

**THE IMPACT OF PERMANENT MIGRANTS ON
STATE AND TERRITORY BUDGETS**

prepared for

**the Department of Immigration and Multicultural and
Indigenous Affairs**

on behalf of

the Joint Commonwealth, State and Territory Research Advisory Committee

by

ACCESS ECONOMICS

Canberra May 2002

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Executive Summary

The Commonwealth determines immigration policy – and collects most of the revenue, which migrants contribute through their taxes – but it is the States and Territories that ultimately have responsibility for providing many of the services which migrants need.

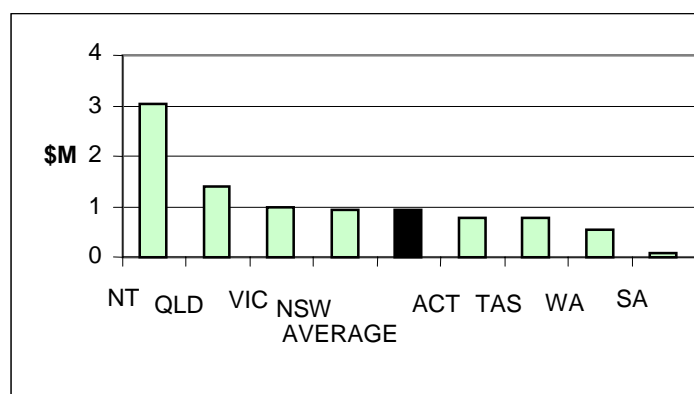
The budgetary impact of additional migration on the States and Territories is a function in the main of:

- the unit costs of providing State government services to new migrants;
- the utilisation of State government services by new migrants;
- the tax capacity of new migrants; and
- the grants from the Commonwealth to the States and Territories generated on account of new migrants.

The financial model developed by Access Economics suggests that, *other things being equal*, the impact upon the States' net operating surplus of additional migration over a ten year period is positive, reflecting positive income impacts out-weighing the expense impacts.

Focussing on the year 10 results (and the net operating result impact), the chart below compares the budgetary impact of additional migration among the States.

**Net Operating Balance Impact per 1,000 New Migrants,
Total of All Migrants, by State, Year 10**



As to the results at the individual State level, the model developed by Access Economics suggests that the impact of additional migration is most positive for the Northern Territory. Victoria, Queensland and New South Wales also have impacts that are above the weighted average of all the States. The Tasmanian and ACT impacts are just below the average impact level for all the States. The smallest positive impact is evident for Western Australia and South Australia. The main reason for these differences are policy and efficiency differences, with the States with the lower impact generally providing above-average levels of service to – and/or imposing below-average State tax rates on – their residents (and new migrants). Also playing a role in the Northern Territory are relatively large per capita Commonwealth grants that also compensate for large fiscal disabilities in migrant-unaffected budget areas.

Only additional migration in the humanitarian category initially gives rise to a negative impact at the State level, while the family category impact is barely positive. The business skills sub-category displays the strongest beneficial impact. Two-thirds of the difference between the business skills and humanitarian categories is due to the stronger tax capacity of migrants in the business skills sub-category. Playing a lesser role is the relatively lower usage of services by such migrants.

In terms of own-source revenues, migrants in the business skills category have the highest taxable capacity relativities across the States. Migrants in sponsored skills and independent skills category also have above-average taxable capacity relativities. The implication is that skilled migrants have a higher capacity to pay taxes than humanitarian or family migrants.

At an individual category by State level, family migration provides a net gain to each state except Western Australia and South Australia (due largely to higher costs of service provision in those two States) while humanitarian migration provides a net cost to each State except the Northern Territory and Queensland (due largely in these two States to above average Commonwealth grants with lower costs of service provision also playing a part in Queensland). Skilled migration provides a net gain to each State Budget with the extent of the gain varying from State to State, largely due to differing costs of service provision, but with taxable capacity and Commonwealth grants playing a significant part for New South Wales and Northern Territory respectively.

When the budgetary impact of additional migration for the States is combined with results from the Commonwealth Model, a whole-of-government impact emerges. In year 10, both State and Commonwealth net operating result impacts are positive, though the positive impact is significantly larger at the Commonwealth level. The more rapid improvement in the beneficial impact at the Commonwealth level is due to the income support nature of the Commonwealth's expenses and the income-related nature of the Commonwealth's tax base, both of which benefit from migrants' income support needs and tax capacity moving towards residents' levels over time.

If the effect of post-arrival interstate migration is allowed for, those States that are net recipients of migrants in the second (interstate migration) round of arrivals experience a larger beneficial budgetary impact, with new migrants proportionately increasing over the 10 year forecasting period. In the model developed by Access Economics, the Northern Territory, the ACT and Tasmania are all substantial net gainers in the second (or interstate migration) round of arrivals. This result reflects, in the main, the fact that a smaller State's intake of migrants leaving larger States is numerically larger than the outflows from its own much smaller initial migrant intake. On the other hand, the States that are the net losers of migrants experience a smaller overall beneficial budgetary impact with new migrants proportionately falling over the 10 year period.

1. Introduction

1.1. Background

The Departments of Immigration and Multicultural and Indigenous Affairs (DIMIA) and Finance and Administration (DoFA) have already developed a financial model, which records and estimates the impact of migrants on the Commonwealth budget (the “Commonwealth Model”). That model originated in the early 1990s and has been subjected to various developments, refinements and updating since then.¹

As the name implies, the Commonwealth Model is restricted to impacts on Commonwealth budget outlays and receipts. That model does not cover impacts on State budgets, excepting in terms of allocations made by the Commonwealth to the States and Territories in total through general revenue grants and through specific purpose grants such as for education.

In 1992, Professor Russell Mathews prepared a report entitled *Immigration and State Budgets* for the then Bureau of Immigration Research. The study was principally an exercise in methodology with mainly illustrative figuring, suggesting an adaptation of the approach used by the Commonwealth Grants Commission (CGC). Mathews concluded, however, that:

“...Over the long term the financial effects of immigration on State budgets have been essentially neutral, [with] adverse short-term expenditure effects being eventually offset by favourable revenue effects and expenditure needs that have broadly diminished to the level of those of the Australian-born population.” (p.191)

The Mathews study, by and large, did not differentiate between the States. It also addressed the impact of *past* migration, rather than specifically addressing the budgetary impact of *additional* migration as does the Commonwealth Model.

To assess the net effect of additional migration on State finances on a State-by-State basis as well as redress the information imbalance between the Commonwealth and State levels, the Council of Ministers for Immigration and Multicultural Affairs endorsed a research project aimed at developing a financial model of the budgetary impact of new migrants upon the States and Territories (the “States Model”).

1.2. The terms of reference

In August 2000, DIMIA commissioned Access Economics to undertake a research study into the impact of immigration on State and Territory budgets.

¹ In 2000, ACIL Consulting completed an audit and review of the Commonwealth Model, producing a report entitled *The Impact of Migrants on the Commonwealth Budget*. ACIL updated much of the input data and implemented modelling corrections and improvements. In early 2001, Access Economics updated the Commonwealth Model for, among other things, the implementation of accrual reporting and recent changes in the tax system.

The terms of reference were as follows:

“To examine the effects of immigrants on each State and Territory Government budget in the short and medium term, by constructing a financial model of the budgetary impact per 1,000 migrants for years 1 to 10 after arrival in each of the following migrant categories:

- family;*
- humanitarian; and*
- skilled,*

and, in doing so, to:

(a) identify the areas of a State’s or Territory’s:

- operating statement;*
- balance sheet; and*
- cash flow statement,*

primarily affected by immigration;

(b) estimate the direct budgetary impact derived from taxation (including fees and user charges) of migrants, by migrant category;

(c) estimate the direct budgetary impact of migrant specific and general services provided to migrants, by migrant category;

(d) estimate the budgetary direct impact on financial assistance provided to State and Territory Governments by the Federal Government on account of migrant specific needs or related to population change, by migrant category;

(e) develop a methodology to examine the budgetary impact of interstate migration of overseas migrants, and how/whether that could be taken into account in the model;

(f) examine the impact on differential costs attributed to changes in the population associated with migration; and

(g) identify if there are certain areas of costs that would not be affected by an increase of 1,000 but above some larger number, and suggest possible ways to handle those areas – and, conversely, for those States and Territories with a low migrant intake, identify areas of costs which are incurred at a migration intake of far less than 1,000 in each category.”

1.3. Project stages

Access Economics approached this task in three stages.

First, the main analytical and modelling options were identified, and a methodology was agreed with DIMIA for the task at hand.

Second, historical data collection and the associated development of a spreadsheet-based financial model were undertaken for one State (Victoria). The focus on the trial modelling was on modelling differentials in the budget impact between resident and migrant groups and the changes expected over time in these differentials.

Finally, after the model for Victoria was broadly settled, data was collected for – and the model extended to cover – all the State and Territories, allowance was made for interactions between the States on account of interstate migration, and all the State and Territory results were drawn together – along with the Commonwealth Model.

1.4. Purpose of this report

Access Economics has provided DIMIA with a spreadsheet model (see Appendix A for an outline of the structure of the Model). As a companion to that Model, this report summarises the Model's key results and documents its features and workings.

Besides the introduction and background provided in this chapter, the report is structured as follows:

- chapter 2 presents the key results at an aggregate State and whole-of-government level;
- chapter 3 presents the key results on a State by State basis;
- chapter 4 overviews the modelling framework;
- chapter 5 describes the operating expense impact aspects of the model;
- chapter 6 describes the capital expenditure impact aspects of the model;
- chapter 7 describes the own-source revenue impact aspects of the model;
- chapter 8 describes the Commonwealth grants impact aspects of the model; and
- chapter 9 discusses the interstate migration aspects of the model.

{It should be noted that, throughout the remainder of this study, the terms 'a State' or 'the States' are intended to also include reference to a Territory or the Territories.}

2. Aggregate Results

The main purpose of the project was to develop a financial model capable of estimating the budgetary impact of additional migration. The focus was not primarily on the application of the Model. However, Access Economics has applied the Model using preliminary data, and the purpose of both this and the next chapter is to outline the results of that application.

The Model suggests that the budgetary impact of an additional 1,000 migrants has a net *beneficial* impact on State government finances by the end of a 10 year period.

2.1. Average State impacts

Table 1 summarises the impact in terms of the average of all the State impacts, weighted using the latest available interstate distribution of the total migration program (“program-weighted”), rather than the distribution of resident population.

Table 1: Operating Statement Impact per 1,000 New Migrants, State Average, Total of all Migrants, Year 10

	\$Million
<i>Revenue</i>	4.121
Own-source revenues	4.121
Grants	1.545
<i>less Expenses</i>	3.198
Operating expenses	3.435
Interest expense	-0.273
Depreciation expense	0.036
<i>equals Net operating surplus (+)/deficit(-)</i>	0.924
<i>less</i>	
<i>Net Acquisition of non-financial assets</i>	0.142
Purchases of non-financial assets	0.178
<i>less</i> Depreciation expense	0.036
<i>equals GFS net lending (+)/borrowing (-)</i>	0.781

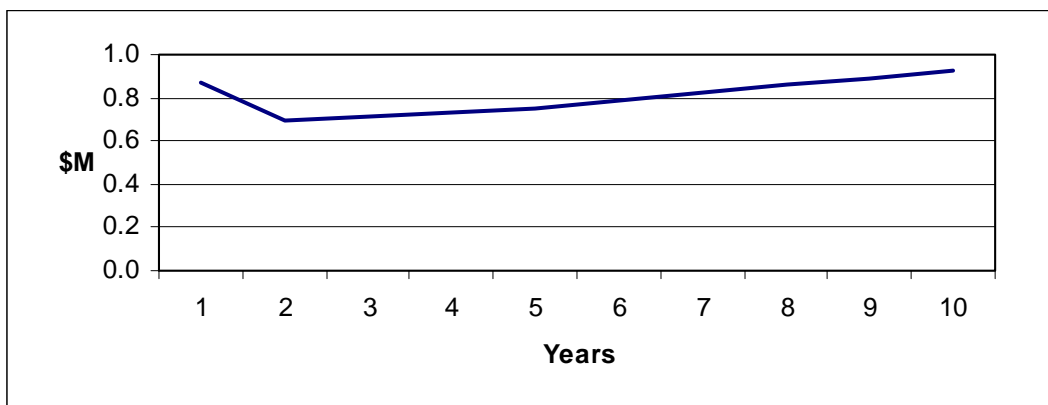
Table 1 shows that, *all other things being equal*:

- the impact upon the States’ net operating surplus is a positive one, reflecting positive income impacts out-weighing the expense impacts; and
- even after capital account impacts are also included (relating to the impact on the net acquisition of fixed assets (i.e. “capital expenditure”) and its associated financing), a positive impact upon the State government finance statistics (GFS) net lending term appears likely, resulting in State net debt being reduced in aggregate by year 10 as a result of the additional migration.

By far the largest impact is on the net operating surplus. For this reason, and given the analytical significance generally attached to that ‘budget balance’ indicator, the focus of this and the next chapter is on the impact of the additional migration on the States’ net operating surplus.

Taking this focus, the States Model suggests that the beneficial impact would be evident over the whole of the 10 year period (see Chart 1).

Chart 1: Net Operating Balance Impact per 1,000 New Migrants, State Average, Total of All Migrants



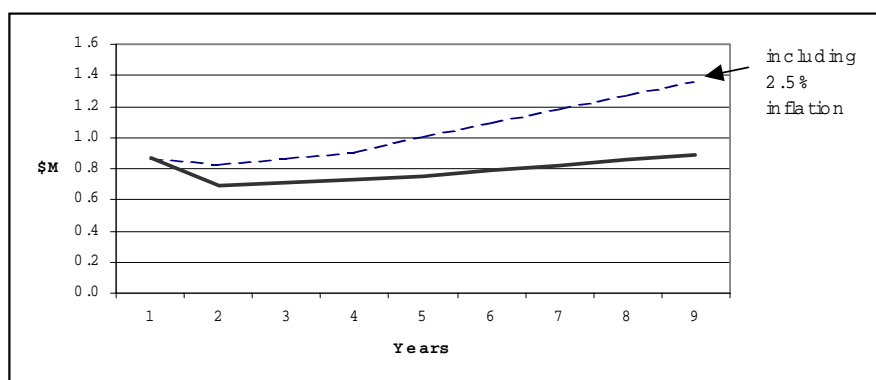
The deterioration in the beneficial effect between year 1 and year 2 mainly reflects the effect of an initial rise in interest expenses as a consequence of a cash shortfall in the first year as payments of Commonwealth grants lag behind the entitlement to such grants.

The improvement in the beneficial effect between year 2 and year 10 reflects improving income impacts (in terms of both own-source revenues and grants from the Commonwealth) more than offsetting modest growth in expenses over the same period.

Further details, including the cash flow and balance sheet impacts, are provided at Table 2.

This rising benefit occurs in a ‘no other changes’ environment. The effect of allowing for CPI growth in the Model is illustrated in Chart 2.

Chart 2: Impact of Inflation on Net Operating Balance Impact per 1,000 New Migrants, State Average, Total of All Migrants



The Model contains the facility to switch between constant and current price assumptions, and to vary the assumed inflation rate. The remainder of this report discusses results of the Model derived under the *constant price* assumption.

Table 2: Budget Impact per 1,000 New Migrants, State Average, Total of All Migrants
\$Million

Table A: Operating Statement	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	4.302	4.174	4.143	4.116	4.102	4.106	4.110	4.114	4.117	4.121
Own-source revenues	2.791	2.656	2.630	2.610	2.590	2.587	2.584	2.582	2.579	2.577
Grants	1.511	1.518	1.513	1.506	1.512	1.519	1.526	1.532	1.538	1.545
Expenses	3.443	3.492	3.440	3.392	3.355	3.321	3.287	3.255	3.225	3.198
Operating expenses	3.443	3.429	3.416	3.407	3.407	3.410	3.413	3.418	3.425	3.435
Interest expense	0.000	0.064	0.022	-0.018	-0.059	-0.099	-0.141	-0.183	-0.227	-0.273
Depreciation expense	0.000	0.000	0.001	0.003	0.006	0.010	0.015	0.021	0.028	0.036
Net operating surplus (+)/deficit (-)	0.859	0.682	0.703	0.724	0.748	0.785	0.823	0.859	0.892	0.924
<i>less</i> Net Acquisition of non-financial assets	0.000	0.020	0.039	0.056	0.073	0.089	0.104	0.118	0.131	0.142
Purchases of non-financial assets	0.000	0.020	0.040	0.059	0.079	0.099	0.119	0.138	0.158	0.178
<i>less</i> Depreciation expense	0.000	0.000	0.001	0.003	0.006	0.010	0.015	0.021	0.028	0.036
GFS net lending (+)/borrowing (-)	0.859	0.662	0.665	0.667	0.675	0.696	0.719	0.741	0.762	0.781

Table B: Cash Flow Statement	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Operating receipts	2.093	4.201	4.155	4.128	4.101	4.100	4.104	4.108	4.112	4.116
<i>less</i> Operating payments	3.156	3.494	3.440	3.390	3.349	3.311	3.272	3.234	3.197	3.161
Net cash received from operating activities	-1.063	0.708	0.715	0.738	0.752	0.789	0.832	0.874	0.915	0.954
Sales of non-financial assets	-	-	-	-	-	-	-	-	-	-
<i>less</i> Purchases of non-financial assets	0.000	0.020	0.040	0.059	0.079	0.099	0.119	0.138	0.158	0.178
Net cash from investing in non-financial assets	0.000	-0.020	-0.040	-0.059	-0.079	-0.099	-0.119	-0.138	-0.158	-0.178
Net disposals of financial assets	-	-	-	-	-	-	-	-	-	-
<i>less</i> Net acquisition of financial liabilities	1.063	-0.688	-0.675	-0.679	-0.673	-0.690	-0.713	-0.735	-0.757	-0.776
Net cash received from financing transactions	1.063	-0.688	-0.675	-0.679	-0.673	-0.690	-0.713	-0.735	-0.757	-0.776
Net increase in cash balances	-	-	-	-	-	-	-	-	-	-
Overall surplus (+)/deficit (-)	-1.063	0.688	0.675	0.679	0.673	0.690	0.713	0.735	0.757	0.776

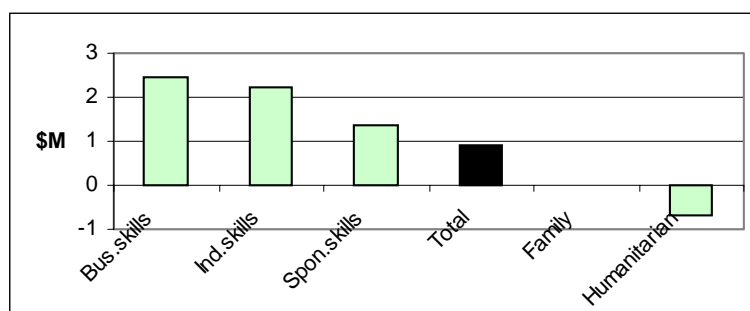
Table C: Balance Sheet	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Assets	0.000	0.020	0.058	0.115	0.188	0.277	0.381	0.499	0.629	0.772
Financial assets	-	-	-	-	-	-	-	-	-	-
Physical assets	0.000	0.020	0.058	0.115	0.188	0.277	0.381	0.499	0.629	0.772
Liabilities	-0.859	-1.522	-2.186	-2.854	-3.528	-4.224	-4.943	-5.684	-6.446	-7.227
Gross debt	1.063	0.375	-0.301	-0.980	-1.653	-2.343	-3.056	-3.791	-4.548	-5.325
Other non-equity liabilities	-1.922	-1.896	-1.886	-1.874	-1.876	-1.881	-1.887	-1.893	-1.898	-1.903
Net worth	0.859	1.541	2.245	2.969	3.716	4.501	5.324	6.183	7.075	7.999
Net financial worth	-1.063	-0.375	0.301	0.980	1.653	2.343	3.056	3.791	4.548	5.325
Net debt	1.063	0.375	-0.301	-0.980	-1.653	-2.343	-3.056	-3.791	-4.548	-5.325

2.2. Results by migrant categories

The overall results reflect differing degrees of budgetary impact for each of the migrant categories, weighted using the latest available migrant category composition for each State. (Appendix C contains a description of the visa classes grouped into the migrant categories used in modelling.)

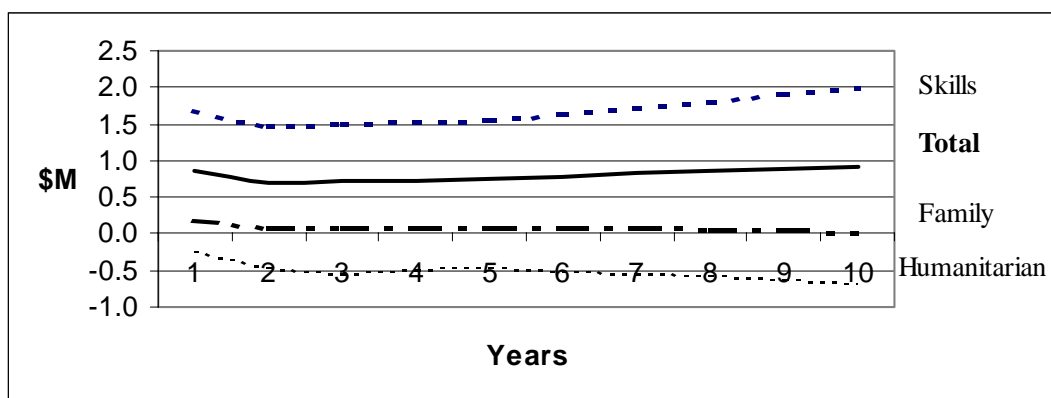
Focussing on the year 10 results (and the net operating result impact), and as summarised in Chart 3 below, the Model suggests that only the humanitarian migrant category has a negative impact on State budgets over the whole 10 year forecasting period. The business skills sub-category displays the strongest beneficial impact. Two-thirds of the difference between the business skills and humanitarian categories is due to the stronger tax capacity of migrants in the business skills sub-category. Playing a lesser role is the relatively lower usage of services by such migrants.

Chart 3: Net Operating Balance Impact per 1,000 New Migrants, State Average, by Migrant Category, Year 10



As illustrated in Chart 4 below, the improvement in the beneficial budgetary impact over the course of the 10 year forecasting period is focused on the skills migrant category.

Chart 4: Net Operating Balance Impact per 1,000 New Migrants, State Average, by Migrant Category



Further details are provided in Table 3.

The Model is designed to allow users to vary the assumed migrant category composition of an additional 1,000 migrant intake, in order to assess the impact of alternative intake scenarios.

Table 3: Operating Statement Impact per 1,000 New Migrants, State Average, by Migrant Categories, by Year
\$ Million

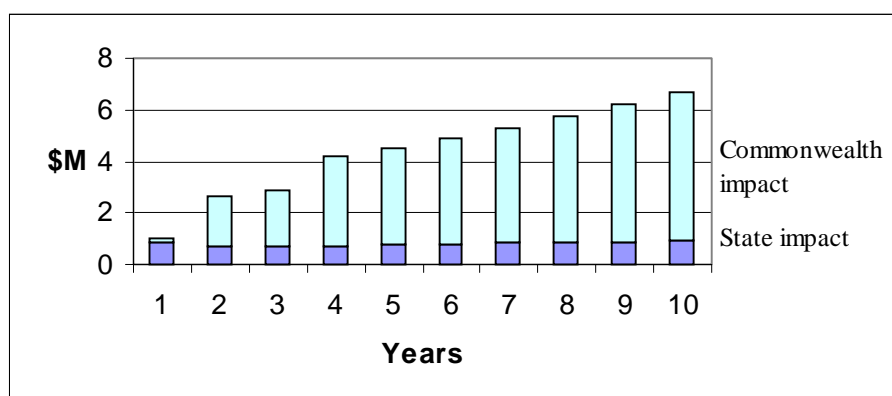
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Family Category, per 1,000										
Revenue	3.675	3.659	3.682	3.686	3.701	3.706	3.710	3.715	3.720	3.725
Expense	3.526	3.621	3.621	3.624	3.638	3.644	3.651	3.663	3.680	3.701
Net operating surplus (+)/deficit (-)	0.148	0.038	0.061	0.062	0.063	0.062	0.059	0.052	0.040	0.023
Skill Category, per 1,000										
Revenue	4.952	4.722	4.640	4.562	4.504	4.508	4.512	4.516	4.520	4.524
Expense	3.294	3.285	3.166	3.057	2.958	2.879	2.799	2.717	2.635	2.551
Net operating surplus (+)/deficit (-)	1.658	1.436	1.473	1.505	1.547	1.629	1.713	1.799	1.885	1.973
Sponsored skills, per 1,000										
Revenue	4.477	4.339	4.301	4.223	4.164	4.169	4.174	4.179	4.184	4.189
Expense	3.335	3.349	3.256	3.155	3.064	3.013	2.960	2.908	2.857	2.806
Net operating surplus (+)/deficit (-)	1.141	0.989	1.044	1.068	1.100	1.156	1.214	1.271	1.327	1.383
Business skills, per 1,000										
Revenue	5.937	5.408	5.142	4.884	4.640	4.644	4.649	4.653	4.657	4.661
Expense	3.088	3.074	2.943	2.831	2.738	2.637	2.534	2.430	2.323	2.213
Net operating surplus (+)/deficit (-)	2.849	2.334	2.199	2.054	1.903	2.008	2.114	2.223	2.334	2.448
Independent skills, per 1,000										
Revenue	5.076	4.821	4.728	4.697	4.689	4.692	4.695	4.698	4.701	4.705
Expense	3.357	3.326	3.184	3.063	2.949	2.860	2.767	2.672	2.575	2.477
Net operating surplus (+)/deficit (-)	1.719	1.495	1.544	1.634	1.740	1.832	1.928	2.026	2.126	2.228
Humanitarian Category, per 1,000										
Revenue	3.565	3.498	3.502	3.596	3.687	3.687	3.688	3.689	3.690	3.691
Expense	3.810	3.966	4.033	4.081	4.140	4.170	4.202	4.240	4.285	4.338
Net operating surplus (+)/deficit (-)	-0.245	-0.468	-0.531	-0.485	-0.454	-0.483	-0.514	-0.551	-0.596	-0.647
Total, per 1,000										
Revenue	4.302	4.174	4.143	4.116	4.102	4.106	4.110	4.114	4.117	4.121
Expense	3.443	3.492	3.440	3.392	3.355	3.321	3.287	3.255	3.225	3.198
Net operating surplus (+)/deficit (-)	0.859	0.682	0.703	0.724	0.748	0.785	0.823	0.859	0.892	0.924

2.3. Impacts across the levels of government

When the budgetary impact of additional migration for the States is combined with results from the Commonwealth Model, and inter-sector impacts are eliminated (restricted to Commonwealth grant impacts), a whole-of-government impact emerges.

Chart 5 below shows that, when focussing on the year 10 results (and the net operating result impact), and while both State and Commonwealth budget impacts are positive, the positive impact is significantly larger at the Commonwealth level.

Chart 5: Net Operating Balance Impact per 1,000 New Migrants, by Level of Government, Total of All Migrants, Year 10



Further details are provided in Table 4.

The more rapid improvement in the beneficial impact at the Commonwealth level is due to the income support nature of the Commonwealth's expenses and the income-related nature of the Commonwealth's tax base, both of which benefit from migrants' income support needs and tax capacity moving towards residents' levels over time.

**Table 4: Budget Impact per 1,000 New Migrants, by Level of Government,
Total of all Migrants, Year 10, \$Million**

Table A: Operating Statement	STATE AVERAGE	CWTH	WHOLE OF GOVT
Revenue	4.121	7.784	10.361
Own-source revenues	2.577	7.784	10.361
Grants	1.545	-	-
Expenses	3.198	2.052	3.705
Operating expenses	3.435	3.498	5.388
Interest expense	-0.273	-1.448	-1.720
Depreciation expense	0.036	0.001	0.037
Net operating surplus (+)/deficit (-)	0.924	5.732	6.656
<i>less</i> Net Acquisition of non-financial assets	0.142	0.001	0.142
Purchases of non-financial assets	0.178	0.001	0.179
<i>less</i> Depreciation expense	0.036	0.001	0.037
GFS net lending (+)/borrowing (-)	0.781	5.731	6.514

Table B: Cash Flow Statement	STATE AVERAGE	CWTH	WHOLE OF GOVT
Operating receipts	4.116	7.747	10.324
<i>less</i> Operating payments	3.161	3.504	5.127
Net cash received from operating activities	0.954	4.243	5.197
Sales of non-financial assets	-	-	-
<i>less</i> Purchases of non-financial assets	0.178	0.001	0.179
Net cash from investing in non-financial assets	-0.178	-0.001	-0.179
Net disposals of financial assets	-	-	-
<i>less</i> Net acquisition of financial liabilities	-0.776	-4.242	-5.018
Net cash received from financing transactions	-0.776	-4.242	-5.018
Net increase in cash balances	-	-	-
Overall surplus (deficit)	0.776	4.242	5.018

Table C: Balance Sheet	STATE AVERAGE	CWTH	WHOLE OF GOVT
Assets	0.772	0.003	0.774
Financial assets	-	-	-
Physical assets	0.772	0.003	0.774
Liabilities	-7.227	-30.648	-37.876
Gross debt	-5.325	-28.368	-33.692
Other non-equity liabilities	-1.903	-2.281	-4.183
Net worth	7.999	30.651	38.650
Net financial worth	5.325	28.368	33.692
Net debt	-5.325	-28.368	-33.692

As shown in Table 5, by year 10, a negative impact persists at the whole-of-government level only for the humanitarian migrant category.

Table 5: Operating Statement Impact per 1,000 New Migrants, by Level of Government, by Migrants Categories, Year 10, \$Million

	States	Cwth	Whole of Govt.
Business skills	2.4	14.3	16.7
Independent skills	2.2	13.9	16.2
All Migrants	0.9	5.7	6.7
Sponsored skills	1.4	2.1	3.5
Family	0.0	1.0	1.1
Humanitarian	-0.6	-3.5	-4.2

These differentials mainly reflect the greater requirements for income support and the commensurately lower taxable capacity of the humanitarian and (to a lesser extent) family migrant categories than for the skills category.

Further details are provided in Table 6.

Table 6: Operating Statement Impact per 1,000 New Migrants, by Level of Government, by Migrant Categories, Year 10, \$Million

	STATE AVERAGE	CWTH	WHOLE OF GOVT
Family Category, per 1,000			
Revenue	3.725	4.715	6.588
Expense	3.701	3.666	5.516
Net Operating Surplus (Deficit)	0.023	1.049	1.072
Skill Category, per 1,000			
Revenue	4.524	10.846	13.589
Expense	2.551	0.136	0.906
Net Operating Surplus (Deficit)	1.973	10.710	12.683
Sponsored skills, per 1,000			
Revenue	4.189	4.920	7.262
Expense	2.806	2.776	3.735
Net Operating Surplus (Deficit)	1.383	2.144	3.527
Business skills, per 1,000			
Revenue	4.661	12.717	15.591
Expense (a)	2.213	-1.542	-1.116
Net Operating Surplus (Deficit)	2.448	14.259	16.707
Independent skills, per 1,000			
Revenue	4.705	13.317	16.279
Expense (a)	2.477	-0.617	0.117
Net Operating Surplus (Deficit)	2.228	13.934	16.162
Humanitarian Category, per 1,000			
Revenue	3.691	2.608	4.334
Expense	4.338	6.112	8.486
Net Operating Surplus (Deficit)	-0.647	-3.504	-4.151
Total, per 1,000			
Revenue	4.121	7.784	10.078
Expense	3.198	2.052	3.422
Net Operating Surplus (Deficit)	0.924	5.732	6.656

(a) The negative expenses recorded in these instances reflect interest expense declines associated with reduced net debt levels as a result of a negative borrowing impact

2.4. Role of data and assumptions

The confidence to be attached to the above results depends upon the data and assumptions used.

2.4.1. Data

Access Economics compiled the underlying data on State expenditure and revenue on existing residents from each State's portfolio budget statements. Full details are provided in Chapters 5, 6, 7 and 8.

Judgments were necessary in classifying the data into expenditure and revenue categories assigned different degrees of impact with respect to additional migrants. Access Economics undertook this phase of data collection without knowledge of the impact of alternative judgments upon the final results. Access Economics considers its efforts in this regard have not biased the results in any particular or systematic way. As some classifications are arguable, the Model is set up for ease of modifying the input data.

The input data used on the Model, expressed in per capita terms, is summarised in Table 7.

**Table 7: Budget Amounts for Existing Residents,
2000-01 Budget Estimates, \$ Per Head of Population**

	migration affected items	Total	%
Income	4,102	4,936	83.1%
<i>Own-source revenues</i>	2,384	2,702	88.2%
<i>Grants</i>	1,718	2,233	76.9%
Operating expenses	3,466	4,482	77.3%
Capital expenditure	390	390	100.0%

2.4.2. Parameter assumptions

The key assumptions affecting the results summarised above are those to do with the expenditure and revenue relativities between both:

- (total new) migrants and (existing) residents, hereafter referred to as 'migrant-to-resident' relativities; and
- migrant categories to migrants in total, hereafter referred to as 'category-to-migrant' relativities.

The primary relativities relate to:

- service take up rates ("usage");
- unit costs of service provision;
- taxable capacities; and
- Commonwealth grants.

Only migrant-to-resident relativity factors differ among the States. At the individual budget item level, the Model assumes that new migrants' demand for services and their inherent tax paying capacity are unaffected by the State of their arrival in Australia.

The relativities derived by Access Economics are summarised in Table 8.

Table 8: Key Relativity Factors, State Average

	Year 1	Year 10	increase
Usage relativity factors			
Total migrants-to-residents	0.990	0.989	-0.001
<i>Family-to-total migrants</i>	<i>1.020</i>	<i>1.027</i>	<i>0.007</i>
<i>Skills-to-total migrants</i>	<i>0.969</i>	<i>0.940</i>	<i>-0.029</i>
<i>Humanitarian-to-total migrants</i>	<i>1.083</i>	<i>1.123</i>	<i>0.039</i>
Unit cost relativity factors			
Total migrants-to-residents	0.994	0.999	0.006
Taxable capacity relativity factors			
Total migrants-to-residents	1.045	1.039	-0.006
<i>Family-to-total migrants</i>	<i>0.834</i>	<i>0.867</i>	<i>0.033</i>
<i>Skills-to-total migrants</i>	<i>1.408</i>	<i>1.283</i>	<i>-0.125</i>
<i>Humanitarian-to-total migrants</i>	<i>0.752</i>	<i>0.803</i>	<i>0.052</i>
Grants relativity factors			
Total migrants-to-residents	0.996	0.996	0.000
<i>Family-to-total migrants</i>	<i>1.008</i>	<i>1.028</i>	<i>0.021</i>
<i>Skills-to-total migrants</i>	<i>0.993</i>	<i>0.968</i>	<i>-0.026</i>
<i>Humanitarian-to-total migrants</i>	<i>0.990</i>	<i>1.066</i>	<i>0.076</i>

The Model has been designed to allow users to vary a range of assumptions, as discussed further in Appendix A.

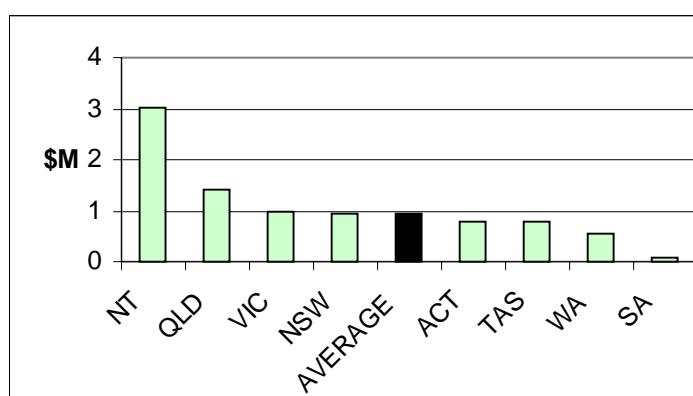
3. State-by-State Results

The results summarised in Chapter 2 conceal differing impacts among the States (with reference so far being to the program-weighted average of individual States' budgetary impacts).

3.1. Overall differences among the States

Focussing on the year 10 results (and the net operating result impact), Chart 6 compares the budgetary impact of additional migration among the States.

Chart 6: Net Operating Balance Impact per 1,000 New Migrants, Total of All Migrants, by State, Year 10



The Model suggests that the impact is most positive for the Northern Territory, mainly reflecting the fact that it benefits from GST grants which are much larger in per capita terms than for any other State.² Victoria, Queensland and New South Wales also have impacts which are above the weighted average of all the States. Tasmania and the ACT exhibit impacts that are just below the average. The smallest positive impacts are evident for South Australia and Western Australia.

Further details are provided at Table 9.

In the horizontal fiscal equalisation (HFE) process overseen by the Commonwealth Grants Commission (CGC), recurrent grants paid by the Commonwealth to the States are distributed among the States so that, were a State to provide an average set and level of services to its residents at an average level of efficiency/cost at the same time as imposing an average tax burden on those residents, the State's per capita recurrent budget result would be equal to the average for all the States.

Provided there were no errors in the CGC's assessments, no lags in the impact of the CGC's assessments upon the distribution of grants (which there are) and the CGC's assessments were uniform across each State's services and taxes (which they are not), no policy and efficiency differences would see the per capita recurrent budget impact of additional migrants being equal across the States.

² As discussed in section 8.5, the large impact in the Northern Territory reflects the implicit assumption that the additional migration in the State concerned is associated with a proportionate level of additional migrants nationwide.

Actual differences among the States in the per capita recurrent budget impact of additional migrants as evident in Chart 6 are therefore a reflection of a number of factors, categorised as follows:

- (1) policy and efficiency differences among the States, notably differences in the level of services (units per head), the efficiency of service delivery (costs per unit of service) and tax rates;
- (2) errors in the CGC's assessments;
- (3) lags in the impact of the CGC's assessments upon the distribution of grants; and
- (4) differences in the CGC's assessments across each State's services and taxes (and particularly between migrant-affected and migrant-unaffected services and taxes).

If policy and efficiency differences were the primary explanation then:

- a State with an above-average (beneficial) impact from additional migration would reflect below-average levels of service (and/or unit costs) in migrant-affected services and/or above-average tax rates in migrant-affected State taxes; and
- a State with a below-average (beneficial) impact from additional migration would reflect above-average levels of service (and/or unit costs) in migrant-affected services and/or below-average tax rates in migrant-affected State taxes.

If non-uniformity in the CGC's assessments for services and taxes were the primary explanation (particularly between migrant-affected and migrant-unaffected items) then:

- a State with an above-average (beneficial) impact from additional migration would reflect a disproportionate share of the State's fiscal disabilities falling in migrant-unaffected services and taxes – resulting in population-driven additional Commonwealth grants that exceed the impact of additional migrants on operating expenses (for example); and
- a State with a below-average (beneficial) impact from additional migration would reflect a disproportionate share of the State's relative fiscal advantages falling in migrant-unaffected services and taxes – resulting in population-driven additional Commonwealth grants that fall short of the impact of additional migrants on operating expenses.

Where (1) and/or (2) play a role in explaining a State's above- or below-average impact of additional migrants, the solution is in the hands of the State itself. With regard to (1), it would be up to the State to decide whether it wished to modify its policies or efficiency to all residents in order to improve the budget impact of additional migration. With regard to (2), it would be a matter for the State to raise its concerns with the CGC.

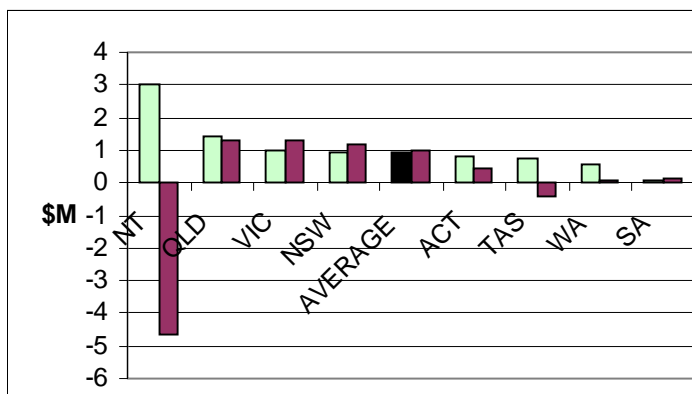
Where (3) and/or (4) play a role, the distribution of Commonwealth grants would be modified over time by the CGC to bring the State's impact into line with the average.

Table 9: Budget Impact per 1,000 New Migrants, Total of all Migrants, State by State, Year 10
\$Million

Table A: Operating Statement	NSW	VIC	QLD	WA	SA	TAS	ACT	NT	AVERAGE
Revenue	4.042	3.835	4.287	4.505	4.094	3.356	4.630	8.432	4.121
Own-source revenues	2.587	2.433	2.634	2.930	2.257	1.019	2.834	2.036	2.577
Grants	1.455	1.402	1.652	1.575	1.836	2.336	1.795	6.395	1.545
Expenses	3.086	2.843	2.867	3.945	4.076	2.586	3.847	5.424	3.198
Operating expenses	3.342	3.120	3.337	3.967	3.938	2.983	4.016	6.428	3.435
Interest expense	-0.289	-0.300	-0.527	-0.070	0.107	-0.413	-0.216	-1.067	-0.273
Depreciation expense	0.033	0.023	0.057	0.048	0.030	0.016	0.046	0.064	0.036
Net operating surplus (deficit)	0.957	0.992	1.420	0.560	0.018	0.769	0.783	3.007	0.924
<i>less</i> Net Acquisition of non-financial assets	0.131	0.091	0.230	0.192	0.122	0.065	0.183	0.254	0.142
Purchases of non-financial assets	0.164	0.114	0.287	0.240	0.152	0.081	0.229	0.318	0.178
<i>less</i> Depreciation expense	0.033	0.023	0.057	0.048	0.030	0.016	0.046	0.064	0.036
GFS net lending (+)/borrowing (-)	0.825	0.901	1.190	0.368	-0.104	0.705	0.600	2.753	0.781
Table B: Cash Flow Statement	NSW	VIC	QLD	WA	SA	TAS	ACT	NT	AVERAGE
Operating receipts	4.036	3.829	4.279	4.501	4.088	3.347	4.624	8.422	4.116
<i>less</i> Operating payments	3.052	2.820	2.806	3.898	4.045	2.560	3.799	5.351	3.161
Net cash received from operating activities	0.984	1.009	1.473	0.603	0.043	0.788	0.825	3.071	0.954
Sales of non-financial assets	-	-	-	-	-	-	-	-	-
<i>less</i> Purchases of non-financial assets	0.164	0.114	0.287	0.240	0.152	0.081	0.229	0.318	0.178
Net cash from investing in non-financial assets	-0.164	-0.114	-0.287	-0.240	-0.152	-0.081	-0.229	-0.318	-0.178
Net disposals of financial assets	-	-	-	-	-	-	-	-	-
<i>less</i> Net acquisition of financial liabilities	-0.820	-0.896	-1.186	-0.363	0.109	-0.706	-0.596	-2.753	-0.776
Net cash received from financing transactions	-0.820	-0.896	-1.186	-0.363	0.109	-0.706	-0.596	-2.753	-0.776
Net increase in cash balances	-	-	-	-	-	-	-	-	-
Overall surplus (deficit)	0.820	0.896	1.186	0.363	-0.109	0.706	0.596	2.753	0.776
Table C: Balance Sheet	NSW	VIC	QLD	WA	SA	TAS	ACT	NT	AVERAGE
Assets	0.580	0.401	1.015	0.846	0.537	0.287	0.809	1.123	0.772
Financial assets	-	-	-	-	-	-	-	-	-
Physical assets	0.580	0.401	1.015	0.846	0.537	0.287	0.809	1.123	0.772
Liabilities	-6.632	-6.744	-10.813	-3.135	-0.286	-9.233	-5.757	-24.156	-7.227
Gross debt	-4.814	-4.999	-8.784	-1.164	1.781	-6.888	-3.592	-17.788	-5.325
Other non-equity liabilities	-1.818	-1.745	-2.029	-1.972	-2.067	-2.344	-2.166	-6.368	-1.903
Net worth	7.212	7.145	11.828	3.982	0.823	9.519	6.566	25.279	7.999
Net financial worth	4.814	4.999	8.784	1.164	-1.781	6.888	3.592	17.788	5.325
Net debt	-4.814	-4.999	-8.784	-1.164	1.781	-6.888	-3.592	-17.788	-5.325

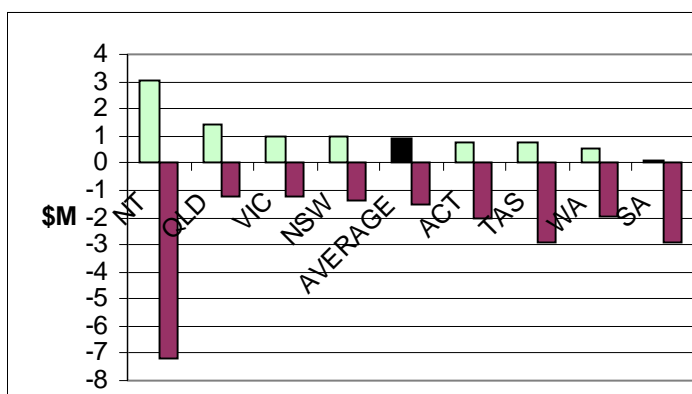
The role which the Commonwealth grant impacts play can be illustrated either by adopting the assumption of an equal per capita distribution of affected grants among the States or by excluding the grants effects completely. These alternative presentations are provided in Charts 7 and 8 respectively (where the unshaded bars represents the equal per capita and zero grants impacts in Charts 7 and 8 respectively.)

**Chart 7: Net Operating Balance Impact per 1,000 New Migrants,
Total of All Migrants, by State, Year 10
Actual and equal per capita distribution of affected Commonwealth grants**



The favourable distribution of affected grants is clearly most beneficial for the Northern Territory. In effect, the Northern Territory’s general revenue assistance involves compensation for cost disabilities on items in addition to those impacted by additional migration. Tasmania, the ACT, South Australia and Queensland also benefit from the unequal distribution of the Commonwealth grants affected by additional migration.

**Chart 8: Net Operating Balance Impact per 1,000 New Migrants,
Total of All Migrants, by State, Year 10
Including and excluding affected Commonwealth grants**



The ranking of States on an ‘excluding grants’ basis is similar to that on an ‘equal per capita distribution’ basis. Not surprisingly, however, all States display a detrimental impact from additional migration if all Commonwealth grant impacts are excluded. (For the Northern Territory, for example, the difference between the including and excluding grants impacts is greater than the grants impact alone because of the impact upon interest payments associated with the deficits that would result in the absence of any grants effects.)

Access Economics compiled the underlying data on State expenditure and revenue on existing residents from each State's portfolio budget statements. The input data used in the Model, expressed in per capita terms for ease of comparison across the States, is summarised in Table 10.

Table 10: Budget Amounts for Existing Residents, by State, 2000-01 Budget Estimates, \$ Per Head of Population

	NSW	VIC	QLD	WA	SA	TAS	ACT	NT	AVG.
Migration-affected items									
Own-source revenues	2,475	2,276	2,545	2,362	2,183	1,500	2,882	2,155	2,384
Grants	1,570	1,510	1,778	1,695	1,972	2,478	1,907	6,721	1,718
Operating expenses	3,363	3,062	3,549	3,897	3,935	3,360	4,096	6,759	3,466
Capital expenditure	351	244	622	514	329	181	489	694	390
Total items									
Own-source revenues	2,792	2,616	2,766	2,742	2,458	2,028	3,433	2,680	2,702
Grants	1,953	2,030	2,294	2,415	2,672	3,077	2,544	7,703	2,233
Operating expenses	4,275	4,261	4,552	4,800	4,637	4,553	5,373	9,589	4,482
Capital expenditure	351	244	622	514	329	181	489	694	390
Affected-to-total (%)									
Own-source revenues	88.7%	87.0%	92.0%	86.1%	88.8%	74.0%	84.0%	80.4%	88.2%
Grants	80.4%	74.4%	77.5%	70.2%	73.8%	80.5%	75.0%	87.2%	76.9%
Operating expenses	78.7%	71.8%	78.0%	81.2%	84.8%	73.8%	76.2%	70.5%	77.3%
Capital expenditure	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

The key relativities derived by Access Economics are summarised in Tables 11 and 12.

Table 11: Key Relativity Factors, by State, Year 10

	NSW	VIC	QLD	WA	SA	TAS	ACT	NT	AVG.
Usage relativity factors									
Total migrants-to-residents	0.992	1.003	0.943	1.031	0.987	0.880	0.977	0.939	0.989
<i>Family-to-total migrants</i>	1.019	1.039	1.020	1.012	1.043	1.027	1.019	1.034	1.027
<i>Skills-to-total migrants</i>	0.950	0.922	0.948	0.964	0.921	0.922	0.966	0.925	0.940
<i>Humanitarian-to-total migrants</i>	1.091	1.170	1.096	1.073	1.187	1.177	1.084	1.198	1.123
Unit cost relativity factors									
Total migrants-to-residents	0.999	1.000	0.999	0.999	1.000	0.999	0.998	1.000	0.999
Taxable capacity relativity factors									
Total migrants-to-residents	1.056	1.069	0.949	1.097	1.007	0.778	1.024	0.933	1.039
<i>Family-to-total migrants</i>	0.869	0.849	0.912	0.893	0.838	0.852	0.905	0.890	0.867
<i>Skills-to-total migrants</i>	1.280	1.321	1.186	1.228	1.344	1.317	1.203	1.236	1.283
<i>Humanitarian-to-total migrants</i>	0.799	0.777	0.881	0.852	0.770	0.771	0.848	0.828	0.803
Grants relativity factors									
Total migrants-to-residents	0.917	0.883	1.036	0.920	1.230	1.499	1.135	4.554	0.996
<i>Family-to-total migrants</i>	1.029	1.029	1.025	1.025	1.030	1.020	1.019	1.020	1.028
<i>Skills-to-total migrants</i>	0.967	0.967	0.969	0.969	0.968	0.973	0.973	0.976	0.968
<i>Humanitarian-to-total migrants</i>	1.067	1.067	1.067	1.069	1.061	1.064	1.067	1.052	1.066

Table 12: Key Relativity Factors, by State, Year 10 variation on Year 1^(a)

	NSW	VIC	QLD	WA	SA	TAS	ACT	NT	AVG.
Usage relativity factors									
Total migrants-to-residents	-0.013	-0.031	0.121	-0.096	0.000	0.304	0.014	0.126	-0.001
<i>Family-to-total migrants</i>	0.006	0.004	0.004	-0.003	0.019	0.002	0.012	0.027	0.007
<i>Skills-to-total migrants</i>	-0.029	-0.027	-0.028	-0.019	-0.034	-0.034	-0.021	-0.041	-0.029
<i>Humanitarian-to-total migrants</i>	0.037	0.039	0.033	0.036	0.050	0.046	0.046	0.066	0.039
Unit cost relativity factors									
Total migrants-to-residents	0.006	0.005	0.008	0.005	0.003	0.005	-0.002	0.026	0.006
Taxable capacity relativity factors									
Total migrants-to-residents	-0.011	-0.019	0.043	-0.051	0.004	0.087	-0.003	0.038	-0.006
<i>Family-to-total migrants</i>	0.029	0.043	0.018	0.020	0.049	0.019	0.026	0.015	0.033
<i>Skills-to-total migrants</i>	-0.119	-0.149	-0.077	-0.091	-0.163	-0.116	-0.092	-0.087	-0.125
<i>Humanitarian-to-total migrants</i>	0.059	0.043	0.047	0.063	0.042	0.104	0.029	0.075	0.052
Grants relativity factors									
Total migrants-to-residents	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<i>Family-to-total migrants</i>	0.021	0.021	0.020	0.020	0.020	0.020	0.020	0.019	0.021
<i>Skills-to-total migrants</i>	-0.026	-0.026	-0.025	-0.025	-0.025	-0.025	-0.026	-0.023	-0.026
<i>Humanitarian-to-total migrants</i>	0.057	0.056	0.063	0.060	0.053	0.062	1.067	1.052	0.076

(a) a positive variation in this Table implies the relativity factor in year 10 has increased compared with the relativity factor in year 1; a negative variation implies a fall in the relativity factor between years 1 and 10.

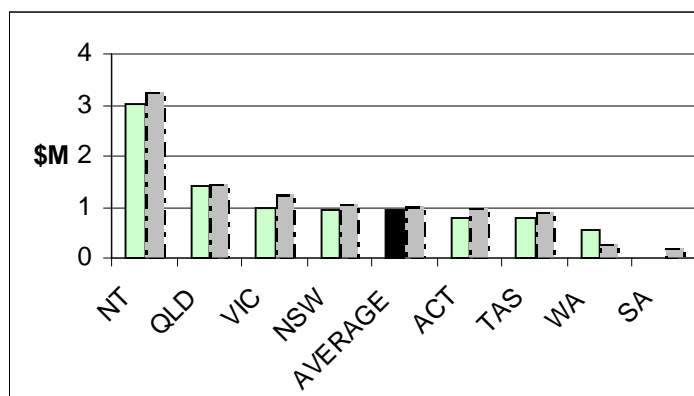
Some of the interstate difference in the budgetary impact of additional migration is due to differences among the States in the category composition of their migrant intakes. The interstate differences in the program weights used to derive the all-migrants impact from the impacts at the individual migrant category level are set out in Table 13.

Table 13: Migrant Intake Composition, 1999-00, by State

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Family	41.9%	43.7%	42.3%	22.4%	43.7%	52.1%	53.3%	51.0%	40.1%
<i>Sponsored</i>	11.3%	12.1%	11.3%	17.7%	8.7%	4.5%	11.3%	11.5%	12.2%
<i>Business</i>	13.7%	13.6%	18.3%	22.9%	18.3%	25.8%	13.0%	12.5%	15.8%
<i>Independent</i>	23.5%	18.0%	21.8%	28.5%	17.2%	8.9%	15.2%	15.4%	22.2%
Total Skills	48.5%	43.7%	51.4%	69.1%	44.1%	39.2%	39.5%	39.4%	50.1%
Humanitarian	9.5%	12.6%	6.3%	8.5%	12.1%	8.7%	7.2%	9.6%	9.8%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

If the average national weights are used instead, the impact due to influences other than interstate difference in the migrant intake competition can be shown. Chart 9 provides such a comparison, with the dark shaded dotted columns showing the impacts using national average migrant category weights.

Chart 9: Net Operating Balance Impact per 1,000 New Migrants, Total of All Migrants, by State, Year 10 Use of National versus State Migrant Category Weights

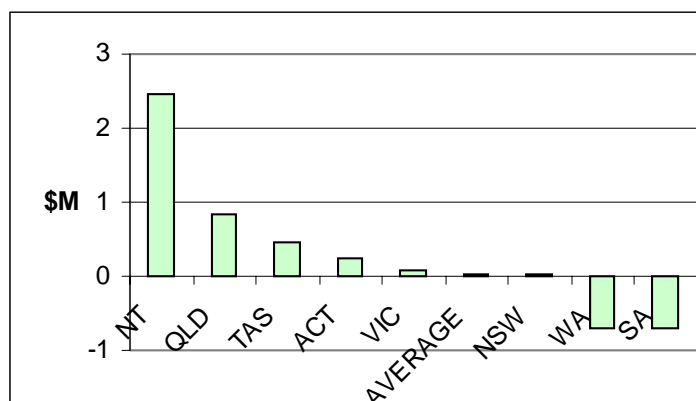


In all States except Western Australia, the budgetary impact would be higher were each State’s migrant intake equal to the national average. In the main, Western Australia’s larger beneficial impact based on its own intake reflects that State’s relatively low family category intake.

3.2. Differences among the States by migrant category

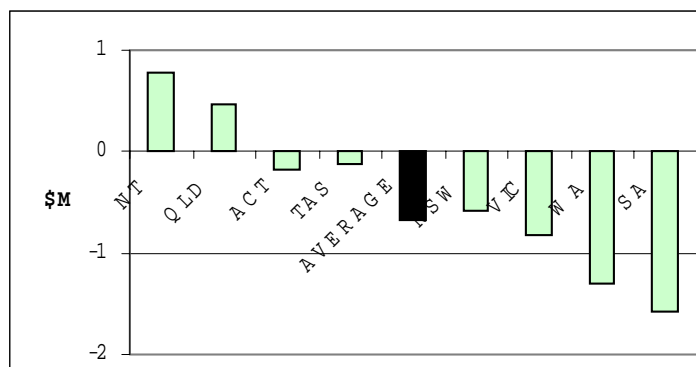
The State-by-State pattern varies slightly between the migrant categories.

Chart 10: Net Operating Balance Impact per 1,000 New Migrants, Family Category, by State, Year 10



For family migrants, the impact for both New South Wales and Victoria are less than that in Tasmania, Queensland and the ACT, while the South Australian and Western Australian impacts are negative for this category of migrants. The NT’s impact remains the largest.

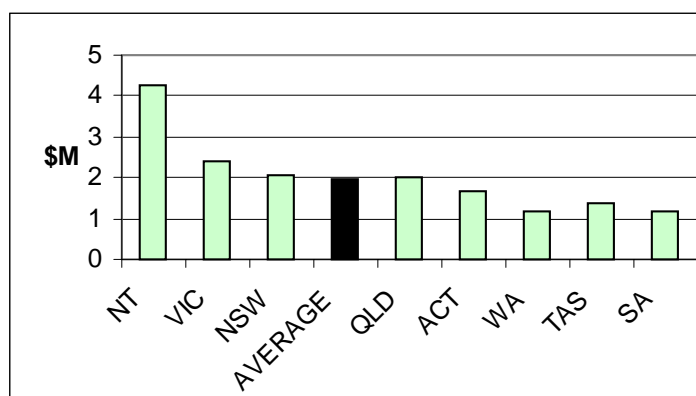
Chart 11: Net Operating Balance Impact per 1,000 New Migrants, Humanitarian, by State, Year 10



The rankings of the States for the humanitarian category are similar to that for the family category, although the impacts in absolute terms are negative for all the States except the Northern Territory and Queensland. The role of GST grants is important in the case of the Northern Territory, while the generally lower costs of service provision also plays a role in Queensland.

For the skills migrant category, Victoria and New South Wales display above average impacts, while Queensland's, the ACT's and Tasmania's impacts – unlike the case for the family and humanitarian categories – are below average.

Chart 12: Net Operating Balance Impact per 1,000 New Migrants, Skills Category, by State, Year 10



Further details are provided at Table 14.

Table 14: Operating Statement Impact per 1,000 New Migrants, by Migrant Categories, State by State, Year 10

	\$Million								
	NSW	VIC	QLD	WA	SA	TAS	ACT	NT	AVG.
Family Category, per 1,000									
Revenue	3.619	3.452	4.054	3.937	3.835	3.239	4.398	8.263	3.725
Expense	3.579	3.364	3.225	4.630	4.548	2.787	4.150	5.812	3.701
Net Operating Surplus (Deficit)	0.039	0.088	0.829	-0.693	-0.714	0.452	0.248	2.451	0.023
Skill Category, per 1,000									
Revenue	4.506	4.344	4.501	4.763	4.391	3.521	4.976	8.665	4.524
Expense	2.456	1.924	2.477	3.567	3.209	2.133	3.296	4.397	2.551
Net Operating Surplus (Deficit)	2.050	2.420	2.023	1.195	1.182	1.388	1.680	4.269	1.973
Sponsored skills, per 1,000									
Revenue	4.132	3.953	4.324	4.460	4.118	3.434	4.684	8.503	4.189
Expense	2.736	2.229	2.607	3.792	3.444	2.228	3.506	4.619	2.806
Net Operating Surplus (Deficit)	1.397	1.724	1.717	0.668	0.675	1.206	1.178	3.884	1.383
Business skills, per 1,000									
Revenue	4.619	4.514	4.643	4.926	4.532	3.577	5.045	8.706	4.661
Expense	2.111	1.543	2.247	3.240	2.833	1.965	3.041	3.907	2.213
Net Operating Surplus (Deficit)	2.509	2.971	2.396	1.686	1.699	1.612	2.005	4.799	2.448
Independent skills, per 1,000									
Revenue	4.713	4.557	4.583	4.913	4.544	3.557	5.145	8.756	4.705
Expense	2.372	1.822	2.455	3.505	3.163	2.133	3.231	4.450	2.477
Net Operating Surplus (Deficit)	2.341	2.735	2.129	1.408	1.381	1.424	1.914	4.306	2.228
Humanitarian Category, per 1,000									
Revenue	3.547	3.398	4.110	3.902	3.944	3.307	4.439	8.369	3.691
Expense	4.122	4.220	3.648	5.212	5.522	3.425	4.626	7.581	4.338
Net Operating Surplus (Deficit)	-0.574	-0.823	0.462	-1.310	-1.578	-0.118	-0.186	0.788	-0.647
Total, per 1,000									
Revenue	4.042	3.835	4.287	4.505	4.094	3.356	4.630	8.432	4.121
Expense	3.086	2.843	2.867	3.945	4.076	2.586	3.847	5.424	3.198
Net Operating Surplus (Deficit)	0.957	0.992	1.420	0.560	0.018	0.769	0.783	3.007	0.924

The role which the Commonwealth grant impacts play at the migrant category level can be illustrated by excluding the grants effects completely. This alternative presentation is provided for the family, humanitarian and skills categories in Charts 13, 14 and 15 respectively.

Chart 13: Net Operating Balance Impact per 1,000 New Migrants, Family Category, by State, Year 10 Including and excluding affected Commonwealth grants

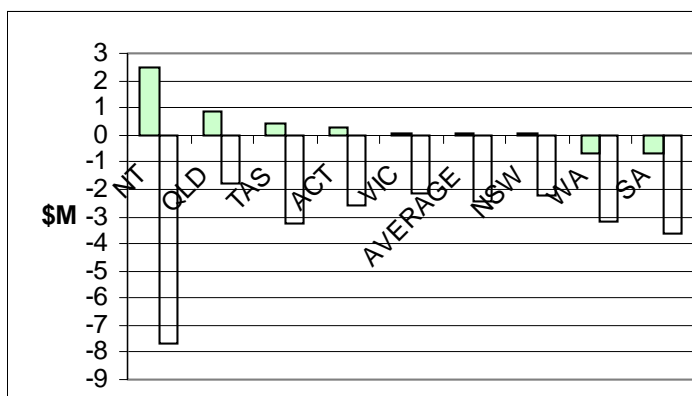


Chart 14: Net Operating Balance Impact per 1,000 New Migrants, Humanitarian Category, by State, Year 10 Including and excluding affected Commonwealth grants

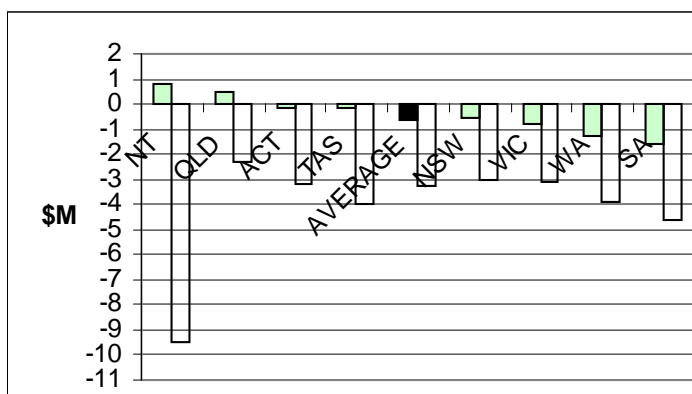
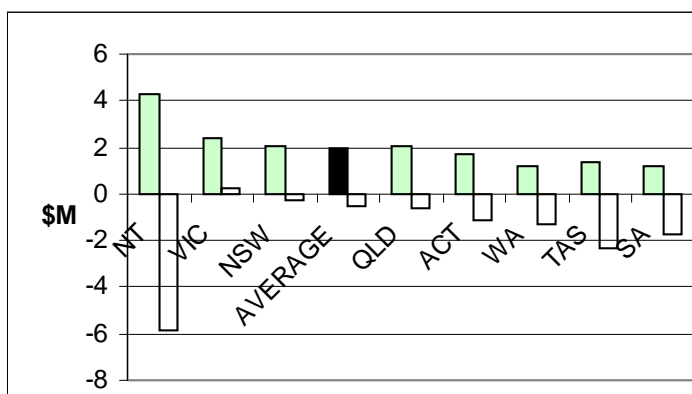


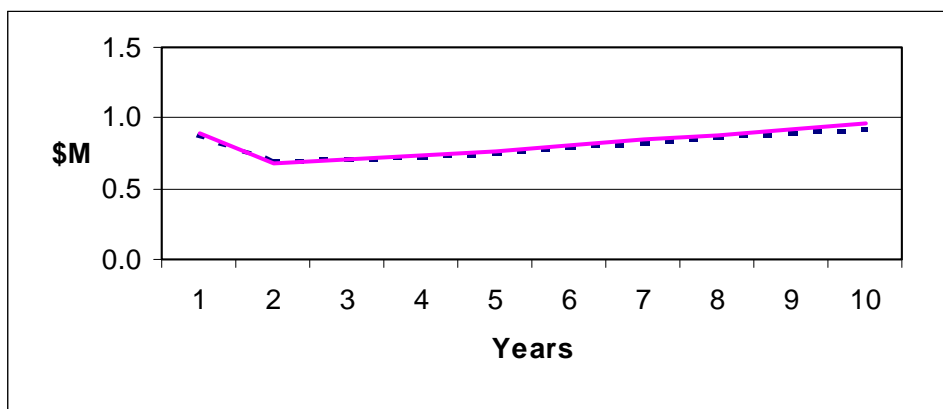
Chart 15: Net Operating Balance Impact per 1,000 New Migrants, Skills Category, by State, Year 10 Including and excluding affected Commonwealth grants



3.3. New South Wales

Not surprisingly, given its relative size, the New South Wales results correspond reasonably closely with the average for all the States (see Chart 16 – where the dashed line in this and the following charts indicates the States’ weighted average impact and the solid line indicates the impact for the individual State in question).

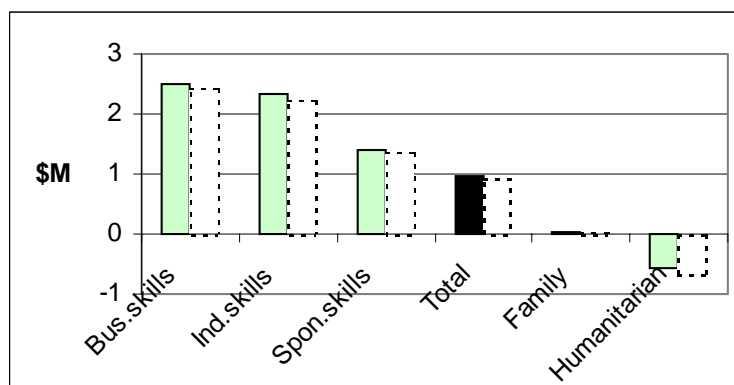
Chart 16: Net Operating Balance Impact per 1,000 New Migrants, Total of All Migrants, New South Wales



The relatively low grants impact is offset by relatively high tax capacity, and relatively low usage, relativities.

The operating surplus impact in year 10 is slightly above average for the skills category, in contrast to the pattern for the other migrant categories.

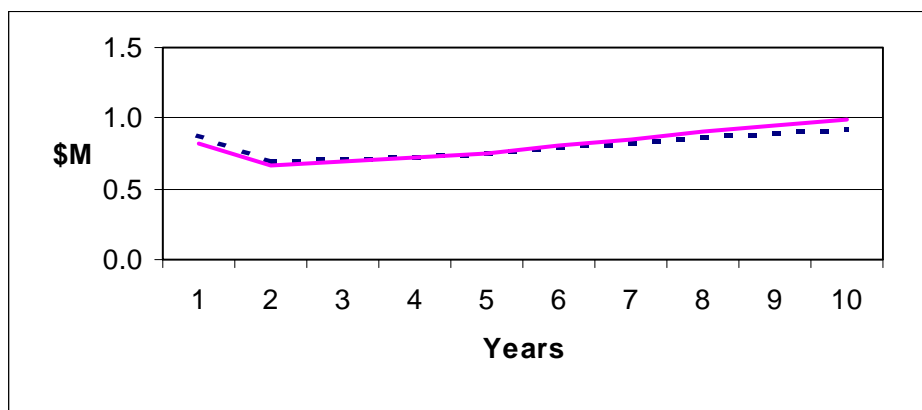
Chart 17: Net Operating Balance Impact per 1,000 New Migrants, Year 10, by Migrant Category, New South Wales



3.4. Victoria

Overall, Victoria exhibits a slightly more beneficial impact than New South Wales, resulting in a slightly above average result (see Chart 18).

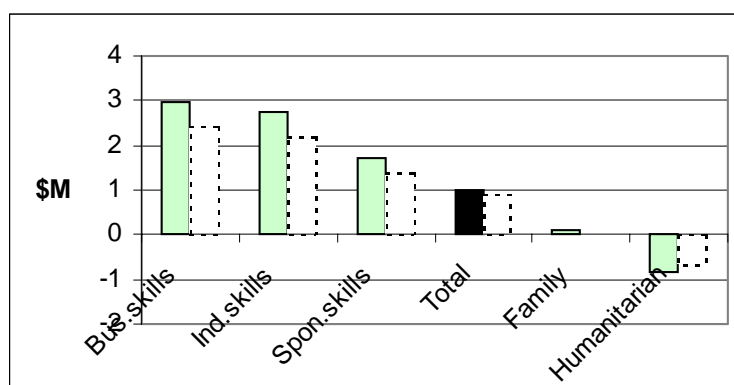
Chart 18: Net Operating Balance Impact per 1,000 New Migrants, Total of All Migrants, Victoria



This more beneficial impact is due to the State’s generally lower cost of service provision not offsetting its lower State tax rates and lower level of per capita Commonwealth grants.

This above-average result is apparent for all the migrant categories except the humanitarian category. In the main, this is due to the cost of services provided to humanitarian migrants being above-average whereas the costs for services to the skilled category being slightly below-average.

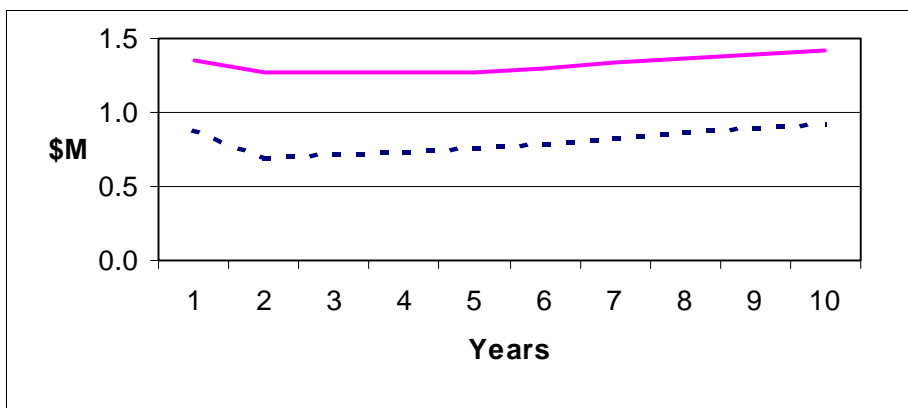
Chart 19: Net Operating Balance Impact per 1,000 New Migrants, Year 10, by Migrant Category, Victoria



3.5. Queensland

Queensland’s net operating surplus impact is above the State average (see Chart 20).

Chart 20: Net Operating Balance Impact per 1,000 New Migrants, Total of All Migrants, Queensland

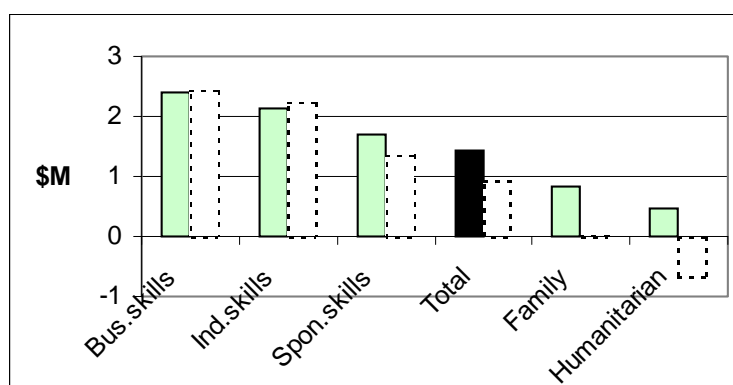


This more beneficial impact is due almost entirely to the State’s generally lower cost of service provision, with its lower State tax rates offset by its higher level of per capita Commonwealth grants.

This overall result reflects slightly above-average impacts for the family and humanitarian categories not offset by below-average impacts for the business and independent skills sub-categories. In the main, this is due to the beneficial own-source revenue impact of skilled migrants being dampened by the State’s generally lower tax rates.

Queensland’s humanitarian impact is positive over the whole period, mainly reflecting the State’s generally lower cost of service provision.

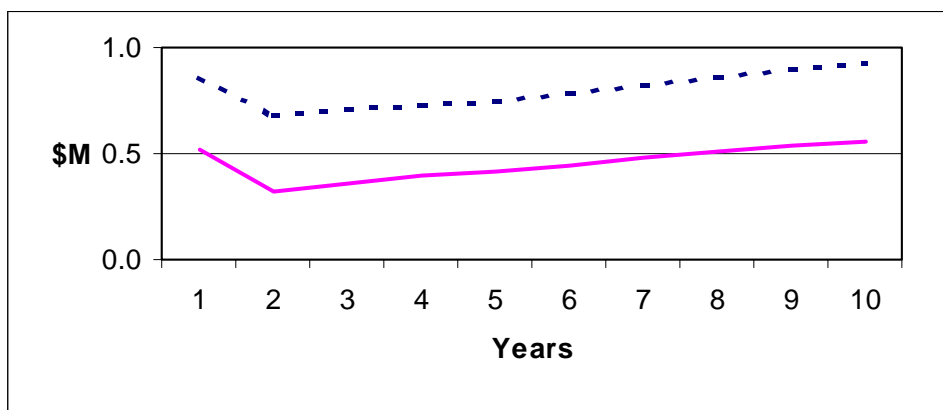
Chart 21: Net Operating Balance Impact per 1,000 New Migrants, Year 10, by Migrant Category, Queensland



3.6. Western Australia

Western Australia’s impact is well below average over the whole period, with the impact being around \$0.9 million below average in year 10 (see Chart 22).

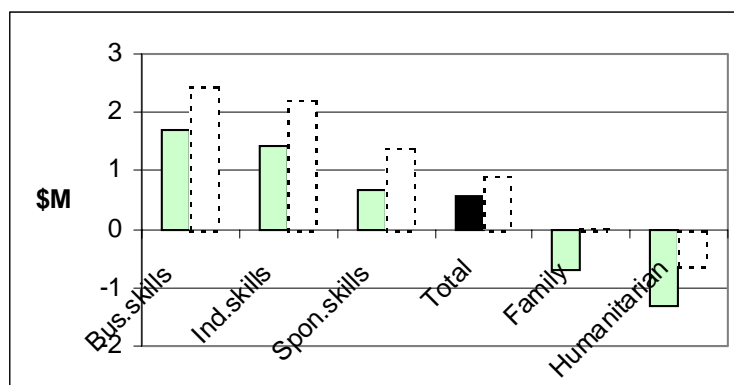
Chart 22: Net Operating Balance Impact per 1,000 New Migrants, Total of All Migrants, Western Australia



This less beneficial impact is due to the State’s slightly above-average level of per capita Commonwealth grants and some higher State tax rates being insufficient to offset generally higher costs of service provision. Policy and efficiency differences in migrant-affected services therefore work to the detriment of the State, as do factors dampening population-driven Commonwealth grants particularly in migrant-unaffected State taxes (eg mining royalties).

This below average impact is evident across all migrant categories (see Chart 23).

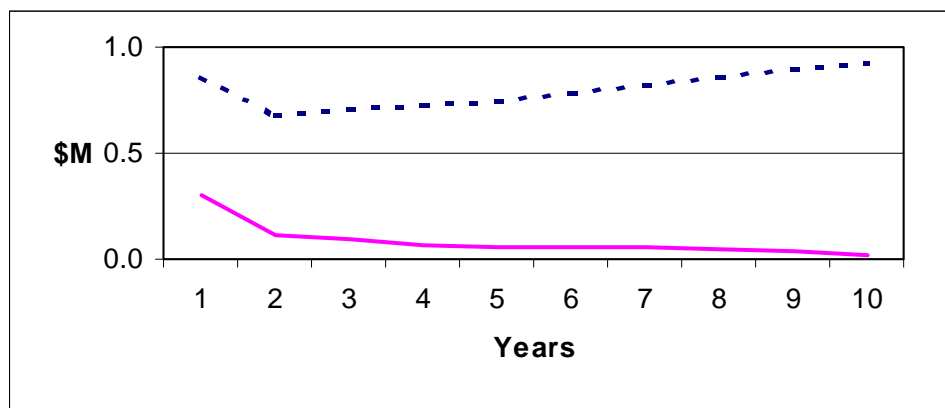
Chart 23: Net Operating Balance Impact per 1,000 New Migrants, Year 10, by Migrant Category, Western Australia



3.7. South Australia

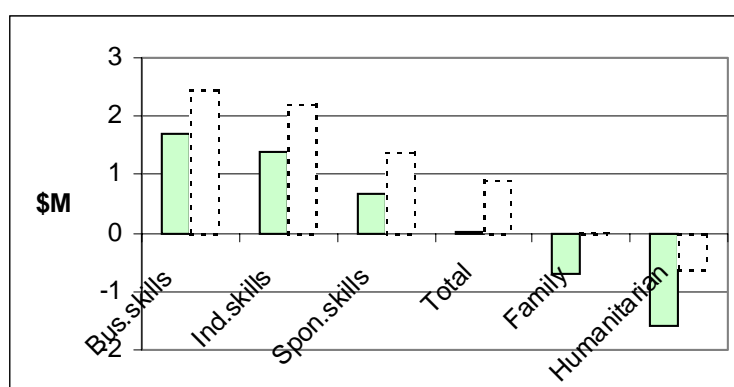
Like Western Australia, South Australia’s impact is below average (see Chart 24).

Chart 24: Net Operating Balance Impact per 1,000 New Migrants, Total of All Migrants, South Australia



This less beneficial impact reflects the relatively higher proportions of family and humanitarian migrants – the higher cost categories- and the relatively lower proportion of skilled independent – one of the higher benefit categories - going to the State. More importantly, as shown in Chart 25 below, the State’s generally higher cost of service provision and lower State tax rates mean that the beneficial impact of migrants is below average for all migrant categories. As this higher cost and lower State tax rates are generally on account of policy and efficiency differences, the State’s above-average level of per capita Commonwealth grants falls well short of a level necessary to fully offset the State’s higher cost structure.

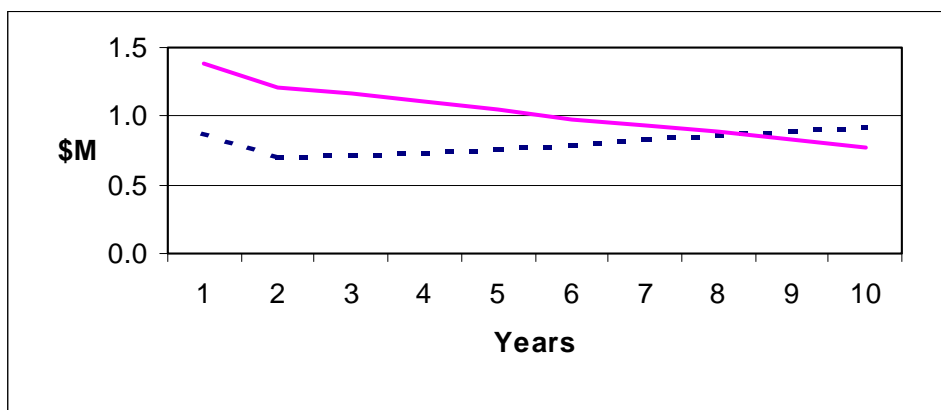
Chart 25: Net Operating Balance Impact per 1,000 New Migrants, Year 10, by Migrant Category, South Australia



3.8. Tasmania

Tasmania’s beneficial impact starts out above average but, in contrast to the pattern for all the other States, falls over time (see Chart 26).

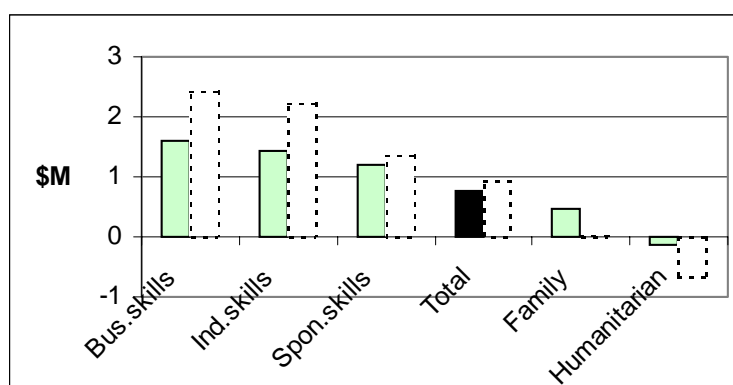
Chart 26: Net Operating Balance Impact per 1,000 New Migrants, Total of All Migrants, Tasmania



The initially more beneficial impact is due to the State’s relatively low cost of service provision to migrants and above-average level of per capita Commonwealth grants more than offsetting its lower State tax rates. Over time, the Model suggests that a less beneficial impact emerges as the State’s cost of service provision to migrants rises to similar levels as for residents over the 10 year forecasting period.

By year 10, the impacts for the business and independent skills sub-categories are below the average for all the States, while the impacts for the family and humanitarian categories remain above average (see Chart 27).

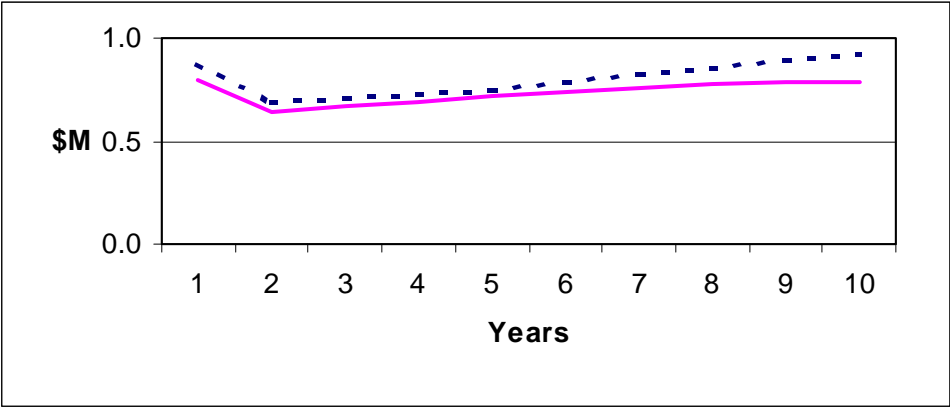
Chart 27: Net Operating Balance Impact per 1,000 New Migrants, Year 10, by Migrant Category, Tasmania



3.9. ACT

The ACT's impact is just below the average for all the States (see Chart 28)

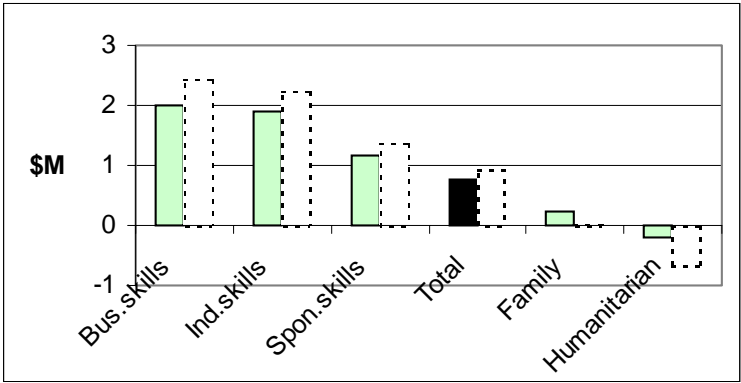
Chart 28: Net Operating Balance Impact per 1,000 New Migrants, Total of All Migrants, ACT



This below-average beneficial impact reflects the ACT's generally higher cost of service provision not quite offsetting higher State tax rates and above-average level of per capita Commonwealth grants.

The family and humanitarian categories are above average, which more than offsets the below average impacts in the skills category (see Chart 29). In the main, this is due to the ACT's higher State tax rates being dampened by its generally higher cost of service provision in the skills category, whereas its above-average level of per capita Commonwealth grants more than offsets its generally higher costs in the humanitarian category.

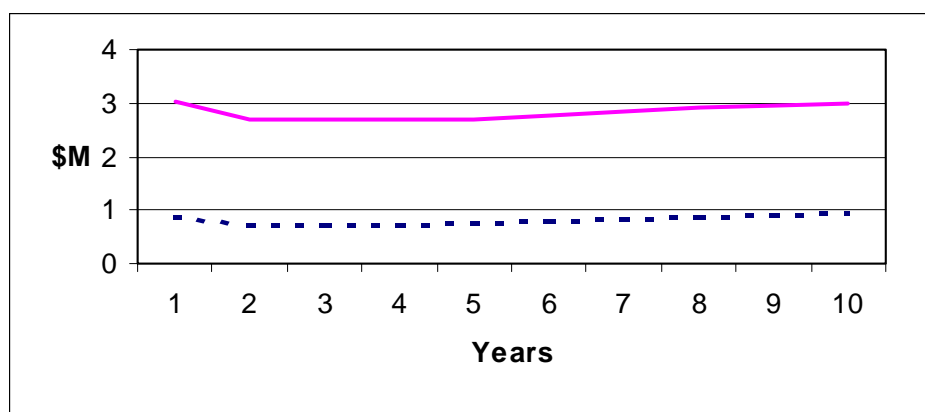
Chart 29: Net Operating Balance Impact per 1,000 New Migrants, Year 10, by Migrant Category, ACT



3.10. Northern Territory

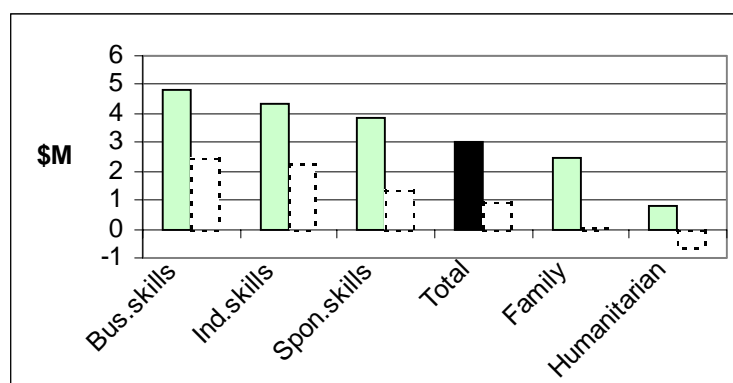
The Northern Territory’s impact is well above the national average (see Chart 30), reflecting both its small size and the very strong positive impact upon its grants from the Commonwealth. The Territory’s well above-average level of per capita Commonwealth grants more than offset its generally higher cost of service provision and lower tax rates in migrant-affected categories. While policy and efficiency differences in migrant-affected services and taxes could be playing some role, the main contributing factor is likely to be relatively large fiscal disabilities assessed by the CGC in migrant-unaffected services and taxes increasing the Territory’s population-driven Commonwealth grants.

Chart 30: Net Operating Balance Impact per 1,000 New Migrants, Total of All Migrants, Northern Territory



This above-average impact is evident for all the migrant categories (see Chart 31).

Chart 31: Net Operating Balance Impact per 1,000 New Migrants, Year 10, by Migrant Category, Northern Territory



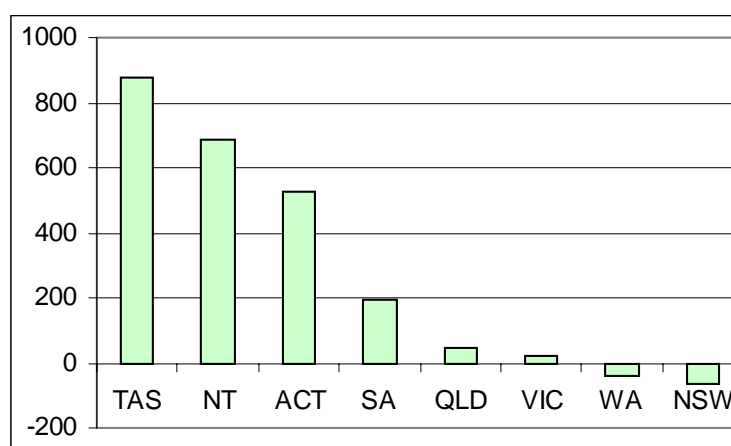
3.11. Inter-state migration

The results for each State assume that the number of additional migrants stays unchanged for each State over the 10 year forecasting period. Notably, this assumption overlooks the likelihood that – within the 10 year period – some of the new migrants will move States after their arrival in their first destination (State). States that are net recipients of migrants through post-arrival interstate migration will experience a larger budgetary impact with new migrants proportionately increasing over the 10 year forecasting period. On the other hand, the States that are the net losers of migrants will experience a smaller overall budgetary impact with new migrants proportionately falling over the 10 year period.

Chapter 9 outlines the modelling undertaken in this regard.³

In summary, if it is assumed that post-arrival interstate migration flows are in line with past movement trends, the resultant variations from the initial 1,000 additional migrants is shown in Chart 32. Relatively speaking, small numbers of migrants flow out of New South Wales, Queensland and Western Australia to the rest of the country, with a small increase in Victoria, a moderate rise in South Australia, and relatively large increases in the two Territories and Tasmania.

Chart 32: Interstate Migration Variation to Initial 1,000 New Migrants, Year 10, by State.



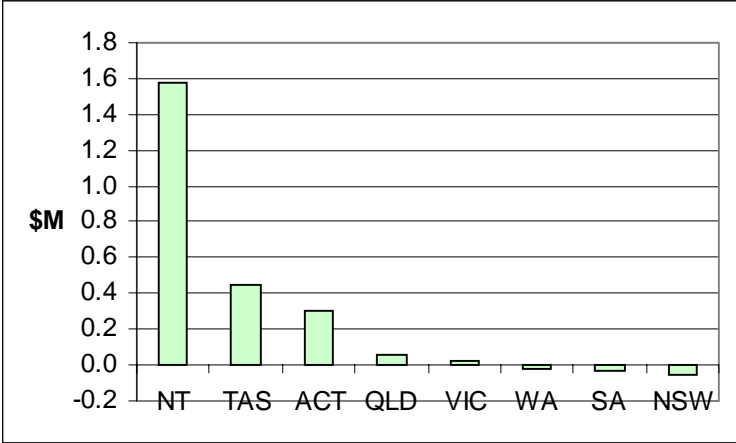
New South Wales and Western Australia are net loser of new migrants while the others are net gainers. While the sum of movements is zero across States, the larger numbers in the smaller States in Chart 32 are the consequence of adjusting the initial movements in each State to the standard 1,000.

The States that gain migrants all improve their budgetary positions further (and those that experience net out-migration see a slight deterioration to their budgetary positions).

³ Chapter 9 examines some alternative interstate migration scenarios, such as that which would result if the post-arrival interstate migration flows were in line with employment growth patterns or the settlement location of previous migrants from each country of origin.

The resultant impact upon the State net operating surplus is illustrated in the Chart 33. The amounts shown in the chart are additional to the effects based upon a constant 1,000 new migrants (as per Chart 6).

Chart 33: Interstate Migration, Budgetary Variation to the Impact of an Initial 1,000 New Migrants, Year 10, by State



4. Overview of the Modelling Framework

This chapter describes the conceptual approach taken to the modelling task (and the broad choices made).

4.1. Modelling approach

Access Economics has approached this study as:

- a ‘desktop’ exercise;
- an expansion (or further development) of a pre-existing financial model, by ensuring that the States Model is effectively linked to – and compatible with – the Commonwealth Model; and
- an adaptation of a pre-existing conceptual methodology, namely the methodology proposed by Mathews.⁴

4.1.1. Desktop approach

The States Model has been developed without the involvement of State authorities, so the model is structured to assist the inputting of alternative data into the model. Likewise, all assumptions regarding migrant-resident and category-migrant relativities to enable entry of alternative assumptions. This facilitates the assessment of the sensitivity of the Model to variations in such assumptions.

4.1.2. Comparison with the Commonwealth Model

Similar to the Commonwealth Model, the States Model provides estimates of budget impacts per 1,000 migrants, by measuring the impact of 1,000 migrants at ‘year 1’ and then tracking the impact of those migrants over a ten year period – with no account being taken of successive annual flows of migrants, or of past migration intakes.

Also, like the Commonwealth Model, the States Model focuses on ‘incremental’ budgetary impacts. As such, other things are held constant. This way, the results indicate the budget variation around the underlying baseline scenario, without having to define what that baseline scenario is. The Model does, however, have the capacity to vary assumptions about the underlying rate of inflation and the rate of population growth (both national and State by State).

While an additional 1,000 migrants will have a range of indirect and multiplier effects throughout the economy, the model focuses only on ‘first round’ effects. Hence, only those government outlays and receipts that are the direct result of the activity of the new migrants themselves are taken into account in the model. Where only average (past) data has been available for modelling purposes, allowances are made to account for any differences between average and incremental (marginal) costs or revenues.

The key differences with the Commonwealth Model relate to the sub-national dimensions of the States Model, namely:

- the coverage of eight separate jurisdictions (the six States and two Territories), compared with the single jurisdiction focus in the Commonwealth Model; and

⁴ Russell Mathews, *Immigration and State Budgets*, Bureau of Immigration Research, 1992

- the inclusion of interstate migration in the years after arrival.

Also, the States Model involves a link with the Commonwealth Model, as the impact on Commonwealth grants at the State level (being revenues to the States) are derived from the *aggregate* impact on Commonwealth grants (being operating expenses for the Commonwealth) contained in the Commonwealth Model.

4.1.3. Mathews' methodology

Consistent with the methodology applied by the Commonwealth Grants Commission, the starting point proposed by Mathews was the recognition that, for example, levels of expenditure (E) in a particular budget category (e.g. schools education) can be expressed as the product of:

- expenditure (E) per units of service consumed (U) (hereafter termed “unit costs” and expressed as $(\frac{E}{U})$);
- units of service consumed (U) per head of population (P) (hereafter termed “take up rates” and expressed as $(\frac{U}{P})$); and
- population numbers (P).

That is, levels of expenditure can be re-expressed by the following identity:

$$E \equiv (\frac{E}{U}) * (\frac{U}{P}) * P.$$

Based on this formulation, differences in the level of expenditure between budget categories, between States, or over time can be explained in terms of differences in unit costs $(\frac{E}{U})$, differences in take up rates $(\frac{U}{P})$ and differences in the size of relevant populations (P).

An analogous decomposition of revenue (R) provides the basis for analysis of differences in the level of revenue between tax categories, or between States, or over time, in terms of differences in tax rate $(\frac{R}{Y})$ and in per capita taxable capacity $(\frac{Y}{p})$ as well as in the size of relevant populations.

Mathews applied this broad framework to investigating the effects of *past* immigration, by applying the framework to an explanation of differences between Australian-born and overseas-born population groups. By contrast, the terms of reference for this study require a focus on *additional* immigration, distinguishing between existing residents – irrespective of whether they are Australian or overseas born – and new migrants.

In particular, for both expenditure and revenue categories, the States Model is based on distinction between the budgetary impact of additions to two population groups: existing residents and new migrants. Broadly speaking, the methodology used in the States Model involves estimating the annual impact with respect to a particular budget category by starting with the annual per capita *incremental* value estimated for existing residents in each State, and making two broad kinds of inter-related adjustments:

- adjustments for any differences between existing residents and new migrants (for example, in their take up rates); and

- adjustments for any such differences between individual categories of migrants (effectively between individual categories of new migrants and new migrants *in toto*).

By applying these adjustments, the model starts with a per capita impact for existing residents and ends up with estimates of the per capita impact for additional migrants in an individual migrant category.

For an individual State, the model is therefore based upon evidence of differences in take up rates, unit costs of service provision, taxable capacities and effective tax rates and the like. Where evidence of such differences is not found, it has been assumed that differences do not exist (as relevant) between existing residents and new migrants or between various new migrant categories or over time.

4.2. Nature of the ‘additional 1,000 migrants’ assumption

The States Model provides estimates of the budgetary impact per 1,000 migrants, by measuring the impact of 1,000 migrants at ‘year 1’ and then tracking the impact of those migrants over a ten year period – with no account being taken of successive annual flows of migrants, or any attrition among the 1,000.

The Model doesn’t show the impact of an additional 1,000 in a particular State in isolation. To do so would give rise to some unrealistic consequences especially in the Commonwealth grants area (and in the interstate migration analysis). Rather, the approach taken has been to, in effect, assume that:

- an additional 1,000 migrants has been added to the national population;
- which is then distributed among the States in line with the most recent intakes; and
- with the estimated budgetary impacts on each State (for example, associated with around 426 of the additional 1,000 migrants in New South Wales and 5 of the additional 1,000 in the Northern Territory) being re-expressed in each State in per thousand terms.

4.3. Institutional scope of model

As with the Commonwealth Model, the States Model focuses upon the budgetary impact upon the ‘general government’ sector. The general government sector comprises all government departments, offices and other agencies engaged in providing services free of charge or at prices significantly below their cost of production. For these services, the gap between costs of production and user charges is financed through taxes and other compulsory levies.

The impact of additional migrants upon the ‘public non-financial corporations’ (PNFC) sector (formerly known as the public trading enterprises sector) has not been modelled. This sector comprises bodies engaged mainly in production of goods and services for sale in the market at prices that aim to recover the costs involved. The cost recovery nature of the PNFC sector diminishes the importance of any impact of additional migrants. If there are any taxpayer funding impacts of additional migrants upon the PNFC sector, this would show up in the general government sector via the impact upon the dividends received by, and/or subsidies (including community service obligation (CSO) payments) paid by the general government sector. Our approach assumes that these impacts are not materially different from the impact of additional residents.

4.4. Budget categories

Reflecting the terms of reference, the States Model shows the impact of additional migration on:

- State operating expenses, involving both
 - migrant-specific services (such as the delivery of English as a second language (ESL), literacy, adult migration education services and employment services) and generally-available services (e.g. welfare, school education, health, police, employment, community and settlement services etc.);
 - services funded by general taxation revenue and services funded on a user pays basis;
- States' capital expenditures;
- States' own-source revenues (State tax collections and receipts from user charges); and
- financial assistance provided by the Commonwealth (in the form of either general revenue assistance or specific purpose payments).

In disaggregating State outlays and receipts in this way, the States Model adopts a common structure across all States.

Reflecting the requirements of the model to distinguish between migrant-resident relativities, Access Economics has derived data by manipulating each State's portfolio budget information into the broad categories in Table 15.

Table 15: Budget Categories

Operating expenses	Capital expenditure	Own-source revenues	Grants from Commonwealth
Crime-Related Law and Order	Law, Order and Public Safety	Payroll Tax	Vocational Education
Primary School Education	Education	Gambling Taxes	English Speaking Government Schools
Secondary School Education		Motor Vehicle Taxes	Non English Speaking Government Schools
Other School Education TAFEs		Financial Institutions Duty	Health Care Grants
		Debits Tax	GST Payments to the States
Other Education and Training (includes ACE)		Taxes on Insurance	Other (balance)
Acute Health, Admitted Services, Ambulance	Health	Land Tax	
Acute Health, Non-Admitted Services		Other Stamp Duties	
Aged Care and Primary Health		Regulatory Fees and Fines	
Mental Health Services		Other (balance)	
Public Health Services			
Disability Services	Housing & Community Services		
Community Care			
Concessions to Pensioners and Beneficiaries			
Housing Assistance			
Office of Multicultural Affairs Recurrent	Multicultural Affairs		
Other (balance)	Other (balance)		

4.5. Indicators of budgetary impact

To give effect to the requirement in the terms of reference to model the impact on accrual as well as cash-based financial statements, the States Model presents the results in the usual three-way financial statements format, involving:

- an operating statement, which is a summary of the transactions of the general government sector in a given financial year;
- a cash flow statement, which provides information on the sources and uses of cash in order to show the liquidity of the general government sector; and
- a balance sheet, which presents the Government's assets and liabilities at the end of the financial year.

As a result, Access Economics has adopted the budget reporting structure set out in Table 16 in modelling the budgetary effects of additional migration at the State level. (The meaning of these various terms is explored further in Appendix B.)

Table 16: Budget impact reporting structure

TABLE A – OPERATING STATEMENT	
Revenue	
Own-source revenues	
Commonwealth grants	
<i>less</i> Expenses	
Operating expenses	
Interest expense	
Depreciation expense	
<i>equals</i> Net operating surplus (+)/deficit(-)	
<i>less</i>	
Net Acquisition of non-financial assets	
Purchases of non-financial assets	
<i>less</i> Depreciation expense	
<i>equals</i> GFS net lending (+)/borrowing (-)	
TABLE B – CASH FLOW STATEMENT	
Operating activities	
Operating receipts	
<i>less</i> Operating payments	
Net cash received from operating activities	
Investing in non-financial assets	
Sales of non-financial assets	
<i>less</i> Purchases of non-financial assets	
Net cash received from investing in non-financial assets	
Financing activities	
Net disposals of financial assets	
<i>less</i> Net acquisition of financial liabilities	
Net cash received from financing transactions	
Net increase in cash balances	
Overall surplus(+)/deficit(-)	
TABLE C – BALANCE SHEET	
Assets	
Financial assets	
Physical assets	
Liabilities	
Gross debt	
Other non-equity liabilities	
Net worth	
Net financial worth	
Net debt	

While the results are shown in this format, they simply provide the Model's estimates of the impact of additional migrants upon each of these three financial statements. As such, the budgetary impacts expected on account of additional migration are indicated in the form of *variations* from the operating and cash flow results and the balance sheet that would otherwise have been published.

In order to estimate the impact upon each of the above budgetary items, the States Model directly estimates each of the component items in Table 17, and then combines these amounts as appropriate to give the above presentation.

Table 17: Types of Budgetary Transactions**TRANSACTIONS AFFECTING NET WORTH**

Revenue (transactions increasing net worth)

Own-source revenues

current year's income received

current year's income receivable

previous year's income received

Commonwealth grants

current year's income received

current year's income receivable

previous year's income received

Expense (transactions decreasing net worth)

Operating expenses

current year's expenses paid

current year's expenses payable

previous year's expenses paid

Interest expense

Depreciation expense

TRANSACTIONS IN NON-FINANCIAL ASSETS

Net acquisition of non-financial assets

Capital expenditure

Disposals

TRANSACTIONS IN FINANCIAL ASSETS AND LIABILITIES

Net disposals of financial assets

Net borrowing

With respect to both the key *operating expenses* and *own-source revenues* terms, the model first derives estimates of accrual amounts (being based upon accrual data from the State budget papers). In the first year, for each budget item, these accrual amounts are allocated between:

- for each budget item, the amount estimated not to have been paid/received in that year (based upon estimated payments/collection lags), which becomes an amount payable/received with respect to that year; and
- the balance being paid/received in cash.

In the second and subsequent years, the same method is used to distinguish between the cash and non-cash amounts with respect to the year in question. In addition, the previous year's amount payable/receivable is assumed to be paid/received in full.⁵

⁵ Tasmania and the Northern Territory continue to report on a cash basis. The models for these two States differs from that for the States reporting in an accrual format by, for each budget item:

- the amount paid/received in that year being divided (based upon estimated payments/collection lags) into an amount payable/received with respect to that year and an amount paid/received with respect to the previous year; and

Consistent with the accrual approach, *user charges* collected by a State are shown separately as income rather than as negative outlays.

Full details of the States Model's method for deriving estimates of the impact of additional migration on operating expenses and own-source revenues are provided in Chapters 5 and 7 respectively.

The impact of new migrants upon *capital expenditure* (and so the consequent depreciation impact) has been based upon an estimate of the *incremental* cost of new migrants. As the focus is on incremental cost, none of the existing budgeted capital expenditure (and depreciation) has been attributed to the new migrants. Rather than set the incremental capital cost at zero (which would be the case if there was spare capacity in the use of the government assets – schools, hospitals – concerned), the model assumes that incremental capital costs are equal to average capital costs. Further details are provided in Chapter 6.

The *Commonwealth grants* impact is derived directly from the Commonwealth Model at the aggregate level, and then distributed among the States in accordance with the existing interstate allocation arrangements. Full details of the States Model's estimates for Commonwealth grants are given in Chapter 8.

As to State expenses other than operating expenses, the States Model:

- estimates the impact upon *depreciation expense* by reference to the impact upon capital expenditure, as such expenditure involves the purchase of additional depreciable non-financial assets. In particular, the additional assets acquired on account of additional migrants have been depreciated on a straight-line basis using estimates of the average (new) asset lives for each asset category; and
- estimates the impact upon *interest expense* is calculated by applying an interest rate to the accumulated additional borrowings at the commencement of each year. The impact of new migrants on annual *net borrowing* by a State is calculated as the sum of all impacts upon all expenses and capital outlays in a particular year *less* the sum of all impacts upon incomes and capital revenues in that year. This involves the assumption that annual transactions of the type not identified in the Model (for example, outlays on the acquisition of financial assets and proceeds from the sale of non-financial assets) are not affected by additional migration.

As to the balance sheet impacts, the States Model focuses on the impact of additional migration on:

- a government's fixed assets; and
- its debt liabilities (that is, its borrowings).

Inventories and non-produced assets are assumed to be unaffected by additional migration, as will be the sale of non-financial assets.

-
- the non-cash receivable/payable with respect to that year being the relevant amount paid/received in cash in the following year.
-

The States Model also assumes that additional migration has no effect upon financial assets,⁶ whether acquired or disposed of for policy or liquidity management purposes. The impact of additional migration on the *net disposal of financial assets* is therefore assumed to be zero.

Likewise, the States Model assumes that additional migration has no effect the value or the volume of a State's assets and liabilities that are not the result of government transactions. The most significant budgetary item here is changes in the value of an asset or liability are described as revaluations. They can result from changes in the general price level or in relative prices. Changes in the exchange rate will also cause revaluations of financial assets and liabilities denominated in a foreign currency.

4.6. Migrant categories

The terms of reference require the States Model to distinguish between different categories of migrants. Among other things, as with the Commonwealth Model, this allows estimates to be made of the budgetary impact of changes to the migrant category mix (for example, by increasing or decreasing different categories within an overall fixed sized migrant program).

The modelling is based upon the following classification of migrant categories:

1. Family category
2. Skills category
 - 2.1 skilled-Australian sponsored sub-category ("sponsored skills")
 - 2.2 business skills sub-category ("business skills")
 - 2.3 skilled-independent sub-category ("independent skills")
3. Humanitarian category

The *family* category involves the migration of immediate family members of Australian citizens, Australian permanent residents, or eligible New Zealand citizens. Immediate family members include partners (spouses, fiancés or interdependent partners), children, parents or other family (aged dependent relative, remaining relative, carer).

The *skilled* migrant category involves the migration of those who have skills or outstanding abilities that will attribute to the Australian economy. The skills category consists of three broad sub-categories:

- The *skilled-Australian sponsored* sub-category involves arrivals who are sponsored by a relative who is an Australian or Australian permanent resident who meet minimum requirements for core criteria of skill, age and English language ability, as well as satisfy an additional points test to take account of other attributes, including Australian qualifications and work experience, fluency in a language other than English, and spouse's skills.
- The *business skills* migration sub-category is a grouping of the skilled migrants not included in the other skilled sub-classes, mainly *business skills* and *employer nomination scheme*

⁶ Governments acquire or dispose of financial claims on a non-market basis for policy purposes, such as fostering new industries, assisting ailing government corporations, or helping particular businesses that are suffering economic adversity. Such transactions can take a variety of forms, including loans, equity securities and debt securities. All other transactions in financial assets (that is, those that take place on a market basis and are not specifically undertaken for policy purposes) are assumed to be for liquidity management purposes. That is, the assets are acquired to earn a market rate of return while keeping sufficient funds on hand to finance day-to-day operations.

visas. The *business skills* visas involve arrivals with a successful business background who will use their skills and experience to set up business ventures. The *employer nomination scheme* visas involve arrivals nominated by an employer for skilled positions in Australia, where suitable persons were not available in the Australian labour market.

- The *skilled-independent* sub-category involves arrivals who are not sponsored by an employer or relative in Australia, but meet minimum requirements for core criteria of skill, age and English language ability, as well as satisfy an additional points test to take account of other attributes, including Australian qualifications and work experience, fluency in a language other than English, and spouse's skills.

The *humanitarian* category consists of migrant who satisfy criteria concerning refugee or humanitarian cases, and involves Australia fulfilling its international obligations and commitments.

Full details of these categories, and their relationship to the various migration streams and programs, are given at Appendix C.

4.7. Base year

The States Model is designed so that it can be adjusted to include any ten-year period, historical or otherwise.

As a starting point, the States Model is based on the *estimates* for the 2000-01 financial year, rather than the *actuals* for 1999-00. Two considerations led to this preference:

- The States were able to produce better accrual-based budgetary information for 2000-01 than for the year earlier. All budget data sourced from earlier years have been re-based to the 2000-01 year.
- Major GST-related changes to State taxes have taken effect in 2000-01, with the previous year being the last year of the old tax regime.

However, use of 2000-01 as the base year means that reliance has been placed upon budget estimates – not actuals – of operating expenses, own-source revenues, Commonwealth grants and capital expenditures. While updated estimates for 2000-01 are now available for most States, final actual numbers for this year will not be available until the audited financial statements are released late in the final quarter of the 2001 calendar year.

4.8. Scale aspect of the terms of reference

Paragraph (g) of the Terms of Reference included a requirement to:

“... identify if there are certain areas of costs that would not be affected by an increase of 1,000 but above some larger number, and suggest possible ways to handle those areas – and, conversely, for those States and Territories with a low migrant intake, identify areas of costs which are incurred at a migration intake of far less than 1,000 in each category.”

The incremental cost approach taken in the modelling has meant that both small and large intakes have been taken into account. Basing the budget impacts on expenditure and revenue of each of the States also includes the economies or diseconomies of scale inherent in each State's budgetary activities. Hence, the Model does not explicitly address terms of reference (g), although the associated issues are incorporated to a degree in the Model itself.

5. Modelling the Operating Expense Impact

5.1. Operating expense coverage

The operating expenses on migrants included in the States Model relate to the following items:

- Crime-related law and order
- Primary school education
- Secondary school education
- Other school education
- TAFEs
- Other education and training (includes ACE)
- Acute health, admitted services, ambulance
- Acute health, non-admitted services
- Aged care and primary health
- Mental health services
- Public health services
- Disability services
- Community care
- Concessions to pensioners and beneficiaries
- Housing assistance
- Office of Multicultural Affairs recurrent
- Other (balance)

The relative size of the included and excluded (“zero impact”) operating expenses is shown in Table 18.

Table 18: Budget Estimates, Operating Expenses, 2000-01, \$ per head

	NSW	VIC	QLD	WA	SA	TAS	ACT	NT
Migration affected	3,363	3,062	3,549	3,897	3,935	3,360	4,096	6,759
Zero impact	912	1,200	1,003	903	703	1,193	1,277	2,830
Total	4,275	4,261	4,552	4,800	4,637	4,553	5,373	9,589
Affected-to-Total %	78.7%	71.8%	78.0%	81.2%	84.8%	73.8%	76.2%	70.5%

5.2. Methodology

5.2.1. Explanatory determinants of operating expenses

Consistent with the methodology applied by the Commonwealth Grants Commission, the operating expenses (E) in a particular budget category (e.g. schools education) can be re-expressed by the following identity:

$$E \equiv \left(\frac{E}{U}\right) * \left(\frac{U}{P}\right) * P \quad \dots (1)$$

where:

$\left(\frac{E}{U}\right)$ signifies operating expenses (E) per units of service consumed (U) (hereafter termed “unit costs”);

$\left(\frac{U}{P}\right)$ signifies units of service consumed (U) per head of population (P) (hereafter termed “take up rates”); and

P signifies population numbers (P).

Based on this formulation, differences in the total level of expenses between expense items or between States, or changes in expenses over time, can be explained in terms of terms of differences/changes in: unit costs ($\frac{E}{U}$), take up rates ($\frac{U}{P}$) and the size of relevant populations (P).

5.2.2. Determinants of incremental operating expenses

The States Model estimates the increase in a State’s total operating expenses per 1,000 additional migrants in year “t” (denoted as ΔE_t) as:

$$\sum_c [\Delta E_{c,t} * (\frac{P_c}{\sum P_c})_t] \quad \dots(2)$$

where:

$\Delta E_{c,t}$ signifies the increase in total operating expenses per 1,000 additional category “c” migrants in year “t”; and

$(\frac{P_c}{\sum P_c})_t$ signifies the proportion of migrants in category “c” in year “t”.

and:

E signifies an amount of operating expense per annum;

ΔE signifies incremental annual operating expenses;

P signifies a number of persons (population) in the designated group or category;

“c” signifies category “c” migrants; and

“t” signifies year “t”.

5.2.3. Estimating the expense impact

By applying (1) and (2), the States Model estimates the increase in a State’s total operating expenses per 1,000 additional category “c” migrants in year “t” ($\Delta E_{c,t}$) as follows:

$$\sum_k [[E/P]_{r,t} * (\frac{\Delta [E/P]_{m,t}}{\Delta [E/P]_{r,t}})_{k,t} * (\frac{[E/U]_c}{[E/U]_m})_{k,t} * (\frac{[U/P]_c}{[U/P]_m})_{k,t} * 1000] \quad \dots(3)$$

where:

$[E/P]_{r,t}$ signifies the (average) per capita operating expenses for existing residents for the k^{th} operating expense item in the t^{th} year;

$(\frac{\Delta [E/P]_{m,t}}{\Delta [E/P]_{r,t}})_{k,t}$ signifies the migrant-to-resident per capita operating expenses elasticity factor for the k^{th} operating expense item in the t^{th} year;

$(\frac{[E/U]_c}{[E/U]_m})_{k,t}$ signifies the category-to-total migrant unit cost relativity factor for the k^{th} operating expense item in the t^{th} year ; and

$(\frac{[U/P]_c}{[U/P]_m})_{k,t}$ signifies the category-to-total migrant usage relativity factor for the k^{th} operating expense item in the t^{th} year;

and:

E/U signifies annual operating expenses per unit of service;

U/P signifies units of service consumed per head of population;

“r” signifies existing residents, whether overseas or Australian born, not just Australian born persons; and

“m” signifies new migrants as a group (that is, it is the total of all “c’s”); and

“k” signifies a particular operating expense item.

With respect to (3), essentially (for an individual expense item), the operating expenses impact of additional migrants is calculated by:

- starting with average per capita operating expenses; and
- adjusting for: (a) differences in per capita incremental expenses between migrants and residents, (b) differences in unit cost relativities between the migrant category and migrants in total, and (c) differences in take up rates between the migrant category and migrants in total.

5.2.4. Average per capita operating expenses

For the k^{th} operating expense item, the States Model estimates the (average) per capita operating expenses for existing residents in the t^{th} year ($[E/P]_r^t$) as follows:

$$[E/P]_r^t * [1 + (\frac{\% \Delta [E/U]_r}{\% \Delta \text{CPI}}) * \% \Delta \text{CPI}]^{t-1} * [1 + (\frac{\% \Delta U_r}{\% \Delta P_r} * \% \Delta P_r)]^{t-1} / (1 + \% \Delta P_r)^{t-1}$$

where:

$[E/P]_r^1$ signifies the initial year’s per capita operating expenses for existing residents ($\equiv [E_r^1 / P_r^1]$);

$[1 + (\frac{\% \Delta [E/U]_r}{\% \Delta \text{CPI}}) * \% \Delta \text{CPI}]^{t-1}$ signifies the unit cost escalator over time for existing residents; and

$[1 + (\frac{\% \Delta U_r}{\% \Delta P_r} * \% \Delta P_r)]^{t-1} / (1 + \% \Delta P_r)^{t-1}$ signifies the per capita usage escalator over time for existing residents.

and:

$(\% \Delta^{E/U}_r / \% \Delta \text{CPI})$ signifies the relative-price effect, that is the relativity between the annual percentage change in per unit operating expenses and the annual percentage change in consumer prices generally;

$\% \Delta \text{CPI}$ signifies the annual percentage change in consumer prices generally;

$\% \Delta U / \% \Delta P$ signifies the total units of usage to total population elasticity factor for existing residents; and

$\% \Delta P_r$ signifies the annual percentage change in the total resident population.

5.2.5. Migrant-resident per capita incremental expenses relativities

For the k^{th} operating expense item, the States Model estimates the migrant-to-resident per capita operating expenses elasticity factor in the t^{th} year ($\Delta^{E/P}_m / \Delta^{E/P}_r$) as follows:

$$\Delta^{E/P}_m / \Delta^{E/P}_r * ({}^{E/U}_m / {}^{E/U}_r)_t * ({}^{U/P}_m / {}^{U/P}_r)_t$$

where:

$\Delta^{E/P}_m / \Delta^{E/P}_r$ signifies the incremental-to-average expense ratio (assumed to be constant over time and common between new migrants and existing residents);

$({}^{E/U}_m / {}^{E/U}_r)_t$ signifies the migrant-to-resident unit cost relativity factor in the t^{th} year; and

$({}^{U/P}_m / {}^{U/P}_r)_t$ signifies the migrant-to-resident usage relativity factor in the t^{th} year.

5.2.6. Comparison with the Commonwealth Model

The Commonwealth Model typically assumes that there are no unit cost differences between residents and new migrants (either *in toto* or at the individual migrant class level), that is that ${}^{E/U}_c / {}^{E/U}_r = 1$. Under this approach, differences in a program's take up rates (${}^{U/P}_c$) for each category of migrant are the sole reasons for differing budgetary impacts between residents and new migrants. The Commonwealth Model focuses on the above formulation given the direct availability of the (incremental) unit cost ($\Delta^{E/U}_m$) for many Commonwealth programs. As such information is not yet available at the State level, it has been necessary for the States Model to estimate the (incremental) unit cost ($\Delta^{E/U}_m$) of migrants accessing State programs indirectly using the formulation outlined above.

Besides the *relative* take up rates of State programs, and so ${}^{U/P}_m / {}^{U/P}_r$ (and ${}^{U/P}_c / {}^{U/P}_m$), this formulation results in the States Model taking explicit account also of, at the program level:

- the incremental-to-average expenses relativity factor (where appropriate or possible), and so $\Delta^{[E/P]}_{[E/P]}$; and
- the unit cost relativity factors, and so $^{[E/U]}_{[E/U]_r}$ and $^{[E/U]}_{[E/U]_m}$.

5.3. Data requirements

The data requirements to give effect to the above formulation of the States Model are as follows:

- for the initial year, certain State-wide factors, notably:
 - the **population** (P) for existing residents (r), additional migrants (m) and for each additional migrant category (c);
 - the **annual percentage change in the total resident population** ($\% \Delta P_r$), which is assumed to be constant over time;
 - for **annual percentage change in consumer prices** generally ($\% \Delta CPI$), which is assumed to be constant over time; and
- for each operating expense item:
 - for the initial year, the **operating expenses** for existing residents (E_{r1});
 - for the initial year, the **incremental-to-average expense ratio** for each operating expense item for existing residents in the initial year ($\Delta^{[E/P]}_{[E/P]}$), which is assumed to be constant over time;
 - for the initial year, **the relative-price effect**, that is the relativity between the annual percentage change in per unit operating expenses and the annual percentage change in consumer prices generally ($\% \Delta^{[E/U]}_{[E/U]_r} / \% \Delta CPI$), which is assumed to be constant over time;
 - in each year, the **migrant-to-resident unit cost relativity factor** ($^{[E/U]}_{[E/U]_r}$);
 - in each year, the **category-to-total migrant unit cost relativity factor** ($^{[E/U]}_{[E/U]_m}$);
 - for the initial year, the **total units of usage to total population elasticity factor** for existing residents ($\% \Delta U / \% \Delta P$), which is assumed to be constant over time;
 - in each year, the **migrant-to-resident usage relativity factor** ($^{[U/P]}_{[U/P]_r}$); and
 - in each year, the **category-to-total migrant usage relativity factor** ($^{[U/P]}_{[U/P]_m}$).

The remainder of this chapter summarises how each of these data has been measured and/or sourced.

5.4. State-wide data

5.4.1. Measuring the initial year's resident population

The Commonwealth Treasury's forecast of each State's average resident population in 2000-01 has been used.

5.4.2. Measuring the initial year's annual percentage change in the total resident population

The forecast annual percentage change in the Commonwealth Treasury's forecast of each State's average resident population between 2000-01 and 2001-02 has been used.

5.4.3. Measuring the initial year's the annual percentage change in consumer prices

A 2.5% annual percentage change in consumer prices has been used.

5.5. Individual operating expenses data

5.5.1. Measuring the initial year's operating expenses on existing residents

The annual operating expenses on existing residents for each operating expense item have been extracted from each State's 2000-01 Budget papers. The data used is summarised in Table 19.

Table 19: Budget Estimates, Operating Expenses, 2000-01, \$ per head

	NSW	VIC	QLD	WA	SA	TAS	ACT	NT
<i>Differential impact</i>								
Crime-related law and order	324	184	292	291	240	279	227	441
Primary school education	330	315	519	465	421	487	654	750
Secondary school education	310	290	324	296	404	467	663	328
Other school education	59	96	64	48	58	7	79	366
TAFEs	145	122	138	137	175	122	162	301
Other education and training	32	26	35	26	23	41	7	35
Acute health, admitted services, ambulance	645	495	452	597	654	507	743	762
Acute health, non-admitted services	83	107	191	141	155	155	252	190
Aged care and primary health	123	138	99	66	73	137	290	394
Mental health services	66	79	77	71	77	67	65	55
Public health services	138	37	43	66	38	62	48	178
Disability services	54	113	64	87	108	125	55	150
Community care	81	83	66	73	64	75	139	100
Concessions to pensioners and beneficiaries	19	49	26	-	55	20	-	16
Housing assistance	76	71	75	-	215	129	96	567
Office of Multicultural Affairs	1	1	1	1	3	3	2	5
<i>Per capita impact</i>								
Law, order and public safety	69	87	49	97	202	41	173	395
Other	808	770	1,034	1,436	971	634	441	1,724

5.5.2. *Measuring the incremental-to-average expense ratio*

While Government policies change from time to time, migrants generally have access to the full range of State programs available to the resident population. There may be limitations imposed on migrants *per se* for some programs, but not to the extent evident at the Commonwealth level (e.g. for some categories of migrants, there are limits on access to certain Commonwealth social security programs within the first two years of arrival). Eligibility issues were not therefore taken into account in determining the incremental-to-average expense factor, although the Model possesses the capability to switch eligibility ‘on’ and ‘off’ for each expense item.

Access Economics has not been able to measure the relationship between (future) marginal and (past) average expenses. Instead, a value of one has been assigned to the incremental-to-average expense ratio for all operating expense items other than the ‘other (balancing)’ item where a factor of zero has been assumed. The effect of the former assumption is that additional migration is assumed to have an incremental impact equal to the average (past) level of expenses. The effect of the latter assumption is that additional migration is assumed to have a zero impact on the programs comprising the ‘other’ operating expense item.

The States Model possesses the capability for users to vary the ratio away from unity for individual operating expense items.

5.5.3. *Measuring the relative-price effect factor*

Access Economics has not been able to measure this factor directly. Instead, a value of one has been assumed for all operating expense items. The effect of this assumption is operating costs per unit move in concert with unit costs (prices) generally as measured by the CPI.

The States Model possesses the capability for users to vary this factor around unity for individual operating expense items.

5.5.4. *Measuring the migrant-to-resident unit cost relativity factor*

For a number of operating expense categories, Access Economics has been able to adopt a methodology developed by Mathews based on overseas born-to-Australian born resident unit cost relativity factors. Mathews reported that differences in the unit costs of providing services to migrants vis a vis residents would depend, *inter alia*, on:

- additional expenses that were incurred through the provision of interpreter and translation services to migrants – this affected outlays on health, education and the criminal justice system;
- for some migrants, the incremental occupational health and safety costs associated with poor fluency in English; and
- additional expenses to residents arising from the greater usage by Aboriginal persons of health care and other services.

For crime-related expenditure on law, order and public safety, Mathews estimated that overseas-born persons (his proxy for migrants) incurred a 5% higher unit cost associated with the need for translation and interpreter services. Australian-born ‘standard expenditures’ were inflated by the higher incidence of Aboriginal offenders in the Australian-born population. Mathews used Commonwealth Grants Commission (CGC) weighting methods to estimate the

above-average spending, which he reported as being approximately 9% of Australian-born crime-related expenditure.

For primary and secondary education, Mathews noted four possible sources of variation in the average costs of providing services per unit of service, or per student. The reasons for the expenditure differentials were as follows:

- English as a second language (ESL) teaching, which affected the overseas-born population;
- special educational services provided for Aboriginal students, and thus wholly attributable to the Australian-born population;
- grade cost differential (secondary education only); and
- point-of-delivery scale differential.

Mathews used CGC data to assess the differential costs of primary and secondary education that are attributable to Aborigines on the one hand, and to non-English speaking students on the other. The CGC produces weights designed to reflect the additional resource commitment needed for teaching these students relative to other students. The CGC also assesses the grade cost differential and the point-of-delivery scale factor. The grade cost differential allows for the fact that costs per student are higher in the more advanced levels of schooling. Recent data suggests that participation rates among the overseas-born are 10% higher than among the Australian-born population in the 15-16 year-old age-group. The scale factor is designed to reflect the greater concentration of the overseas-born in the principal urban centres. Fewer overseas-born attend schools in other urban and rural areas where the costs per student are comparatively high.⁷

For other operating expense items, Access Economics was unable to measure unit cost differentials directly, and a relativity factor of one was used by default. The effect of this assumption is that the unit costs of services provided to migrants are the same as for services provided to existing residents.

⁷ The methodology for measuring unit cost differentials was applied on a State-by-State basis for various categories of outlays, including crime and education as detailed in the examples above. The calculations and workings have been presented in each State model in a worksheet entitled “*ABS*”. The assumptions are also stated in the same worksheet, together with a reference to the relevant page in the Mathews report.

The relativity factors for Year 1 are shown in Table 20.

Table 20: Migrants-to-Residents Unit Cost Relativity Factors, Year 1

	NSW	VIC	QLD	WA	SA	TAS	ACT	NT
Crime-related law and order	0.957	0.957	0.953	0.960	0.956	0.949	0.956	0.953
Primary school education	0.975	0.988	0.966	0.974	0.986	0.968	1.007	0.828
Secondary school education	0.953	0.954	0.979	0.984	0.982	1.000	1.016	0.981
Other school education	0.965	0.973	0.968	0.979	0.984	0.976	1.009	0.873
TAFEs	1.015	1.015	1.017	1.014	1.016	1.018	1.016	1.017
Other education and training	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Acute health, admitted services, ambulance	1.023	1.018	1.010	1.012	1.013	1.008	0.997	1.026
Acute health, non-admitted services	0.998	0.998	0.998	0.998	0.998	0.998	0.998	0.998
Aged care and primary health	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Mental health services	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Public health services	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Disability services	1.028	1.028	1.031	1.026	1.029	1.033	1.028	1.031
Community care	0.953	0.954	0.949	0.956	0.952	0.945	0.953	0.949
Concessions to pensioners and beneficiaries	1.020	1.020	1.022	1.019	1.021	1.024	1.020	1.022
Housing assistance	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Office of Multicultural Affairs	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Weighted average	0.993	0.995	0.990	0.995	0.997	0.993	1.000	0.974

The first year unit costs of usage relativities for the main outlay categories are shown in Table 20. For primary school education, the unit cost relativities are less than unity in most States, suggesting that the per capita costs of educating migrants are generally less than the equivalent costs of educating residents. The reason for this is that the higher unit costs of educating migrants from non-English speaking backgrounds are generally offset by the higher unit costs of Aboriginal education, and the larger point-of-delivery scale costs for Australian residents. The year one primary school unit cost differential is marginally higher in Victoria than in Queensland, indicating that the per capita cost of primary education is slightly higher for migrants in Victoria, though still less than the per capita cost for residents. The differential between the two States arises because Victorian schools have higher proportions of NESB persons in their total enrolments than schools in Queensland. Furthermore, Queensland schools have higher proportions of Aboriginal enrolments, hence migrants have a unit cost ‘advantage’ compared to Australian residents. The point-of-delivery scale factor, which is, in essence, a disability for Australian residents compared to migrants, is highest in New South Wales and Victoria, because migrants are highly concentrated in the urban areas of these two States. This means that the disabilities arising from uneconomical school sizes in smaller urban centres and rural areas are largely attributable to Australian residents. The ACT’s unit cost relativity is greater than one because there is no point-of-delivery scale factor applicable to the Territory.

For acute health and admitted services, the relevant unit cost differentials are:

- an interpreter and ethnic health services differential which has been estimated at 5% of the total share of public hospital costs attributable to NESB persons;
- an Aboriginal cost differential which has been estimated by the CGC at 3% of Australian residents’ expenditure; and
- a scale factor which indicates that average costs per bed-day are higher in urban areas than in rural areas. This results in higher average costs for the migrant population because of the latter’s higher density in metropolitan areas.

The unit cost differentials for acute health are greater than unity in all States, except the ACT where there is no scale factor. This implies that the per capita costs of providing acute health services to migrants are greater than the costs of providing services to residents. The reason is the larger scale factor associated with migrants, and an interpreter and ethnic health services differential which is greater than the aboriginal cost differential affecting residents.

The States Model possesses the capability for users to vary the unit costs differential for individual operating expense items.

After the initial year:

- the year 10 relativity factor, for each budget item, has been based on the expected length of time before the migrant group's unit costs reach parity with the resident population; and
- movements in the relativity factor over time being phased in geometrically between year 1 and year 10.

The expected length of time before the migrant group's unit costs reach parity with the resident population incorporated in the States Model is shown in Table 21. These values reflect judgments made by Access Economics, with the Model possessing the capability to vary these values on an item-by-item basis.

Table 21: Years to Parity, Migrants-to-Residents Unit Cost Relativity Factors

Expense item	years
Crime-related law and order	20
Primary school education	5
Secondary school education	10
Other school education	10
TAFEs	30
Other education and training (includes ACE)	30
Acute health, admitted services, ambulance	15
Acute health, non-admitted services	15
Aged care and primary health	15
Mental health services	20
Public health services	20
Disability services	20
Community care	30
Concessions to pensioners and beneficiaries	20
Housing assistance	10
Office of Multicultural Affairs	10

5.5.5. *Measuring the category-to-total migrant unit cost relativity factor*

Access Economics has not been able to measure this factor directly for any operating expense item. For generally available programs, we have assumed a value of one for all operating expense items. The effect of this assumption is to set unit costs for services provided to particular migrant categories at the same level as for migrants in total.

The States Model contains the capability for users to vary this factor around unity for individual migrant categories.

5.5.6. *Measuring the initial year's total units of usage to total population elasticity factors for existing residents*

Access Economics has not been able to measure this factor directly. Instead, we have assumed a value of one for all operating expense items. The effect of this assumption is to assume that there is no per capita increase in usage as population grows.

The States Model contains the capability for users to vary this factor around unity for individual operating expense items.

5.5.7. *Measuring migrant-to-resident usage relativity factors*

Access Economics has allocated certain sub-programs within each of the operating expense items into those that are likely to display either:

- potentially at least, differential impacts; or
- zero impacts (i.e. where the relativity factor is appropriately set at a value of zero).

State Government outlays which fall into the 'differential impact' category are those which are affected by the intake of migrants. The differential impact is measured by a units-of-usage relativity which may be less than one, equal to one, or greater than one. State Government outlays falling into the zero impact category are those which appear to be unaffected by the migrant intake.

For those amounts of operating expenses considered to be subject to a differential impact, Access Economics has based its analysis of the relativity factor on the view that, for each operating expense item, the relativity factor will vary over time in proportion to the number of years that a particular group of migrants has been settled in Australia.

In essence, $(\frac{[U/P]_m}{[U/P]_r})_t$ follows a certain trajectory from the year in which migrants arrive in Australia, and will eventually converge on unity (implying parity between migrants and residents), though not necessarily within the ten-year period of the model. Note that $[U/P]_m$ is unaffected by the State in which migrants settle in Australia, since it reflects migrants' usage of a service ('U') and the relevant migrant population ('P') over which usage is measured. However, $[U/P]_r$ changes from State to State because usage may exhibit variation depending on the characteristics of each State's resident population. Empirical evidence suggests, for instance, that the proportion of overseas-born persons in each State has an effect on usage. Furthermore, $[U/P]_r$ will also change simply because the size of the resident population differs by State.

When dealing with Government programs for which demand is essentially age-related, Access Economics has based the initial year's relativity factors on the comparative age distribution of new migrants, and the existing resident population of the State. The age composition of the migrant population was revealed in data provided by DIMIA that summarised the migrant intake for 2000-01. This method of calculating relativities was applied to the following groups of outlays:

- primary school education;
- secondary school education;
- other school education;
- TAFEs;

- other education and training (including Adult Community Education);
- aged care and primary health; and
- community care.

For the purpose of estimating the initial year's relativity factor for some non-age related programs, Access Economics was able to adopt a methodology developed by Mathews based on overseas born-to-Australian born residents' units-of-usage relativity factors. For example, for crime-related expenditure on law, order and public safety,⁸ Mathews used data from the National Prison census, showing the country-of-birth of prisoners, to dissect recurrent budget expenses into the proportions separately attributable to Australian-born and overseas-born persons. A weighted prison population was calculated, based on higher weights for more serious offenders, the rationale being that serious offenders cost a State more in terms of judicial time, incarceration, rehabilitation and so on. The shares derived from the weighted population, being 82.5% for Australian-born persons and 17.5% for overseas-born, were used to calculate the units of usage relativity.

The resultant relativity factors for Year 1 are shown in Table 22.

Table 22: Migrants-to-Residents Usage Relativity Factors, Year 1

	NSW	VIC	QLD	WA	SA	TAS	ACT	NT
Crime-related law and order	0.778	0.799	0.563	0.932	0.710	0.346	0.752	0.536
Primary school education	1.117	1.145	0.808	1.337	1.018	0.496	1.079	0.768
Secondary school education	1.033	1.060	0.747	1.237	0.942	0.459	0.998	0.711
Other school education	1.107	1.136	0.801	1.326	1.010	0.492	1.070	0.762
TAFEs	1.182	1.213	0.855	1.415	1.078	0.525	1.142	0.814
Other education and training	1.182	1.213	0.855	1.415	1.078	0.525	1.142	0.814
Acute health, admitted services, ambulance	1.074	1.101	0.777	1.285	0.979	0.477	1.037	0.739
Acute health, non-admitted services	1.035	1.061	0.749	1.239	0.943	0.460	1.000	0.712
Aged care and primary health	0.141	0.145	0.102	0.169	0.129	0.063	0.136	0.097
Mental health services	0.606	0.621	0.438	0.725	0.552	0.269	0.585	0.417
Public health services	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Disability services	1.294	1.328	0.936	1.549	1.180	0.575	1.250	0.891
Community care	1.107	1.136	0.801	1.326	1.010	0.492	1.070	0.762
Concessions to pensioners and beneficiaries	1.630	1.672	1.179	1.951	1.486	0.724	1.575	1.121
Housing assistance	1.536	1.576	1.111	1.839	1.400	0.682	1.484	1.057
Office of Multicultural Affairs	4.454	4.569	3.222	5.331	4.060	1.978	4.303	3.065
Weighted average	1.005	1.034	0.822	1.127	0.988	0.576	0.964	0.813

For acute health and admitted services, the migrant-to-resident units-of-usage relativities are above unity in some States (notably NSW, Victoria and Western Australia) and less than one in others. The usage relativity has been calculated using birthplace group data on hospital admissions from the ABS *National Health Survey*. The Survey provides country-of-birth data on the number of admissions to public hospitals and the average length of stay. An occupied bed-days (OBD) measure is calculated from the latter variable. For acute cases, where the ailments are severe but the stays relatively short, expenditures tend to be closely related to admissions and less closely related to length of stay or OBDs. For chronic cases, where the needs for costly medical or surgical equipment are usually less but the length of stay is long, the reverse is true. The CGC has adopted weights of 0.8 for OBD relativities, and 0.2 for numbers of admissions, and these were applied to our financial models.

⁸ Mathews, p.92

The National Health Survey shows that overseas-born residents have somewhat fewer hospital admissions than their Australian-born counterparts, though the average length of stay in hospital is marginally higher. NSW, Victoria and Western Australia have high proportions of overseas-born persons in their resident population, implying comparatively low usage of hospitals. Migrants arriving in these States are likely to have a slightly greater propensity to use hospitals than residents, hence the migrant-to-resident units of usage relativities are above unity. The other States have comparatively few overseas-born persons in their total resident population. The higher proportion of Australian-born persons results in greater usage of hospital services. Hence, by comparison with the mixture of Australian-born and overseas-born residents, migrants are likely to have lower usage of acute health and admitted services, resulting in a migrant-to-residents usage relativity of less than one.

The mental health services category provides another example of how units-of-usage relativities vary across the States. A study of hospital utilisation by immigrants⁹ has shown that mental health patients in Australian public hospitals are disproportionately Australian-born. There are comparatively few overseas-born Australian residents using mental health services. On the basis that migrants have similar characteristics to the overseas-born, it would be expected that they would be less likely to use hospitals than residents (who are comprised of a weighted average of overseas-born and Australian-born persons). Hence, the first year migrant-to-resident usage relativities are significantly less than one across Australia. The units of usage relativities are less than one in each of the States, notwithstanding State-based variations in the proportion of overseas-born residents, because the underlying differences between overseas and Australian-born persons in the propensity to use mental health services are so strong.

After the initial year:

- the year 10 relativity factor, for each budget item, has been based on the expected length of time before the migrant group's usage reaches parity with the resident population; and
- movements in the relativity factor over time being phased in geometrically between year 1 and year 10.

⁹ *Hospital Utilisation by Immigrants*, Kliewer, Butler et al.

The expected length of time before the migrant group's usage reaches parity with the resident population incorporated in the States Model is shown in Table 23. These values reflect judgments made by Access Economics, with the Model possessing the capability to vary these values on an item-by-item basis.

Table 23: Years to Parity, Migrants-to-Residents Usage Relativity Factors

Expense item	years
Crime-related law and order	20
Primary school education	5
Secondary school education	10
Other school education	10
TAFEs	30
Other education and training (includes ACE)	30
Acute health, admitted services, ambulance	15
Acute health, non-admitted services	15
Aged care and primary health	15
Mental health services	20
Public health services	20
Disability services	20
Community care	30
Concessions to pensioners and beneficiaries	20
Housing assistance	10
Office of Multicultural Affairs	10

5.5.8. *Measuring category-to-total migrant usage relativity factors*

The Longitudinal Survey of Immigrants to Australia (LSIA) was used to calculate category-to-total migrant units of usage relativity factors. These units of usage relativities are very important in that they serve to quantify differences in the propensity to use Government services between alternative groups of migrants (family, sponsored skills, business skills, independent skills and humanitarian). The LSIA is the best source of information on migrants' behavioural traits, their attitudes to settlement, incomes, expenditure on basic goods and services, and the usage of Government services such as health and education, and social security. The LSIA was a longitudinal survey undertaken in three waves, meaning that migrants and their families were interviewed three times. The first interviews were conducted approximately five or six months after arrival, the second interviews a year later, and the third interviews a further two years later. The first wave of interviews commenced in March 1994, the second wave commenced in March 1995, and the third wave began in March 1997. Each wave of interviews was spread over a two-year period.

In the Commonwealth Model, the LSIA was used to provide information on social security take-up rates for different migrant groups. In the States models, the LSIA fulfilled a similar role, though data was used to estimate units of usage relativities. Access Economics was able to measure how the relativities changed through the different waves of interviews. In doing so, Access assumed that wave 1 data applied to the first year after arrival in Australia, wave 2 data applied to the third year after arrival, and wave 3 data was relevant to the fifth year after migrants arrived. The results for year 5 were then assumed to prevail until year 10.

The specific LSIA series that were drawn upon to calculate category-to-total migrant usage relativities for outlays were:

- attendance in vocational education (used as a guide to enrolment in TAFEs);
- reliance on disability support payments (although this is a Commonwealth payment, it provides a proxy for the use by migrant categories of disability services in the States);

- aged pension recipients (this is a Commonwealth payment but provides a proxy for the use by migrant groups of State-based concessionary services for pensioners and their beneficiaries); and
- recipients of unemployment, sickness and special benefits (persons claiming any one of these benefits could be deemed to be in receipt of State housing assistance).

Where suitable LSIA series were not available to compare the usage of Government services between migrant groups, the relevant category-to-total migrant usage relativities were assumed to take on a value of unity.

If the LSIA data suggested that particular migrant sub-categories did not use certain services at all, the usage relativity factors were set to zero.

The resultant relativity factors are shown in Table 24, averaged for each of the main functional areas of spending.

Table 24: Category-to-Total Migrant Usage Relativity Factors

	NSW	VIC	QLD	WA	SA	TAS	ACT	NT
Family category	1.014	1.035	1.017	1.016	1.024	1.025	1.007	1.007
Skills category	0.979	0.949	0.976	0.982	0.955	0.955	0.987	0.966
Sponsored skills	0.987	0.960	0.983	0.984	0.973	0.971	0.994	0.992
Business skills	0.929	0.901	0.930	0.951	0.886	0.902	0.940	0.882
Independent skills	0.996	0.963	0.990	0.994	0.973	0.969	1.002	0.987
Humanitarian category	1.054	1.131	1.063	1.037	1.136	1.131	1.039	1.133
Weighted average	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

The States Model contains the capability for users to vary these factors for individual migrant categories.

Across the States, the category-to-total migrant usage relativities are the same for each individual category of outlays. The relativities are calculated from LSIA data, which is State invariant, and the number of persons in each migrant group relative to total migrants. In Table 25, the apparent variation in the values of the relativities between the States is, in fact, a consequence of the different program-based weights used to calculate a weighted average relativity. The distribution of expenditure across the different outlay categories is not uniform across the States. The relativities for the individual program components are the same through the jurisdictions.

As might be expected, the weighted average usage relativities are highest for migrants in the humanitarian stream, since the LSIA and other evidence suggests that migrants in this group are more reliant on Government services than migrants in other visa groups. Migrants in the family group also have usage relativities above unity, implying that, on average, they have a greater reliance on Government programs than migrants as a whole. For migrants in the skilled categories, the usage relativities are less than one, implying a greater degree of self-sufficiency than for the average migrant. Skilled migrants have higher levels of employment and therefore make lesser use of welfare and other services. Note that the category-to-total migrant relativities do not make a direct comparison between migrant groups and residents.

5.6. Results of Model

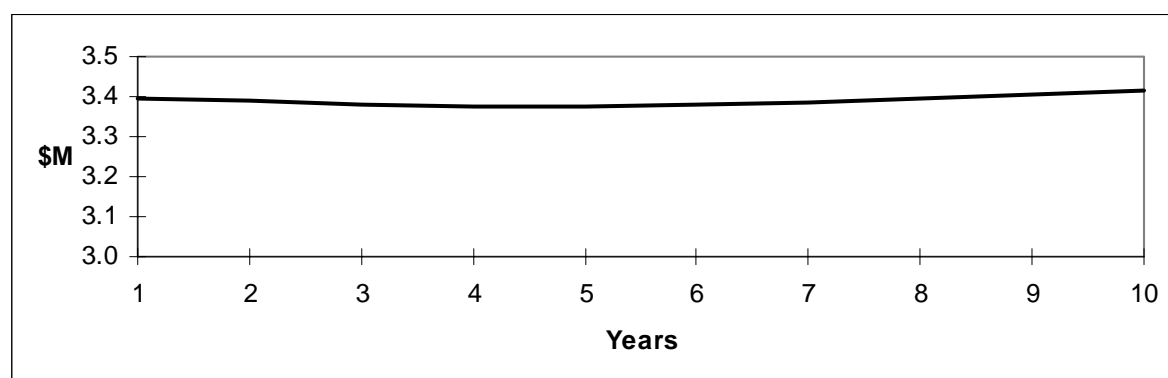
Applying the above methodology and data, the States Model suggests the following operating expense impacts in Year 10:

**Table 25: Operating Expenses Impact of 1,000 Additional Migrants,
by States, Year 10, \$ Million**

	NSW	VIC	QLD	WA	SA	TAS	ACT	NT	AVG.
Law, order and public safety	0.349	0.248	0.268	0.372	0.400	0.219	0.366	0.720	0.324
Education	0.904	0.880	1.067	1.007	1.103	1.079	1.597	1.762	0.958
Health	1.090	0.977	0.811	1.065	1.087	0.844	1.371	1.514	1.033
Housing and community services	0.189	0.245	0.156	0.086	0.374	0.205	0.239	0.703	0.198
Multicultural affairs	0.001	0.001	0.001	0.001	0.003	0.003	0.002	0.005	0.001
Other	0.808	0.770	1.034	1.436	0.971	0.634	0.441	1.724	0.921
Total	3.342	3.120	3.337	3.967	3.938	2.983	4.016	6.428	3.435

The pattern over time of the State-average operating expenses impact is shown in Chart 34. This relative flat impact over time masks marked offsetting rises and falls at the individual expenses item level.

**Chart 34: Operating Expenses Impact of 1,000 Additional Migrants
State Average, \$ million**



6. Modelling the Capital Expenditure Impact

6.1. Capital expenditure coverage

Capital expenditure involves the acquisition of fixed assets, inventories and non-produced assets.

Fixed assets are produced assets that are used repeatedly or continuously in processes of production for more than one year. Transactions in fixed assets can refer to acquisitions of new assets, construction of new assets on own account, acquisitions and disposals of existing assets, and major improvements to fixed assets and non-produced assets. Assets can be acquired or disposed of by purchase, sale, barter, or transfer.

Inventories are stocks of goods held by governments that are intended for sale, use in production, or other use at a later date. They can be raw materials, work in progress, finished goods, goods held for resale, or strategic stocks. Withdrawals from inventories are valued at current market prices rather than their acquisition prices.

Non-produced assets are assets needed for production that have not themselves been produced, such as land, subsoil assets, and certain intangible assets.

The States Model focuses on the expenditure impact of additional migration, and so ignores non-produced assets. In addition, inventories have been assumed to be unaffected by additional migration.

The capital expenditure impacts in the States Model therefore involve the purchase or construction of new and replacement ‘fixed’ assets.

The existing residents’ capital expenditure data used is set out in Table 26:

Table 26: Capital Expenditure, Residents, 2000-01, \$ per head

	NSW	VIC	QLD	WA	SA	TAS	ACT	NT
Law, order and public safety	26	17	65	62	49	1	21	34
Education	41	53	71	75	47	37	65	13
Health	54	58	76	65	109	81	25	140
Other	231	116	410	313	123	62	377	506
Total	351	244	622	514	329	181	489	694

6.2. Methodology

The modelling of the impact of additional migrants on a State’s capital expenditures requires a different approach than modelling the impact on operating expenses.

From an incremental cost perspective (as opposed to a pricing perspective), none of the existing budgeted capital expenditure can be attributed to the new migrants. Rather than set the incremental capital cost at zero (which would be close to the case if there was spare capacity in the use of the government assets – schools, hospitals – concerned), the States Model assumes that incremental annual capital expenditure starts at zero and rises – over the average life of the assets concerned – to a level equal to usage-adjusted average per capita levels of such expenditures for existing residents.

An alternative would be to:

- assume the replacement component of capital expenditure to be approximated by depreciation expenses, and then to assume the remainder of capital expenditure is due to growth;
- attribute none of the first round of replacement to new migrants, and only 1,000/total State increase in annual population of growth capital expenditure to the new migrants.

The methodology chosen is simpler, and an approximation. Also, in view of data limitations, it could only be done at the aggregate level. If anything, it would tend to overstate the capital expenditure impact.

The average life of the asset used in the Model has been set at 20 years for each of the functional areas. The Model possesses the capability to assign:

- different asset lives to any or all of the functional areas; and
- a non-zero value for the initial year's capital expenditure impact.

6.3. Results of Model

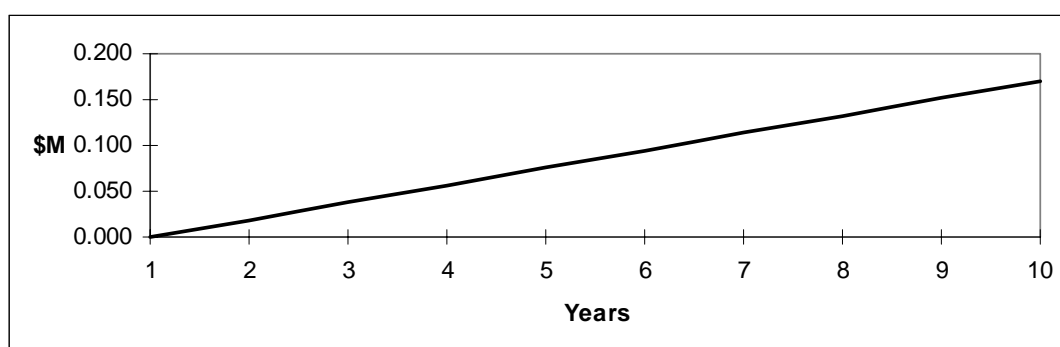
Applying the above methodology and data, the States Model suggests the following capital expenditure impacts in Year 10:

Table 27: Capital Expenditure Impact per 1,000 New Migrants, \$ million

	NSW	VIC	QLD	WA	SA	TAS	ACT	NT	AVG.
Law, order and public safety	0.011	0.007	0.025	0.029	0.021	0.000	0.009	0.014	0.015
Education	0.019	0.024	0.037	0.030	0.022	0.021	0.030	0.007	0.024
Health	0.025	0.027	0.032	0.033	0.050	0.030	0.011	0.057	0.029
Other	0.109	0.055	0.194	0.148	0.058	0.029	0.178	0.240	0.111
Total	0.164	0.114	0.287	0.240	0.152	0.081	0.229	0.318	0.178

The pattern over time of the State-average capital expenditure impact is shown in Chart 35. This pattern basically reflects the assumption made in the Model that the capital expenditures on account of additional migrants will phase in over the average life of State fixed assets (assumed to be 20 years in the Model).

**Chart 35: Capital Expenditure Impact of 1,000 Additional Migrants
State Average, \$ million**



7. Modelling the Own-Source Revenue Impact

7.1. Own-source revenue coverage

The State revenue paid by migrants and included in the States Model are as follows:

- Payroll tax
- Gambling taxes
- Motor vehicle taxes
- Financial institutions duty
- Debits tax
- Taxes on insurance
- Land tax
- Other stamp duties
- Regulatory fees and fines
- Sales of goods and service
- Other (balance)

The relative size of the included and excluded (“zero impact”) operating expenses is shown in Table 28.

Table 28: Budget Estimates, Own-Source Revenue, 2000-01, \$ per head

	NSW	VIC	QLD	WA	SA	TAS	ACT	NT
Migration-affected	2,475	2,276	2,545	2,362	2,183	1,500	2,882	2,155
Zero impact	316	340	221	380	275	528	550	525
Total	2,792	2,616	2,766	2,742	2,458	2,028	3,433	2,680
Affected-to-Total %	88.7%	87.0%	92.0%	86.1%	88.8%	74.0%	84.0%	80.4%

7.2. Methodology

7.2.1. Explanatory determinants of own-source revenue

Consistent with the methodology applied by the Commonwealth Grants Commission, the revenue collections (R) in a particular budget category (e.g. payroll tax) can be re-expressed by the following identity:

$$R \equiv \left(\frac{R}{Y}\right) * \left(\frac{Y}{P}\right) * P \quad \dots\dots(1)$$

where:

$\left(\frac{R}{Y}\right)$ signifies revenue collected (R) from the tax base (Y) (hereafter termed “tax rate”);

$\left(\frac{Y}{P}\right)$ signifies the tax base (Y) per head of population (P) (hereafter termed “per capita tax capacity”); and

P signifies population numbers (P).

Based on this formulation, differences in the total level of own-source revenue tax categories, or between States, or over time, in terms of differences in tax rate (R/Y) and in per capita taxable capacity (Y/p) as well as in the size of relevant populations.

7.2.2. *Determinants of incremental own-source revenue*

The States Model estimates the increase in a State’s total own-source revenues per 1,000 additional migrants in year “t” (denoted as ΔR_t) as:

$$\sum_c [\Delta R_{c,t} * (P_{c,t} / \sum P_c)] \dots\dots(2)$$

where:

$\Delta R_{c,t}$ signifies the increase in total own-source revenues per 1,000 additional category “c” migrants in year “t”; and

$(P_{c,t} / \sum P_c)$ signifies the proportion of migrants in category “c” in year “t”

and:

R signifies an amount of own-source revenue per annum;

ΔR signifies incremental annual own-source revenues;

P signifies a number of persons (population) in the designated group or category;

“c” signifies category “c” migrants; and

“t” signifies year “t”.

7.2.3. *The own-source revenue impact*

By applying (1) and (2), the States Model estimates the increase in a State’s total own-source revenues per 1,000 additional category “c” migrants in year “t” ($\Delta R_{c,t}$) as follows:

$$\sum_j [[R/P]_{r,t} * (\Delta [R/P]_{m,t} / [R/P]_{r,t}) * ([R/Y]_{c,t} / [R/Y]_{m,t}) * ([Y/P]_{c,t} / [Y/P]_{m,t}) * 1000] \dots\dots(3)$$

where:

$[R/P]_{r,t}$ signifies the (average) per capita own-source revenues collected from existing residents for the j^{th} own-source revenues item in the t^{th} year;

$(\Delta [R/P]_{m,t} / [R/P]_{r,t})$ signifies the migrant-to-resident per capita own-source revenues elasticity factor for the j^{th} own-source revenues item in the t^{th} year;

$([R/Y]_{c,t} / [R/Y]_{m,t})$ signifies the category-to-total migrant tax rate relativity factor for the j^{th} own-source revenues item in the t^{th} year ; and

$(\frac{[U/P]_c}{[U/P]_m})_j$ signifies the category-to-total migrant taxable capacity relativity factor for the j^{th} own-source revenues item in the t^{th} year;

and:

R/Y signifies the annual tax rate;

Y/P signifies the per capita tax base;

“r” signifies existing residents, whether overseas or Australian born, not just Australian born persons; and

“m” signifies new migrants as a group (that is, it is the total of all “c’s”); and

“j” signifies a particular own-source revenue item.

With respect to (3), essentially (for an individual own-source revenue item), the impact of additional migrants is calculated by:

- starting with average per capita own-source revenue ; and
- adjusting for: (a) differences in per capita incremental own-source revenue collections between migrants and residents, (b) any differences in tax rates between the migrant category and migrants in total, and (c) differences in per capita taxable capacity between the migrant category and migrants in total.

7.2.4. Average per capita own-source revenue collections

For the j^{th} own-source revenue item, the States Model estimates the (average) per capita own-source revenues for existing residents in the t^{th} year ($[R/P]_r$) as follows:

$$[R/P]_r \cdot [1 + \frac{(\% \Delta Y_r / \% \Delta P_r) * \% \Delta P_r}{(1 + \% \Delta CPI)}]^{t-1}$$

where:

$[R/P]_r$ signifies the initial year’s per capita own-source revenues for existing residents ($\equiv [Rr1/P_r1]$); and

$[1 + \frac{(\% \Delta Y_r / \% \Delta P_r) * \% \Delta P_r}{(1 + \% \Delta CPI)}]^{t-1}$ signifies the per capita taxable capacity escalator for existing residents over time.

and:

$(\% \Delta Y_r / \% \Delta P_r)$ signifies the total real-terms taxable capacity to changes in total population elasticity factor for existing residents;

$\% \Delta CPI$ signifies the annual percentage change in consumer prices generally;

$\% \Delta P_r$ signifies the annual percentage change in the total resident population.

7.2.5. Migrant-resident per capita incremental own-source revenues relativities

For the j^{th} own-source revenues item, the States Model estimates the migrant-to-resident per capita own-source revenues elasticity factor in the t^{th} year ($(\Delta^{R/P}_m / \Delta^{R/P}_r)_t$) as follows:

$$\Delta^{R/P}_m / \Delta^{R/P}_r * ([^{R/Y}]_m / [^{R/Y}]_r)_t * ([^{Y/P}]_m / [^{Y/P}]_r)_t$$

where:

$\Delta^{R/P}_m / \Delta^{R/P}_r$ signifies the incremental-to-average own-source revenue ratio (assumed to be constant over time);

$([^{R/Y}]_m / [^{R/Y}]_r)_t$ signifies the migrant-to-resident tax rate relativity factor in the t^{th} year; and

$([^{Y/P}]_m / [^{Y/P}]_r)_t$ signifies the migrant-to-resident taxable capacity relativity factor in the t^{th} year.

7.3. Data requirements

The data requirements to give effect to the above formulation of the States Model were as follows:

- for the initial year, certain State-wide factors, notably:
 - the **population** (P) for existing residents (r), additional migrants (m) and for each additional migrant category (c);
 - for the initial year, the **annual percentage change in the total resident population** ($\% \Delta P_r$), which is assumed to be constant over time;
 - for the initial year, **the annual percentage change in consumer prices** generally ($\% \Delta \text{CPI}$), which is assumed to be constant over time;
- for each own-source revenues item:
 - for the initial year, the **own-source revenues** collected from existing residents (R_r);
 - for the initial year, the **incremental-to-average own-source revenue ratio** for each own-source revenues item in the initial year ($\Delta^{R/P}_m / \Delta^{R/P}_r$), which is assumed to be constant over time;
 - in the each year, the **migrant-to-resident tax rate relativity factor** ($([^{R/Y}]_m / [^{R/Y}]_r)_t$);
 - in the each year, the **category-to-total migrant tax rate relativity factor** ($([^{R/Y}]_c / [^{R/Y}]_m)_t$);

- for the initial year, the *total real-terms taxable capacity to total population elasticity factor* for existing residents ($\frac{\% \Delta Y^*}{\% \Delta P}$), which is assumed to be constant over time;
- in the each year, the *migrant-to-resident taxable capacity relativity factor* ($\frac{[Y/P]_m}{[Y/P]_r}$);
and
- in the each year, the *category-to-total migrant taxable capacity relativity factor* ($\frac{[Y/P]_c}{[Y/P]_m}$).

The remainder of this chapter summarises how each of these data have been measured and/or sourced. The focus here is on data that has not already been described in Chapter 5.

7.4. Individual own-source revenue data

7.4.1. Measuring the initial year's own-source revenues collected from existing residents

The annual own-source revenues on existing residents for each own-source revenue item have been extracted from each State's 2000-01 Budget papers.

Table 29: Budget Estimates, Own-Source Revenue, 2000-01, \$ per head

	NSW	VIC	QLD	WA	SA	TAS	ACT	NT
<i>Differential impact</i>								
Payroll tax	599	511	327	424	379	452	457	495
Gambling taxes	185	256	138	62	193	128	123	96
Motor vehicle taxes	148	193	208	241	207	89	60	88
Financial institutions duty	97	75	-	71	61	53	63	68
Debits tax	50	52	60	55	39	-	54	36
Taxes on insurance	59	89	65	111	119	-	86	-
Sale of goods and services	355	435	442	258	768	263	684	346
<i>Per capita impact</i>								
Land tax	140	101	63	110	55	57	93	-
Other stamp duties	385	270	235	327	239	264	482	427
Regulatory fees and fines	121	57	161	89	99	28	349	421
Other revenue	337	236	846	615	26	166	430	178
<i>Zero impact</i>								
Marketable securities	65	45	-	-	25	1	66	-
Safety net revenue/franchise fees	18	32	-	18	49	37	10	-
Public authority income	233	264	221	362	201	490	474	525
Total	2,792	2,616	2,766	2,742	2,458	2,028	3,433	2,680

7.4.2. Measuring the incremental-to-average own-source revenue ratio

Access Economics has not been able to measure this ratio directly. Instead, we have assumed a value of one for all own-source revenues items other than the 'Public authority income' item and those revenue items that are replaced at the States level by the GST at the Commonwealth level where the factor has been set to zero.

Marketable securities	from 2000-01
Safety net revenue/franchise fees	from 2000-01
Financial institutions duty	from 2005-06
Debits tax	from 2005-06

The States Model possesses the capability for users to vary the ratio away from unity for individual own-source revenue items.

7.4.3. Measuring migrant-to-resident tax rate relativity factors

Access Economics set this factor at a value of one, on the basis that there is unlikely to be differences at the State level in the tax rate applying to individuals, whether they are existing residents or new migrants. This reflects the nature of the States' tax bases, and the fact that there are few examples of progressive or stepped tax rates.

7.4.4. Measuring category-to-total migrant tax rate relativity factors

For the same reason as for the equivalent migrant-to-resident relativity factors, Access Economics has set this factor at a value of one.

7.4.5. Measuring the initial year's real-terms taxable capacity to total population elasticity factors for existing residents

Access Economics has not been able to measure this factor directly. Instead, we have assumed a value of one for all own-source revenue items.

The States Model contains the capability for users to vary these factors around unity for individual own-source revenue items.

7.4.6. Measuring migrant-to-resident taxable capacity relativity factors

Access Economics has allocated certain own-source revenue items into those that are likely to display either:

- differential impacts; or
- per capita impacts (i.e. where the relativity factor is best set at a value of one).

For certain of the own-source revenue items allocated to the 'differential impact' category, Access Economics was able to use ABS data sources to calculate taxable relativities. The data sources included wages and salaries (used to estimate payroll tax relativities), motor vehicle ownership data (a proxy for motor vehicle taxes paid) and incomes (used in a variety of taxable capacity calculations). These data sources have enabled us to distribute State Budget expenditures between migrants and residents according to birthplace groups. Country of birth data was used to estimate the taxable capacities of migrants.

Access Economics experimented with other ABS data collections in a bid to find variables which could be used to calculate appropriate taxable capacity relativities. The 1993-94 Household Expenditure Survey (HES) records spending on gambling, petroleum, liquor and tobacco, and so the relevant series were used to construct relativities for gambling taxes, and for petroleum, liquor and tobacco taxes (the latter being collectively known as 'safety net revenues'). However,

the relativities were found to be unreliable, and so incomes data was used instead. In any case, the safety net revenues are a small and diminishing component of State taxes.

The ABS Survey of Housing Occupancy and Costs was initially used to estimate taxable capacity relativities for stamp duties and insurance levies, however the results were not used in the financial models because it was felt that they did not accurately portray the situation of migrants. In particular, migrants would have low levels of home ownership in the first few years after arrival in Australia, and would thus appear not to be paying high property taxes. However, such a deduction would ignore the implicit contribution of migrants through rental payments. In the final analysis, the property tax relativities were calculated using incomes data.

For most of the own-source revenue categories, provision was made, after the initial year, for:

- the year 10 relativity factor, for each item, to be based on the expected length of time before the migrant group's taxable capacity reaches parity with the resident population; with a value of 100 implying no change; and
- movements in the relativity factor being phased in geometrically between year 1 and year 10. The expected length of time before the migrant group's taxable capacity reaches parity with the resident population incorporated in the States Model is shown in Table 30.

Table 30: Years to Parity, Migrants-to-Residents Taxable Capacity Relativity Factors

Revenue item	years
Payroll tax	100
Gambling taxes	100
Motor vehicle taxes	20
Financial institutions duty	10
Debits tax	10
Taxes on insurance	10

The impact upon revenues from the sales of additional goods and services has been estimated by assuming the State government recovers the same proportion of the costs from new migrants as it does from residents on average. This involves the residents' cost-recovery ratio being applied to estimates of the additional expenditure items to which user charges apply. The incremental to average cost recovery ratio has been set at one. This cost recovery ratio is identified in a single cell so that alternative cost-recovery assumptions can be used.

The resultant relativity factors are shown in Table 31, for each of the revenue items analysed.

Table 31: Migrants-to-Residents Taxable Capacity Relativity Factors

	NSW	VIC	QLD	WA	SA	TAS	ACT	NT
Payroll tax	1.204	1.236	0.871	1.442	1.098	0.535	1.164	0.829
Gambling taxes	1.138	1.167	0.823	1.362	1.037	0.505	1.099	0.783
Motor vehicle taxes	0.912	0.935	0.660	1.091	0.831	0.405	0.881	0.627
Financial institutions duty	1.138	1.167	0.823	1.362	1.037	0.505	1.099	0.783
Debits tax	1.138	1.167	0.823	1.362	1.037	0.505	1.099	0.783
Taxes on insurance	1.138	1.167	0.823	1.362	1.037	0.505	1.099	0.783
Sale of goods and services	1.005	1.034	0.822	1.127	0.988	0.576	0.964	0.813
Weighted average	1.067	1.089	0.907	1.148	1.004	0.691	1.026	0.895

The first row of Table 31 shows the payroll tax taxable capacity relativities. The relativities are greater than unity in NSW, Victoria, Western Australia (and, to some extent, also South Australia and the ACT) because these States have higher proportions of overseas-born persons than the other Australian States. The contribution to payroll tax by overseas-born persons is, on average, slightly lower than the contribution by Australian-born persons. This is because the

overseas-born have lower proportions of their populations in the workforce, though their average earnings are similar to those of the Australian-born. By comparison with the resident population in NSW, Victoria and Western Australia, migrants in general have high taxable capacities, hence the calculated payroll tax relativities are greater than one. This explanation is also valid to a lesser extent in South Australia and the ACT. The other States have smaller proportions of overseas-born persons in their resident population. This implies that migrants have lower taxable capacity than residents in relation to payroll tax, with the consequence that the payroll tax relativities are less than unity.

For motor vehicle taxes, which include registration fees and stamp duties on vehicle transfers, the taxable capacity relativities are less than one in all States except Western Australia. This is because migrants generally have lower levels of vehicle ownership than more established Australian residents. Western Australia is the exception because a high proportion of its population is overseas-born, and the overseas-born also have relatively low levels of vehicle ownership on average.

The States Model contains the capability for users to vary these factors around unity for individual own-source revenue items.

7.4.7. Measuring category-to-total migrant taxable capacity relativity factors

Access Economics has taken a similar approach to that followed in section 5.5.8 to estimate the category-to-total migrant relativities for certain own-source revenue items. Data series were extracted from the LSIA and used to calculate proxy variables that would help to simulate the taxable capacities of the different migrant groups. As was the case with the units of usage relativities, the LSIA was interrogated through all three waves of interviews. The specific LSIA series that were examined are as follows:

- wages and salaries (for principal applicants, spouses, and other members of the migrating unit);
- average total incomes (for principal applicants, spouses, and other members of the migrating unit);
- values of dwellings (based on the principal applicant's response);
- rental and mortgage payments (based on the principal applicant's response); and
- motor vehicle ownership (by members of the migrating unit, excluding other household members).

The data series that proved to be most useful were wages and salaries, average total incomes, and motor vehicle ownership. Data on home ownership, rental and mortgage payments was not used in the analysis because it was found to have relatively high standard errors.

The resultant relativity factors are shown in Table 32, for each of the revenue items analysed.

Table 32: Category-to-Total Migrant Taxable Capacity Relativity Factors

	NSW	VIC	QLD	WA	SA	TAS	ACT	NT
Family category	0.840	0.806	0.895	0.873	0.789	0.834	0.879	0.875
Skills category	1.399	1.470	1.263	1.320	1.507	1.432	1.295	1.323
Sponsored skills	1.174	1.211	1.130	1.156	1.238	1.187	1.122	1.138
Business skills	1.850	2.025	1.581	1.700	2.123	1.899	1.625	1.670
Independent skills	1.454	1.536	1.290	1.352	1.574	1.485	1.342	1.363
Humanitarian category	0.741	0.734	0.834	0.789	0.728	0.667	0.819	0.753
Weighted average	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Table 32 suggests that migrants in the business skills category have the highest taxable capacity relativities across the States. Note that the numbers shown in the table are averages across all forms of State own-source revenue, with the weights depending on budgeted receipts for each revenue type. Migrants in sponsored skills and independent skills visa groups also have weighted average taxable capacity relativities above unity in all of the States. The implication is that skilled migrants have a higher capacity to pay taxes than humanitarian or family migrants. The result is intuitive. The variation in the respective sizes of the relativities across the States reflects the varying importance of the different revenue streams in each of the jurisdictions.

Other category-to-total migrant taxable capacity relativities for which no information was readily available were set at a level of one. The States Model contains the capability for users to vary these factors around unity for individual migrant categories.

7.5. Results of Model

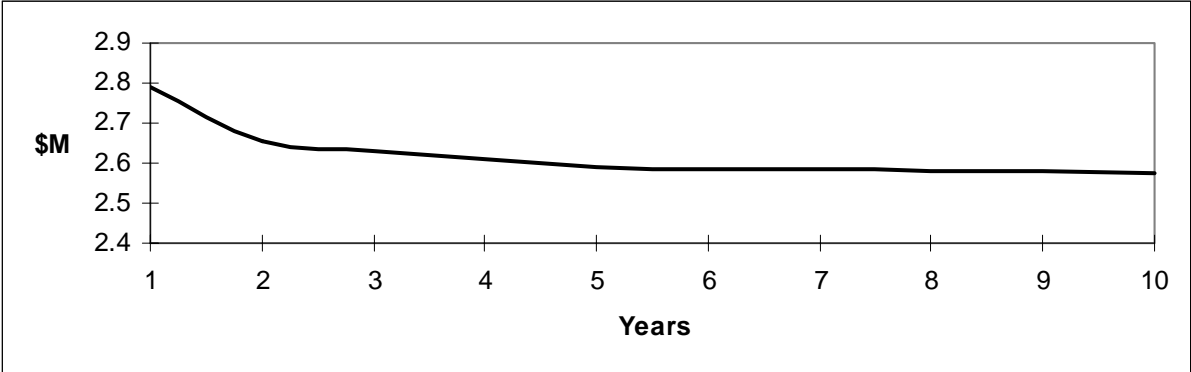
Applying the above methodology and data, the States Model suggests the following own-source revenue impacts in Year 10:

Table 33: Own-Source Revenue Impact of 1,000 Additional Migrants, by States, Year 10, \$ Million

	NSW	VIC	QLD	WA	SA	TAS	ACT	NT	AVG.
Payroll tax	0.819	0.685	0.333	0.811	0.453	0.254	0.563	0.431	0.701
Gambling taxes	0.229	0.315	0.126	0.104	0.212	0.067	0.140	0.078	0.215
Motor vehicle taxes	0.155	0.201	0.190	0.306	0.204	0.064	0.059	0.074	0.191
Debits tax	0.055	0.055	0.067	0.067	0.041	0.000	0.056	0.038	0.057
Taxes on insurance	0.064	0.094	0.072	0.135	0.125	0.000	0.089	0.000	0.084
Sale of goods and services	0.282	0.419	0.542	0.367	0.803	0.119	0.572	0.390	0.387
Land tax	0.140	0.101	0.063	0.110	0.055	0.057	0.093	0.000	0.111
Other stamp duties	0.385	0.270	0.235	0.327	0.239	0.264	0.482	0.427	0.326
Regulatory fees and fines	0.121	0.057	0.161	0.089	0.099	0.028	0.349	0.421	0.110
Other revenue	0.337	0.236	0.846	0.615	0.026	0.166	0.430	0.178	0.394
Total	2.587	2.433	2.634	2.930	2.257	1.019	2.834	2.036	2.577

The pattern over time of the State-average own-source revenue impact is shown in Chart 36. This pattern reflects the phasing-out of some State taxes in 2001-02 following introduction of the GST. It also reflects the assumption underlying derivation of the taxable capacity relativity factors, many of which are initially above unity, that over time migrants' taxable capacities will move towards those of residents.

Chart 36: Own-Source Revenue Impact of 1,000 Additional Migrants
State Average, \$ million



8. Modelling the Commonwealth Grants Impact

8.1. Commonwealth grant coverage

The grants affected by migrants are those provided to States by the Commonwealth either:

- for migrant specific needs;
- or which are related to population change in the form either of untied (budgetary) assistance or specific purpose (tied) assistance.

The grants included in the States Model (following the Commonwealth Model) are:

Vocational education
 Government schools, English speaking
 Government schools, non English speaking
 Health care grants
 GST payments to the States

By implication, all other Commonwealth grants received by the States are assumed to exhibit a 'zero impact' on account of additional migration.

Table 34: Commonwealth Grants, 2000-01, \$ Per Capita

	NSW	VIC	QLD	WA	SA	TAS	ACT	NT
	\$/head	\$/head	\$/head	\$/head	\$/head	\$/head	\$/head	\$/head
<i>Affected items:</i>								
Vocational education	45	44	41	43	46	51	53	67
Government schools, English speaking	12	12	13	13	12	14	13	15
Gov't schools, non English speaking	51	49	54	55	49	60	55	64
Health care grants	320	312	317	313	348	282	242	346
GST payments to the States	1,141	1,093	1,352	1,271	1,517	2,071	1,543	6,228
<i>Zero impact:</i>								
balance	383	520	516	720	701	599	637	983
Total	1,953	2,030	2,294	2,415	2,672	3,077	2,544	7,703
Affected-to-total %	80.4%	74.4%	77.5%	70.2%	73.8%	80.5%	75.0%	87.2%

8.2. Methodology

8.2.1. Explanatory determinants of Commonwealth grants

Consistent with the methodology applied by the Commonwealth Grants Commission, the starting point is the recognition that the grant received (G) in a particular category (e.g. health care grants) can be re-expressed by the following identity:

$$G \equiv \left(\frac{G}{P}\right)_N * \left(\frac{[G/P]_S}{[G/P]_N}\right) * P \quad \dots\dots(1)$$

where:

$\left(\frac{G}{P}\right)_N$ signifies the Commonwealth grants (G) paid per head of population at the national level (N);

$(\frac{[G/P]_S}{[G/P]_N})$ signifies the Sth State's per capita relativity implied by its share of

Commonwealth grants; and

P signifies population numbers (P).

Based on this formulation, differences in the level of grant income between grant categories, between States, or over time can be explained in terms of differences in the per capita amount paid at the national level for individual grant items ($\frac{G}{P}$), differences per capita grant relativities ($\frac{[G/P]_S}{[G/P]_N}$) and differences in the size of relevant populations (P).

8.2.2. Determinants of incremental Commonwealth grants

The States Model estimates the increase in a State's total Commonwealth grants per 1,000 additional migrants in year "t" (denoted as ΔG_t) as:

$$\sum_c [\Delta G_{c_t} * (\frac{P_c}{\sum P_c})_t] \dots\dots(2)$$

where:

ΔG_{c_t} signifies the increase in total Commonwealth grants per 1,000 additional category "c" migrants in year "t"; and

$(\frac{P_c}{\sum P_c})_t$ signifies the proportion of migrants in category "c" in year "t"

and:

G signifies an amount of Commonwealth grants per annum;

ΔG signifies incremental annual Commonwealth grants;

P signifies the number of persons (population) in the designated group or category;

"c" signifies category "c" migrants; and

"t" signifies year "t".

8.2.3. The Commonwealth grants impact

By applying (1) and (2), the States Model estimates the increase in a State's total Commonwealth grants per 1,000 additional migrants in year "t" (denoted as ΔG_t) as:

$$\sum_g [(\Delta[G/P]_{mN})_{gt} * 1000 * (\frac{[G/P]_m S}{[G/P]_{mN}})_g * (\frac{[G/P]_c}{[G/P]_m})_{gt}] \dots\dots(3)$$

where:

$(\Delta[G/P]_{mN})_{gt} * 1000$ signifies the Commonwealth grants impact of 1,000 additional migrants at the national level for the gth Commonwealth grants item in the tth year;

$(\frac{[G/P]_m S}{[G/P]_m N})_g$ signifies the State-to-national Commonwealth grant relativity factor for the g^{th} Commonwealth grants item (assumed to be constant over time); and

$(\frac{[G/P]_c}{[G/P]_m})_{g t}$ signifies the category-to-total migrant per-capita grants relativity factor for the g^{th} Commonwealth grants item in the t^{th} year;

and:

“m” signifies new migrants as a group (that is, it is the total of all “c’s”);

“S” signifies the value for the State;

“N” signifies the value for the national as a whole; and

“g” signifies a particular Commonwealth grant item.

8.3. Data requirements

The data required to give effect to the above formulation were as follows:

- for the initial year, certain State-wide factors, notably:
 - the *population* (P) for existing residents (r), additional migrants (m) and for each additional migrant category (c);
- for each Commonwealth grants item, in each year:
 - the *national Commonwealth grants impact of 1,000 additional migrants* ($(\Delta [G/P]_m N * 1000)$);
 - the *State-to-national per-capita grant relativity factor* for migrants $(\frac{[G/P]_{Sm}}{[G/P]_{Nm}})$; and
 - the *category-to-total migrant per-capita grant relativity factor* $(\frac{[G/P]_c}{[G/P]_m})$.

The remainder of this chapter summarises how each of these data have been measured and/or sourced. The focus here is on data that has not already been described in Chapter 5.

8.4. Individual Commonwealth grants data

8.4.1. Measuring the national Commonwealth grants impact of 1,000 additional migrants

The figures are taken from the Commonwealth Model with respect to 2000-01.¹⁰ The grants impact shown in the Commonwealth Model are set out in Table 35.

¹⁰ One modification was made to the Commonwealth Model result. To ensure a constant price result, under the constant price assumption all years' GST payments to the States were set equal to Year 1's. The time patterns of the other Commonwealth grants items were assumed to reflect non-price influences.

Table 35: Commonwealth Grant Impact, per 1,000 New Migrants at the National Level, \$ million

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Vocational education	0.015	0.028	0.024	0.022	0.028	0.034	0.040	0.047	0.054	0.061
Gov't schools, English speaking	0.017	0.017	0.017	0.017	0.018	0.018	0.018	0.019	0.019	0.020
Gov't schools, non English	0.073	0.072	0.072	0.072	0.074	0.076	0.078	0.079	0.081	0.083
Health care grants	0.223	0.226	0.233	0.235	0.242	0.251	0.259	0.268	0.277	0.287
GST payments to the States	1.238	1.397	1.430	1.464	1.549	1.603	1.658	1.714	1.772	1.832
Total	1.566	1.740	1.776	1.810	1.911	1.982	2.053	2.127	2.203	2.283

Source: Commonwealth Model

8.4.2. Measuring category-to-total migrant per-capita grant relativity factors

The allocation of each State's share of the additional grants among the various migrant categories is made using the relativity factors implied in the updated Commonwealth Model. The relativity factors implicit in the Commonwealth Model at Year 10 are set out in Table 36.

Table 36: Category-to-Total Migrant Per-Capita Grant Relativity Factors

	Family	Skills	Conc'l skills	Bus. skills	Indep't skills	Humanitarian
Vocational education	1.165	0.924	0.912	0.904	0.939	0.888
Government schools, English speaking	0.113	1.768	2.464	0.686	1.837	0.006
Gov't schools, non English speaking	0.453	1.030	1.195	1.778	0.629	2.363
Health care grants	1.174	0.893	0.910	0.902	0.879	1.002
GST payments to the States	1.018	0.978	1.006	0.959	0.971	1.046

Source: Commonwealth Model

8.4.3. Measuring State-to-national migrant per-capita grant relativity factors

Access Economics has assumed that these relativity factors are the same as the per capita relativity factors implied by existing grants (derived from the detailed tables in Commonwealth Budget Paper No 3, 2000-01). Access has also assumed these factors are constant over time.

The resultant relativity factors are set out in Table 37.

Table 37: State-to-National Average Per-Capita Grant Relativity Factors

	NSW	VIC	QLD	WA	SA	TAS	ACT	NT
Vocational education	1.020	0.997	0.917	0.823	1.190	1.140	1.196	1.510
Government schools, English speaking	0.986	0.946	1.049	0.757	1.328	1.159	1.068	1.228
Gov't schools, non English speaking	0.986	0.946	1.049	0.757	1.328	1.159	1.068	1.228
Health care grants	1.009	0.985	1.000	0.880	1.231	0.889	0.763	1.092
GST payments to the States	0.883	0.846	1.047	0.942	1.227	1.603	1.194	4.821

Source: Commonwealth Budget Paper No.3, 2000-01

There is little alternative to assuming these relativity factors are the same as the per capita relativity factors implied by existing grants for the vocational education, schools and health care grants, and to assuming these factors are constant over time. Access Economics recognises, however, that it is possible to establish the conditions attaching to this simplifying assumption in the case of GST payments to the States.

The per capita relativity factors applying to GST payments to the States are affected by the horizontal fiscal equalisation (HFE) process overseen by the Commonwealth Grants Commission (CGC). Essentially, recurrent grants paid by the Commonwealth to the States are distributed among the States in aggregate so that, were a State to provide an average set and level of services to its residents at an average level of efficiency/cost at the same time as imposing an average tax burden on those residents, the State's per capita recurrent budget result would be equal to the average for all the States.

Until these relativities are reset by the CGC (generally every five years), the per capita relativity factors implied by existing GST payments to the States would continue to apply. For up to five years, it is therefore appropriate that the States Model is based on existing relativity factors for GST payments to the States.

Assuming that the only changes impacting on the CGC's assessments were those associated with an additional 1,000 migrants, the per capita relativity factors would be unchanged at the time of a reset by the CGC only if the CGC's assessment of the relative fiscal disabilities for migrant-affected items were the same as the weighted-average of relative fiscal disabilities for all items underlying the existing per capita relativity factors.

Use of the constant relativity factor assumption could therefore *in principle* mis-estimate the grants impact to the extent that there are differences in the CGC's assessments of relative fiscal needs of a State's migrant-affected and migrant-unaffected services and taxes. In particular, this assumption would result:

- in an overestimation of the grants impact for those States where the relative fiscal disabilities of migrant-affected services and taxes were on average below those for migrant-unaffected services and taxes; and
- in an underestimation of the grants impact for those States where the relative fiscal disabilities of migrant-affected services and taxes were on average above those for migrant-unaffected services and taxes.

On the grounds that these mis-estimations are likely to be small where only an additional 1,000 migrants is involved, and given the difficulties involved in comparing the CGC's assessments of each State's relative fiscal needs for migrant-affected services and taxes with those for migrant-unaffected services and taxes, such a comparison has not been undertaken. In the circumstances, Access Economics is comfortable with the assumption that the per capita relativity factors for GST payment to the States remain constant over the 10 year period.

8.5. Results of Model

Applying the above methodology and data, the States Model suggests the following Commonwealth Grant impacts in Year 10:

Table 38: Commonwealth Grants Impact of 1,000 Additional Migrants, by States, Year 10
\$ Million

	NSW	VIC	QLD	WA	SA	TAS	ACT	NT	AVG.
Vocational education	0.051	0.050	0.046	0.046	0.051	0.059	0.061	0.077	0.050
Government schools, English speaking	0.014	0.012	0.016	0.021	0.012	0.014	0.013	0.015	0.015
Gov't schools, non English speaking	0.060	0.059	0.060	0.071	0.059	0.065	0.058	0.070	0.061
Health care grants	0.237	0.233	0.234	0.219	0.259	0.215	0.184	0.263	0.234
GST payments to the States	1.094	1.048	1.297	1.219	1.455	1.991	1.479	5.979	1.186
Total	1.455	1.402	1.652	1.575	1.836	2.343	1.795	6.404	1.545

The Model shows that, in Year 10, an additional 1,000 migrants at the national level will result in a \$1.2 million additional expense for the Commonwealth in the form of GST payments to the States.

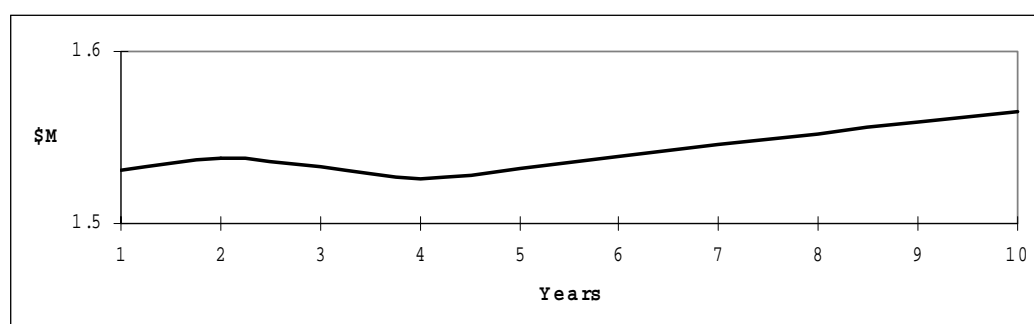
The case of the Northern Territory is of particular interest. The implication is that if the Northern Territory could attract an additional 1,000 migrants, it would receive \$6.0 million in additional GST grants from the Commonwealth, whereas in the same situation New South Wales (for example) would only receive an additional \$1.1 million in such grants.

It should be noted that the methodology/assumptions implicit in the States Model is the equivalent of:

- an additional 1,000 migrants being added to the national population;
- which is then distributed among the States in line with the initial State destination for the existing migration program; and
- with Commonwealth GST grants distributed on this basis, with each State's result then being re-expressed in per thousand terms.

That is, rounding issues aside, an additional 1,000 migrants at the national level typically results in 6½ additional migrants going to the Northern Territory. If the GST grants pool increases by \$1.205 million as a result of 1,000 additional migrants nationwide, the Northern Territory's share is around \$38,728. When the \$38,728 impact on account of 6½ additional migrants is re-expressed as the equivalent of 1,000 additional migrants, the result is the \$6.0 million impact shown by the States Model.

The pattern over time of the State-average Commonwealth grants impact is shown in Chart 37. This pattern reflects the phasing down of some of the specific purpose grant impacts between years 2 and 4, offset over time by the growth in others.

Chart 37: Commonwealth Grants Impact of 1,000 Additional Migrants
State Average, \$ million

9. Modelling the Interstate Migration Impact

9.1. Terms of reference

This final chapter examines the interactions between States within the Model, and the associated evolution over time of changes in impacts due to ‘second round’ effects, by allowing for the effects of interstate migration by new migrants.¹¹ As such, this chapter addresses paragraph (e) of the Terms of Reference, to:

“... develop a methodology to examine the budgetary impact of interstate migration of overseas migrants, and how/whether that could be taken into account in the model;...”

9.2. Methodology

The Model for each State discussed to this point is based upon a ‘constant’ 1,000 migrants per State assumption. This latter assumption is now relaxed, as we recognise that the constant 1,000 assumption overlooks the likelihood that recent arrivals may move States after arrival.

This analysis could have been undertaken in terms of the extent to which a proportion of the original 1,000 in a State eventually resettled in another State. This would have involved a focus solely on the impact upon the ‘from’ State.

However, the approach adopted here involves the analysis of arrivals as well as departures, with the net effect being that some States experience a fall in the number of additional migrants (initially 1,000) while other States would experience an increase on the initial 1,000. This ‘net’ approach involves account being taken of interstate migration in the ‘to’ State as well as the ‘from’ State.

In so doing, the Model draws on its underlying design strengths to allow for changes over time in the level and composition of additional migrant numbers (including allowing for lags), especially:

- direct changes in spending in the two States (if, say, the migrant went from Tasmania to Queensland, spending may go down more in Tasmania than it goes up in Queensland);
- direct changes own-source revenues in these two States; and
- direct changes in Commonwealth grants (shown in the main via lagged adjustments in the Commonwealth’s general revenue assistance among the States).

9.2.1. *The underlying motives*

Why may migrants move?

- (a) those migrants that, on average, are less skilled and more dependent than residents, and with lower average incomes, may choose to shift from a low taxing/low spending jurisdiction to a high taxing/high spending jurisdiction; and/or
- (b) those migrants wanting to ‘better themselves’, may choose to move to States with better prospects (in terms of job growth, etc); and/or

¹¹ Useful general information on this issue is found in the special article entitled “The redistribution of recent overseas migrants to Australia” in the 1999-00 edition of ABS 3412.0.

- (c) migrants may wish to move to be closer to communities of fellow migrants from their ‘old country’; and/or
- (d) migrants may simply move for the same set of reasons that existing residents move – they may therefore follow the patterns evident in interstate migration by all Australians (say, moving north to the sun in Queensland).

Data is not available on these effects separately. Published data only shows their net effect. While the relative balance of these effects might differ between the various migrant categories, the (b) influence seems to dominate the (a) influence among the economic motives.

In undertaking this analysis, we have adopted the following simplifying assumptions:

- that the economic output and demand of the migrant shifting is unchanged in his/her new State; and
- that new arrivals make a maximum of one move.

9.2.2. *Movement propensity models*

Because of limited information on the rate of movement of migrants from initial State of arrival to other States, we have supplied three methodologies for the user to choose between (or to choose a mixture of these).¹²

¹² These models and the weights can all be found on the ‘Interstate migration asspts’ sheet of the Summary workbook. It is intended that the green shaded cells of the spreadsheet model not be altered, with only the unshaded areas to be edited.

In addition to the three predefined movement profiles, the user can set their own movement propensities. A figure of 1,000 implies no net change in migrant numbers due to interstate migration to and from a given State.

Two additional features are available.

At the bottom of the line of results is a “TRUE/FALSE” indicator that shows if the net flows balance (with net flows weighted by migrant arrival numbers). If the model does not balance, the cell at the bottom of the list will indicate “FALSE”. The set of numbers in the last column (numbers in italics) show the number required in a given State to balance the model if all other State numbers were the same. To make the model balance, simply copy the value from one of these cells into the respective State. Note there is nothing to stop these cells giving nonsensical results (for example, if you enter a movement propensity of 2000 for New South Wales, the numbers in other States become negative, suggesting to balance the model more than all the migrants would need to leave the State). It is up to the user to avoid these problems.

Once the options are set (if required), each one of the three migrant groups can be set to move under any of the four sets of assumptions (three pre-programmed by Access Economics, and the user defined method), or through any combination of these. Again, the user sets the weights for each method, with the method only indicating if the weights add to 100%.

As a final check, the implied movement factor section will show any propensity levels less than 900 in a different text. If the movement propensity is less than 900, then the number of migrants in Year 10 will be less than 0 – another unrealistic result.

This methodology allows users to scale the three existing methods if desired – to increase or decrease the impacts expected. For example, to halve the effect of the EGM method flows, enter 50% as the weight for the EGM model and 50% for the User Defined method (where all the movement numbers are set to 1,000 – indicating no movement). To double the effect suggested under the EGM model, set the EGM weight to 200% and the user defined weight to –100%.

The ‘State Drivers’ sheet shows the expected profile of migrant numbers in each migrant category for each State over the 10 year time frame. Note that movements are constant in each year.

Movement propensity is a measure of how many migrants there are in a given State a year after 1,000 arrive. There is no adjustment for deaths or migration out of Australia, only movements between States.

Of the three methodologies described below, the EGM method (see below) works off the underlying assumption that there is an initial 1,000 migrants per State.

The other two (the MBHF and PNM methods discussed below) allow the user to step outside the assumption of an initial 1,000 migrants per State, to consider the impact of relatively different initial migrant flows to States, and the implications that may hold for subsequent interstate migration.

In all cases, the movement propensities are set to balance by weighting levels according to the number of migrants who enter a State. However, this is more important in the latter two cases (MBHF and PNM). For example, a movement of a migrant from New South Wales to Victoria will lead to a larger movement propensity gain to the smaller State than the propensity loss for the larger State.

This arises as the larger States have more migrants. Accordingly, any propensity to shift from a large State has a bigger impact on a smaller State.

Migrant balanced historical flow (MBHF) method

First up, the Migrant Balanced Historical Flow method assumes that the same proportion of migrants will leave a given State each year as do the rest of the population – for example, about 1.7% of the New South Wales population leaves the State each year – and that they move to other States in equal proportions – for example, 23.2% of New South Wales’ leavers are moving to Victoria.

These leaving numbers are then summed and compared with the number of arrivals into a given State, giving an expected movement of migrants. This is then applied to actual migrant flows (rather than the assumption of 1,000 per State). Note that this means that States with low numbers of initial migrants (such as Tasmania) do not lose many people, but still get the gains (usually large) of people moving out of other States.

The implied movement propensities under this method are the most different from 1,000, mainly because the flows out of New South Wales ‘flood’ the other States (particularly the smaller ones). The biggest winner is Tasmania (as it had the least number to lose, it gains 97.3 extra migrants per initial 1,000 per year), with the biggest loser being New South Wales (as it had the greatest number to lose, it ends up losing 7.0 migrants per 1,000 per year).

The Tasmanian figure is large because the number of migrants that State initially receives (less than 500) is relatively small compared to the implied net gain from other States (14 leave but 57 arrive).

Past nationality method (PNM)

This option assumes that migrants arrive at an initial location, and then move over time towards where migrants born in that country traditionally are located. This method reflects differences in the profile of the previous location of migrants between arrival locations – for example, New Zealanders traditionally arrive on the east coast and South Africans on the west, before moving

to other States. These tendencies limit the gains to Western Australia, and lessen the losses in New South Wales.

The biggest winner under this method is again Tasmania (a gain of 36.6 per 1,000) and the biggest loser again New South Wales (a loss of 2.5 per 1,000), although Queensland also loses under this method (the only case of the above three in which this occurs).

Employment growth method (EGM)

This method assumes that migrants drift towards areas of higher employment growth. Employment growth over the past four years is compared with the national average – with migrants assumed to head to faster growth States (Queensland, Western Australia, Northern Territory). The flows are scaled so the level of movement is equal to that in the MBHF model discussed above.

The biggest winner under this model is Western Australia (a gain of 3.2 per 1,000 per year), while Tasmania lags behind (losing 9.3 migrants per 1,000 per year).

9.2.3. Interstate migration effects on Budgets

The States Model shows the *additional* impact on each State's net operating surplus per 1,000 initial new migrants. Changes are calculated for grant income, other income and expenses for each migrant group and overall (with proportions flowing from the individual State models).

In general:

- an outflow of migrants will decrease a given State's level of grants and other income, while
- an outflow of migrants improve the Budget by lowering the State's level of expenses.

The relativities between rises and falls determine the overall impacts. In general, an outflow of skilled migrants sees a similar fall in grant levels compared with declines in other types of migrants, but a larger fall in other revenue and a smaller decline in expenses. As a result, a decline in skilled migrants has a more detrimental effect from a budgetary perspective than an outflow of family and humanitarian migrants.

Table 39: Alternative Interstate Migration Models

State	Migrant Intake	Model		
		MBHF	PNM	EGM
NSW	39311	993.0	997.5	998.8
VIC	19319	1002.7	1003.1	999.1
QLD	17286	1004.8	997.8	1002.8
WA	11512	995.4	998.3	1003.2
SA	3105	1021.8	1014.0	994.8
TAS	444	1097.3	1036.6	990.7
ACT	809	1058.5	1030.4	997.7
NT	471	1076.1	1023.8	1002.2

The three set model parameters are shown in Table 39 above. The first column of numbers shows the number of migrants (settler arrivals) to each State in the year ended June 2000, and is sourced from ABS publication 3412.0. Each set of movement parameters is set so that the average of all movements (weighted by the number of migrants per State) is 1,000. This 'balances' the movements between States.

The migrant-balanced historical flow (MBHF) model in the second column of numbers are based on average interstate migration patterns in the five years to June 2000, taken from ABS publication 3401.0 – Overseas Arrivals and Departures, Australia, referencing both inflows and outflows of population. During the five-years considered, an average of 106,095 people left NSW each year (or 17.1 per 1,000), of which 24,595 (23.2%) moved to Victoria. The MBHF model assumes that 17.1 out of every 1,000 migrants leave NSW each year, and 23.2% of these move to Victoria. Summing up the movements across all possibilities gives the final movement coefficients. Because so few migrants begin in Tasmania, this implies very few can leave, while even a small movement to Tasmania from a large State will result in a net gain.

The Past Nationality Model (PNM, in the third column of numbers) is a variation of the MBHF methodology. It compares the share of arrival location for migrants from a given country with the current location of all migrants (those who arrived in earlier years). These figures can be found in Tables 3.3 and 7.1 of ABS 3412.0. For example, while only 8.1% of New Zealand migrants to Australia arrive in Western Australia, 13.4% of all New-Zealand born people in Australia reside in WA. This may imply a gradual movement from NSW to WA. We have assumed that movement takes place over an extended period of time (30 years). This is the least ‘obvious’ of the methodologies, and will be subject to changing patterns of migration. For example, in earlier times there was far greater migration to Tasmania from the United Kingdom. The model would assume that this continued, although there is no underlying reason why it should. However, this methodology does capture the effects that the proximity of different arrival points to some countries may have on movement patterns.

The final model (EGM, in the fourth column of numbers) is based on relative employment growth in each State. It assumes that migrants will be tempted to those States where there is more jobs growth. For example, employment in NSW grew by 1.7% per annum between 1996 and 2000, about 0.1% less than the national average. In comparison, Queensland’s employment growth was 2.4% per annum. These relative growth rates are then scaled so that the total level of interstate movement is equal to that in the MBHF model.

APPENDIX A: STRUCTURE OF THE SPREADSHEET MODEL

The model comprises nine Excel workbooks, one for each State and a summary workbook with links to each of the State workbooks and the Commonwealth Model.

This Appendix provides an overview of the (identical) structure of the State workbooks.

Each of the State workbooks contains:

- output sheets;
- a parameters sheet;
- assumptions sheets;
- calculation sheets; and
- input sheets.

A general description of each of these types of sheets follows.

Output sheets

There are three two overview summary sheets:

The *Summary 1* sheet provides the impact of 1,000 new migrants on a State's net operating surplus (and the component revenue and expenses impacts), for each migrant category as well as the total of all migrants, for each of Years 1 through 10.

The *Summary 2* provides the States Model's output in the three-way financial statement presentation (that is, in terms of an Operating Statement, a Cash Flow Statement and a Balance Sheet), for each of the ten years for the additional migrants in total.

Following these two overview summary sheets is a *Charts* sheet which summarises the results of the model for the particular State in the form of the charts provided in the Report.

The final type of summary sheets (*Year1, Year2 ... Year10*) are the yearly summary sheets which for each of year 1 through 10 provide the three-way financial statement presentation, for each migrant category as well as for all migrants in total, similar in structure to the *Summary 2* sheet.

Parameter sheet

The *parameter* sheet contains three types of "switches", and some associated input data.

The switches are:

- the *price basis* switch, allowing a choice of whether the Model is to be run on a constant price or current price basis;
- the *population basis* switch, allowing a choice of whether the Model is to be run on a constant population basis or allowing for forecast population growth; and

- an *intake composition* switch, allowing a choice of whether the Model is to be run using a composition of the additional migrant intake equal to the latest LSIA weights or on some other nominated allocator.

The switches provide the basis for certain simulations. Other simulations are possible by varying eligibility assumptions, or by varying various empirical assumptions made regarding relativity and elasticity factors.

Assumptions sheets

The *assumptions* sheet manipulates data in order to estimate the key migrant-to-resident (“m-r”) and category-to-total (“c-m”) migrant relativity and elasticity factors used to estimate the budgetary impacts of additional migrants.

These factors are explicitly incorporated into the Model, both for the sake of transparency and for ease of assessing the sensitivity of the Model to variations in such assumptions.

The *common* sheet shows assumed common factors across all budget items (for each year).

The *constants* sheet shows assumed factors (by budget items) which do not vary over time, as well as annual depreciation rate assumptions and the calculation of annual escalator values.

The *eligibility* sheet includes on-off switches for the individual budgetary items for testing or simulation purposes, as well as enabling the phase-out of certain tax items following the introduction of the GST.

The *m-r* sheet estimates all migrant-to-resident relativity factors, based upon information provided in other sheets. The *ob-ab* sheet provides associated input for those budgetary items where certain economic data are available separately on Australian-born and overseas-born residents.

The *c1-m* sheet estimates all category-to-total migrants relativity factors for the family migrant category. Likewise, the *c2-m* sheet estimates all category-to-total migrants relativity factors for the skills migrant category (and there are equivalent sheets for each of the three skills sub-categories). The *c3-m* sheet estimates all category-to-total migrants relativity factors for the humanitarian migrant category

The *rate m-r* sheet computes the key unit cost and tax rate migrant-to-resident relativity factors.

The *pop m-r* sheet computes the key usage, taxable capacity and per-capita grants migrant-to-resident relativity factors.

The *rate c1-m*, *rate c2-m* and *rate c3-m* sheets compute the key unit cost and tax rate category-to-total migrants relativity factors for the family, skills and humanitarian migrant categories respectively (and there are equivalent sheets for each of the three skills sub-categories).

The *pop c1-m*, *pop c2-m* and *pop c3-m* sheets compute the key usage, taxable capacity and per-capita grants category-to-total migrants relativity factors for the family, skills and humanitarian migrant categories respectively (and there are equivalent sheets for each of the three skills sub-categories).

Calculation sheets

The various sheets with the “*dE*” prefix estimate the budgetary impacts on operating expenses, own-source revenues, Commonwealth grants and capital expenditures for each of the migrant categories and sub-categories.

Estimates of the impact on depreciation expense are derived in the *depreciation* sheet.

Estimates from these sheets are consolidated in the *transactions* sheet, which also estimates accrual/cash components of operating expenses, own-source revenues, Commonwealth grants and capital expenditures, the net borrowing impact and so the interest expense impact.

Input sheets

The *migrant profiles* sheet provides the age structure and other key characteristics for migrants, by migrant category, in the most recent migrant intakes, sourced from DIMIA.

The *LSIA* sheet provides the age structure and other key characteristics of migrants, by migrant category, from the LSIA based on the full 24-month sample.

The *ABS* sheet includes ABS-sourced data relevant to estimating relativities for a range of operating expenses items.

The *popn* sheet provides a more detailed breakdown of the age structure by migrant categories of the most recent migrant intakes.

The *revenues* sheet includes ABS-sourced data relevant to estimating relativities for a range of State tax items.

The *Cwth grants* sheet provides the impact on Commonwealth grants to all the States in aggregate as derived in the Commonwealth Model.

The *budget aggregates* sheet puts State budget information into a uniform functional format.

The *Budget, 2000-01* sheet provides relevant data extracted from the portfolio statements in the State Budget Papers.

APPENDIX B: BUDGET CONCEPTS

Operating Statement

The operating statement is a summary of the transactions of the general government sector in a given financial year. [All Tables referenced below appear at the end of this Appendix.]

In the operating statement table (Table A), transactions are classified according to whether they:

- increase net worth (revenue),
- decrease net worth (expense),
- change the stock of a non-financial asset (capital asset), or
- change the stock of a financial asset or liability (financing).

Since 1999-00, government finance statistics have been compiled in Australia using the accrual basis of recording transactions. With the exception of consumption of fixed capital (depreciation), all of the line items in Table A apply to the cash and accrual bases equally, although the actual statistics vary depending on which recording basis is employed. When the statistics are presented on the accrual basis, statistics on cash flows are also compiled in the format shown in Table B.

The operating statement table, when used in conjunction with the opening balance sheet, provides the basis upon which to directly calculate a government's balance sheet at the end of the year.

Revenue

All transactions that increase the net worth of the general government sector are classified as revenue. Revenue includes taxes, grants received from other governments and other revenue including sales of goods and services, interest and other types of property income and fines and penalties. The sale of a non-financial asset is not revenue because it has no effect on net worth.

Expenses

All transactions that decrease the net worth of the general government sector are classified as expenses. The major types of expenses are compensation of employees, use of goods and services, consumption of fixed capital, interest, subsidies, grants and transfer payments. Alternatively, expenses can be classified according to functional purposes, such as health or education. The acquisition of a non-financial asset is not an expense because it has no effect on net worth.

Transactions in non-financial assets

The second section of Table A records transactions that change a government's holdings of non-financial assets. These assets are classified as fixed assets, inventories and non-produced assets.

Fixed assets are produced assets that are used repeatedly or continuously in processes of production for more than one year. Transactions in fixed assets can refer to acquisitions of new assets, construction of new assets on own account, acquisitions and disposals of existing assets,

and major improvements to fixed assets and non-produced assets. Assets can be acquired or disposed of by purchase, sale, barter, or transfer.

Inventories are stocks of goods held by governments that are intended for sale, use in production, or other use at a later date. They can be raw materials, work in progress, finished goods, goods held for resale, or strategic stocks. Withdrawals from inventories are valued at current market prices rather than their acquisition prices.

Non-produced assets are assets needed for production that have not themselves been produced, such as land, subsoil assets, and certain intangible assets.

Cash Flow Statement

While it is desirable to record flows on the accrual basis, information on the sources and uses of cash is important for assessing the liquidity of the general government sector. The cash flow statement (Table B) shows the total amount of cash generated or absorbed (1) by current operations, (2) by investing in non-financial assets, and (3) by transactions involving financial assets and liabilities other than cash itself. The net change in the government's cash position is the sum of the net cash received from these three sources.

Additional useful information is obtained from an analysis of the differences between Tables A and B. There are two broad categories of transactions that are recorded in Table A but not in Table B.

- Non-cash transactions that will be settled in cash in the future. With accrual recording, a purchase of goods and services is recognised when the ownership of goods changes hands or services are provided. The associated cash payment may not take place until the following accounting period, in which case it would not be included in Table B in the same period as it appears in Table A. Similarly, revenue can be received in cash before it is earned by the delivery of goods or provision of services to the purchaser. There may also be transactions in assets and liabilities that will be settled in cash in future periods.
- Transactions that are not in cash by their nature. Consumption of fixed capital, the amortisation of the discount on a zero-coupon or other discounted bond, and imputed transactions can only be non-cash transactions.

The Balance Sheet

The balance sheet is shown in Table C. It presents the stocks of assets and liabilities at the beginning and ending of the accounting period. Also included is net worth, defined as total assets less total liabilities.

Net financial worth, also shown in Table C, is defined as total financial assets less total liabilities. It recognises that it may be difficult to attach market values to many government capital assets and that certain analyses are focused only on the financial assets of the general government sector rather than its total assets.

Government assets

The assets included in the balance sheet of the general government sector are assets over which government units enforce ownership rights and from which they may derive economic benefits by holding or using them over a period of time. Assets that are not owned and controlled by a government unit and assets that have no economic value are excluded.

There are multiple ways to classify financial assets. The most usual classification within government (and as shown in Table C) is based on whether a financial asset is held for policy purposes. Governments may acquire or dispose of financial claims on a non-market basis for policy purposes, such as fostering new industries, assisting ailing government corporations, or helping particular businesses that are suffering economic adversity. Such transactions can take a variety of forms, including loans, equity securities and debt securities. They are identified in a separate category as, for some analyses, transactions in these financial assets are treated as flows with characteristics similar to revenue and expense.

All financial assets not specifically held for policy purposes are assumed to be held for liquidity management purposes. Such assets are acquired to earn a market rate of return while keeping sufficient funds on hand to finance day-to-day operations.

Government liabilities

Liabilities are obligations to provide economic value to another institutional unit. Most classifications that apply to financial assets also apply to liabilities.

INDICATORS OF BUDGETARY BALANCE

The budget impact of additional migrants can be measured by the impact upon the key budget balance indicators.

The operating statement includes two key balances:

- The ***net operating balance***, which is revenue less expense. It indicates the change in net worth resulting from transactions.
- ***Net lending/borrowing***, which is the net operating balance less the net acquisition of non-financial assets. It indicates the change in net financial worth resulting from transactions.

The cash flow statement cash provides a third key balance, namely:

- The ***overall surplus (deficit)***, which is net cash received from operating activities and investing in non-financial assets, plus net acquisition of financial assets (only) in the form of advances paid for policy purposes. It indicates the decrease (increase) in net debt. Where negative, it measures the government's net borrowing requirement.

Table A: Operating Statement

TRANSACTIONS AFFECTING NET WORTH
Revenue (transactions increasing net worth)
Taxes
Grants
Sales of goods and services
Interest income
Other
Expense (transactions decreasing net worth)
Employee compensation
Use of goods and services
Interest expense
Subsidies
Grants
Current transfers
Consumption of fixed capital expense (depreciation)
Other
Net operating balance (revenue less expenses)
TRANSACTIONS IN NON-FINANCIAL ASSETS
Net acquisition of non-financial assets
(acquisitions <i>less</i> disposals and consumption of fixed capital)
Capital expenditure
<i>plus</i> Change in inventories
<i>less</i> Proceeds from sale of non-financial assets
<i>less</i> Depreciation
Net lending/borrowing (net operating balance less the net acquisition of non-financial assets)

Table B: Cash Flow Statement*

Operating activities
Operating receipts
<i>less</i> Operating payments
Net cash received from operating activities
Investing in non-financial assets
Sales of non-financial assets
<i>less</i> Purchases of non-financial assets
Net cash received from investing in non-financial assets
Financing activities
Disposals of financial assets for policy purposes
<i>less</i> Acquisitions of financial assets for policy purposes
<i>plus</i> Incurrences of liabilities and disposals of financial assets for liquidity management purposes
<i>less</i> Liquidations of liabilities and acquisitions of financial assets for liquidity management purposes
Net cash received from financing transactions
<i>Net increase in cash balances:</i>
<i>being net cash received from operating activities, investing in non-financial assets, and transactions in financial assets and liabilities</i>
Overall Surplus (Deficit):
being net cash received from operating activities and investing in non-financial assets, plus net acquisition of financial assets in the form of advances paid (only) for policy purposes

* All transactions recorded in this statement are cash transactions. Thus, the amount indicated for revenue in this Table will differ from the amount shown for revenue in Table A by the revenue accrued but not received in cash in the current period less the amount of cash received in the current period from revenue transactions recorded in previous periods.

Table C: Balance Sheet

	Opening balance sheet	Closing balance sheet
Financial assets		
Acquired for liquidity management		
Cash and deposits		
Investments, loans and placements		
Acquired for policy purposes		
Equity		
Financial corporations		
Non-financial corporations		
Advances paid		
Capital assets		
Land and fixed assets		
Inventories		
Non-produced assets		
Liabilities		
Deposits held		
Advances received		
Borrowing		
Superannuation liability		
Other employee entitlements and provisions		
Other non-equity liabilities		
Net worth		
(being total assets less liabilities)		
Net financial worth		
(being financial assets less liabilities)		
Net debt		
(being the sum of deposits held, advances received and borrowing, minus financial assets acquired for liquidity management purposes)		

APPENDIX C: MIGRANT CATEGORIES

The terms of reference required the States Model to distinguish between different classes of migrants. The terms of reference also envisage the Model being used to estimate the budgetary impact of changes to the migrant category mix (for example, by increasing or decreasing different categories within an overall fixed sized migrant program).

Australia has a non-discriminatory immigration policy, which means that anyone from any country can apply to migrate, regardless of their ethnic origin, gender, colour, or religion.

Migrants are selected in two major categories: Skills and Family, while the Humanitarian category involves resettlement for refugees and for displaced persons who have suffered substantial discrimination amounting to gross violations of their human rights.

The rules for each categories, in general terms, are as follows:

Skilled category

The skilled migrant category includes migrants who have skills or outstanding abilities that will attribute to the Australian economy. The skill category consists of three broad sub-categories:

1. The **Business Skills** migration sub-category is a grouping of all skilled migrants not included in the other skilled sub-categories. The Business Skills sub-category consists of components:
 - **Business Skills Class (BSC)** seeks to attract migrants with a successful business background who will use their skills and experience to set up business ventures, and thus benefit Australia by generally adding to commercial activity and competitiveness within sectors of the Australian economy, transferring capital and creating or maintaining employment. Business owners, senior executives and investors are eligible to apply for a business skills visa. All applicants must meet minimum requirements for core criteria of skill, age and English language ability.
 - **Employer Nomination Scheme (ENS)** enables employees to nominate skilled personnel for permanent entry or stay to fill positions in Australia, which they have been unable to fill from the Australian labour market. Employers are required to provide evidence that an Australian citizen or resident cannot be found to fill the job, and they have made adequate provision for training employees in work relevant to the business. The applicant is required to meet the minimum criteria of skill, age and English language ability.
 - **Regional Sponsored Migration Scheme (RSMS)** enables employers in designated parts of Australia to nominate skilled employees for permanent entry where there are specialist skills needs and regional skill shortages. The position to be filled must be of a skilled nature and the applicant is required to meet the minimum criteria of skill, age and English language ability.
 - **Regional Established Business in Australia (REBA)** allows people who have successfully established a business venture in a designated area of Australia, and who are sponsored by a State/Territory government, to apply for permanent residence.

2. The **Skilled-Independent** sub-category is for applicants who are not sponsored by an employer or relative in Australia. All applicants must meet minimum requirements for core criteria of skill, age and English language ability. Other factors that may be taken into account include Australian qualifications and work experience, fluency in a language other than English, and spouse's skills.
3. The **Skilled-Australian Sponsored** (SAS) sub-category are sponsored by a relative who is an Australian or Australian permanent resident. Relatives who may sponsor are parents, non-dependent children, brothers and sisters and aunts and uncles. All applicants must meet minimum requirements for core criteria of skill, age and English language ability. Other factors that may be taken into account include Australian qualifications and work experience, fluency in a language other than English, and spouse's skills. The **Skilled-Regional Sponsored** (SRS) sub-category is an extension of this program.

Family category

This category involves the migration of immediate family members of Australian citizens, Australian permanent residents, or eligible New Zealand citizens. Immediate family members include partners (spouses, fiancés or interdependent partners), children, parents or other family (aged dependent relative, remaining relative, carer).

Family category migrants are selected on the basis of their family relationship with their sponsor or nominator in Australia. There is no tests for skill or language ability. Family category applicants are assessed on an individual basis and they must meet Australia's health and character requirements.

Humanitarian category

This category consists of an onshore and offshore component, both of which allow Australia to fulfil international obligations and commitments. The off-shore component has three main sub-categories being the Refugee, Special Humanitarian Program (SHP) and Special Assistance Category (SAC) sub-categories. All arrivals must satisfy the criteria concerning refugee or humanitarian cases.