MINERALS COUNCIL OF AUSTRALIA

SUBMISSION TO THE PRODUCTIVITY COMMISSION INQUIRY ON HORIZONTAL FISCAL EQUALISATION IN AUSTRALIA

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EXECUTIVE SUMMARY

The Productivity Commission inquiry into the economic impact of Australia's GST distribution arrangements is timely. There is a lack of clarity about the objectives of current arrangements, there is manifest unfairness in the outcomes the system is delivering and worse still, the current system is providing state and territory governments with perverse incentives to turn away productive investment rather than develop their human and natural resources. Reforming these arrangements is a critical national task which, if successful, will deliver a more productive national economy, higher economic growth, more and better paid employment opportunities and better living standards.

There is currently no clear definition of, or objectives for, horizontal fiscal equalisation

The GST distribution is implemented in accordance with the Intergovernmental Agreement on Federal Financial Relations that was signed by all states and the Commonwealth Government in 2009 (IGAFFR). The IGAFFR states that the 'Commonwealth will distribute GST payments among the states and territories in accordance with the principle of horizontal fiscal equalisation' (HFE) but does not provide a definition of what this is, or what its objectives are. This is a significant gap for a fiscal policy that is now distributing over $60 billion per year among the states.

As a starting point for reform, an objective of horizontal fiscal equalisation must be developed that aims to deliver a degree of equity, incentives for states to develop their economies and stability in state public finances. It is not suggested that Australia abandon all equity considerations in the GST distribution, but rather shift the policy focus towards achieving a balance of equity and economic growth that has broad benefits for the whole nation.

Is HFE efficient?

Despite a number of studies that have modelled HFE in Australia, there is no consensus on its economic impacts. A key contributor to this analytical stalemate is that modelling has included flawed assumptions and/or inaccurately represented the GST distribution methods. Further general equilibrium modelling of fiscal equalisation in Australia would be valuable to measure the broad economic benefits of the existing system and any potential changes, but such modelling must be based on more realistic or empirically relevant assumptions that accurately represent both the theory of efficient equalisation and the actual distribution system in Australia. In particular, this modelling must consider the extent to which Australia is actually implementing HFE with its transfer methods as well as the long-term impact of incentives on government behaviour.

Does Australia achieve horizontal fiscal equalisation with its current system?

Australia's GST distribution system is not consistent with the efficiency-delivering theoretical models of fiscal equalisation. These models found that fiscal equalisation results in optimal economic outcomes for a federation based on the actual delivery of equal service outcomes for citizens in different regions. This does not occur in Australia. The GST is distributed as an untied grant that is left to the discretion of the receiving states for allocation. Evidence of different outcomes for citizens in different states is provided in the Productivity Commission's annual *Report on Government Services,* which provides comparisons of state performance on education, health services, justice and welfare.

Further divergence from the theoretical benefits occurs in Australia because not all state own source revenue is equalised. In current methods used by the CGC both the expenditure and revenue assessments contain a miscellaneous category, known as 'other expenses' and 'other revenue'. These categories group items in the state budgets that the CGC has no reliable methods to assess. As a result these revenues (and expenses) are subsequently not assessed by the CGC and are not taken account of in the GST distribution. The problem is that there is considerable variance between states in the share of their revenue and expenses that are classified in these 'other' categories and thus not assessed by the CGC. For example, Western Australia has just 26 per cent of its own

source revenue classified as 'other revenue', whereas South Australia and the Australian Capital Territory have 45 per cent and 59 per cent, respectively. It is clear that this differential treatment of various states' own source revenue has a material impact on distribution outcomes.

To account for the flaw in assessment methods which equalise different proportions of state revenue the Commonwealth Government should implement discounts to some revenue sources, particularly mining royalties, in order to reduce this systemic bias.

Perverse incentives

Empirical research on how individual states respond to Australia's fiscal equalisation system is sparse and has failed to keep up with the efforts of other jurisdictions. This contrasts with the significant body of research on the long-term effects of incentive structures in the Canadian and German fiscal equalisation systems. The evidence is instructive. These studies have provided empirical evidence that recipient subnational governments both retain higher tax rates (which then stifle growth of their economies and tax bases) and engage in excessive spending. For example, a comprehensive 2014 study of the Canadian transfer system concluded that a one per cent increase in equalising fiscal capacity in recipient provinces leads to a 0.38 percentage point increase in business tax rates.[1] The same study also found a $1 increase in equalisation grants stimulated an additional $0.64 spending by recipient governments. As Australia has a similar fiscal equalisation system to Canada and Germany it is likely that these reported results are also occurring here. Research on the impacts of the GST distribution must focus on applying these already established empirical methods to Australia.

States must have incentives to avoid the higher spending and tax-rate traps that have been documented in other countries and be encouraged to take greater responsibility for their own economic prosperity. Discounts to state own sourced revenues that relate to economic growth, such as mining revenues, should be considered among a suite of reforms.

The impact of the current assessment methods on iron ore royalties

There is a major flaw in the current methods the CGC uses to assess the GST distribution impact of unevenly distributed tax bases. States with very high shares of a large revenue source, such as Western Australia and iron ore royalties, can lose more GST than they raise in revenue from that source. This application of HFE clearly provides an enormous disincentive for states to collect the revenues for the sale of their mineral resources that they are entitled to. To address this perverse incentive and deficiency in assessment methods the Commonwealth Government should immediately implement a discount on the assessment of mining revenues while it continues to review the GST distribution.

Current arrangements are having a negative impact on national productivity

As the GST distribution system has evolved over the last decade and a half, it has developed characteristics that are having a profoundly adverse impact on national productivity. The system is now rewarding policy settings that harm our national productivity performance, and, as a consequence, our living standards. The problem is this. The GST distribution system assumes that all states will develop their mineral resources with equal vigour. This is plainly not the case in practice.

Victoria bans exploration and mining for uranium, as well as the exploration and production of conventional and unconventional gas. It is also trying to phase out brown coal generation. New South Wales' approach is not much better, though much less overt. On the other hand, Western Australia, South Australian and Queensland are trying to develop their resources. At the risk of over simplification, we have proactive states and we have obstructionist states.

The problem for the pro-active states is that as soon as the royalty revenues start to flow, their GST receipts start to fall. Meanwhile, in the obstructionist states, their share of GST distributions starts to rise. The policy signal heard in state capitals is unmistakeable. State Governments can impose

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[1] Ergete Ferede, *The incentive effects of equalization grants on fiscal policy*, University of Calgary School of Public Policy Research Papers, 2014.

moratoria on new gas development, ban uranium mining, close brown coal generation and be better off, not worse.

This is no minor economic issue. The mining industry not only provides substantial direct economic benefits such as investment, regional employment and higher wages it also supports a significant supply chain of services providers. Research undertaken by Deloitte Access Economics in 2017 concluded the total economic contribution of the mining and mining equipment, technology and services (METS) sector in 2015-16 was $236 billion which was equivalent to around 15 per cent of the Australian economy. This is a national economic problem, not a mining problem or a WA problem.

A priority area for reform in the GST distribution must be the treatment of mining revenues which have been a key driver of states' finances and the Australian economy over the past 15 years. In effect, current approaches punish rather than reward state governments who seek to maximise their revenue base through the attraction of minerals development. Conversely – and perversely – state governments who actively reject minerals development (through the imposition of exploration and production bans) or implement regulatory settings that discourage business investment are effectively rewarded through the distribution of revenues earned in other states.

A new proposal

To address the perverse incentives, flawed methods and systemic bias in the GST distribution the Minerals Council of Australia proposes that Australia immediately apply a minimum 25 per cent discount to the mining revenue assessment in the GST distribution calculations (which includes oil and gas revenues). The use of a discount is not new in CGC arrangements. The CGC already applies a 25 per cent discount to elements of its land tax, health costs and regional costs assessments to adjust for areas of uncertainty.

25 per cent discount with a 'safety net'

The MCA recognises, however, that reforms to GST distribution arrangements are notoriously difficult to achieve, not least because of the perception that the system is a zero sum game – namely that a benefit for one state is matched by a cost to another. We therefore propose that, in implementing the 25 per cent discount approach, no state receive a net reduction on its 2017-18 receipts. This could be done by imposing a floor on the GST distribution to every state. The changes to the GST distribution resulting from the mining revenue discount would apply only to the annual *growth* in the total GST funding pool. This transition plan is effectively a means of distributing the growth in the GST funding pool each year in way that provides a safety net for each state so that it can be no worse off relative to the previous year. As states respond to the incentive to develop their resources industries they would then retain more of the royalties and become less reliant on the GST distribution.

1. FISCAL EQUALISATION IN AUSTRALIA

- In Australia, the revenue collected from the Goods and Services Tax (GST) is distributed among the states as the principal fiscal equalisation mechanism. This distribution is in accordance with the Intergovernmental Agreement on Federal Financial Relations that was signed by all states and the Commonwealth Government in 2009.

- However, the agreement does not provide a definition of horizontal fiscal equalisation (HFE), its objectives or how fiscal equality is to be measured. As a result fiscal equalisation in Australian can be more accurately described as a process rather than an outcome. This is a significant gap for a policy that is now distributing over $60 billion per year among the states.

- As a starting point for reform, an objective of horizontal fiscal equalisation must be developed that aims to deliver a degree of equity, incentives for states to develop their economies and stability in state public finances.

Economic conditions are rarely uniform within a nation, particularly for larger countries with diverse populations and geography such as Australia. As a result, state governments generally have differences in their capacity to raise revenue and in demand for government services such as a healthcare, education and infrastructure. Fiscal equalisation is an inter-regional income transfer system that enables each region to provide the same standard of services to its people. Many OECD countries undertake fiscal equalisation including Australia, Canada, Germany and Norway. However, there is no standard approach to fiscal equalisation and most countries implement it in a different way that meets their individual circumstances and required outcomes.

In the economic literature on fiscal equalisation, Australia is often regarded as a world leader because it has developed a comprehensive system that undertakes a detailed assessment of states' costs and revenue-raising capacities. The extent that fiscal equalisation is needed has been questioned, including by Professor Ross Garnaut at the Productivity Commission's 2005 roundtable on Productive Reform in a Federal System:

> [O]f all of the federations amongst developed countries – Germany, Canada, the United States – Australia starts with the least unequal distribution of income across States. Yet we do far more, and far more elaborately, to equalise. In fact … I tried to find examples of other countries anywhere that have gone to similar lengths on equalisation. The only case that compared with it in ambition was the former Soviet Union, but in practice the former Soviet Union did not go as far as Australia.[2]

In Australia, the revenue collected from the Goods and Services Tax (GST) is distributed among the states as the principal fiscal equalisation mechanism. This distribution is in accordance with the Intergovernmental Agreement on Federal Financial Relations that was signed by all states and the Commonwealth Government in 2009 (IGAFFR).[3] The IGAFFR states that the 'Commonwealth will distribute GST payments among the states and territories in accordance with the principle of horizontal fiscal equalisation'.[4] Furthermore, these payments 'will be freely available for use by the states and territories for any purpose'.[5] However, the IGAFFR does not provide a definition of horizontal fiscal equalisation (HFE), its objectives or how fiscal equality is to be measured. As a result fiscal equalisation in Australian can be more accurately described as a process rather than an outcome. This is a significant gap for a policy that is now distributing over $60 billion per year among the states.

The lack of policy clarity in the IGAFFR has led to a system of fiscal equalisation evolving over time with no clear objectives for what it is intended to deliver. As the custodian of the GST distribution

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[2] Productivity Commission, *Productive reform in a federal system*, Canberra, 2005, p. 86.
[3] Intergovernmental Agreement on Federal-Financial Relations replaced the previous Intergovernmental Agreement on the Reform of Commonwealth-State Financial Relations that was signed by all states in 1999 and agreed the terms of the GST distribution.
[4] Council of Australian Governments, *Intergovernmental Agreement on Federal Financial Relations*, clause 26.
[5] ibid., clause 25.

assessment, the Commonwealth Grants Commission (CGC) has developed a comprehensive – but complicated – set of policies, rules and calculations to determine the amount of GST funding states should be allocated. The 2012 GST Distribution Review undertaken by Brumby, Carter and Greiner also identified these definitional issues in Australia's system of fiscal equalisation:

> HFE is not strictly defined in any act or agreement, so the CGC has developed its own interpretation, in close consultation with States. While the CGC's definition has the implicit approval of the Commonwealth — which could reject the CGC's advice or specify its own definition of HFE in the CGC's Terms of Reference, but has chosen not to — it has not expressly adopted or enacted it... it is difficult for the public to have confidence in a system where the goal has not been explicitly endorsed by government. It is therefore important for the Commonwealth to be clear about what HFE is supposed to achieve.[6]

The review's consideration of the GST distribution's governance structures prompted it to recommend that a definition of HFE be set out in the Commonwealth Grants Commission Act. Like most of the 2012 GST Distribution Review's recommendations, this recommendation has not been implemented and both a definition and objective for fiscal equalisation in Australia remain undetermined. The objectives and definitions of HFE do not need to be legislated, but a clear policy direction is required that sets out what it is intended to deliver and how this outcome can be measured.

In the absence of clear objectives, the GST distribution system has defaulted to focusing on equality of fiscal capacity among states as a sole objective at the cost of other potential objectives, such as stimulating economic growth, supporting productive reforms and delivering stability in public finances. In the absence of guidance from the federal government, the CGC has developed the following objective for HFE to guide its assessments:

> State governments should receive funding from the pool of goods and services tax such that, after allowing for material factors affecting revenues and expenditures, each would have the fiscal capacity to provide services and the associated infrastructure at the same standard, if each made the same effort to raise revenue from its own sources and operated at the same level of efficiency.[7]

This submission will show that the pure equity focus of the GST distribution system produces a number of perverse incentives which punish states that seek to maximise their own-source revenue or improve operating efficiency in the provision of public services. Many of these perverse incentives have been well-documented and analysed in economic literature; others remain more obscure as the complexity of the CGC assessment system effectively hides them from them from the states. Known or not, such incentive structures are not a solid foundation for a federal-state financial relations. Reforms to the distribution of the GST are needed.

As a starting point for reform, an objective of horizontal fiscal equalisation must be developed that aims to deliver a degree of equity, incentives for states to develop their economies and stability in state public finances. It is not suggested that Australia abandon all equity considerations in the GST distribution, but rather shift policy focus towards achieving a balance of equity and economic growth that has broad benefits for the whole nation. Based on this definition, the methods used by the CGC to assess and distribute the GST should be redesigned to reward states that deliver economic development policies and efficiency in their delivery of public services.

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[6] The Australian Government, *GST distribution review*, Canberra, 2012, p. 64
[7] Commonwealth Grants Commission, *Report on revenue sharing relativities 2015 review – volume 1*, Canberra, 2015, p. 27

2. IMPACT OF THE CURRENT SYSTEM AND POLICY SETTINGS

> - In 2017-18, the GST distribution is expected to transfer $62.7 billion of funding among the states. This amount has grown by 158 per cent since 2000-01 when $24.3 billion was allocated to the states in the first GST distribution.
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> - Since 2000-01 all states have had their GST funding more than double – except Western Australia. Western Australia's GST funding has decreased since 2000-01.
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> - The mining revenue assessment is the largest single driver of the GST distribution and has resulted in $5.7 billion of GST being redistributed in 2017-18.

In 2017-18, the GST distribution is expected to transfer $62.7 billion of funding among the states.[8] This amount has grown by 158 per cent since 2000-01 when $24.3 billion was allocated to the states in the first GST distribution. In this period, all states had their GST funding more than double – except Western Australia. Western Australia's GST funding has decreased in both real and nominal terms since 2000-01. If, as some theory suggests, an intended outcome of fiscal equalisation is to deliver stability in public finances then the Australian system is not achieving this for all states.
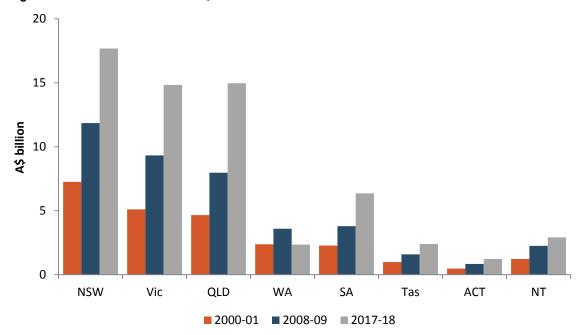
Figure 1: States' GST distributions, 2000-01 and 2016-17

Sources: The Commonwealth of Australia, *Final Budget Outcome 2000-01, Final Budget Outcome 2008-09*; *Portfolio Additional Estimates 2016-17*.

The forecast distribution for 2017-18 is underpinned by the CGC assessment of state revenue capacity and expenditure disabilities. Table 1 shows these assessments and their impacts on the 2017-18 distribution. While the expenditure assessment produces a larger distribution effect overall, the incidence of the revenue assessment is highly concentrated on a single state – Western Australia. The expenditure assessment also penalises Victoria more heavily for being a lower-cost state, but to a lesser extent than the revenue assessment's impact on Western Australia.

Table 1 also shows that the mining revenue assessment is the largest single driver of the GST distribution. In 2017-18 the mining revenue assessment will result in $5.7 billion of GST being redistributed among the states – most of which is taken from Western Australia's GST distribution, although Queensland and the Northern Territory also lose funding from the mining revenue assessment.

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[8] Commonwealth of Australia, *Federal Financial Relations Budget Paper No.3 2017-18*, Canberra, 2017.

On the expenditure side, it can be seen that the costs of providing public services partially offset some of the impacts of the mining revenue assessment such that both Queensland and the Northern Territory gain overall in the GST distribution. However, Western Australia still remains a net donor in the process owing to its substantially higher assessed capacity to raise revenue. Victoria's gains from the revenue assessment are more than offset by an adverse assessment of expenditures and the state is an overall net donor in the distribution. In comparison, South Australia and Tasmania gain from both the revenue and expenditure assessments. New South Wales loses GST from both the revenue and expenditure assessments. The Australian Capital Territory is also a net recipient of GST due to its assessed below average capacity to raise revenue – despite it having the third highest average weekly earnings in Australia.

Table 1: Factors affecting the GST distribution in 2017-18 ($ million)

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Redist
(1) Equal per capita distribution	**20,111**	**15,862**	**12,565**	**6,818**	**4,405**	**1,328**	**1,026**	**625**	**62,740**
Revenue									
Mining production	2,165	2,770	-176	-5,530	446	191	186	-52	5,758
Taxable payrolls	-389	510	397	-1 128	369	217	57	-33	1 550
Property sales (stamp duty)	-1,817	-112	483	386	698	236	47	77	1,929
Land values	-219	-202	273	-246	229	87	55	24	668
Other revenue effects	250	65	-98	-222	-49	10	34	9	368
Total revenue effects	**-10**	**3,031**	**879**	**-6,740**	**1,694**	**740**	**381**	**25**	**6,750**
Expenditure									
Remoteness and regional costs	-1,098	-916	692	337	73	379	-136	669	2,150
Indigenous status	-110	-1,440	679	187	-119	101	-60	762	1,729
Socio-economic status	386	-74	-67	-312	339	39	-225	-86	764
Other socio-demographic costs	-68	-522	387	-99	129	32	14	126	689
Wage costs	228	-509	-312	828	-235	-165	79	86	1,221
Urban centre size	345	849	-627	16	-166	-234	-63	-119	1,210
Population growth	-443	-285	-170	40	123	232	238	265	898
Administrative scale	-428	-228	782	-57	-66	-9	-12	18	800
Natural disaster relief	-301	-269	99	179	65	22	-19	224	588
Small communities	-183	-206	-17	336	-9	57	40	-16	432
Non-State sector	-146	231	23	113	-137	-94	-42	52	419
Other expense effects	-707	-967	294	690	120	-2	-54	626	1,729
Total expenditure effects	**-2,524**	**-4,335**	**1,762**	**2,258**	**115**	**359**	**-240**	**2,605**	**7,099**
Effects of Commonwealth payments	103	272	-242	17	146	-24	62	-335	601
(2) Total distribution impact	**-2,432**	**-1,032**	**2,399**	**-4,464**	**1,955**	**1,075**	**203**	**2,296**	**7,928**
(1) – (2) Actual distribution	**17,680**	**14,829**	**14,963**	**2,354**	**6,360**	**2,403**	**1,230**	**2,921**	**62,740**
Relativity	**0.877**	**0.932**	**1.188**	**0.344**	**1.439**	**1.805**	**1.195**	**4.660**	**-**

Source: Commonwealth Grants Commission, *Report on GST revenue sharing relativities, 2017 update*, Canberra, 2017, Table 1-9.

Notes:

1. Other revenue effects show the distribution impacts of the insurance tax and motor taxes assessment. There are no distribution impacts of the Other Revenue category in the CGC assessments.

2. Some numbers may not add due to rounding.

3. IS HORIZONTAL FISCAL EQUALISATION IN AUSTRALIA EFFICIENT?

- There has been a considerable amount of published research and analysis on the economic impacts of fiscal equalisation systems but there is no consensus on an optimal design.

- Most attempts at analysing the impacts of fiscal equalisation have not delivered reliable results as models have included flawed assumptions and/or inaccurately represented the GST distribution methods.

- Further modelling of fiscal equalisation in Australia would be valuable to measure the broad economic impacts – both the costs and the benefits of the existing system and any potential changes. But it is essential that such modelling is based on more realistic or empirically relevant assumptions that represent both the theory of efficient equalisation and the actual distribution system in Australia.

Economic efficiency implies that all resources in an economy have been optimally allocated and that some measure of outcome, such as GDP or consumer welfare, is maximised. There has been a considerable amount of published research and analysis on the efficiency of fiscal equalisation systems yet a consensus remains elusive.

The merits of fiscal equalisation and its role in federated countries were key topics in the early work on public finance theory and the merits of federalism. Tiebout (1956) suggested that competitive federalism mostly negated that need for fiscal equalisation as inter-regional migration leads to an efficient provision of public services in accordance with the consumption preferences of citizens.[9] Buchanan and Wagner (1970) later suggested that equalising transfers among subnational regions are efficient as they limited the negative externalities associated with congestion effects arising from migration to regions that offer a higher net fiscal benefit to citizens.[10] This concept built on the foundational work on fiscal equalisation in Buchanan (1950) that promoted the need for equity among citizens within a federation for it to work.[11]

Modelling techniques have been a limitation of earlier analysis of fiscal equalisation. Most earlier studies used the popular methods of the era which included comparative statics and partial equilibrium modelling in tailored models designed to capture the theoretical leanings of the author. Such models have demonstrated the concepts of fiscal equalisation but have been limited in their analysis of broad economic impacts. The wider use of advanced general equilibrium modelling in the past 30 years has led to a shift in the methods used to model fiscal equalisation impacts and placed greater emphasis on the total welfare outcomes of policy decisions. This approach has employed more detailed and sophisticated approaches, but has still failed to deliver the conclusive evidence on the efficiency of fiscal equalisation mainly owing to flaws in modelling assumptions.

Dixon, Picton and Rimmer (2002) estimated that a change to the equal per capita distribution method in Australia could produce welfare gains between $150 million and $250 million (in 2002 prices).[12] The main modelling assumption driving this result was that recipient states in the GST distribution make spending and tax decisions out of line with household preferences. The change in distribution method would therefore generate two welfare-enhancing results. First, if the subsidy to recipient states were removed, the welfare gains would be generated by allocating it to states where it would be used more closely in line with household preferences. Second, by reducing the funding to recipient states, the change in distribution method would make the tax and expenditure patterns of these governments align more closely to the preferences of households.

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[9] Charles Tiebout, *A pure theory of local expenditures*, *Journal of Political Economy*, Vol 64, 1956, p. 416-424.
[10] James Buchanan and Richard Wagner, *An efficiency basis for federal fiscal equalisation*, National Bureau of Economic Research, 1970.
[11] James Buchanan, *Federalism and fiscal equity*, *American Economic Review*, Vol 40, 1950, p. 583-599.
[12] Peter Dixon, Mark Picton and Maureen Rimmer, *Australian federalism: A CGE analysis of inter-government transfers*, Centre of Policy Studies, Monash University, 2002.

The limitation of these conclusions is that they assume the gaining state spends the additional funding rationally – that its original closer alignment of fiscal policy to household preferences does not change with the additional funding that is surplus to its previous requirements. Given the welfare gain is not large (less than $10 per person across the economy) the impact of this assumption need only be moderate to reduce the modelled outcome. Later studies, such as Independent Economics (2015) have also criticised the modelling of welfare effects from migration in Dixon, Picton and Rimmer (2002) and suggested different results would occur if different amenity impacts associated with population growth were used.

The analysis in Groenevold and Hagger (2007) provided simulations of the macroeconomic impacts of fiscal equalisation using a more theoretical approach that simplified the model into consideration of just two regions – a recipient region and a donor region.[13] Nevertheless the results are robust and offer results that have been supported by many empirical studies on the incentive effects of fiscal equalisation. Modelling in Groenevold and Hagger (2007) showed the initial utility effect in a recipient region decreased over time by net additional migration to it increasing but with diminishing economic returns. This led to initial output increases but eventually lower productivity and wages. The modelling results also showed the recipient government also responded by increasing tax rates and expenditure levels such that output and employment were higher coupled with lower prices, wages, consumption and output per capita. Although this modelling is a simplified representation of the transfer system, its results have been confirmed by several empirical studies on the Canadian and German fiscal equalisation systems that found recipient states tend to have higher tax rates and spend more than is efficient.[14]

Different results on the impacts of HFE and switching to the equal per capita distribution were attained in Independent Economics (2015).[15] The results from this general equilibrium analysis placed a greater emphasis on the Buchanan and Wagner (1970) notion that inefficient inter-regional migration created congestion cost that diminished welfare. The results showed:

> The existing HFE system provided an annual consumer benefit of $295 million, compared to a situation in which all equalisation adjustments, except on account of indigeneity, were abandoned…This benefit arises because the equalisation system removes the incentive for fiscally induced migration between states…This allows interstate migration to be driven instead by economic opportunities, resulting in a better performing national labour market. Economically induced interstate migration leads to higher national income, while fiscally induced migration leads to lower national income.[16]

The modelling undertaken in Independent Economics (2015) is perhaps the most extensive and representative analysis of the GST distribution in recent years. However, the modelling assumptions need to be carefully evaluated before this result can be taken as conclusive. The modelling is based on the premise that individuals chose a state to reside in based on the total utility gained from the consumption of private goods (purchased from their own income) and public goods (provided by the state government). This implies that an individual migrates based on a fully informed evaluation of their utility in multiple jurisdictions – a proposition that the 2012 GST Distribution Review by Brumby, Carter and Greiner doubts the validity of:

> There are eight different categories of taxes and other revenue sources, each at least subtly different across jurisdictions. So the chance of a citizen at the border correctly identifying a difference in fiscal capacity that could be gained by migrations is slim.[17]

It should also be noted that the utility function in Independent Economics (2015) is based upon consumption of a government good which is then an indirect determinant of migration decisions. This does not represent the theoretical model of fiscal equalisation developed by Buchanan which proposes that inefficient migration could occur based on net fiscal benefit which is the residual between taxes and government spending.

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[13] Nicolaas Groenewold and Alfred Hagger, *An analysis of the effects of fiscal equalisation in a two-region simulation model*, University of Western Australia, 2007.
[14] See section on perverse incentives (p. 11) for further details.
[15] Independent Economics, *Horizontal fiscal equalisation: modelling update and scenarios*, 2015.
[16] ibid., page i.
[17] The Australian Government, *GST distribution review*, 2012, p. 40.

The second important feature of the individual's utility function in Independent Economics (2015) is the inclusion of a utility adjustment based on rising population in a state that intends to capture how crowding affects the amenity of residents. This construct might capture the impact of a stable national population and its interstate migration decisions, but in practice Australia is a growing population due to international immigration. As such, all regions could be producing diminishing amenity if international migrant settlement patterns matched existing population distribution. However, data on Australia's population movements clearly shows that different regions attract a significantly higher share of inbound migrants. This issue and its impacts on the efficiency of fiscal equalisation were recognised in Buchanan (2002):

> Fiscal equalization aimed, at least in part, at reducing the incentives for migration from the relatively poor regions to the relatively rich regions of the economy may be thwarted or even overwhelmed in effect by national policies toward immigration.[18]

The theoretical notional carrying capacity of a state that is captured in the modelling by Independent Economics is treated as constant. This does not capture the influence that government spending, likely augmented by fiscal transfers such as the GST distribution, would have to improve the notional carrying capacity of a state. For example, investment in infrastructure, public spaces and recreational areas can all add to the notional carrying capacity and utility from public amenity over time. If such effects were incorporated, the modelled impacts of the shift to the equal per capita distribution would likely be considerably different as the amenity effect discount on individual welfare in higher population states, which tend to be donor states under the existing GST distribution system, would be reduced.

Further modelling of fiscal equalisation in Australia would be valuable to measure the broad economic benefits of the existing system and any potential changes, but such modelling must be based on more realistic or empirically relevant assumptions that represent both the theory of efficient equalisation and the actual distribution system in Australia.[19] In particular, this modelling must consider the extent to which Australia is actually implementing HFE with its transfer methods and the impact of incentives on government behaviour.

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[18]James Buchanan, *Fiscal equalization revisited*, Conference paper published by the Atlantic Institute for Market Studies, 2002, p. 11.
[19] It should be noted that the modelling by Dixon et al (2002) was commissioned by state governments that are net donors in the GST distribution while Independent Economics (2015) was commissioned by a recipient state.

4. DOES AUSTRALIA ACHIEVE HORIZONTAL FISCAL EQUALISATION WITH ITS CURRENT SYSTEM?

- Australia's GST distribution is not achieving the intended benefits of fiscal equalisation as GST funding is provided as an untied grant to states that can spend it any way they choose to. Annual evaluation of state public services by the Productivity Commission clearly shows there are still differences in outcomes across states despite them supposedly having equal fiscal capacity.

- Different states have different proportions of their own source revenue assessed by the CGC. This has a large impact on the outcome of fiscal equalisation in Australia. States that have lower proportions of their own source revenue assessed (the Australian Capital Territory, Tasmania and South Australia) receive more in the GST distribution than states that have a higher proportion of their revenue assessed (Western Australia, New South Wales and Victoria).

- The result is an inadvertent bias in the system. To account for this problem in assessment methods which equalise different proportions of state revenue the Commonwealth Government should implement discounts to some revenue sources, particularly mining royalties. This will reduce the degree of the bias.

As previously highlighted, there are no formally agreed definitions or objectives for HFE in Australia. Nevertheless, in an evaluation of the efficiency and productivity of the prevailing system it is important to consider whether fiscal equalisation is actually occurring. Many of the suggested theoretical and modelled benefits may not be delivered if in fact the GST distribution system and its actual impacts are not properly represented in modelling efforts.

Australia has a comprehensive system of HFE in which both revenue and expenditure assessments are made. The working definition developed by the CGC reflects this dual assessment – states should have the same fiscal capacity to provide services provided they make the same effort to raise revenue. This definition is, however, silent on the requirement to then allocate the GST funding for the purpose for which it was assessed as being needed; namely, to equalise outcomes for individuals residing in different states. This is one of the main deviations of the Australian HFE system from the theoretically efficient model of Buchanan. Garnaut and Fitzgerald (2002) articulates this divergence:

> Most Australian citation of the original Buchanan article has been oblivious to the analysis which led to the recommendation of regionally differentiated rates of Federal taxation … The model of Horizontal Fiscal Equalisation now prevailing in Australia, based on equalising capacity of States (on a rationale of 'policy neutrality'), rather than on equalising outcomes for individual citizens, differs fundamentally from Buchanan's ideal concept.[20]

Buchanan (2002) also addressed this issue in a discussion on practical aspects of fiscal equalisation:

> An important implication of the point made here is that, even if an idealized scheme of fiscal equalization may be shown to be efficiency-enhancing, the implementation of this scheme may require the satisfaction of specific criteria concerning the distribution of the equalization benefits among taxpayer beneficiaries in the recipient provinces. The central government, which must, in any case, put any equalization scheme in place, cannot simply walk away from its follow-on responsibilities. A system of bloc grants, made to provincial governments on the basis of some equalization argument, may not be efficiency-enhancing, and for the reasons noted.

> Just as is the case with the provincial governments, however, there is little or no assurance that the coalition structure of central government politics will be such as to allow the economists' idealized scheme for fiscal equalization to be put in place. Even if, in broad and general terms, the potential benefits from a scheme for

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[20] Ross Garnaut and Vince Fitzgerald, *Issues in commonwealth-state funding*, *Australian Economic Review*, 2002, p. 7.

fiscal equalization are recognized, the details of distribution are determined in the political-decision process and any semblance of efficiency-motivation is unlikely to remain.[21]

Based on this statement from Buchanan, Australia's GST distribution is not achieving the theoretical benefits of fiscal equalisation as funding is provided as an untied grant to states. Therefore it is unlikely that the existing distribution is efficient. A further critique of real-world equalisation efforts offered in Buchanan (2002) covered political influences and how they are also curtailing the achievement of full equalisation:

> Political coalitions in recipient provinces may, however, have direct incentives to administer grant funds in such a fashion as to prevent out-migration of their own resident rich persons. Insofar as the provincial public sector, in net, is redistributive, the out-migration of the relatively rich imposes differentially higher costs on all remaining residents, which will be recognized by political leaders. Incentives of this sort may generate results that are allocatively perverse.... The receipt of grant funds may provide recipient governments the opportunity to offer fiscal incentives to its fiscally attractive members, over and beyond those required to offset the fiscal disadvantages inherent in membership in the relatively poor regions.[22]

The GST distribution has many such perverse incentives that likely result in the system deviating from its intended outcomes and providing sub-optimal outcomes for the nation. Strong evidence of the disconnect between equalised fiscal capacity and actual state service standards can be found in the Productivity Commission's annual *Report on Government Services*.[23] This report 'provides information on the equity, effectiveness and efficiency of government services in Australia' on a state-by-state basis. The Productivity Commission's interstate comparisons on education, health, justice and community services (all of which are included in the expenditure assessment by the CGC for GST distribution purposes) clearly show that divergent outcomes still persist across states despite the theoretical equalisation of capacity to provide services. Australia's system of HFE may aim to deliver equalisation of fiscal capacity in a theoretical sense, but this capacity is not translating to equal services and equity for people across states.

Another critique of the current GST distribution assessments is that fiscal equalisation is not achieved in Australia because not all revenue and expenses are actually equalised in the current GST distribution methods used by the CGC. In current methods used by the CGC, both the expenditure and revenue assessments contain what is effectively a miscellaneous category, known as 'other revenue' and 'other expenses', that group items in the state budgets that the CGC has no reliable methods to assess. This includes gambling revenues, user charges, fines and interest income which in some states account for a large proportion of state own source revenue. The CGC assesses these revenue and expenses as equal per capita, which means they have no impact on the distribution of the GST. This approach would be reasonable if all states had a similar portion of their own source revenue and expenses in these categories – but they do not. Figure 2 shows that there is considerable variance between states in the share of their revenue that is unassessed by the CGC.

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[21] ibid., p. 9.
[22] ibid., p. 10.
[23] Productivity Commission, Report on government services volumes A-G, Canberra, 2017.

Figure 2: States' proportion of unassessed revenue, 2015-16

Source: Commonwealth Grants Commission, 2017 supporting documentation (adjusted budget summary).

The question must be asked as to how Australia is achieving full fiscal equalisation, and any associated theoretical benefits (such as economic efficiency), when more than one-third of state revenue is not assessed, equalised and redistributed. This feature of the assessment is also clearly having an impact on the relativity calculations, with states that have a higher proportion of their own source revenue unequalised tending to have higher relativities. As shown in table 2 Western Australia, which has a relativity of 0.344 in 2017-18, had 24 per cent of its 2015-16 own source revenue unequalised; New South Wales, with a relativity of 0.877, had 34 per cent of its own source revenue unequalised; and, South Australia, with a relativity of 1.439, had 45 per cent of its state own sourced revenue unequalised. The Northern Territory is the only outlier in this analysis, but that is because its relativity is driven by cost disabilities rather than assessed revenue capacity.

Table 2: Other expenses and revenue as share of total state expenditure and revenue, 2015-16

	NSW	Vic	QLD	WA	SA	Tas	ACT	NT	Total
Other expenses	14%	13%	15%	8%	11%	18%	33%	16%	14%
Other revenue	34%	35%	46%	26%	45%	41%	59%	37%	37%
2017-18 relativity	0.877	0.932	1.188	0.344	1.439	1.805	1.195	4.660	n/a

Source: Commonwealth Grants Commission, 2017 supporting documentation (adjusted budget summary).

Clearly, Australia falls well short of achieving full equalisation despite having one of the world's most comprehensive equalisation systems. This arises from the combination of having not all state own sourced revenue equalised and doubt over whether the intended benefits are actually delivered by states to ensure individuals receive the same standard of services. Future analysis and modelling of the impact of HFE in Australia must consider these deviations from the ideal models of fiscal equalisation in assessing the efficiency and economic benefits of any policy proposals.

To account for the bias in assessment methods which equalise different proportions of state revenue the Commonwealth Government should implement discounts to some revenue sources, particularly mining royalties, in order to reduce this systemic inequality.

5. PERVERSE INCENTIVES

- There is a significant body of research which demonstrates the long-term impacts of fiscal equalisation on subnational government tax rates and spending.

- Studies of the Canadian and German fiscal equalisation systems show that recipient governments have higher tax rates that stifle economic growth and engage in uneconomic spending.

- Australia's fiscal equalisation policy should include incentives that encourage productive reforms and successful economic development rather than hinder them. States must avoid the higher spending and tax-rate traps that have been documented in other countries and be encouraged to take greater responsibility for their own economic prosperity.

A priority for further analysis of HFE in Australia must be for future modelling to capture the impacts of incentives the current system creates, particularly in relation to the long-term effect on tax bases and government spending. These incentives can have a major impact on the economic efficiency of HFE as recognised in Buchanan (2002):

> The midcentury debates about the desirability and the effects of a system of equalizing grants took place when economists, generally if implicitly, assumed that governments would be able to carry out the policies dictated by agreed upon efficiency and equity criteria. Little or no attention, early on, was paid to the incentive structures within the operation of politics itself. Public choice, as a subdiscipline that extends the economists' framework of analysis to politics, had not yet emerged into analytical consciousness. The economists who participated in the early discussions may have vaguely recognized that, even if the efficiency-driven arguments for fiscal equalization could be demonstrated conclusively, any achievement of the desired results required rather precise implementation, without which perverse resource shifts might occur. These prospects were not, however, sufficiently emphasized in the early treatments.[24]

Policy neutrality is one of the four supporting principles the CGC used in its 2015 review to guide the development of its methods in assessing fiscal capacity. Its rationale for this was:

> This principle aims to ensure a State's own policies or choices, in relation to the services it provides, or the revenues it raises, do not directly influence the level of grants it receives. It also aims to ensure the GST distribution methodology creates no incentives or disincentives for States to choose one policy over another.[25]

The CGC recognises incentives still remain in its approach, but it says that it attempts to minimise them:

> The Commission recognises the theoretical and empirical evidence, particularly from the public economics literature, which suggests horizontal fiscal equalisation may create incentives for States to alter their policies with consequential economic efficiency costs. The intention of our policy neutrality supporting principle is to ensure that in implementing equalisation in Australia these potential costs are minimised while still recognising the primacy of the equalisation objective.

> This is achieved by undertaking equalisation on the assumption that each State follows the average observed policy. If a State adopts a policy mix varying from the average, for example, through a lower than average tax rate, the direct impact of that choice is borne by the State and not reflected in its grant. Similarly, if a State delivers services at below average per unit cost, it retains the benefit from this effort.[26]

However the issue that the CGC does not address through its numerical averaging approaches is the direct impact of policy decisions that affect growth in a tax base or even impede a tax base from forming. For example, government policy and practice in relation to state land releases, first home buyer grants and development applications can all affect the value of property which influences the tax base used for land taxes and stamp duties. Similarly, a number of state policies influence the development of a mining industry including exploration, energy, infrastructure, workplace relations,

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[24] ibid., p. 9.
[25] Commonwealth Grants Commission, *Report on revenue sharing relativities 2015 review – volume 1*, 2015, p. 30.
[26] Commonwealth Grants Commission, *Report on revenue sharing relativities 2015 review – volume 2*, 2015, p. 13.

regional development and royalty policy. The CGC does not assess the impacts of policies on a tax base nor does it adequately consider how the receipt of GST funding influences states policy settings. As a result, there are a number of perverse incentives in the HFE system that encourage free rider behaviour (states receive funding from the policy initiatives of other states which subdues their need for productive reform), encourage increased government spending and stymie the need for improvements in the efficiency public service delivery.

The 2012 GST Distribution Review by Brumby, Carter and Greiner considered the role of incentives in the HFE system and concluded that while there was a strong case for the conceptual existence of perverse incentives there was little evidence of states acting upon them.[27] This conclusion is at odds with a number of international studies that have examined the long-run impacts of fiscal equalisation on subnational government behaviour. In fact few, if any, studies have examined incentive effects of equalising transfers and concluded there was no evidence of revenue or expenditure impacts.

Smart (1996) demonstrated using partial equilibrium analysis that as equalisation grants effectively provide compensation for a portion of the deadweight loss that arises from state taxes, there is a tendency for these subnational governments to increase tax rates (or at least retain rates above average levels).[28] In theory, these higher tax rates then stifle the growth in tax bases, thereby limiting the economic growth of recipient states. This proposition has since been tested and supported in multiple studies of equalisation systems similar to Australia's. Boadway and Hayashi (2001) observed that recipient provinces in Canada have been more inclined to raise business tax rates.[29] Evidence of higher personal tax rates in recipient provinces in Canada was established in Esteller More and Sole Olle (2002).[30] Smart (2007) also provided empirical evidence that showed average tax rates in Canada's recipient provinces were substantially higher as a consequence of equalisation grants.[31]

Baretti, Huber and Lichtblau (2000) analysed the German transfer system and demonstrated higher marginal tax rates in recipient states associated with equalising grants also led to overall lower tax collections in those states.[32] Analysis of the Australian distribution system in Dahlby and Warren (2003) indicated that the GST distribution has affected states' choices of tax rates, particularly for land taxes, but further research is required in this area to update and confirm the impact of incentives on state government taxes.[33]

Subnational governments that receive equalising grants also have perverse incentives to increase their expenditure above fiscally responsible levels. Several studies on the issue have demonstrated a clear pattern of behaviour that contradicts the 2012 GST Distribution's findings. Cyrenne and Pandey (2013) analysed the impact of fiscal equalisation on the composition of subnational government expenditure patterns.[34] Using historical data for Canadian provinces from 1989 to 2009, this research showed recipient provinces have higher shares of unproductive expenditure (consumption spending rather than investment) than donor provinces. In summary Cyrenne and Pandey (2013) observed:

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[27] ibid., Finding 9.1, p. 140.

[28] Michael Smart, *Taxation and deadweight loss in a system of intergovernmental transfers*, University of Toronto, 1996.

[29] Masayoshi Hayashi and Robin Boadway, *An empirical analysis of intergovernmental tax interaction: the case of business income taxes in Canada*, The Canadian Journal of Economics Vol 34, No.2, 2001, p. 481-503.

[30] Alejandro Esteller-More and Albert Sole-Olle, *Tax setting in a federal system: the case of personal income taxation in Canada*, International Tax and Public Finance, Vol. 9, 2002, p. 235-257.

[31] Michael Smart, Raising taxes through equalization, CESinfo working paper No.1926, 2007.

[32] Christian Barretti, Bernd Huber and Karl Lichtblau, A tax on tax revenue – the incentive effects of equalizing transfers: evidence from Germany, CESinfo paper 333, 2000.

[33] Bev Dahlby and Neil Warren, *Fiscal incentive effects of the Australian equalisation system*, The Economic Record, Vol 79, No. 247, 2003, p. 434-445.

[34] Philippe Cyrenne and Manish Pandey, *Fiscal equalization. government expenditures and endogenous growth*, University of Winnipeg, Department of Economics working paper 2013-03, 2013.

Any vertical or horizontal equalization system in which transfers are based on a difference between own source revenues and revenues from a comparison or average group of states will likely result in disincentive effects for governments to spend on productive services that increase their own source revenues. Further, similar disincentive effects for government spending would exist for equalization systems based on costs.

These findings are also consistent with Hauptmeier (2007) which analysed the German equalisation system.[35] This research observed that fiscal equalisation induced higher tax rates in recipient subnational governments and who also allocated a lower share of government spending to productive investment.

The response of recipient states to growing fiscal deficits in Germany was analysed in Stehn and Fedelino (2009). Using data from the states of pre-unification West Germany for the period 1985 to 2007, Stehn and Fedelino (2009) found net recipient states have been less responsive in reducing expenditures in response to rising fiscal deficit and instead relied on equalisation transfers to ensure stability. In addition, these recipient states also tend to further raise expenditure during the growth phases of business cycles. In comparison, donor states in Germany have been more fiscally responsible through spending adjustments to alleviate budget deficits and had less pro-cyclical government spending.

Perhaps the most comprehensive study on incentive effects of fiscal equalisation has been Ferede (2014).[36] This report provided empirical evidence on the incentive effects of fiscal equalisation on both tax rates and government expenditure using panel data from Canadian provinces over the period 1981 to 2008. The summarised results were:

> Our empirical results suggest that equalization grants provide provincial governments an incentive to raise their business and personal income tax rates. We also find that the incentive effect works mainly through the equalization-base effects. These incentive effects of equalization grants are clearly a form of distortion to provincial tax policy as the recipient governments underestimate the true deadweight cost associated with the higher tax rates. We also investigate the effects of equalization grants on both the level and composition of provincial expenditure using the discontinuity in the equalization-grant formula as an identification strategy. Our empirical results suggest that equalization grants stimulate provincial spending and affect the various provincial expenditure categories. Results from our preferred regression indicate that a $1.00 increase in per capita equalization grant is associated with $0.64 increase in per capita total provincial expenditure.[37]

Empirical research on the impact of incentives in the Australia fiscal equalisation system has not kept up with the efforts of other jurisdictions. As Australia has similar fiscal equalisation system to Canada and Germany it is likely that many of these reported results are occurring. These perverse incentives are easy to observe – states that assign greater priority to economic growth through a broad range of policy settings or achieve efficient delivery of public services are punished by having a large portion of the benefits transferred to other states. The economic theory and results of empirical studies from other countries indicates this encourages the recipient states to retain higher taxes that stifle economic development and spend inefficiently.

Australia's fiscal equalisation policy should include incentives that encourage productive reforms and successful economic development rather than hinder them. States must avoid the higher spending and tax-rate traps that have been documented in other countries and be encouraged to take greater responsibility for their own economic prosperity. Discounts to state own source revenues that are non-distortionary and relate to economic growth, such as mining revenues, should be considered among a suite of reforms.

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[35] Sebastien Hauptmeier, The impact of fiscal equalization on local expenditure policies – theory and evidence from Germany, Centre for European Economic Research, 2007.
[36] Ergete Ferede, *The incentive effects of equalization grants on fiscal policy*, University of Calgary School of Public Policy Research Papers, 2014.
[37] ibid., p. 2.

6. IMPACT OF CURRENT ASSESSMENT METHODS ON IRON ORE ROYALTIES

- The 2012 GST Distribution Review recommended a new mining revenue assessment should be developed as the system at the time contained flaws that overstated the GST distribution impacts of Western Australia's mining revenue. The new system, implemented since 2015, has not improved this situation.

- Due to its high value and share of Australia's iron ore production, Western Australia can lose more GST from the assessment of its iron ore revenue that it actually raises in royalties when the GST funding pool grows at a sufficient rate.

- To address this flaw in assessment methods, and the perverse incentives it creates, the Commonwealth Government should immediately implement a discount on the assessment of mining revenues while it continues to review the GST distribution.

It has previously been suggested by the 2012 GST Distribution Review that while there are perverse incentives in the GST distribution states do not actually act upon these. Perhaps a contributing factor to this is outcome is that the complexity of assessment methods used by the CGC does not always make the incentives for states easy to understand. The current CGC treatment of iron ore revenues is a prime example of this as Western Australia loses more GST funding from the assessment of iron ore royalties than it actually raises in iron ore royalties. This situation is not new and previous reviews have acknowledged the potential losses under previous CGC methods.

The 2012 GST Distribution Review recommended a new mining revenue assessment should be developed as the system at the time contained flaws that overstated the GST distribution impacts of Western Australia's mining revenue. In relation to Western Australia's iron ore royalties increasing the review said:

> Western Australia's first decision to remove the concessional 3.75 per cent royalty rate effectively increased the rate to 5.625 per cent. It expected to raise around $340 million a year from this decision. However, it would have lost far more than this amount via a reduction in its GST share if the CGC had decided to move iron ore fines from the low rate into the high rate category. In any event, before the CGC was required to make its decision, the Commonwealth Treasurer instructed it to keep iron ore fines in the low rate group for the time being.

> The potential for a State to lose more in GST revenue than it gains from an increase in its royalties does seem to be a perverse and inappropriate side-effect of the two-tier mining revenue assessment. The Panel notes that the Commonwealth Treasurer has used the Terms of Reference for the 2011 Update and the 2012 Update to ensure this does not occur in this case. The Panel agrees that this was an appropriate response.[38]

Perverse incentives arising from flaws in the assessment of mining revenues are therefore not new. The 2012 GST Distribution Review formalised this in finding 7.2:

> The current two-tier mining revenue assessment can produce excessively large GST share effects when a commodity moves between groups.[39]

Recommendation 7.2 in the review also then suggested changes to the assessment methods were required:

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[38] ibid., p. 111.
[39] ibid., p. 111.

In the Terms of Reference for the 2013 Update, the Commonwealth Treasurer direct the CGC to:

1. Continue to ensure that Western Australia's removal of iron ore fines royalty rate concessions in 2010 does not cause iron ore fines to move into the high royalty rate group in the 2010-11 or 2011-12 assessment years.

2. Consider the appropriate treatment of iron ore fines for the 2012-13 assessment year and future years, in light of Western Australia's decision to bring the iron ore fines royalty rate to the same level as that for iron ore lump.[40]

This was one of the few recommendations of the review that were implemented and a new assessment method that provided revenue assessments based on each major commodity was introduced as part of the 2015 Review. However, the new system has not improved Western Australia's treatment in the GST distribution. In fact, the new system actually means that the state loses more GST from the assessment than it raises in iron ore royalties. This anomaly arises from a combination of the use of historical data in assessing future funding needs, flawed methods for assessing highly uneven revenue sources and the fact that the total GST funding pool continues to grow at robust rates.

Explaining this phenomenon requires an explanation of the broader assessment methods and system used by the CGC. The CGC produces an annual report in the first quarter of the calendar year that recommends a GST distribution to the Treasurer to use in the next federal budget. This recommendation is based on the commission's assessment of how much revenue a state could raise if it followed average tax policies (i.e. applied average tax rates to its tax base) and provided the average funding for expenses such as education, infrastructure and health care. Based on these revenue and expense assessments the CGC produce a 'relativity' for each state in its report. A state's relativity is the amount of GST funding per person it is assessed as needing to achieve HFE divided by the amount it would get if the entire GST pool were distributed on an equal per capita basis.[41] The relativity is therefore the percentage of the equal per capita distribution a state is going to receive under HFE.

To calculate each state's relativity the CGC analyses historical budget data – not forecasts of the current or future years as these are prone to forecasting errors. It uses data from the last three completed financial years and calculates the relativity for each state in each of these years. This three year period is known as the 'assessment period'. The average of the three relativities in the assessment period is then used to produce its recommended relativity in its report.

The budget year that this average relativity is applied to is known as the application year. This is the year a state actually receives GST funding. The method aims to forecast the relativity required in the application year by taking the 3 year average of the relativities in the three most recently completed financial years. This simple mathematical relationship can be written as:

$$Relativity_t = (Relativity_{t-2} + Relativity_{t-3} + Relativity_{t-4}) / 3$$

$$\text{(Application year)} \qquad \text{(Assessment Period)}$$

This lagged averaging system creates a problem in the assessment of iron ore royalties which are highly concentrated in one state – Western Australia. When a concentrated revenue source is large enough it can result in the state's relativity in each year of the assessment period being very low – as evidenced by Western Australia's relativity dropping below 0.3 in recent years. By applying the low-average relativity from the assessment period (which is effectively a percentage of previous equal per capita distributions of the GST) to the equal per capita distribution in the application year (which grows owing to the growth in the GST funding pool each year) a large total dollar amount is lost in the GST distribution. In some cases this loss of GST exceeds the state revenue that was raised during the assessment period.

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[40] ibid., p. 113.
[41] A state's relativity is often mistakenly interpreted as the percentage of GST raised in the state that it receives back. This is incorrect as there is no official record of the amount of GST collected in each state. For example, when a large company with cross-border operations reports and pays the GST it is not required to report that activity at a regional level. This further demonstrates the broad misunderstandings in the public about the GST distribution and how it works.

This is best demonstrated by considering the impact of the iron ore revenue assessment in isolation from other revenue and expenditure assessment impacts. This hypothetical example assumes there are no interstate fiscal differences other than the raising of iron ore royalties and calculates a set of relativities based on this alone. Tables 3, 4 and 5 model the relativities from the assessment period for the latest GST distribution released in March 2017 but only the impact of the iron ore component of the mining revenue assessment.[42] Equalisation is achieved in this modelling by adding the difference between the national average assessed revenue per capita for iron ore royalties and state's assessed iron ore royalties per capita to the equal per capita distribution in that year. Dividing this assessed per capita distribution by the equal per capita distribution gives the relativity in each of the assessment periods.

Table 3: 2013-14 assessment year relativity calculation

	NSW	Vic	QLD	WA	SA	Tas	ACT	NT	Aust
Assessed revenue $m				5,450	67	8		5	5,530
Population (million)	7.5	5.8	4.7	2.5	1.7	0.5	0.4	0.2	23.3
Assessed revenue per capita $	0	0	0	2,149	40	16	0	21	237
Equalisation payment per capita $	237	237	237	-1,911	198	222	237	217	
Equal per capita 2013-14 $									2,194
GST per capita with distribution $	2,432	2,432	2,432	283	2,392	2,416	2,432	2,411	
Relativity	1.108	1.108	1.108	0.129	1.090	1.101	1.108	1.099	

Sources: Commonwealth Grants Commission website; Government of Western Australia, 2016-17 Overview of State Taxes and Royalties; MCA calculations

Table 4: 2014-15 assessment year relativity calculation

	NSW	Vic	QLD	WA	SA	Tas	ACT	NT	Aust
Assessed revenue $m				4,023	48	5			4,076
Population (million)	7.6	5.9	4.7	2.6	1.7	0.5	0.4	0.2	23.6
Assessed revenue per capita $	0	0	0	1,564	28	10	0	0	173
Equalisation payment per capita $	173	173	173	-1,391	144	163	173	173	
Equal per capita 2014-15 $									2,301
GST per capita with distribution	2,473	2,473	2,473	910	2,445	2,464	2,473	2,473	
Relativity	1.075	1.075	1.075	0.395	1.063	1.071	1.075	1.075	

Sources: Commonwealth Grants Commission website; Government of Western Australia, 2016-17 Overview of State Taxes and Royalties; MCA calculations

Table 5: 2015-16 assessment year relativity calculation

	NSW	Vic	QLD	WA	SA	Tas	ACT	NT	Aust
Assessed revenue $m				3,600	40	6			3,646
Population (million)	7.7	6.0	4.8	2.6	1.7	0.5	0.4	0.2	23.9
Assessed revenue per capita $	0	0	0	1,383	23	12	0	0	152
Equalisation payment per capita	152	152	152	-1,231	129	141	152	152	
Equal per capita 2014-15 $									2,396
GST per capita with distribution $	2,548	2,548	2,548	1,165	2,525	2,537	2,548	2,548	
Relativity	1.064	1.064	1.064	0.486	1.054	1.059	1.064	1.064	

Sources: Commonwealth Grants Commission website; Government of Western Australia, 2016-17 Overview of State Taxes and Royalties; MCA calculations

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[42] As most states other than Western Australia do not release their iron ore royalties these have been estimated by the MCA. Estimates may vary from actual royalties collected but do not significantly impact the analysis provided. Annual royalties have also not been adjusted for inflation.

The average relativity for the assessment period and resulting GST distribution in the application year 2017-18 are shown in table 6. This is done by multiplying the average relativity by the equal per capita distribution for the application year ($2,543) and then multiplying the result by the states expected population in 2017-18. The difference between this assessed distribution and the distribution a state would have received under the equal per capita distribution then shows the gains and losses as a result of states raising iron ore royalties.

Table 6: 2017-18 GST distribution (application year)

	NSW	Vic	QLD	WA	SA	Tas	ACT	NT	Aust
Average relativity	1.082	1.082	1.082	0.337	1.069	1.077	1.082	1.079	
Equal per capita 2017-18									2,543
Distribution per capita	2,752	2,752	2,752	857	2,718	2,738	2,752	2,744	2,543
2017-18 population	7.9	6.2	4.9	2.7	1.7	0.5	0.4	0.2	24.7
Distribution $m	21,766	17,167	13,599	2,297	4,708	1,430	1,111	675	62,740
Distribution at equal per capita	20,111	15,862	12,565	6,818	4,405	1,328	1,026	625	62,740
Distribution gain/loss	1,655	1,305	1,034	-4,521	303	102	84	49	0

Sources: Commonwealth Grants Commission website; MCA calculations

From these tables it can be seen that in the 2017-18 application year Western Australia has $4,521 million of GST distributed away from it to equalise its iron ore royalties. This is higher than its actual iron ore royalty collections in two of the three years in the assessment period as well as the average iron ore royalty over the period ($4,358 million). The main driver of this result is that the equal per capita GST distribution increased substantially from the years in the assessment period to the application year. When the average relativity calculated in the assessment period was applied to the higher per capita distribution in the application year, Western Australia lost more GST funding than it raised in iron ore royalties. To demonstrate this problem in the assessment methods more clearly the data in table 7 shows a hypothetical situation whereby all iron ore royalties remain at the level collected in 2013-14 ($5,450 million).

Table 7: Distribution in 2017-18 assuming constant royalties

	NSW	Vic	QLD	WA	SA	Tas	ACT	NT	Aust
Average relativity	1.102	1.102	1.102	0.178	1.085	1.095	1.102	1.093	
Equal per capita 2017-18									2,543
Distribution per capita	2,802	2,802	2,802	452	2,758	2,785	2,802	2,779	2,543
2017-18 population	7,910	6,238	4,942	2,682	1,732	522	404	246	24,676
Distribution $m	22,165	17,482	13,848	1,211	4,779	1,454	1,131	683	62,740
Distribution at equal per capita	20,111	15,862	12,565	6,818	4,405	1,328	1,026	625	62,740
Distribution gain/loss	2,054	1,620	1,283	-5,607	374	127	105	58	0

Sources: Commonwealth Grants Commission website; MCA calculations

In this scenario, by raising $5,450 million per year in iron ore royalties from 2013-14 to 2015-16 Western Australia forgoes $5,607 million in GST funding that it would have received under the equal per capita distribution in 2017-18. With a net loss of $157 million in 2017-18 Western Australia is worse off by collecting iron ore royalties - although every state in Australia has benefitted from it via the GST distribution.

This demonstrates the problem of assessing revenues with large and very unevenly distributed tax bases – when the GST funding pool grows by more than state's population share of a tax base it can become worse off in net terms.[43] This application of HFE clearly provides a significant disincentive for

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[43] This uneven distribution problem also arises in the assessment of grants in lieu of royalties and nickel royalties. Both of which also effect Western Australia.

states to collect the revenues for the sale of their mineral resources, which they hold and manage for the good of their residents on behalf of the crown. It could easily be argued that if this feature of the assessment methods were more broadly known, then Western Australia would not have applied royalties to its iron ore production. Ironically the state to lose out in this shift in royalty policy would not be Western Australia – it would receive a full offset from an increase in its GST funding. All other states would instead lose GST funding and be in a worse fiscal position. To address this perverse incentive and deficiency in assessment methods the Commonwealth Government should immediately implement a discount on the assessment of mining revenues while it continues to review the GST distribution.

7. CURRENT ARRANGEMENTS ARE HAVING A NEGATIVE IMPACT ON NATIONAL PRODUCTIVITY

- A priority area for reform in the GST distribution must be the treatment of revenues from mining and petroleum developments which have been a key driver of states' finances and the Australian economy over the past 15 years. In effect, current approaches punish rather than reward state governments which seek to maximise their revenue base through the attraction of minerals development.

- The problem for the pro-active states is that as soon as the royalty revenues start to flow, their GST receipts start to fall. Meanwhile, for the obstructionist states, their share of GST distributions starts to rise. The policy signal heard in state capitals is unmistakeable. State Governments can impose moratoria on new gas development, ban uranium mining, close brown coal generation and be rewarded with windfall gains for their budgets, notwithstanding the negative impacts of these policies on economic development in their own jurisdictions and nationally.

- The mining industry not only provides substantial direct economic benefits such as investment, regional employment and higher wages it also supports a significant supply chain of services providers, including in states with lower levels of extractive mining activity. Research undertaken by Deloitte Access Economics in 2017 concluded the total economic contribution of the mining and mining equipment, technology and services (METS) sector in 2015-16 was $236 billion which was equivalent to around 15 per cent of the Australian economy. This means the perverse incentives of the current GST distribution system represent a national economic problem, not just a mining industry problem or a WA problem.

There are clearly perverse incentives in the Australian fiscal equalisation system. A priority area for reform in the GST distribution must be the treatment of revenues from mining and petroleum developments which have been a key driver of states' finances and the Australian economy over the past 15 years. In effect, current approaches punish rather than reward state governments who seek to maximise their revenue base through the attraction of minerals development. Conversely – and perversely – state governments who actively reject minerals development (through the imposition of exploration and production bans) or implement regulatory settings that discourage business investment are effectively rewarded through the distribution of revenues earned in other states.

As the GST distribution system has evolved over the last decade and a half, it has developed characteristics that are having a profoundly adverse impact on national productivity. The system is now rewarding policy settings that harm our national productivity performance, and, as a consequence, our living standards. The GST distribution system assumes that all states will develop their mineral resources with equal vigour. This is plainly not the case in practice. Victoria bans exploration and mining for uranium, as well as the exploration and production of conventional and unconventional gas. It is also trying to phase out brown coal generation. New South Wales's approach is not much better, though much less overt. On the other hand, Western Australia, South Australia and Queensland are trying to develop their resources. At the risk of over simplification, we have proactive states and we have obstructionist states.

The problem for the pro-active states is that as soon as the royalty revenues start to flow, their GST receipts start to fall. Meanwhile, in the obstructionist states, their share of GST distributions starts to rise. The policy signal heard in state capitals is unmistakeable. State Governments can impose moratoria on new gas development, ban uranium mining, close brown coal generation and be better off, not worse. This perverse incentive is highlighted by the mining revenue assessment which in the 2017 distribution update report from the CGC reduced Western Australia's GST funding by $5.5 billion but provided $2.8 billion to Victoria and $191 million to Tasmania – both of which have policies that limit, and in some cases ban, the exploration and extraction of minerals and gas.[44]

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[44] Commonwealth Grants Commission, *Report on GST revenue sharing relativities 2017 update*, Canberra, 2017.

While the CGC acknowledges that states pursue 'different policies' in relation to minerals development, it claims that it would be too hard to develop a new approach. In its 2015 Review the CGC stated:

> We recognise there may be differences in State efforts and there is a conceptual case that any differences in efforts should be removed. However, it is not clear to us how we would quantify those differences. In the case of mining, any differences in efforts would be confounded by the differences in mineral endowments. It would be difficult to untangle these influences and make judgments about the impact of State efforts on production levels.[45]

Mining investment is influenced by a broad range of complex state government policies on workplace relations, environmental regulation, royalties, energy, infrastructure and regional development. While quantifying the net impact of these various policies is difficult, it is not impossible to assess and recognise a conceptual difference between state policies in these areas. This is already done in the Fraser Institute's Annual Survey of Mining Companies which provides a policy perception index based on survey responses by company executives on different mineral provinces.[46] The latest survey clearly shows the differences in policy support for mining in Australia with Western Australia ranked the ninth most appealing jurisdiction in the world (out of 104 regions) while New South Wales ranks 66th (and has slipped from 27th in 2012). The full set of rankings is shown in table 8 below.

Table 8: Fraser Institute policy perception index ranking

	NSW	Vic	QLD	WA	SA	Tas	ACT	NT
2012	27/96	33/96	32/96	16/96	19/96	51/96	n/a	17/96
2016	66/104	42/104	36/104	9/104	21/104	32/104	n/a	22/104
Change	-39	-9	-4	+7	-2	+19	n/a	-5

Source: Fraser Institute, *Annual survey of mining companies 2016*, 2017.

The assessment of states' GST funding must provide an incentive for states to develop their resources. The mining industry not only provides substantial direct economic benefits such as investment, regional employment and higher wages it also supports a significant supply chain of services providers across Australia. Research undertaken by Deloitte Access Economics in 2017 concluded the total economic contribution of the mining and mining equipment, technology and services (METS) sector in 2015-16 was $236 billion which was equivalent to around 15 per cent of the Australian economy.[47] While all states have the opportunity to participate in and benefit from this supply chain the burden of equalisation of state mining revenues falls on just three states – Western Australia, Queensland and the Northern Territory. Discounting the impact of the mining revenue assessment will provide an economic incentive for all states to participate in resources development, with a distribution of benefits that extends beyond the sharing of royalties. Recognising policy differences and adjusting funding transfers is a fundamental step that must be taken in the GST distribution.

International experience contradicts the view that full equalisation of mining revenues should occur – or can only practically occur – irrespective of deliberate policy choices. Canada, another federation with substantial minerals endowment, has developed an approach which seeks to ensure that policy incentives favour resources development rather than indolence. Under Canadian arrangements only 50 per cent of a province's mining revenues are taken account of in arrangements to determine HFE. In other words, mining revenues are 'discounted' by 50 per cent.[48] As outlined in Boessenkool (2001) this incentive rewards the provinces that develop their mining industries, stimulates productive industries that deliver jobs for provincial residents and reduces the need for handouts from the central government.[49] While a similar discount would be ideal in Australia the impact on the GST distribution would be substantial and present significant difficulties from a policy implementation perspective.

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[45] Commonwealth Grants Commission, 2015, *Report on GST revenue sharing relativities 2015 review, volume 1 – main report*, Canberra, 2015.
[46] Fraser Institute, *Annual survey of mining companies 2016*, 2017.
[47] Deloitte Access Economics, *Mining and METS: engines of economic growth and prosperity for Australians*, 29 March 2017.
[48] Department of Finance (Canada) website, viewed 28 June 2017.
[49] Kenneth Boessenkool, *Taking off the shackles: equalization and the development of non-renewable resources in Atlantic Canada*, Atlantic Institute of Market Studies, 2001.

8. A NEW PROPOSAL

- To address the perverse incentives, flawed methods and systemic bias in the GST distribution the Minerals Council of Australia proposes that Australia immediately apply a minimum 25 per cent discount to the mining revenue assessment in the GST distribution calculations.

- One option for implementing the 25 per cent discount is to impose a floor on the GST distribution to every state and use the growth in the total GST funding pool to gradually increase the GST revenue being distributed to the states that benefit from the mining revenue discount.

- This transition plan is effectively a means of distributing the growth in the GST funding pool each year in way that provides a safety net for each state so that it can be no worse off relative to the previous year. As states respond to the incentive to develop their resources industries they would then retain more of the royalties and become less reliant on the GST distribution.

To address the perverse incentives, flawed methods and systemic bias in the GST distribution the Minerals Council of Australia proposes that Australia immediately apply a minimum 25 per cent discount to the mining revenue assessment in the GST distribution calculations (which includes oil and gas revenues). The use of a discount is not new in CGC arrangements. The CGC already applies a 25 per cent discount to elements of its land tax, health costs and regional costs assessments to adjust for areas of uncertainty.

The impact of a 25 per cent discount on the mining revenue assessment on the GST distribution is shown in Table 9. This discount would result in the mining revenue assessment distributing $4.3 billion of GST in 2017-18, down from the currently proposed $5.7 billion. While this seems like a substantial amount, it needs to be considered in the context of other revenues that are already not fully equalised. As previously established (section 4), 37 per cent of state own source revenue, or around $44 billion, in 2015-16 was not assessed in the GST distribution in determining the 2017-18 GST distribution. The impact of this proposal only increases this unequalised pool by around 3 per cent and allows a more even amount of state revenue to not be assessed.

Table 9: Impact of 25 per cent discount on mining revenue assessment on GST distribution ($m)

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Redist
Actual 2017-18	17,680	14,829	14,963	2,354	6,360	2,403	1,230	2,921	62,740
25% mining discount	17,139	14,138	15,008	3,736	6,248	2,356	1,181	2,933	62,740
Impact	**-541**	**-692**	**45**	**1,382**	**-113**	**-47**	**-50**	**12**	**0**

Sources: Commonwealth Grants Commission website; MCA calculations

The resulting change in states' relativities is shown in table 10.

Table 10: Relativities with a 25 per cent discount on mining revenue assessment

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Actual 2017-18	0.877	0.932	1.188	0.344	1.439	1.805	1.195	4.660
25% mining discount	0.852	0.891	1.194	0.548	1.418	1.774	1.151	4.693
Impact	**-0.025**	**-0.041**	**0.006**	**0.204**	**-0.021**	**-0.031**	**-0.044**	**0.033**

Sources: Commonwealth Grants Commission website; MCA calculations

Tables 9 and 10 clearly show there are different short-term outcomes for states arising from this proposal. In the longer term, however, the Australian economy as a whole would grow, because all states' policies would encourage resources development and improve their economic growth rates. Previous research commissioned by the Minerals Council of Australia shows that between $160

billion and $280 billion of additional GDP could be gained over ten years if policy settings were more supportive of starting new resources projects.[50] As this research did not include the impact of regulation on gas production, it is likely that the results are the economic gains are considerably larger.[51]

There are economic gains to the economy from encouraging more mining investment but there are short-term fiscal impacts for states that need to be considered. To manage short-term impacts a transitional arrangement could be implemented that minimises the losses to states while they adjust their resource development policies.

A 25 per cent discount with a 'safety net'

One option for implementing the 25 per cent discount is to impose a floor on the GST distribution to every state and use the growth in the total GST funding pool to gradually increase the GST revenue being distributed to the states that benefit from the mining revenue discount. Under this option, some states would forgo some of the growth in their funding (under the existing distribution method) but they would not face an immediate cut in their funding as part of the transition to a system that has removed the perverse incentive that punishes states that develop their natural resources and rewards those that do not.

Table 11 demonstrates how this funding floor could work. It guarantees all states the actual GST distribution for a baseline year (2016-17 in this example) and the distribution that would occur if the 25 per cent discount on the mining revenue assessment were implemented. The floor works by giving each state except Western Australia the amount that is the highest out of its previous year's funding, or the funding it would receive under the distribution with a 25 per cent discount on the mining revenue assessment. The balance between the sum of the state distributions and the amount available in the total funding pool is then the GST distribution that Western Australia receives.

Table11: Implementing a floor on GST funding distribution ($m)

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Redist
Actual 2016-17	17,419	13,742	14,075	2,008	6,000	2,278	1,175	3,190	59,887
25% mining discount on 2017-18	17,139	14,138	15,008	3,736	6,248	2,356	1,181	2,933	62,740
Safety net	17,419	14,138	15,008		6,248	2,356	1,181	3,190	59,539
Balance to WA				3,201					
Final distribution	**17,419**	**14,138**	**15,008**	**3,201**	**6,248**	**2,356**	**1,181**	**3,190**	**62,740**
Relativities	0.866	0.891	1.194	0.470	1.418	1.774	1.151	5.104	

Sources: Commonwealth Grants Commission website; MCA calculations

This transition plan is effectively a means of distributing the growth in the GST funding pool each year in way that provides a safety net for each state so that it can be no worse off relative to the previous year. As states respond to the incentive to develop their resources industries they would then retain more of the royalties and become less reliant on the GST distribution. Alternatively, states could implement policies to support their involvement in the broader mining supply chains and still receive some economic benefits.

Under this distribution method, no state is worse off than they were in the base year, which in this example is 2016-17. However, some states have not received the increases in funding they would have had if the mining revenue assessment discount were not applied. Table 12 shows these states tend to have a less supportive set of policies for developing resources projects. At the same time the new distribution method would motivate these states to encourage development of their natural resources and to attract investment in related industries.

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[50] BAEconomics, *The economic gains from streamlining the process of resource project approval*, report commissioned by the Minerals Council of Australia, Canberra, July 2014.
[51] The Minerals Council of Australia will be releasing updated modelling including the impact of gas later in 2017.

Table 12: Impact of mining revenue discount and funding floor ($m)

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Redist
Original 2017-18	17,680	14,829	14,963	2,354	6,360	2,403	1,230	2,921	62,740
Discount & floor	17,419	14,138	15,008	3,201	6,248	2,356	1,181	3,190	62,740
Impact	**-261**	**-692**	**45**	**847**	**-113**	**-47**	**-50**	**269**	**0**

Sources: Commonwealth Grants Commission website; MCA calculations

The bottom line

The GST distribution is an area of fiscal policy that must be addressed to deliver a fairer stream of funding for states who take greater responsibility for developing their economies and delivering services more efficiently. There are many areas of the fiscal equalisation system that require reform, but particular consideration must be given to the impacts of state mining revenues – especially given Australia's distinctive position as an advanced economy with a pronounced comparative advantage in resources exports.

The mining industry has been one of the principal drivers of economic growth in Australia in the 21st century. However, not all states have sought to benefit from the opportunities the mining industry offers with equal vigour. Excessive regulation has stifled project development in several states and in some cases states have even placed outright bans on exploration and extraction. Despite these differences in policy approaches, the revenue proceeds from the states that have supportive mining policies have been distributed to states that limit mining activity.

As a starting point, a definition of horizontal fiscal equalisation must be developed that specifies what its objectives and intended outcomes are. This definition should underpin an improved GST distribution that still provides states with the capacity to provide services but must also acknowledge the need for them to take a greater role in their own prosperity by incentivising economic growth. The treatment of mining revenues in such a system must change to address the perverse incentives which effectively penalise states that develop their minerals endowment and reward those who do not.

The Minerals Council of Australia proposes to apply a 25 per cent discount on the impact of the mining revenue assessment to recognise the differences in the broad suite of state policies that affect the development of their resources. Under this proposal, states would no longer be rewarded for limiting the development of their natural resources at the expense of states who adopt policies to promote their mining sectors and, hence, their own regional economies. This would reduce the extent to which HFE, as currently implemented by the CGC, is inadvertently hindering regional and national economic growth.