Presentation to the Victorian Legislative Assembly
Economy and Infrastructure Committee

Inquiry into Commonwealth Support for Victoria - How to share GST revenue among the states

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1. Introduction – Full equalisation (old system)

- Australia, like many federations, transfers money from fiscally advantaged states ('donor states'), to fiscally disadvantaged states ('recipient states'). Since 1933, this fiscal equalisation has been overseen by the Commonwealth Grants Commission (CGC).
- Since 1981, we have had **full** equalisation, which aims to give all states the same fiscal capacity. For example, WA pays other states to fully share its fiscal advantage from a high capacity to raise mining royalties. Equally, the NT receives payments from other states to fully share its fiscal disadvantage from a high indigenous population.
- Since 2000, these equalisation transfers have been made as part of a 2-step system of sharing GST revenue between the states.
  1. GST revenue is initially shared according to state populations.
  2. These initial state payments are then adjusted for the equalisation transfers.
- In 2021/22, the CGC estimates GST of $67.2 bn will be shared.

1. Introduction – Grants (PC system)

- Following complaints from WA, a donor state, in 2017-18 the Productivity Commission (PC) conducted an inquiry into our fiscal equalisation system. It recommended that full equalisation be replaced with what the PC called equalisation to the average of all states (ETA).
- This is equivalent to the **grants** system that is discussed in the fiscal equalisation literature. Under the grants system, recipient states are paid from the GST pool instead of by donor states.
- The government rejected the PC recommendation for a grants system in favour of its own system.
- The PC is to report to government again by the end of 2026 on how the government system is performing.

1. Introduction – WA relief (govt system)

- The fiscally strongest state is always WA, NSW or Victoria. However, under the new government system, only NSW or Victoria can be declared as the fiscally strongest state for equalisation purposes.
- Hence, the change is that WA can no longer be declared as the fiscally strongest state. Thus, the new system is more aptly described as the **WA relief** system.
- The WA relief system will be fully phased in by 2027/28, when the 'no state worse off' guarantee expires.
- The government has also introduced a 75c in the $ floor for fiscal relativities. However, this floor will become irrelevant when the WA relief system is fully in place, because it will give WA a fiscal relativity above this floor.

1. Introduction – Efficient (public economics)

- The **efficient** system helps maximise economic welfare by allowing labour to be optimally allocated between states. This requires that each state offers the same type of labour the same dollar value of government services net of taxes, or net fiscal benefit.
- To achieve this, some factors that cause states to differ in fiscal capacities should be neutralised using equalisation and other factors should not.
- A state may have a higher fiscal capacity because it has a more educated population or more valuable natural resources (minerals and land). Such fiscal advantages may allow a state to offer haven-like tax rates, inefficiently attracting labour from more productive uses in other states. This loss in national productivity should be avoided using fiscal equalisation. (Buchanan, 1952; Boadway & Flatters, 1982)
- A state may also have a higher fiscal capacity because government services are provided more efficiently reducing expenditure needs, or it is an unattractive place to live requiring it to offer higher pay to attract workers, boosting revenue. Such fiscal advantages have a legitimate role in labour market decision making and should not be equalised. (Albouy, 2012)

2. Full Equalisation – CGC – 2021/22

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Redist
	$m	$m	$m	$m	$m	$m	$m	$m	$m
EFFECTS OF REVENUE RAISING CAPACITY									
Mining	2 852	3 913	-1 534	-6 417	743	254	266	- 77	8 029
Property sales	-1 517	- 928	799	830	553	163	8	91	2 444
Taxable land values	-1 139	- 536	829	159	417	154	100	16	1 676
Taxable payrolls	- 472	79	532	- 753	427	192	37	- 42	1 266
Other revenue effects	123	122	- 61	- 107	- 109	- 11	36	7	288
TOTAL REVENUE	- 153	2 650	564	-6 287	2 031	752	447	- 5	6 445
EFFECTS OF EXPENSE REQUIREMENTS									
Socio-demographic characteristics									
Population dispersion	-1 573	-1 395	891	538	93	506	- 222	1 162	3 190
Indigenous status	118	-1 879	818	227	- 160	139	- 73	810	2 112
Non-Indigenous disadvantage	27	- 193	209	- 204	392	140	- 259	- 112	768
Other SDC (a)	146	- 316	- 6	23	225	- 35	- 42	5	399
Urban centre characteristics	1153	459	-734	-281	-263	-195	-59	-81	1612
Administrative scale	-587	-411	-230	69	173	322	323	341	1228
Wage costs	421	-203	-220	349	-393	-158	119	85	975
Non-State sector	-367	-231	184	310	-19	35	100	-13	630
Other expenses	-407	-678	391	437	111	80	-79	145	1164
Cost of construction	112	-517	-12	340	-30	-44	12	139	603
Other investment expenses	-57	346	68	-115	-306	-74	-154	293	706
TOTAL EXPENSE AND INVESTMENT	-1 013	-5 019	1 358	1 694	- 176	716	- 333	2 773	6 542
Commonwealth payments	450	1201	-974	-71	-204	-88	81	-395	1733
Total effect of fiscal capacities	-715	-1168	947	-4664	1650	1381	195	2374	6547

2. Full Equalisation – 2021/22 ($million)

	(1) per capita grant	(2) equalisation transfer	(3) total = (1)+(2)	(4) GST relativity = (3)/(1)
NSW	21,280	-715	20,565	0.97
Vic	17,566	-1,168	16,399	0.93
Qld	13,605	947	14,552	1.07
WA	6,953	-4,664	2,289	0.33
SA	4,607	1,650	6,258	1.36
Tas	1,419	1,381	2,800	1.97
ACT	1,127	195	1,322	1.17
NT	622	2,374	2,995	4.82
Total	67,180	0	67,180	1.00

2. Full Equalisation – 2021/22 ($ per capita)

	(1) per capita grant	(2) equalisation transfer	(3) total = (1)+(2)	(4) GST relativity = (3)/(1)
NSW	2,608	-88	2,520	0.97
Vic	2,608	-173	2,435	0.93
Qld	2,608	182	2,790	1.07
WA	2,608	-1,750	859	0.33
SA	2,608	934	3,542	1.36
Tas	2,608	2,537	5,145	1.97
ACT	2,608	452	3,060	1.17
NT	2,608	9,957	12,565	4.82
Total	2,608		2,608	1.00

3. Grants scheme – 2021/22 – $million

	(1) per capita grant	(2) equalisation grant	(3) cost of grant	(4) total transfer = (2)+(3)
NSW	21,280	0	-2,074	-2,074
Vic	17,566	0	-1,712	-1,712
Qld	13,605	947	-1,326	-379
WA	6,953	0	-678	-678
SA	4,607	1,650	-449	1,201
Tas	1,419	1,381	-138	1,242
ACT	1,127	195	-110	85
NT	622	2,374	-61	2,313
Total	67,180	6,547	-6,547	0

3. Grants scheme – 2021/22 – $million

	(1) per capita grant	(2) equalisation transfer	(3) total = (1)+(2)	(4) GST relativity = (3)/(1)
NSW	21,280	-2,074	19,206	0.90
Vic	17,566	-1,712	15,854	0.90
Qld	13,605	-379	13,227	0.97
WA	6,953	-678	6,276	0.90
SA	4,607	1,201	5,809	1.26
Tas	1,419	1,242	2,662	1.88
ACT	1,127	85	1,212	1.08
NT	622	2,313	2,935	4.72
Total	67,180		67,180	1.00

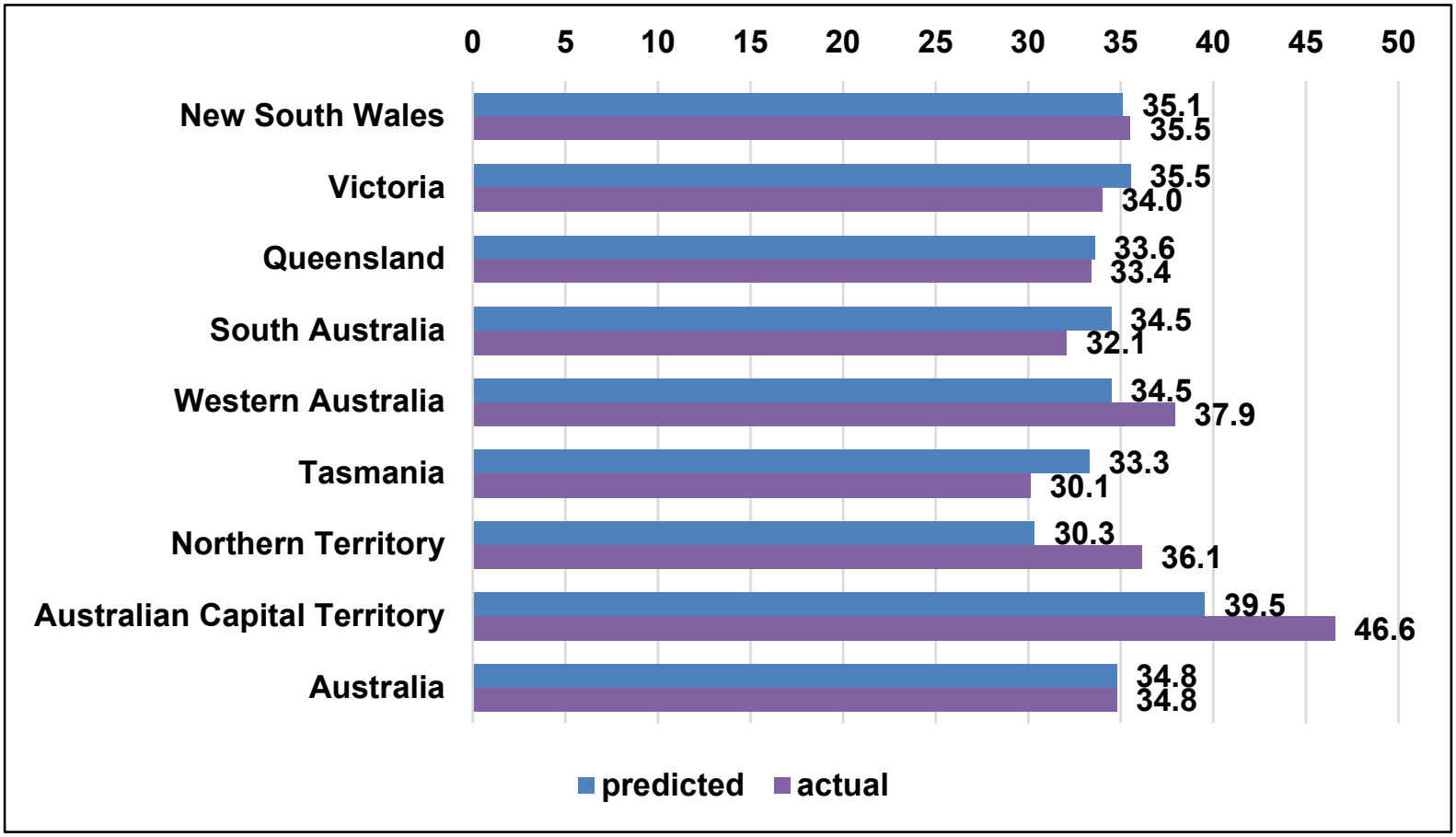
4. WA relief – 2021/22 – $million

	(1) per capita grant	(2) equalisation transfer	(3) cost of WA relief	(4) total transfer = (2)+(3)
NSW	21,280	-715	-1,331	-2,046
Vic	17,566	-1,168	-1,099	-2,266
Qld	13,605	947	-851	96
WA	6,953	-462	-435	-897
SA	4,607	1,650	-288	1,362
Tas	1,419	1,381	-89	1,292
ACT	1,127	195	-70	125
NT	622	2,374	-39	2,335
Total	67,180	4,202	-4,202	0

4. WA relief – 2021/22 – $million

	(1) per capita grant	(2) equalisation transfer	(3) total = (1)+(2)	(4) GST relativity = (3)/(1)
NSW	21,280	-2,046	19,234	0.90
Vic	17,566	-2,266	15,300	0.87
Qld	13,605	96	13,701	1.01
WA	6,953	-897	6,056	0.87
SA	4,607	1,362	5,969	1.30
Tas	1,419	1,292	2,711	1.91
ACT	1,127	125	1,252	1.11
NT	622	2,335	2,957	4.76
Total	67,180	0	67,180	1.00

5. Incomes predicted from demography ($'000 per year per capita, 2016 Census)



5. Optimal HFE – 2021/22

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Redist	category
	$m	$m	$m	$m	$m	$m	$m	$m	$m	
EFFECTS OF REVENUE RAISING CAPACITY										
Mining	2 852	3 913	-1 534	-6 417	743	254	266	- 77	8 029	full equalisation
Property sales	-1 517	- 928	799	830	553	163	8	91	2 444	full equalisation
Taxable land values	-1 139	- 536	829	159	417	154	100	16	1 676	full equalisation
Taxable payrolls	- 78	- 142	183	24	17	25	- 61	33	282	demographic only
Other revenue effects	- 52	- 95	122	16	12	16	- 41	22	188	demographic only
Other revenue	- 147	- 268	344	46	33	46	- 116	62	531	demographic only
GST: imputed less epc revenue	1 084	166	- 828	- 120	- 309	- 114	97	25	1 372	
GST: equalisation	- 197	- 358	460	61	44	62	- 155	83	710	demographic only
TOTAL REVENUE	806	1 752	374	-5 401	1 509	607	99	255	5 401	
EFFECTS OF EXPENSE REQUIREMENTS										
Socio-demographic characteristics										
Population dispersion	0	0	0	0	0	0	0	0	0	nil equalisation
Indigenous status	118	-1 879	818	227	- 160	139	- 73	810	2 112	fixed costs
Non-Indigenous disadvantage	27	- 193	209	- 204	392	140	- 259	- 112	768	demographic
Other SDC (a)	146	- 316	- 6	23	225	- 35	- 42	5	399	demographic
Urban centre characteristics	0	0	0	0	0	0	0	0	0	nil equalisation
Administrative scale	- 587	- 411	- 230	69	173	322	323	341	1 228	fixed costs
Wage costs	0	0	0	0	0	0	0	0	0	nil equalisation
Non-State sector	- 367	- 231	184	310	- 19	35	100	- 13	630	demographic
Other expenses	- 407	- 678	391	437	111	80	- 79	145	1 164	demographic
Cost of construction	0	0	0	0	0	0	0	0	0	nil equalisation
Other investment expenses	- 57	346	68	- 115	- 306	- 74	- 154	293	706	demographic
TOTAL EXPENSE AND INVESTMENT	-1 126	-3 363	1 434	747	416	608	- 184	1 468	4673	
Commonwealth payments	450	1201	-974	-71	-204	-88	81	-395	1733	
Total effect of fiscal capacities	130	-410	833	-4724	1721	1126	-4	1329	5138	

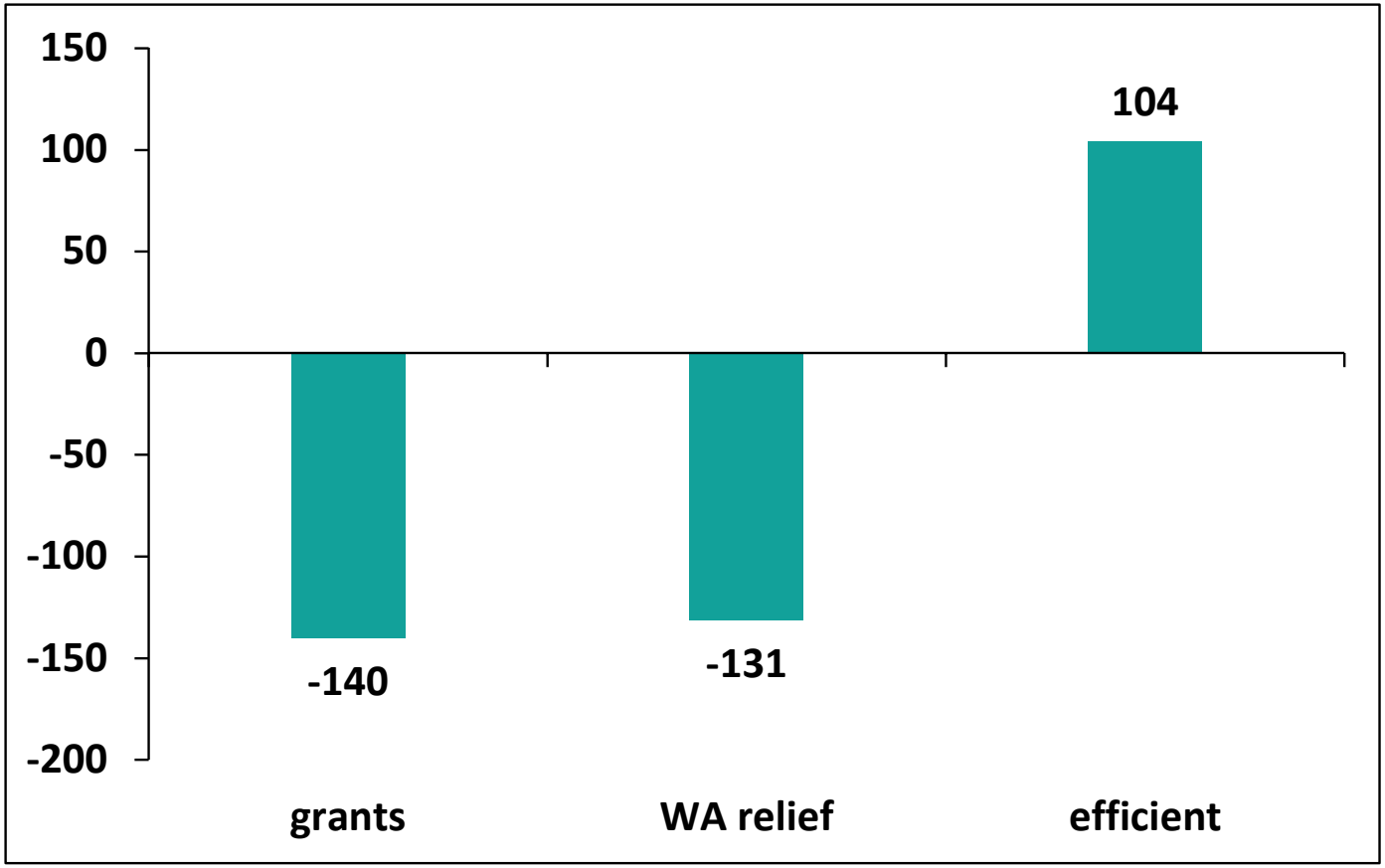
6. Transfers under each system (2021/22 – $million)

	2021-22			
	full	grants	WA relief	efficient
NSW	-715	-2,074	-2,046	135
Vic	-1,168	-1,712	-2,266	-416
Qld	947	-379	96	836
WA	-4,664	-678	-897	-4,724
SA	1,650	1,201	1,362	1,719
Tas	1,381	1,242	1,292	1,126
ACT	195	85	125	-6
NT	2,374	2,313	2,335	1,331
Total	0	0	0	0

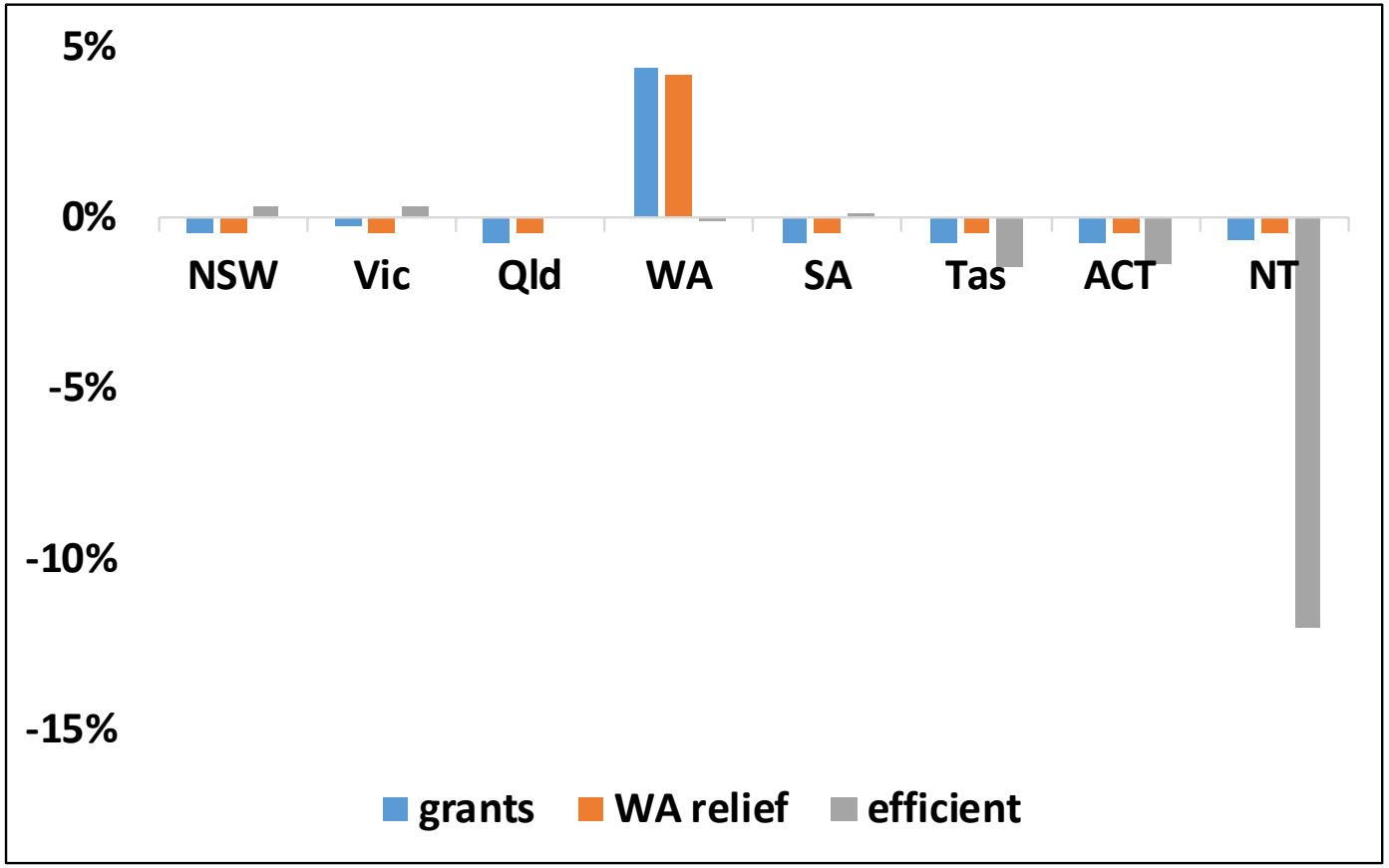
6. GST relativities under each system (relative to per capita share)

	full	grants	WA relief	efficient
NSW	0.97	0.90	0.90	1.01
Vic	0.93	0.90	0.87	0.98
Qld	1.07	0.97	1.01	1.06
WA	0.33	0.90	0.87	0.32
SA	1.36	1.26	1.30	1.37
Tas	1.97	1.88	1.91	1.79
ACT	1.17	1.08	1.11	0.99
NT	4.82	4.72	4.76	3.14
Total	1.00	1.00	1.00	1.00

6. Consumer welfare
($ million per year, relative to full equalisation)



6. Population impacts
(per cent, relative to full equalisation)



6. Conclusions

1. The new WA relief system to be phased in by 2027/28 leaves WA with $3,827 million more than under an efficient system. (The grants system proposed by the Productivity Commission is similarly flawed.) This excess would allow it to create a tax haven by, for example, completely abolishing payroll tax.
2. The would attract economic activities to WA that would be more productively undertaken in other states. National economic welfare would be lower than under the existing full equalisation system.
3. An efficient equalisation system would equalise for some (not all) sources of fiscal (dis)advantage. NSW and Victoria would have fiscal relativities near 1.0. The fiscal relativity of WA would be similar to under full equalisation. The fiscal relativities of the smaller states would fall slightly.
4. The worst option would be to entirely eliminate fiscal equalisation. This would lead to shifts in economic activity between states that are inspired by net fiscal benefits rather than by economic opportunities.

Questions

6. This study

Murphy, C. (2018b) ‘Optimal fiscal equalisation and its application to Australia: updated’, ANU Tax and Transfer Policy Institute Working Paper, 11/2018.

https://taxpolicy.crawford.anu.edu.au/publication/ttpi-working-papers/12676/optimal-fiscal-equalisation-and-its-application-australia

1. Introduction – aim of the optimal system

- An optimal equalisation system is designed to best serve the public interest. There are three possible ways it might do this.
- Vertical equity – redistributing from rich to poor. Fiscal equalisation between states is a blunt instrument for achieving vertical equity because each state has a mixture of rich and poor people. The Federal Government can better achieve vertical equity by targeting individuals using the Commonwealth system of taxes and transfers.
- Horizontal equity – ensuring that individuals of a given type have the same economic welfare irrespective of the state in which they live. Australian fiscal equalisation has tried to achieve this. However, free interstate migration achieves this aim better because migration decisions take into account all of the factors that influence economic welfare in a state, not just state government services and taxes.
- Labour location efficiency – labour is allocated between states to maximise economic welfare. Fiscal equalisation is integral to achieving this. So fiscal equalisation should focus on this aim.

1. Introduction – this study

This study has developed an optimal fiscal equalisation system for Australia in a series of papers: Independent Economics (2015), Murphy (2017) and Murphy (2018). This has three aspects.

1. The principles of optimal fiscal equalisation. Building on international research (Buchanan, 1952; Boadway & Flatters, 1982; Albouy, 2012), this study clarifies some issues and adds an Australian orientation e.g. including the GST. It arrives at a general formula for optimal fiscal equalisation.
2. The practice of optimal fiscal equalisation. This work applies the formula to Australia. This provides a set of optimal equalisation transfers between the eight states and territories for any given year.
3. A comparison of the economic effects of alternative systems. This compares the effects on state populations and economic welfare of moving from full equalisation to: (i) no equalisation; (ii) the PC's grants scheme; (iii) the government's WA relief scheme; or (iv) the optimal scheme.

2. Old (full) HFE - Factors

- Australia's system of full equalisation neutralises all of the following sources of higher than average fiscal capacity.
- Natural endowments. Valuable mining and land resources boost fiscal capacity via the tax bases for royalties, stamp duties and land tax.
- Demographic circumstances. A state with a population that is more educated, mainly of prime working age and has low indigeneity has a higher fiscal capacity.
- Geographic circumstances. A state with a lower remote population has lower costs in providing government services, giving it a higher fiscal capacity.
- Economic circumstances. A state that is unattractive to live or faces a labour shortage may need to offer higher wages to attract workers from other states. Such higher wages may increase fiscal capacity via higher payroll tax and other revenues.

5. Equalisation theory: assumptions

- There are different types of labour
- Each labour type is perfectly mobile between states
- Federal government makes equalisation transfers to state govts
- Federal government makes redistributive transfers to different labour types
- State government levies multiple taxes
- State government services provide private (rather than public) benefits
- State governments follow the same redistributive policies
- State production depends on inputs of capital, labour types and land
- Fixed supply of land in each state
- Individual asset holdings are independent of state of residence
- Productivity and consumer amenity can vary by state
- Labour and capital supplies are fixed at the national level
- Government behaves as a benevolent planner

5. Equalisation theory: general conclusions

- An optimising, benevolent government needs each state to offer the same type of labour the same dollar value of government services net of taxes, or net fiscal benefit.
- Otherwise, if different states offer the same person different net fiscal benefits, their choice of state to live may be distorted, being no longer based solely on labour market considerations.
- This principle leads to a clear-cut formula for optimal fiscal equalisation, which is given in the study papers.

5. Equalisation theory: what to equalise

- The old full equalisation system neutralises all four sources of higher than average fiscal capacity. The optimal equalisation system is more selective as follows.
- Natural endowments. Minerals and land taxes are partly paid by outside investors rather than state residents, so it is optimal to fully equalised their effects on fiscal capacity.
- Demographic circumstances. These should also be fully equalised. Otherwise the location choice of labour of type A may be distorted by a fiscal (dis)advantage caused by over or under-representation in a state of labour of type B.
- Geographic circumstances. These should not be equalised. The user pays principle should apply to those living in high cost areas.
- Economic circumstances. These should be equalised only to the extent that they are driven by demographic circumstances. The existing practice of fully equalising for economic circumstances blunts the incentive to migrate to higher economic opportunity states.

5. Equalisation model - implementation

- For a revenue item, the fiscal disadvantage of a state is measured by the difference between its share of the population and its share of the tax base. The equalisation payment made is equal to this difference in shares applied to national revenue. The same logic is applied to expenditure items.
  - Transfer = national revenue*(state share of pop – state share of tax base)
  - Transfer = national spend*(state share of spend base – state share of pop)
- This results in transfer payments summing to zero across states.
- Under full equalisation, actual bases are used in the formulas.
- Under limited equalisation, actual bases are replaced with bases predicted from demographic composition alone.
- For illustrative purposes, this paper defines demographic types using age group, indigenous status and educational attainment.

5. Optimal HFE (simplified version) – 2021/22

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Redist
	$m	$m	$m	$m	$m	$m	$m	$m	$m
EFFECTS OF REVENUE RAISING CAPACITY									
Mining	2 852	3 913	-1 534	-6 417	743	254	266	- 77	8 029
Property sales	-1 517	- 928	799	830	553	163	8	91	2 444
Taxable land values	-1 139	- 536	829	159	417	154	100	16	1 676
Taxable payrolls	0	0	0	0	0	0	0	0	0
Other revenue effects	0	0	0	0	0	0	0	0	0
TOTAL REVENUE	197	2 449	94	-5 428	1 713	571	375	30	12 148
EFFECTS OF EXPENSE REQUIREMENTS									
Socio-demographic characteristics									
Population dispersion	0	0	0	0	0	0	0	0	0
Indigenous status	118	-1 879	818	227	- 160	139	- 73	810	2 112
Non-Indigenous disadvantage	27	- 193	209	- 204	392	140	- 259	- 112	768
Other SDC (a)	146	- 316	- 6	23	225	- 35	- 42	5	399
Urban centre characteristics	0	0	0	0	0	0	0	0	0
Administrative scale	-587	-411	-230	69	173	322	323	341	1 228
Wage costs	0	0	0	0	0	0	0	0	0
Non-State sector	-367	-231	184	310	-19	35	100	-13	630
Other expenses	- 407	- 678	391	437	111	80	- 79	145	1 164
Cost of construction	0	0	0	0	0	0	0	0	0
Other investment expenses	-57	346	68	-115	-306	-74	-154	293	706
TOTAL EXPENSE AND INVESTMENT	-1 126	-3 363	1 434	747	416	608	- 184	1 468	4673
Commonwealth payments	450	1201	-974	-71	-204	-88	81	-395	1733
Total effect of fiscal capacities	-480	288	553	-4752	1925	1090	272	1103	5231

6. Estimating welfare effects

- The discrepancy between the optimal transfer and the transfer a state receives generates a deadweight loss (DWL) in economic welfare.
- The contribution of each state to the DWL is (Albouy, 2012):
  - $DWL = -\frac{1}{2}.\varepsilon.t^2.Y$ where
  - "t" is the discrepancy expressed as a percentage of state income
  - "Y" is state income
  - "ε" is the long-run elasticity of a state's population with respect to changes in its per capita income resulting from changes in its net fiscal benefit
- The population elasticity is set to -3 (Wilson, 2003).

6. Recommendations

Revenue

1. Retain full equalisation for mining royalties (but preferably based on mining capacity not mining production), stamp duties on conveyances and land tax.
2. Replace the population-based state distribution of national GST with a household consumption-based distribution.
3. For GST and other revenues not in (1), use limited equalisation where revenue-raising capacity is assessed from state demography, not actual state tax bases because they are also affected by economic performance.

Spending

1. Retain full equalisation for administrative scale.
2. Retain full equalisation for demographic-based characteristics.
3. Remove equalisation for geographic circumstances.
4. Remove equalisation for wage costs.

7. Qualifications

- Labour is fully mobile between states
- Fixed supplies of factors of production at the national level
- State governments take equalisation grants as given
- State governments provide private services
- Locational distortions caused by central government budgets are excluded from the equalisation analysis
- No congestion (congestion is seen as a congestion tax not HFE issue)
- These assumptions seem reasonable in the context of analysing fiscal equalisation policy, but not in some other policy contexts

7. Qualifications - Historical Population Mobility