

MANUFACTURING AND OTHER INDUSTRY

- 1 This working paper describes how the Commission estimated what expenses each State would face if it provided the Australian average level of service to manufacturing and other industry. The development of the assessment method is discussed in Volume 5 of the 2004 Review Working Papers.

DESCRIPTION OF THE CATEGORY

- 2 The category comprised expenses on administration, planning, support, regulation, inspection and promotion relating to industries not elsewhere classified. More specifically, the category included expenses on:
 - manufacturing activities and research into manufacturing methods, materials and industrial management; and
 - other services designed to support, promote and encourage new or expanding industries not elsewhere classified and the development of advanced technology related to these industries.
- 3 The Commission included the following SPPs in the category for the 2004 Review.
 - *Enterprise Development Program*; and
 - *National Business Information Service*.
- 4 The last payment under the Enterprise Development Program was in 2000-01, just outside the five year period covered by the 2007 Update. The last payment under the National Business Information Services was in 2001-02.
- 5 Table 1 shows the gross average expenses for the last six financial years. In 2005-06, the category average of \$8.22 per capita represented 0.14 per cent of the total gross average expenses. In 2005-06, user charges accounted for almost 43 per cent of gross average expenses associated with this category.

Table 1 Manufacturing and Other Industry, average expenses and user charges, 2000-01 to 2005-06

	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06
Average expenses (\$pc)	6.42	9.98	7.62	10.29	12.32	8.22
% of total State average expenses	0.13	0.19	0.14	0.19	0.22	0.14
Average user charges (\$pc)	1.97	2.25	2.68	2.95	3.31	3.51
% of category average expenses	30.64	22.56	35.15	28.70	26.85	42.63

ASSESSMENT METHOD

Description of the assessment

- 6 The assessment method for the 2007 Update was the same as was used for the 2006 Update, and used four components: fixed costs, regulation, economic development and isolation.
- The expenses for fixed costs were assessed using the general method.
 - The expenses for regulation were assessed using economic environment and input cost factors.
 - The expenses for economic development were assessed on an equal per capita basis.
 - The expenses for isolation were assessed by the general method.

Developments which affected the 2007 Update

- 7 From the 2006 Update onwards, the Commission decided to substitute State population data for counts of business locations that were derived from the Australian Business Register because the latter were not found to be fit for purpose, and not material to the assessment. Use of population data meant that an equal per capita assessment applied to this contributor to the disability calculation. More details on the Commission's decision can be found in the 2006 Update working paper on Mining, fuel and energy.

Assessment structure

- 8 Table 2 summarises the assessment for the 2007 Update.

Table 2 Manufacturing and other industry, assessment structure for the 2007 Update, 2005-06

Expense component	Component weight	Factors	Basis of calculation
	%		
Fixed costs	21.62	Administrative scale	General method.
		Input costs	General method, with weights of 80% for wages, 2% for accommodation and 0.5% for electricity.
Regulation	27.43	Economic environment	Based on mean resident population and value of production of all industries except agriculture, fisheries, mining, tourism, government administration and defence, ownership of all dwellings and general government — locations and output sub-factors being each weighted by 50%.
		Input costs	General method, with weights of 60% for wages, 2% for accommodation and 0.5% for electricity.
Economic development	50.95	None	Equal per capita.

Calculating the category factor

- 9 Table 3 summarises the components, component weights and disability factors assessed for this category for the last year of the 2007 Update. It also shows the calculation of the category factor for 2005-06.

Table 3 Manufacturing and other industry, derivation of category factor, 2007 Update, 2005-06

Factors	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Fixed costs (component weight = 21.62 %)								
Administrative scale	0.37633	0.50595	0.63736	1.25990	1.65290	5.24912	7.81806	12.47610
Input costs	1.02885	0.99514	0.97511	0.98495	0.97832	0.96027	1.02142	1.02379
Component factor	0.38718	0.50349	0.62150	1.24094	1.61707	5.04058	7.98555	12.77287
A Wgtd comp factor	0.08405	0.10930	0.13491	0.26938	0.35103	1.09419	1.73347	2.77269
Regulation (component weight = 27.43 %)								
Economic environment	1.03447	1.03670	0.93670	1.00303	0.93676	0.86797	1.01344	0.93103
Input costs	1.02254	0.99590	0.98112	0.98853	0.98249	0.96833	1.01629	1.01849
Component factor	1.05779	1.03245	0.91901	0.99153	0.92036	0.84048	1.02994	0.94825
B Wgtd comp factor	0.29000	0.28305	0.25195	0.27183	0.25232	0.23042	0.28237	0.25997
Economic development (component weight = 50.95 %)								
EPC	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
Component factor	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
C Wgtd comp factor	0.50947	0.50947	0.50947	0.50947	0.50947	0.50947	0.50947	0.50947
Category factor	0.88352	0.90182	0.89633	1.05068	1.11282	1.83408	2.52531	3.54213

10 The factor was calculated as follows:

$$\begin{aligned}
 \text{category factor} &= \text{fixed costs} + \text{regulation} + \text{economic development} \\
 \text{fixed costs} &= 0.2162 [\text{administrative scale} * \text{fixed costs input costs}] \\
 \text{regulation} &= 0.2743 [\text{economic environment} * \text{input costs}] \\
 \text{Economic development} &= 0.5095 [\text{EPC factor}]
 \end{aligned}$$

11 In each case, the contribution to the category factor was calculated as the expenses component weight multiplied by the component factor (the bracketed terms in the formulas). Each contribution to category factor was rescaled to ensure that the sum of assessed equalled the sum of actual expenses.

RESULTS FOR 2005-06

12 Table 10 at the end of this section shows the average, actual and assessed expenses for each State for all years of the 2007 Update.

13 Table 4 shows, for 2005-06, actual and assessed gross expenses per capita and assessed cost of service provision ratio.

Table 4 Manufacturing and other industry, assessment results, 2005-06

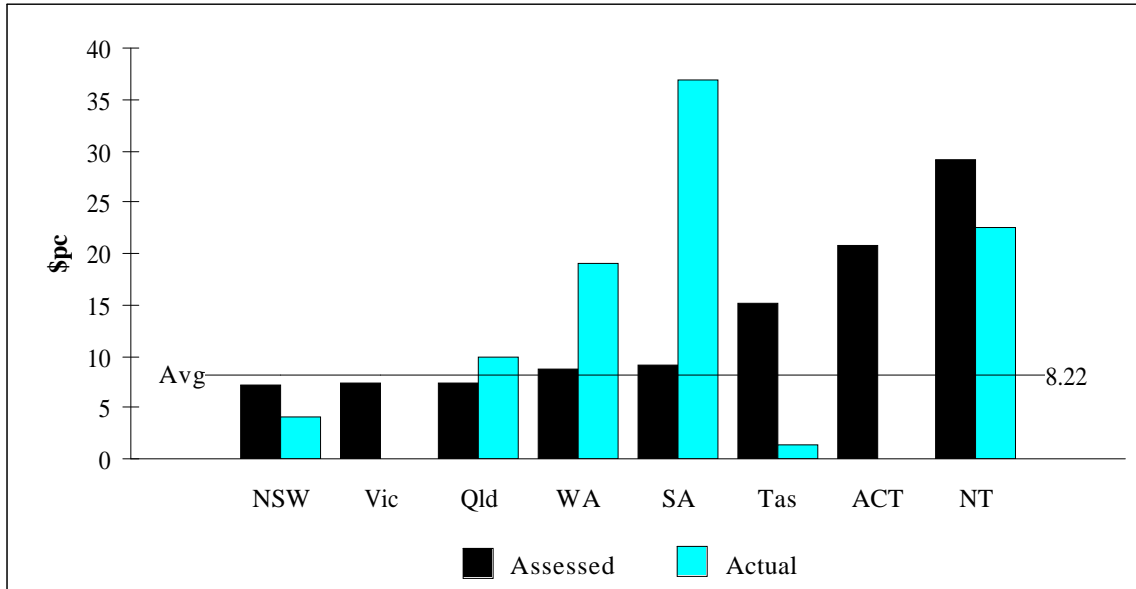
	NSW	Vic	Qld	WA	SA	Tas	ACT(a)	NT	Avg
	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc
Actual expenses	4.02	0.00	9.98	18.95	36.91	1.36	0.00	22.62	8.22
Assessed expenses	7.27	7.42	7.37	8.64	9.15	15.08	20.77	29.13	8.22
	%	%	%	%	%	%	%	%	%
Assessed cost of providing services ratio (b)	88	90	90	105	111	183	253	354	100

(a) ACT expenses may include municipal transactions.

(b) The cost of service provision ratio is the ratio of assessed to average gross expenses per capita.

14 Figure 1 shows the gross expenses per capita for 2005-06 in terms of assessed, actual and gross average expenses.

Figure 1 Manufacturing and other industry, gross assessed, actual^(a) and average expenses, \$ per capita, 2005-06



(a) ACT expenses may include municipal transactions.

Cost of service provision ratios

15 A State’s cost of service provision ratio is the ratio of assessed gross expenses per capita to average gross expenses per capita. For this category, the key drivers of the cost of service provision ratio were the fixed cost expenses, which were not surprisingly higher per capita for smaller States.

CONTRIBUTION TO GST AND HCG POOL DISTRIBUTION

16 Table 5 shows the category’s contribution to the distribution of GST revenue and health care grants (the pool) implied by the 2007 Update. It also shows the contribution of each factor and component to the total distribution of the pool.

Table 5 Manufacturing and other industry, contribution of assessment to distribution of the pool, 2007 Update

Factor	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total redist'd
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Fixed costs									
Administrative scale	-8.4	-4.9	-2.8	1.1	1.9	4.0	4.3	4.7	16.1
Input costs	0.4	0.0	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.5
Component factor	-8.2	-4.9	-2.9	1.0	1.8	3.9	4.5	4.8	16.0
Economic development									
EPC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Component factor	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Regulation									
Economic environment	1.0	0.7	-1.0	-0.1	-0.3	-0.2	0.0	-0.1	1.7
Input costs	0.6	0.0	-0.3	-0.1	-0.1	-0.1	0.0	0.0	0.6
Component factor	1.6	0.6	-1.3	-0.2	-0.4	-0.3	0.0	0.0	2.2
Redistribution from EPC resulting from the 2007 Update assessment									
Update assessment	-6.7	-4.3	-4.2	0.8	1.4	3.6	4.5	4.8	15.2

Differences from an equal per capita assessment

- 17 The table indicates that the main driver of this assessment was the administrative scale factor, which redistributed \$16.1 million.
- 18 New South Wales, Victoria and Queensland had below average needs — this was because of their relatively low per capita administrative scale costs. For the regulation component, only New South Wales and Victoria had above average needs because of larger than average economic activity (as measured by factor income) in the industries covered by the category — although this factor had far less influence on redistribution than for fixed costs.

CHANGES SINCE THE 2006 UPDATE

Effect of assessment on the distribution of the pool

- 19 The assessments in each update are based on a five year average of the most recent expense data and indicators of disability. For the 2006 Update, data for the period 2000-01 to 2004-05 were used, and for the 2007 Update the data covered 2001-02 to 2005-06. In addition to ‘shifting’ the data window one year forward when performing the next update, data for each year are revised where necessary to account for any corrections since the last update. For example, expense data can be revised by the ABS between the updates. Hence, changes in the distribution of the pool between the 2006 Update and the 2007 Update can result from two possible causes:

- use of revised financial data in the average expenses and other revised data in factor calculations for the years 2000-01 to 2004-05; and
- replacement of 2000-01 average expenses and factors with those of 2005-06 to move forward the five-year period on which the pool distribution was based.

20 Table 6 shows the distribution of the pool resulting from the assessments in the 2006 Update and the 2007 Update. It also summarises the effect of revisions and the effect of moving the five year window forward.

Table 6 Manufacturing and other industry, effect of assessment on distribution of the pool, 2006 Update to 2007 Update

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total redist'd
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Redistribution from EPC resulting from the 2006 Update assessment (a)	-6.5	-4.3	-4.8	0.8	1.3	3.7	4.7	5.0	15.6
Effect of revising category averages and factors for 2000-01 to 2004-05									
Category average	1.0	0.7	0.7	-0.1	-0.2	-0.6	-0.7	-0.8	2.4
Category factors	-2.0	-1.2	-0.5	0.3	0.5	0.9	1.0	1.1	3.7
Interactions	0.5	0.3	0.1	-0.1	-0.1	-0.2	-0.3	-0.3	1.0
Total	-0.5	-0.2	0.4	0.1	0.1	0.1	0.0	0.0	0.7
Effect of replacing 2000-01 category averages and factors with those for 2005-06									
Category average	0.1	0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	0.2
Category factors	0.3	0.2	0.1	0.0	0.0	-0.1	-0.2	-0.2	0.5
Interactions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.3	0.2	0.1	0.0	0.0	-0.2	-0.2	-0.2	0.7
Redistribution from EPC resulting from the 2007 Update assessment (a)	-6.7	-4.3	-4.2	0.8	1.4	3.6	4.5	4.8	15.2
Total effect of revisions and updating (b)	-0.1	0.0	0.5	0.0	0.1	-0.1	-0.2	-0.2	0.7

(a) Assuming same pool and a constant population.

(b) The total redistributed amount shows the change in the amount redistributed among the States between the 2006 Update and the 2007 Update. It does not necessarily equal the difference in the total redistribution from EPC between the two inquiries.

21 Compared with an equal per capita (EPC) assessment, the 2007 Update redistributed \$15.2 million from New South Wales, Victoria and Queensland to the other States. In terms of changes in redistribution between the current and previous updates, this totalled

\$0.7 million, with the change for any one State not exceeding \$0.5 million, or around \$1 per capita.

- 22 Table 7 shows the changes in pool shares attributable to changes in each factor arising from the combined effect of revisions over the period 2000-01 to 2004-05 and replacing 2000-01 data with 2005-06 data. The administrative scale factor is the main contributor to the redistribution between the updates. The economic environment factor, which measures the relative size of the manufacturing and other industries in each State, also contributed to the change between the updates.

Table 7 Manufacturing and other industry, effect of assessment on distribution of the pool by factor, 2006 Update to 2007 Update

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total redist'd
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Fixed costs									
Administrative scale	0.5	0.2	0.0	-0.1	-0.1	-0.2	-0.2	-0.2	0.7
Input costs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Economic development									
EPC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Regulation									
Economic environment	-0.3	-0.2	0.3	0.1	0.1	0.1	0.0	0.0	0.5
Input costs	-0.2	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.2

- 23 The main reasons for the changes in distribution of the pool between the two updates are explained in more detail in the following sections.

Changes due to revising average expenses and factors for years 2000-01 to 2004-05

- 24 **Revising average expenses.** Table 8 shows the average expenses for the six financial years of this and the previous update. Overall, there was a decrease due to revisions in the average expenses for 2000-01 to 2004-05. For those States with below average assessed cost of providing services for this category (New South Wales, Victoria and Queensland) the revisions to average expenses would result in an increase in the redistribution of the pool towards them. This can be observed in Table 6, which shows positive contributions to redistribution for these three States due to revisions to average expenses.

Table 8 Average expenses used in the 2006 and 2007 Updates

	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06
	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc
2007 Update		6.42	9.98	7.62	10.29	12.32	8.22
2006 Update	8.35	9.09	12.72	9.32	12.34	11.05	
Difference	-	-2.67	-2.74	-1.70	-2.05	1.27	-

25 **Revising category factors.** Table 6 suggests that revision to category factors was the main influence, contributing \$3.7 million in total to the redistribution between the two updates. The largest effect, in per capita terms, was for the Northern Territory of almost \$6 per capita. The change in redistribution from revisions to category factors is actually misleading. The cause was downward revision to the category average expenses which, in turn, increased the effect of the administrative scale factor¹, causing a redistribution away from those States with a scale factor less than 1.0 (New South Wales, Victoria and Queensland). The combined effect on redistribution of revisions to average expenses and revisions to factors is much smaller as the two substantially cancel each other out.

Changes in State circumstances — replacing 2000-01 with 2005-06 data

26 Table 9 shows the actual expenses, the assessed expenses and implied costs of service provision for 2000-01, the year that drops out of the assessment period, and 2005-06, the year that comes in, for the 2007 Update assessment.

¹ Administrative scale proportion is total fixed costs divided by total category expenses. Downward revision of the category average expenses increases the proportion of fixed costs, and increases the effect of the factor.

Table 9 Manufacturing and other industry, actual expenses and assessed cost of providing services, 2000-01 and 2005-06

	NSW	Vic	Qld	WA	SA	Tas	ACT(a)	NT	Avg
	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc
Actual expenses									
2000-01	8.95	0.00	7.23	2.75	20.61	1.41	0.00	11.93	6.42
2005-06	4.02	0.00	9.98	18.95	36.91	1.36	0.00	22.62	8.22
	%	%	%	%	%	%	%	%	%
Change between 2000-01 and 2005-06(b)	45	-	138	690	179	97	-	190	128
	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc	\$pc
Assessed expenses									
2000-01	5.51	5.66	5.64	6.78	7.21	12.69	17.88	26.07	6.42
2005-06	7.27	7.42	7.37	8.64	9.15	15.08	20.77	29.13	8.22
	%	%	%	%	%	%	%	%	%
Assessed cost of providing services ratio									
2000-01	86	88	88	106	112	198	279	406	100
2005-06	88	90	90	105	111	183	253	354	100

(a) ACT expenses may include municipal transactions.

(b) Changes may occur over time in how expenses are classified so trends for individual States should be treated with some caution.

27 **Replacing average expenses.** Between 2000-01 and 2005-06, the category average expenses have increased by 28 per cent, while during the same period, the pool has increased 43 per cent. A rate of growth in the category average less than the pool has reduced the importance of the category in State budgets between the two updates. Assuming a constant pool is used for these two years for analysis of change purposes, the redistribution caused by replacing the average expenses will be smaller in the 2007 Update than in the 2006 Update. For States with a negative redistribution from EPC (New South Wales, Victoria and Queensland), the redistribution will become smaller (that is, less negative), resulting in a positive redistribution to those States from replacing average expenses, as seen in Table 6.

28 **Replacing category factors.** An increase in the assessed cost of providing services ratio between 2000-01 and 2005-06 reflects an increase in the category factor for a State (and vice versa), and will contribute a higher redistribution to that State. There was a small increase for New South Wales, Victoria and Queensland between the two updates reflecting the positive contribution of this effect to redistribution for these States as observed in Table 6. Conversely, Tasmania, the ACT and the Northern Territory all had notable declines in their cost of service ratio, and a resulting negative contribution of this influence to their redistributions between the two updates, as seen in Table 6.

This paper was prepared by Glenn Pure of the Commonwealth Grants Commission. If you have any questions about its content please contact the author on (02) 6229 8816 or glenn.pure@cgc.gov.au.

A handwritten signature in black ink, appearing to read "Glenn Pure", with a stylized flourish at the end.

Date: 14 February 2007

Table 10 Assessment of Expenses, Manufacturing and Other Industry

	2001-02		2002-03		2003-04		2004-05		2005-06	
	Amount	Per Capita	Amount	Per Capita	Amount	Per Capita	Amount	Per Capita	Amount	Per Capita
	\$m	\$	\$m	\$	\$m	\$	\$m	\$	\$m	\$
Average Expenses		9.98		7.62		10.29		12.32		8.22
New South Wales										
Assessed difference	- 5.236	- 0.79	- 5.675	- 0.85	- 5.504	- 0.82	- 5.498	- 0.82	- 6.515	- 0.96
Expenses - Assessed	60.704	9.19	45.086	6.77	63.434	9.46	77.597	11.50	49.415	7.27
Actual	104.912	15.88	43.271	6.50	74.602	11.13	118.031	17.50	27.353	4.02
Assessed difference	- 3.390	- 0.70	- 3.539	- 0.72	- 3.514	- 0.71	- 3.531	- 0.71	- 4.085	- 0.81
Expenses - Assessed	44.827	9.28	33.697	6.90	47.281	9.57	57.999	11.61	37.517	7.42
Actual	0.000	0.00	10.000	2.05	11.000	2.23	0.000	0.00	0.000	0.00
Queensland										
Assessed difference	- 3.331	- 0.91	- 3.093	- 0.82	- 3.575	- 0.93	- 3.919	- 1.00	- 3.423	- 0.85
Expenses - Assessed	33.281	9.07	25.550	6.80	35.980	9.36	44.517	11.32	29.600	7.37
Actual	23.000	6.27	25.000	6.65	34.000	8.84	34.000	8.65	40.080	9.98
Western Australia										
Assessed difference	0.559	0.29	0.693	0.36	0.662	0.34	0.621	0.31	0.847	0.42
Expenses - Assessed	19.656	10.27	15.453	7.98	20.867	10.62	25.193	12.63	17.553	8.64
Actual	20.000	10.45	28.000	14.46	32.000	16.29	36.878	18.49	38.494	18.95
South Australia										
Assessed difference	1.059	0.70	1.198	0.79	1.172	0.77	1.169	0.76	1.437	0.93
Expenses - Assessed	16.179	10.68	12.803	8.41	16.906	11.05	20.108	13.08	14.171	9.15
Actual	44.142	29.13	41.129	27.01	49.155	32.13	56.156	36.53	57.156	36.91
Tasmania										
Assessed difference	2.866	6.07	2.941	6.20	2.997	6.24	3.078	6.36	3.345	6.86
Expenses - Assessed	7.578	16.05	6.560	13.82	7.935	16.53	9.042	18.68	7.354	15.08
Actual	0.663	1.40	0.663	1.40	0.663	1.38	0.663	1.37	0.663	1.36
Australian Capital Territory(a)										
Assessed difference	3.654	11.41	3.657	11.34	3.804	11.76	3.969	12.22	4.106	12.54
Expenses - Assessed	6.851	21.38	6.116	18.96	7.131	22.04	7.969	24.54	6.799	20.77
Actual	0.000	0.00	0.000	0.00	1.000	3.09	0.000	0.00	0.000	0.00
Northern Territory										
Assessed difference	3.819	19.27	3.818	19.26	3.958	19.90	4.111	20.40	4.289	20.91
Expenses - Assessed	5.796	29.25	5.329	26.88	6.004	30.18	6.594	32.72	5.976	29.13
Actual	2.155	10.87	2.531	12.77	3.119	15.68	3.291	16.33	4.639	22.62

(a) ACT expenses may include municipal transactions.

Note: Refer to Attachment A of the 2007 Update, *Relative Fiscal Capacity of States* for how these figures are compiled.