Economic Issues

No. 31

South Australian
Labour Markets:
2000 to 2010

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February 2011

South Australian
Centre for Economic Studies

ISSN 1445-6826

Published by: South Australian Centre for Economic Studies
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Director's Note

Welcome to the thirty first issue of *Economic Issues*, a series published by the South Australian Centre for Economic Studies as part of its Corporate Membership Program. The scope of Economic Issues is intended to be broad, limited only to topical, applied economic issues of relevance to South Australia and Australia. Within the scope, the intention is to focus on key issues – public policy issues, economic trends, economic events – and present an authoritative, expert analysis which contributes to both public understanding and public debate. Papers will be published on a continuing basis, as topics present themselves and as resources allow.

This paper provides "a snapshot" perspective of the South Australian labour market in the most recent decade and considers improvement in recent performance relative to the decade of the 1990s. In that time, South Australia was slow to come out of recession and was burdened with State debt.

It has in prospect, new and emerging industries, but a more highly skilled labour force is a prerequisite to take advantage of opportunities. The large scale, human resource depletion of the retiring baby boomer cohort needs to be addressed, including opportunities this group could make to assist the broader education sector (early childhood education, pre-school and primary school) improve South Australia's poor literacy and numeracy levels.

The authors of this paper are Michael O'Neil, Executive Director and Mark Trevithick, Research Economist at the Centre. The views expressed in the report are the views of the authors.

Michael O'Neil
Executive Director
SA Centre for Economic Studies
February 2011

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Labour Markets in South Australia 2000 to 2010

Overview Key Findings 2000 to 2010

- labour force grew by 120,000 persons (growth of 16.2 per cent) which mirrored Australian labour force growth;
- employment grew by 130,000 persons (growth of 19.0 per cent) which mirrored Australian employment growth;
- employment growth was spread across both full-time (14.0 per cent growth) and part-time (31.7 per cent growth) jobs;
- full-time employment growth was strongest for females at 20.1 per cent;
- full-time employment as a share of total employment declined from 71 per cent to 68 per cent;
- there was continued ageing of the workforce;
- employment shares accounted for by 15 to 24 year olds and 25 to 34 year olds declined;
- employment shares of 55 to 59 year olds increased;
- the participation rate increased from 60.8 per cent to 63.4 per cent;
- female participation increased and male participation remained steady;
- increased population growth although the State still lags behind Australia;
- growth in skilled migration, the State attracted the largest share of SRS migrants out of all the states;
- average annual net overseas migration inflow of 6,387 persons;
- average annual net interstate emigration of 2,688 residents;
- jobs in the manufacturing industry declined by 11,900 and manufacturing's share of employment declined from 14.0 per cent to 10.2 per cent, notwithstanding growth in advanced manufacturing;
- jobs were created in the service sector with 35,600 jobs created in healthcare and community services, 17,800 in property and business services and 17,500 in retail trade.

In an earlier Economics Issues Paper (SACES 2003) we considered trends in the South Australian labour market throughout the 1990s. Analysis revealed a poorly performing and stagnant labour market relative to other Australian States. The reasons for this were discussed in the previous paper. This Economics Issues Paper updates the analysis of South Australia's labour market by examining labour market trends between 2000 and 2010 and then comparing and contrasting these with trends in the 1990s, to provide a 20 year perspective of labour market conditions across the state. Although this paper does not update all of the material in the 2003 paper it provides a relatively comprehensive overview of all the key labour market indicators.

The paper considers the on-going decline of employment in traditional manufacturing and the growth of employment in more labour intensive services such as health care and community services. This trend has implications for the State's training system, public sector/private sector employment and community sector not-for-profit NGOs. South Australia's aging population with the movement of baby-boomers of working age into retirement explains much of this sectors growth and has significant policy implications for state and federal governments.

The structure of this paper is as follows. Section 2 provides a summary of the major economic, demographic and labour market trends for South Australia during the 1990s which were highlighted in Economic Issues Paper No. 5. Next, to put more recent economic, demographic and labour market trends into perspective Section 3 considers contrasting trends between 2000 and 2010 and 1990 to 2000. Finally, Section 4 provides a summary and concluding remarks.

The paper concludes with some suggestions for further research into the South Australian labour market particularly research into productivity and scope for productivity improvements by industry sectors, employment trend in the tradeable sector and the relationship between education, employment/unemployment and population. The new-knowledge economy places a premium on general rates of education and innovation and economic growth is closely correlated with general education levels and the acquisition of generic skills.

1. Introduction

Over the decade to 2010 the South Australian labour market has undergone significant change. Much of the improvement in the labour market can be attributed to favourable economic conditions in the State providing new employment opportunities across a wide range of occupations.

Non-tradeable service industries have experienced the largest increase in aggregate employment with healthcare and community services increasing by 35,600 persons, property and business services by 17,800 persons and retail trade by 17,500 persons. The growth in healthcare and community services sector reflects the growing labour resources needed to care for South Australia's ageing population. South Australia –the "defence state" – has secured a number of defence contracts totalling more than $13 billion. In particular the Air-warfare Destroyer contract valued at $8 billion has created demand for more highly skilled labour due to its capital and skill intensive nature (see SACES 2007). The education sector has also provided growth with international student numbers doubling between 2004 and 2009 (see DIAC 2009).

South Australia is ranked third in mineral exploration expenditure behind Western Australia and Queensland according to 2009 ABS data. In 2007 South Australia accounted for approximately 15 per cent of the total Australian mineral exploration budget. The mining industry is now one of the fastest growing industries in terms of employment (87 per cent growth over the last ten years) and has the potential to generate significant export revenues for the state.

Decline of full-time manufacturing jobs due to strong competition from cheap imports, the removal of import restrictions, a reduction in tariffs and subsidies and more recently the high value of the Australian dollar continues to present structural challenges for the State's labour market. The transition from traditional large scale manufacturing of non-specialised products to high value added manufacturing which demand greater knowledge and skills needs to be supported by higher levels of general (secondary) education, the acquisition of generic skills, substantial improvements in literacy and numeracy and a culture of "investment in yourself". Service sectors have been important in offsetting some of the decline in manufacturing employment, providing new part-time employment opportunities.

In the decade to 2010 South Australia's labour force increased by 120,000 persons (growth of 16.2 per cent) and employment increased by 130,000 (growth of 19.0 per cent. Employment growth was spread across both full-time and part-time jobs, especially full-time female employment, which rose by 20.1 per cent in South Australia compared with 23.0 per cent nationally. Growth of this magnitude represents a reversal of the trends experienced in the 1990s when labour force growth was 25,000 persons (growth of 3.5 per cent) and employment growth was 21,000 persons (growth of 3.2 per cent).

The ageing of South Australia’s workforce is reflected in the reduction of the share of 15 to 34 year olds in the workforce and an increase in the share of 55 to 59 year olds as many baby-boomers move into this age cohort. Increasing immigration is one policy response which can offset the ageing of the workforce by encouraging young overseas skilled workers, particularly from Asia, to migrate permanently to South Australia.

2. South Australian labour market 1990 to 2000

In early 1990 Australia along with most other developed economies entered into a recession. Recovery, in terms of employment growth did not occur nationally until mid-1994, while South Australia’s recovery did not occur until the middle of 1998.

The contraction was particularly severe for South Australia as unemployment peaked at 11.4 per cent compared to 10.7 per cent nationally. The start of the 1990s was thus the beginning of a decade of stagnation in the South Australian labour market.

Box 1

1990 - 2000

- total employment in South Australia rose by only 3.2 per cent compared with a rise of 15.1 per cent for Australia;
- the average unemployment rate in this decade was 9.3 per cent (Australia 8.3 per cent);
- employment growth favoured female employment and part-time employment;
- male part-time employment increased but not by enough to offset the decline in male full-time employment;
- regional areas faced increased competitive pressures from the rationalisation of government services, and enterprises, volatility in commodity prices, globalisation and ongoing technological change;
- South Australia’s share of total population fell to 7.8 per cent by 2000 with a low rate of natural increase, net interstate migration and low overseas migrant intake.

South Australia’s small gain in employment over the decade was entirely due to part-time jobs growth largely in the non-tradeable services sectors, e.g. retail trade, with part-time employment accounting for 43.4 per cent of total employed in this sector. Aggregate full-time jobs declined, especially in manufacturing, with 15,600 jobs lost (13.7 per cent decline) in South Australia over the decade. Employment by gender revealed the continuing trend of women entering the workforce, with total employment (i.e., the sum of full-time and part-time employed) of women increasing by 23,100 (8.4 per cent increase) compared with a decline of 1,900 persons (0.5 per cent decline) for males.

The ageing of the labour force altered the relative shares of different age cohorts. Younger workers aged 15 to 34 years declined and prime aged workers aged 45 to 59 years increased. The growing share of middle aged workers reflects the commencement of the baby-boomer cohort making the transition to middle age.

South Australia’s workforce was less skilled with labourers and related workers making up a larger proportion of the workforce compared with other mainland states. When considering higher skill occupations requiring a bachelor degree, (i.e., professional occupations), South Australia had a smaller proportion of workers in professional occupations compared with other mainland states.

Labour market decline 1990 to 2000

The relatively poor labour market performance followed the recession of the early 1990s, the collapse of the State Bank, the consistent decline in manufacturing, a decline in international exports and weak investment linkages with the international economy and economies of scale effects. Population stagnation resulted from interstate emigration and low net-overseas migration associated with weak economic growth.

- South Australia’s recession was deeper than the rest of Australia in terms of its effect on GSP, employment and unemployment, such that recovery in South Australia took longer;
- average annual real Gross State Product (GSP) growth was well below other Australian states;
- the collapse of the State Bank with a debt in excess of $3 billion impacted well into the next decade;
- throughout the 1990s manufacturing businesses continued to reduce staff and inefficient operations were closed with males working in full-time positions being those most affected;
- weak trade and investment linkages with overseas markets and the State’s more inward orientation compared with the rest of Australia hampered the State’s economic growth over the decade. In 1992/93 international trade in terms of the sum of imports plus exports as a percentage of GSP in real terms was 31.2 per cent compared to 33.3 per cent for Australia;
- South Australia had difficulty attracting overseas migrants to the state during the 1990s. Between 1990 and 2000 net overseas migration contributed a yearly average of approximately 3,200 new residents, while the state lost an average of 3,060 residents per year through net interstate emigration.

3. Comparison of trends

Economic trends

Trends in real GSP provide a measure of the growth in total output of goods and services in the economy. The faster the rate of increase in real GSP the greater will be the demand for labour and trends in GSP per capita can be used as a measure or proxy for living standards.

Economic growth 1990 to 2000 and 2000 to 2010

- real annual GSP growth averaged 2.0 per cent in South Australia and 3.4 per cent nationally (1990-2000);
- real annual GSP growth averaged 2.9 per cent in South Australia and 3.1 per cent nationally (2000-2010);
- South Australia's real GSP/worker closely matched Australia's real GDP/worker over each of the decades.

GSP trended upward for South Australia and Australia between 2000 and 2010. In four out of ten years during the recent decade South Australia outperformed the national economy. An examination of GSP/worker in South Australia shows growth in output per worker either matched or surpassed Australia's growth in GDP/worker (Figure 2).

Figure 1
Index of Gross State Product/Gross Domestic Product
South Australia and Australia – 1989/90 to 2008/09

Source: ABS Australian National Accounts – State Accounts (Cat. No. 5220.0).

Figure 2
Index of Gross State Product/Gross Domestic Product per Worker
South Australia and Australia – 1989/90 to 2008/09

Source: ABS, Australian National Accounts – State Accounts (Cat. No. 5220.0) and Labour Force, Australia, (Cat. No. 6202.0).

Demography

Strong economic growth in Australia has typically been accompanied by consistent population growth. Population growth can occur through natural increase or migration including interstate migration or overseas migration. Migration patterns reflect relative business cycles between regions so that labour moving away from South Australia would indicate the economy is not performing as well relative to other regions in Australia.

Evidence for this is obtained from ABS trend data indicating that localised factors including lower workforce participation rates, higher unemployment and slower population growth impact on both labour demand and labour supply.

Population growth 1990 to 2000 and 2000 to 2010

1990-2000

- annual average increase of 0.54 per cent in South Australia compared to 1.19 per cent for Australia;
- average annual net interstate emigration from South Australia was 3,060 residents;
- average annual net overseas migration inflow to South Australia was 3,200 persons.

2000-2010

- annual average increase of 0.80 per cent in South Australia compared to 1.46 per cent for Australia;

- average annual net interstate emigration from South Australia was 2,688[1] residents;
- average annual net overseas migration inflow to South Australia was 6,387[2] persons.

South Australia's average annual population growth was approximately half the national average during the 1990s (see Figure 3). This is attributed to several factors; the first being the older age structure of the population where there are fewer females of child bearing ages. The second factor which better explains the slower population growth is the State's weaker economy and lack of employment opportunity relative to other states, making the task of attracting skilled migrants difficult.

Figure 3 shows net overseas migration provided an annual average inflow of 3,200 migrants in the period 1990-2000, an insignificant share of the total migration intake across Australia. In 1995 a record 7,845 workers left the state and an average of 3,060 South Australians emigrated annually over the decade. Given South Australia's small population size these represent significant outflows.

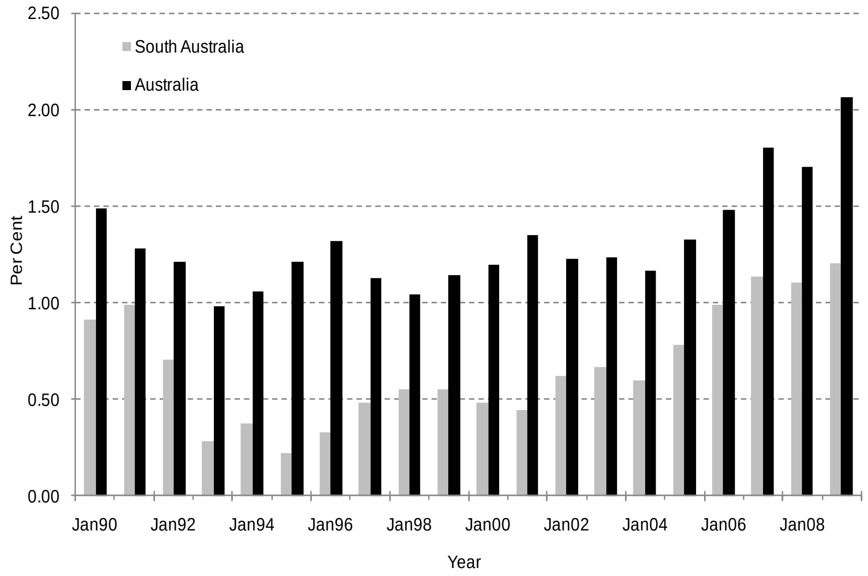
South Australia's population grew at a faster rate between 2000 and 2010 compared with the 1990s due to a greater average annual intake of overseas migrants. Factors such as changes to visa application rules i.e., the introduction of the SRS visa program as well as the growth of international student numbers and greater skilled migration help to explain the increase in net-overseas migration.

On 1st July 2004 the Commonwealth Government introduced the Skilled Regional Sponsored (SRS) visa program (see SACES 2010) which only requires a visa points score of 100, as opposed to the standard 120 points.[3] South Australia is classified as a low population growth area and Adelaide is the only mainland capital city which can accept SRS visa holders.

Overseas students are included in net-overseas migration figures if they stay in South Australia for more than twelve months. Data from DIAC shows the stock of international students in South Australia doubled between 2004 and 2009. Many students express a desire to remain in Australia permanently after completing their studies using the skilled migration program. A report by Education Adelaide found that 45 per cent of skilled migrants are former students. Thus overseas students are an important source of skilled labour for the state.

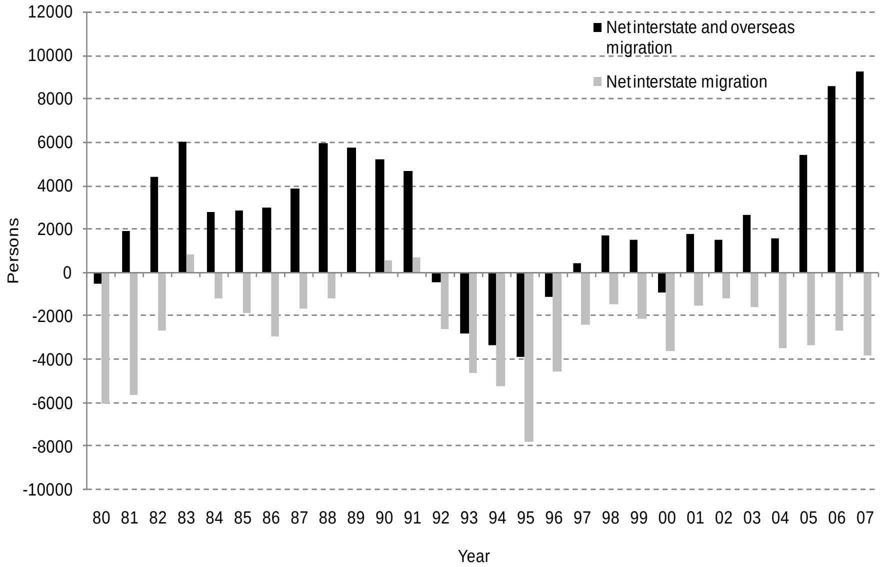
Figure 4 shows net interstate and net interstate and overseas migration for South Australia. Net-overseas migration was 13,061 persons in the last year shown (2007). More recent data from the DIAC (2009)[4] shows net overseas migration increased further to 17,073 for the year 2008/09[5] of which 9,069 persons were skilled migrants.

Figure 3
Annual Percentage Growth in Total Population
South Australia and Australia – 1990 to 2009, Annual Average



Source: ABS, Population by Age and Sex, (Cat. No. 3201.0).

Figure 4
Net Interstate Migration & Net Interstate and Overseas Migration
South Australia – 1980 to 2007, Annual Data



Source: Australian Historical Population Statistics 2008, (Cat. No. 3105.0.65.001).

Employment by industry

Broadly speaking employment by industry can be classified under manufacturing, services or agriculture. The human and professional services and knowledge based economy sector continue to expand relative to the more traditional, large scale, manufacturing sectors. Agriculture continues to employ only a small fraction of the workforce.

Employment by industry 1990 to 2000 and 2000 to 2010

- employment in manufacturing declined and employment in services increased between 1990 and 2000;
- further decline in manufacturing and continued growth in services up to 2010.

Employment by industry category in South Australia continued the drift from manufacturing towards service industries throughout the 1990s (see Table 1).

In 1990 the manufacturing sector in South Australia comprised 17.4 per cent of total employment making it the state's largest employer. By the year 2000 manufacturing's share of employment had fallen to 14.0 per cent, an aggregate loss of 15,600 jobs over the decade. A further 11,900 jobs were lost between 2000 and 2010 such that manufacturing's share of employment in the economy fell to 10.2 per cent.

Much of the 1990s was characterised by the closure or relocation of manufacturing operations away from the state. Manufacturing operations most impacted in the 1990s included white goods assembly of refrigerators, cooking-stoves, ranges and washing machines and car component manufacture. Car components were increasingly sourced from Asia where labour costs are lower. Manufacturing of non-specialised goods using low skilled and labour intensive processes was most affected by the removal of trade barriers, subsidies and import restrictions. Relative wages between Australia and China mean that automotive parts produced in Australia can in some cases be up to ten times more expensive than the exact same part produced in China. The implication is that traditional manufacturing of this type will play a declining role in the South Australian economy.

Service industries such as accommodation, cafes and restaurants and property and business services offset some of the decline in employment from manufacturing. Employment within these industries increased by 38.3 per cent and 55.2 per cent respectively. By 2010 the service sectors of retail trade and property and business services surpassed manufacturing in terms of total employment comprising 11.4 per cent and 11.1 per cent of total employed respectively.

It should be noted that some manufacturing sectors in South Australia (both traditional and high value added) are growing strongly. South Australia has a burgeoning wine industry which requires manufacturing plants to process and bottle the wine. Plant and equipment is highly automated and mechanised with a relatively high capital to labour ratio and investment in a skilled workforce. The state's resources industry has rapidly growing employment in minerals processing and the defence industry is employing highly skilled workers to produce the country's new Air-warfare Destroyers. Employment in manufacturing is shifting towards high value added products which require a well educated and highly skilled workforce. The decline in manufacturing shown in Figure

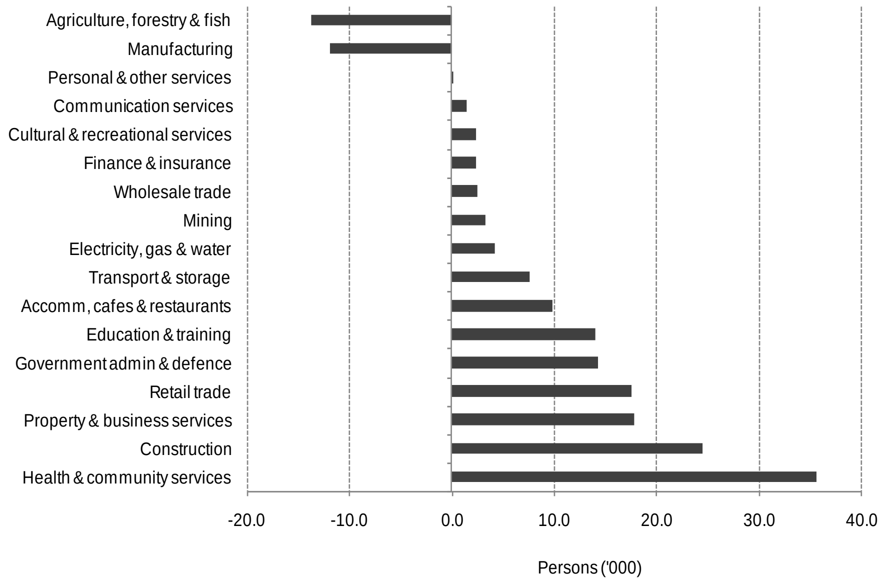
Table 1
Employment by Industry
South Australia – 2000 and 2010, Total and Percentage Changes

	South Australia					Australia				
	Persons employed ('000)		Per cent of total employment		Change in employment (Per cent)	Persons employed ('000)		Per cent of total employment		Change in employment (Per cent)
Industry	**2000**	**2010**	**2000**	**2010**	**2000-2010**	**2000**	**2010**	**2000**	**2010**	**2000-2010**
Agriculture, forestry & fish	51.1	37.4	7.5	4.6	-26.8	440.0	373.5	4.9	3.3	-15.1
Mining	3.7	7.0	0.6	0.9	86.8	79.1	185.8	0.9	1.7	134.8
Manufacturing	94.8	82.9	14.0	10.2	-12.6	1078.9	998.5	12.1	9.0	-7.5
Electricity, gas & water	6.6	10.8	1.0	1.3	63.2	80.0	143.1	0.9	1.3	78.9
Construction	44.4	68.8	6.6	8.5	55.0	690.4	1013.0	7.7	9.1	46.7
Wholesale trade	26.6	29.1	3.9	3.6	9.2	380.5	423.1	4.3	3.8	11.2
Retail trade	74.6	92.1	11.0	11.4	23.5	1001.9	1201.2	11.2	10.8	19.9
Accomm, food services	44.7	54.5	6.6	6.7	21.9	627.5	750.6	7.0	6.7	19.6
Transport & storage	29.1	36.7	4.3	4.5	26.1	459.0	577.1	5.1	5.2	25.7
Communication services	13.5	15.0	2.0	1.9	11.0	224.0	214.6	2.5	1.9	-4.2
Finance & insurance	20.8	23.2	3.1	2.9	11.6	332.5	404.2	3.7	3.6	21.5
Property & business services	71.7	89.5	10.6	11.1	24.8	1064.8	1429.4	11.9	12.8	34.2
Government admin & defence	38.2	52.5	5.6	6.5	37.4	485.8	697.3	5.4	6.3	43.5
Education	48.8	62.8	7.2	7.8	28.7	633.7	845.1	7.1	7.6	33.4
Health & Community Services	69.4	105.0	10.2	13.0	51.2	836.5	1240.3	9.3	11.1	48.3
Cultural & recreational services	9.3	11.7	1.4	1.4	25.5	140.2	195.2	1.6	1.7	39.2
Personal & Other Services	29.8	29.7	4.4	3.7	-0.2	396.5	462.3	4.4	4.1	16.6
Total	**677.1**	**808.6**	**100.0**	**100.0**	**19.4**	**8951.3**	**11154.3**	**100.0**	**100.0**	**24.6**

Source: Labour Force, Australia, Detailed, Quarterly, August 2010 (Cat. No. 6291.0.55.003).

5 is due primarily to the decline of traditional manufacturing of non-specialised goods.

Figure 5
Change in Employment by Industry
South Australia – 2000 to 2010, Annual Average



Source: Labour Force, Australia, Detailed, Quarterly, August 2010 (Cat. No. 6291.0.55.003).

The twenty year employment profile summarised in the two contrasting decades illustrates several important long run trends in agriculture and manufacturing; a) improvements in labour and total factor productivity in these sectors; b) long run trend of improvements in technology and production systems providing internal scale economies, and c) higher output and reductions in sector employment.

The other important consideration is the increase in employment in the **public services** sectors of the economy that are labour intensive, that are dependent on an "amount of labour" (e.g., nurse/patient ratio, student/teacher ratio), and where the quality of labour is important, an increase in demand for public services imposes on government rising costs in terms of direct and indirect wage costs. What are the implications of the change in employment by industry shown in Figure 5 for government, for fiscal budgets and long term liabilities (e.g., pensions, etc)?

As employment shifts to labour intensive public services and the service sector more generally, the "quality and quantity" of labour becomes the principal focus of attention (e.g., recent incentives for non-performing teachers to leave the profession). The "services" sector is measured in terms of people and the quality of service: the quality of aged care/child care, the number of child protection officers, the quality of the teaching workforce. There will be even more significant demand for a skilled labour force because, as Baumol notes[6] labour in these services is "the end in itself", whereas in manufacturing and other industries "labour is primarily an instrument – an incidental requisite for attainment of the final product."

The labour intensive nature of public sector employment necessitates constant organisational reform, review of functions and improved efficiency of government services (e.g., time saving (perhaps life saving) electronic online health services data, improved market regulation while shifting functions to the private sector, NGOs, etc).

Labour market

The labour force consists of all persons aged over 15 years who are either employed or unemployed but actively seeking work. The size of the labour force can be increased through improving the participation rate (i.e., more people actively seeking employment) or through population growth. A growing population due to high levels of net-overseas migration and net-interstate migration also increases the size of the labour force as migrants are typically aged 20 to 40 years old and actively seek to enter the workforce. Natural increase also expands the size of the labour force but any growth in natural increase today will take several decades to have any impact on the size of the labour force.

Labour force 1990 to 2000 and 2000 to 2010

1990-2000

- South Australia's labour force expanded by 25,000 persons, an increase of 3.5 per cent, the national labour force expanded by 14.7 per cent;

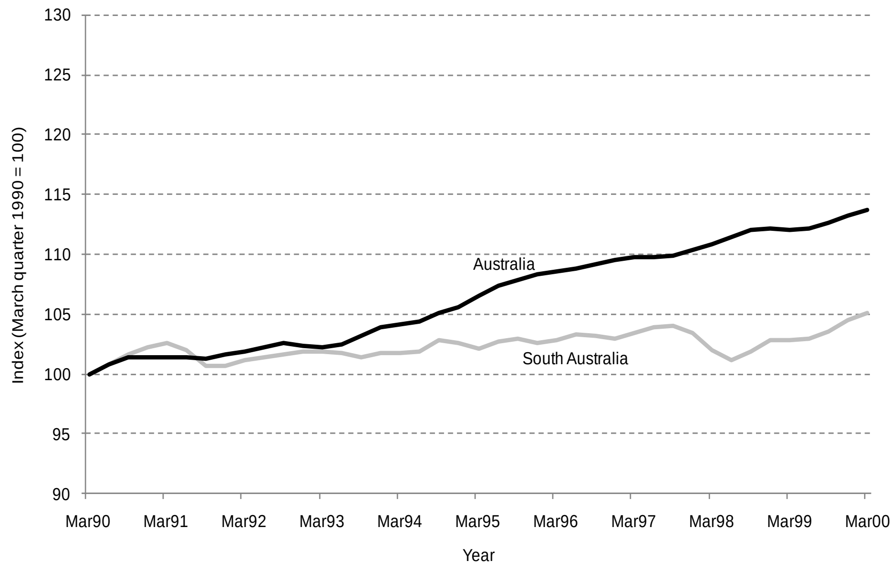
2000-2010

- South Australia's labour force expanded by 120,000 persons, an increase of 16.2 per cent, the national labour force expanded by 23.4 per cent.

Australia's recovery from the recession was a gradual process; the national labour force grew strongly from the middle of 1993. In South Australia there was no recovery with South Australia's labour force growing slower than the national labour force for much of the 1990s, see Figure 6.

The sudden fall in the South Australian labour force around the June quarter of 1998 is likely to be a statistical aberration and not considered to be an accurate reflection of actual labour market conditions at this time[7]. The true fall in the labour force is likely to have been shallower. However, in spite of this statistical aberration the general trend of stagnation in the South Australian labour market can still be clearly seen.

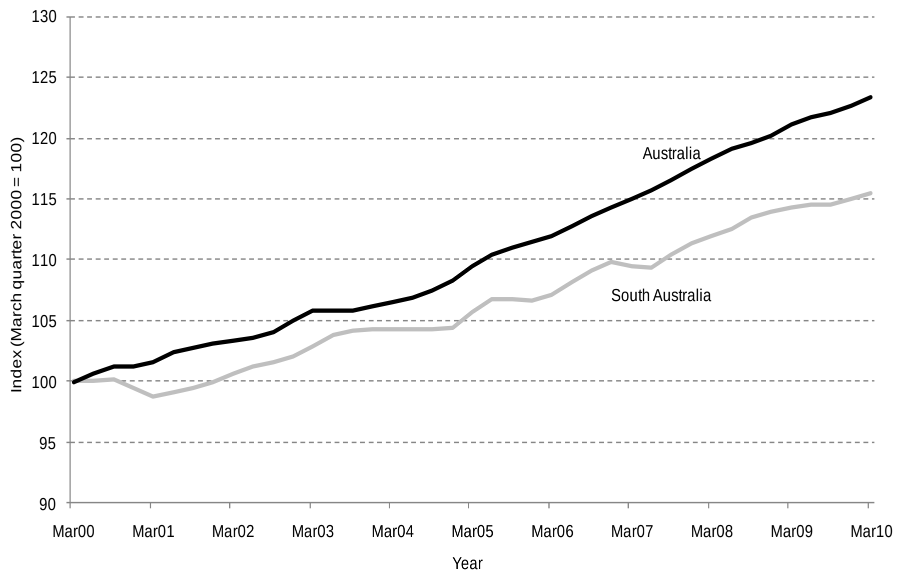
Figure 6
Index of Labour Force Growth
South Australia and Australia – 1990 to 2000, Trend Series, Quarterly Average



Source: ABS, Labour Force, Australia, (Cat. No. 6202.0).

Comparing Figure 6 with Figure 7 shows the South Australian labour force more closely mirrored the growth in the Australian labour force between 2000 and 2010 reversing the trend of stagnation experienced in the 1990s.

Figure 7
Index of labour force growth
South Australia and Australia – 2000 to 2010, Trend Series, Quarterly Average



Source: ABS, Labour Force, Australia, (Cat. No. 6202.0).

Employment growth 1990 to 2000 and 2000 to 2010

1990-2000

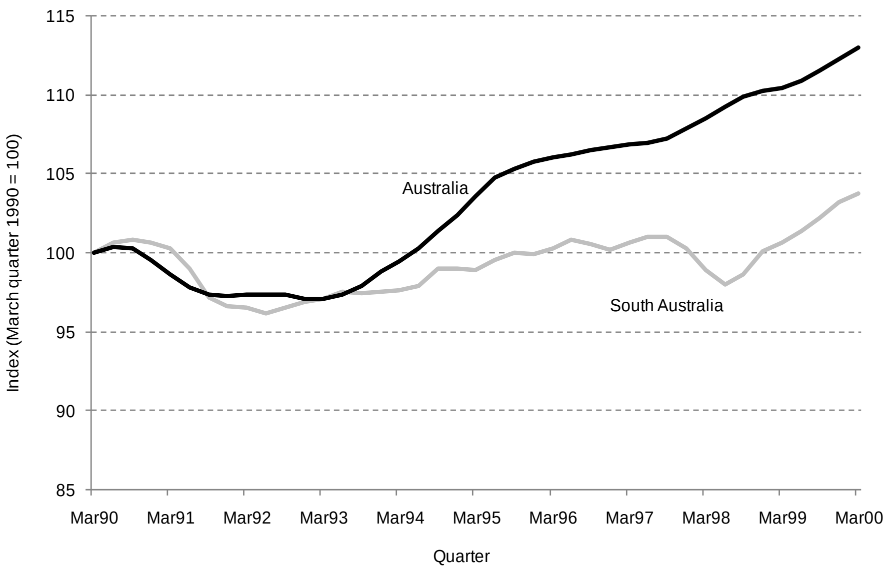
- total employed persons in South Australia increased by 21,000 an increase of 3.2 per cent compared to a 15.1 per cent increase in national employment,

2000-2010

- total employed persons in South Australia increased by 130,000 an increase of 19.0 per cent compared to a 23.4 per cent increase in national employment.

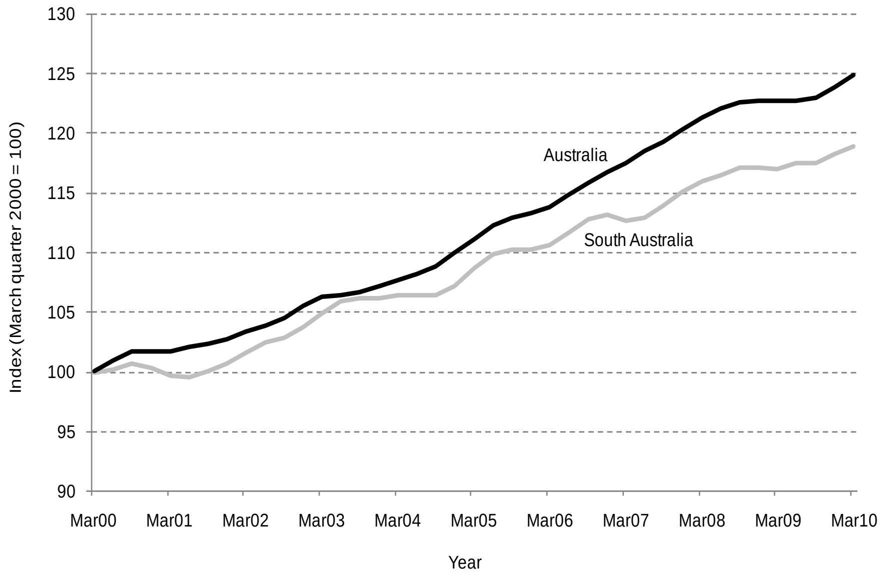
Figure 8 shows both the South Australian and Australian economy experienced a decline in employment due to the recession in the early part of the decade (1992/93). Recovery, in terms of employment growth, occurred in Australia by the middle of 1993. However, recovery in South Australia did not occur until the middle of 1998, after which time employment growth was commensurate with Australia. Thereafter, and towards 2010, employment growth was broadly in line with that for Australia (Figure 9).

Figure 8
Index of Growth in Total Employment
South Australia and Australia – 1990 to 2000, Trend Series, Quarterly Average



Source: ABS, Labour Force, Australia (Cat. No. 6202.0).

Figure 9
Index of Growth in Total Employment
South Australia and Australia – 2000 to 2010, Trend Series, Quarterly Average



Source: ABS, Labour Force, Australia (Cat. No. 6202.0).

Full-time and part-time employment 1990 to 2000 and 2000 to 2010

1990-2000

- part-time employed persons in South Australia increased by 25.6 per cent and full-time employed persons declined by 3.8 per cent;
- part-time employed persons in Australia increased by 42.5 per cent and full-time employed persons increased by 7.7 per cent;
- full-time employment's share of total employment in South Australia declined from 76 per cent to 71 per cent; nationally the share declined from 79 per cent to 74 per cent.

2000-2010

- part-time employed persons in South Australia increased by 31.7 per cent and full-time employed persons increased by 14.0 per cent;
- part-time employed persons in Australia increased by 40.8 per cent and full-time employed persons increased by 24.7 per cent;
- full-time share of total employment in South Australia declined from 71 per cent to 68 per cent; nationally the share declined from 74 per cent to 70 per cent.

Throughout the 1990s females made up the bulk of part-time employees and the vast majority of males were employed full-time. However, growth in male part-time employment in South Australia rose by 69.8 per cent compared with 14.3 per cent for females in this decade. The creation of additional part-time jobs for males came at the expense of full-time jobs, particularly in manufacturing. At the national level employment growth for males and females in both full-time and part-time work was stronger than in South Australia.

The trend between 2000 and 2010 showed females continued to make up the bulk of part-time employees. Part-time employment growth for males in percentage terms was 35.3 per cent which is less than the growth rate of the 1990s, while for females part-time employment grew by 30.3 per cent exceeding the 1990s growth rate. At the national level trends in employment growth showed slightly stronger increases than South Australia.

Full-time employment as a share of total employment continued to decline in South Australia and Australia**.**

Table 2
Components of Employment Growth
South Australia and Australia – 2000 to 2010, Annual Average

	South Australia			**Australia**		
	Number ('000)		**Per cent change 2000 - 2010**	**Number ('000)**		**Per cent change 2000 - 2010**
	2000	**2010***		**2000**	**2010***	
Male						
Full-time	327.9	364.1	11.0	4378.6	5111.5	16.7
Part-time	54.3	73.5	35.3	648.5	1013.1	56.2
Total	382.2	437.6	14.5	5027.1	6124.6	21.8
Female						
Full-time	155.5	186.8	20.1	2236.8	2752.3	23.0
Part-time	142.1	185.1	30.3	1727.4	2331.9	35.0
Total	297.6	371.9	25.0	3964.2	5084.2	28.3
Persons						
Full-time	483.4	550.9	14.0	6615.4	7863.8	18.9
Part-time	196.4	258.6	31.7	2375.9	3345.0	40.8
Total	679.8	809.5	19.1	8991.3	11208.8	24.7

Note: * 2010 figures are the average employment for the 10 months from January 2010 to October 2010.
Source: ABS, Labour Force, Australia (Cat. No. 6202.0).

Employment by age 1990 to 2000 and 2000 to 2010

1990-2000

- employment shares accounted for by 15 to 24 year olds and 25 to 34 year olds declined in both South Australia and Australia;
- employment shares accounted for by 45 to 54 year olds and 55 to 59 year olds increased in both South Australia and Australia.

2000-2010

- employment shares accounted for by 15 to 24 year olds and 25 to 34 year olds in South Australia and Australia continued to decline;
- employment share of 45 to 54 year olds remained constant in South Australia and Australia, the employment share of 55 to 59 year olds rose in South Australia and Australia.

Employment shares by age cohort are strongly influenced by the population pyramid, health and related dynamics of the aging population. Both the employment share of 15 to 34 year olds and the aggregate number of 15 to 34 year olds employed in South Australia declined in the

1990s as the number of younger workers in the population pyramid declined.

The share of employment accounted for by 15 to 34 year olds continued to decline between 2000 and 2010 although the aggregate number in this employed cohort increased. The prime age group aged 45 to 54 years maintained their share of employment while the 55-59 year old category increased their share of employment. Those aged 55+ represented 11.2 per cent of the employed workforce in 2000 and by the end of the decade this figure had risen to 18.0 per cent.

Table 3
Employment by age group
South Australia and Australia – 2000 to 2010, Annual Average

	Total employment		Share of total employment		Per cent Change in Total Employment
Age group	**2000**	**2010***	**2000**	**2010***	**2000-2010**
South Australia					
15-24	119.6	136.8	17.6	16.9	14.4
25-34	154.3	161.5	22.7	20.0	4.6
35-44	173.0	179.1	25.5	22.1	3.5
45-54	156.3	185.7	23.0	23.0	18.8
55-59	43.9	74.9	6.5	9.3	70.7
60-64	20.2	48.6	3.0	6.0	140.9
65+	12.0	22.3	1.8	2.8	86.7
Total	679.3	808.9	100.0	100.0	19.1
Australia					
15-24	1,618.9	1,905.7	18.0	17.0	17.7
25-34	2,170.9	2,485.5	24.2	22.2	14.5
35-44	2,274.3	2,515.0	25.3	22.5	10.6
45-54	1,963.9	2,450.8	21.8	21.9	24.8
55-59	553.3	923.5	6.2	8.2	66.9
60-64	262.3	607.2	2.9	5.4	131.5
65+	145.1	313.6	1.6	2.8	116.2
Total	8,988.6	11,201.3	100.0	100.0	24.6

Note: * 2010 figures are the average employment for the 10 months from January 2010 to October 2010.
Source: ABS, Labour Force, Australia (Cat. No. 6291.0.55.001).

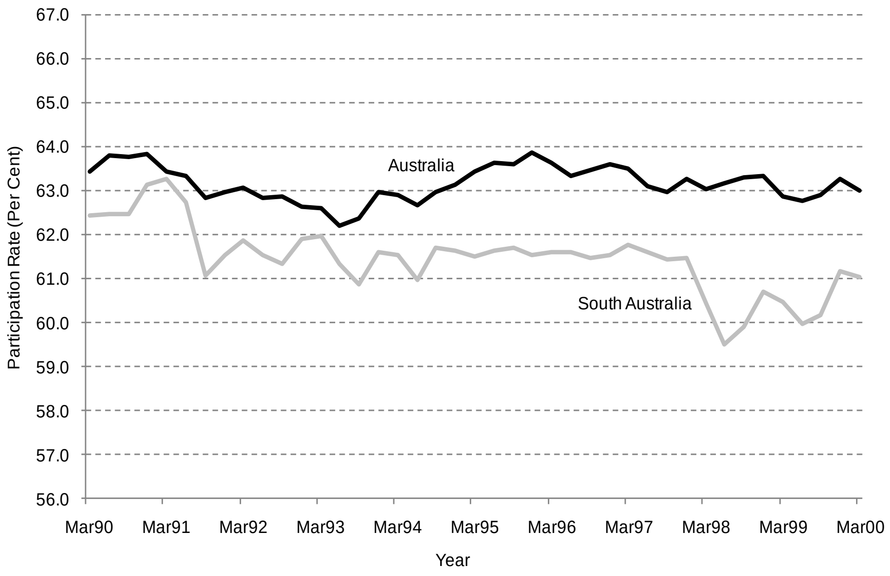
Participation rate 1990 to 2000 and 2000 to 2010

- the South Australian labour force participation rate declined from 62.6 per cent in 1990 to 60.8 per cent by 2000;
- the participation rate increased from 60.8 per cent in 2000 to 63.4 per cent by the end of 2010 in South Australia.

South Australia's participation rate remained below the Australian rate throughout the 1990s, (Figure 10). In brief, causes included the discouraged worker effect, high levels of debt as a result of State Bank losses and more buoyant economic conditions in other states. Female participation increased as women entered the labour force, particularly in part-time employment.

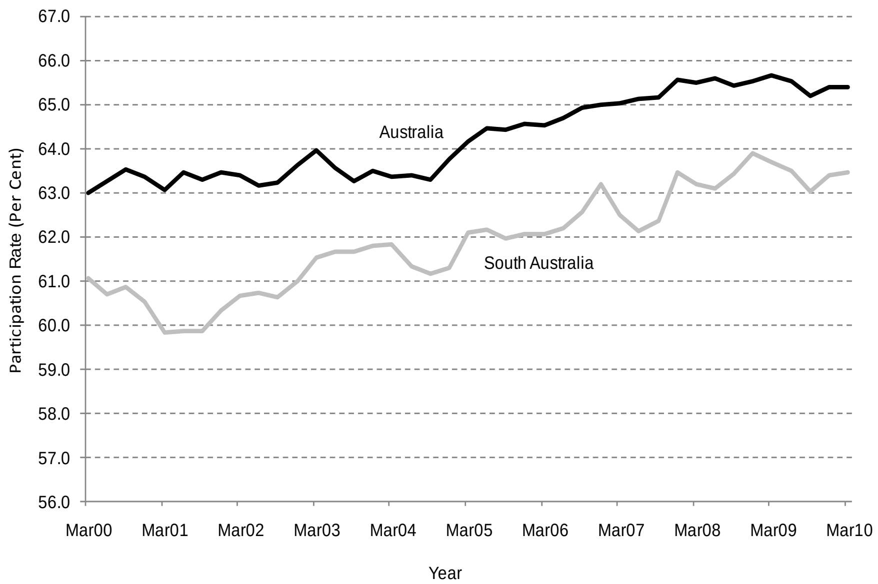
More positively, South Australia's participation rate reversed the downward trend of the 1990s increasing in line with the national participation rate between 2000 and 2010 (Figure 11). Female participation increased further from 1990 levels while male participation remained steady.

Figure 10
Trends in Participation Rates:
Persons Aged 15 Years and Over
South Australia and Australia – 1990 to 2000, Quarterly Average



Source: ABS, Labour Force, Australia (Cat. No. 6291.0.55.001).

Figure 11
Trends in Participation Rates:
Persons Aged 15 Years and Over
South Australia and Australia – 2000 to 2010, Quarterly Average



Source: ABS, Labour Force, Australia (Cat. No. 6291.0.55.001).

Employed persons by occupation

A brief comment only: Occupational profiles take a considerable time to change in line with changes in the economic structure of an economy, such as a decline in manufacturing employment and a rise in industries and occupations that require post-school tertiary qualifications. In 2001, South Australia possessed a smaller proportion of professionals and larger proportion of labourers or related workers relative to Australia. Notwithstanding, the proportion of the workforce classified as "professionals" increased in both South Australia and Australia between 1991 and 2001. Thereafter, and between 2001-2006 persons employed as professionals and managers continued to increase. The proportion of those employed as community and personal service workers in South Australia is well above that for Australia (and consistently so) although it is difficult to find the reason as to why this is the case.

Table 4
Employed Persons by Occupation
South Australia and Australia - 2006

	South Australia		**Australia**	
Occupation	**Number**	**Per cent**	**Number**	**Per cent**
Professionals	127,152	18.7	1,806,010	19.8
Clerical and Administrative Workers	100,238	14.8	1,365,805	15.0
Technicians and Trade Workers	97,724	14.4	1,309,258	14.4
Managers	92,580	13.6	1,202,267	13.2
Labourers & Related Workers	85,884	12.6	952,520	10.5
Sales Workers	66,441	9.8	896,208	9.8
Community and Personal Service Workers	65,099	9.6	801,906	8.8
Machinery Operators and Drivers	44,088	6.5	604,616	6.6
Total	**679,206**	**100.0**	**8,938,590**	**100.0**

Source: ABS, Census data online.

4. Conclusion

This paper has compared and contrasted trends in the South Australian labour market over the last two decades. The performance of South Australia's labour market improved significantly between 2000 and 2010 in comparison to the 1990s.

Localised economic factors have been shown to have had a significant impact on the labour market. Stronger growth in GSP has supported stronger employment growth and encouraged population growth drawing skilled migrants from overseas to the state. Between 2000 and 2010 South Australia's labour force expanded by 120,000 persons and employment grew by 130,000 persons with significant increases in both male and female full-time and part-time employment. This is a contrast to the 1990s in which labour force and employment growth were approximately one-fifth of the numbers quoted above

Employment growth between 2000 and 2010 was closely linked to key industries such as defence, mining exploration and production, and education and health services. Manufacturing employment continued to decline through to 2010. The impact from lost manufacturing jobs was lessened by the creation of part-time jobs in service sectors such as business services and retail trade.

The aging of South Australia's workforce continued with the share of younger age cohorts i.e. 15 to 34 year olds declining and the employment share of the older baby-boomer cohort steadily increasing.

In prospect, is a potential human resource depletion from retirement of the baby boomer cohort (consider the staggering cumulative investment in human capital in this age group over the last 35-40 years) on a very large scale if constructive, clever and incentive-based, personal and financially rewarding policy changes are not forthcoming, that continue to utilise and tap into knowledge, experience and potential contribution of the baby boomers. What contribution could they make to improving literacy and numeracy in the pre-school and early school year cohort; in adult education services; in a paid, or tax free or volunteer capacity?

Skilled migration has helped to offset the ageing of the workforce by bringing in young and skilled labour from overseas using special visas such as the SRS visa which entitles migrants to settle in low population growth regions.

Between 2000 and 2010 the State's overall labour force participation rate increased but is still below the Australian average, female participation increased and male participation remained steady. South Australia has a lower skilled labour force than Australia possessing a larger proportion of labourers and related workers and smaller proportion of skilled professionals although there is some evidence the skill gaps are narrowing.

Further research into productivity improvements (average value-added per employed person) would help to inform key drivers of growth in the South Australian economy. The ratio of public sector employment to private sector and an assessment of comparative ratios, including *inter alia* employment to export propensities, employment to population ratios and employment to education levels would be helpful in framing public policies. These should also be undertaken on the state uniform regional boundary spatial dimension because the regions (and they are the appropriate scale for analysis) are characterised by different industries, different national resource endowments and different education, employment and labour force participation rates.

While infrastructure is one factor contributing to economic growth, it is not the principal factor. The extent of interstate and overseas trade and investment in human capital are key drivers of economic growth and closer analysis of these factors should be the subject of further research.

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End Notes

1 Based on net-interstate migration data from 2000 to 2007, Australian Historical Population Statistics, 2008.

2 Based on net-overseas migration data from 2000 to 2007. , Australian Historical Population Statistics, 2008.

3 For most general skilled migration visas the success of your application is decided by a points test. Certain factors are taken into account such as: nominated skilled occupation, age, English language ability, specific work experience, Australian work experience, Australian qualifications, occupation in demand (see migration occupation in demand list), regional Australia study, partner skills, state or territory nomination, eligible relative sponsorship and designated language. Different factors, depending on their desirability to the Australian economy are awarded different points (see Fact Sheet 25 – Skilled Categories, DIAC for an overview of how points are awarded).

4 DIAC Population Flows: Immigration Aspects 2008/09 Edition, Chapter 8.

5 DIAC data is measured over the financial year e.g. from 1st July 2008 to the 30th June 2009. ABS data spans the entire year i.e. from January 1st to December 31st. Numbers from each source are not directly comparable but the discrepancy between ABS net-overseas migration data and the DIAC net-overseas migration data is small.

6 Baumol, W., "Macroeconomics of Unbalanced Growth: The Anatomy of Urban Crisis", in *Is Economics Relevant* by Heilbroner, R and Ford, M (eds.), p. 109.

7 For a discussion on the nature of the statistical aberration see July Economic Briefing Report, 1998, Chapter Four: Employment and Wages, and the corresponding chapter in later Economic Briefing Reports.