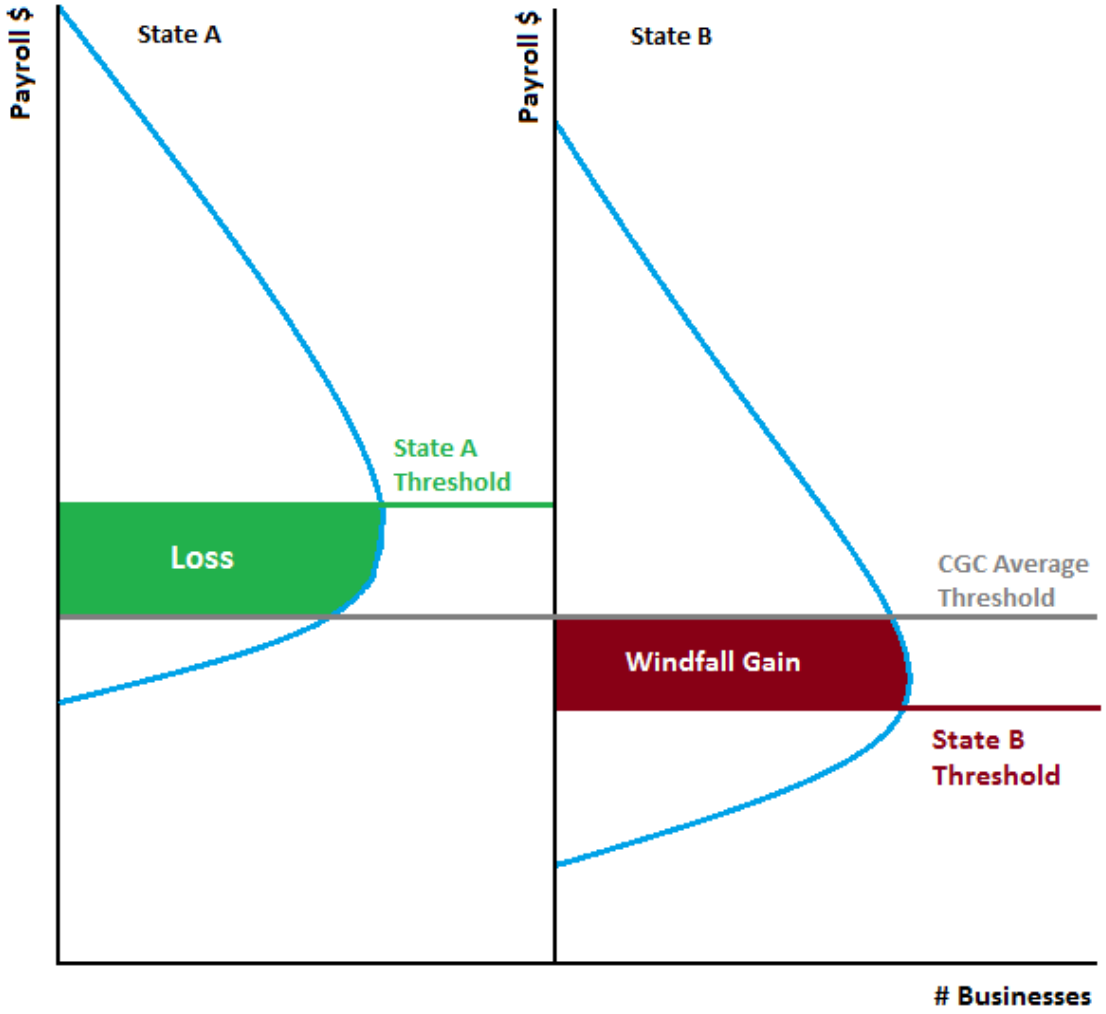
Chart 3.1 shows, for illustrative purposes, how a CGC imposition of an 'average exemption threshold' for payroll tax distorts the assessment.

- State A has a higher average wage (or larger average business size) than State B. Both States set a payroll tax exemption threshold in order to capture only relevant businesses by (say) exempting 30% of all the businesses operating in the jurisdiction.
- The chart shows that, by setting an average payroll tax exemption threshold, the CGC exempts fewer businesses in State A than in State B, despite them both having the same policy.

Despite the CGC implementing an 'average' exemption threshold, the threshold has produced a distorted perception of capacity. State A loses revenue under the CGC's current methodology, while State B receives a windfall gain.

[31] The actual standard threshold is not published.

Chart 3.1: Average exemption threshold distortion



A similar issue exists with land taxes.

- In previous assessments, the CGC has implemented a $300,000 tax free threshold in an attempt to reflect jurisdictions' legislation. This creates similar distortions.
- The distribution of land values is not the same across jurisdictions and it can be argued that land valuations are influenced by government policy.

By introducing an arbitrary threshold, the CGC distorts the assessment by artificially altering States' levels of taxable land. The distribution of land values varies across States. As a consequence of this variation, States enact different polices, rates and thresholds in order to tax their base in what they consider to be the optimal fashion. It is only under a scenario where land values are uniformly distributed across States that the CGC's methodology can be seen as being policy neutral. Otherwise you get a situation identical to that described above in relation to payroll tax (e.g. a $300,000 land tax threshold may artificially exclude 30% of one State's land base from assessment while only excluding 10% of another State's land base).

To avoid such induced distortions, the CGC should assess the broadest possible revenue base for each tax and aggregate as much as possible. This could include adjustments for genuinely untaxable activity (e.g. the wages paid to Commonwealth employees could be removed from the payroll tax base). At the very least, progressivity and exemption threshold adjustments should be removed.

Data issues

There are a range of data issues with the tax assessments.

- There is not data to accurately capture 'average' tax rate progressivity for payroll tax and land tax especially given the distributional differences highlighted above.
- Concerns remain about the consistency of State land value estimates.
- There is not data to separately assess foreign buyer surcharges despite these surcharges having a different underlying driver to stamp duty on conveyances.
- Differences in land tax and stamp duty scales for different types of properties are not captured.
- Adjustments that currently attempt to remove commonly exempt items or enact similar policies (e.g. aggregation in land tax, stamp duty on non-real property) cannot be done in an accurate manner. There are also some implementation anomalies.
  - The adjustment to reflect that not all States levy duty on non-real property differs across relevant States, but it is not clear why the size of the adjustment should differ across States given the lack of reliable data.
  - The CGC has made a relatively small (2%) adjustment to the ACT's land tax revenues to account for it not having aggregation. The impact of aggregation on the ACT's actual revenues would be small because the ACT has no exemption threshold.
    - However, the revenue the ACT would raise with aggregation is not relevant; what it would raise under the average policy with aggregation is relevant. As the CGC assesses the ACT's revenues according to an average land tax policy, it should apply the aggregation adjustment to have the effect it would have under that average policy. This would be considerably more than 2%.

Western Australia considers that many of the policy differences that exist between States can be more effectively controlled through effective rates of tax (i.e. implicitly) rather than through crude data adjustments. The different scope of taxes across States would be reflected in higher or lower effective rates of tax and the revenues States actually collect. These can be then be measured against a weighted average effective tax rate to assess effort.

As above, this means that assessments should reflect the broadest possible revenue base, without disaggregation.

Such broad assessments would be consistent with the recommendations of the PC, as endorsed by the Commonwealth Government. It would be policy neutral and reflect what States actually do; implicitly rather than explicitly.

Data sources

The CGC's assessments are limited by the data available to it, and the CGC's approaches further limit the number of data sources that it could use for an assessment.

The CGC is often able to use only State Revenue Office data because it makes granular assessments using different value ranges. However, there are well documented limitations in using State Revenue Office data, particularly because it is often not comparable between States, reflecting the differing scope of taxes across States.

- These limitations cause the CGC to make further, sometimes questionable, adjustments to the data, some of which are noted above.

The CGC has acknowledged these limitations at times (for example, by applying a discount to the land revenue assessment).

The CGC is required to use data that is fit for purpose. If it reduced the number of adjustments in assessments it would make available a number of additional data sources that are generally more comparable and transparent than State Revenue Office data.

- For example, if the CGC assessed land tax based only on land values it could use ABS data, which would be comparable across States and generally be more transparent.[32]

Draft assessment papers

The CGC's draft assessment paper covering simpler revenue assessments[33] contains a number of examples relating to taxes and differing distributions of revenue bases. It cited these as proof that thresholds and progressivity are necessary.

This argument only holds if States do not respond to differences in tax bases and set tax policies accordingly.

- For example, Tasmania has a land tax threshold of $25,000. This is substantially lower than other States (and the average employed by the CGC), but represents Tasmania's response to its distribution of land values. It reflects that States can make adjustments so that their revenue capacities do not differ significantly based on different distributions.

[32] One exception is that the ABS BLADE data would not be transparent.

[33] Commonwealth Grants Commission (2018), *2020 Review - A Broader Assessment Approach,* Staff Research Paper CGC 2018-02-S, April 2018.

- Differences in perceived capacity, as currently assessed by the CGC, are largely a consequence of the CGC's assessment methodologies in trying to replicate a narrow view of 'what States do' rather than what States actually do, and the relevant underlying capacity differences.

A number of the draft assessment papers, including *Payroll Tax*, *Insurance Duty* and *Motor Taxes* conclude that the current assessment is 'achieving HFE'.

- However, such conclusions seem premature in light of the method and data issues we have raised.
- It is therefore not appropriate to argue against particular data sources based on the fact it changes a State's assessed revenue capacity.

In relation to the few recommendations contained in the papers:

- *Assess other land based taxes using land values for residential, commercial and industrial properties*.

  It is not clear which land values (residential, commercial, or industrial) would be used to assess each of the various revenues contained in the other land based taxes category. In general, the category contains an eclectic mix of revenues from various sources, not all of which appear to be clearly linked to land values.

- *Include listed land rich transactions in the stamp duty base.*

  Western Australia does not support the inclusion of listed land rich transactions. These transactions are extremely volatile and data in any one year (or averaged over three years) would bear little or no resemblance to the ongoing capacities of the States. Because there are relatively few of them, large transactions are potentially more sensitive to State policies.

- *Include workers' compensation duty in the insurance duty base.*

  Western Australia has no objection to this recommendation, as it would lead to a (marginally) simpler assessment. However, it is unlikely to be material.

- *Continue to investigate a disaggregated or aggregated gambling assessment.*

  Western Australia considers that it is not possible to develop a policy neutral assessment of gambling revenues. Assessing gambling revenues in this way requires reliable data on the characteristics that lead to (i.e. causally, not via association) increased gambling, and the contribution of each such characteristic to an above-base level of gambling. This data does not exist and literature on gambling propensity is inconsistent.

The draft assessment paper on *Land Revenue* also requests comments on the most appropriate source of land revenue data. It is not possible to comment on which data source the CGC should use until it has reviewed the current assessment and settled on a final method.

- The data should be selected to most appropriately fit the assessment once an assessment method is decided. For example, if land tax is assessed based only on land values, the CGC could use ABS data.

Elasticity

Western Australia cannot understand the relevance or value of pursuing elasticity adjustments, as articulated in our February 2018 submission on this issue. This reflects the following.

- How individual tax bases respond to particular tax rates is not relevant for HFE. What is relevant for HFE is the response of total tax bases to the combined impact of government taxing, spending and regulatory policies.
- Applying tax elasticity adjustments could exacerbate the windfall gains and losses accruing to States from the CGC's inability to comprehensively equalise States' fiscal capacities.
- The application of tax elasticities to revenue bases may require the ABS populations used by the CGC to be adjusted, as well as revenue bases, to ensure the CGC is considering the elasticity of the revised per capita revenue base.
- The scoping study indicates that elasticity estimates are likely to be incomplete and imprecise. On this basis alone it would seem difficult to justify a GST assessment.

The PC also raised concerns with the use of elasticity adjustments, noting that:

Elasticity adjustments to substantially address policy non-neutrality in the HFE system are neither imminent nor immediately feasible.[34]

[34] Productivity Commission (2018), *Horizontal Fiscal Equalisation*, Report no. 88, page 104.

4. Mining Revenue

Key Points

- The CGC uses observed revenue bases, which are policy influenced and hence not fully fit for purpose.
  - To address this, the CGC should make at least a low discount to the mining revenue assessment.
  - Mineral bans are only a small part of policy differences, so should not be singled out for special treatment.
- The CGC should heavily discount remaining North West Shelf project revenues to reflect the lack of an assessment of the related costs incurred by the State.
- The CGC's proposal to limit the impact of royalty rate changes to 50% is a welcome sign that it is prepared to consider novel approaches. However, this proposal is overly specific, inequitable and does not come near to making the policy neutrality of mining assessments equivalent to tax assessments. Mining revenue would continue to be discriminated against.
- It is reasonable to implement a global revenue base assessment for simplicity, to reflect that States take a holistic view to revenue raising and to reduce sensitivity to changes in royalty rates. Overall HFE is only roughly achievable, and not well achieved at present in terms of policy neutrality and what States do, so the global measure does not have to be perfect to provide a better HFE outcome than is currently achieved.
  - Aggregating existing revenue bases would bring the sensitivity of changes to royalty rates down to less than 10%. The average tax rate (around 5.5%) is modest and could reasonably apply to the disparate State revenue bases.
  - However, aggregating just the onshore mineral revenue bases involves average royalty rates which could not reasonably be applied across minerals (even iron ore and coal alone). As well, the mining revenue assessments would remain far less policy neutral than tax assessments.
  - A high rate/low rate onshore mining assessment would also be sensitive to minerals shifting between components.
- In the absence of a global revenue assessment, Western Australia recommends using a fixed standard royalty rate (i.e. that does not change with State royalty rates) that can be reasonably applied across all minerals (valued consistently).
  - We suggest a rate of 5% or 6%.
- The CGC should put more onus on States to reconcile their data returns to their GFS revenues.

Policy influences on mining revenue bases

The HFE principle requires the CGC to calculate fiscal capacity if each State 'made the same effort to raise revenue from its own sources'.

To implement this, the CGC requires revenue bases that reflect the same policies. However, in practice, all it has is a revenue base for each State that reflects that State's policies. Hence, the CGC's data are not truly fit for purpose.

Mineral endowments

Data on mineral endowments also does not appear to be fit for purpose.

High level geological exploration shows that Western Australia is relatively abundantly endowed with prospective near surface geology. However, there is room for substantially more exploration to determine the extent of each State's endowment of exploitable mineral resources.

- Exploration is becoming more complex. The future includes both 3D and 4D modelling. Surface features may be known at a large scale, but detailed mapping and below surface exploration have not been done for many parts of Australia.
- Hence geological knowledge varies. In many ways, Australia is not fully explored. For example, Figure 4.1 shows both the diversity of Western Australia's geology and also how much of the State in under explored.

According to the Geoscience Working Group of the COAG Energy Council:[35]

> The remaining 80 per cent of the continent [i.e. that which does not have prospective rocks and Tier 1 deposits[36] exposed at, or close to, the surface] represents a largely unexplored or under-explored opportunity with vast flat-lying plains of sands, soils and gravels covering prospective rocks. There is no reason to believe that these covered prospective rocks are any less endowed in minerals than the well-established mining regions.

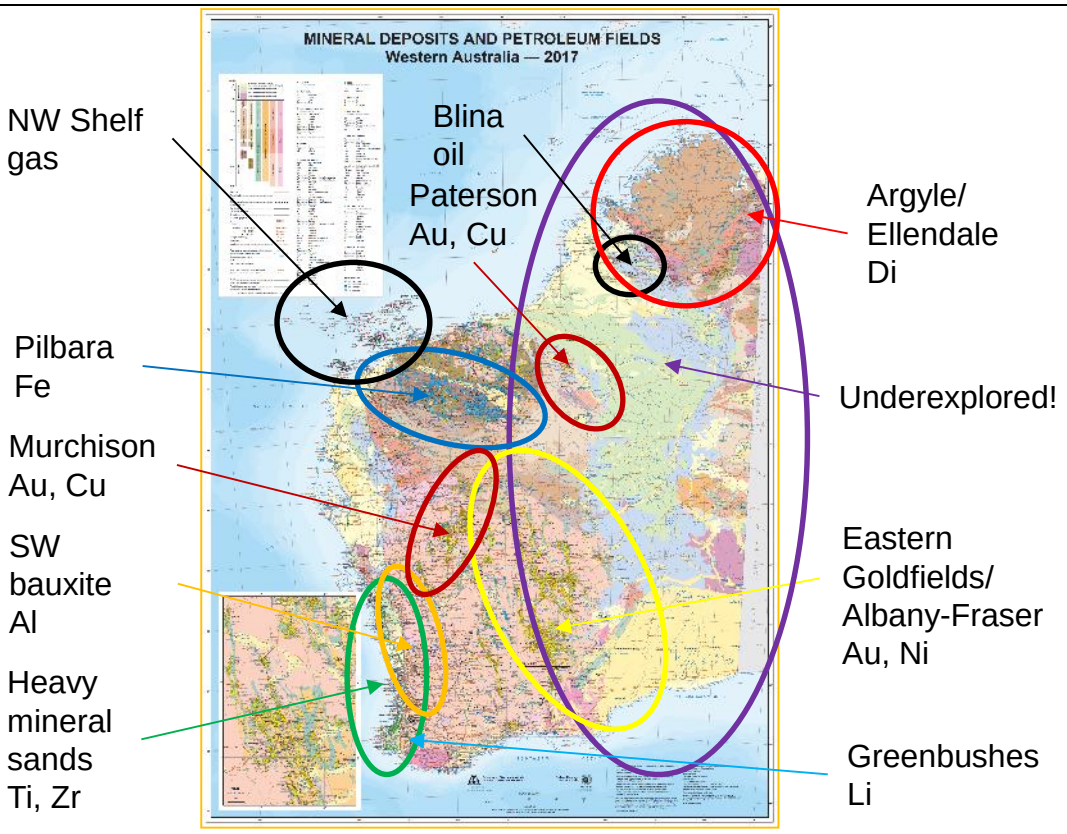
[35] Commonwealth of Australia (Geoscience Australia) (2017), *2017-2022 National Mineral Exploration Strategy*, page 3: http://www.coagenergycouncil.gov.au/sites/prod.energycouncil/files/publications/documents/National%20Mineral%20Exploration%20Strategy%202017-22.pdf.

[36] Tier-1 deposits are large, long-life and low cost mines (*ibid*, page 8).

According to AMIRA International:[37]

> There is no reason to expect that Australia's mineral endowment is confined to the 'near-surface search space' environment (which is estimated to occupy the best explored 30% of the continental landmass). A large portion of the remaining 70% of the country is considered unexplored but is prospective to host new, high-quality, large economic resources to replace the currently depleting operations. This potential endowment remains hidden, concealed by post-mineralisation cover of varying depth and type in a new "covered search space". …
>
> It is often overlooked, but this prospective endowment has already been confirmed by a proportionally small number of high-quality mines now being exploited underneath post-mineralisation cover. Examples include Ernest Henry (Cu Au), Olympic Dam (Cu Au, U), Century (Zn), and Nova (Ni).

Figure 4.1: Map of mining resources in Western Australia



Source: Western Australian Department of Mines, Industry Regulation and Safety. Based on well-known prospective and productive areas identified in http://dmpbookshop.eruditetechnologies.com.au/product/mineral-deposits-and-petroleum-fields-western-australia-2017.do.
Information can also be found in http://dmpbookshop.eruditetechnologies.com.au/product/geological-survey-work-program-for-2016-17-and-beyond.do.

[37] AMIRA International (2017), *Unlocking Australia's Hidden Potential*, pages 46-47: http://www.amirainternational.com/WEB/sites/P1162A/Documents/FinalDocuments/TheRoadmapDocument/AMIRA Roadmap%20-%20Unlocking%20Australias%20Hidden%20Potential.pdf.

The extent to which endowments have been mapped out is influenced not just by private sector activity, but by public sector activity. States have a critical role in geological mapping and funding of exploration, as exploration is a high risk activity. During the CGC visit, our agency elaborated on Western Australia's current Exploration Incentive Scheme, which shows the substantial effort being made by this State.[38]

The future of geoscience mapping in Western Australia is towards the understanding of underexplored, greenfields areas in the more remote and difficult to access parts, particularly in the desert regions. There, the need is to see through the cover of soil, sand and sedimentary basins that can obscure economic bedrock. The aim is to maintain investment and exploration activity at levels required for the long-term sustainability of the State's resources sector. This requires an increase in the discovery rate of economic deposits. The acquisition of State-wide precompetitive geoscience datasets, particularly geophysics, geochemistry and geochronology, can give new insights into 3D structure and evolution through time (4D), which feed into exploration models, deposit targeting and ground selection, expanding the search space from near surface (0-50 metres), down to 500 metres (for Tier-1 deposits).

Table 4.1 shows considerable differences across the States in their expenses incurred in geological surveying and supporting private sector exploration in 2017-18. These differences reflect both need (which explains why the ACT has no expenses) and policy. If the differences shown for 2017-18 were to be maintained, we would expect them to influence the identified endowments.

Table 4.1: Exploration budget by State
2017-18

	$m	**$pc**
New South Wales	24	3
Victoria	26	4
Queensland	9	2
Western Australia	34	13
South Australia	5	3
Tasmania	7	13
Australian Capital Territory	-	-
Northern Territory	11	45
State Governments	***117***	***5***
Geoscience Australia	29	1
Total	**146**	**6**

Source: Geoscience Working Group meeting for 2017-18.

[38] Information on this is also available at www.dmp.wa.gov.au/EIS.

Policy influences

The PC said "State Governments generally have a greater influence on their mining revenue base than on the size of other tax bases … Extraction activity can be influenced, to varying degrees, by a wide range of policies …"[39]

State Government policies that affect mining value of production include:

- regulations;
- royalties – level and stability;
- services and infrastructure;
- business development spending;
- regional development – such as affordable housing;
- geological survey;
- approval processes – including environmental approvals;
- fiscal policies – through their impact on business confidence; and
- mining bans and restrictions.

Discounting

We know that it is not practical for the CGC to remove all of these policy differences from the observed mining values of production.

Hence, consistent with the CGC's approach for dealing with situations where its data are not fully fit for purpose, we propose that the CGC discount the mining revenue bases towards a less policy-influenced measure.

- We note that the CGC's discount for a low level of concern with the data is 12½%, which would have an impact on Western Australia's 2016-17 data year assessment of over $200 per capita. The impact is so material that a discount would be justified.
- The draft assessment paper states that a mining revenue discount would not necessarily move the assessments in the same direction as removing policy influences.[40] This misses the point. The CGC does not have fit-for-purpose data, hence it cannot have full confidence in the results and a discount is appropriate.
  - The same reasoning applies in other cases of discounting. For example, the CGC does not know if discounting will move the wages assessment in the same direction as if it could adjust for the shortfalls in the data, but it discounts regardless.

[39] Productivity Commission (2018), *Horizontal Fiscal Equalisation*, Report no.88, page 124.

[40] Commonwealth Grants Commission (2018), *2020 Review – Mining Revenue*, Staff Draft Assessment Paper CGC 2018-01/08-S, page 11, paragraph 34.

  - The CGC staff have accepted that discounting can be a valid method of dealing with data difficulties caused by policy differences in their proposal for an EPC (i.e. 100% discount) for banned minerals.

- The draft assessment paper also objects to the prospect of discounting the mining revenue assessments as this would give the ACT a non-zero mining revenue base.[41]

  - This objection is not valid. If the CGC has no concern with the measurement of the ACT's revenue base (at zero), then there would be no need to discount the ACT's revenue base.

- We note that, rather than the CGC discounting from observed value of production shares towards population shares, it could discount from observed value of production shares towards land area shares. Land area is a policy-free indicator and, unlike populations, can be expected to have some broad relationship with mineral resources – States will not all have the same resource per square kilometre, but as a general rule States with significantly more land area will have significantly more mineral resources. Using land area shares would justify using a much higher discount than would be justifiable using a discount towards population shares, because populations have no relationship to mining capacity whereas land area will have a significant relationship.

Equal per capita assessment of banned minerals

As noted above, in the draft assessment paper the CGC staff proposed a 100% discount (i.e. an EPC assessment) to deal with the policy neutrality and data difficulties caused by minerals that are banned or partially banned by (presumably) at least one State. Initially this would cover coal seam gas and uranium.

However, mining bans are just one small way (of the many ways that we listed above) in which State Governments influence production.

- There may be many good reasons for a ban. For example, it may make mining more socially acceptable if it is banned in sensitive areas, resulting in greater mining activity overall.

- It is also not clear that mining bans always have a material impact.

  - For example, Western Australia approved four mines in the brief period when the ban on uranium mining leases was lifted in this State, and those approvals remain.[42] It depends on the economics of the uranium industry as to when or whether those four approved mines would proceed through to development.

[41] *ibid*, page 11, paragraph 34.

[42] https://www.mediastatements.wa.gov.au/Pages/McGowan/2017/06/McGowan-Government-announces-uranium-policy.aspx

- As another example, Western Australia currently has a ban on hydraulic fracturing in the South West, Perth and Peel regions and a moratorium throughout the rest of the State. However, this is largely irrelevant given the relatively high cost of developing shale gas resources in the State and because the domestic market is already well supplied.

Adjusting for mining bans and not other policy impacts would be a highly selective approach. It would bias against States that have judiciously used mining bans while promoting mining elsewhere. The same concern also applies to adjustments for the elasticity of production with respect to royalty rates.

Adjusting for mining bans could also lead to intertemporal inequities. Take as an example, if coal seam gas is assessed EPC while Queensland is extracting it, and then later all States start extracting it (e.g. due to improved environmental safeguards or higher world prices). Queensland could have much of its coal seam gas being unequalised, yet share the benefits of New South Wales' coal seam gas being fully equalised.

As discussed above, the solution is a general discount to recognise that, because of a very wide range of policy influences, observed values of production used by the CGC do not reflect same effort, and hence are not fully fit for purpose.

North West Shelf

The North West Shelf project is a clear case where the revenues are highly likely to be the result of Western Australia's efforts (see below), and hence State support was well justified and other States would have been likely to do the same if they were in Western Australia's position – it's what States do. However, no other State has been faced with the prospect of making such a large investment (estimated to exceed $8 billion in 2010 net present value terms) with such a significant resulting revenue flow.

The CGC should heavily discount the revenues from remaining gas production from the North West Shelf reserves to reflect the lack of an assessment of the related costs incurred by the State.

Obviously there can never be certainty about what might otherwise have happened, and States and other economic actors do not require certainty to make investments. Without taking justified investment risks, growth would be impossible.

The North West Shelf project history, and reasons for State support, are well documented in Western Australia's previous submissions.[43]

[43] For example, Appendix A to Western Australia's July 2013 submission to the CGC's 2015 Methodology Review.

The Western Australian Government's contribution was critical in establishing the North West Shelf project and Australia's LNG export industry.

- The State entered into a 20-year 'take or pay' contract that underpinned the domestic phase of the project.
  - The domestic phase lent credibility to the project for overseas gas buyers, who were very sensitive about reliability of supply.[44]
  - The take or pay contract assisted Woodside in receiving finance for the LNG export phase of the project.
  - Domestic sales revenue provided cash flow as finalising LNG export contracts was delayed.
- The State also funded the construction of the Dampier to Bunbury gas pipeline to enable gas to be delivered to major domestic markets in the South West of the State.

The CGC has previously cast doubt on whether the State Government support was essential in establishing the project. In response to this, we note the following.

- In the 1970s and 1980s Western Australia played a pivotal role in securing the development of the North West Shelf project through financial assistance and infrastructure provision. This has been well documented in previous Western Australian submissions. Woodside Petroleum's CEO, Peter Coleman, has recently corroborated this, stating that "when we began constructing a gas plant near Karratha in 1980, it was still a high-risk venture for our company…but Western Australia's efforts were crucial…that [it] actively supported and indeed enabled its development".[45]
- Even internationally, the development of LNG export projects was rare in the 1980s.
- The North West Shelf Trains 1-2 in 1989 was the first new LNG export project globally since 1983.[46]

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[44] Murray R. (1991), *From the Edge of a Timeless Land, A History of the North West Shelf Gas Project*, Allen & Unwin, page 130.

[45] Coleman P. (2017) *GST carve-up must reward states that develop resources*, Woodside http://www.woodside.com.au/Investors-Media/announcements/Documents/03.07.2017%20Opinion%20-%20GST%20Carve-Up%20Must%20Reward%20States%20that%20Develop%20Resources.pdf

[46] International Gas Union (2018), *2018 World LNG Report*, Appendix 1, page 73 - https://www.igu.org/sites/default/files/node-document-field_file/IGU_LNG_2018_0.pdf
Note that the Arun LNG project in Indonesia – which was decommissioned in 2014 – added a sixth train in 1986, but this was not a new LNG export project.

- The North West Shelf project was the first significant LNG project not involving direct investment from a government/national oil company.[47]
  - Most other LNG projects developed before this (in Brunei, Algeria, Malaysia and Indonesia) and into the 1990s (in Qatar) were largely government-owned projects.
- Alternative exports projects at the time were considered to be in Sakhalin (which did not begin until 2009) and western Canada (which has had no development to date).[48] [49]

Sensitivity to royalty rate changes

The mining revenue assessment is very sensitive to royalty rate changes by States that dominate production. This is a different type of policy neutrality issue to the influence of policy on revenue bases discussed earlier.

The draft assessment paper proposes addressing the sensitivity to royalty rate changes by specifically limiting the GST impact of future royalty rate changes to 50%.

For the same reason, it also considers the prospect of aggregating minerals, but does not propose this. However, at the Western Australian State visit, the CGC Chairman suggested aggregating some minerals.

In the following discussion, we respond to these suggestions and provide our own thoughts on addressing this issue.

Imposing a limit on the impact of royalty rate changes

In the mining revenue draft assessment paper, staff propose limiting the GST impact of a change in a State's royalty rate to 50% of the change in that State's royalty revenue.

This proposed 50% cap on the impact of royalty rate changes is a very selective approach.

This proposal is a welcome sign that the CGC is prepared to consider novel approaches to address a very fundamental problem with the current form of HFE. However, in practice a cap would discriminate against States that have previously raised their royalty rates, compared to those that may do so in the future.

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47 *ibid*, Appendix 1, page 73. The exception – as noted in the presentation during the CGC visit – is the Kenai project in Alaska, which had a relatively small production capacity.

48 *ibid*, Appendix 1, page 73 covers the start-up (or non-start-up) of these projects. To substantiate that these were alternative export projects considered in the 1980s, see pages 129-130 of the PhD thesis *The North West Shelf Natural Gas Project: An Analysis of Critical Events* by R.S.Gardner: http://researchrepository.murdoch.edu.au/id/eprint/6294/2/02Whole.pdf.

49 An investment decision was made by LNG Canada in October 2018, but LNG exports are not expected until the mid-2020s.

Royalty rate reductions also cause problems. For example, the revenue arising from past increases in Western Australia's iron ore royalty rates is being fully equalised. If Western Australia gives royalty relief to iron ore miners (e.g. for new products or mines in danger of closing) will the CGC cap the GST offset at 50%?

Moreover, a 50% cap still substantially discriminates against mining revenues, as the sensitivity to changes to tax rates is below 10%.

Table 4.2 gives the percentage royalty losses where they exceed 10%.

Table 4.2 – GST loss of increased royalty rate revenue in 2016-17 [(a)]
(for losses exceeding 10%)

	WA	Qld	SA	NT	All Other States
Iron ore	88%				
Coal		44%			
Gold	60%				
Copper			24%		
Bauxite	28%	26%		15%	
Nickel	89%				
Onshore petroleum		(b)	62%		
All other onshore minerals [(c)]	15%			20%	

Source: Western Australian Department of Treasury estimates using CGC assessments.

(a) Exact losses vary from year to year. This table uses the CGC's most recent data year. The table does not identify where States gain more than 10% GST by increasing their royalty rate, which occurs for New South Wales (for gold, copper, bauxite, onshore petroleum and other minerals), Victoria (for coal, gold, onshore petroleum and other minerals) and Queensland (for gold).

(b) Queensland's loss would have been 11% in 2015-16 (and greater in earlier years). It has a gain of 4% in the 2016-17, but we expect that is an artefact of an error in the assessment data which we have asked CGC staff to investigate.

(c) The CGC groups all other onshore minerals into a single component. For example, the 15% loss for Western Australia would apply to all minerals not listed earlier in the table, including diamonds, mineral sands and lithium.

A 50% cap in GST losses is also not likely to be sufficient to address the policy neutrality concerns. For example, the GST loss from an increase in Western Australia's gold royalty is around 60% but even this level of loss was still sufficiently high for the community to question 'what's the point?' given most of the revenue will go to other States. This was a factor in the media campaign and in the increased gold royalty not receiving Parliamentary support.

Aggregating minerals

Aggregating minerals has been seen as a way of reducing the responsiveness of the mining revenue assessment to changes in royalty rates. However, a single aggregated onshore mining component would still result in a 40-50% loss of revenue arising from any increase in Western Australia's royalty rate (on any mineral), compared to less than 10% for taxes.

- Similar losses would occur under a low rate/high rate split.

Equally seriously, there are conceptual problems in amalgamating minerals whose royalty rates partly reflect underlying capacity and partly policy. Capacity emerges from a combination of production and transport costs and mineral prices.

- Reflecting higher costs, lower royalty rates are generally applied to more processed minerals.
- Western Australia has a flat 7.5% rate for iron ore, but levies a lower rate on beneficiated ore (due to the higher processing) and has provided a concession for magnetite producers to help them face a number of challenges.
- New South Wales recognises different production costs through a three tier coal rate (6.2%, 7.2% and 8.2%) depending on whether it is deep underground, underground, or open cut.
- Queensland recognises different coal prices through a progressive rate structure (7% up to $100 per tonne, 12.5% for incremental value up to $150 per tonne and 15% for incremental value beyond $150 per tonne).

Aggregation without considering underlying capacity (noting that in practice this underlying capacity cannot be measured) could only be considered reasonable if the standard royalty rate that were applied were sufficiently low to be applied to all (or nearly all) minerals. This is further considered below.

A low rate/high rate split raises even more problems. There is extremely high sensitivity in the assessment to changes in rates that shift minerals between components. These GST impacts can be well over 100% of the change in royalty revenue.

- This would discourage States with a relatively large share of a mineral just below the threshold from increasing the royalty rate. Even if the CGC were to hold the components constant between method reviews, there would be a long-term risk.
- It would also encourage States with a relatively large share of a mineral just above the threshold to decrease the royalty rate slightly in order to fall into a lower bracket.

It is true that, despite the low rate/high rate assessment in the 2010 Review, Western Australia increased its iron ore royalty rate on fines. However, this change was in train before the mining assessment was changed in the 2010 Review.[50] Western Australia ultimately chose to proceed after the change in the mining assessment with the expectation, which turned out to be justified, that the Federal Treasurer would not allow inappropriately large GST impacts.

Proposed solutions

Two approaches that would succeed in bringing the sensitivity of the assessments to changes in royalty rates down to something on par with the sensitivity to changes in tax rates are as follows.

- Aggregate the tax and royalty assessments so that no State dominates the revenue base.
  - This requires using some form of global revenue assessment.
- Use a fixed standard royalty rate (i.e. that does not change with State royalty rates) that can be reasonably applied across all minerals (valued consistently).
  - The HFE principle does not preclude this – it refers to 'same effort', not 'average effort'.

Global revenue assessment

The essential case for a global revenue assessment is that:

- HFE is only roughly achievable due to limitations on data availability and understanding of the underlying drivers of what States do;
- States take a holistic view of revenue raising (probably the most significant aspect of 'what States do'). Rather than treating each revenue source differently, they seek to maximise revenue by "so plucking the goose as to obtain the largest possible amount of feathers with the smallest amount of hissing"; and
- a global revenue base offers simplification and greater policy neutrality.

[50] Negotiations for the change to the iron ore fines royalty concession had been conducted over many years, commencing under the Gallop Government in 2005 (but first suggested in 1981, with a decision made in 1995 to remove the concessions when the opportunity arose). See Hansard of 2 June 2005: http://www.parliament.wa.gov.au/Hansard%5Chansard.nsf/0/a294aa64541ead90c825757000126b18/$FILE/A37%20S1%2020050602%20p2712c-2713a.pdf

The CGC staff have analysed various potential global revenue base measures and concluded that they are not consistent with HFE because they materially change the assessments.[51] However, this simply presumes that HFE is accurately implemented in its current form. The CGC has made many material changes to its assessments over time, continues to face data challenges, and ignores much of 'what States do'. In lieu of policy neutrality, it has relied on judgement that States have made the same revenue effort.

Many arguments against global revenue indicators are less than convincing. States do have good access to their economy's capacity to pay through the tax instruments constitutionally available to them, and to a large extent actually used by them. States do seek novel ways to tax economic activity. State tax systems look quite similar at a broad level, but have much variety at a detailed level. Decades of HFE based on a tax-by-tax approach may have fostered more tax uniformity across States. Global revenue indicators can be adjusted for the most significant features of State economies that could bias HFE outcomes.

Global revenue indicators are not perfect, but they don't have to be, given the limitations of other options.

We continue to propose two alternative options for global revenue assessments. Both options bring the sensitivity to changes in royalty rates down to a level comparable to the sensitivity of tax rates. The maximum response is less than 7% for the adjusted-GSP option and less than 10% for the aggregated existing bases option.

- Adjusted Gross State Product
  - A revenue base measure that would cover all taxes and onshore mining royalties is Gross State Product, adjusted by subtracting half of general government final consumption expenditure and an estimate of total offshore mining gross operating surplus/gross mixed income (reflecting that the operations are in Commonwealth waters, so the profits/rent are not taxable by States, but they can still tax the relevant wages).
  - If the CGC is concerned at the level of redistribution from moving to this measure, and can justify that the current distribution appears equitable, this measure could be brought closer to the existing assessments by excluding all general government final consumption expenditure.

[51] Commonwealth Grants Commission (2018), *2020 Review - A Broader Assessment Approach*, Staff Research Paper CGC 2018-02-S.

- Aggregate existing revenue bases
  - The CGC could aggregate the existing revenue bases that it assesses, to give a global revenue base covering all taxes that are not assessed EPC and all onshore mining royalties. The revenue base would be the sum of the individual revenue bases, subject to the following.
    - Because the land values are stocks, rather than flows, they would need to be amortised over time (say 10% of the value would be included in the aggregate revenue base).
    - We previously suggested that the motor taxes revenue bases of number of light and heavy vehicles would need to be converted to a dollar value and amortised. However, many motor vehicles have minimal book value but still attract registration fees, which suggests that these fees are not a tax on the value of the vehicle, but rather a form of road user charge. Hence, we now suggest excluding them from this global revenue assessment.
    - Amalgamating bases is consistent with 'what States do', namely, that if one revenue base is insufficient, then they just tax another.
  - The staff research paper did not quantify the impact of this second option.
  - A potential problem of this option is that the average tax rate could be incompatible with the underlying tax capacity associated with one or more revenue bases (similar to the issue discussed above with aggregating the mining assessments). However, the average tax rate seems fairly modest (around 5.5%), so this is unlikely to be a concern in practice.

Table 4.3 shows our estimate of the impact of aggregating existing revenue bases.

Table 4.3: Impact on needs of aggregating existing revenue bases by data year ($ per capita)

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
NSW	-9	-6	-22	-76	-76	-63	-97
Vic	-95	-78	-63	-102	-69	-96	-136
Qld	+127	+102	+56	+47	+30	+56	+141
WA	+86	+50	+129	+390	+326	+304	+391
SA	-44	-10	+13	+24	+39	+27	-10
Tas	-42	-35	-18	-30	-19	-14	-34
ACT	-132	-118	-101	-112	-51	-78	-153
NT	-150	-113	-114	-41	-83	+51	+33

Source: Western Australian Department of Treasury calculation using CGC assessments.

The CGC staff have provided no substantive reason for not examining the option of aggregating the existing revenue bases. They indicated that they did not know how to implement it prior to the 2015 Review, without indicating why this is relevant. In any case, it is straightforward to do so – simply aggregate the revenue bases that were calculated at the time (excluding gambling tax for consistency, which the CGC did anyway when examining other options).

The change in methods is not of major concern, as the analysis would be comparing like with like – there is actually more of a comparability problem with the other options, as the CGC is comparing a global measure that might be implemented in the 2020 Review with methods from prior to the 2015 Review that have already been altered.

We feel that the omission of the option of aggregating the existing revenue bases is a fundamental flaw in the CGC staff analysis, which prejudices conclusions.

We note that the revenue base aggregation option can evolve to reflect changes to the CGC's methods for calculating individual revenue bases. For example, in the *Taxes* chapter, we propose removing thresholds and progressivity from the revenue base calculations.

Finally, we note that the CGC staff may have made an error in their global revenue assessment calculations, in that they appear to have applied the global revenue bases to all revenues. It is not appropriate to make any differential assessment for revenues generated by financial asset holdings (interest revenue and dividends), as the CGC's capital assessments aim to give States capacity to hold EPC financial assets. We would also question the appropriateness of including user charges and fines in a global revenue assessment, as these reflect decisions of individuals to use services or breach laws.

Fixed uniform standard royalty rate for all minerals

We can think of two approaches to choosing standard royalty rates that do not change when States change the actual royalty rates, and could be applied across all minerals (valued consistently).

- Use overseas guidance on minimum rates.
  - The problem with this is that overseas circumstances are generally far different from Australian circumstances, so overseas rates may not provide a good guide.
- Use Australian experience.
  - Few minerals have a royalty rate below 2½%. Most minerals would attract at least 5-6% on a lightly processed basis.

We propose a fixed rate of 5% or 6%.

Government Finance Statistics balancing adjustment

The CGC determines each State's aggregate mining revenue standard from Government Finance Statistics (GFS) data, but uses an annual data return to obtain revenues (and values of production) for individual minerals.

A problem is that the sum of revenues from the data return does not always match the GFS total. To reconcile to GFS, the CGC adjusts the revenues in the Other Minerals component.

On some occasions, State data returns have significantly understated aggregate revenues. The additional revenues allocated to Other Minerals have resulted in losses for the States with high shares of Other Minerals production – particularly the Northern Territory.

The CGC should be putting more onus on States to reconcile their data returns to their GFS revenues. Western Australia consistently provides data that matches to within a million dollars, and fully documents the reasons for any remaining discrepancies. For such an important category, it is reasonable to expect other States to do likewise.

5. Other Revenue

Key Points

- We support retaining an EPC assessment of the revenues currently in the Other Revenue category.

We support retaining an EPC assessment of revenues in the Other Revenue category.

We have discussed gambling taxes in the *Taxes* chapter of this submission. The following comments deal with other revenues within the Other Revenue category.

An issue that has not been acknowledged in the draft assessment paper is that revenues derived from financial asset holdings (interest, dividends and contributions from trading enterprises) must be assessed EPC because the CGC's Net Borrowing assessment aims to give States the capacity to hold an EPC value of net financial assets.

- The CGC has previously concluded that differences in interest rates are unlikely to be material. We see no likelihood that this has changed (those deriving from policy-influenced credit ratings are not relevant). There is also no conceptual reason for different returns from trading enterprises (noting that differences from commercial returns should be assessed as subsidies to trading enterprises).

We also support an EPC assessment of user charges, fees and fines, as these depend upon the propensity of persons to use services or breach laws, rather than any measure of capacity to pay.

The 'other revenue' portion of Other Revenue is a miscellaneous collection which would need dissection if the CGC were to consider a differential assessment of it in part or whole. Some items, such as assets acquired below fair value, would defy any meaningful differential assessment.

At the Western Australian visit, the CGC Chairman suggested that Other Revenue could be assessed by a broad economic indicator. We do not support this.

- For the reasons outlined above, EPC is the appropriate assessment for the revenues in the category. This is why we have only included taxes from this category in our proposed adjusted Gross State Product global revenue assessment (and no revenues from this category in our proposed aggregated revenue base assessment) discussed in the *Mining Revenue* chapter of this submission.

A broad economic indicator would double count revenue capacity if it were used solely in this category. For example, any economic indicator would be boosted by Western Australia's high mining activity, but that activity is already assessed in the Mining Revenue category.

6. School Education

Key Points

- The CGC's assessments do not reflect the level of spending by Western Australia on schools. As the CGC's assessments are quite uncertain, the Western Australian spending may be indicative of unassessed need.
- Our analysis suggests that:
  - the CGC needs to work carefully with States on this assessment; and
  - the complexities of interpreting the detailed data indicate that a broader approach concentrating on accurately measuring the underlying drivers may be more successful.
- We support the proposal to continue to use the Commonwealth's schooling resource standard to assess States' relative spending needs for the proportion of States' national spending on government schools that is funded by the Commonwealth.

Western Australian Department of Education student-centred funding model and other funding

The Department of Education's student-centred funding model (SCFM), which has been in place since 2015, accounts for around two-thirds of the total budget (excluding targeted initiatives).

Most of the SCFM is allocated as per student funding, which varies based on the year level of the student (and senior high schools receive a lower per student allocation for additional students above an enrolment threshold of 1,200). Per student funding ranges from $6,779 to $9,693 (dollars relate to 2018).

The model also includes:

- additional funding for smaller schools (maximum $424,266 for primary schools and $795,493 for secondary schools) and special schools;
- a locality loading (up to 20.6% of the per student and additional funding for smaller schools);
- funding for Indigenous students ($1,982 to $2,576.60 per student, depending on the percentage of Indigenous students at the school);
- funding for students with English as a second language ($2,784 to $3,619.20 per eligible student in mainstream schools, depending on the percentage of eligible English as a second language students in the school – students remain eligible for

two or three years). Funding for students with English as a second language enrolled in a specialist intensive English school is $9,276 per student plus additional base funding for the school of $371,006 and $424,007 for primary and secondary schools respectively. Indigenous students are not eligible for English as a second language funding;

- funding for social disadvantage based on parent occupation and education data. Funding is provided for students in the three most disadvantaged deciles ($430 to $1,505 per student, depending on the percentage of students at the school in each decile);
- funding for students requiring an educational adjustment for additional learning needs ($954 to $1,431 per student, depending on the percentage of these students at the school);
- funding for students enrolled in a specialist language development school ($9,276 for each student); and
- funding for individual students with an eligible disability ($9,436 to $72,082 per student).

Schools are charged notional rates for teachers, school leaders and support staff, regardless of experience, from their SCFM funding.

In addition to the SCFM, additional funding is provided to specified schools for strategic programs and services, responses to operational issues and resources provided to schools through regional offices.

As well, some employee costs are paid centrally, such as long service leave, annual leave, sick leave, housing and allowances.

Detailed information on the SCFM and other funding has been provided to the CGC staff following the State visit to Western Australia in August.

Interstate comparisons

Western Australia faces significant challenges in providing education services to some of the most disparate and disadvantaged communities in Australia. This is reflected in the SCFM loadings for social disadvantage, Indigeneity and location, as well as centrally-provided funding for housing costs. The education presentation to the CGC during the August visit to Western Australia highlighted many factors that cause increased costs, such as high staff turnover, limited staff availability, entrenched disadvantage and high costs for goods and services in regional and remote areas.

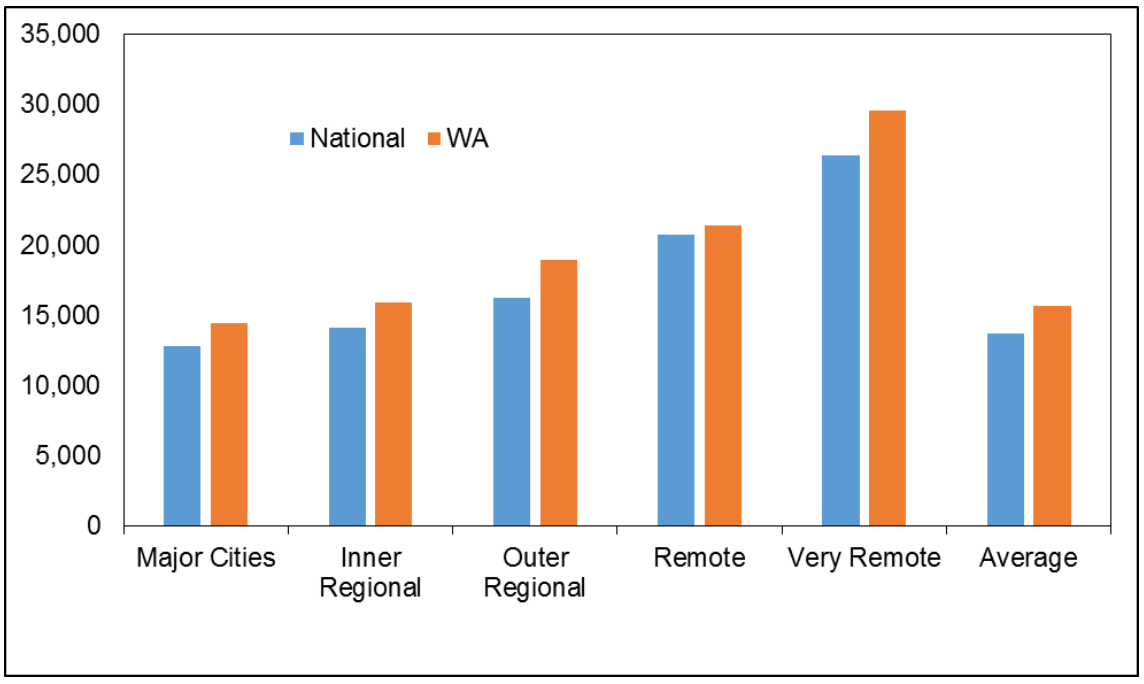
As each State will have its own (probably complex) funding model, these models can only provide the CGC with a general guide to the assessment of school education needs. The CGC has sought to use the ACARA[52] database, with regression analysis, to quantify drivers of funding, but has encountered some difficulties. Likewise, we have also encountered difficulties in pursuing this route.

Regression analysis is a blunt tool. Western Australia has a well-ordered funding model for schools, as seen above. However, without knowing the model, it would be a large challenge to impute even the main outlines of this model from Western Australia's ACARA data through regression analysis, made more difficult by the averaging of some of the formula costs across the system (for which schools are charged notional rates).

Therefore, we have sought an alternative approach to analysing the ACARA database. We have attempted a partitioned analysis of the 2016 ACARA database to identify similarities and differences between school funding in Western Australia and Australia as a whole; and also to make comparisons with the CGC's current schools assessment model.

Chart 6.1 below presents initial results for government schools by ARIA[53] region using the ACARA database. Western Australia spends more than the national average at all levels.

Chart 6.1: 2016 funding by ARIA region (government schools only)
($ per student)



Source: Western Australian Department of Treasury calculation. Reflects Western Australia's actual wage rates.

[52] Australian Curriculum, Assessment and Reporting Authority.

[53] Accessibility/Remoteness Index of Australia.

Table 6.1 carries the analysis further, by:

- removing the impact of wage differences between Western Australia and the national average; and
- comparing the relative (i.e. WA/national) per student funding implied by the ACARA data (adjusted for wage differences) with the relative (i.e. WA/national) per student funding assessed by the CGC for 2016-17 in the 2018 Update (which takes into account the CGC's estimates of costs for location, Indigeneity and socio-economic disadvantage).

Table 6.1: Western Australian education spending compared to the national average and CGC assessments[54]

	Actual spending 2016			Assessed by CGC 2016-17	WA overspend compared to CGC assessed	
	WA	National	Ratio	Ratio		
	$ per student	$ per student	WA/national	WA/national	%	$m
	A	B	C=A/B	D	100*(C/D-1)	
Major Cities	13,740	12,847	1.069	0.986	8.4	188
Inner Regional	15,089	14,109	1.069	0.971	10.1	35
Outer Regional	18,003	16,238	1.109	0.996	11.4	39
Remote	20,343	20,738	0.981	0.994	-1.3	-4
Very Remote	28,124	26,403	1.065	0.973	9.5	13
Total						**271**

Source: Western Australian Department of Treasury calculation using ACARA data and the CGC's Assessment System Online.

Note: Western Australia's spending per student is adjusted down by 5.3% to reflect national wage rates. This reflects that Western Australia's wages are estimated at 7.1% above the national average and wages are estimated to comprise 74% of total spending. The CGC assessments exclude service delivery scale impacts.

Compared to the CGC's analysis, the ACARA data demonstrates additional spending by Western Australia in every ARIA region other than 'remote', totalling nearly $300 million. This difference will reflect some balance between policy issues and problems with the CGC's methodology.

It is not easy to determine what this balance is.[55] However, we are inclined not to place a lot of confidence in the CGC's current assessments, given:

- the difficulties the CGC has experienced with its regression analysis; and

[54] Student enrolment data used in the analysis are as follows. The differences between the ACARA enrolment data (analysed as 'overspending' by Western Australian Treasury) and the CGC enrolment data may suggest that Western Australia's overspending is somewhat larger than shown in Table 6.1.

	ACARA Enrolments 2016		CGC Enrolments 2016-17	
	WA	National	WA	National
Major Cities	208,639	1,704,529	197,322	1,690,339
Inner Regional	30,975	476,403	28,280	473,401
Outer Regional	23,875	243,935	24,013	245,012
Remote	14,933	37,050	14,987	36,508
Very Remote	6,435	25,261	6,149	26,085
Total	**284,856**	**2,487,177**	**270,752**	**2,471,346**

[55] Our analysis of the incidence of small schools across States suggests that this is not an explanatory factor. Western Australia has very few metropolitan small schools that are not specialty support schools.

- the CGC's measures of socio-economic disadvantage are indirect (being area based, not school based) and possibly not conceptually optimal in the choice of indicators contributing to the measure of socio-economic disadvantage (see below the view of ACARA).

To obtain further insight, we further partitioned the ACARA data to compare per student funding for Western Australia and nationally, controlling for location (ARIA), Indigeneity and socio-economic status (SES).

- For SES, we used the socio-educational advantage (SEA) student quartiles provided by ACARA, which emphasises the occupation and education characteristics of parents. ACARA has concluded that the SEA student-level data is 'a stronger measure' compared with using indirect ABS census data.[56]

Results are shown in Charts 6.2 – 6.6 below. The numbers above the columns are the number of schools in each category (national in blue and rotated and Western Australia in orange). There are no schools for some categories of students. Some categories of students have only one or two schools nationally or in Western Australia, and therefore do not provide reliable information.

In general, these charts evidence that schools receive higher funding for location, SES and Indigeneity. However, there are various inconsistencies, and the Western Australian experience sometimes differs significantly from the national average or what would be expected from the Western Australian funding model.[57] This may reflect a number of factors:

- the partitioning analysis is too coarse and does not include a sufficient number of variables (though a finer analysis will quickly increase the number of unusable categories);
- ACARA cost allocations may not properly reflect underlying school costs in some States. For example:
  - differences in teacher, school leadership and support staff pay levels for individual schools are reflected in Western Australia's ACARA data (as per MySchool methodology), but these are system-wide costs, and treated as such in the SCFM; and
  - in some States, some school-specific costs such as teacher accommodation may be allocated on a proportional basis (e.g. across schools within the same region);

[56] Australian Curriculum, Assessment and Reporting Authority (2011), *Guide to understanding ICSEA*, page 9 https://www.myschool.edu.au/more-information/technical-and-statistical-information/

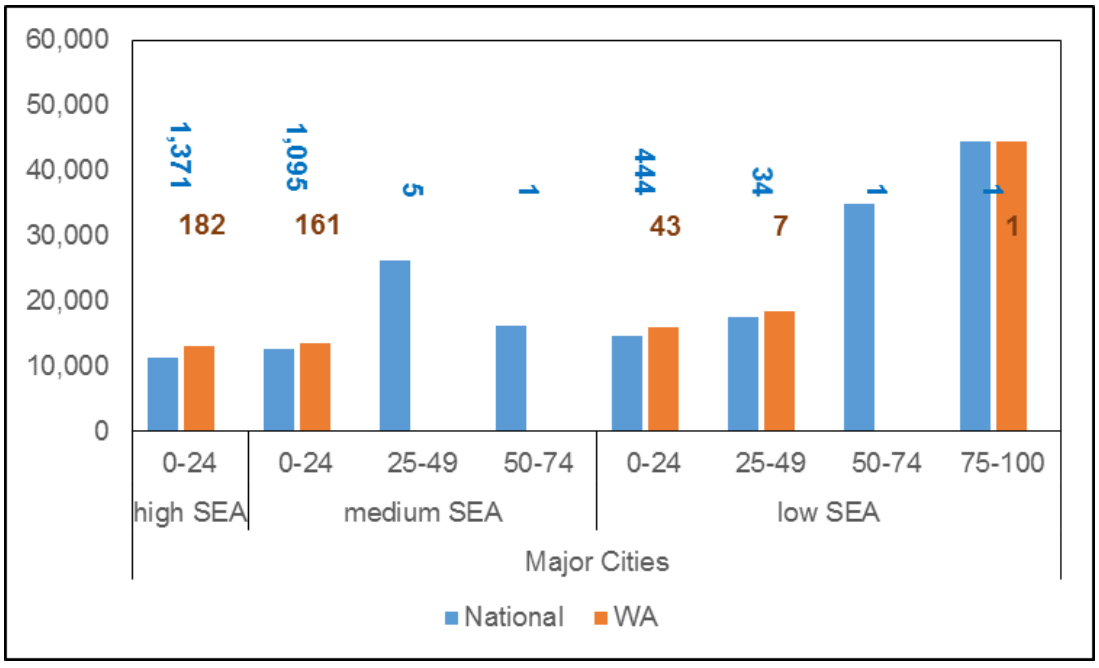
[57] Some examples are as follows. Western Australian schools in very remote areas that are classified as low SEA are funded at $48,626 per student for schools with 50-74% indigenous enrolments and at $33,690 per student for schools with 75-100% indigenous enrolments. Western Australia schools in outer regional areas that are classified as medium SEA receive more funding per student than those classified as low SEA for equivalent indigenous enrolment ranges ($17,388 versus $15,762 for 0-24% indigenous enrolments and $24,809 versus $17,782 for 25-49% indigenous enrolments). Western Australian schools with the lowest level of disadvantage (major cities, high SEA, 0-24% student enrolments) receive $13,080 per student, which is 72% above the basic per student funding allocation of around $7.600 per student.

- the ARIA classification does not adequately reflect comparable cost regions;
- Western Australia's underlying needs are different from the national average for comparable categories of students;
- differences in design features between States' funding formulas; and
- the impact of specific funding programs.

The conclusions we draw from all this are:

- in the absence of good prior understanding about what drives States' funding of schools, it is difficult to impute these drivers from database analysis such as regression and partition analysis;
- a broader approach, concentrating on accurately identifying and measuring the underlying drivers of need and cost, may be more successful; and
- the CGC needs to work carefully with States on this assessment.

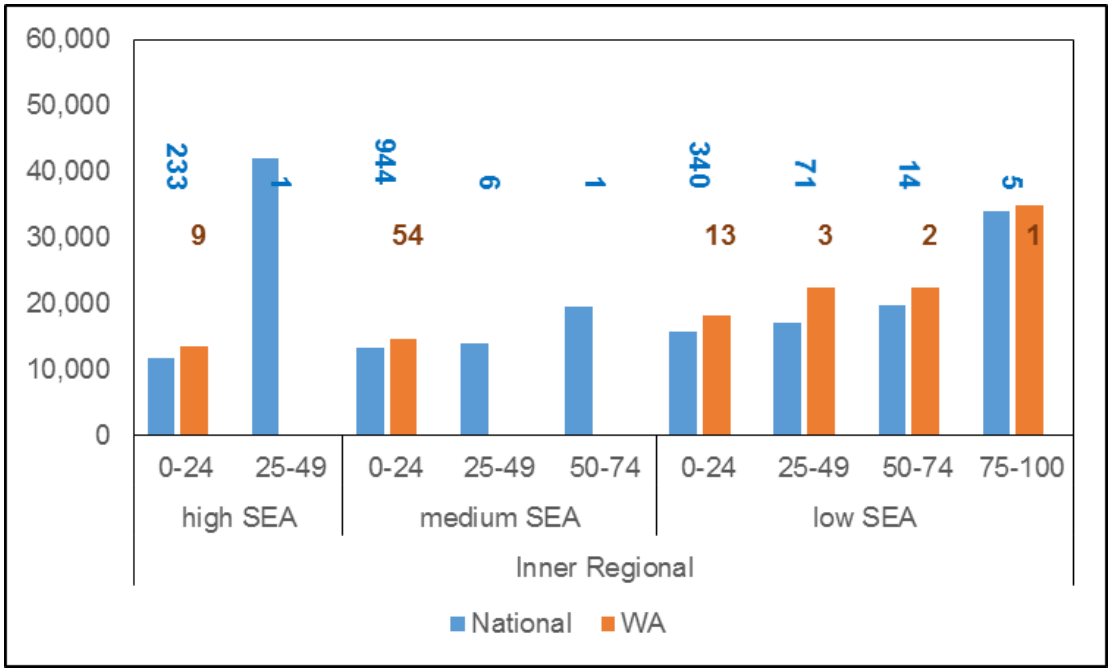
Chart 6.2: Major Cities - 2016 public student funding by quartile of Indigenous students and school SEA concentration ($ per student)



Source: Western Australian Department of Treasury calculation.

Note: School SEA status reflects the ACARA SEA quartiles. A 'low' SEA school has more than 50% of students in the lowest quartile, a 'medium' SEA school has between 20% and 50% of students in the lowest quartile, and a 'high' SEA school has less than 20% of students in the lowest quartile.

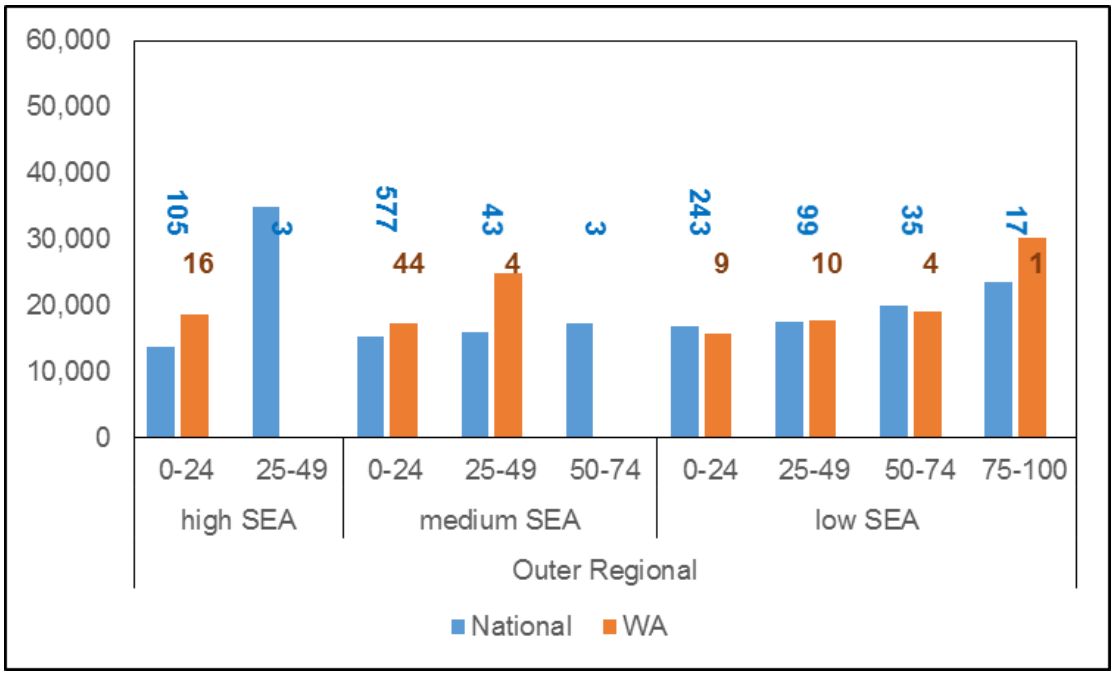
Chart 6.3: Inner Regional - 2016 public student funding by quartile of Indigenous students and school SEA concentration ($ per student)



Source: Western Australian Department of Treasury calculation.

Note: School SEA status reflects the ACARA SEA quartiles. A 'low' SEA school has more than 50% of students in the lowest quartile, a 'medium' SEA school has between 20% and 50% of students in the lowest quartile, and a 'high' SEA school has less than 20% of students in the lowest quartile.

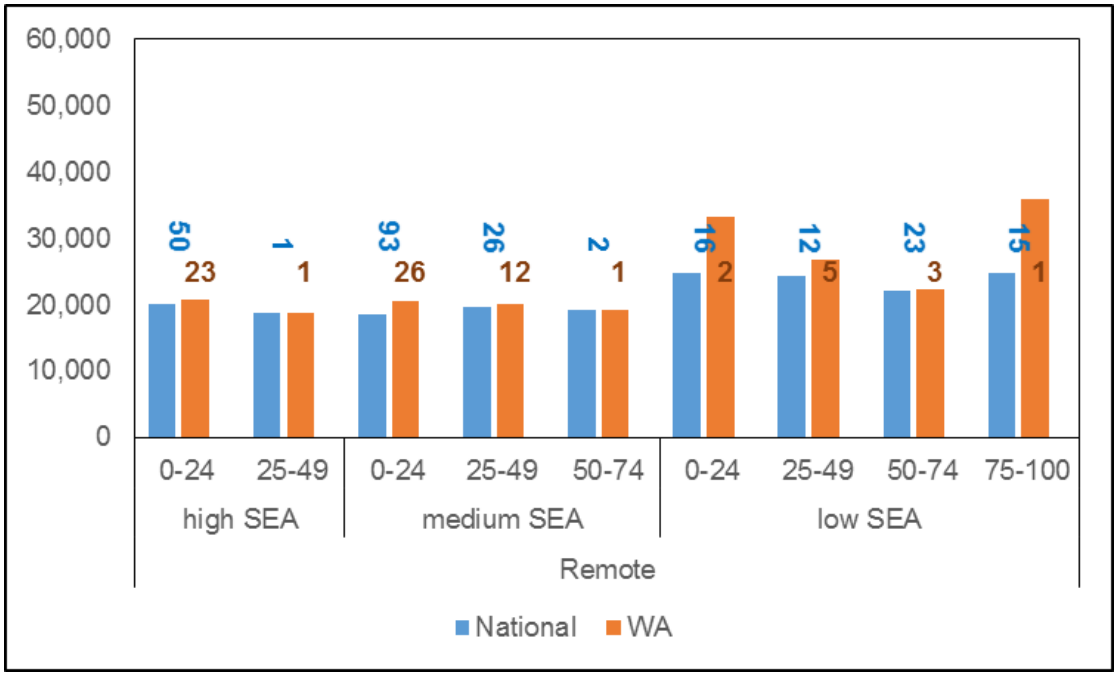
Chart 6.4: Outer Regional - 2016 public student funding by quartile of Indigenous students and school SEA concentration ($ per student)



Source: Western Australian Department of Treasury calculation.

Note: School SEA status reflects the ACARA SEA quartiles. A 'low' SEA school has more than 50% of students in the lowest quartile, a 'medium' SEA school has between 20% and 50% of students in the lowest quartile, and a 'high' SEA school has less than 20% of students in the lowest quartile.

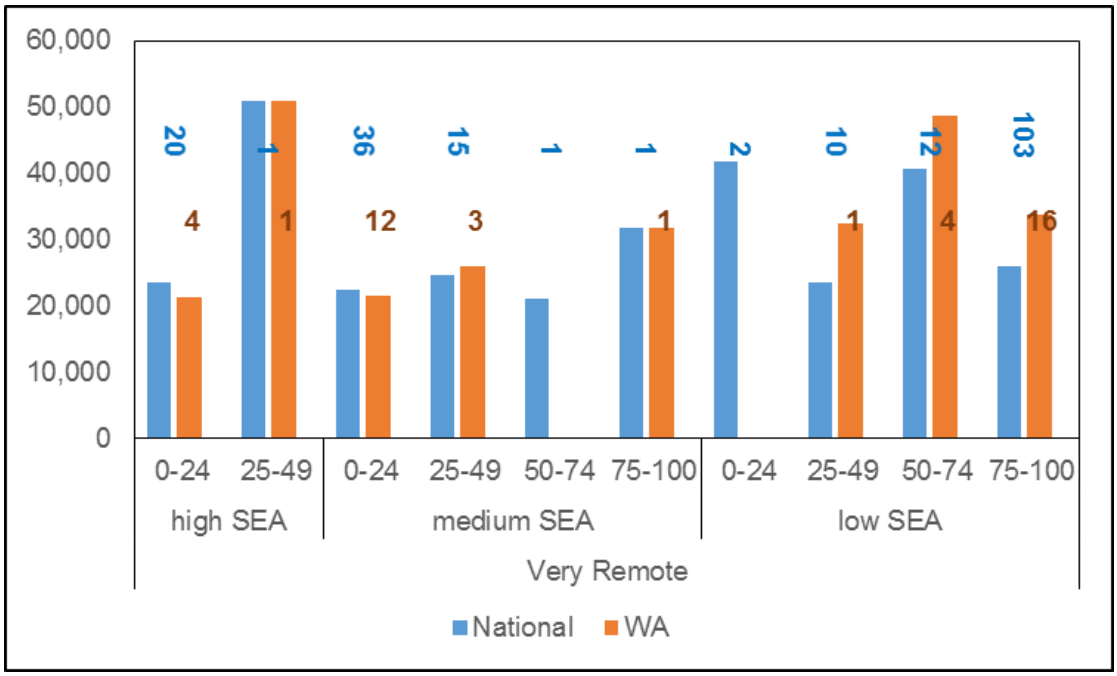
Chart 6.5: Remote - 2016 public student funding by quartile of Indigenous students and school SEA concentration ($ per student)



Source: Western Australian Department of Treasury calculation.

Note: School SEA status reflects the ACARA SEA quartiles. A 'low' SEA school has more than 50% of students in the lowest quartile, a 'medium' SEA school has between 20% and 50% of students in the lowest quartile, and a 'high' SEA school has less than 20% of students in the lowest quartile.

Chart 6.6: Very Remote - 2016 public student funding by quartile of Indigenous students and school SEA concentration ($ per student)



Source: Western Australian Department of Treasury calculation.

Note: School SEA status reflects the ACARA SEA quartiles. A 'low' SEA school has more than 50% of students in the lowest quartile, a 'medium' SEA school has between 20% and 50% of students in the lowest quartile, and a 'high' SEA school has less than 20% of students in the lowest quartile.

Responses to some issues raised in the draft assessment paper

We support the proposal to continue to use the Commonwealth's schooling resource standard to assess States' relative spending needs for the proportion of States' national spending on government schools that is funded by the Commonwealth.

At this stage, we consider it reasonable to assess Commonwealth funding to non-government schools the same way as for similar Commonwealth payments. However, this may need reconsideration if a broader approach based on underlying drivers is implemented for government schools.

We support not assessing a factor for students with a disability, due to inadequate data.

We support using actual numbers of students in government and non-government schools to inform a sector split (again, this may require reconsideration under a broader approach).

We support moving the student transport expenses to the Transport assessment.

7. Post-secondary Education

Key Points

- We support a review of the Indigenous cost weight, and consider that the CGC's proposed loadings in regional and remote areas are too low.
- We consider that it is not possible to devise policy neutral course mix or qualification level factors.

Indigenous students

We support a review of the Indigenous cost weight (currently 35%).

Almost one-third of publically-subsidised training places in Western Australia are delivered in regional and remote areas, and around 63% of training to Indigenous students is delivered in these areas.[58]

Indigenous students represent 47% of training provided through the North Regional TAFE, which delivers training to remote communities in the Kimberley and Pilbara.

While the courses do not have a specific Indigenous loading, it is more expensive to provide services to Indigenous students. Indigenous students require more literacy and numeracy support and are heavily overrepresented in remedial courses. Service delivery also often involves going out to communities. Only some of these costs are reflected in the CGC's Indigenous and socio-economic status demand loadings.

Western Australia also provides more than $10 million annually above regular training costs for Indigenous student support.

- Primarily the funding is used by TAFEs to fund staffed positions which provide the necessary referrals and ensure that students can access the advice, information and support services required for them to achieve success through their course. In the private market the funding can be used for a variety of initiatives, including transport, lunches, mentoring, counselling, child support, job application services, etc., to ensure that the students are able to effectively participate in the training and enhance their likelihood of gaining a good outcome. For example, transporting the students to the training and making sure they are fed is often important in increasing retention, particularly in more remote locations.

[58] Western Australian data in this chapter relates to the 2017 calendar year, provided by the Department of Training and Workforce Development.

Course mix and qualification level

The CGC's draft assessment paper suggests that it is disinclined to assess a course mix factor, but will investigate a qualification level loading.[59]

We consider that, because of policy differences across States, a policy-neutral assessment of course mix and qualification level costs would be unachievable.

Remoteness

Delivering training in regional and remote areas incurs significant costs, compared to metropolitan areas, due to:

- smaller class sizes resulting from fewer eligible students;
- higher salary award conditions with loadings for regional staff;
- higher costs of goods and services in regional areas;
- higher travel and infrastructure costs;
- high housing costs for staff and training providers; and
- fewer operational efficiencies of scale.

Table 7.1 shows the significant additional costs of delivering services in remote and regional areas for selected courses.

Table 7.1: 2017 costs for publically-subsidised training delivery

	Total cost per training hour ($/hour)		
	Perth Metropolitan Area	**Central WA** (Mid-West, Wheatbelt, Goldfields)	**Northern WA** (Kimberley, Pilbara)
Diploma in Accounting	13	18	39
Certificate IV in Community Services	14	21	41
Automotive Apprenticeship	18	25	49

Source: Western Australia Department of Training and Workforce Development calculation.

[59] Commonwealth Grants Commission (2018), *2020 Review - Post-secondary Education*, Staff Draft Assessment Paper CGC 2018-01/11-S, page 6.

The general TAFE regional loading factors are as shown in Table 7.2.

Table 7.2: TAFE loading factors

Perth metropolitan area	0%
Southern region	35%
Central and Goldfields region	45%
Kimberley and Pilbara region	195%

Source: Western Australian Department of Training and Workforce Development calculation.

Some loadings for private sector delivery are lower (e.g. 105% in the Pilbara, 115% in the Kimberley). However, the public sector loadings are more representative of the overall cost to provide training in regional areas, as TAFEs deliver 75% of the regional training, and more than 90% in some regions. In this regard, private registered training organisations (RTOs):

- are often Perth based, sending staff to the regions for shorter training periods;
- often utilise employer facilities for training programs; and
- do not deliver the more expensive training programs requiring investment in infrastructure. TAFEs are expected to provide a 'service of last resort' where market failure occurs in the private training market.

The Western Australian loadings for the Kimberley/Pilbara are significantly greater than the new 'very remote' loading of 87% proposed by the CGC, based on its 'national average' analysis. In part, this may reflect the high costs of Indigenous service delivery (see above).

We recommend that the CGC review its analysis and consider whether the circumstances in Western Australia's very remote areas are comparable to circumstances in other States' very remote areas.

Other issues raised in the CGC's draft assessment paper

We support the proposal to not assess a disability based on the sector of training providers.

We support the proposal to net only fee-for-service revenue off expenses.

8. Health

Key Points

- Cost issues that arise from providing health services in rural and remote locations are not adequately accounted for in the CGC's assessments. This includes both input costs and scale-related costs.
- Nursing shortages, speciality shortages, the high dependence on contracted medical practitioners and training requirements lead to significant wage cost pressures in the Western Australian health sector that are not reflected in the CGC's wage model.
- Western Australia's low level of general practitioners and Medicare and Pharmaceutical Benefit Scheme payments are indicative of the higher cost pressures faced by Western Australia's health system due to low private services provision. These cost pressures are substantially understated by the CGC (perhaps by a factor of 3).
  - The CGC's 'direct method' for assessing these costs is complex, narrowly based, conceptually flawed and lacks transparency.
  - The CGC has circulated papers on this matter but has yet to address the key issues raised by Western Australia.
  - We propose that the CGC uses a broadly-based full equalisation approach.
- Low access to residential aged care creates significant cost pressures in the Western Australian health system.

Costs

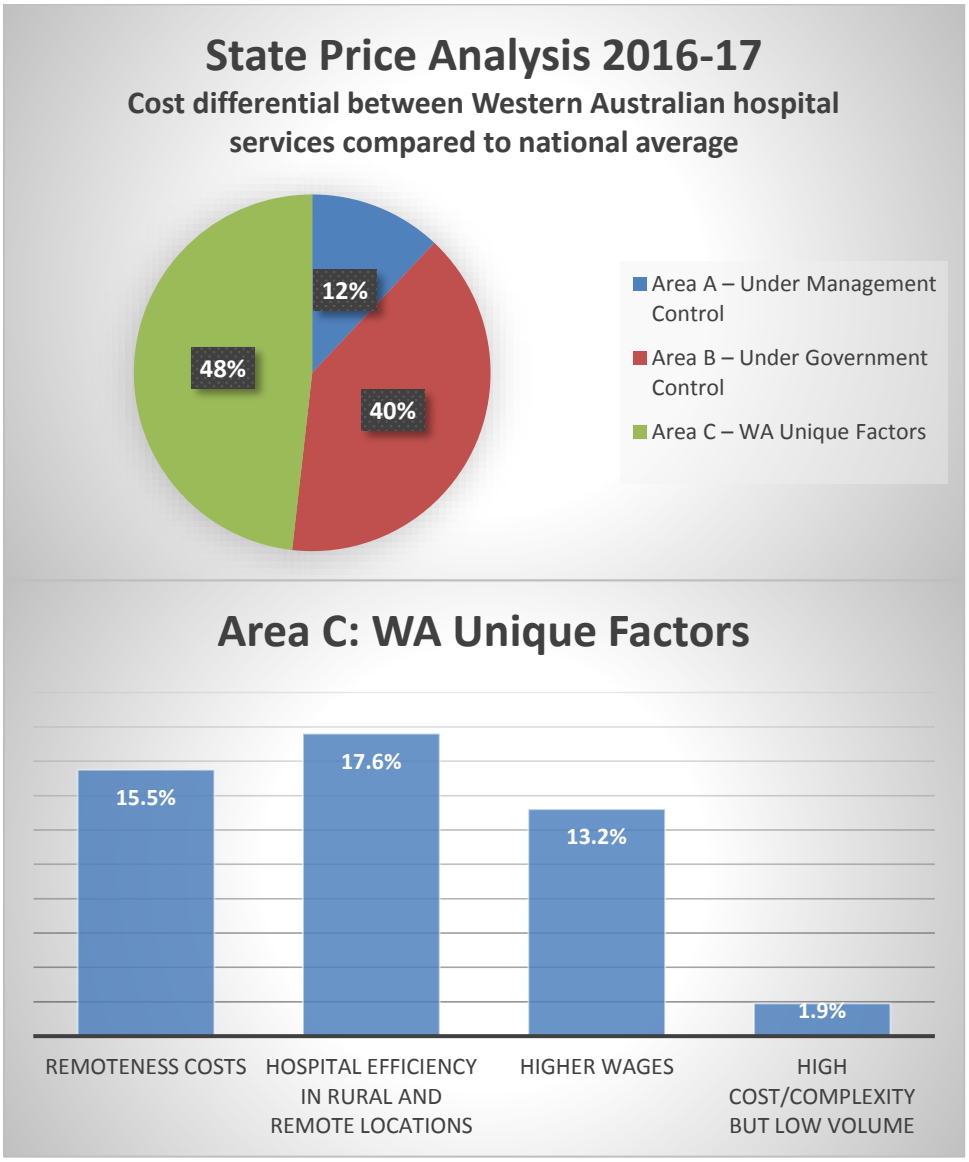
Various characteristics unique to Western Australia present obstacles in the delivery of health services in the State – specifically remote costs, Indigeneity and workforce difficulties.

Western Australia commissioned a study to understand the factors contributing to the difference between the State's average cost of providing hospital services and national benchmarks. Findings indicate that factors unique to Western Australia explain almost half the cost differential. As shown in Chart 8.1, of these unique factors:

- the inadequate recognition of remoteness costs within the national Activity Based Funding (ABF) model (at the time) contributed 15.5%;
- hospital efficiency in rural and remote locations (that is, the need for more hospitals due to geography and dispersed population) contributed 17.6%;
- higher wage costs contributed 13.2%; and

- catering for high cost, high complexity but low volume services added 1.9%.

Chart 8.1: State price analysis - 2016-17



Source: Western Australian Health Department.

Remote costs

The CGC relies on the Independent Hospital Pricing Authority (IHPA) to measure how hospital and patient remoteness, as well as hospital size, affect State spending on health services. An issue the CGC[60] has identified is whether the way in which the CGC is using IHPA data is capturing all remoteness and Service Delivery Scale (SDS) costs.

[60] Commonwealth Grants Commission (2018), *2020 Review – Health*, Staff Draft Assessment Paper CGC 2018--01/12-S.

For the most part the CGC considers that patient costs are being measured by IHPA and reflected in the National Weighted Activity Units (NWAU) data, with the introduction of a new hospital cost factor. It also notes that IHPA continues to work with State health authorities and other stakeholders to improve its measurement of remoteness costs. The CGC identified the following issues that it intends to investigate.

- Whether remoteness and SDS costs for small block funded hospitals, which are reflected in the National Efficient Cost Price (NEP) funding model, are being fully reflected in the assessment.
- Whether remoteness and SDS costs are being adequately recognised in the community health assessment.
- Splitting the 'remote and very remote' areas subject to materiality and practicality considerations.

While we support all this, we are concerned that it does not go far enough.

Diseconomies of small scale

The CGC is investigating this issue for block funded hospitals. However, a form of diseconomies of small scale affects many more hospitals.

For example, the Health Department has calculated that, for the Hedland Health Campus in 2015-16 (see Chart 8.2):

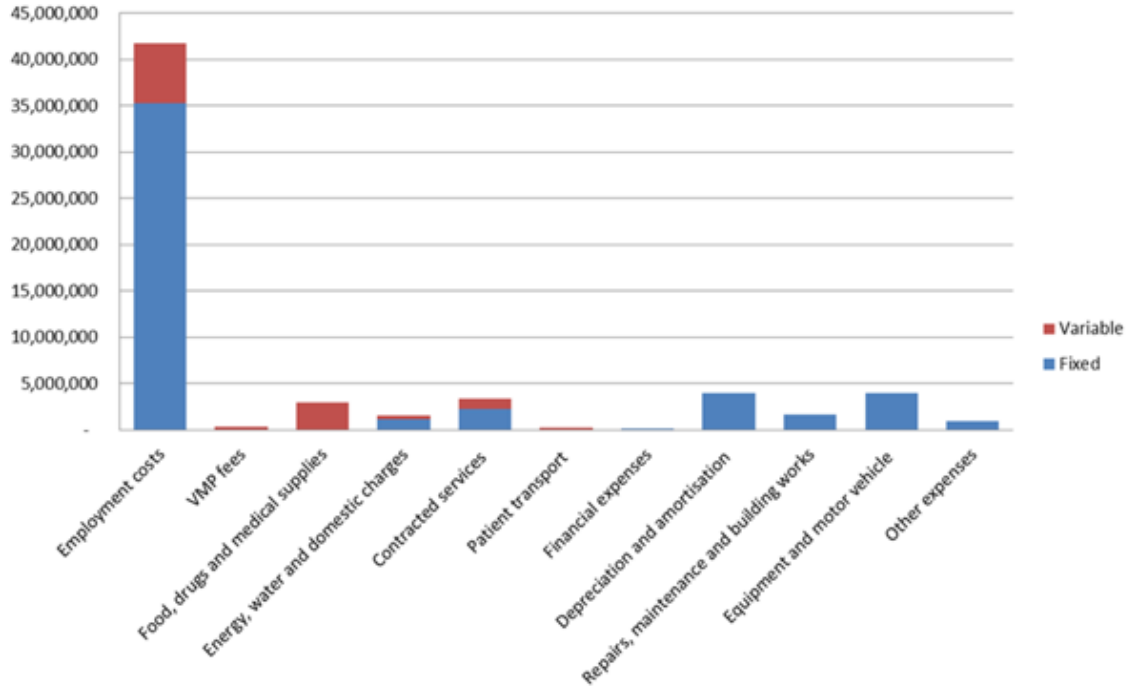
- 81% of operating costs were fixed[61] ($49.3 million out of $60.8 million); and
- on an activity funded basis, revenue would have been only $38.9 million.
- Over 70% of fixed costs are related to employment costs ($35 million).

Compared to comparable metropolitan hospitals, Hedland Health Campus faces higher costs attributable to its small size (17 same-day and 47 multi-day beds) and two underlying location-based characteristics.

- The variability in demand for medical services in sparsely populated areas exceeds variability in demand for medical services in metropolitan areas. It is more likely that metropolitan hospitals can maintain a higher average occupancy rate than remote hospitals. However, remote hospitals must have capacity available for peak demand.
- Supply of medical practitioners is more flexible in metropolitan areas compared to remote areas. Due to limited supply in rural areas, employment contracts tend to be fixed over the short term. This creates less flexibility in employing staff on an as-needed basis.

[61] Fixed costs in this study are not defined according to standard methodology. Fixed costs are defined as costs that are contractually locked in over the short term (1 year or less).

Chart 8.2: Hedland Health Campus: Cost breakdown 2015-16



Source: Western Australian Department of Health.

FIFO workers and tourists

IHPA[62] has recently acknowledged that there are legitimate and unavoidable costs associated with the treatment of patients in regional and remote public hospitals which are not fully accounted for through the existing 'Patient Remoteness Area Adjustment'. Consequently, IHPA announced that it will introduce a 'Treatment Remoteness Adjustment' which provides an additional treatment-based loading to account for costs of care for admitted acute episodes in regional and remote hospitals which is not otherwise accounted for through the patient-based adjustment. The CGC has accepted that this should form part of its assessment.

However, the 'Patient Residential Remoteness Area Adjustment' is based on a person whose residential address is within an area that is classified as being outer regional, remote, or very remote in the Australian Bureau of Statistics' Australian Statistical Geography Standard, with the rate of adjustment dependent on the hospital's geographical classification.

This does not account for fly-in fly-out (FIFO) workers with metro or interstate postcodes. Due to the structure of the Western Australian economy and the high dependence on the mining sector, Western Australia is distinctly different from other States with the highest proportion of metro-based FIFO workers in the Commonwealth (Table 8.1).

[62] Independent Hospital Pricing Authority (2017), *Pricing Framework for Australian Public Hospital Services 2018-19.*

Table 8.1: Number of metro-based FIFO workers, 2018

	Number of FIFO workers
Perth	61,000
Melbourne	7,600
Adelaide	5,800
Brisbane	19,600
Sydney	9,100

Source: Australian Bureau of Statistics (2018), 6291.0.55.003 – Labour Force, Australia, Detailed, Quarterly, May 2018.

The majority of FIFO employees in Western Australia live in the Perth-Peel Region, accounting for approximately 70% of the FIFO workforce. Other Western Australian regions provide about 14%, and employees from interstate contribute approximately another 14%.[63]

The proportion of treated patients that have metropolitan-based postcodes attract no adjustment to the NEP.[64] Across Pilbara-based NEP-funded public hospitals, this can comprise between 10% and 30% of patients treated in a given year, without any adjustment to NEP in recognition of rural/remote cost disabilities.

Tourists present similar issues. For example, there are 400,000+ non-resident (including tourist) visits to the Kimberley per annum and non-resident emergency department (ED) attendances are 13% of ED activity at Broome and Kununurra.

General cost drivers

The NEP specification for 2018-19 includes a hospital remoteness adjustment and a patient remoteness adjustment. A very remote patient receiving treatment in a very remote hospital has a 44% loading and a remote patient receiving treatment in a remote hospital has a 35% loading.

At this stage we don't have complete data to compare these loadings against costs experienced by Western Australia. However, on current indications, our actual non-wage costs would be at least comparable to these loadings, while wage costs would be higher. Remote wage costs, as well as non-wage costs, are driven by a range of regional cost drivers.

[63] Deloitte Access Economics (2015), *2015-25 Resource Sector Outlook*: http://www.fifofacts.com.au/images/files/2015-2025-WA-Resources-Sector-Outlook-Full-Report.pdf.

[64] Recognised that IHPA has included a site based loading for remote and very remote services from 2018-19, in addition to the person-based loading.

Non-wage costs

- High prices for food (up to 12% more expensive), fuel (more expensive and more heavily used), freight (up to 22% more expensive), water and electricity (up to 70% and 80% more expensive respectively), car depreciation (more travel and harsher conditions).
- Accessibility - because of tropical monsoon climate, roads can be inaccessible in the wet. Charter flights can be the only means of patient and staff transport (for example amounting to $436,000 in 2015-16 in Kununurra).

Wage costs

- District allowances (up to 20% more expensive) and housing accommodation subsidies for unattractive and high cost locations.
- High cost of agency staff including medical locums (up to 40% more expensive) used more often in remote areas. In 2017-18, 79% of agency nursing placements[65] of > 31 days occurred in the Kimberley, Pilbara and Mid-West.
- Large unproductive travel time for staff and patient transport.
- As noted above, costs associated with variable workloads in small hospitals (for which there is limited capacity to flexibly adjust staffing).

The wage cost drivers are cumulative.

Workforce difficulties and costs

Western Australia experiences unique workforce issues related to the health sector, particularly in relation to:

- nursing shortages and reliance on higher cost agency staff; and
- medical practitioner shortages.

[65] Agency nursing placements are generally only used instead of permanent employees where necessary.

Nursing shortages

Agency staff are widely used in Western Australia, but are significantly more expensive than permanent employees, as shown in Table 8.2. The use of agency nursing is not cost effective over long periods, and high usage indicates ongoing vacancies and recruitment issues.

Table 8.2: Agency charge rates compared to NurseWest rates for metropolitan areas[(a)]

	AM	PM	Night duty	Saturday	Sunday	Public holiday
Average difference from NurseWest ($)	+20.94	+25.65	+27.79	+31.47	+36.84	+12.59
% difference from NurseWest[(b)]	27	29	28	28	29	9

Source: Western Australia Department of Health. 2018. NurseWest is a part of the Western Australian Department of Health and offers nurses, midwives and assistants in nursing the opportunity to join a government temporary nursing or midwifery staff pool. NurseWest offers casual shifts in all public metropolitan hospitals and community health services across the State and short term placements in rural and remote hospitals and health services.

(a) Including 9.5% superannuation and 20% casual loading for NurseWest staff.

(b) Difference between NurseWest charge and average of the agencies.

Medical practitioner shortages

Distribution of medical practitioners across States

Table 8.3 shows that Western Australia has speciality shortages compared to other States in most areas. A number of 100 indicates that a State has medical practitioners equal to its population share. A number below 100 indicates a shortage relative to the other States. For total medical practitioners, Western Australia faces a shortage of around 7% compared to all States. This is exceeded only by the Northern Territory.

Shortages place upward cost pressures on recruiting and employing staff. As noted in the *Wages* chapter, the CGC's wages model does not reflect the over-representation of health in the public sector compared with the private sector.

Table 8.3: Relative shortage/surplus of medical practitioners by State, at 30 June 2017 (%)

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	% of medical practitioners
Total medical practitioners	96	98	98	93	111	102	113	92	100
Addiction medicine	124	66	84	72	124	164	139	231	0.3
Anaesthesia	94	91	102	106	107	107	97	75	7.4
Dermatology	109	104	86	78	119	61	66	37	0.8
Emergency medicine	80	96	114	109	83	110	113	188	3.1
General practice	95	93	106	99	111	118	108	110	37.9
Intensive care medicine	88	90	108	85	119	85	155	101	1.3
Medical administration	102	85	121	71	64	84	177	88	0.5
Obstetrics and gynaecology	91	106	97	86	108	102	108	75	3.0
Occupational and environmental medicine	91	80	68	151	143	106	289	32	0.5
Ophthalmology	116	98	82	77	100	102	88	49	1.5
Paediatrics and child health	99	96	92	104	98	77	104	122	4.0
Pain medicine	101	73	101	113	139	197	104	0	0.4
Palliative medicine	105	85	89	96	121	172	91	121	0.5
Pathology	107	86	91	106	107	96	138	56	3.2
Psychiatry	95	107	95	85	114	83	96	59	5.5
Public health medicine	98	69	90	95	86	109	400	528	0.6
Radiation oncology	110	101	102	49	70	110	201	51	0.6
Radiology	90	100	92	98	104	92	126	16	3.7
Physician	95	112	86	81	121	83	115	81	15.2
Rehabilitation medicine	142	104	64	26	110	73	69	38	0.8
Sexual health medicine	140	80	75	53	112	37	188	78	0.2
Sport and exercise medicine	106	129	45	79	47	78	543	82	0.2
Surgery	99	101	95	83	116	88	100	61	8.8

Source: Medical Board of Australia (2017), *Your National Scheme: For Safer Healthcare. Medical Board of Australia, Annual Report Summary 2016/17* and Western Australian Department of Treasury calculations.

Contracted Medical Practitioners (CMP)

A Contracted Medical Practitioner (CMP) is a medical practitioner engaged on a contract for service by a Health Service Provider, within the Western Australian health system, under a Medical Services Agreement to provide medical and other services in a health care facility. There is a heavy reliance on CMPs in Western Australia, driven by the shortage of medical practitioners, especially in more rural areas.

The rates paid to CMPs generally exceed the rates paid to other medical practitioners. Day rates for a CMP range from $1,725 to $2,325 for a non-consultant CMP and from $2,400 to $3,225 for a consultant CMP. In addition to the day rate, CMPs engaged by the WACHS are also eligible for a location-based Rural Practice Incentives loading which ranges from 4% to 24%.

For example, Table 8.4 illustrates the difference between entitlements for a full-time Health Service Medical Practitioner (HSMP) and a full-time consultant employed north of the 26th parallel. In 2017-18, WACHS engaged approximately 725 CMPs; including 315 on a fee-for-service basis and 410 on a day rate basis.

Table 8.4: HSMP and CMP entitlements [(a)]

Entitlements (per annum unless otherwise noted)	HSMP (Year 6)	Consultant (Year 6)[(a)]
Base salary including private practice component	$256,408	$392,361
Professional Development Allowance	$30,180	$30,180
Shift penalties (per hour)	20-25%	20-25%
Weekend penalty (per hour)	50%	50%
Public holiday penalty (per hour)	150%	150%
Call back allowance for hospital based practitioner	36% of $183,148	36% of $183,148
Call back allowance non-hospital based practitioner	7.5% of $183,148	7.5% of $183,148
District allowance	Up to $9,839	Up to $9,839
Superannuation	9.5%	9.5%
Access to salary packaging for living expenses of up to $9,000 per year.		
A gratuity payment of 12 weeks' salary (not including private practice component) is also paid after three years' continuity of service. A payment of 4 weeks salary is made for each subsequent year of service thereafter.		

Source: Western Australia Department of Health.

(a) Consultants must provide their own professional indemnity insurance.

Training of medical practitioners

National training requirements (see Box 8.1) create significant challenges for Western Australia. There are national rather than State-based selection processes. As well, specific medical specialist college training requirements may not be accommodated or accredited in Western Australia and hence provide strong incentives for junior doctors

to complete their training in other States. Often these junior doctors do not return to Western Australia and this has potential to contribute to the shortages of medical practitioners in the State.

Box 8.1: College specific restrictions on Western Australia's training capacity

ROYAL AUSTRALASIAN COLLEGE OF SURGEONS (RACS) - Selection to the Surgical Education and Training (SET) program occurs annually. Some of the larger surgical specialties (General Surgery; Orthopaedic Surgery; Plastic and Reconstructive Surgery; and Otolaryngology Head and Neck Surgery) select on a national basis, and in the other surgical specialties on a combined Australia/New Zealand basis. This means that applications from all jurisdictions are ranked nationally and there may be some years where Western Australian applicants do not get selected. Additionally, some training rotations may not be available in Western Australia, resulting in Western Australia not having trainees for a year or two in some specialties as the trainees complete training requirements in other jurisdictions. For example, there were no Western Australian trainees in cardiothoracic surgery undertaking training in 2015.

THE ROYAL AUSTRALIAN AND NEW ZEALAND COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS – In 2011 the College introduced a national selection process in Australia in place of the previous State-based selection. Applicants' potential success rate has been approximately 30% in recent years.

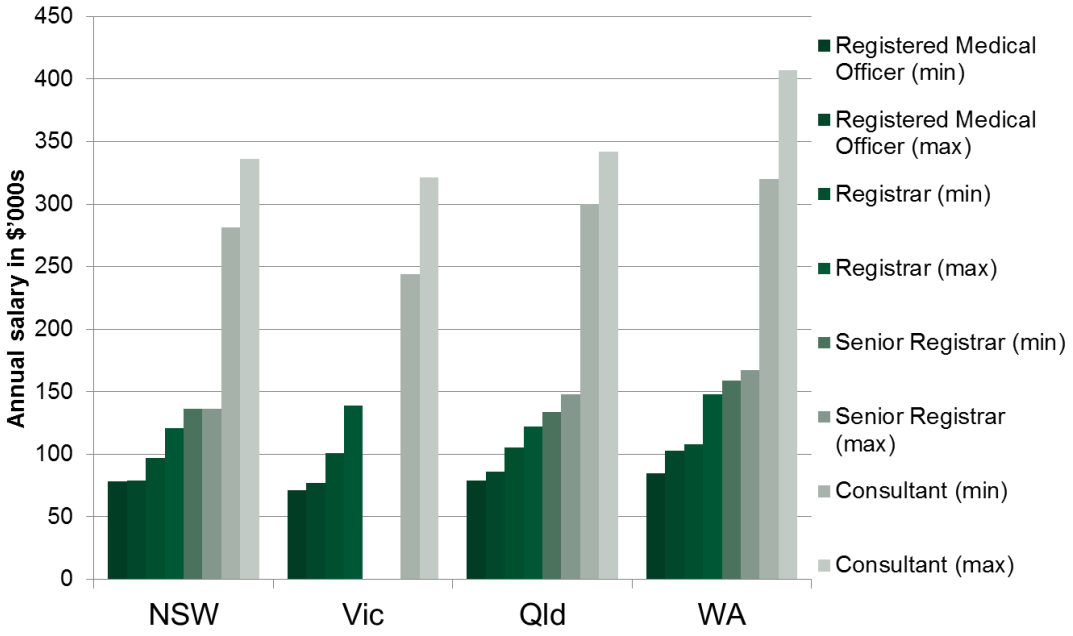
THE ROYAL AUSTRALIAN AND NEW ZEALAND COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS – Subspecialty training. The five Subspecialty Committees advertise annually for the National Selection Process. The subspecialty training programs lead to certification as a subspecialist in one of the following: Gynaecological Oncology, Maternal Foetal Medicine, Obstetrical and Gynaecological Ultrasound, Reproductive Endocrinology and Infertility and Urogynaecology. Prospective subspecialties trainees must apply through the annual National Selection Process for eligibility to enter the specific subspecialty training program. Successful candidates are then responsible for obtaining their own position of employment in an accredited training unit.

THE AUSTRALIAN COLLEGE OF DERMATOLOGISTS - The national interview committee includes representatives from each State Faculty and may also include other representatives. Applicants are ranked according to their performance in the national selection process. Successful applicants are considered by the State Faculty representatives in relation to their preferences and the number of positions available.

Wage impacts

Chart 8.3 shows that, in general, Western Australian wages for medical practitioners in the public health sector significantly exceed wages in other States. This is considered to reflect the issues discussed above.

Chart 8.3: Comparative public health sector wages for medical practitioners (2017)



Source: Western Australian Department of Health. 2018.

For the categories of medical practitioner shown in the chart, on average[66] Western Australia's wages are 16% higher than for New South Wales, Victoria and Queensland. This compares with 5%[67] assessed by the CGC for 2016-17.

Impact of non-State services

Low private activity in Western Australia

As shown in Chart 8.4, Western Australia has a lower number of GPs than the national average (79 compared to 96 per 100,000 in year 2016-17)[68] and Western Australian GPs are mainly concentrated in higher income areas.

- In 2016-17, Western Australia had lower rates than the national average of Medicare Benefits Schedule benefits per person ($767 vs $902) and Pharmaceutical Benefits Scheme benefits per person ($442 vs $493).

[66] Unweighted average.

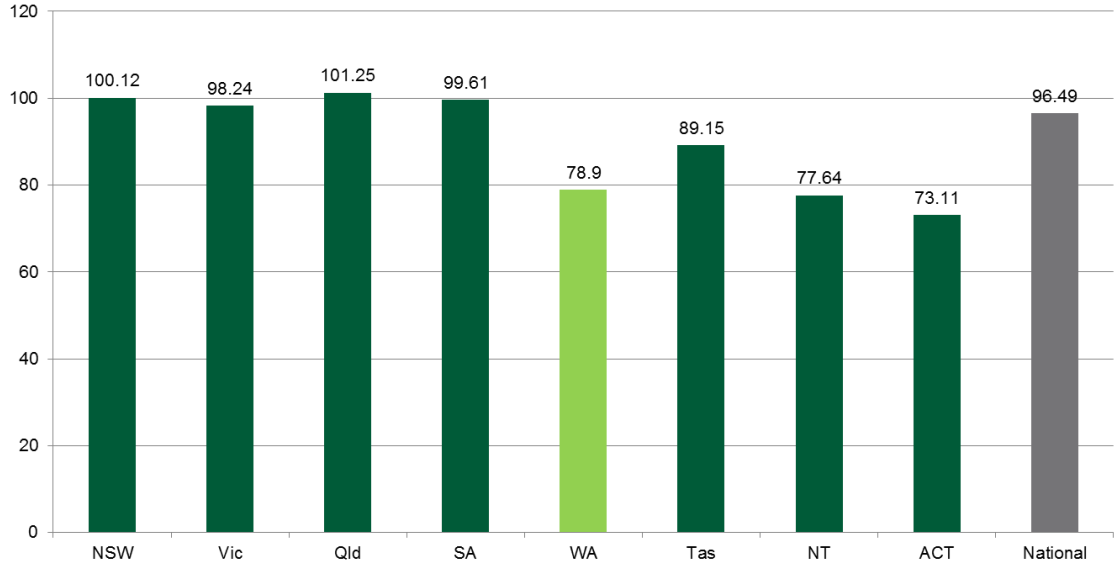
[67] Unweighted average.

[68] http://www.health.gov.au/internet/main/publishing.nsf/content/general+practice+statistics-1.

- This amounts to a $480 million shortfall for Western Australia in 2016-17, which compares with the CGC allowance of $161 million for Western Australia in 2016-17 for shortfalls in private services.[69]

The lower level of private activity in Western Australia leads to a higher reliance on public sector provision, both in metropolitan and regional/remote areas. The lack of GPs also leads to more complex care, because the patient would likely present later, with a worse condition.

Chart 8.4: General practitioners[70] per 100,000 population, 2016-17



Source: Western Australian Department of Health, 2018.

Assessing the impact of non-State services

The following provides a summary of Western Australia's position. Most of this has been presented to the CGC earlier this year in a number of documents and in a telepresence. The CGC has circulated papers on this matter but has yet to address the key issues raised by Western Australia.

The issue is not a simple choice between the methods used in the last two reviews. It is about an approach that works and has a clear conceptual basis. There are two distinct issues:

- the scope of non-State substitutable services; and
- the method used to assess the impact on State spending.

[69] This is a broad terms comparison. Western Australia's demographic characteristics are different from the national average and the shortfall in Commonwealth payments is only a partial measure of the shortfall in private services.

[70] Full Service Equivalent (FSE).

What fiscal equalisation requires

Fiscal equalisation requires that States have the same capacity to provide services. This requires that non-State services that are relevant to State services should be fully equalised. This conclusion does not depend on:

- the standard level of State services. A State which has more non-State services that are relevant to State services has the same fiscal advantage regardless of the standard level of services, as shown in Table 8.5; or
- policy variations between States in the level of services. Fiscal equalisation reflects only the standard level of services.
  - That said, States that choose to maintain, say, a lower level of primary care or dental services (including both State and non-State services) will pay a price in terms of a greater incidence of more serious and expensive conditions later. For this reason, it is very important that the CGC assessments reflect similar levels of combined State and non-State services.
    - If not, HFE would be doubly compromised, as States would be unable to deliver a standard level of services with the same revenue raising effort, and there would also be differences between States in flow-on health costs, which it would be wholly impractical to assess.

Table 8.5: Illustration of equalisation with different standard policies for two equal population States

	State 1	State 2
Non-state services $m	100	200
Scenario 1 standard policy		
Standard policy spending (State & non-State) $m	500	500
Required State contribution $m	400	300
State 2 fiscal advantage $m		100
Equalisation requirement $m	+50	-50
Scenario 2 standard policy		
Standard policy spending (State & non-State) $m	700	700
Required State contribution $m	600	500
State 2 fiscal advantage $m		100
Equalisation requirement $m	+50	-50

Note: State and non-State spending assumed equally efficient

The scope of non-State services relevant to State services

Consistent with the CGC's approach to the capital and wage assessments, equalisation of non-State services should assume that States immediately respond to the level of non-State service provision.

- Unless States have the capacity to respond immediately, they do not have the capacity to maintain the same standard of services.

Western Australia also considers that the scope of non-State services relevant to State services is broad.

The CGC has argued that some private services, largely targeting middle to high SES groups, are not likely to have much, if any, impact on the demand for public services.

However, even if demand for health services could be segmented into a 'private only' demand, a 'public/private substitutable' demand[71] and a 'public only' demand, differences in private provision can still impact fully on the public sector when the 'public/private substitutable' component of demand is significant, as shown in Box 8.2. This is because the health supply market is not segmented – a doctor can equally work in the public or private sector.

Other considerations also suggest that private services should generally be regarded as relevant to State services.

- While average State provision of some private services may be low, this may simply reflect that the provision of private services is usually adequate. However, it may not be in some States.
- Average State eligibility criteria are not necessarily a measure of standard policy, as those criteria may take into account the availability of private services.
- States may respond to shortages in private services not by direct substitution, but through less visible alternatives, including additional prevention measures.
- States that choose not to make up for services that are poorly provided by the private sector will face higher costs from people presenting to the public sector with more serious conditions.
- Practical and financial considerations may make it difficult for States to quickly respond to shortages in private service provision (e.g. cost and difficulty of recruiting relevantly skilled personnel). These considerations would be exacerbated if the GST did not provide capacity for States to respond to private sector shortages.

[71] The public/private substitutable demand includes people who are willing to use the private sector if it is available, but are also eligible for public services.

Data Issues

Western Australia accepts that there are some data limitations in applying a broad scope of private services. However, Western Australia considers that there are no material barriers to making the scope much broader than it currently is.

The CGC has suggested that data availability is a key issue in limiting the scope of services. However:

- a narrowly based assessment using very reliable data sacrifices conceptual validity and is therefore likely to be a poor assessment – that is, the data is not fit for the purpose of properly assessing the non-State services disability. A better HFE outcome is likely to be achieved by broadening the assessment and using data that is broadly reliable and more fit for purpose;
- part of the CGC's unwillingness to use broader datasets appears to relate to concerns about the substitutability of various private sector services. As explained above, these concerns seem largely unfounded; and
- the CGC has been very selective in its concerns about data reliability. The CGC's narrowly-based assessment of non-State services involves:
  - unnecessarily segmenting the non-State services assessment in a way which does not match the availability of private sector data, requiring substantial use of judgement; and
  - quantification of States' substitutable spending, which has again entailed substantial use of judgement (and is again unnecessary, as discussed below). Other aspects of the health assessment (e.g. demand factors for community services and non-admitted patients) also involve substantial judgement.

Box 8.2: Illustration of partly substitutable services

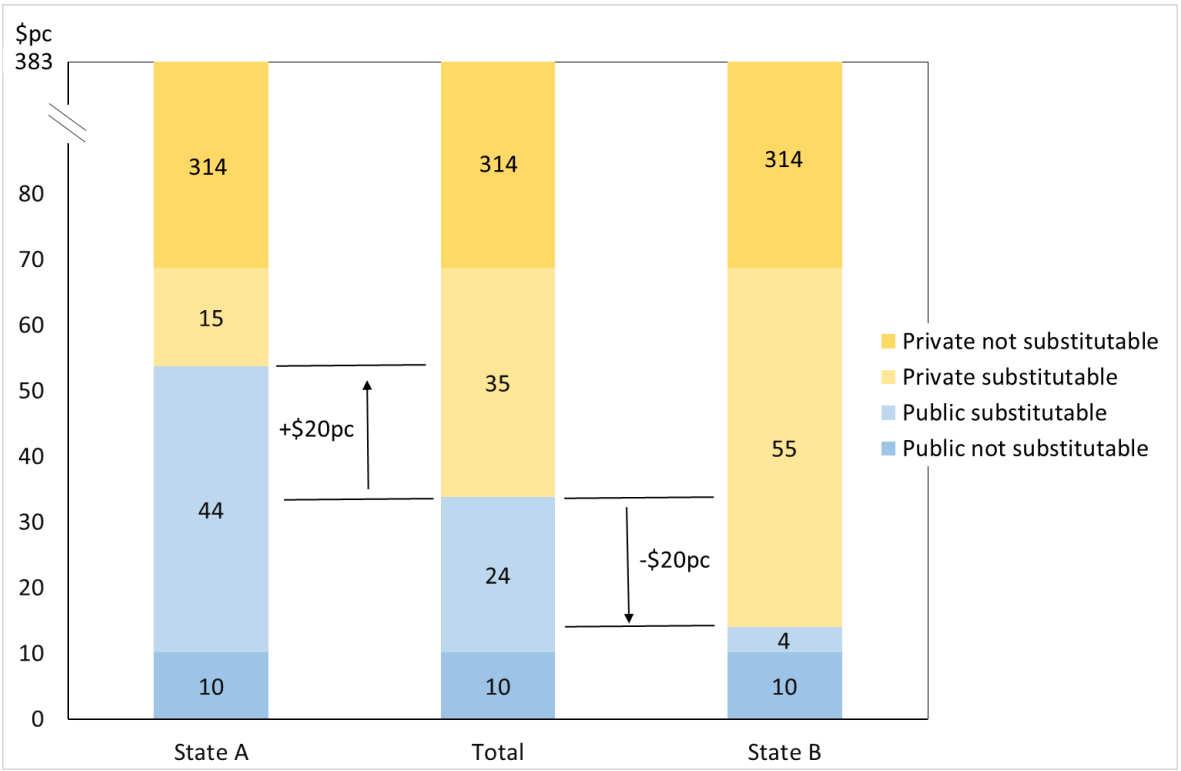
The following chart illustrates the impact of substitutability under a potential variation in private provision across States, when only part of the service provision is substitutable.

The chart is schematic, but uses data relating to dental services from Slide 13 of the health presentation at the 23 October 2017 CGC officer working party meeting, as follows:

- private expenditure of $8.718 billion, of which 90% is on persons not eligible for public services; and
- public expenditure of $846 million, of which 30% is on persons who cannot access private services because of cost barriers or lack of access to private practitioners.

It assumes a national population of 25 million persons, divided equally across two States.

The chart illustrates the impact of a $20 per capita variation from national average in private substitutable services for each State.[72] Even though only part of the total services are substitutable between the public and private sectors, there is effectively full substitutability within the range of variation of private provision across the two States.



[72] This level of variation is plausible as there are currently substantial variations across States in non-State provision.

The CGC's approach to assessing non-State services

As noted above (*What fiscal equalisation requires*) Western Australia considers that the CGC should fully equalise the differences in non-State service provision.

The CGC did this in its 2010 Review, but changed its methodology in its 2015 Review to an approach which abandons equalisation of all differences in non-State service provision.

Firstly, the CGC limited its assessment to very specific non-State services (i.e. Commonwealth bulk billed Medicare benefits for general practitioner[73], specialist, pathology and imaging services).

- As discussed above (*The scope of non-State services relevant to State services*), the CGC needs to return to a broader scope of assessments.

Secondly, the CGC decided that only a fraction of the very specific non-State services that it considered were 'within scope' would be assessed using a formula which it has termed the 'direct method'.

- Equalisation requires that the **dollar value** spending variations across States in the private sector correspond to the same dollar value spending variations in the public sector.[74]
- However, the CGC's 'direct method' entails that **proportional** spending variations in the private sector correspond to the same proportional spending variations in public sector substitutable spending.

The CGC has never provided a conceptual justification for the direct method. Rather, it identified what it considered to be problems with the preceding method.

We identify four problems with the direct method as currently implemented.

1. The direct method does not deliver equalisation to standard State policy

Table 8.6 illustrates that the direct method is not in general consistent with equalising to standard State policy, by showing an example where there is inconsistency.

[73] Also includes other non-referred services such as enhanced primary care and practice nurse items.

[74] Variations are standardised for socio-demographic influences.

Table 8.6: Illustration of the direct method's inconsistency with standard policy for two equal population States

	State 1	State 2	Average
Non-state services $m	700	900	800
Standard policy method			
State standard policy spending $m	400	400	400
Non-State services equalisation $m	+100	-100	0
Assessed State spending $m	500	300	400
Total State & non-State spending $m [Consistent level of service (hence consistent standard policy) across States]	1,200	1,200	1,200
Direct method equalisation			
State standard policy spending $m	400	400	400
Non-State services difference from average %	-12.5	+12.5	0
Assumed State spending adjustment % $m	 +12.5 +50	 -12.5 -50	 0 0
Assessed State spending $m	450	350	400
Total State & non-State spending $m [Inconsistent level of service (hence inconsistent standard policy) across States]	1,150	1,250	1,200

Note: State and non-State spending assumed equally efficient.

2. The direct method is inconsistent with the CGC's practice in other assessments

The assumption in the direct method that proportional variations in the private sector correspond to proportional variations in the public sector seems unique to this method. No similar assumption is made for Indigenous/non-Indigenous populations, remote/non-remote areas, younger/older persons, low SES/high SES populations or public/private students.

For example, if private enrolments are higher, then public enrolments are lower by the same amount, not the same percentage.

The direct method is also inconsistent with the CGC's inclusion of Commonwealth tied grants in its assessments. Unlike the direct method, included tied grants are treated as dollar for dollar offsets to State spending.

3. **The direct method requires estimates of State substitutable spending that are difficult to determine**

   Determining State substitutable spending involves some of the most thinly supported, and yet intricately argued, judgements made by the CGC. Data is sparse and conflicting. Transparency is non-existent. There might be some point in determining State substitutable spending if it were required to assess non-State services. However, not only is it not required, it is conceptually flawed methodology as explained in point 1.

4. **The direct method has been implemented at a level of disaggregation that cannot be supported by private sector data**

   The CGC has made separate assessments for admitted patients and three components of other health services (emergency departments, non-admitted patient services and community health services).

   However, there is no data on private services corresponding to the three components of other health services, so the CGC has had to use judgement.

   It is unclear why the CGC felt this disaggregation to be necessary.

   Because of the judgements in relation to estimates of State substitutable spending and private sector influences, the community health services assessment is heavily discounted.

Summing up

Our overall assessment of the CGC's current methodology is:

- it is conceptually flawed;
- it is a complex yet narrowly-based assessment;
- the quantification lacks transparency;
- it does not achieve HFE in anything other than the direction of the assessments.

Accordingly, we suggest the CGC uses an approach that equalises all differences in broadly-based substitutable non-State spending.

Equalisation via subtraction approach versus factor assessment approach

It makes no difference whether equalisation is presented in the form of a 'subtraction approach' as used in the 2010 Review, or in the form of a factor assessment approach as used in the 2015 Review (albeit incorrectly, as per the 'direct method'). If implemented correctly, the two can deliver the same results – hence, the CGC could achieve equalisation by sufficiently modifying its 'direct method'.

- The subtraction approach involved assessing disability factors (and hence spending requirements) for a combined State and non-State sector, before subtracting actual non-State spending.
- The subtraction approach is equivalent to:
  - assessing disability factors (and hence spending requirements) for the State sector, excluding non-State service disabilities; then
  - subtracting the difference between actual and average non-State spending, where the average non-State spending is standardised for relevant socio-demographic influences.
- The subtracted amounts can be readily converted to disability factors relating to State spending.

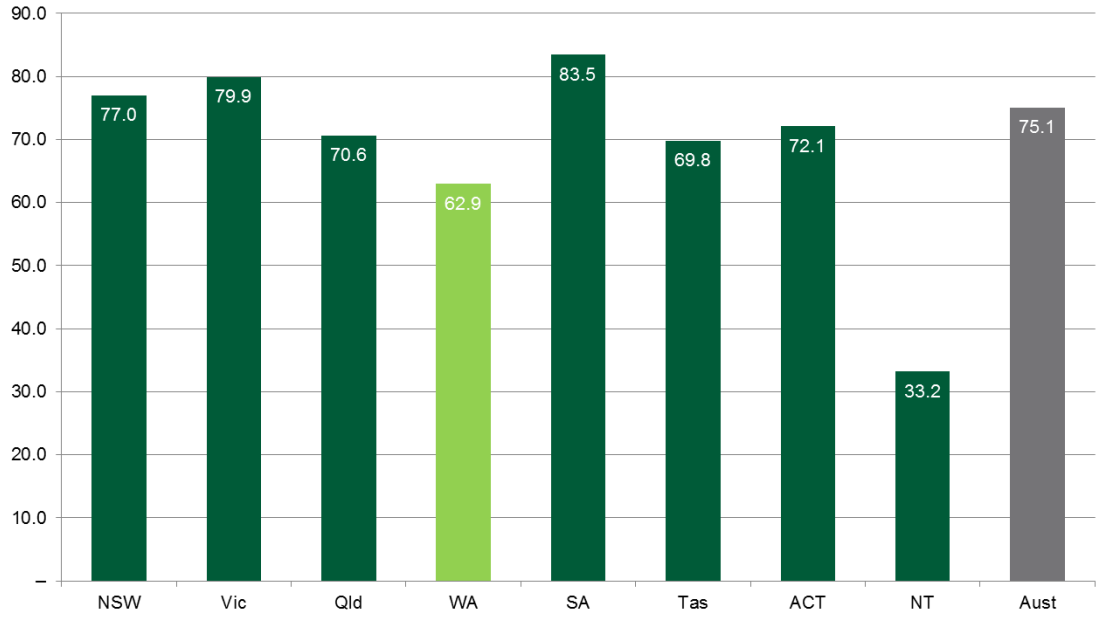
Aged care

Western Australia currently has the lowest rate of Commonwealth funded residential aged care of any State, approximately 16% lower than the national average (see Chart 8.5).

This impacts the Western Australian health system through the following channels.

- There is an increased risk that older people requiring residential aged care, but not able to access it, will experience an adverse event due to inadequate service provision, requiring an Emergency Department presentation / hospital admission.
- There is an increased length of stay in hospital for patients requiring residential aged care, but not able to access it, as they cannot be safely discharged. In 2017, there were a total number of 2,166 unique Patients Awaiting Aged Care Services in Perth metropolitan hospitals, with a total length of stay spent awaiting transfer to an aged care service of 20,328 bed days. This represents an approximate cost of $35 million to Western Australia in 2017 for the care delivered to these patients.

Chart 8.5: Residential aged care places per 1000 people aged 70 years or over (and Indigenous population aged 50-69)



Source: Western Australian Department of Health, 2018, from Productivity Commission (2018), *Report on Government Services 2018*.

9. Housing and Welfare

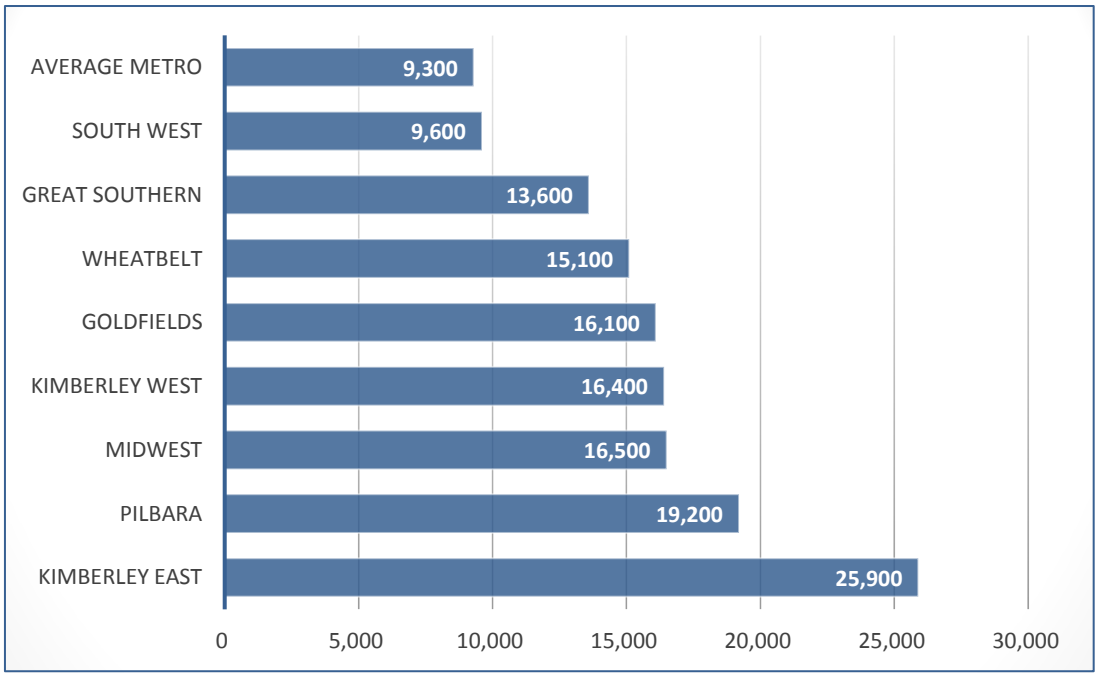
Key Points

- The CGC does not adequately capture the cost of providing housing in Western Australia's regional and remote areas (data for welfare is still being sought).
- An EPC assessment should be applied to concessions, other general welfare, aged care and non-NDIS services.
- We note that, under agreements with the Commonwealth (yet to be finalised), States may not all contribute to the NDIS at the same rate. These agreements should not be overridden by HFE, as the Commonwealth has full policy control in this area.

Remoteness and Indigenous service costs for public housing

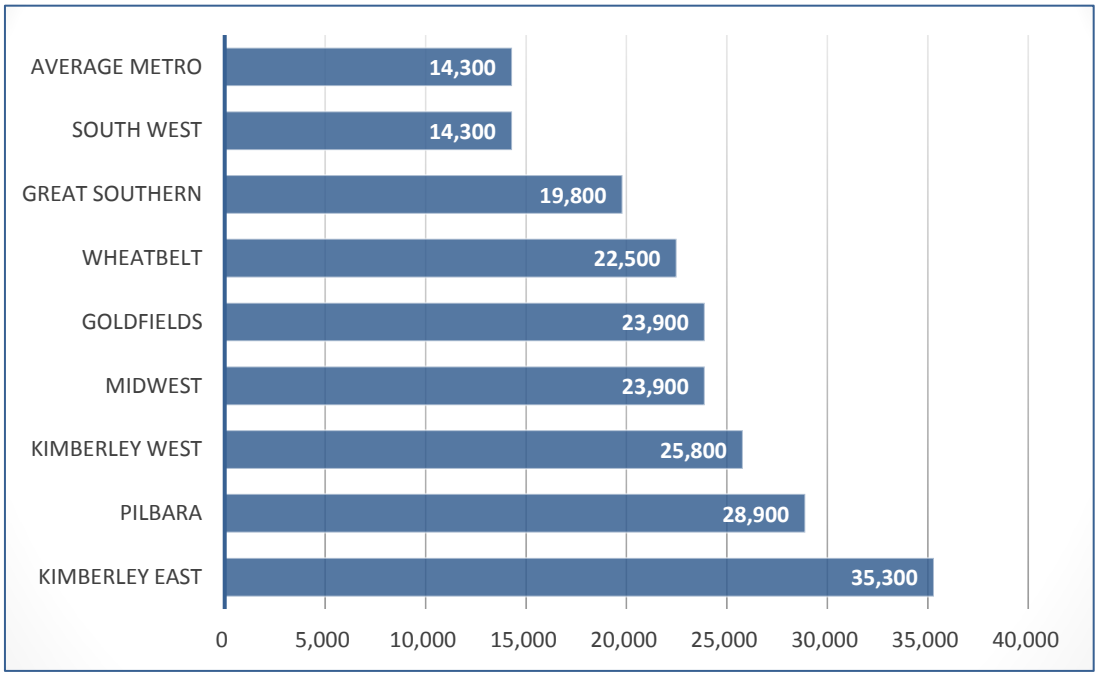
Charts 9.1 and 9.2, illustrate the high cost of providing public housing in the more remote areas of Western Australia.

Chart 9.1: Property and tenancy management cost per dwelling ($), 2015-16



Source: Western Australian Department of Communities.

Chart 9.2: Total expenditure per dwelling [(a)] ($), 2015-16



Source: Western Australian Department of Communities.

(a) Includes property and tenancy management, maintenance, damage and other costs.

The elevated costs in regional/remote Western Australia reflect the tenant profile (including household size and support needs) and very high repair and maintenance costs in remote areas.

The life span of housing assets is also affected:

- remote properties – less than 30 year life span; versus
- metropolitan properties – 50 year life span.

As an example, mobility in the Indigenous community is common. This means that, for half of the year (mainly during the wet seasons), properties can be left vacant and unmaintained. When they are occupied, extended family and other persons tend to visit and temporarily stay in already overcrowded dwellings. So, dwellings can suffer from both overuse and underuse, which increases costs.

The CGC's housing assessment uses the regional cost weights shown in the first row of Table 9.1. There is also a 30% cost weight for Indigenous households. Taking the Indigenous cost weight into account, the last row of Table 9.1 shows the effective regional cost weight applied by the CGC.

Table 9.1. 2015-16 CGC regional and Indigenous cost weights for housing

	Major cities	Inner Regional	Outer Regional	Remote	Very Remote
Regional cost weight	1.000	1.038	1.159	1.336	1.477
Indigenous cost weight scaled to apply to total public households in WA's regions	1.025	1.041	1.087	1.175	1.252
Combined regional and Indigenous cost weight, scaled to 1.000 in major cities	1.000	1.053	1.228	1.531	1.804

Source: Western Australian Department of Treasury calculations using CGC's 2018 Update *Assessment System Online*.

By comparison, the actual cost weights for Western Australia's regions from Chart 9.2 are as follows:

Metropolitan	1.000
Great Southern	1.385
Wheatbelt	1.573
Midwest	1.671
Goldfields	1.671 (Outer Regional – Remote)
Kimberley West	1.804 (Remote – Very Remote)
Pilbara	2.021 (Remote – Very Remote)
Kimberley East	2.469 (Very Remote)

It can be seen that the CGC's regional/Indigenous cost weights are significantly less than the costs incurred by the Western Australian government.

Aged care services

The CGC's draft assessment paper on Welfare states the following:

> The aged care component could be retained and the expenses assessed EPC [as currently]. However, for simplicity, staff would prefer to merge the expenses with other general welfare expenses and assess them using a general low socio-economic status (SES) measure.[75]

[75] Commonwealth Grants Commission (2018), *2020 Review – Welfare*, Staff Draft Assessment Paper CGC 2018-01/13-S, page 7.

This is surprising, as the CGC has not provided any conceptual reason to change the EPC assessment. Indeed, there can be no reason to move away from EPC without a better understanding of the residual spending in this area.[76] Simplicity requires an EPC assessment rather than assuming a disability. If the CGC would like to further simplify the assessment then consideration should be given to merging the 'other general welfare' component with the 'aged care services' component and assessing these expenses EPC, as we suggest below.

Disability services

National Disability Insurance Scheme (NDIS)

The CGC considers that, when the NDIS becomes fully operational, State contributions will be based on EPC contributions (using ABS Census data) and therefore an actual per capita (APC) assessment would be appropriate. This would capture annual changes in population shares.

However, as the current bilateral agreement for transition to the NDIS in Western Australia covers the period to 2022-23, Western Australia and the Commonwealth are yet to agree to full scheme arrangements (to apply from 2023-24). It is the State's position that Western Australia's funding contributions at full scheme would be reflective of the number of participants accessing the scheme, rather than a per capita share. The CGC approach would negate any such agreement with the Commonwealth, which would be inappropriate as the Commonwealth has full policy responsibility for the NDIS.

Non-NDIS

Residual non-NDIS State expenses will target the gaps between the implementation of the NDIS and current services, including in regions where there are no market providers of NDIS services. It will also service non-Australian citizens ineligible for NDIS and persons over 65 years that are not currently eligible under Commonwealth funding. The over 65 years cohort will be supported through financial assistance with equipment and aids.

Western Australia does not support the CGC proposal to assess this component using a low SES measure (as part of a broadened other general welfare assessment). A low SES measure is only appropriate when demand is only related to low SES. However, these services are not means tested and the clients of these services are not solely low SES. In the absence of solid data, we propose an EPC assessment, which for simplicity could be merged with EPC assessments for 'aged care' and 'other general welfare'.

[76] For Western Australia in the 2018-19 Budget, the Government Purpose Classification 0622 (Welfare Services for the Aged) appears to include only concessions payments, which the CGC presumably assesses in the 'concessions' component of Welfare.

General welfare services

The 'general welfare services' category covers concessions and other general welfare including homelessness.

Concessions

The CGC proposes to retain the current assessment method for concessions, which is based on the number of pensioner concession card and health care card holders in each State as a proportion of the State population.

The concession payments per concession card holder differ substantially across States (Table 9.2). This raises the question of what the real drivers of concession payments are. It is likely that these payments relate to governments' broader social and economic objectives, rather than simply concession card holders per se. For example, in Western Australia these payments are a means of enhancing the viability and stability of communities by making it easier for concession card holders to continue living where they have been (i.e. in the same State/community). Accordingly, we consider that these payments should be assessed EPC, or at least that the assessment should be substantially discounted.

Table 9.2. 2016-17 Concession payments and concession card holders

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
Concession payments ($m)	473	527	263	403	134	70	42	30	1,942
Concession card holders ('000)	1,793	1,463	1,195	523	489	171	57	49	5,739
Concession payments per concession card holder ($)	264	360	220	770	274	410	737	616	338

Source: CGC's 2018 Update *Assessment System Online* and *2020 Review - Welfare* Staff Draft Assessment Paper CGC 2018-01/13-S, page 5.

Other general welfare

The majority of 'other general welfare' consists of homelessness spending, and is assessed using a low SES measure. As discussed below, we consider that the assessment should be changed to EPC, in which case EPC assessments for 'aged care services' and non-NDIS disability expenses could be allocated to this category.

Homelessness

The causes of homelessness are many and varied. Domestic violence, a shortage of affordable housing, unemployment, mental illness, family breakdown and drug and alcohol abuse all contribute to the level of homelessness in Australia.[77]

Table 9.3. Comparison of SES and homelessness rates

State	CGC low SES [(a)] %	Homelessness rate [(b)] per 10,000 people
NSW	102	50.4
Vic	95	41.9
Qld	102	46.1
WA	81	36.4
SA	121	37.1
Tas	140	31.8
ACT	64	40.2
NT	138	599.4
Australia	100	49.8

Source: Western Australian Department of Treasury calculations using CGC's 2018 Update *Assessment System Online* and Australian Bureau of Statistics (2016), *2049.0 – Census of Population and Housing: Estimating Homelessness*.

(a) Imputed 2011 SEIFI bottom quintile of the 15-64 population, sourced from 2018 Update *Assessment Online*.

(b) Australian Bureau of Statistic (2016), 2049.0 - Census of Population and Housing: Estimating Homelessness.

The table above shows variations in the rates of homelessness that do not correspond to the CGC's low SES measure and are too great to be accounted for by policy differences. For example Tasmania and Western Australia have the lowest and second lowest rate of homelessness respectively, but Tasmania has the highest proportion of population in the bottom SEIFI quintile, while Western Australia has the lowest proportion. Such anomalies demonstrate that homelessness related expenses should not be assessed using a low SES measure.

While homelessness has significant association with low SES background, not all homeless persons have low SES background, and the propensity of low SES background persons to be homeless may vary from State-to-State reflecting the incidence of causal factors noted above. We have discussed some of these factors in the *Justice* chapter.

[77] Department of Families, Housing, Community Services and Indigenous Affairs Annual Report, 2007-08.

In the draft assessment paper for Welfare (page 11), staff acknowledged that "homelessness services differ from those relating to social housing" and that "services offered to the homeless may include counselling and other services in relation to drug and alcohol abuse, gambling, family and relationship breakdown, domestic violence and physical and sexual abuse".[78]

It seems a reasonable conclusion that drivers of homelessness are complex, and that an assessment would have to recognise multiple factors. Due to this complexity, we propose homelessness (and hence 'other general welfare') should be assessed EPC.

[78] Commonwealth Grants Commission (2018), *2020 Review – Welfare*, Staff Draft Assessment Paper CGC 2018-01/13-S, page 11.

10. Services to Communities – Electricity Subsidies

Key Points

- The CGC should recognise that electricity subsidies are needed not just for remote and very remote regions but also because the Western Australian South West Integrated System (SWIS) is more costly to service than the eastern States' National Electricity Market (NEM).
- Reasons for higher costs in the SWIS are:
  - generation mix – a need to rely more on gas rather than coal;
  - dispersed customer base outside Perth – increasing transmission and distribution costs; and
  - isolation from other power systems – the integration of the NEM makes it easier for that market to ensure security of supply.
- Although Western Australia has ceased explicit subsidies for the SWIS, it is not receiving commercial dividends, so a subsidy in effect remains and should be assessed.
- A differential electricity subsidy should be assessed for all remote and very remote urban centres, not just those within the 50-1,000 population range, as the cost of electricity provision is high in all of these centres.

The CGC currently assesses States as requiring to spend more on electricity subsidies in remote and very remote regions, but subsidies for other regions are assessed EPC.

However, subsidies are also related to regions being outside the National Electricity Market (NEM). Being part of the NEM provides regions with a significant cost advantage.

Western Australia's South West Integrated System (SWIS) is more costly to service than the NEM.

Figure 10.1 presents a map of the SWIS.

Figure 10.1: Western Australian South West Interconnected System (SWIS) map

Costs of providing electricity in the SWIS

There are three main reasons the SWIS is more costly than the NEM system:

- the fuel mix needed for generation;
- the dispersed customer base outside the capital city; and
- its isolation from other power systems.

Generation mix

A greater reliance on gas (over coal) by the SWIS, when compared with NEM jurisdictions, increases wholesale electricity costs. This reliance on gas, which is anticipated to continue, is because coal-fired plant are less well suited to ramping up and down in response to demand and have increased maintenance costs and reduced economics when operating at lower levels of capacity.

A major reason for the relative 'peakiness' of electricity demand in Western Australia is the relatively lower volume of manufacturing when compared with jurisdictions in the NEM. Manufacturing tends to drive demand for 'baseload' generation due to overnight operation. In the absence of manufacturing, electricity demand tends to be relatively more influenced by residential loads, which drive peak consumption.

Also, by virtue of geography, Western Australia is naturally conducive to rooftop solar, with more than 25% of households having invested in a photovoltaic (PV) system.[79] The majority of investment in solar has been market (rather than State Government policy) driven. Of the 240,000 residential solar PV systems installed in Western Australia, only 75,000 (30%) were installed during the period in which premium feed-in tariffs were available.[80] Solar PV system owners are now provided a 'fair value' buyback rate for energy exported, which is intended to be comparable to the time-weighted average value of electricity in the wholesale electricity market.

Increases to 'baseload' supply from solar in the middle of the day, when demand is not at its peak, requires electricity generation from other sources to be ramped up and down throughout the day. Modelling conducted by the Western Australian Public Utilities Office suggests that the costs associated with managing steeper ramping requirements associated with solar uptake will grow in coming years.

Gas-fired generation, which is more expensive than coal, is required to address the above issues because it is more flexible. Gas can be ramped up and down relatively quickly, whereas coal-fired plants need to work at a relatively constant output. The need for coal generation to operate in a more flexible manner to address the above issues is also increasing the costs of this form of generation in Western Australia. Material coal-fired generation capacity is expected to progressively retire over the next decade. This has already been observed with the recent retirement of coal-fired Muja units A/B (240 megawatts).

Dispersed customer base outside the capital city

Western Australia has a relatively more dispersed customer base outside the greater Perth metropolitan area, which increases transmission and distribution costs.

Regional population centres in Western Power's network (fed from the Collie-Perth transmission line) are small by national standards, with few towns over 10,000 people.

The geographical span of the distribution system in the SWIS is also present within the NEM in rural New South Wales and Queensland. However, rural New South Wales and Queensland have a number of larger population centres and manufacturing/processing loads.

[79] Synergy Renewable Energy Buyback Scheme data.

[80] Synergy Renewable Energy Buyback Scheme data.

Isolation from other power systems

Being a separate system, the SWIS faces an increased need and cost to maintain security of supply.

As a standalone electricity system, Western Australia must necessarily ensure there is enough electricity generation and transmission capacity to meet all of its own electricity needs itself. It cannot simply import electricity via interconnectors, as other States can do. In the NEM, when one State has no wind or sun, other States may well do. In the NEM, loss of one power source will not destabilise the system. Also, the NEM has a peak requirement that is spread over time due to differences in longitude. Connection of the SWIS to the NEM is currently cost-prohibitive, and is likely to remain so for the foreseeable future. There are also technical difficulties in connecting the two systems.

This means that the economic efficiency of the State's energy system is reduced, imposing costs on system users in order to maintain security of supply. The Varanus Island gas processing plant explosion in 2008 and blackouts/brownouts in 2003 highlighted the risks faced by the SWIS, as a small non-connected system.

Western Australian subsidies

Western Australia has phased out explicit subsidies in the SWIS.

However, implicit subsidies within the SWIS remain, as regulated prices are uniform regardless of a customer's location (prices do not reflect different transmission and distribution costs according to location).

Furthermore, the CGC's capital assessments assume that each State gets the national average rate of return on its net financial assets. The Western Australian Government receives minimal dividends from Synergy (the State-owned SWIS generator and retailer) reflecting Synergy's operating position, so does not receive a return consistent with the national average. Accordingly, the CGC should recognise this as a form of subsidy.

Western Australia continues to provide explicit and implicit subsidies outside of the SWIS.

Western Australian versus national electricity costs

During the Western Australian visit, the CGC Chairman queried our proposal for a differential assessment of SWIS costs, claiming that the SWIS has national average costs.

Table 10.1 compares SWIS costs to national average costs, currently and expected, as compiled by the Australian Energy Market Commission (AEMC).[81]

Table 10.1: Total cost of electricity provision

	SWIS c/kWh	National average [(a)] c/kWh
2016-17	30.40	28.16
2017-18	31.64	31.19
2018-19	32.52	29.58
2019-20	33.15	27.45

Source: AEMC, *2017 Residential Electricity Price Trends*, 18 December 2017, Sydney, pages 155 & 174.

(a) Excludes non-SWIS areas in Western Australia and areas in Queensland outside the south east.

As can be seen from Table 10.1, a continued steady increase in costs is expected for the SWIS, whereas the national average has experienced a temporary spike, bringing its costs close to (but still below) the SWIS. This spike is due to the retirement of some large-scale coal-fired generators, but new generation coming on line is expected to reduce costs in 2018-19 and 2019-20.[82]

Community size and remoteness area

We consider that the cost of electricity provision is high in all remote and very remote urban centres, not just those within the CGC's 50-1,000 population range.

For example, our 2020 Review electricity subsidies data return shows that, compared to even the SWIS, the cost of providing electricity (per kilowatt-hour) is 1.6 times as expensive in Broome (population around 14,000) and 3.2 times as expensive in Esperance (population around 10,000).

[81] The AEC produces price trends, which are not forecasts, but are a guide as to what may influence prices based on current expectations, assumptions and legislation. This includes AEC modelling.

[82] AEMC (2017), *2017 Residential Electricity Price Trends*, 18 December, Sydney, page vi.

11. Services to Communities – Water Subsidies

Key Points

- Western Australia has the harshest and most diverse climatic and water quality conditions in Australia and this necessitates large operating subsidies to the Water Corporation. These issues need to be included in the assessment of water subsidies.
- It is essential that the CGC undertake a reasonable assessment of water subsidies as these are important for economic development and the CGC equalises the revenues from these developments.
- Given the difficulty of obtaining comparable measures of the wide range of issues that affect water provision, we propose an assessment based on actual per capita costs less revenues from water charges under average policy.
  - If concerns about policy contamination are sufficiently material, this assessment could be discounted towards the existing assessment.
- If the CGC retains the existing assessment, it should:
  - reassess the split between 'common' and 'differential' subsidies;
  - cease excluding urban centres outside the 50-1,000 population range; and
  - differentially assess populations of isolated outer regional towns serviced by exceedingly long pipelines.

Difficulties in providing water

During the CGC visit, the Western Australian Water Corporation presented examples of the difficulties that increase the cost of water in this State.

Western Australia has the harshest and most diverse climatic and water quality conditions in Australia.

Difficulties in providing water include the following.

- Low asset utilisation.
  - Western Australian country water supply has 45% of the water mains kilometres, despite only 20% of the services.

- Pipeline lengths required to transport water from source.
  - An example is the goldfields and agricultural water supply scheme, where a lengthy pipeline is the only option – surface, groundwater and carting are not viable. Notably, Kalgoorlie is outer regional under ARIA, so does not get a differential assessment under the current method.
- Extreme weather.
  - In particular, cyclones in the north can prevent access to bores through flooding. If the bores stop working while staff cannot access them to make repairs, the water supply will be interrupted. Hence, additional costs are incurred in building more robust systems that are less likely to fail.
- Remoteness.
  - This results in high construction and servicing costs.
- Climatic change reducing supply, and economic and population growth increasing demand.
  - Finding new sources can be costly (e.g. desalination plants and deeper artesian aquifers).
  - The location of the population growth in the South West and Great Southern regions of Western Australia is where climate-dependent sources are most vulnerable with very few alternatives. In some cases, water carting at high cost may be the most efficient option.
- Water quality issues.
  - These include hardness, salinity, trihalomethanes, nitrates, arsenic, barium, pathogenic Naegleria (which flourishes in high temperatures), methane and radioactivity; all requiring advanced water treatment or rendering the source unusable.
    - Examples include West Pilbara, Murchison towns and Onslow.
  - Even when water is made safe to drink, it may still have aesthetic issues such as taste, colouring or hardness that the community finds unacceptable.
- Environmental and aboriginal heritage issues.
  - These can prevent the use of water supplies or require reduced allocation, which puts pressure on existing sources with few, but often expensive, source alternatives.

In cases where local water sources are not available or too expensive to treat, and the customer base is too low for piping to be cost effective, the State has to resort to carting in water.

- An example is Rocky Gully (with about 80 connections), which would otherwise need to be connected to the Frankland Scheme by a pipeline of about 40 kilometres.[83]
  - At $110 per kilolitre, this is one of Western Australia's most expensive schemes, despite being only 344 kilometres[84] from Perth and outer regional under ARIA. By comparison, the Perth metropolitan cost is $2.20 per kilolitre.
  - There is community opposition to carting and concerns that water availability is constraining future growth in the region.
- Carting could potentially be considered a below average standard of service, but building additional pipelines would involve even higher costs.

CGC assessments

One key feature of the examples given in the Water Corporation presentation is that water availability in each of these areas is important to underpin both existing economic activity and future economic growth.

- For example, the Western Australian Water Corporation expects Onslow's population to double due to new gas projects.[85]

We recognise that it is challenging to develop an assessment of water subsidies. It is likely to require considerable judgement by the CGC.

We welcome the CGC examination of the data that they collected from States, but this will not cover many of the difficulties of service provision.

It may be that the only way to get a reasonable fiscal equalisation measure is to use an actual per capita assessment of costs, less a standard policy measure of revenues from water charges (for example, the average price charged by States per kilolitre across the nation).

- As noted above in the example of Rocky Gully, this would potentially equalise the more costly States to a lesser standard of service, so understate fiscal equalisation.
- If concerns about policy contamination are sufficiently material, the actual per capita assessment could be discounted back towards the existing assessment.

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[83] Carting is also used in Northcliffe, Quinninup, Broad Arrow, Coomberdale, Nabawa, Yuna, Grass Patch, Lake King and Varley.

[84] By road.

[85] The Water Corporation has based this projection on a number of information sources including the Pilbara Development Commission and the Water Corporation's experience with other towns. Another source anticipating growth is http://australianenergyreview.com.au/New/onslow-gateway-to-growth/.

In the event that the CGC retains a similar method to the 2015 Review (or uses it to discount an actual per capita assessment), we suggest three changes.

- Reassess the proportion of subsidies that are 'common' versus 'differential'.
  - The current assessment assumes an EPC requirement for about 50% of the subsidies, but the *What States Do* paper for water subsidies showed that in 2015-16, five of the eight States provided per capita subsidies that were less than 50% of the national per capita water subsidies (in most cases, far less, or even zero).[86]
- Expand the coverage to all remote and very remote populations.
  - Most of the difficulties discussed above apply even in urban centres exceeding 1,000 population.
- Include populations of isolated outer regional towns serviced by exceedingly long pipelines, such as Kalgoorlie, in the differential assessment.

[86] Commonwealth Grants Commission (2017), *What States Do – Water Subsidies*, CGC 2016-20-S, Table 1.

12. Services to Communities – Other Community Development

Key Points

- We support an EPC assessment of Other Community Development, apart from land management expenses.
  - Land management expenses should be assessed as proportional to land area, potentially together with other land area affected expenses, such as geological survey and any other relevant services to industry, national parks and environmental protection.

The CGC's draft assessment paper proposes that Other Community Development (i.e. other than for discrete Indigenous communities) be assessed EPC, apart from location factors.[87]

We have identified that a significant part of Western Australia's expense classified to this component (i.e. GPC 0719) is on land management ($82 million estimated outturn for 2017-18, net of user charges). We do not know if other States also classify land management expenses to this component.

Land management expenses are related to land area and number of leases (although leases with larger land area require greater due diligence).

We believe that the CGC should assess land management expenses as proportional to land area – potentially together with other land area affected expenses, such as geological survey and any other relevant services to industry, national parks and environmental protection.

Apart from this, we support the EPC assessment (with location factors) of Other Community Development.

[87] Commonwealth Grants Commission (2018), *2020 Review - Services to Communities*, Staff Draft Assessment Paper CGC 2018-01/15-S, page 21, paragraph 88.

13. Justice

Key Points

- The 50:50 split of police expenses between crime-related and community policing is incorrect.
- The regional cost adjustment for police, courts and prisons does not adequately reflect the additional expenses Western Australia incurs.
- We consider that the current assessment does not reflect the drug use (with flow on impacts) and drug enforcement issues that Western Australia faces. We suggest that the CGC explore an additional disability or a better assessment based on the underlying drivers of crime.
- The proposed CGC Police assessment model has some concerning aspects, and the CGC will need to work closely with the States on it.

Police services

Community vs specialised policing

The current police assessment divides police service expenses equally between 'community policing' and 'specialised policing'. The split assumes that some police services are provided to the general community, while 'demand' for specialised services[88] takes into account that particular population groups are more likely to commit crime. The CGC considers that 'community policing' is driven by the population as a whole.

- It remains our view that expenditure on crime prevention, including providing a visible police presence and community safety and support, is driven by crime propensity rather than population.
- Provision of police services to the general community includes protection from those population groups that are more likely to commit crime.

Western Australian Police employs an evidence base (statistics) to assess the impact of their policing strategies and the allocation of their resources, which target policing operations. Resources, including general policing resources, are flexibly deployed to meet needs, as emphasised in the August presentation to the CGC.

[88] We understand specialised services includes a lot of general policing, not just specialist or centralised services.

Police stations are located according to factors such as reported crime, isolation, proximity to other services and the vulnerability of the populations (including for remote Aboriginal communities). There are numerous examples of police stations in remote locations and of town sites with no police stations.

- For example, there are 158 police stations across all eight regions in Western Australia, 35 of which are in the Perth Metropolitan area and 123 across regional Western Australia. This equates to only 22% of police stations in the Perth Metropolitan region, despite having 79% of the population.
- Table 13.1 shows that, in 2016-17, Western Australia spent $940 million in direct costs allocated to the eight regions (i.e. excluding centralised services), of which just over 40% ($386 million) was spent in regional Western Australia, despite having only around 20% of the population.

Given the lack of relationship between population size and 'community policing' costs, there is no doubt that the 50:50 split of police expenses between specialised and community policing is incorrect. The vast majority of police expenses relate to crime-related (specialised) policing.

Remoteness

The CGC captures remoteness costs through the regional cost adjustment. However, we believe that the CGC's regional cost scale does not adequately reflect the additional expenses Western Australia incurs in the regional areas of the State.

Western Australian Police Force data in Table 13.1 clearly demonstrates that significant differences exist in the direct costs of providing policing services across areas of differing remoteness. For example, policing services per person in the Kimberley region costs over five times more than the per person cost in the Perth Metropolitan region.

- This compares with the 271% very remote allowance provided by the CGC (i.e. the combined impact of a 61% cost loading, discounted by 12.5%, and high per capita policing demands in very remote areas).
- If the difference (263%) were taken as representative for Western Australia's very remote areas, and were to reflect above average costs for Western Australia in very remote areas, this would amount to extra needs for Western Australia of $40 million per annum.
- There appear to be similar disparities for other regions. For example, the CGC's combined extra allowance is 86% for remote and 40% for outer regional, both well below the costs shown in Table 13.1.

Table 13.1: Direct costs of police services, by region, 2016-17

WA region	Total population[(a)]	Total cost of providing police services ($'000)	Costs per person ($)	% above Metro costs
Metro	2,020,528	553,100	274	0%
South West	179,590	55,100	306	12%
Great Southern	84,182	47,100	559	104%
Wheatbelt	54,075	39,100	723	164%
Mid West	64,112	58,600	914	234%
Pilbara	64,234	63,100	982	259%
Goldfields	55,838	59,600	1,067	290%
Kimberley	36,392	63,200	1,737	534%

Source: Western Australian Police.

(a) Estimated Resident Population as at 30 June 2017.

The CGC's latest regional cost factors[89] employ an assumption that remoteness costs plateau, i.e. costs are deemed to not increase beyond 1,254 kilometres from a major city.

- However, as shown in Table 13.1, costs in the Kimberley vary substantially from those in the Pilbara, even though the vast majority of both regions are in excess of 1,254 kilometres from Perth and classified as very remote, with the major centres classified remote.

Western Australia's special circumstances

The prevalence of illicit drugs, particularly methamphetamine, is a significant issue for the Western Australian community and law enforcement bodies. The Australian Criminal Intelligence Commission's fourth report of the National Wastewater Drug Monitoring Program revealed that Western Australia reported some of the highest levels of methamphetamines consumption in the country.[90] In addition, the use of methamphetamines is implicated in an increasing number of family violence cases.

- Western Australia has the second highest rate of reported physical and sexual violence perpetrated against women in Australia, second only to the Northern Territory, requiring the Western Australian government to commit additional effort and funding to combatting methamphetamine use and family violence.
- Western Australia's long coastline, inadequately patrolled by Commonwealth forces, exacerbates the methamphetamine problem in Western Australia.

[89] Based on the ABS' Accessibility/Remoteness Index of Australia (ARIA) remoteness classification and police data from a 2007-08 data request.

[90] Australian Institute of Criminology (2017), *Drug Use Monitoring in Australia: 2015 and 2016 Report on Drug Use Among Police Detainees,* Statistical Report 04.

The CGC assessment of Policing recognises that certain population groups, on a national average basis (those aged 15-44 years, Indigenous, and socio economically disadvantaged people), have a higher use of police services than other groups. We believe that a national average assessment of these factors will not reflect the issues that are faced in Western Australia and suggest the CGC explore an additional disability or a better assessment based on the underlying drivers of crime.

Proposed CGC approach

The CGC has indicated that it intends to remove the artificial distinction between community and specialised policing, and assess police costs on the basis of the following data for each police region:

- police costs;
- number of offenders;
- remoteness;
- population size; and
- population characteristics (e.g. Indigenous proportion and socio-economic status (SES)).

It is our understanding that the CGC would use this data to determine the national average cost impact of variables such as remoteness and Indigeneity, then notionally distribute costs in each local area according to the national pattern, according to the formula below.

$$Total\ Cost = \sum_{Gi} P_{Gi} \left(\frac{O_G}{P_G}\right)\left(\frac{C_G}{O_G}\right)$$

Where:

O	Offenders
P	Population
C	Cost
G	Sub-population group
i	State

Western Australia agrees that the current assessment needs to be improved. We welcome the removal of the judgement-based 50:50 split of police expenses and we also have concerns with using old data in the assessment. However, the new approach has some problems.

- In theory, the offence variable is just an intermediate proxy. It would be unnecessary if the CGC were able to determine spending for all the population sub-groups. The CGC cannot directly observe this, so it proposes (we understand) to use offence rates to apportion spending within regions by Indigeneity and SES.

- Offence rates will be affected by the level of crime prevention efforts and whether there is adequate reporting of crimes.
- Strictly, a measure of costs per offence is not a very meaningful construct, as the two are not related.
- The underlying assumption is that aggregate spending (on prevention and apprehension) is generally proportional to the number of offences. But, where spending related to prevention is not uniformly related to actual offences (and by extension the population groups prominent in those offences), or the offences are different, the resultant cost per population group is distorted.
- However, it is not clear at this stage how material these concerns are in practice.

We ask that the CGC work closely with the States in developing this assessment.

Courts and corrective services

To capture the remoteness costs for courts and corrective services, the CGC applies a regional cost adjustment, based on the regional cost gradient of police, discounted by 25%. These regional costs weights are shown in Table 13.2.

Table 13.2. 2015-16 CGC regional cost weights

	Major cities	Inner Regional	Outer Regional	Remote	Very Remote
Police	1.000	1.073	1.248	1.317	1.607
Courts/corrective services	1.000	1.055	1.186	1.238	1.455

However, we regard these regional cost weights as inadequate, as shown in Table 13.3.

Table 13.3: Direct costs of magistrates' courts, by region, 2016-17

WA region	Total population[(a)]	Total cost of magistrates court ($'000)	Total number of cases	Cost per case ($)	% above Metro costs per day
Metro	2,020,528	44,110	118,837	373	0%
Wheatbelt	54,075	1,978	4,516	438	17%
South West	179,590	4,346	8,423	516	38%
Pilbara	64,234	2,946	5,561	530	42%
Goldfields	55,838	2,990	5,485	545	46%
Mid West	64,112	3,816	6,641	575	54%
Great Southern	84,182	1,715	2,883	595	59%
Kimberley	36,392	4,271	5,776	739	98%

Source: Western Australian Department of Justice.

(a) Estimated Resident Population as at 30 June 2017.

Table 13.3 shows it costs Western Australia almost double to operate a magistrate's court in the Kimberley than in the Perth metropolitan area.

- However, Western Australia only receives a 46% allowance for higher than average regional costs in this region.
- Per capita case loads are also very high in remote areas.

Similarly, data collected from the Western Australian Department of Justice also shows significant escalation of direct operating expenses for prisons across areas of differing remoteness. These are substantially greater than courts. Table 13.4 demonstrates that the average cost per day per adult prisoner in very remote prisons is almost two and a half times the cost for a metropolitan prison.

- This compares to a CGC allowance of 46% extra.

Table 13.4: Direct costs of prisons, by region, 2016-17

WA region	Total population[(a)]	Total cost of prisons ($'000)	Average population of prisons	Cost per prisoner per day ($)	% above Metro costs per day
Metro	2,020,528	432,037	4,722	251	0%
Great Southern	84,182	56,927	524	298	19%
South West	179,590	39,155	334	321	28%
Mid West	64,112	37,699	321	322	28%
Pilbara	64,234	30,384	174	478	91%
Goldfields	55,838	34,802	165	578	131%
Kimberley	36,392	55,023	249	605	142%
Wheatbelt[(b)]	54,075	na	na	na	na

Source: Western Australian Department of Justice.

(a) Estimated Resident Population as at 30 June 2017.

(b) No prisons present in the Wheatbelt region of Western Australia.

Data from the Western Australian Department of Justice shows that although there is a higher per-capita prison ratio in the Kimberley region, there are still a large number of prisoners from the Kimberley incarcerated in the Perth metropolitan region.

- The data also indicates that it is more cost effective to transport a prisoner to a Perth metropolitan prison than to detain them in a prison in the Kimberley region.
- Despite this, Western Australia remains of the view that centralising prisons in such a large State would make it extremely difficult for prisoners to maintain family and community ties, which can lead to increased incidence of recidivism and increased difficulty in re-entering into the community.

14. Roads

Key Points

- The 'synthetic rural road network' approach to measuring road length should be retained as it is widely accepted, and more policy neutral and theoretically sound than the proposed 'adjusted road network' methodology. However, it can be refined to better reflect State-managed roads.
- The appropriate treatment of urban road length is to base it on urban populations, as per existing methods.
- The use factor picks up differences in whether or not roads are sealed and the number of lanes, so there is no need to reflect these in the length factors.
- The CGC should continue to include all State expenses on local roads in the local roads component, unless the national synthetic road network is expanded to the point where it exceeds the length of State-managed roads.
- Any bridge and tunnel factor should be expanded to also include other geographic-specific needs, such as floodways and infrastructure designed for cyclone regions. It is our opinion that a separate factor for bridges, tunnels and floodways is not a viable option.
  - We support the allocation of any geographic needs (such as bridge and tunnel expenses) to the urban and rural road components.
- We support the CGC proposal to remove the other services component and allocate the expenses proportionally to the urban and rural road components.
- The articulated trucks category should be disaggregated into at least two classes to take account of heavier loads.
- Western Australia considers the concept of 'National Network' as a non-transparent policy construct with no relationship to needs. We support the PC's recommendation on Commonwealth payments in its report on HFE.

Rural and urban roads

Rural road length

In the 2010 Review, the CGC developed a 'synthetic rural road network' approach to measure the length of roads connecting neighbouring localities with a population larger than 400 by the fastest route. The CGC justifies this approach as follows:

> …to ensure the measured lengths were policy neutral and not affected by differences in State policies on the allocation of responsibility for roads between State and local governments or policies on when and where roads were built.[91]

[91] Commonwealth Grants Commission (2018), *2020 Review - Roads,* Staff Draft Assessment Paper CGC 2018-01/22-S, page 3.

Specifically, the CGC "did not use actual road length because the definition of State roads varied across the States".[92]

However, in the 2020 Review, the draft assessment paper raises a number of concerns regarding the use of the synthetic rural road network and proposes to recommend two options:

> Start with the actual State road networks as reported and make adjustments to ensure that only roads commonly classified as State roads are included to reflect average policy. We call this approach the 'adjusted road network'.
>
> As a fall-back, retain the synthetic road network approach but change the definition of State roads and the algorithm to better capture the roads for which States are currently responsible. [93]

The CGC noted that the current synthetic network methodology is policy neutral and has broad acceptance.[94] We agree that it is relatively policy neutral, broadly accepted and theoretically sound approach to measure rural roads.

The adoption of a new approach to measure State road length based on the proposed 'adjusted road network' methodology will result in a non-policy neutral, non-transparent assessment, as it will require a large number of judgement calls. The draft assessment paper gives no indication as to how the CGC would attempt the adjustments. We do not support this proposed new approach.

The draft assessment paper suggests that the synthetic network methodology could be refined to address the concerns raised with the current data and methodology. The CGC would continue to run the algorithm over a national road network that includes both State and local roads, such as the Public Sector Mapping Authority's national dataset. However, the 'synthetic network' would reflect the following.

- Include roads connecting all ABS Urban centres/localities.
- Include connections to national parks and any other areas of significance that can be reliably identified as connecting to the State road networks under average policy.
- Include all connecting roads between urban centres instead of just one.
- Data on lane-kilometres is not readily available. These would need to be estimated, perhaps with the help of State Road Authorities.

We support these refinements, apart from counting lane kilometres or double counting separated roads running in opposite directions, as discussed below (under *Road type*). We consider these refinements a more appropriate treatment of rural roads than the 'adjusted road network' approach.

---

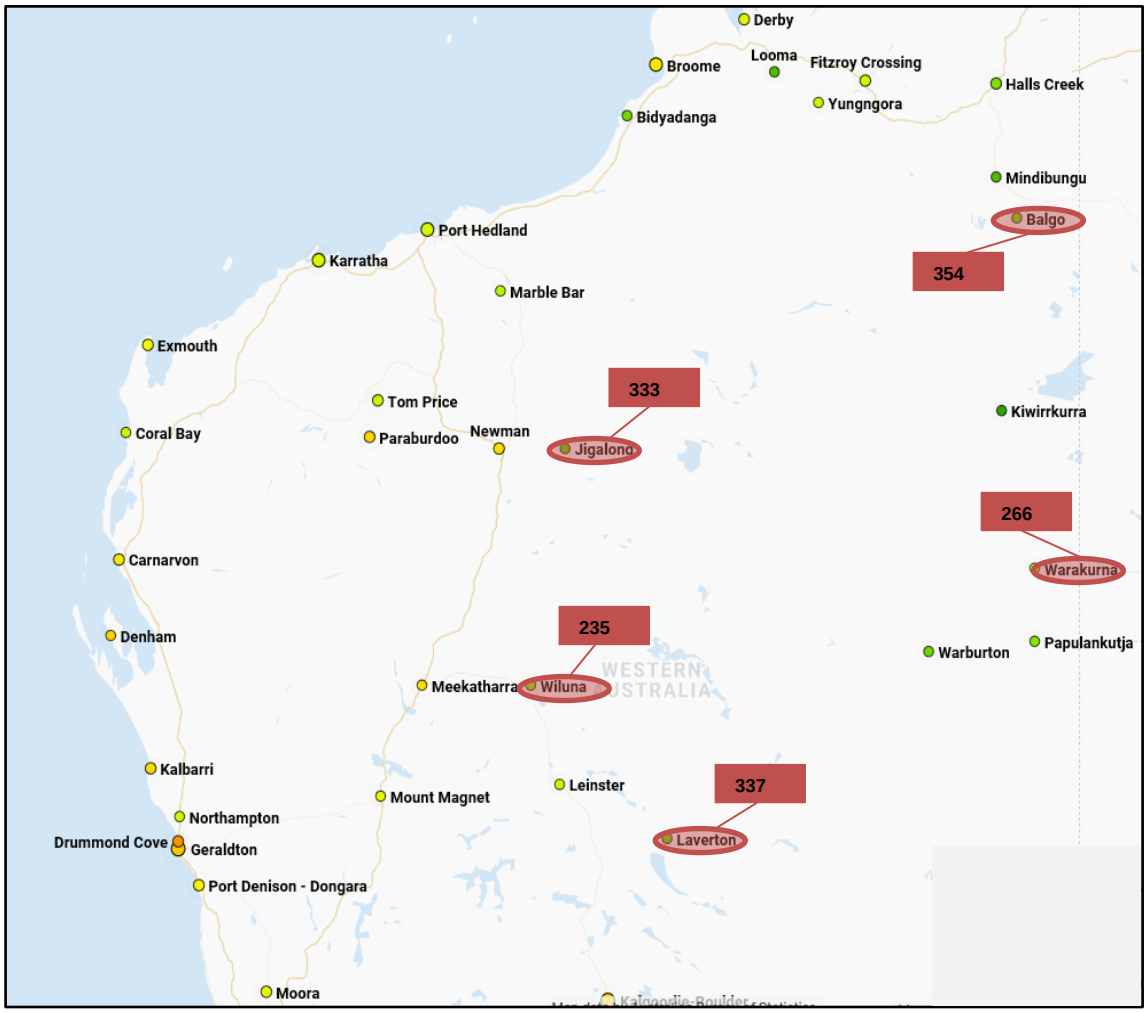
92 *ibid.,* page 9.

93 *ibid.,* page 10.

94 *ibid.,* page 12.

Refining the synthetic network to include towns with a population of 200 or more, as well as consistently including areas of significance (including mines and grain bins) would improve the quality and accuracy of the synthetic network.

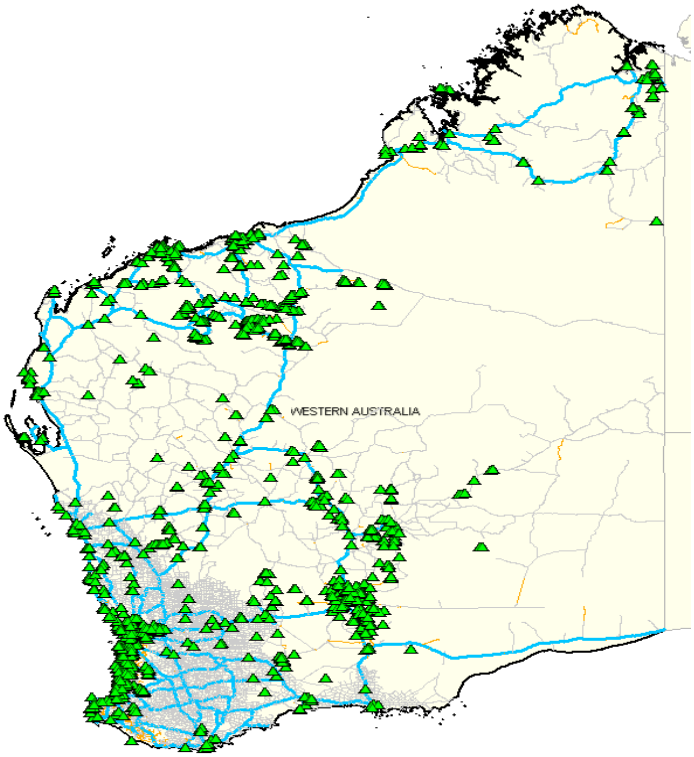
Figure 14.1: Remoteness of towns with a population between 200 and 400



Source: Main Roads Western Australia.

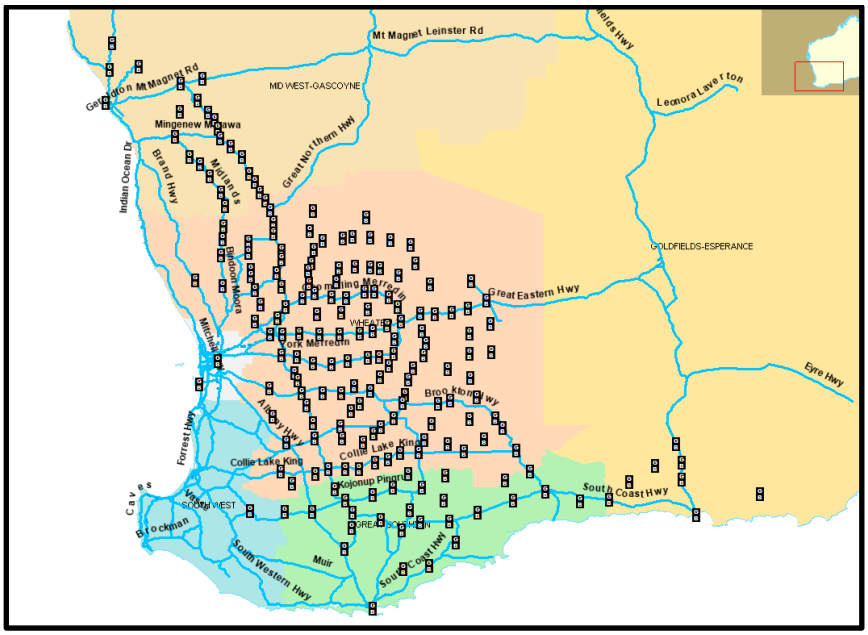
Figure 14.1 illustrates some of the remote towns in Western Australia with a population above 200, but below the current threshold of 400. Forty-nine of 57 towns in Western Australia with populations below 400 have populations between 200 and 400, while eight towns have a population below 200. Lowering the threshold to 200 will improve the coverage of the synthetic network. Figures 14.2 and 14.3 illustrate the remoteness of mines and grain bins. Both should be considered as areas of significance as they require access to a road network, independent of the actual population.

Figure 14.2: Geographic dispersion of mines



Source: Main Roads Western Australia.

Figure 14.3: Geographic location of grain bins



Source: Main Roads Western Australia.

Urban roads

The CGC currently uses population as a proxy measure of urban road length in urban centres/localities because: "a suitable policy neutral measure of State managed roads could not be developed".[95]

However, the CGC proposes to use the 'adjusted road network' methodology to assess urban road length, using the population proxy approach as a fall-back. Urban roads are policy driven (e.g. by decisions on density and urban structure) and we see no reliably consistent and transparent way to decide which roads are State versus local. Hence we believe that an 'adjusted roads network' will not be policy neutral.

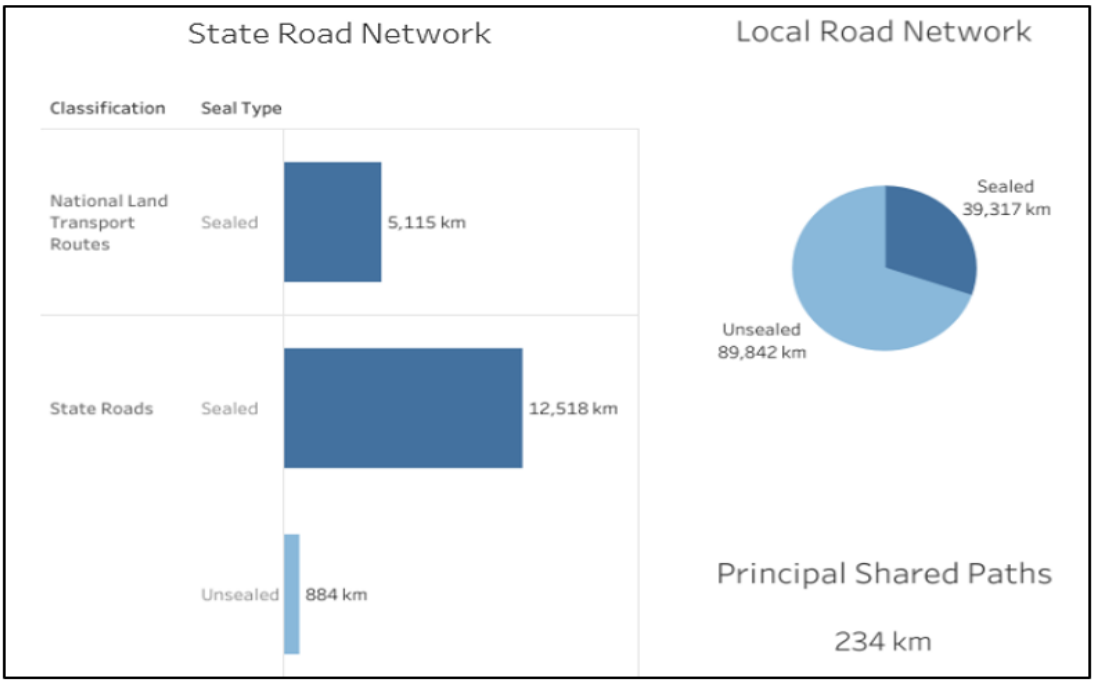
Road type

Under the current CGC assessment methodology:

> The Commission treated minor rural roads identified by the mapping algorithm as unsealed roads. All other mapped roads, such as freeways, highways or main roads, were treated as sealed roads. The maintenance cost of unsealed roads was set at half that of a sealed road.[96]

It is not clear why the CGC treats all minor rural roads as unsealed roads and all other mapped roads as sealed roads. According to Main Roads Western Australia, as shown in Chart 14.1, 30% of all local roads are sealed. Overstating the volume of unsealed roads will lead to an underestimation of maintenance needs.

Chart 14.1: Sealed and unsealed roads



Source: Main Roads Western Australia

[95] *ibid.*, page 4.

[96] *ibid.*, page 3.

We are also concerned that the definition of 'minor roads' (which the CGC assumes to be unsealed) is unclear. In particular, one of the categories of minor roads is 'unsealed roads' – hence, it appears that if a State does not seal a road, then the CGC will classify it as unsealed even if it would be sealed under average policy.

The CGC is also considering using lane kilometres, rather than road kilometres. However, actual number of lanes (and use of separated roads running in opposite directions) will be heavily policy influenced. Many single lane roads have periodic passing lanes or wide shoulders (which may be as large as half a lane), which will reduce the need for an additional lane. Even apart from policy issues, the CGC would face the problem of counting part lanes and effective lane width.

Our view is that the only policy neutral measure of both unsealed roads and number of lanes is the use of the road. The higher the use of a road, the higher the probability that the road will be sealed, and/or have a double lane, and/or have wider lanes or periodic passing lanes, and/or require more maintenance.

The CGC's assessment already includes the impact of use, and we consider that this picks up variations among States in the use of unsealed roads and number of lanes. Hence, the length factors can be based purely on road kilometres, with no adjustments for unsealed roads, number of lanes, etc.

Local roads

The CGC expressed concern that the expenses currently included in the local roads component might be overstated as they include expenses on local roads that are not (as intended) in sparse or unincorporated regions[97].[98]

However, local government road spending is equalised in States through various mechanisms. This includes Commonwealth financial assistance grants – general purpose component, financial assistance grants – local road component and Roads to Recovery. In States with sparse and unincorporated regions, more Commonwealth funding will go to those regions at the expense of non-remote regions, whereas in States with no or little sparse and unincorporated regions, more Commonwealth funding will flow to non-remote regions. Hence, when States fill the gaps left by inadequate Commonwealth funding, States with sparse and unincorporated regions will need to provide additional funding to non-remote regions.

[97] Regions with no local government.

[98] *ibid.,* page 14.

For example, in Western Australia, local governments outside the Perth Metropolitan Region comprised 25% of the State's population in 2016-17, yet received 77% of Commonwealth general purpose road grants and 74% of Commonwealth road funding in 2016-17. Additionally, these local governments received 77% of the State's $204 million in road funding for local governments. Despite this, local governments in nearly all non-metropolitan areas of the State are insufficiently funding roads compared with preservation requirements, as shown in Table 14.1.

Table 14.1: Preservation needs compared to actual expenditure

Regional Road Group	Required Expenditure on Preservation	Actual Expenditure on Preservation	Preservation Performance
Gascoyne	12,892	7,423	58%
Goldfields Esperance	42,546	34,793	82%
Great Southern	49,954	35,980	72%
Kimberley	17,526	17,426	99%
Metropolitan	252,488	274,447	109%
Mid West	53,399	43,413	81%
Pilbara	22,855	17,079	75%
South West	89,172	65,607	74%
Wheatbelt North	89,494	50,889	57%
Wheatbelt South	61,464	28,487	46%
TOTAL	**691,789**	**575,542**	**83%**

Source: Main Roads Western Australia

Therefore Western Australia considers that the CGC should continue to include all State expenses on local roads in the local road component (subject to any potential adjustments from expanding the synthetic road network, noting that these adjustments may not be required as the current synthetic network understates State managed roads nationally).

Bridges and tunnels

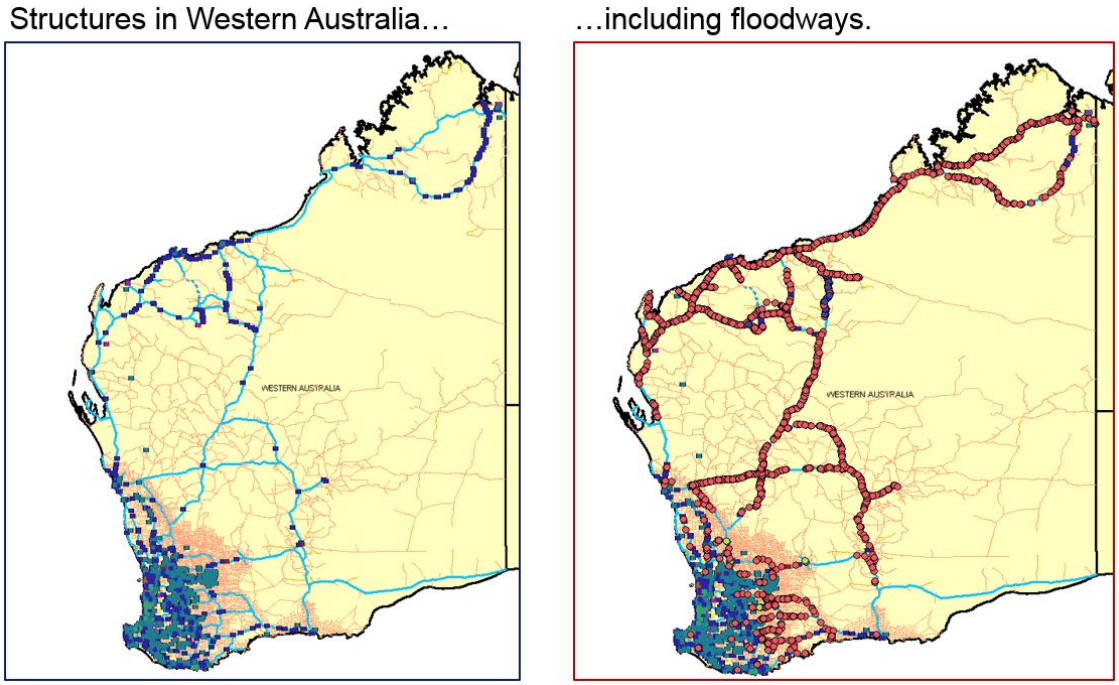
Bridges and tunnels are currently assessed on an EPC basis. However, in the CGC draft assessment paper:

> Staff propose to recommend to the Commission:
>
> - agree to staff considering options for a bridge and tunnel factor based on State spatial data; and
> - if no satisfactory options are found, reallocate bridge and tunnel expenses and investment to the relevant urban and rural road components and apply the disabilities for those components.[99]

[99] *ibid.*, page 20.

A bridge and tunnel factor would not be an appropriate adjustment to the roads assessment methodology. Bridges and tunnels depend on the geographic characteristics of a specific area. If the CGC includes needs based on geographic characteristics, then other geographic-specific needs should also be included. For example, Figure 14.4 illustrates road related structures (bridges, tunnels and gantries) as well as including floodways in Western Australia.

Figure 14.4: Road structures and floodways in Western Australia



Source: Main Roads Western Australia

In addition, tropical cyclones pose a serious threat to northern Australian communities and industry, particularly in the northwest of Western Australia. The Pilbara coast experiences more cyclones than any other part of Australia. While funding sources exist to reinstate infrastructure damaged by significant weather events, it is more expensive to provide infrastructure designed for such conditions. For example, more extensive drainage/culvert treatments are needed. Also, pavements require higher specifications, such as the use of cement stabilised pavement material and a two-coat road seal/surface. Any bridge and tunnel factor would need to also include these geographic-specific needs. It is our opinion that this is not a viable option.

Hence Western Australia supports the reallocation of bridge, tunnel and other quantifiable geographic-specific expenses to the urban and rural road components.

Other services

We support the CGC proposal to remove the 'other services' component and allocate the expenses proportionally to the urban and rural road components.

Heavy vehicles

The CGC proposes to exclude light commercial vehicles from the definition of heavy vehicles. In addition, the CGC also proposes to simplify the assessment by reducing the number of heavy vehicle classes by combining rigid and other trucks with buses. We support both recommendations.

However, the articulated trucks category should be disaggregated into at least two classes. There are distinct differences between States in terms of the sub-classes of articulated trucks.

Western Australia accounts for a large share of Australia's merchandise exports. The majority comes from resources activity, most of which takes place in the regions. Western Australia permits larger and heavier loads on its network for productivity benefits, but unfortunately at a significant cost on the road network.

Western Australia allows greater use of 'High Wide Loads' and 'Restricted Access Vehicles' compared to other States. Western Australia also has a range of Local Productivity Variations to permit additional loads on certain heavy vehicles and routes. Some examples include:

- Class 1 RAV Overmass Period Permits for the transport of heavy indivisible loads. Western Australia allows up to 92.5 tonnes, compared to the National Standard of 78 tonnes.
- Certified Weighbridge Mass Management Scheme allows an additional 1.5 tonnes to be loaded on tri-axle groups fitted with dual tyres and an additional 0.5 tonnes on tandem axle groups, with all loads weighed on a certified weighbridge.
- Containerised cargo (import/export) trucks are permitted to carry extra mass when they are carrying ISO containers. A maximum of an additional 8.5 tonnes is permitted.
- Other concessions are provided for carriage of livestock and bulk products, including from harvests.

Since Western Australian vehicles are running heavier (and therefore causing more wear), the CGC heavy vehicle loading understates our needs because each vehicle kilometre travelled is only assigned the national average rather than the higher Western Australian masses.

If this is considered by the CGC to be a policy-induced need, then for consistency the CGC should recognise that our revenue bases are increased by this policy, and reduce those revenue bases accordingly.

Commonwealth payments

The CGC seeks States' views on whether 50%, or some other proportion, of the Commonwealth payments for investment on national network road and rail projects should be treated as having no impact on the GST distribution in the 2020 Review.[100]

Western Australia considers the concept of 'National Network' as a non-transparent policy construct with no relationship to needs. Our previous submissions have discussed this issue.

We support the PC's recommendation 6.4 on Commonwealth payments in its report on HFE:

> The Commonwealth Government, in consultation with the States, should develop clear guidelines detailing the basis on which Commonwealth payments are to be quarantined from HFE by the Commonwealth Treasurer (so that they do not unnecessarily erode the efficacy of the CGC's relativities and compromise the objective of HFE).[101]

[100] *ibid.,* page 20.

[101] Productivity Commission (2018), *Horizontal Fiscal Equalisation*, Inquiry Report No. 88, page 40.

15. Transport

Key Points

- Public transport is a highly complex and policy-dependent government service. Many factors influence the provision of public transport services, and many of these factors are policy-influenced.
- A policy neutral assessment of public transport expenditures is not feasible. Policy and disability are entangled, there is no clear conceptual basis for a service standard or underlying disability, and international evidence provides no guidance. An EPC assessment of public transport expenditure and investment is considered the most appropriate assessment method.
- The CGC's analogy between degrees of remoteness and city size is not valid. Remoteness as a driver of increasing costs has a clear conceptual case, but city size as a driver of increasing subsidies does not.
- A general problem with the CGC's assessment (noted by its consultant) is that it is not neutral with respect to the treatment of satellite cities.
- We have the following concerns regarding proposed travel time and labour market integration criteria for amalgamation of some satellite cities with principal cities:
  - reliance on travel time between satellite and principal cities is not policy neutral as State government choices can result in faster or slower public transport services; and
  - labour market integration does not mean that the transport needs in the satellite city (plus principal city link) are comparable to the transport needs of the principal city.
- We disagree with the CGC that population squared is a reasonable proxy for urban transport assets. This relationship is based on a few data points and is conceptually implausible.

Role of the CGC's consultancy

As part of the 2020 Review, the CGC has commissioned a consultant (Jacobs) to provide the following.[102]

- A model or models that can be used to assess States' urban transport recurrent and infrastructure expenditure requirements.
- Assurance for the States that the proposed model/s and data used are reliable and fit for purpose.

[102] Commonwealth Grants Commission (2018), *2020 Review – Transport*, Staff Draft Assessment Paper CGC 2018-01/18-S, page 12, paragraph 46.

The study has been divided into two stages. Stage 1 identified drivers of urban recurrent and infrastructure expenditure and evaluated data availability and reliability. Stage 2 will apply the proposed model by evaluating alternative and existing CGC models.

The CGC noted[103] that stage 2 of the consultancy would be delayed until the second half of 2018. It would have been preferable to receive the stage 2 report before this submission. However, due to the delay, Western Australia can currently only respond to the methodology proposed in the CGC's draft assessment paper.

The CGC makes conflicting recommendations about the role of the consultancy in that staff propose to:

> …retain the current general approach to the assessment of recurrent and infrastructure urban transport expenditure because the conceptual case that city population is a major driver of net expenses and assets for public transport systems is strong and supported by data.[104]

and

> …provide the report on stage 2 of the consultancy to States for comments. After receiving those comments, staff will develop assessment proposals for net expenses and investment for the Commission.[105]

Clarification of this matter would be appreciated, but we suspect that the stage 2 report will not alter the views expressed in this submission.

General case for an EPC assessment

The CGC is tasked with developing a method that determines net spending pressures based on the same standard and efficiency of services and the same revenue effort. However, in the case of the Transport assessment it is not conceptually clear what these should be. As it stands, the assessment of public transport (urban and non-urban, expenses and investment) reflects simplistic assumptions based on observations of State net operating expenses and capital stock.

Public transport services are heavily driven by States' particular circumstances and are integral to their economic development. What is policy and what is disability is an ever-present issue. This represents a further difficulty in developing a policy neutral assessment. This is confirmed by the CGC:

[103] *ibid.*, page 14, paragraph 57.

[104] *ibid.*, page 11.

[105] *ibid.*, page 12.

> Moreover, any attempt to adjust the data for individual cities to better reflect average policy would be fraught with difficulties. For example, how should the average level of efficiency be calculated for Sydney? Is Melbourne more efficient or are its lower expenses due to a lower level of service? Are the efficiency and service levels for a city with a population of, say, 2 million relevant to a city of, say, 4 million? [106]

Nevertheless, our presentation to the CGC on 2 August 2018 highlighted that efficiency can vary significantly across States, in terms of both input costs (e.g. staffing of trains) and system design (e.g. choice of routes, siting of stations and modal connectivity).

Subject to caveats about data comparability, Table 15.1 also suggests significant differences in rail network utilisation across cities of comparable population size.

Table 15.1: Capital city heavy rail passenger networks

	A Metropolitan route length (km – 2017)	B Passenger kms (billion – 2014-15)	A/B[(a)] Passenger kms per km of route length (million)
Sydney	381	5.84	15.3
Melbourne	416	3.96	9.5
Brisbane	396	1.07	2.7
Perth	181	1.05	5.8
Adelaide	126	0.23	1.8

Source: Trainline 5 Statistical Report (Bureau of Infrastructure, Transport and Regional Economics and Australasian Railway Association, 2017) and Australian Infrastructure Statistics Yearbook 2017 (Bureau of Infrastructure, Transport and Regional Economics).

(a) It is assumed that there were no significant changes in route length between 2014-15 and 2017.

These considerations have led us to propose an EPC assessment of public transport expenditure and investment.

Urban transport net expenses

Conceptual case

The CGC estimated the following model:[107]

$$E_i = \beta \ln(P_i) + \alpha$$

The model represents a linear-logarithmic relationship that, according to the CGC, best describes urban transport expenditure.[108]

[106] *ibid.*, page 9, paragraph 41.

[107] *ibid.*, page 3, paragraph 13.

[108] *ibid.*, page 4, paragraph 14.

The CGC noted[109] that public transport operating subsidy per capita generally rises as city size increases, due to greater use of public transport. In addition, it noted that passenger-kilometres rises even faster in growing urban centres because average trip distance increases as urban area grows.

- Based on this, the CGC considers urban population size as an appropriate proxy for the transport task.

We agree that urban population size is one driver of urban public transport expenditure. However, it is only one of many drivers of urban public transport expenditure.

- With increasing size come opportunities for more efficient use of public transport and higher cost recovery, by exploiting higher density, road use limits, decentralisation of economic activity (hence less dead running) and the broadening of peaks in daily activities.
- States with larger cities may choose not to fully use these opportunities, but instead choose to retain urban models that are only efficient at small population sizes.
  - Should HFE subsidise choices to be less efficient in large cities compared to smaller cities? We don't think so. These are not issues of underlying fiscal disadvantage.
- Inefficiencies such as overmanning and poor system design should not be subsidised by HFE.

The CGC has identified a large number of factors influencing demand as well as supply of public transport. It grouped these factors into non-policy influenced and policy influenced factors, as shown in Table 15.2.

- However, the CGC has not justified this classification, and we consider many of the 'non-policy influenced' factors to be highly policy influenced, particularly when taking a longer-run perspective.

The stage 1 report[110] submitted by the consultant to the CGC as part of the 2020 Review identified nine drivers of urban public transport expenditure. Some of these drivers (partially) overlap with the factors identified by the CGC, while others introduce new determinants to the conceptual understanding of public transport. These are reproduced in Table 15.3.

- The stage 1 report also proposed a recurrent expenditure model specification. The model identified two possible dependent variables (operating expense or net expense) and 27 exogenous variables. However, 19 of the 27 variables identified are not policy neutral.

[109] *ibid.*, page 2, paragraph 9.

[110] Jacobs (2017), *Modelling of urban transport recurrent and infrastructure expenditure requirements,* Stage 1 Report to the Commonwealth Grants Commission, IA147500.

Table 15.2: Factors influencing the demand and supply of public transport, as identified by the CGC

Demand for public transport	Supply of public transport
Ostensibly non-policy influenced	
Urban area population size	The demand for services
Age distribution	Socio-economic status
Socio-economic status	Congestion and effect on operating speeds
Car ownership	Trip lengths
Car travel costs	Costs of wages
Size of urban area	Costs of equipment
Distances between residential areas and areas of economic activity	Other input costs
Population density	Topography
Concentration of economic activity	
Geographic features	
City history	
Ostensibly policy influenced	
Service quality (including efficiency)	Mode of transport
Public transport fares	Efficiency and other operating policies
Availability and cost of parking	Extent of contracting/privatisation
Congestion and car travel trip times	Fare levels
Government policies on land use	The extent to which transport is used to address city developmental issues
Environmental issues	The extent to which transport is used to address environmental goals
Access to central areas	The extent to which transport is used to address other policy goals

Source: Commonwealth Grants Commission (2018), *2020 Review – Transport*, Staff Draft Assessment Paper CGC 2018-01/18-S, pages 7 and 8, paragraphs 33 and 34.

Table 15.3: Drivers identified by the consultant in the stage 1 report

Recurrent expenditure model
Population served by an urban transport network
Employment and journey to work
Student enrolment and education trips
Public transport service provision
Travel cost by car
Urban congestion
Urban density
Urban terrain
Emerging trends in public transport use

Source: Jacobs (2017), *Modelling of urban transport recurrent and infrastructure expenditure requirements,* Stage 1 Report to the Commonwealth Grants Commission, IA147500, page 10.

Considering the many factors besides population that influence urban public transport subsidies, and that many of these factors are influenced by policy or determined by policy, it is apparent that a large part of urban public transport expenditure is directly dependent on policy.

In addition, quality data for many of the factors are not available, and appropriate proxies are not readily available.

The CGC has noted the difficulty of what it is trying to do.

> However, the specific question relevant to the assessments ('what drives the net expenditure of urban transport services') is not addressed directly in the Australian or the international literature. The literature looks separately at the factors affecting the major determinants of costs and revenue (the demand for, the supply of, and the costs of transport services).[111]

All of this supports the view that a policy neutral assessment in public transport is not feasible.

International comparisons

In the CGC's draft assessment paper, international data is presented for different cities in Spain, France and the United States. The CGC noted,[112] from a review of the literature, that the Australian experience is not unique. It indicated that the experience also occurs generally in Spain, France and the United States.

This international comparison does not provide good evidence that the CGC's proposed methodology is correct, but rather evidences the pervasiveness of policy influences and other factors. Australian cities cannot be compared to international cities on a policy neutral basis. We illustrate this as follows.

- Tables 15.4, 15.5 and 15.6 used the data presented in the CGC's draft assessment paper. The subsidies per capita have been adjusted for inflation in the different countries and have been converted to Australian dollar values.[113] No adjustment has been made for purchasing power differences, but these don't materially affect the analysis.

Table 15.4 illustrates the comparison between Australian cities and United States cities on a per capita basis. The assessed expenditure per capita in Australian cities exceeds the actual per capita expenditure in comparable (by population size) United States cities by between 129% and 234%.

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[111] Commonwealth Grants Commission (2018), *2020 Review – Transport*, Staff Draft Assessment Paper CGC 2018-01/18-S, page 7, paragraph 31.

[112] *ibid*., page 10 and 11, paragraph 42.

[113] Conversion rates are: 1AUD = 0.7356USD; and 1AUD = 0.6369Euro.

Table 15.5 illustrates the comparison between Australian and French cities with similar populations. There are significant uncertainties about the French per capita subsidies derived by the CGC. For example, we estimate that the > 400 000 per capita subsidy in France would be $280 in 2017 AUD terms,[114] not $398.

- Putting these uncertainties aside, the French subsidies generally exceed the Australian subsidies by a factor of 2.

Table 15.4: Subsidies per capita in United States cities, compared to assessed subsidies in Australian cities

United States cities		Australian cities	
City population size	Subsidies per capita (adjusted to AUD per capita, 2017, based on 2011 data)		Assessed subsidies per capita[(a)]
> 5 million	248		
3 to 5 million	187	Sydney, Melbourne	429
2 to 3 million	163	Brisbane	364
1 to 2 million	101	Perth, Adelaide	337
0.5 to 1 million	67		
0.3 to 0.5 million	51		
0.05 to 0.3 million	48		
Total	141		

Source: CGC and Western Australian Department of Treasury calculations.

Note: Subsidies per capita have been adjusted for inflation in the different countries and have been converted to Australian dollar values, 2017.

(a) Weighted assessed expenditure per capita was calculated using the methodology and population values presented in the Commonwealth Grants Commission (2018), *2020 Review – Transport*, Staff Draft Assessment Paper CGC 2018 01/18-S.

[114] We did this using actual populations in the 12 largest French cities, excluding Paris, based on the metropolitan or urban areas.

Table 15.5: Subsidies per capita in French cities, compared to assessed subsidies in Australian cities

French cities		Australian cities
City population size	Subsidies per capita (adjusted to AUD per capita, 2017, based on 2013 data)	Assessed CGC subsidies per capita[(a)]
Paris (12 million)	725	515
> 400 000	398	229[(b)]
< 400 000	491	183[(c)]
> 200 000	329	166[(d)]
100 000 – 200 000	250	120[(e)]
50 000 – 100 000	119	58[(f)]

Source: CGC and Western Australian Department of Treasury calculations.

Note: Subsidies per capita have been adjusted for inflation in the different countries and have been converted to Australian dollar values, 2017.

(a) Assessed expenditure per capita was calculated for comparable city populations, using the functional form $(y = 90.17\ln(x) + 291.29)$ presented in the Commonwealth Grants Commission (2018), *2020 Review – Transport*, Staff Draft Assessment Paper CGC 2018 01/18-S.

(b) Population assumed to be 500 000.

(c) Population assumed to be 300 000.

(d) Population assumed to be 250 000.

(e) Population assumed to be 150 000.

(f) Population assumed to be 75 000.

Subsidies per capita (adjusted to comparable AUD values) in Spain are shown in Table 15.6. The original Spanish data is based on 2008 subsidies. However, 2008 marked the onset of the Global Financial Crisis (GFC) and public expenditure in Spain was generally considered as inefficient at the time. This expenditure reflects public transport policy in Spain rather than being driven by populations. Assessed expenditure on Australian urban public transport seems to exceed the adjusted Spanish subsidies in 2008, by between 700% and over 2,000%.

These differences across countries clearly illustrate that population size on its own (irrespective of the functional form) is not enough to explain urban public transport expenditure.

Table 15.6: Subsidies per capita in Spanish cities, compared to assessed subsidies in Australian cities

Spanish cities		Australian cities
City population size	Subsidies per capita (adjusted to AUD per capita, 2017, based on 2008 data)	Assessed CGC subsidies per capita[(a)]
Madrid (6.3 million)	47	457
Barcelona (4.9 million)	54	435
0.5 to 1 million	18	265[(b)]
0.1 – 0.5 million	8	283[(c)]

Source: CGC and Western Australian Department of Treasury calculations.

(a) Assessed expenditure per capita was calculated using the methodology and population values presented in the Commonwealth Grants Commission (2018), *2020 Review – Transport*, Staff Draft Assessment Paper CGC 2018-01/18-S.

(b) Population assumed to be 750,000.

(c) Population assumed to be 300,000.

Grouping of cities – analogy with remoteness

The CGC states[115] that cities can be grouped according to population size, with the model shape accounting for different growth rates of per capita net expenses between these groups. It groups Brisbane, Perth and Adelaide into one group, with Melbourne and Sydney in another.

The CGC justifies this by saying:

> The Commission applies the same approach to its other assessments. The assessment of use and costs by remoteness for various services is an example of this. There are six States with population in very remote area, but three have 87% of the Australian population living in very remote areas. These three States essentially set the average level of service and cost in very remote areas…[116]

The problem with this analogy is that it is not a genuine analogy. Remoteness as a driver of increasing costs has a clear conceptual case, but city size as a driver of increasing subsidies does not.

Satellite cities

Under the CGC's assessment model, if satellite cities are amalgamated into the principal city, the per capita assessment would always be higher than the case when the principal city and satellite cities are assessed separately. This is an undesirable feature of the model.

[115] Commonwealth Grants Commission (2018), *2020 Review – Transport*, Staff Draft Assessment Paper CGC 2018-01/18-S. page 9, paragraph 39.

[116] *ibid.*, page 9, paragraph 40.

Similarly, the consultant's stage 1 report noted that:

> In this consultancy, modelling approaches were adopted to develop "GST requirement neutral models". The intent was to develop models for recurrent and infrastructure expenditure such that the GST allocation disability factors would be the same (or nearly the same) regardless of whether satellite cities are amalgamated into the principal city, or assessed separately. It proved that such models may work only if the GST model is purely based on travel demand… or if it simply uses an "equal per capita" allocation. Neither model is ideal... [117]

Nevertheless, the report identified two criteria that could be used to determine whether a satellite city should be amalgamated with the principal city.[118]

- A public transport travel time threshold of 120 minutes between the principal and satellite city centres in morning peak hours. This threshold indicates the maximum commute travel time between the principal and satellite cities.
- The proportion of inter-city commute trips being greater than 5% of satellite intra-city commute trips. This criterion indicates a minimum level of labour market integration between the principal and the satellite city.

We have the following concerns with these criteria.

- State policies (e.g. on transport mode, number of stops, congestion) can affect the travel time, and the amount of travel, between the principal and satellite city centres.
- Amalgamation of a satellite city with the principal city assumes that the transport needs of the satellite city (plus link to the principal city) is similar to the transport needs of the principal city. Given the difference in size, and if one accepts the CGC's assumption that per-capita costs increase with city size, this is unlikely.
- In practice, the amalgamation of a satellite city with its principal city will have a substantial positive impact on that State's GST. To illustrate, suppose Wollongong (with a population of 295,700) is amalgamated with Sydney (with a population of 4.6 million). Based on the 2016-17 CGC calculations, total urban public transport expenses and urban transport investment assessments for New South Wales is estimated to increase by around $200 million per annum.

Non-urban transport subsidies

The CGC non-urban transport assessment covers the cost of providing passenger and freight transport services between urban centres. The CGC measures needs by the State share of population living outside capital cities. Assessed expenses are then adjusted by a location factor that recognises wage differences and regional costs.

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[117] Jacobs (2017), *Modelling of urban transport recurrent and infrastructure expenditure requirements,* Stage 1 Report to the Commonwealth Grants Commission, IA147500, page 53.

[118] *ibid.*, page 54.

As in the case of urban transport expenditure, Western Australia considers non-urban transport subsidies are determined by a large range of factors, many of which are dependent on policy.

As with the urban transport assessment, there is no clear rationale for departing from an EPC approach.

Urban transport investment

The CGC's urban transport investment assessment reflects capital stocks based on an average of:

- a population model, reflecting the effects of city size on the need for assets per capita; and
- State shares of urban population.

The CGC states that:

> The population model is based on the observation of an upward sloping linear relationship between city size and assets per capita. The Commission's analysis showed that assessed asset values per capita were driven by the square of urban centre populations if the relationship between city size and asset values was linear and had a zero intercept. [119]

We disagree with the CGC that the square of urban centre populations is a reasonable proxy to assess investment in urban transport.

This proxy is inherently unreasonable, as it implies that increasingly large cities would rapidly be burdened by spending on public transport infrastructure. However, large cities are clearly economic.

In practice, the CGC model is based on just a few data points and policy effects risk clouding the underlying drivers.

The need for smaller cities to rapidly develop the quality of their public transport infrastructure needs to be balanced against the pressures from increased utilisation of a relatively mature network. Victoria's recent $50 billion proposal for a new underground circle around Melbourne would represent a higher level of connectivity than Perth has.

[119] Commonwealth Grants Commission (2018), *2020 Review – Transport*, Staff Draft Assessment Paper CGC 2018-01/18-S. page 5, paragraph 21.

The CGC draft assessment paper identified other drivers influencing investment, including economic growth, location of economic growth, changing technologies and the need to retro-fit new facilities. The consultant's stage 1 report[120] also refers to density and terrain condition. Density is likely to be a very important, and highly policy influenced, factor.

In terms of underlying drivers, public transport in large cities should take some pressure off the road network. While policy effects may obscure this, we don't think that HFE should fund inefficiency.

Overall, we believe that an EPC assessment of urban transport investment best reflects a policy neutral assessment of need.

[120] Jacobs (2017), *Modelling of urban transport recurrent and infrastructure expenditure requirements,* Stage 1 Report to the Commonwealth Grants Commission,IA147500, page 28.

16. Services to Industry

Key Points

- An EPC assessment of business development expenses is unjustified.
- The approaches that we believe are available to the CGC include:
  - industry activity measures for support for existing industries and EPC for the remainder;
  - land area as a partial indicator of the underlying driver of business development (in conjunction with population and possibly other indicators);
  - regression analysis to determine underlying drivers of services to industry; or
  - if a sound assessment is impractical, the CGC should ensure that business development spending by States does not affect the assessments, which means that the revenues that States have raised to fund those expenses should also be excluded from the assessments.
- A regional cost factor should apply to the entire category.

The draft assessment paper proposes retaining the 2015 Review approach to this category, which involves assessing regulation expenses as proportional to the size of industry and a deliberative EPC assessment of business development expenses. The draft assessment paper appears to support continuing to assess wage costs for the entire category and regional costs just for regulation expenses.

Equal per capita assessment of business development expenses

We consider that an EPC assessment of business development expenses is unjustified. We set out here the different considerations that lead to this conclusion.

Industry activity

Business development expenses are not undertaken in a vacuum. These expenses are related to export and private investment opportunities. Existing activity provides a partial guide to what these opportunities are. In this regard, many of the business development expenses listed in the CGC's draft data requests would be influenced by the size of the existing industry. For example:

- research into fishery stocks;
- land rehabilitation;

- drought assistance;[121] and
- geological mapping.

Bias is likely to be introduced by an EPC assessment of such industry-related expenses.

- States have their revenues assessed according to the activity in the State. The expenses related to that activity offset that fiscal capacity. So expenses should also be assessed according to the activity in the State.

An EPC assessment for all business development implies that a State like the ACT will spend more on other business development to offset its low spending requirement on existing industry. However, such an assumption (in effect assuming a **systematic** inverse relationship between spending on new industry and the size of existing industry, regardless of development opportunities) is not plausible[122] and should not be made without justification.

Hence if the CGC is to undertake an EPC assessment, it should be restricted to expenses that develop new industry. The remainder should be assessed using industry activity measures.

Land area

During the CGC's visit to Western Australia, we suggested that a range of expenses (such as geological survey) should be assessed as related to land area. Conceptually, land area makes sense as an indicator of development potential. That potential may be manifest in various ways (e.g. mineral resources, agricultural land and tourism). Clearly land area is not the only indicator of development potential.

The CGC Chairman noted that there are no clear explanatory variables for the pattern of tourism expenses across States and suggested that narrowing the definition of business development and undertaking a differential assessment for only other business development expenses might bias the results.

- However, we are not suggesting that land area is necessarily a good explanatory variable for spending on any particular industry, but rather for industries overall. The bucket of potential areas of comparative advantage encompassed by each State's land area will differ across States. As well, fiscal capacity considerations will limit the overall level of spending, so that States must make choices.
- Nor are we suggesting that land area is the only factor at play, even at the aggregate level.

[121] It is true that the size of the agricultural industry only determines potential drought assistance – the extent to which this is actually needed depends upon climate conditions. However, over a number of years, the size of the industry will be a much better indicator than population.

[122] Setting aside possible perverse influences from the present GST distribution formula, which allocates business development funding on an EPC basis without regard to need.

Regression analysis

During a telepresence and in response to the draft services to agriculture data request, we proposed to the CGC staff that they could use regression analysis to determine what part of services to industry expenses is actually driven by population (as opposed to activity indicators), rather than making a presumption about the drivers of business development. Based on the 2017 Update data, we found that overall this better explained the variation in State expenses than the CGC's existing (highly judgement based) assessment.

- We are aware that this approach needs more work, including in relation to the stability of outcomes and level of disaggregation. We will be examining this in light of more recent data, and encourage the CGC to also consider this further.

Conservatism – don't redistribute funding without evidence

The CGC has mandated conservatism in its assessments through the use of discounting, although the CGC has been reluctant to portray it in these terms. As discussed in the *Principles* and *Wages* chapters, discounting is not a tool to improve HFE (it may make HFE worse).

If the CGC believes that it cannot determine a differential assessment for business development expenses, then it should ensure that business development spending by States does not affect the assessments. An EPC assessment alone will not do this, as spending on business development is funded from tax and royalty revenues. Hence the CGC should exclude the revenues that fund those expenses from equalisation (otherwise the taxes and royalties raised to fund these expenditures would affect the GST).

Regional costs

We believe that a regional cost factor should be applied to business development expenses, as well as regulation expenses.

For example, Western Australia has regional development commissions located in the areas of:

- Gascoyne;
- Goldfields-Esperance;
- Great Southern;
- Kimberley;
- Mid West;
- Peel;
- Pilbara;

- South West; and
- Wheatbelt.

As another example, agriculture business development is focused on the regions.

While it is true that much development expense occurs in capital cities, this is the case for any expense, and is reflected in the weighting of the regional cost gradient.

17. Capital

Key Points

- We are concerned that the CGC is proposing a lot of work on a generally sound assessment that is essentially window dressing, will take resources to implement that could be used on substantial issues, and will provide a misleading view about the character of the assessment.
- We are comfortable with the proposal to cease three year averaging of stock factors.
- We do not support:
  - functionalising the asset investment assessment, noting that a distortionary aspect of the existing assessment of non-transport categories can be fixed;
  - unreliable divergence of capital and recurrent factors;
  - freezing of some stock factors between the start and end of the year, apart from on a exceptions basis where data are not comparable between years;
  - locking in future Census populations at present;
  - a differential assessment of land purchases for roads; and
  - a gross assessment of physical asset expenditures.
- These positions reflect a view that:
  - the conceptual basis of the assessment should not be weakened;
  - the assessment derives strength and transparency from its generally high level approach. Data is not good enough to attach large meaning to small parts of the assessment. Fragmenting the assessment also loses the broad picture; and
  - future issues (e.g. Census) should not be pre-empted.
- The CGC should introduce an assessment of the higher costs resulting from volatile economic growth.
- The Transport assessment requires revision as discussed in the *Transport* chapter.

This chapter addresses the proposals in the draft assessment paper on physical and financial assets. We also discuss urban transport capital in the *Transport* chapter of this submission.

- We are comfortable with the proposal to cease three year averaging of stock factors.
- The following discussion addresses proposals about which we have concerns.

Functionalising the assessment

In support of functionalising the investment assessment, the draft assessment paper cites the following.

- A technical problem with the existing assessment, reflecting that the weighting of disability factors for the closing stock assessment differs from the opening stock assessment, because of the use of opening and closing asset values for the weights.
  - However, this is readily fixed by only using closing asset values for the weights.
- Benefits associated with interpretation and accessibility compensate for any increase in the quantity of calculations necessary.
  - However, functionalisation fragments the story so that the broad picture is lost. While many category-specific measures of growth may differ, many tend to have the same underlying driver of population growth.
  - Moreover, part of the approach of the current method is not to pay too much attention to the fine detail. The method tries to be as high level as it can be, using the recurrent assessments wherever this is reasonable *in globo*. Data is not good enough to attach large meaning to small parts of the assessment.
  - For this reason, we urge the CGC not to be tempted to pursue micro-level function-by-function decisions about tweaking disability factors, such as differentiating capital and recurrent factors (other than where there is clear evidence to do so on the basis of the aggregate capital assessments). The correspondence between capital and recurrent drivers is at a high level and less likely to hold strictly at a category level.
- Assessing investment on a category-by-category basis allows for further refinements to be made to the assessment method, as discussed below.
  - However, we have concerns about these 'further refinements'.

Freezing some stock factors

The CGC proposes a distinction between 'service use' or 'growth' factors that would vary between the start and end of the year, and other factors that would not.

We do not support freezing of any stock factors between the start and end of the year, unless there are special circumstances.

- Drawing a boundary between the service use/growth factor and other factors involves judgement and a loss of transparency. This is highlighted by Table 5 in the draft assessment paper, which lists 'potential category growth factors'.[123]

[123] Commonwealth Grants Commission (2018), *2020 Review – Physical and Financial Assets*, Staff Draft Assessment Paper CGC 2018-01/21-S, page 18.

- The movement in all disabilities is a capital requirement. For example, under the existing urban transport capital assessment, if a city population grows, it requires additional investment to bring it up to a higher per capita asset value.[124] Under the proposal to freeze non-service use disabilities, if Melbourne grew to the size of Sydney, equalisation would not give Victoria the capacity to match the Sydney infrastructure.
- Even if the movement in disabilities is small, removing this movement from the model makes it harder to understand the conceptual basis for the model.

We recognise that in some instances, the movement in the disabilities may be due to data inconsistencies. However, we would prefer that the CGC only froze the disabilities on an exceptions basis, where it is specifically warranted, rather than a blanket freezing, which runs the risk of overlooking genuine investment needs.

Census populations

The draft assessment paper proposes that the CGC lock in for the 2021 Census the treatment of Census populations that it adopted for the 2016 Census – that is, to include the intercensal difference in its measure of population growth.

The Western Australian Under Treasurer wrote to the CGC, on 22 May 2018, regarding the 2018 Update report claim that the Australian Bureau of Statistics (ABS) regards its assignment of intercensal difference as 'fit for purpose'.[125] This letter stated:

> It would have been helpful if the CGC had cited a source and explained what kind of purposes the ABS believes this assignment is fit for, and how this relates to the acknowledgement that the ABS does not know the source of the intercensal difference (paragraphs 2.13-14). As it stands, we are not aware of any statement by the ABS that could be construed as supportive of its assignment of intercensal error for the specific purposes of the CGC.

The CGC has not responded on this issue.

In addition, the specific circumstances around intercensal differences in the 2021 Census will need to be considered. For example, reflecting the different circumstances between Censuses, the CGC responded differently to the issues raised by the 2011 and 2016 Censuses.

Given the lack of satisfactory resolution of the treatment of the 2016 Census intercensal difference, and a lack of knowledge about what the circumstances around intercensal differences in the 2021 Census might be, we consider it premature to commit to a course of action regarding the 2021 Census intercensal difference.

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[124] This is used as an example only- it is not intended to endorse the existing urban transport capital assessment.

[125] Commonwealth Grants Commission (2018), *Report on GST Revenue Sharing Relativities, 2018 Update*, page 38, paragraph 2.15.

Land purchases

The CGC currently has an EPC assessment of land purchases and sales. The draft assessment paper proposes considering a differential assessment for purchases of land for urban road construction.

Although roads land purchases significantly exceeded road land sales over the three years ended 2015-16, total land sales exceed total land purchases.

- We also question the meaningfulness of the CGC's allocation of land sales to categories.
  - For Western Australia at least, the land sales are allocated according to the agency that makes the sale. However, to a large extent this would just reflect historical legacies as to which agency has the land on its balance sheet.
- In any case, if land purchases are more expensive in larger population cities, land sales in those cities will also reap larger proceeds, which can then be used to purchase the land required for roads.

There is no clear underlying disability for net land sales. Important policy drivers are the setting aside of land in the past (for which Western Australia has a good record) and the efficiency of surface road investment (vis-à-vis other transport and urban planning options) in large cities.

Hence, we do not support a differential assessment of roads land purchases.

Gross assessment

The draft assessment proposes considering a gross assessment of physical asset capital expenditures, rather than separate investment and depreciation assessments. It achieves this by algebraically combining the two existing assessments and then dropping one term on the basis that it is not large (although in some years it is material).

We do not support the proposal of a gross assessment.

The existing model has a strong conceptual basis, with investment reflecting change in stock and depreciation being proportional to level of stock. The proposed model hides these relationships by arbitrarily altering the formula.

The fact that the resulting formula appears simple actually makes it worse – parties reading the formula may feel that they grasp the principle on an intuitive basis because it appears simple, whereas in fact they would be misled. The formula appears to involve a change from a start of year stock to an end of year stock, but the start of year stock is portrayed as 'end of year stock minus total capital expenditure', which it is not.

At a time when many States appear to have limited capacity to engage on the CGC's assessments, it is not helpful to substitute rigorous formulae with *ad hoc* simplification.

Utilisation of capital

As we have noted in the previous review, the lumpiness of capital means that States construct in advance – that is, States generally avoid having their capital **always** at full technical utilisation. This also means that States face risks in relation to the rate of take-up of capital capacity, and the possibility of stranded capital (i.e. projected demand does not materialise or does not materialise as fast as projected).

One way of reducing these risks is to construct to shorter time horizons, but this entails lower efficiency in long-run capital construction.

We consider that these risks are not equally faced by all States, and will be greater in States with more volatile economic growth. These costs are not discussed in the CGC's draft assessment paper, but should be recognised by the CGC.

18. Wages

Key Points

- Western Australia agrees that the private sector is a suitable proxy for public sector wage pressures.
- The 'national market' argument is not relevant to HFE.
- The 12.5% discount for wages is inappropriate, given the CGC's selective use of discounting.
- Not all industry sectors are subject to the same wage pressures. As the composition of the private and public sectors are different, category-specific adjustments (e.g. for health) become necessary.
- The CGC's wage costs model appears to be underestimating wage costs differences between States (and Western Australia's wage costs specifically).

Comments on the wage cost assessment and discount

Wage costs are the largest element of State expenditure. Therefore the assessment of State expenditure depends to a significant extent on the accurate assessment of wages. As the CGC noted:

> Wages and salaries represent the largest component of State expenditure and account for a significant share of expenditure in nearly every expense category. The wage costs assessment addresses a global disability, rather than the expenses associated with an individual category of service delivery (such as schools or health spending).[126]

The CGC estimated that wage costs across categories average 59% of expenditure.[127]

The CGC utilises a regression model to estimate wage cost differences between States. Specifically, the CGC:

> …models the wages of the average private sector worker in each State, controlling for differences in the characteristics of that worker that are known to affect wage levels, such as work experience and qualifications. The model also adjusts for States' composition of industry and occupations.[128]

[126] Commonwealth Grants Commission (2018), *2020 Review - Wage Costs,* Staff Draft Assessment Paper CGC 2018-01/22-S, page 1.

[127] *ibid,.* page 3.

[128] *ibid,.* page 1.

The wages paid to private sector workers are then used as a proxy for the pressures on public sector wages in each State.

Western Australia agrees that the CGC should continue to make a wage costs assessment and that it should continue to reflect whole-of-State private sector wage pressures. The relationship between public and private sector wages is likely to hold in the long term, even though movements in public sector wages often lag those in the private sector (reflecting the relative rigidity of public sector wage settings).

It is noted that States do have the policy option of holding down wages in the long term relative to the private sector, if they are prepared to accept a lower standard of employee (i.e. lower employee productivity), and a resultant lower standard of services. However, competition between the States will limit the scope for such behaviour in the long run.

Moreover, even were some or all States to exercise such policy options, it would not be relevant to wage pressures assessed for HFE purposes, as the HFE principle is predicated on capacity to provide an equal standard of services, which need not involve matching the level of private sector wages. A lower standard of services would result from holding down wages, but equality in that lower standard of services would still need recognition of private sector wage differentials.

For similar reasons, Western Australia considers that 'national market' arguments are irrelevant to HFE. If a State pays a 'national market' wage that is above what the local market dictates, then it will be able to employ more productive workers, allowing either cost savings or a higher standard of service.

The CGC discounts the outcomes from its regression analysis by 12.5%. However, there is no evidence that discounting the wage costs assessment improves HFE. The CGC justifies the use of the 12.5% discount on the basis of uncertainty:

> The Commission applies a low discount to the modelled outcomes because of some uncertainty about how accurately the data capture wage costs, how accurately the model controls for productivity differences and how well private sector wages proxy public sector wage pressures. [129]

A discount will reduce the margin of error if the model results overestimate the wage costs differences. However, if the model results underestimates the wage costs differences, the discount will worsen the accuracy of State expenditure assessment and the associated goal of achieving HFE. The CGC has used exactly this argument as a reason for not discounting mining revenue bases.

Accordingly, for consistency, the CGC must decide whether to use discounting widely or minimally. It should not be selective.

[129] *ibid.,* page 2.

The econometric model

The CGC uses an econometric model to estimate private sector wage differences, which are used as a proxy for how public sector wages in each State differ.

A potential limitation of this model is that the State-specific wage effect reflects the industry and occupation structure of the private sector rather than the public sector. In the *Health* chapter, we have considered wage pressures that are specific to the health sector, which is proportionally much more important in the State public sector than the private sector. This requires a wage adjustment which is specific to the health categories.

Comparing CGC wage cost differentials with ABS labour market data

This section compares the CGC's econometric model results to some ABS labour market data, as well as a simple structural adjustment factor. The idea is to compare the relative direction and magnitude of the CGC's model results to more basic proxies.

Three sets of labour market data are utilised in the comparison:[130]

- compensation of employees divided by full-time employed persons;[131,132]
- private average weekly earnings (full-time adult ordinary time earnings);[133] and
- State-specific industry wage price index applied to base year national average weekly full-time ordinary time adult earnings by industry.[134]

In the case of compensation of employees, industry data are available, which allows the calculation of wage cost differences between States arising from the different composition of industries. The calculation compares national wages to the outcome from applying national wages within each industry to each State.

Results are summarised in Table 18.1 below.

All the State differences from the national average wage are the same direction as the CGC estimates. However, in most cases the magnitudes of the differences exceed the CGC estimates. In particular, suggesting under-estimation of wage costs for Western Australia.

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130 Both average weekly earnings and wage price index ABS indicators are based on information obtained from a sample survey of employers, where data is generated at State and national levels. The wage price index estimates growth in the cost of a comparable unit of labour over time and is produced quarterly. Average weekly earnings information is produced twice yearly.

131 Australian Bureau of Statistics (2018), *5220.0 - Australian National Accounts: State Accounts*.

132 Australian Bureau of Statistics (2018), *6291.0.55.003 - Labour Force, Australia.*

133 Australian Bureau of Statistics (2018), *6302.0 - Average Weekly Earnings.*

134 Australian Bureau of Statistics (2018), *6345.0 - Wage Price Index, Australia.*

Table 18.1: Wage costs differentials

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
CGC undiscounted relative private sector wages								
2016-17	0.2	-1.0	-1.1	5.1	-2.1	-8.4	7.2	6.6
Compensation of employees divided by full-time employed persons								
2016-17 compensation/average employment	4.9	-7.6	-4.1	15.8	-5.8	-16.0	(a)	6.0
3 year average (2014-15 to 2016-17)	2.5	-8.6	-5.7	15.6	-6.6	-17.3	(a)	2.7
Structural wage cost difference between States – 3 year average	0.0	-1.3	-0.2	0.8	-2.1	-3.1	6.7	3.4
Private weekly average full-time adult ordinary time earnings								
2017 (May & November average)	1.1	-3.2	-2.9	13.6	-8.7	-16.4	10.6	7.5
3 year average (2014-15 to 2016-17)	2.0	-4.6	-3.2	14.7	-9.2	-16.4	10.6	7.9
State-specific industry wage price index growth								
March 2009 to March 2018 growth applied to national AWOTE by industry	1.2	-1.9	-2.9	10.6	-6.1	-16.1	n.a.	-3.1

Source: Australian Bureau of Statistics and Western Australian Department of Treasury calculations.

(a) ACT excluded because of data concerns.

19. Administrative Scale

Key Points

- The CGC's conceptual framework for this assessment includes an 'other fixed costs' component, which is not currently included in this assessment.
  - This issue requires further consideration, as the CGC may be understating administrative scale disabilities.

Earlier in the 2020 Review, the CGC published a staff research paper on administrative scale.[135] This includes an upward sloping curve labelled 'other fixed costs'. It is not fully apparent what the CGC interprets this as representing. However, we believe it refers to costs associated with core head office functions or services for the whole of the State that increase with population size, but less than proportionately. Any costs that increase less than proportionately with population will give rise to scale disabilities.

These costs may be significant. For example, in the health area it is understood that some specialised services are more costly to provide in Western Australia because they are provided at a below optimal scale. In addition, organisational structures need to become more sophisticated as size increases, until a fully mature organisational structure is in place, including a high level of in-house activities and regionalisation.

It follows that the CGC's existing administrative scale assessment may be understating needs for smaller population States. Hence we consider that this issue should receive further consideration.

[135] Commonwealth Grants Commission (2017), *Administrative Scale - Proposed approach to estimating administrative scale costs for the 2020 Review*, Staff Research Paper CGC 2017-06-S.

20. Native Title

Key Points

- We agree that native title expenses should continue to be assessed actual per capita.
- We believe the CGC should continue to collect actual expenses each year.

We agree that native title expenses should continue to be assessed actual per capita.

The draft assessment paper recognises that there is a wide range of drivers that influence expenses, including:[136]

- Indigenous population shares;
- presence of large mineral resources;
- ongoing connection to the land of the Indigenous population;
- the extent of areas of undeveloped land;
- agriculture activities; and
- the extent to which native title claims have been resolved across the State.

Hence, an accurate factor assessment would be too difficult to implement. For this reason, we do not support the alternative proposals of assessing native title expenses by a broad indicator other than actual spending (such as Indigenous population shares) or including them in the Indigenous community development assessment.[137]

We also do not support the proposal to cease collecting actual expenses in each annual update, and instead escalate them by a deflator.[138]

As shown by Table 20.1, native title expenses are quite volatile from year to year. There is therefore substantial risk that the base year expenses would not be representative of later years.

[136] Commonwealth Grants Commission (2018), *2020 Review – Other Disabilities*, Staff Draft Assessment Paper CGC 2018-01/25-S, pages 22-23, paragraphs 104-107.

[137] *ibid*., pages 23-24, paragraph 108.

[138] *ibid*., pages 23-24, paragraph 108.

Furthermore, inter-temporal equity requires an actual per capita assessment to be maintained in a uniform fashion. Native title claims take many years to resolve, and States whose claims are resulting in large costs in the future should not be penalised with respect to States whose claims have largely been resolved in the past.

Table 20.1: Annual growth in native title expenses [(a)(b)]

	NSW	Vic	Qld	WA	SA	NT	Total
2014-15	-6%	-42%	8%	1%	84%	9%	5%
2015-16	22%	20%	22%	2%	12%	3%	9%
2016-17	19%	6%	11%	-7%	-60%	-8%	-7%

Source: Western Australian Department of Treasury calculations from the CGC's 2018 Update.

(a) Tasmania and the ACT had no native title expenses.

(b) Includes land rights expenses for the Northern Territory.