An estimation of the savings achievable through the abolition of the States and Territories, and the establishment of a two-tier national-regional system of government, consisting of up to 131 regional governments.

The roles of governments are basically to (1) ***provide*** and ***produce*** goods and services (through allocative, distributive, stabilising and subsiding measures) and (2) ***regulate*** (by establishing and enforcing laws, regulations and standards). Among Australia's three-tiers of government, duplication and overlap in these roles occurs to an enormously expensive extent, and such duplication costs can be broken into the following *five* components:

- horizontal duplication costs among State and Territory governments (the total of which shall be referred to here as C_{HS});
- horizontal duplication costs among Local governments (C_{HL});
- vertical duplication costs between Commonwealth and State/Territory governments (C_{VS});
- vertical duplication costs between Commonwealth and Local governments (C_{VL}); and
- vertical duplication costs between State/Territory and Local governments (C_{VSL}).

(Note that in relation to the above duplication costs, the ACT is an exception in that it is already only subject to two tiers of government)

In contrast, the proposed two-tier system of government would only incur the following two components of duplicated costs:

- horizontal duplication costs among Regional governments (C_{HR}); and
- vertical duplication costs between Commonwealth and Regional governments (C_{VR}).

So the total duplication cost savings ($S_{3->2}$) achievable through a move to a two-tier system of government would be given by the formula

$$S_{3->2} = (C_{HS} + C_{HL} + C_{VS} + C_{VL} + C_{VSL}) - (C_{HR} + C_{VR}) \quad \text{... [1]}$$

An estimation of the costs of State/Territory *type* governments, and hence *part of* the C_{HS} component, shall now be detailed by of illustration.

For present purposes it is appropriate to apply an accounting model in which the expenditure of State/Territory type governments is given by the expression:

$$E_S = FC_S + VC_S \times p_S \quad \text{.... [2]}$$

where E_S is the expenditure (in terms of government outlays) of a State/Territory government;

FC_S is the 'fixed' cost, or 'overhead' cost, incurred by State/Territory governments;

VC_S is the 'variable' (or marginal, or 'per unit' - in this case 'per capita') cost incurred by State/Territory governments;

and p_S is the population of the State/Territory

This model assumes two basic components of government expenditure:

(1) a 'fixed' cost component (FC_S) of expenditure which is incurred irrespective of the size of the governed population. So the 'fixed' costs incurred by the Tasmanian government will be the same as for New South Wales and the other States and Territories. The salaries of the State Premiers and Territory Chief Ministers would obviously fall directly within this component, as would most 'head office' costs.

AND

(2) a 'variable' cost component ($VC_S \times p_S$), which accrues in proportion to the size of the governed population. These 'variable' costs include components such as the costs of running schools themselves (as distinct from 'fixed' head office' costs), and V_S (a per capita measure) is again assumed to be the same for each State and Territory.

Furthermore, expression [2] is equivalent to the following equation of a straight line as taught in high school:

$$y = mx + b = b + mx \quad \text{... [3]}$$

where E_S in [2] is a variable quantity like the y in [3];
p_S in [2] is a variable quantity like the x in [3];

FC_S in [2], like b in [3], provides the vertical axis intercept (or 'y-intercept') of the graphical representation of [2];

and VC_S in [2], like m in [3], provides the gradient of the graphical representation of [2].

So the task of finding best estimates of the quantities FC_S and VC_S is essentially that of determining the **line of best fit** of a graphical representation of expression [2]. The sought after 'line of best fit', and hence

the values of FC_S and VC_S, are estimated here through the application of least-square linear regression techniques to government outlay and population data for the various States and Territories as obtained from the Australian Bureau of Statistics Government Finance Statistics publication (Catalogue Number 5512.0). Data from the financial year 1999/2000 has been used here.

Graphs 1 and 2 following show the plotted data points, the lines of best fit, and the gradients and vertical-axis-intercepts which provide estimates for FC_S and VC_S. These results and other relevant measures are summarised as follows:

Table 1 – Fixed and Per Capita Costs based on Total Public Sector and General Government Expenditures

Data set used	best estimate of FC_S ($ million)	best estimate of VC_S ($ per person)	correlation coefficient	F-statistic (F_{crit} = 35.51)
States and Territories Total Public Sector	1771.74	6165.86	0.9935	456.58
States and Territories General Government	830.15	5085.89	0.9975	1186.92

The high correlation coefficients achieved here confirm the validity of the model described by expression [2].

Now ideally, taxpayers would be burdened not with eight lots of fixed costs associated with the eight State and Territory governments, but just one lot of such costs, so the outlay component of the horizontal duplication costs of the State and Territory governments is approximately $12.4 billion (this being 7 x $1771.74 million) in total. So our best estimate of the outlay component of C_{HS} is:

$$C_{HS(outlays)} = \$12.40 \text{ billion} \quad \ldots [4]$$

Data on individual local government outlays is not as readily available as that for States and Territories, however we can still derive an estimate of the outlays component of the savings figure $S_{3->2}$, as follows:

Estimating the costs of a two-tier system based on insights from the ACT!

Of all provincial governments in Australia, the ACT Assembly is that which might be expected to most closely reflect what a regional government might be like in a two-tier system. Regional governments would probably lie

somewhere between the ACT Assembly and the Brisbane City Council in terms of their roles and responsibilities and the populations they would serve. But the ACT form of government is of interest particularly in terms of the quite substantial cost saving synergies it achieves through combining traditional State and local government functions.

Now Australia's population at June 1999 was some 61.134 times greater than that of the ACT, and using total public sector expenditure figures from ABS Catalogue 5512.0 (Table 12), the 1999/2000 total public expenditure for the ACT was $2.149 billion, and for all states (including local government) and territories combined was $131.102 billion. Now 61.134 lots of $2.149 billion amounts to $131.377 billion, so, based on these 1999/2000 figures, a system comprising of 61.134 ACT style governments would be some $0.275 billion ($13.377 billion – $13.102 billion) more expensive than the present system is.

If general government expenditure figures rather than total public sector expenditure figures are used (Table 10 of ABS Catalogue 5512.0), the $0.275 billion per annum figure obtained above (using total public sector figures) becomes $9.275 billion (61.134 x $1.838 billion - $103.089 billion).

The idea now is that if instead of 61.134 ACT type governments are operated in a national-regional system we have a different number of ACT type regional governments, we will save one lot of the fixed costs (FC_S) for each reduction by one in the number of such regional governments, and hence would achieve savings as follows:

Table 2 – Savings for Various Numbers of ACT Type Governments

Number of ACT type governments	savings ($ billion) based on total public sector FC_S value of $1771.74 million	savings ($ billion) based on general government FC_S value of $830.15 million
61.134	**-0.275**	**-9.275**
61	**-0.038**	**-9.164**
60	**1.734**	**-8.334**
50	**19.452**	**-0.033**
40	**37.169**	**8.269**
30	**54.886**	**16.571**
20	**72.604**	**24.872**
10	**90.321**	**33.174**
0	**108.038**	**41.475**

Furthermore, when our statistical regression technique is applied to State and Territory outlay figures for ***individual government purpose areas***, the following best estimates emerge:

Table 3 – Fixed Costs in Particular Functional Areas

Government purpose area	best estimate of FC_S component ($ million)	correlation coefficient
Public Order and Safety	**75.7**	**0.9983**
Education	**194.1**	**0.9994**
Health	**152.2**	**0.9972**
TOTAL of the above	**422.0**	

The above results suggest that if public order and safety, health and education were transferred to the national government, a further $422 million could be saved for each government, as follows:

Table 4 – Additional Savings if Health, Education and Public Order & Safety are Transferred to National Government

Number of ACT type governments	Savings Estimate ($ billion)
61.134	**25.800**
61	**25.744**
60	**25.322**
50	**21.101**
40	**16.881**
30	**12.661**
20	**8.441**
10	**4.220**
0	**0.000**

Table 5 below provides four separate overall savings estimations. The second and fourth columns repeat Table 2 whereas the third and fifth columns are the respective Table 2 Figures with the Table 4 figures added to them.

Table 5 – Public Sector Savings Estimates According to Four Options

No. of ACT type govts	savings based on Total Public Sector figures	savings based on Total Public Sector figures assuming Health, Education & Public Order & Safety transferred to national government	savings based on General Government figures	savings based on General Government figures assuming Health, Education & Public Order & Safety transferred to national government
61.134	-0.3	25.5	-9.3	16.5
61	0.0	25.7	-9.2	16.6
60	1.7	27.1	-8.3	17.0
50	19.5	40.6	0.0	21.1
40	37.2	54.1	8.3	25.2
30	54.9	67.5	16.6	29.2
20	72.6	81.0	24.9	33.3
10	90.3	94.5	33.2	37.4
0	108.0	108.0	41.5	41.5

The figures in the second and third columns above appear to be excessive and those in the fourth and fifth columns shall be used for the sought after savings estimations.

The formula for the figures in the rightmost column above, which shall be used as the best estimates here (assuming regional governments in a form more or less like the ACT government less powers and responsibilities in health, education and public order & safety) is:

Savings = $41.47 billion – (# govts)*($0.408 billion) [5]

[Note that the $0.408 billion figure is the $830 million figure from Table 1 MINUS the $422 million figure from Table 3]

All the above is just for the public sector side of things. Assuming $12 billion in savings for the private sector side of things takes the above to:

Savings = $53.47 billion – (# govts)*($0.408 billion) [6]

The equation of [6] suggests total savings as follows:

Table 6 – Total (Public and Private combined) Savings Estimates – Based on $12 billion Private Sector Savings Component

No. of ACT type govts without powers and responsibilities for health, education and public order & safety	Total Savings Estimate Based on Equation [6] ($ billion)
132	-0.40
131	0.01
130	0.42
125	2.46
120	4.50
115	6.54
110	8.58
105	10.62
100	12.66
95	14.70
90	16.74
85	18.78
80	20.83
75	22.87
70	24.91
65	26.95
60	28.99
55	31.03
50	33.07
45	35.11
40	37.15
35	39.19
30	41.23
25	43.27
20	45.31
15	47.35
10	49.39

5	51.43
0	53.47

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