



Economic Issues

**The Aged Structure of the
Population and Economic Growth –
Does it Matter?**



Economic Issues

No. 47

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Executive Director's Note

Welcome to the forty seventh 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 debate. Papers will be published on a continuing basis, as topics present themselves and as resources allow.

In this paper we investigate the age distribution of the South Australian population and ask what does it imply for public policy, for the labour force and employment and for gross state product. Shifts in the employment to population ratio, including by gender, and higher dependency ratios provide important insights into policy challenges facing South Australia including a consistent and unwavering policy emphasis on skills formation and training, increasing the labour force participation rate and the need to re-think and develop the strategic capacity of local government to partner with state and federal government.

The authors of this paper are Associate Professor Michael O'Neil (Executive Director, SACES) and Lauren Kaye (Research Economist, SACES). The views expressed in the report are the views of the authors.

Michael O'Neil
Executive Director
SA Centre for Economic Studies
February 2016

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Introduction

In this paper we consider the composition of the population of South Australia and ask whether the structure of the population contains implications for the economy and society? What does the age distribution or population profile imply for public policy, economic output and the challenge of employment, unemployment, skills and human capital formation? Does the population growth rate matter at all? We accept the fact that the population is ageing, that there are implications for trends in consumption expenditure, retirement incomes and pensions, the preferred composition of migration programs, dependency ratios and that an ageing population will generate new demands and create new markets.

In this paper we take a uniquely South Australian perspective as our prime interest is the extent to which the South Australian economy has been affected by the rate of population growth and changes in demographic structure and what implications this has for the future. At various times we compare data for South Australia with Victoria, in part because the two states have a long history of excellence in manufacturing (including defence manufacturing) and high levels of employment in that sector of the economy, while both states are in the process of trying to add to and diversify their economic base.

The paper commences with an examination of general population trends and demographic change to consider to what extent previous financial and economic 'shocks' are still being felt today in South Australia. We then provide a snapshot of trends in migration, review changes in the labour market and conclude with a discussion of policy options for the future.

Population growth

In the 33 years from 1981/82 to 2013/14 the total population of South Australia increased by a little over 350,000 or some 26.6 per cent from the 1981/82 baseline (average of estimated residential population for four quarters in Table 1). In comparison the population of Victoria increased by approximately 1.82 million people or 45.9 per cent above the 1981/82 baseline. The population of Australia increased by approximately 8.26 million people or 54.7 per cent over the same period.

Table 1: Financial year average estimated resident population by state, selected years

	South Australia	Victoria	Australia
1981/82	1,326,547	3,974,857	15,087,185
1985/86	1,378,257	4,145,532	15,930,029
1989/90	1,427,182	4,356,226	16,969,881
1993/94	1,461,764	4,468,883	17,745,087
1997/98	1,480,445	4,593,043	18,539,681
2001/02	1,508,599	4,798,245	19,416,032
2005/06	1,547,380	5,034,729	20,351,342
2009/10	1,621,132	5,431,099	21,912,390
2013/14	1,679,595	5,800,986	23,347,167

Source: Australian Bureau of Statistics, Australian Demographic Statistics, December 2014 Cat. no. 3101.0 Table 4 Estimated Resident Population, States and Territories.

Over the period shown in Table 1 the South Australian population grew at an average annual rate of 0.74 per cent, the Victorian growth rate was 1.19 per cent and the Australian growth rate was 1.37 per cent.

The respective population growth rates then transmit into different relative population size, so that in 1981/82 the population of Victoria was approximately 3 times the size of South Australia's population, by 2001/02 it was 3.2 times and by 2013/14 it was 3.45 times that of South Australia. (Australia compared to South Australia at the same time periods: 11.4 times; 12.9 times; 13.9 times).

When did this population gap begin to emerge, why did it emerge and why does it persist?

While South Australia's population growth rates have been consistently below those of Victoria and Australia over the 33 years of data (Table 2) the sharpest decline in the State's growth rate followed the financial collapse of the State Bank in 1991 and the restructuring of much of the manufacturing sector. The late 1980s and early 1990s were also a period in which a number of headquartered companies and major offices of others were closed in South Australia and a wave of manufacturing enterprises also closed their doors.

State Bank collapse ‘not to blame’ for current malaise¹

“In a recent article the author noted a “storm of economic shocks struck South Australia in the final decade of the last millennium of which the State Bank was the most tangible and memorable. Strong growth which had been locked in since WWII ... trailed off. It has never quite come back since”.

We agree with the author that the State Bank collapse was not to blame for today’s troubles. However, this and other events led to a significant outflow of younger, well-educated jobseekers and young families and the current imbalance in the aged structure of our population is a legacy of that history.

Most noticeably in the two periods 1993/94–1997/98 and 1997/98–2001/02 South Australia’s population growth rates were less than half those of Victoria and Australia. This was largely due to sharply reduced overseas immigration and increased emigration interstate. The dominant cohorts of those who left South Australia were young people and young families. They did not return and they married and/or had children adding to other states’ younger aged profile while depleting our own. Some 25 years on in 2016 from the State Bank crisis (1991) and the hollowing out of mass assembly manufacturing, the effects on the age profile are evident. In the decade following the State Bank crisis the age cohorts 15–19, 20–24, 25–29 and 30–34 years all declined in aggregate numbers and the effect of this change is still evident in our current age demographic profile (Appendix Table A.1). Thus began the first wave of structural change in the age profile of the local population.

Table 2: Four yearly population compound annual growth rates, South Australia, Victoria and Australia, per cent

Years	South Australia	Victoria	Australia
1981/82 - 1985/86	0.96	1.06	1.37
1985/86 - 1989/90	0.88	1.25	1.59
1989/90 - 1993/94	0.60	0.64	1.12
1993/94 - 1997/98	0.32	0.69	1.10
1997/98 - 2001/02	0.47	1.10	1.16
2001/02 - 2005/06	0.64	1.21	1.18
2005/06 - 2009/10	1.17	1.91	1.86
2009/10 - 2013/14	0.89	1.66	1.60

Source: Australian Bureau of Statistics, Australian Demographic Statistics, December 2014 Cat. no. 3101.0 Table 4 Estimated Resident Population, States and Territories.

Compounding the outflow to interstate migration in the decade from 1990/91 to 2000/01 when South Australia lost 34,456 people, overseas inward migration accounted for a mere 33,134. As a comparison from 2000/01 to 2010/11 South Australia lost 31,081 people to interstate but gained 102,275 from overseas including significant numbers of younger secondary and tertiary students from overseas.

Hypothetically, had South Australia’s population grown at the rate of Victoria over the entire period (at 1.19 per cent) then South Australia’s population would be 1.94 million instead of the 1.68 million in 2014. We are not likely to reach the South Australian government’s 2 million target until approximately 2034.

Population profile: population in transition

We are interested in, and therefore group, three age categories of the South Australian population, specifically the 0-14 age group who are not of working age and are dependent on family or other adults, the ‘productive age cohort’ aged 15-64 who are the key labour supply cohort, and the age group 65 years and older who are (principally) the retired cohort and. We include the 15-19 age cohort in the labour supply groups because many young people in this age group are participants in the labour market while also attending school or some form of tertiary education.

Table 3 for South Australia, Victoria and Australia over the 33 years to 2013/14 shows by age cohorts the changing age distribution. There are several points to note from the aggregate data. The first is the doubling of the age cohort greater than 65 years in each jurisdiction (while not shown the same is true for other states). The second is, that only in South Australia are the numbers of younger people in the first three age cohorts smaller in aggregate in 2013/14 than in 1981/82 (by some 25,000 young people). This is important for the reason that there are clear economic consequences that follow from this ‘ageing profile’ based on life cycle income and consumption (e.g. the shift in household expenditure and investment in education relative to health care).

Table 3: Population by age group: South Australia, Victoria and Australia, 1981/82 and 2013/14

	South Australia		Victoria		Australia	
	1981/82	2013/14	1981/82	2013/14	1981/82	2013/14
0-14	309,762	297,298	973,659	1,069,380	3,744,986	4,422,554
15-19	114,869	104,763	344,081	357,934	1,288,994	1,474,485
20-24	116,667	114,429	347,052	419,758	1,333,401	1,650,869
25-29	108,656	115,376	326,612	450,175	1,253,635	1,747,148
30-34	105,423	111,195	318,640	439,588	1,228,574	1,709,344
35-39	91,730	102,734	278,922	395,440	1,073,243	1,559,166
40-44	73,005	114,318	227,414	417,742	865,803	1,666,157
45-49	65,454	112,827	199,963	386,969	748,322	1,541,092
50-64	202,187	324,743	572,921	1,037,371	2,148,521	4,248,187
> 65	143,355	287,713	403,606	865,139	1,498,768	3,456,347
Total ^(a)	1,331,108	1,685,396	3,992,870	5,839,496	15,184,247	23,475,349

Note: (a) sum of all age groups does not align to financial year averages presented.

Source: Australian Bureau of Statistics, Australian Demographic Statistics, December 2014. Cat. No. 3101.0. Tables 52, 54 and 59. Estimated Resident Population By Single Year of Age.

As a consequence of the changes in the age distribution, the relative shares of the population by age cohort will change over time. This result is shown in Table 4 for the two states and Australia as a whole. In all age cohorts from 0-14 up to 35-39 the relative shares have declined from the shares held in 1981/82; for all age cohorts age 40-44 and above, the shares have increased with those for South Australia (reflecting the ageing of the population and the losses in younger cohorts) increasing more than for Victoria and Australia.

Table 4: Share of population by age group, South Australia, Victoria and Australia, 1981/82 and 2013/14, per cent

	South Australia		Victoria		Australia	
	1981/82	2013/14	1981/82	2013/14	1981/82	2013/14
0-14	23.3	17.6	24.4	18.3	24.7	18.8
15-19	8.6	6.2	8.6	6.1	8.5	6.3
20-24	8.8	6.8	8.7	7.2	8.8	7.0
25-29	8.2	6.8	8.2	7.7	8.3	7.4
30-34	7.9	6.6	8.0	7.5	8.1	7.3
35-39	6.9	6.1	7.0	6.8	7.1	6.6
40-44	5.5	6.8	5.7	7.2	5.7	7.1
45-49	4.9	6.7	5.0	6.6	4.9	6.6
50-64	15.2	19.3	14.3	17.8	14.1	18.1
> 65	10.8	17.1	10.1	14.8	9.9	14.7
Total ^(a)	100.0	100.0	100.0	100.0	100.0	100.0

Source: Australian Bureau of Statistics, Australian Demographic Statistics, December 2014. Cat. No. 3101.0. Tables 52, 54 and 59. Estimated Resident Population By Single Year of Age

There are three important factors behind this aggregate picture. The first, is as previously mentioned, the impact of the State Bank financial crisis, the loss of headquartered companies around the same time and the loss of “mass manufacturing” employment (particularly in white goods, other consumer durables and textile/clothing) that accelerated in the early 1990s and which resulted in substantial out-migration (see later section: net interstate migration and Figure 1). The national recession of 1990/91 was also a contributing factor.

The second is the long-term decline in the fertility rate or population replacement rate. We do not address the causes in this paper except to note that social and economic factors have contributed to a decline in the fertility rate in most advanced Western economies and on-going advances in medical and health care have contributed over the very long term. For example, social changes and removal of discrimination in the workforce/labour market have contributed to the increased entry and higher retention of women in the workforce.

The ABS (2015) estimate the national replacement fertility rate is 2.1 births per female aged 15-49 years. The current birth rate in South Australia is currently 1.85, in Victoria it is 1.73 and for Australia 1.8.

The third contributing factor is, compared with nationally, the lower rate of inward overseas migration to South Australia. A higher rate closer to above the national rate not only could contribute to the size of the population but have a positive effect on the working age population, the quality and quantity of human capital and add to the domestic consumer market. The recent Productivity Commission Inquiry concluded that the

“relatively young and skilled immigrants provide a demographic dividend by increasing the proportion of people in the workforce, thus reducing the negative impacts associated with an ageing population.”²

The working age population – the sum of the 15-19 through to 50-64 age groups has not much changed in proportional terms (approximately 66 per cent) – except that it has simply got older. A question is whether an ageing population leads to a reduction in productivity and perhaps to slower introduction of new techniques and new technology. A second question is whether there is a “lock-out” effect experienced by younger workers and whether their familiarity with new technologies might encourage investment in technology systems and lead to an improvement in multi-factor productivity (more capital combined with higher value added workers).

Population: labour supply

“... if most of a nation’s population falls within the working ages, the added productivity of this group can produce a ‘demographic dividend’ of economic growth, assuming that policies to take advantage of this are in place”. (Bloom et al, p. 1)

How does South Australia fare with respect to the share of the population that is economically active? The first point to note (from Tables 3 and 4) is that the absolute number of younger people potentially contributing to the “demographic dividend” in 2014 is less than it was in 1981/82 and their share of the population has also declined. The second point to note is that the labour force participation rate of those aged 15-19 years and 20-24 years has continued to decline, with policies to encourage secondary school completion and an expansion in tertiary enrolments (although many combine part-time and casual employment with education) (see Table 6).

Table 6: Average youth labour force participation rates, South Australia, Victoria and Australia, 2001/02 – 2014/15, per cent, original data

	South Australia		Victoria		Australia	
	15 – 19 years	20 – 24 years	15 – 19 years	20 – 24 years	15 – 19 years	20 – 24 years
2001/02	61.3	82.1	57.7	81.8	59.4	81.7
2002/03	60.8	82.8	56.9	80.4	59.1	81.4
2003/04	61.4	81.7	55.5	81.1	59.7	80.9
2004/05	61.0	83.5	56.7	79.7	59.8	81.0
2005/06	61.8	82.1	56.4	80.5	59.6	81.5
2006/07	59.9	82.5	56.6	80.8	59.4	81.8
2007/08	59.6	81.4	57.1	81.1	59.6	82.1
2008/09	58.9	79.4	54.1	79.9	58.1	81.0
2009/10	58.0	80.0	53.0	80.4	56.3	80.0
2010/11	60.8	79.1	53.2	80.0	55.8	79.7
2011/12	53.9	80.5	52.6	79.8	55.1	79.5
2012/13	56.7	77.1	52.1	77.8	54.4	78.6
2013/14	54.5	75.5	50.6	77.8	53.2	78.4
2014/15	52.9	78.1	53.0	77.2	54.1	78.6

Note: Calculated as financial year averages of monthly data

Source: ABS (2015), Labour Force, Australia, Detailed - Electronic Delivery, Jul 2015, cat. no. 6291.0.55.001

The third point to note is the growth rates (Table 7) of selected age groups. We are most interested in the principal workforce age groups.

Table 7: Compound annual growth rate by selected age groups, 1981/82 – 2013/14, per cent

	South Australia	Victoria	Australia
0-14 years	-0.13	0.29	0.52
15-19 years	-0.29	0.12	0.42
20-24 years	-0.06	0.60	0.67
15-64 years	0.71	1.26	1.42
65 years and over	2.20	2.41	2.65

Source: Australian Bureau of Statistics, Australian Demographic Statistics, December 2014, cat. no. 3101.0. Table 59. Estimated Resident Population By Single Year of Age, Australia, Table 54 Estimated Resident Population By Single Year of Age, South Australia and Table 52 Estimated Resident Population By Single Year of Age, Victoria.

The workforce (15-64 years) is growing at half the national rate and well below the rate for Victoria with implications for the skill profile (and experience profile) of the labour market. The future replacement cohorts, 15-19 years and 20-24 years, are smaller than they were in 1981/82 and, most worryingly, many young people continue to experience extended periods of unemployment thus delaying the acquisition of workforce skills and training.

The ageing of the workforce as distinct from ageing of the total population is highlighted in Table 8; the rate of growth in the age cohort 25-44 years is only one-third of the national and Victorian growth rates and it was this group that was 'hollowed-out' with the wave of out migration that immediately followed the State Bank crisis and loss of headquartered companies some 25 years ago.

Table 8: Compound annual growth rate by selected age groups, 1981/82 – 2013/14, per cent

	South Australia	Victoria	Australia
25 – 44 years	0.49	1.23	1.30
45 – 64 years	1.55	1.93	2.19

Source: Australian Bureau of Statistics, Australian Demographic Statistics, December 2014. cat. no. 3101.0. Table 59. Estimated Resident Population By Single Year of Age, Australia, Table 54 Estimated Resident Population By Single Year of Age, South Australia and Table 52 Estimated Resident Population By Single Year of Age, Victoria.

We are getting older³

Australians are getting older.

Data from the ABS shows Australia's population is continuing to age, with implications for health budgets, the size of the working-age population, housing and demand for skilled labour. Since 1995, the proportion of Australia's population aged 65 years or older has jumped from 11.9 per cent to 15 per cent. Over the same period, the proportion aged under 15 years has fallen from 21.5 per cent to 18.8 per cent. The median age of Australians – the age at which half the population is older and half is younger – has increased from 34 years to 37 years.

Over the past 20 years, comparing the working-age population (aged 15 to 64 years) with the remainder of the population (aged 0 to 14 and 65 and greater), the non-working age population has grown faster, at 1.5 per cent against 1.4 per cent for the working age population.

The ABS data also shows how Australians are moving around the country. They are flocking to Victoria and Queensland.

Only Victoria and Queensland recorded net interstate migration gains in the year ended June 30, 2015.

Victoria continued a recent trend of recording the highest net gain, with 10,200 people, up from 8,800 people in the year ended June 30, 2014. Queensland had a gain of 6,400 people, up from 5,800 in the previous year.

Over the same period, net losses from interstate migration were recorded in New South Wales (6,600 people), South Australia (3,800), the Northern Territory (3,000), Western Australia (2,000), the Australian Capital Territory (700) and Tasmania (500).

Summary of population

It is the structure of the population rather than the ageing of the population that is critical to increasing the rate of economic growth and providing a spur to business investment. The lower share of 15-24 year olds means a much greater priority is needed in our view, compared to other states, to open up training places for young people, to speed their entry into the workforce if we are to attract investment in new technologies/new industries and position the state as a leader in adopting and adapting new technologies.

Migration

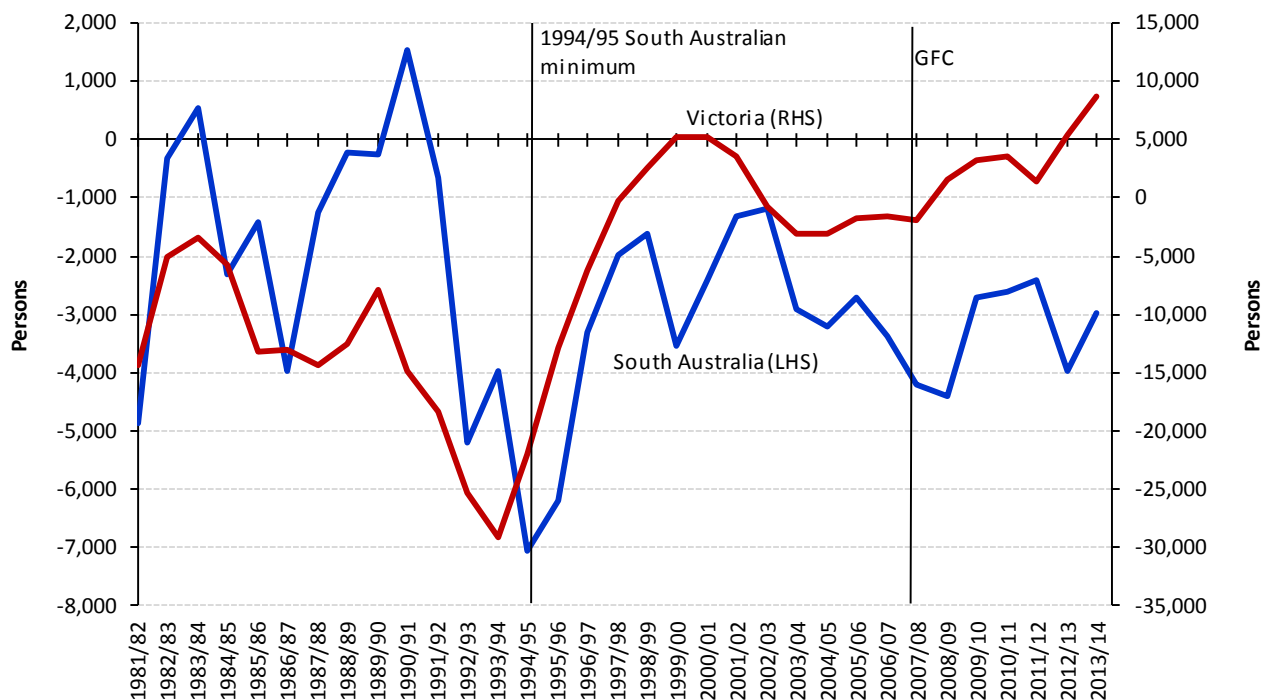
Net interstate migration

A state or region can enjoy a 'demographic dividend' if conditions are such that an inflow of migrants is principally comprised of working age cohorts. This is well illustrated in the history of mining towns/regions where the workforce was generally younger, families were younger and incomes were high. A 'demographic deficit' is often the situation for smaller rural towns where post-school youth move to large centres/cities for education and in search of employment.

There are two sources of migration that influence the composition of the population. The first is interstate migration – people moving in and out of states or territories – with the final measure being 'net interstate migration'. That is to say, for South Australia is the trend positive (more people moving in) or negative (more people moving out)? Figure 1 shows the trend in interstate migration for South Australia and Victoria.

Figure 1 illustrates quite dramatically the immediate impact of the financial crisis experienced by the two states in 1991/92. In the case of South Australia, outward migration was ten times higher in 1994/95 (7,100 persons) than it was in 1991/92 (658 persons). In both states, net overseas migration at that time was not sufficiently positive to be able to offset the interstate migration outflow from 1991/92 to 1995/96 (see Table 9).

Figure 1: Net interstate migration, South Australia and Victoria, 1982/82 – 2013/14



Source: ABS (2015), Australian Demographic Statistics, Dec 2014, cat. no. 3101.0.

A look back at who left the state –the 1996 Census data – showed that it was indeed younger and skilled young workers who departed South Australia from 1992 to 1995. People in their twenties comprised more than half of all higher education graduates who left the state in the mid-1990s. Hugo et al (2000) also reported that the female contribution to the “brain drain” was greater than the male contribution, i.e. skilled women were more likely to move interstate from South Australia than their male counterparts were. Hugo et al (2000) reported that the strongest reason for higher education graduates moving from South Australia to other jurisdictions was employment prospects.

A number of recommendations were provided to the South Australian government on the basis of demographic analysis by Hugo et al (2000) that might be broadly described as “attempts at bringing them back home”. The fundamental reality is that such attempts were doomed to have little impact for the reason that employment opportunities were more favourable in other jurisdictions. It is very difficult to attract people back once they have left. While South Australia claims it is a “wonderful place to raise a family” the demographic situation (Tables 3 and 4) confirm that this has not been not “a pull factor” for those in the family formation stage who had left the state in earlier times.

Net overseas migration

The second source of migration that can influence the composition of the population is net overseas migration. Both South Australia and Victoria have had positive net overseas migration since 1981/82 and this is consistent with the national trend. (Table 9 and Figure 2).

For South Australia, Victoria and Australia, net overseas migration declined significantly through the period 1987/88 to 1993/94. Similar circumstances contributed to a decline in people seeking to migrate to Australia in the 1970s – slow economic growth, rising unemployment and rising inflation and these economic conditions contributed once again to a slowdown in immigration commencing in the mid-1980s.

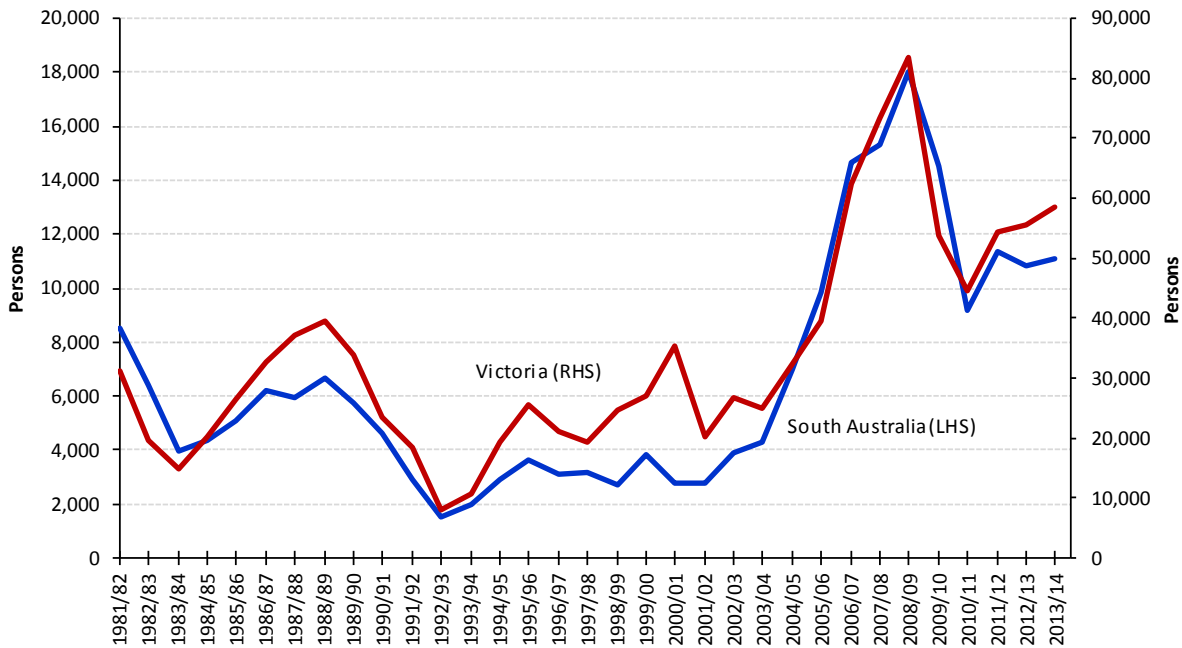
In times of recession with rising unemployment there is the inevitable political and community opposition, or reduction in support, for immigration. The national migration program (number of migrants) was relatively stable through to end of 1990s and pushed up again in the twenty first century with marked changes to the immigration program. The most significant was the focus on skilled migrants and business skilled migration to address skill shortages. Skilled migration was almost 50 per cent of all migrants through to year 2000 increasing to 67 per cent by 2008/09.⁴

Table 9: Average net annual migration, South Australia and Victoria and Australia, 1981/82 to 2013/14

	Net Overseas Migration	South Australia Net Interstate Migration	Total	Net Overseas Migration	Victoria Net Interstate Migration	Total
1981/82 - 1985/86	5,664	-1,677	3,987	22,425	-8,381	14,044
1986/87 - 1990/91	5,840	-829	5,011	33,406	-12,543	20,863
1991/92 - 1995/96	2,595	-4,621	-2,027	16,402	-21,566	-5,164
1996/97 - 2000/01	3,108	-2,579	530	25,480	1,289	26,769
2001/02 - 2005/06	5,568	-2,269	3,299	28,780	-1,017	27,763
2006/07 - 2010/11	14,334	-3,463	10,871	63,605	966	64,571
2011/12 - 2013/14	11,091	-3,122	7,969	56,230	5,222	61,452

Note: See appendix Table A.2 for full data.
Source: ABS (2015), Australian Demographic Statistics, Dec 2014, cat. no. 3101.0.

Figure 2: Net overseas migration, South Australia and Victoria, 1982/82 – 2013/14



Source: ABS (2015), Australian Demographic Statistics, Dec 2014, cat. no. 3101.0

In summary, the recession of 1991/92 led to a decline in overseas immigration. Coupled with the aftermath of the financial crisis in South Australia and Victoria and the on-going structural change in industry and employment, both states found that overseas migration was not sufficient to offset net losses of interstate migration. Victoria recovered and turned its slowing population growth around more quickly in the mid-1990s than did South Australia, Victoria halted the outflow of interstate migration and boosted the intake of overseas migrants (Table 9) whereas South Australia has successfully achieved only the latter. Net interstate migration is still negative.

Increasing the number of overseas migrants into South Australia will provide a boost to the skill profile of the labour force. “From an economic perspective, migration policy is better directed at raising average skill levels than lowering the age level.” (Banks 2013) In 2011, 48.8 per cent of recent overseas migrants to South Australia had a Bachelor degree or higher (Economic Analysis Unit, 2014). This is higher than the figure for the general South Australian population at 18.6 per cent.^{5,6}

In addition to raising skill levels younger, skilled migrants contribute to society and indeed the economy for longer thus offsetting some productivity loss associated with an ageing South Australian demographic. In 2011, 52.9 per cent of all recent overseas migrants to South Australia were aged 25 - 44 years; 56.3 per cent of this age group were classified as ‘skilled migrants’. A further 36.3 per cent were aged 0 - 24 (Economic Analysis Unit, 2014).

In the last decade and a half South Australia’s net migration (interstate plus overseas) has been positive. It is important that net overseas migration into South Australia continues this positive trend with an emphasis on skilled migration. It will not be an easy task to reduce and turn around interstate migration but nevertheless this should be a clear policy objective. The critical factor will be a suite of policy decisions that opens up training and employment opportunities for all young people.

Implications for gross state product

What are the implications for economic output and economic performance more generally as a result of structural change in the demographic profile of South Australia, trends in migration and labour force productivity. The obvious point to make as the 'life-cycle income hypothesis' informs us, is that an older population will tend to save more (for and in retirement) and will have quite different consumption, expenditure and tax paying patterns than young people and the prime working aged/household formation aged cohorts.

For example, construction of dwellings will respond to life-style choices; public policy including urban planning, transport and health will need to be flexible, responsive and accommodating to demographic change. Taxes and charges have a role to play in encouraging flexibility, mobility and choice in housing options for retirement and opening up existing housing stock for new entrants into the housing market, they also have role to play in retaining and attracting people to South Australia.

Population growth has been stronger in other states and Australia overall than in South Australia and this is reflected in the relative rate of economic growth for the various states/territories. South Australian real GSP grew at an annual rate of 2.3 per cent (1990-2014), Victoria at 2.8 per cent and Australia at 3.1 per cent with strongest growth in the mining states that 'pulled up' the Australian average. State/Territory relative growth rates contributed to changes in the share of national GDP as show in Table 10 with South Australia's share declining from 7.4 per cent in 1989/90 to 6.1 per cent in 2013/14. The South Australian economy grew by a factor of 1.7 from \$55.2 billion in 1989/90 to \$95.2 billion in 2013/14; Victoria by 1.9 and Australia by 2.1.

Table 10: South Australian and Victorian percentage share of Australian GDP

	South Australia	Victoria
1989/90	7.4	23.7
1994/95	6.9	22.6
1999/00	6.6	23.0
2004/05	6.5	23.1
2009/10	6.4	22.6
2013/14	6.1	22.0

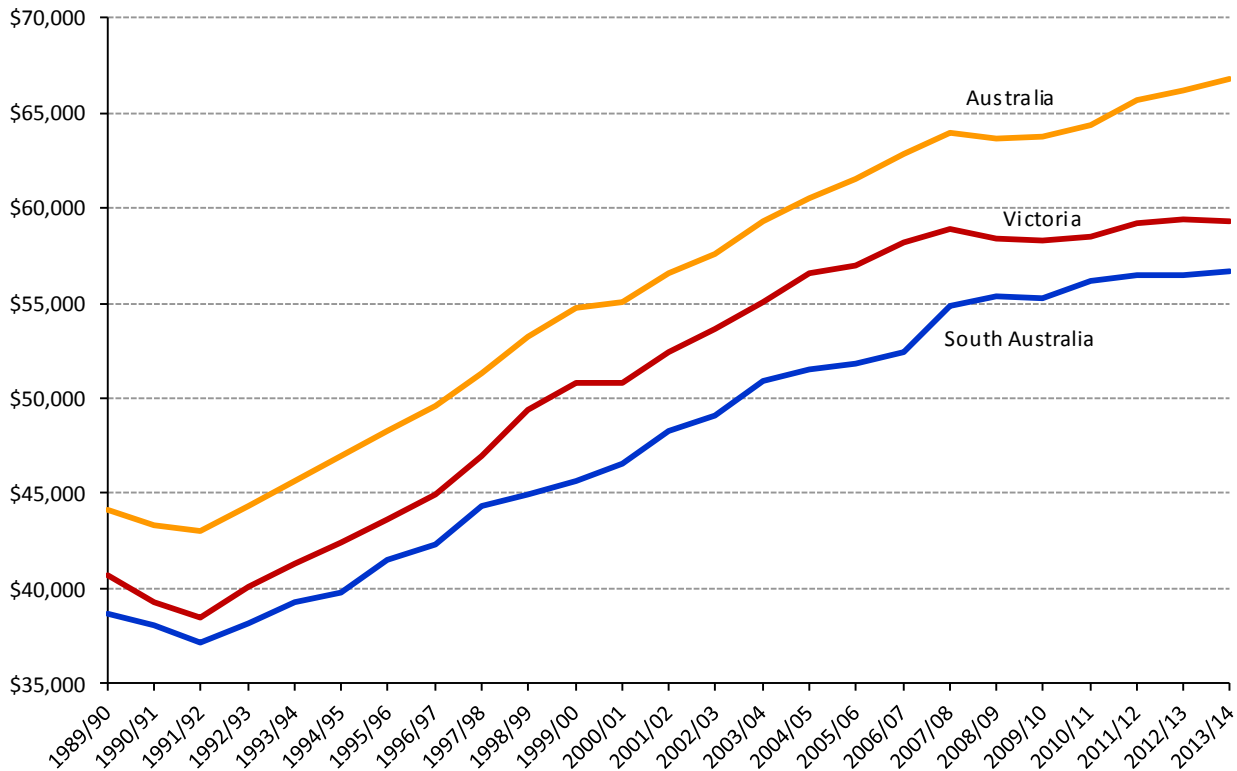
Source: ABS (2015), Australian National Accounts: State Accounts, 2013-14, cat. no. 5220.0 and SACES calculations.

South Australian GSP per person was \$38,697 in 1989/90; Victorian GSP per person was \$40,740; and Australian GDP per person was \$44,146. In 2013/14, the GSP per person for South Australia was \$56,680; Victoria \$59,269; Australia \$66,803.

The impact of the mining boom is well illustrated by the fact that Western Australia has the highest GSP per person at \$100,561 and Queensland where in 1989/90 GSP per person was similar to South Australia at \$38,958 but has increased to \$62,847 per person

South Australia's GSP per person remains lower than that of Victoria but the more worrying indicator is that the gap is wider in 2013/14 than in 1989/90 compared with both Victoria and Australia overall. Figure 3 illustrates a widening of the gap on per capita GDP/GSP basis; in 1989/90 the gap was \$5,449; in 2013/14 the difference was \$10,123. Some of this is due to mining sector growth in other states and some is due, *inter alia*, to slower population growth and more subdued economic growth in South Australia. If South Australia had been able to maintain the proportional gap as it was in 1989/90, then per capita income would be \$61,350 resulting in total state GSP of \$103.05 billion (2013) or approximately \$8 billion more than it actually was.

What would South Australia's GSP be if the South Australian population had grown at the same rate as Australia and assuming a very similar skilled migrant intake with neutral impact on productivity? The annual Australian population growth rate from 1989/90 was 1.34 per cent.⁷ If the South Australian population had grown at the same rate it would have been 1.96 million in 2013/14 (approximately 280,000 more than it actually was). Assuming a consistent increase in economic activity, trend growth in exports and some small productivity gains (due to the higher labour force skill profile) South Australian GSP per person would have been \$56,680 and GSP in 2013/14 would have been \$111.29 billion (\$16 billion more than it actually was).

Figure 3: Financial year GSP/GDP (chain volume measures) per person, South Australia, Victoria and Australia, dollars, 1989/90 to 2013/14

Note: See appendix Table A.4 for data
Source: ABS (2015), Australian National Accounts: State Accounts, 2013-14, cat. no. 5220.0 and ABS, Australian Demographic Statistics, December 2014. cat. no. 3101.0 and SACES calculations.

Employment

Employment to population ratio

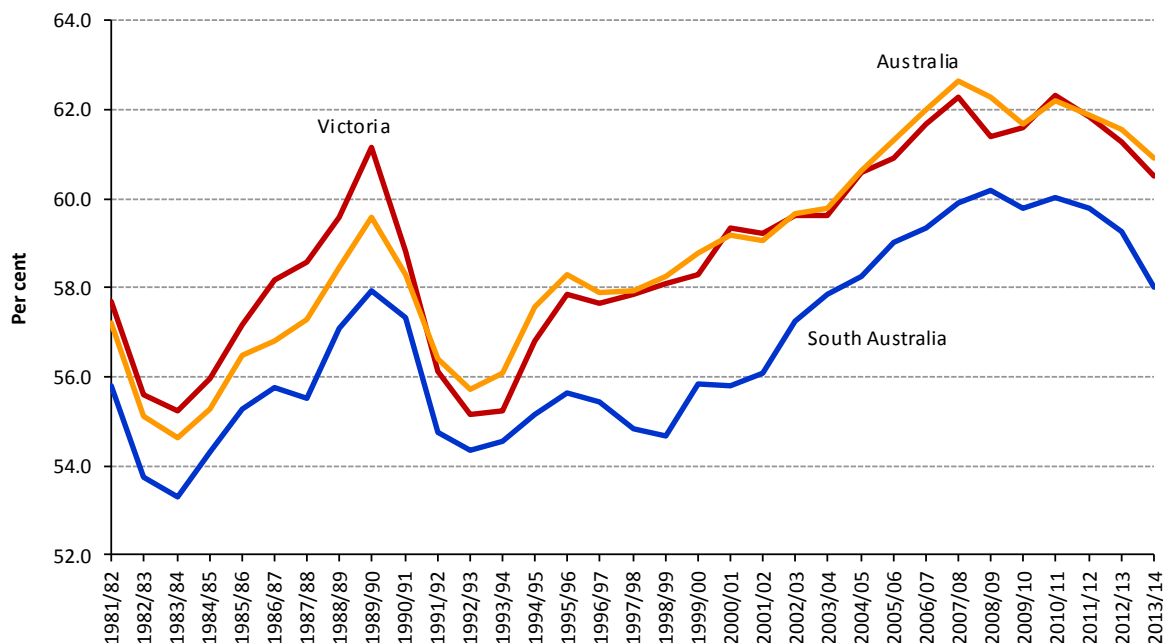
We have considered on-going structural change in the age demographic of the total population, the rate of growth of population and trends in migration. How then are these changes reflected in the labour market including the ability and performance of the state (and national) economy to create jobs?

Two measures are instructive – the first is the employment to population ratio⁸ and the second is an aged based dependency ratio.

The ABS provides estimates of the employment to population ratio defining the ratio “as the number of people that are employed as a percentage of the civilian population aged 15 years and over. This measure removes population growth as a confounding factor when interpreting employment estimates.”⁹ Removing the influence of any change in population to be able to observe a change in the ratio provides a further insight into any positive or negative effect on GSP/GDP per capita as the proportion of the population employed rises or falls.

Figure 4 and Table 11 for selected years reveals an increase in the ratio over time in step with population growth (i.e. economies are bigger, jobs increase as well). However, it is notable that the proportion of South Australia’s working age population that is employed is consistently below that for Victoria and Australia; the proportion declined significantly following the recession of 1991/92; increased by 2007/08 but not as quickly as Victoria or Australia and has fallen to 2004/05 levels in 2013/14.

That is to say, South Australia is simply not creating sufficient employment opportunities – a decline in the ratio tells us that the ability of the economy to create employment is faltering and this implies negative impacts on the level and growth rate of GSP per capita.

Figure 4: Financial year average employment to population ratios, South Australia, Victoria and Australia, per cent, 1981/82 – 2013/14, trend data

Note: See appendix Table A.4 for data.

Source: ABS (2015), Labour Force, Australia, Sep 2015, cat. no. 6202.0, Table 1. Labour force status by Sex, Australia - Trend, Seasonally adjusted and Original; Table 5. Labour force status by Sex, Victoria - Trend, Seasonally adjusted and Original; and Table 7. Labour force status by Sex, South Australia - Trend, Seasonally adjusted and Original.

Table 11: Financial year average employment to population ratios, South Australia, Victoria and Australia, per cent, selected years

	South Australia	Victoria	Australia
1981/82	55.8	57.7	57.2
1990/91	57.3	58.8	58.3
1991/92	54.8	56.1	56.4
1992/93	54.3	55.2	55.7
2004/05	58.2	60.6	60.6
2007/08	59.9	62.3	62.6
2013/14	58.0	60.5	60.9

Source: ABS (2015), Labour Force, Australia, Sep 2015, cat. no. 6202.0, Table 1. Labour force status by Sex, Australia - Trend, Seasonally adjusted and Original; Table 5. Labour force status by Sex, Victoria - Trend, Seasonally adjusted and Original; and Table 7. Labour force status by Sex, South Australia - Trend, Seasonally adjusted and Original.

The experience of employment and unemployment has been different by gender with a consistent pattern over the last 30 plus years as is shown in Table 12.

For males, the employment to population ratio has exhibited a consistent decline and most notably in the early mid-1990s with the impact of tariff reductions on local manufacturing. Notably the fall in the male employment to population ratio has been more significant in South Australia than for Victoria and Australia while the increase in the female employment to population ratio has been about the same. The relative male/female ratios also provide an insight into the changing structure of state and national industries and economies over time.

Table 12: Employment to population ratio: by gender

Year	South Australia		Victoria		Australia	
	Male	Female	Male	Female	Male	Female
1981	71.8	40.9	74.5	42.6	74.3	41.4
1991	65.7	46.6	66.4	48.0	67.2	47.2
1992	63.6	45.5	65.2	46.5	65.7	46.8
1993	63.3	45.9	64.4	45.7	65.1	46.5
1994	63.3	46.6	65.7	46.6	66.2	47.7
2001	62.9	48.6	68.0	51.1	66.8	51.5
2014	63.6	52.3	66.4	54.5	66.6	54.9
2015*	62.5	52.8	67.2	54.7	66.7	55.1

Note: * 2015 is 9 months only.

The second measure is the dependency ratio which is a measure of the age to population ratio of those who are traditionally not in the labour force relative to those in the labour force.¹⁰ It is a ratio that is socially defined as for example if the retirement aged increased then the dependency ratio would decline as more older aged workers continued in the labour force. Traditionally, as a complement to other labour force statistics and analysis, it is a measure of the productive workforce (i.e. 15-64 years) relative to those who are dependants.

South Australia's ageing population is reflected in the increase in the dependency ratio in the first two columns of Table 13 increasing by 10 percentage points since 1981/82. Columns 3 and 4 combining young and old dependents leads to an increase in the ratio, whereas for Victoria and Australia the ratio falls. The reason for the fall is that the proportion of particularly the younger working age in Victoria and Australia has increased, whereas it has marginally declined in South Australia.

Table 13: Comparison of dependency ratios: 1981/82 and 2013/14

	Dependency ratio for >65		Dependency ratio for 0-14 and >65 years	
	1981/82	2013/14	1981/82	2013/14
South Australia	16.3	26.1	51.6	53.2
Victoria	15.4	22.2	52.7	49.5
Australia	15.1	22.2	52.8	50.5

What this means – given that the higher the dependency ratio the more people who are not of working age and conversely the fewer who are in the productive sector of the economy – the greater is the support burden carried by those in the labour force. We make a cautionary note at this point, as analysis of those over 65 years participating in the labour force will reveal, that many in this age group are working and are income self-sufficient so that they are not strictly dependent. However, it is the working population that pay most of the income and consumption taxes and higher dependency ratios do imply the direction and burden of taxes to fund retirement pensions, health costs, disability pensions, schools and other public services.

Share of employment

South Australia's slower population growth, declining share of national GDP and an increase in the dependency ratio in conjunction with the faster population and GSP growth in the mining states has resulted in the decline in this state's share of total national employment.

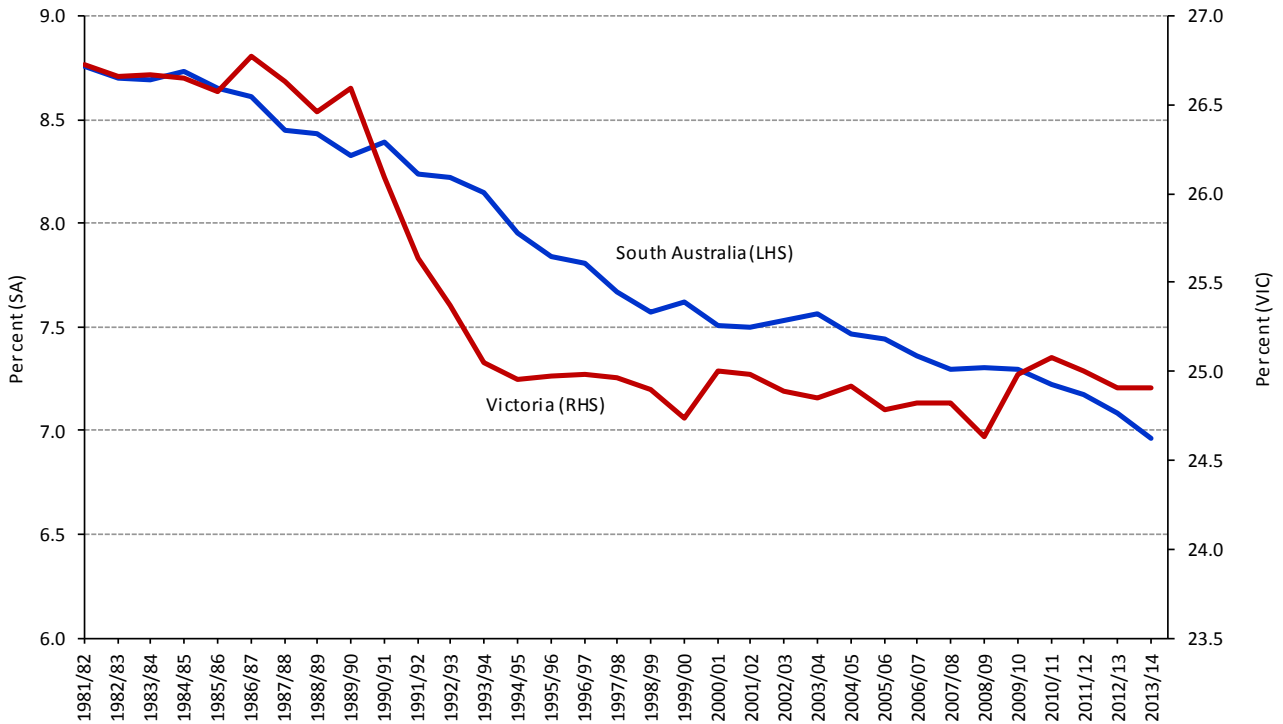
The decline is relative to the faster growth states but, as shown in Figure 6, there was also a very sharp decline in Victoria through the first half of the 1990s. There has been a much longer and more gradual decline in South Australia.

With respect to Victoria, contributing to the decline in employment shares was the population outflow following their financial crisis and the closure of many manufacturing businesses including Nissan automotive in Victoria in 1992.

The Bank of Victoria collapsed in 1990/91 due to a series of bad loans from its merchant banking arm Tricontinental. The result was the 'Financial and Insurance Services' sector suffered significant losses of employment, compounding other sectoral employment losses, taking a full twenty years to return to the level of employment in 1990/91 (Figure 7). The financial crisis had both a psychological and real impact on the Victorian economy and on employment.

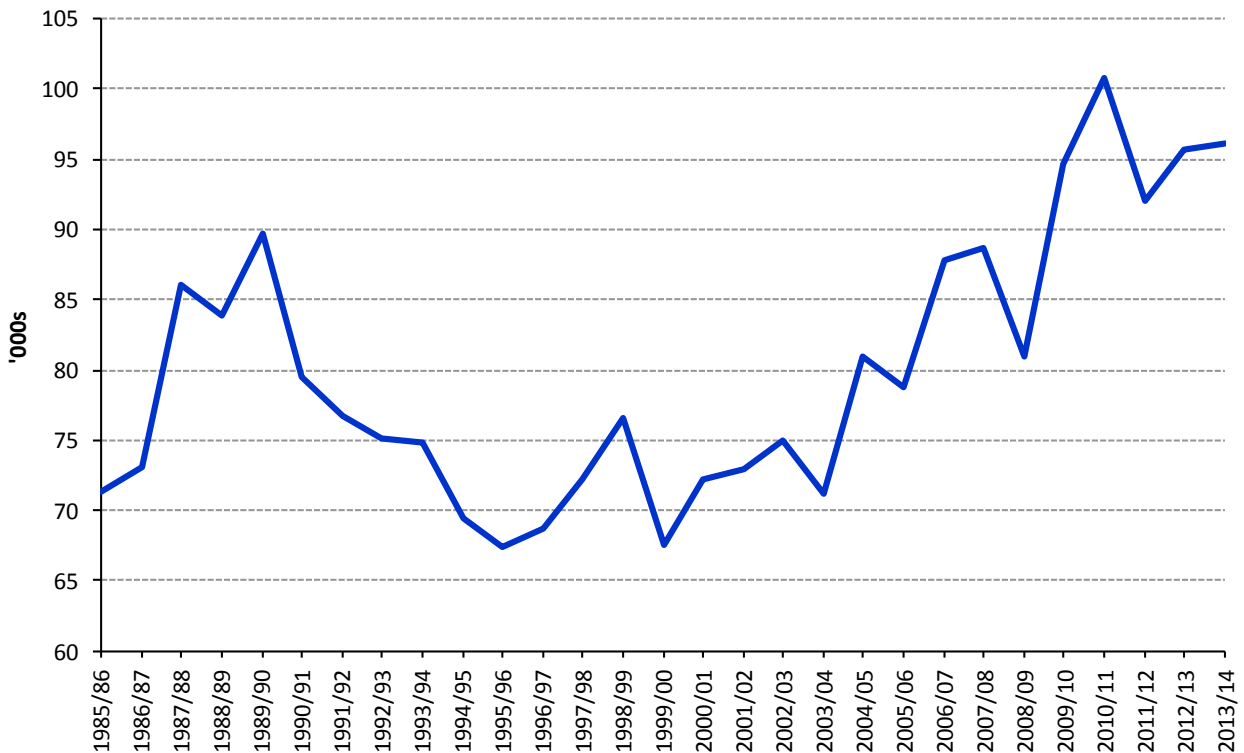
The same could be said for South Australia – a decline in business confidence, employment losses and real impacts on the economy – at a time when the impact of tariff cuts was starting to be felt by previously protected sectors of the economy.

Figure 6: Average annual South Australian and Victorian shares of total Australian employment, per cent, 1981/82 – 2013/14, trend data



Source: ABS (2015), Labour Force, Australia, Sep 2015, cat. no. 6202.0, Table 1. Labour force status by Sex, Australia - Trend, Seasonally adjusted and Original; Table 5. Labour force status by Sex, Victoria - Trend, Seasonally adjusted and Original; and Table 7. Labour force status by Sex, South Australia - Trend, Seasonally adjusted and Original.

Figure 7: Average annual employment in the 'Financial and insurance services' sector, Victoria, 1985/86 – 2013/14, '000s, original data



Source: ABS (2015), Labour Force, Australia, Detailed Quarterly, Aug 2015, cat. no. 6291.0.55.003

Full-time and part-time employment

There has been a shift in working hours across all industries of employment in South Australia. In 1985/86, the all industry average was 80 per cent full-time, 20 per cent part-time; by 2013/14 the percentage were 70-30 full-time to part-time. In 2013/14, there were three industries – ‘Accommodation and food services’, ‘Retail trade’ and ‘Arts and recreation services’ – where the majority of workers were part-time.

Table 14: South Australia: average annual full-time/part-time share of employment by industry 1985/86 and 2013/14, original data

	1985/86		2013/14	
	Full-time	Part-time	Full-time	Part-time
Agriculture, forestry and fishing	79.6	20.4	75.5	24.5
Mining	97.2	2.8	92.8	7.2
Manufacturing	92.3	7.7	82.6	17.4
Electricity, gas, water and waste services	99.3	0.7	93.5	6.5
Construction	88.9	11.1	85.6	14.4
Wholesale trade	87.1	12.9	82.1	17.9
Retail trade	63.5	36.5	45.8	54.2
Accommodation and food services	50.2	49.8	37.9	62.1
Transport, postal and warehousing	91.7	8.3	77.5	22.5
Information media and telecommunications	84.4	15.6	70.2	29.8
Financial and insurance services	87.3	12.7	74.5	25.5
Rental, hiring and real estate services	79.2	20.8	69.7	30.3
Professional, scientific and technical services	79.1	20.9	71.2	28.8
Administrative and support services	69.3	30.7	52.7	47.3
Public administration and safety	91.1	8.9	81.2	18.8
Education and training	70.2	29.8	65.4	34.6
Health care and social assistance	64.4	35.6	50.4	49.6
Arts and recreation services	62.7	37.3	46.4	53.6
Other services	76.1	23.9	68.2	31.8
Average	79.7	20.3	69.6	30.4

Source: ABS (2015), Labour Force, Australia, Detailed Quarterly, Aug 2015, cat. no. 6291.0.55.003.

The aggregate trends tell “many tales”. They reflect changes in technology, greater flexibility in industrial and workplace relations, accommodation to changes in lifestyles, mobility, the increased participation of women in the workforce and, *inter alia*, supportive policies such as child care and cultural shifts in support of consumerism, decline in church attendance, sport on weekends, 24/7.

The aggregate trends are similar for all states and territories, by industry and by gender, such that full-time employment in selected industries is principally male full-time employment. The proportion of part-time employment in South Australia is 2 to 3 percentage points higher than for Victoria (at 28.1 per cent) and nationally (at 27.1 per cent).

Participation rate

The labour force participation rate in aggregate for all aged groups has increased over the last two decades with the most significant contribution coming from the participation of women in the labour market. Behind the aggregate picture, however, there are several interesting trends that are partly the result of an ‘ageing demographic’.

The participation rate for younger people declined in the period shown in Table 15 principally due to higher school retention rates and greater numbers flowing into post-school education and training opportunities. On balance, delayed entry into the workforce and entering with higher skills and training is a positive trend for the nation as a whole. Not shown in Table 15 is a marked decline in the participation rate of 15-19 year olds of 8.4 percentage points between 2001/02 and 2014/15.

The most significant changes have been the increase in the participation rate of the older aged groups – 60 to 64 years and 65 years and over. The participation rate has risen as the “baby boomers” – a larger demographic than decades before – have worked their way through the system.

There are, however, other factors at play. Greater flexibility in employment arrangements enable greater participation – hours and days of work are more flexible, gradual transitions to retirement are possible, the superannuation system and tax arrangements permits greater workforce flexibility. Weak performance of superannuation investment/funds (as in GFC 2008/09) encourages extended stay in the workforce and is likely to have contributed to those aged 65 years and over remaining in the workforce.

That people at retirement age are now more numerous and generally healthier translates into continuing to participate in the workforce. Whether the age demographic and the higher retention rate of those aged 60+ contributes to a “lock-out” effect for younger, new entrants to the workforce is not considered in this paper. In the longer term the balance will shift in favour of younger entrants. The Productivity Commission (2005) estimated that the South Australian labour force participation rate will fall to 52.6 per cent by 2044/45, lower than the average Australian rate (56.3 per cent).

Table 15: Participation rate by age group, 1991/92 and 2014/15, South Australia, Victoria and Australia, per cent

		1991/92	2014/15
15 – 24 years old	South Australia	70.2	65.5
	Victoria	67.5	65.1
	Australia	68.9	66.4
25 – 54 years old	South Australia	79.9	82.3
	Victoria	80.4	82.8
	Australia	79.6	83.1
55 – 59 years old	South Australia	55.1	73.6
	Victoria	54.7	75.1
	Australia	54.5	73.1
60 – 64 years old	South Australia	29.7	53.9
	Victoria	32.1	55.5
	Australia	32.4	54.7
65 years and over	South Australia	4.0	11.1
	Victoria	5.8	12.6
	Australia	5.2	12.1

Note: Calculated as financial year averages of monthly data, original data.
Source: ABS (2015), Labour Force, Australia, Detailed - Electronic Delivery, Jul 2015.

Industry of employment

In this paper we do not examine in any detail change in employment by industry; simply to note as in Table 16 the broad aggregate changes and hence share of employment by industry. The decline in total manufacturing employment continued but in several sub-sectors of manufacturing employment actually increased. Shifts in employment supporting household expenditures (retail, food services), tourism, education and health care continued and the same pattern is observed in other states/territories.

Table 16: Average annual employment by industry and share of total employment South Australia, 1985/86 and 2013/14, original data

	1985/86		2013/14	
	'000	Per cent	'000	Per cent
Agriculture, forestry and fishing	47.7	8.0	40.2	5.1
Mining	8.9	1.5	14.0	1.8
Manufacturing	101.4	17.1	80.8	10.2
Electricity, gas, water and waste services	11.0	1.8	9.7	1.2
Construction	39.2	6.6	66.3	8.3
Wholesale trade	30.6	5.2	24.5	3.1
Retail trade	63.1	10.6	86.4	10.8
Accommodation and food services	28.5	4.8	51.9	6.5
Transport, postal and warehousing	30.4	5.1	38.8	4.9
Information media and telecommunications	13.2	2.2	10.0	1.3
Financial and insurance services	21.3	3.6	20.9	2.6
Rental, hiring and real estate services	7.2	1.2	11.0	1.4
Professional, scientific and technical services	21.9	3.7	46.1	5.8
Administrative and support services	10.0	1.7	26.8	3.4
Public administration and safety	26.2	4.4	55.7	7.0
Education and training	42.4	7.2	61.3	7.7
Health care and social assistance	59.1	10.0	110.1	13.8
Arts and recreation services	5.8	1.0	11.2	1.4
Other services	25.7	4.3	30.6	3.8
Total	593.3	100	796.0	100

Source: ABS (2015), Labour Force, Australia, Detailed Quarterly, Aug 2015, cat. No. 6291.0.55.003.

Government employment

In Table 17 we illustrate changes in the share of government employment as a percentage of total employed for two time periods, 1985/86 and 2014/15. In this period there have been quite considerable changes to the composition of “government employment” where agencies once classified as government were privatised or, otherwise transferred off-budget, or functions were outsourced or simply closed down. Government has also

taken-up or absorbed new responsibilities so considerable care needs to be exercised in analysing government employment as a share of total employment.

Table 17: South Australia, Victoria, Australia: government employment, number and per of total employed

	Commonwealth Government		State Government		Local Government	
	Number employed '000	Percentage of total employed	Number employed '000	Percentage of total employed	Number employed '000	Percentage of total employed
South Australia						
1985/86	36.6	6.2	105.2	17.7	8.3	1.4
2014/15	15.4	1.9	115.0	14.3	10.7	1.3
Victoria						
1985/86	101.7	5.6	304.3	16.7	41.8	2.3
2014/15	44.1	1.5	334.2	11.4	50.9	1.7
Australia						
1985/86	434.7	6.3	1,131.3	16.5	155.9	2.3
2014/15	235.3	2.0	1,476.2	12.7	187.2	1.6

Source: ABS (2007), Wages and Salary Earners, Public Sector, Australia, Jun 2007, cat no 6248.0.55.001; ABS (2014), Employment and Earnings, Public Sector, Australia, 2013-14, cat no 6248.0.55.002; and ABS (2015), Labour Force, Australia, Aug 2015, cat no 6202.0.

Notwithstanding those issues, there is considerable information contained in Table 17. In 2014/15 South Australia 17.5 per cent of all employees were employed in total by the Commonwealth, State and Local governments; in Victoria it was 14.6 per cent and the Australian average was 16.3 per cent.

The share of state government employment in total employment is highest in South Australia at 14.3 per cent – and although the proportion has decreased since 1985/86 the aggregate number has increased. Relative to Victoria over the same period, if South Australian state government employees made up the same proportion of total employment that they do in Victoria, there would be 23,000 fewer state government employees in South Australia.

Perhaps the most important detail in Table 17 is the much smaller size of local government employment relative to Victoria and the average for Australia.

The composition of local government employment in South Australia relative to state government employment provides a very interesting insight into the centralisation of functions at the state government level and the consequence that local government in South Australia is less diversified by functions and occupations than in other states.

For example, South Australian local government appear to employ proportionally less ‘Community and Personal Service Workers’ at 6.8 per cent of its own employment compared to the average of other states at 11.4 per cent. It also employs more ‘Technicians and Trades Worker’ at 12.8 per cent, almost twice the average of other states at 6.6 per cent.

While South Australian local government employed less ‘Community and Personal Service Workers’ compared to other local governments, the state government employed proportionately more ‘Community and Personal Service Workers’ than other state governments. This is mostly due to the narrowly defined occupation groups of ‘Health and Welfare support workers’ and ‘Carers and Aides’¹¹, accounting for 5.7 and 5.9 per cent respectively of South Australia’s state government employees in comparison to the average of 2.3 per cent and 2.1 per cent in other states.

That is to say, local government in South Australia is still more “roads, rates and rubbish” (especially smaller councils that have difficulty in meeting compliance obligations) than in comparison with other states where the occupational profile illustrates much more diverse functions and responsibilities that are associated with scale of operations, the population size of communities and greater decentralisation in service delivery than in South Australia.

What are the policy implications?

Policy implications will be examined in greater detail in the final issues paper in this series. We provide a few brief comments here.

In Table 13 we illustrated the higher dependency ratio in South Australia relative to Victoria and Australia. The shift in the age structure and the decline in the employment to population ratio are acting as a drag on the potential for economic productivity. The community – the working aged population – are required to support an ever increasing dependent population. There is no demographic dividend on the horizon in South Australia and indeed our population age structure is a liability.¹²

Training, skills formation and employment

The lower share of 15-24 year olds in the demographic profile of the state suggests that a much greater priority should be given to open up more training places for young people and new ways found to speed their entry into the workforce. The recent loss of training places in some private training providers is the very opposite of the direction we should be moving.

The focus of any policy change following the review of *Skills for All* should have been how best to increase the number of training places, the quality of courses, the completion rates and harnessing the job creation capacity of industry (and government). Instead, the public discussion has been the near monopolisation of training places by TAFE SA and the impact on private training companies.

Boost the number of overseas migrants

South Australia would do well to encourage the Federal Government to favour this state in a way that increases our migrant intake. This would not only provide some respite to population (and other pressures) in other capital cities, but would provide a boost to the skill profile and qualifications profile of the labour force. It is imperative that we take measures to address our slower rate of population growth and reduce the rate of increase in our dependency ratio.

Tax capacity and an increase in dependence

The decline in mass employment manufacturing and manufacturing employment more generally combined with slower population and higher unemployment places further pressure on this state's tax capacity at a time when fiscal outlays will come under still further pressure (e.g. rising health costs as the population ages).

There are a host of subtle implications following from the structure of population, industry, *inter alia*:

- an increased incidence of the elderly with no family support in South Australia (analogous to the geriatrication of the Chinese rural towns);
- an older age profile in public sector service delivery;
- a requirement to address greater capacity in local government to assume responsibility for local and regional services and boosting the skills of elected representatives;
- increased partnerships between state and local government; and
- declining national political representation with a fall in the population share.

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Appendix A

Table A.1: South Australian annual average population aged 15-19, 20-24, 25-29 and 30-34, 1989/90 – 2013/14

	15 – 19 years	20 – 24 years	25 -29 years	30 – 34 years
1989/90	111,578	112,246	117,515	115,772
1990/91	108,194	114,498	114,953	118,083
1991/92	104,520	115,838	112,619	119,178
1992/93	101,284	114,527	110,154	118,956
1993/94	99,472	112,049	108,691	118,135
1994/95	97,734	108,784	107,682	115,683
1995/96	97,531	104,845	107,849	112,322
1996/97	96,966	101,598	108,990	109,915
1997/98	97,557	98,732	108,596	108,467
1998/99	99,342	96,345	106,548	107,291
1999/00	100,953	94,707	103,788	106,963
2000/01	102,446	94,559	99,145	107,867
2001/02	103,116	95,976	96,473	108,740
2002/03	103,590	98,219	94,708	107,988
2003/04	103,332	101,066	93,875	106,193
2004/05	103,427	104,100	94,198	103,964
2005/06	103,331	106,935	95,441	101,489
2006/07	104,914	108,775	97,846	99,805
2007/08	106,221	110,324	101,615	98,744
2008/09	106,652	112,904	106,691	99,048
2009/10	106,360	114,973	110,725	100,251
2010/11	105,808	115,052	112,739	101,912
2011/12	105,080	115,164	114,359	104,359
2012/13	104,429	114,924	114,913	107,658
2013/14	104,763	114,429	115,376	111,195

Source: Australian Bureau of Statistics, Australian Demographic Statistics, December 2014. Cat. No. 3101.0. Table 52. Estimated Resident Population By Single Year of Age.

Table A.2: Net average annual migration, South Australia, Victoria and Australia, 1981/82 to 2013/14

	South Australia			Victoria			Australia Net Overseas Migration
	Net Overseas Migration	Net Interstate Migration	Total	Net Overseas Migration	Net Interstate Migration	Total	
1981/82	8,520	-4,875	3,645	31,144	-14,429	16,715	128,117
1982/83	6,417	-328	6,089	19,674	-5,136	14,538	73,295
1983/84	3,969	553	4,522	14,730	-3,340	11,390	49,098
1984/85	4,329	-2,317	2,012	20,158	-5,799	14,359	73,708
1985/86	5,084	-1,417	3,667	26,420	-13,201	13,219	100,359
1986/87	6,200	-3,977	2,223	32,836	-13,105	19,731	125,730
1987/88	5,952	-1,240	4,712	37,252	-14,423	22,829	149,341
1988/89	6,665	-221	6,444	39,414	-12,504	26,910	157,436
1989/90	5,762	-252	5,510	34,013	-7,829	26,184	124,647
1990/91	4,619	1,545	6,164	23,513	-14,853	8,660	86,432
1991/92	2,897	-658	2,239	18,362	-18,427	-65	68,580
1992/93	1,546	-5,210	-3,664	7,965	-25,388	-17,423	30,042
1993/94	1,994	-3,978	-1,984	10,698	-29,195	-18,497	46,549
1994/95	2,883	-7,069	-4,186	19,295	-22,020	-2,725	80,125
1995/96	3,653	-6,192	-2,539	25,692	-12,800	12,892	104,137
1996/97	3,106	-3,318	-212	21,078	-6,195	14,883	87,079
1997/98	3,160	-1,996	1,164	19,313	-270	19,043	79,162
1998/99	2,682	-1,631	1,051	24,691	2,527	27,218	96,483
1999/00	3,829	-3,531	298	26,982	5,219	32,201	107,275
2000/01	2,765	-2,418	347	35,336	5,163	40,499	135,673
2001/02	2,798	-1,308	1,490	20,252	3,609	23,861	110,556
2002/03	3,904	-1,191	2,713	26,777	-743	26,034	116,498
2003/04	4,305	-2,910	1,395	25,020	-3,051	21,969	99,966
2004/05	7,020	-3,226	3,794	32,292	-3,070	29,222	123,763
2005/06	9,813	-2,711	7,102	39,561	-1,831	37,730	146,753
2006/07	14,633	-3,371	11,262	62,539	-1,617	60,922	232,796
2007/08	15,327	-4,221	11,106	73,562	-1,924	71,638	277,338
2008/09	18,005	-4,402	13,603	83,616	1,523	85,139	299,866
2009/10	14,537	-2,709	11,828	53,679	3,314	56,993	196,058
2010/11	9,168	-2,614	6,554	44,631	3,534	48,165	180,372
2011/12	11,351	-2,424	8,927	54,415	1,439	55,854	229,408
2012/13	10,849	-3,973	6,876	55,627	5,443	61,070	227,141
2013/14	11,072	-2,968	8,104	58,649	8,783	67,432	205,823

Source: ABS (2015), Australian Demographic Statistics, Dec 2014, cat. no. 3101.0, Table 2. Population Change, Components - States and Territories (Number).

Table A.3: Financial year GSP/GDP (chain volume measures) per person, South Australia, Victoria and Australia, dollars, 1989/90 to 2013/14

	South Australia	Victoria	Australia
1989/90	38,697	40,740	44,146
1990/91	38,085	39,281	43,362
1991/92	37,135	38,471	43,021
1992/93	38,145	40,052	44,325
1993/94	39,274	41,343	45,692
1994/95	39,830	42,441	46,983
1995/96	41,488	43,651	48,250
1996/97	42,344	44,894	49,578
1997/98	44,312	46,983	51,261
1998/99	44,987	49,421	53,261
1999/00	45,620	50,854	54,699
2000/01	46,597	50,812	55,082
2001/02	48,300	52,372	56,519
2002/03	49,039	53,668	57,601
2003/04	50,910	55,040	59,334
2004/05	51,520	56,551	60,548
2005/06	51,805	56,979	61,541
2006/07	52,410	58,141	62,825
2007/08	54,798	58,919	63,917
2008/09	55,363	58,415	63,667
2009/10	55,293	58,295	63,795
2010/11	56,166	58,524	64,368
2011/12	56,474	59,178	65,709
2012/13	56,470	59,376	66,200
2013/14	56,680	59,269	66,803

Source: ABS (2015), Australian National Accounts: State Accounts, 2013-14, cat. no. 5220.0 and ABS, Australian Demographic Statistics, December 2014. Cat. No. 3101.0 and SACES calculations.

Table A.4: Financial year average employment to population ratios, South Australia, Victoria and Australia, per cent, 1981/82 – 2013/14, trend

	South Australia	Victoria	Australia
1981/82	55.8	57.7	57.2
1982/83	53.8	55.6	55.1
1983/84	53.3	55.2	54.6
1984/85	54.3	56.0	55.3
1985/86	55.3	57.2	56.5
1986/87	55.8	58.2	56.8
1987/88	55.5	58.6	57.3
1988/89	57.1	59.6	58.5
1989/90	57.9	61.2	59.6
1990/91	57.3	58.8	58.3
1991/92	54.8	56.1	56.4
1992/93	54.3	55.2	55.7
1993/94	54.5	55.2	56.1
1994/95	55.1	56.8	57.6
1995/96	55.7	57.9	58.3
1996/97	55.4	57.7	57.9
1997/98	54.8	57.8	57.9
1998/99	54.7	58.1	58.3
1999/00	55.8	58.3	58.8
2000/01	55.8	59.4	59.2
2001/02	56.1	59.2	59.1
2002/03	57.3	59.6	59.7
2003/04	57.9	59.6	59.8
2004/05	58.2	60.6	60.6
2005/06	59.0	60.9	61.3
2006/07	59.4	61.7	62.0
2007/08	59.9	62.3	62.6
2008/09	60.2	61.4	62.3
2009/10	59.8	61.6	61.7
2010/11	60.0	62.3	62.2
2011/12	59.8	61.8	61.9
2012/13	59.3	61.3	61.6
2013/14	58.0	60.5	60.9

Source: ABS (2015), Labour Force, Australia, Sep 2015, cat. no. 6202.0, Table 1. Labour force status by Sex, Australia - Trend, Seasonally adjusted and Original; Table 5. Labour force status by Sex, Victoria - Trend, Seasonally adjusted and Original; and Table 7. Labour force status by Sex, South Australia - Trend, Seasonally adjusted and Original.

Table A.5: Average annual employment by industry and share of total employment Victoria, 1985/86 and 2013/14

	1985/86		2013/14	
	'000	Per cent	'000	Per cent
Agriculture, forestry and fishing	100.5	5.5	88.9	3.1
Mining	6.2	0.3	13.4	0.5
Manufacturing	363.5	19.9	275.9	9.7
Electricity, gas, water and waste services	43.5	2.4	37.1	1.3
Construction	113.8	6.2	244.4	8.6
Wholesale trade	91.9	5.0	113.5	4.0
Retail trade	192.7	10.6	309.9	10.8
Accommodation and food services	76.2	4.2	180.5	6.3
Transport, postal and warehousing	100.0	5.5	142.8	5.0
Information media and telecommunications	43.4	2.4	55.7	1.9
Financial and insurance services	78.9	4.3	115.7	4.1
Rental, hiring and real estate services	18.1	1.0	41.2	1.4
Professional, scientific and technical services	79.1	4.3	251.4	8.8
Administrative and support services	35.6	2.0	96.8	3.4
Public administration and safety	105.2	5.8	142.6	5.0
Education and training	136.5	7.5	228.1	8.0
Health care and social assistance	144.5	7.9	353.3	12.4
Arts and recreation services	17.0	0.9	55.2	1.9
Other services	76.5	4.2	111.3	3.9
Total	1,822.8	100	2,857.3	100

Source: ABS (2015), Labour Force, Australia, Detailed Quarterly, Aug 2015, cat. No. 6291.0.55.003.

Table A.6: Average annual employment by industry and share of total employment Australia, 1985/86 and 2013/14

	1985/86		2013/14	
	'000	Per cent	'000	Per cent
Agriculture, forestry and fishing	425.5	6.2	311.3	2.7
Mining	105.8	1.5	266.5	2.3
Manufacturing	1,082.4	15.8	926.7	8.1
Electricity, gas, water and waste services	153.0	2.2	151.0	1.3
Construction	479.6	7.0	1,022.9	8.9
Wholesale trade	358.0	5.2	391.9	3.4
Retail trade	733.1	10.7	1,217.7	10.6
Accommodation and food services	338.6	4.9	757.2	6.6
Transport, postal and warehousing	409.9	6.0	588.5	5.1
Information media and telecommunications	165.7	2.4	196.4	1.7
Financial and insurance services	294.5	4.3	414.1	3.6
Rental, hiring and real estate services	91.3	1.3	203.2	1.8
Professional, scientific and technical services	284.8	4.2	901.2	7.9
Administrative and support services	132.3	1.9	385.7	3.4
Public administration and safety	391.7	5.7	747.0	6.5
Education and training	461.3	6.7	894.4	7.8
Health care and social assistance	565.1	8.2	1,392.5	12.2
Arts and recreation services	76.9	1.1	201.7	1.8
Other services	300.3	4.4	482.2	4.2
Total	6,849.5	100	11,451.8	100

Source: ABS (2015), Labour Force, Australia, Detailed Quarterly, Aug 2015, cat. No. 6291.0.55.003.

Table A.7: Average annual full-time/part-time share of Victorian employment in industry, 1985/86 and 2013/14, per cent

	1985/86		2013/14	
	Full-time	Part-time	Full-time	Part-time
Agriculture, forestry and fishing	79.2	20.8	72.7	27.3
Mining	96.8	3.2	96.5	3.5
Manufacturing	92.7	7.3	83.6	16.4
Electricity, gas, water and waste Services	99.4	0.6	91.3	8.7
Construction	87.4	12.6	85.6	14.4
Wholesale trade	90.6	9.4	82.2	17.8
Retail trade	67.9	32.1	49.4	50.6
Accommodation and food services	58.7	41.3	40.7	59.3
Transport, postal and warehousing	92.1	7.9	81.5	18.5
Information media and telecommunications	87.1	12.9	77.8	22.2
Financial and insurance Services	90.5	9.5	83.0	17.0
Rental, Hiring and Real Estate Services	86.6	13.4	74.5	25.5
Professional, scientific and technical services	81.3	18.7	78.3	21.7
Administrative and support services	78.8	21.2	55.7	44.3
Public administration and safety	86.7	13.3	78.2	21.8
Education and training	72.9	27.1	63.0	37.0
Health care and social assistance	65.7	34.3	53.3	46.7
Arts and recreation services	57.6	42.4	51.2	48.8
Other services	80.8	19.2	67.9	32.1
Average	81.7	18.3	71.9	28.1

Source: ABS (2015), Labour Force, Australia, Detailed Quarterly, Aug 2015, cat. no. 6291.0.55.003.

Table A.8: Average annual full-time/part-time share of Australian employment in industry, 1985/86 and 2013/14, per cent

	1985/86		2013/14	
	Full-time	Part-time	Full-time	Part-time
Agriculture, forestry and fishing	79.9	20.1	74.1	25.9
Mining	98.2	1.8	96.8	3.2
Manufacturing	92.5	7.5	83.9	16.1
Electricity, gas, water and waste services	98.6	1.4	91.7	8.3
Construction	88.8	11.2	85.9	14.1
Wholesale trade	89.3	10.7	83.3	16.7
Retail trade	68.0	32.0	50.9	49.1
Accommodation and food services	58.2	41.8	42.2	57.8
Transport, postal and warehousing	91.2	8.8	79.6	20.4
Information media and telecommunications	86.3	13.7	78.2	21.8
Financial and insurance services	89.7	10.3	82.8	17.2
Rental, hiring and real estate services	83.0	17.0	75.4	24.6
Professional, scientific and technical services	81.4	18.6	78.3	21.7
Administrative and support services	75.0	25.0	57.2	42.8
Public administration and safety	91.9	8.1	82.7	17.3
Education and training	71.6	28.4	61.6	38.4
Health care and social assistance	69.3	30.7	56.3	43.7
Arts and recreation services	64.4	35.6	53.4	46.6
Other services	78.5	21.5	70.7	29.3
Average	81.9	18.1	72.9	27.1

Source: ABS (2015), Labour Force, Australia, Detailed Quarterly, Aug 2015, cat. no. 6291.0.55.003.

Table A.9: Financial year average participation rate by age group, 1991/92, 1996/97, 2001/02, 2006/07, 2011/12 and 2014/15, South Australia, Victoria and Australia

		1991/92	1996/97	2001/02	2006/07	2011/12	2014/15
15 – 24 years old	South Australia	70.2	70.9	71.7	71.2	67.2	65.5
	Victoria	67.5	70.0	69.8	68.7	66.2	65.1
	Australia	68.9	70.7	70.5	70.6	67.3	66.4
25 – 54 years old	South Australia	79.9	80.3	79.4	81.9	82.8	82.3
	Victoria	80.4	80.9	81.2	82.9	83.0	82.8
	Australia	79.6	80.1	80.6	82.4	82.9	83.1
55 – 59 years old	South Australia	55.1	56.8	57.3	65.2	73.9	73.6
	Victoria	54.7	58.8	60.1	67.8	72.7	75.1
	Australia	54.5	58.0	61.1	68.0	72.9	73.1
60 – 64 years old	South Australia	29.7	27.8	33.3	43.4	51.1	53.9
	Victoria	32.1	32.1	36.4	46.0	54.1	55.5
	Australia	32.4	31.6	36.0	45.4	52.9	54.7
65 years and over	South Australia	4.0	5.4	4.9	7.5	10.8	11.1
	Victoria	5.8	5.7	6.5	8.1	12.1	12.6
	Australia	5.2	5.6	6.4	8.3	11.6	12.1

Note: Calculated as financial year averages of monthly data.
Source: ABS (2015), Labour Force, Australia, Detailed - Electronic Delivery, July 2015.

End Notes:

- 1 *The Advertiser* (2015), "State Bank collapse 'not to blame' for current malaise", 15 December.
- 2 Productivity Commission (2015), "Migrant Intake into Australia, Draft Report, p. 3.
- 3 "ABS survey finds an ageing Australia and jumps in Victoria, Queensland populations, *The Age*, 17 December 2015.
- 4 Thomson, L. (2014), "Migrant Employment Pattern in Australia: post Second World War to the present".
- 5 Those 15 years and over and not in full-time education. If full-time/part-time status not stated person has been excluded. Excludes inadequately described and not stated education level.
- 6 Calculated from Census Tablebuilder.
- 7 As 1989/90 is the earliest year for which GSP is published as chain volume measures by the ABS.
- 8 There are a number of ratios that could be calculated such as by gender, by age cohort, by migrant status, etc.
- 9 ABS, *Labour Force*, Australia (Cat. No. 6202.0).
- 10 Age Dependency Ratio = $\frac{(\text{Aged } 0-14 + \text{Aged } 65 \text{ and over})}{\text{Population aged } 15-64} \times 100$.
- 11 Includes Aged and Disabled Carers.
- 12 Rapid growth in the Asian economies, including South Korea, Singapore, Taiwan, Hong Kong and more recently China is associated with a demographic dividend with dramatic increases in per capita income, workforce participation of women, improvements in public health and investment in education of young people.