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EXECUTIVE SUMMARY

The ACT Skills Commission commissioned Access Economics to look out towards 2015 to consider:

- Past and future demographic and labour force trends in the ACT and the region.
- Past and future training trends in the ACT and the region.
- Past and future child care trends in the ACT and the region.
- An assessment of current ‘gaps’ between actual and potential ACT participation rates.

THE POLICY BACKDROP

The ageing of the baby boomers will eat into economic growth, particularly through the years of maximum retirement from 2012. And, in combination with relative health cost inflation, ageing will have an even larger impact on the Federal and ACT Budgets.

Related points are made at length in Federal Treasury’s 2007 *Intergenerational Report* and the Productivity Commission’s 2005 *Economic Implications of an Ageing Australia*.

Hence Federal Treasury has been urging faster productivity growth and higher levels of participation, as the resultant increase in the size of the economy would directly address many of the risks associated with slowing economic growth and rising fiscal costs.

That is why Federal Treasury researchers have been making the point that one way to increase both productivity and participation is to have a higher skilled workforce. Productivity rises due to increased skills, and participation rises as those increased skills lead to higher wages, a reduced likelihood of unemployment and (typically) better working conditions.

Such points have been made in the Treasury Working Paper 2003-03 *A Note on Educational Attainment and Labour Force Participation in Australia* by Steven Kennedy and David Hedley which provides an overview of the different labour market behaviours of people with different skill attributes. It highlights the challenges faced by the low skilled in the labour market.

This project traverses similar territory. In particular, it asks where participation rates in the ACT could be lifted to help the local community address some coming challenges.

THE IMPORTANCE OF PARTICIPATION

The capacity of any economy is bounded by the so-called ‘3Ps’ of population, participation and productivity. The sum of these determines the size and effectiveness of the workforce.

Although population projections are detailed at length and productivity is discussed, the focus of this report is on participation: the willingness of workers to participate in the labour force.

Such a focus is often couched in terms of the benefits to the economy and community, boosting output or output per capita. However, the benefits of improving participation rates in disadvantaged groups within the community operate on a range of levels. As is often noted, the best defence against poverty and economic hardship is having a job. Lower participation rates are indicative of discouraged workers, implying that improving the participation of groups in the economy will boost the individuals as much as the economy in general.
Workforce participation has become of increasing policy importance as the long expansion in the Australian economy has cut unemployment rates to generational lows. Combined with the impending retirement of the baby boom generation born after World War Two, the main focus of policymakers has shifted from job generation (‘competition for jobs’) to increasing the supply of workers (‘competition for workers’).

**DEMOGRAPHIC TRENDS AND THE ACT OUTLOOK**

- While birth rates have stabilised and levels of births have seen a mini-boom (driven by the arrival of grandchildren for the baby boomers), local population growth will stall (and indeed, fall) without net migration from elsewhere.

- Demographic ageing will see a rapid increase in the number of older persons, both in absolute terms and relative to other groups in the population. As a simplistic guide, a man can expect to live almost 10 years longer than his father, and a woman can expect to live some 8 years longer than her mother. While slowing overall, growth in younger age groups will be even weaker than the average.

**GROWTH RATES – TOTAL POPULATION**

![Growth Rates Chart](chart.png)

- Overall population growth forecasts to 2015 are shown in the chart above. The ACT is projected by Access Economics (and by the ABS) as having population growth less than the national average. Mechanically, that is as the rest of the country receives a relatively larger boost from international migration (the ACT receives just 0.5% of international migrants coming to Australia despite having over 1.5% of total population), while the ACT’s growth is also lowered marginally by net interstate migration outflow.

- The key drivers of population growth in the ACT – fertility and mortality – are largely set, and the Territory receives little growth (or loss) via international migration. That leaves interstate movements as the key ‘swing’ factor that could move population growth rates significantly above or below the rates shown above – with the relatively large rates of movement meaning there is more uncertainty over the size (and direction) of population flow. Both these projections, and those of the ABS, foresee slight losses to population through interstate migration in the next decade.
At the economic level, the medium term outlook for interstate migration is weaker because:

- Not all of the sharp boost to Federal revenues and spending in recent years – funded by a China-driven boom in commodity revenues – is expected to be permanent, and because
- The delivery of government services has the potential to see greater gains in efficiencies (productivity) than the national average, as office-based work environments are participating strongly in the productivity gains from adopting new technologies.

And, there are underlying social trends that work against the ACT. Retirees tend not to stay in Canberra. As the chart below shows, the ACT’s net migration trends see a relative gain of people aged in early adulthood, but a relative loss at ages around retirement. Figures for 2005-06 show this – but as the ACT’s population is already skewed towards younger age groups, (other things being equal) the Territory should find it easier to see a net gain in these age groups’ and harder in younger age groups.

Even given those tendencies, the local population is likely to ‘age’ relatively quickly in the longer term due to the ACT’s overrepresentation among young to early middle age workers, and underrepresentation among retirees. The last few years have seen the net losses at around retirement age roughly halve in size (and a gradual increase in the net gains of those aged 75 and over), suggesting that more retirees are staying in Canberra (or coming to be where their children are).

However, the Territory will still have a relatively young population in 2015, reflecting a tendency for interstate migration to arrive at younger ages. This is itself unusual, with slower growing States (such as South Australia and Tasmania) typically having relatively older populations.

That conclusion is offset partly when considering the broader local region which (as is common outside capital cities) has a significant ‘hole’ in population in early adulthood and a relatively large number of people aged 50 and over. However, the total South East NSW region still sees a marginally younger age profile than the national average.

---

1 Because, relatively speaking, there are fewer people in this age group available to leave the ACT than there are other States available to move here.
Labour force trends and the ACT outlook

A worker’s willingness to participate in the labour force governs their labour supply. In brief, aggregate rates of participation are higher:

- Where age distribution is skewed towards ‘working age population’ – traditionally those aged 15 to 64 years (which is why the ‘younger’ populations of the ACT and the Northern Territory have higher aggregate participation than ‘older’ Tasmania and SA).
- Where economies are stronger (creating an ‘encouraged worker’ effect – seen, for example, in aggregate participation rates of Western Australia of late).
- Where education levels are higher (as higher skills command higher wages, which not merely encourages more people to work, it also encourages them to have longer careers – another reason why aggregate participation tends to be higher in the ACT).
- Where birth rates are lower (as many parents choose to stay at home with young children – thereby lowering aggregate participation rates where birth rates are lower, and raising them where birth rates are higher).
- Where facility in English is higher, affecting participation among migrant groups.

The outlook for participation – the ‘expected’ scenario

The outlook for participation rates over the medium term sees a tug-of-war between two opposing factors:

- A general tendency for participation rates to decline as the population ages; but
- An increase in participation rates in some older age groups due to increasing life expectancy, increasing levels of health and concerns about funding of retirement.

Over the longer term, the first factor will dominate, and participation rates will decline from the middle of the next decade. But the trajectory to that point is more complicated.

Forecast participation rates

Source: ABS Cat. 6202.0, Access Economics
The above shows past and projected participation rates in Australia and the ACT. In the short term (to around 2010) we expect increasing participation rates as mature age participation in particular increases due to a combination of demand factors (skill shortages, a strong economy, good wages growth etc) and supply factors (increasing health, increasing acceptance of the need to fund a longer than anticipated retirement).

In the last few years of the projection, however, the trend reverses, and it eventually reverses quite sharply. This occurs because the weight of retirement of the peak of the baby boom generation reached age 65. It is important to remember that, despite increasing mature age workforce participation, the underlying direction of participation will come under very strong pressure from the middle part of the next decade.

**The impact of improved participation – OECD 80\textsuperscript{th} percentile target scenario**

The projections above assume a modest lift in participation by the mature aged. However, Australia currently lags well behind many other OECD countries on participation, meaning that the supply of workers in the economy is below what it could possibly be.

This report also examines what might happen if Australia boosted its general participation rates to match the 80\textsuperscript{th} percentile in the OECD – basically lifting us to rank 6\textsuperscript{th} in participation among the members of the OECD. That said, a complicating factor here is that the ACT is already ahead of the game – current ACT participation rates are already above both the national average, but also above the target rates (of 80\textsuperscript{th} percentile in the OECD). Merely moving the ACT’s participation rates to the target rate would actually lower participation rates, rather than indicating what might occur if a better-than-anticipated outcome were achieved. We therefore assume that, while national participation rates move to the 80\textsuperscript{th} percentile OECD target rate, ACT rates maintain their present offsets from the national rate.

**POSSIBLE PARTICIPATION RATES FOR THE ACT**

Three possible outcomes are shown above:

- **‘No change’** – meaning that there is no change in age-specific participation rates from their 2006-07 averages.
‘Expected’ – AE’ current forecasts, which assume a lift in mature age population.

‘Target’ – assumes national age-specific participation rates move to the 80th percentile for the OECD by 2014-15, while ACT rates maintain their relative gap above Australia’s.

ACT participation rates in some age groups are already very high, so improvements in those rates are harder to achieve. The larger impact is due to the relative levels of those aged in their 50s compared with those aged in their 60s in the ACT.

As the ACT has a relatively larger share of population in their fifties (slightly above the national average) and because over the forecast period the ACT sees a relatively large increase in those aged 60 and over, the impacts of ageing on the local participation rate are particularly large.

As a result, the ‘target’ scenario sees rather more benefits to the rest of Australia than the ACT. Or, in other words, the ACT’s current outperformance on participation may be eroded in coming years as the rest of Australia has a greater capacity to ‘catch up’ to best practice participation. So whereas the ‘no change’ scenario implies a potential increase in the 2014-15 ACT workforce of 8,888 people, the ‘Target’ scenario adds only an extra 3,371 people over and above the ‘no change’ scenario.

<table>
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<tr>
<td></td>
<td>(A)</td>
<td>(B)</td>
<td>(C)</td>
<td>(D)</td>
</tr>
<tr>
<td>Total</td>
<td>299,311</td>
<td>8,888</td>
<td>3,371</td>
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<td>Aged 15-24</td>
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<td>-1,342</td>
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<td>1,810</td>
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TRAINING TRENDS AND THE ACT OUTLOOK

But how might these potential extra workers be tempted into the workforce?

This report has not been asked to spell out possible policy options, but it has been charged with an analysis of training trends. That is important, because the link between current and potential in participation and productivity lies with education and training.

Ever since the release of the first Intergenerational Report in 2002, researchers in the Federal Treasury have been making the point that one way to increase both productivity and participation is to have a higher skilled workforce. Productivity rises due to increased skills, and participation rises as those increased skills lead to higher wages, a reduced likelihood of unemployment and (typically) better working conditions.

The analysis here looks at current rates of education and training in the ACT. The overall level of demand for education and training in the ACT has been increasing over the last decade. Numbers of students undertaking vocational education and training, apprenticeships and traineeships and commencing higher education have been rising, adding to the relative wealth in educational attainment within the ACT population.
More broadly, the ACT has the best trained population in the country, with almost 60% of people aged 15 to 64 possessing some form of non-school qualification (such as a university degree, diploma, training certificate etc), compared to the national average of just 52.4%, while almost one quarter of the ACT working age population holds a bachelor degree, with a further 11% holding postgraduate qualifications.

The Federal public service – by far the largest employer in the ACT – requires minimum educational qualification standards for many of its employees. This underpins much of the relatively high educational attainment and workforce participation rate of the ACT population.

The ACT has the highest year 12 retention rate for both males and females in Australia and also the highest proportion of education participation among 20 to 24 year olds.

That broad strength in education and training suggests some potential to lift participation rates in the ACT further. What is not clear from this analysis is whether current training trends are sufficient to meet the demands of the ‘target’ scenario seen above.

**CHILD CARE TRENDS AND THE ACT OUTLOOK**

One final supply side factor of the labour market is also worth assessing here. **Child care facilities can help to encourage higher levels of participation.**

The combination of the ACT’s young population and high levels of workforce participation mean that – despite our below average birthrates – the local community makes above average use of child care. The coming decade is likely to see some trends collide. **Raising demand for child care in the ACT will be:**

- The recent strong gains in local employment and, associated with that, rising ACT participation rates.
- The recent lift in numbers of births.
- Increased Federal subsidies for child care, and changes in the way support is paid.
- The lift in the threshold at which the tax rate lifts to 30 cents in the dollar (from 15 cents) from $25,001 to $30,001.
- The recent lift in mortgage rates (a ‘push’ factor into the workforce, as opposed to the ‘pull’ factor of strong employment gains).

**Lowering demand for child care in the ACT will be:**

- The long term downtrend in birth rates.
- The extent to which the recent lift in births proves to be a temporary ‘echo’ effect.
- The extent to which the recent boost to jobs and participation proves to be a temporary impact from strong Federal revenue gains due to the China boom.
- The extent to which the recent lift in mortgages rates also proves temporary.

The forecasting methodology here is mechanical in nature. It models two alternatives which may be regarded as the bounds for demand given the underlying population trends.

The lower bound assumes constant utilisation rates by age of the children (that is, changes in child care usage are purely driven by demographic demand). The upper bound approach assumes the change in participation rates in the ‘expected’ scenario also has an impact –
that is, demographics plus usage. Note the forecasts in the ‘expected’ scenario allow directly and indirectly for some but not all of the factors noted above.

In both cases there is a relative lift in child care demand which, in turn, Access Economics has modelled as leading to an increased reliance on more formal channels of child care in preference to less formal channels.

The lower bound implies that, by 2014-15, 32,500 ACT children might be in some level of formal or informal child care – or 60.9% of those aged 0 to 11.

The upper bound – allowing for a change in usage – implies that, by 2014-15, that figure may be closer to 38,000 – or more than 71% of ACT children.

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<td>Informal care only</td>
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<tr>
<td>Total in care</td>
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<td>Share of children</td>
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<th>Shares by age group</th>
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<tr>
<td>Aged 0-4</td>
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<td>Aged 5-11</td>
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PARTICIPATION ‘GAPS’ IN THE ACT

Who is not working? Those ‘not in the labour force’ have shrunk over time amid continuing good employment gains (although the fall is more evident nationally than in the ACT). Of that group of 61,700 people, some three-quarters remain outside the labour force by choice – including many mothers of young children, and many of the disabled, as well as students and retirees. A small number – only around 200 – count themselves as ‘discouraged workers’.

The official statistics show some 3,000 people in the ACT ‘actively looking for work’ and a further 7,700 people not actively looking for work, but available to start work within four weeks. Those numbers broadly correspond with the estimates of the potential upside in numbers of people in the ACT workforce by 2014-15. The ‘no change’ scenario discussed earlier implies a potential increase in the 2014-15 ACT workforce of 8,888 people, while the ‘Target’ scenario adds an extra 3,371 people over and above the ‘no change’ scenario.
1. DEMOGRAPHIC TRENDS FOR THE ACT

Canberra’s population growth rate has exceeded the national average from the time King O’Malley drove in the town’s first peg until the mid-1990s – often by a considerable margin (see Chart 1 – with the left panel illustrating ten-year average growth rates in population, and the right panel the Territory’s share of Australia’s total population).

Initially, that surge in population growth reflected the establishment of a number of major Government functions in Canberra, a process that was halted to an extent by the both the Depression and the Second World War.

The second great burst of local expansion was caused by the consolidation of that original plan (moving considerably more functions from Melbourne to Canberra) but also the gradual increase in the importance of Government (and particularly the Federal Government) in the Australian economy – demands for services from the Government increased steadily over time as real average incomes did the same. (More broadly, governments increased their share of the economy around the world during the twentieth century, as rising prosperity triggered increased expectations of government services.)

With the transfer phase largely completed by the early 1970s (and a combination of an economic downturn and a change in government ideology putting the brakes on overall public sector expansion), the local population growth rate largely returned to rates broadly in line with the national average.

In more recent years population growth in the Territory has fallen behind the national average, partly due to a period of significant downturn during the final years of the Keating Government and the early years of the Howard Government, but also in line with more general regional trends, which have seen population growth in Australia swing away from New South Wales and towards Queensland and Western Australia (and in part, Victoria).

---

2 That was also true of growth rates in the local economy too, though good data on the State and Territory economies effectively only dates back to the mid-1980s. These charts are in terms of population, because good data on population stretches back rather further than it does on output.
With the ACT population now having entered a more mature phase, the prospects for further growth will differ from those in earlier years. The rest of this chapter outlines the changing drivers of Canberra’s population growth, particularly since the end of the great expansionary phases of population growth rates in the sixty years to 1975.

1.1 DETERMINANTS OF POPULATION GROWTH

Population growth is dependent on three broad factors:

- **Births** (commonly measured by fertility rates);
- **Deaths** (measured by mortality rates, but often expressed in terms of life expectancy);
- **Migration** (which can be further split between international migrants and the movements between the States and Territories).

The key trends in births and deaths have been broadly similar in Australia and the Territory itself, while international and domestic migration trends have been (and will always tend to be) the key driver of the differential growth between Australia and the ACT.

1.2 TRENDS IN FERTILITY

Fertility is a general term that covers the relationship between the current population (and typically the current female population) and current numbers of births. A number of measures of fertility exist, of which the total fertility rate (or TFR) is the most commonly used. It is, however, important to be clear about what the TFR is, and what it is not.

**Technical measures of fertility**

The TFR is a sum of the current age-specific fertility rates (ASFRs) for women across their ‘reproductive lifespan’ – generally modelled as between the ages of 15 and 49. It is not really (although it is often described as) the average number of children a woman is expected to have across her life. That is because the ASFR of each age cohort changes over time – the ASFR that women currently aged 20-24 will experience when they are 30-34 will be different from the ASFR for women aged 30-34 at the present time, just as women currently aged 30-34 exhibited a different (27% higher) ASFR when they were 20-24 to women currently in the younger age group.

The TFR implicitly assumes this is not the case (and so, a TFR of 1.8 effectively says that if ASFRs do not change across the next 35 years, then women currently entering reproductive age – that is, those aged 15 years old at present – would expect to have an average of 1.8 children across their lifetime).

---

3 As with a number of ‘shortcuts’ in demographic modelling, the model effectively adds the births of children to women aged outside of this range to the nearest modelled range – so children born to women aged in their fifties are accounted for by slightly increasing the probability that a 49-year old women would have a child in a given year.
The comparative term (to the TFR) that best identifies an individual cohort’s birth rate is the completed fertility rate (CFR) – a measure of the average number of children that women reaching the end of their reproductive lives have had. However, this can only be measured once the reproductive period has been completed (otherwise, even now, it is only a forecast).

Even as the TFR has risen in recent years, the CFR is declining and will almost certainly fall much further – indeed, as the base forecasts for TFR tend to have it stabilising in the long-term, the CFR is forecast to fall from around 2.25 at present down to 1.8 over the next generation.

Chart 2 shows historical and forecast movements in the national TFR and CFR over the past 80 years (and the resultant profile if the TFR were to remain at 1.8 and ASFRs were to be broadly stable as well). While the TFR remains basically constant at its current rate, the CFR takes much longer to decline to equal the TFR (which it will eventually do if ASFRs remain constant – although it takes an entire ‘generation’ or 35 years for the two lines to converge).

The third line in the chart (the replacement rate) is a measure of the number of births the average woman would need to maintain the population in the long term in the absence of migration from overseas. This is an indicative figure, which can vary from source to source, although the value used here of 2.1 is the most commonly cited in the Australian context.

Other countries tend to quote lower values, 2.05 being another commonly used value. In truth, the value has probably declined towards 2 over recent years as mortality rates have declined in key age groups, although the gradual delaying of childbirth has had a mitigating effect on this trend. However, given the strong influence of migration on population levels, the value chosen will really only ever be a guide.

**Fertility measures in the ACT and Australia**

Chart 3 shows the national fertility rate since the 1920s and the local comparative rate since the 1950s. After slumping during the depression years (1925-35), fertility rates recovered...
rapidly during World War Two (1939-45), before accelerating even further during the post-war ‘baby boom’ (1945-60). Rates eased during the first half of the 1960s before stabilising until the early 1970s at which point fertility rates slumped dramatically, falling below the ‘replacement rate’ of 2.1 lifetime births per woman.

Fertility rates fell for many reasons – the introduction of the contraceptive pill, increased workforce participation by women and increased costs of child rearing (including the real estate cost of buying a house with an extra bedroom).

Since bottoming out in 2001, the TFR in both ACT and Australia has gradually risen to 1.65 in the ACT and 1.81 in Australia (values for 2005). Although the Territory’s total fertility rate has always been lower than Australian average, the gap between the two has somewhat narrowed since 2001.

The recent increase in the total fertility rate was largely due to an increase in the births to women aged 30 to 34 years. For the sixth consecutive year, women aged 30-34 years experienced the highest fertility of all age groups – with the exception of Tasmania and the Northern Territory. The rate of childbirth for women in this age group increased from 114.4 babies per 1,000 women in 2004 to 117.5 babies per 1,000 women in 2005.

More babies were also born to women aged 35 to 39 years, whose fertility rates have been above those of women aged 20-24 years for the second consecutive year.
As Chart 4 shows, while the overall TFR in the ACT is lower than the national average, this is due primarily to lower rates of birth for younger women (aged under 25), with rates for older age groups at (or above) the national average.
The ACT’s results are more volatile than the national average (as will almost always be the case for a small jurisdiction) meaning that individual results are not always indicative of a trend. However, the charts suggest the ACT has followed the national trends of falling rates of birth for women aged in their twenties but rising rates for those in their thirties and forties.

The charts also show the key factor behind the ACT’s fertility rate falling behind the national rate is the larger than average fall in fertility rates of Canberra women in their twenties.

The ACT’s lower than average fertility rate reflects two factors that set the ACT apart from the rest of the country.

- First, urban areas tend to have lower fertility measures than rural and regional areas – hence the ACT being almost totally urban would naturally expect to have lower fertility rates.
- Second, women with higher average level of education tend to have lower fertility rates, partly due to the postponing of childbearing due to increased participation in higher education and in the workforce. While some of the effect is just ‘postponing’ (and the trend also largely explains the change in the timing of childbearing to later in life), it can result in lower absolute childbirth levels due to increasing difficulty in conceiving children as a woman ages.

**Fertility expectations in the ACT and Australia**

Australia’s TFR has been rising since 2001 – reaching a rate of 1.81 in 2005 (the latest published figures from the Bureau of Statistics).

That trend that has often been described as an ‘increase in birth rates’.

This is correct in many respects, but also misleading in others. The increase is reflected in a rise in the number of children being born in Australia, although the increase is only partially due to the rising TFR, with an increase in the number of women in their child bearing years occurring due to the children of the ‘echo of the baby boom’ (the early 1970s) now reaching their child bearing age.

Current expectations, included in reports such as the Productivity Commission’s ageing report in 2005 and more recent work by Peter Macdonald of the ANU, are that the present rate of fertility is likely to be maintained for some time. While this might suggest no change, the age-specific fertility measures are expected to continue to swing more towards birth from women in their thirties (and away from women in their twenties and below).

As the factors that drive the lower-than-expected ACT rate fertility (relative urbanisation levels and higher than average education) are not expected to change in the medium term, it would be expected that local fertility rates would remain below the national average.

**Impacts of fertility across the period to 2015**

Fertility movements will have a number of different impacts on the demography and economy of the ACT region:

- Although the net impact on health demands would be fairly minor, higher fertility might increase demand for maternity services and then for children’s health services;
- The likely impact on childcare demands may well be more substantial (see chapter 5);
The likely impacts on education demands flow on from those on childcare – although some of the issues related to workforce participation will be muted as the availability of education services is not an issue (as it can be with finding childcare places);

- The impact on labour force participation of childbirth can be critical. The classic ‘M-shape’ in female workforce participation across age drives a significant gap between male and female rates – increasing rates of childbirth, and the age at which it occurs, would tend to lower labour force participation rates even further;

- The impact on the labour market of additional children is of interest in a longer-term analysis – more children more means more workers from the mid-2020s onwards, with flow-on impacts for the national tax base and the ability of taxes to fund long term increases in the health demands of an ageing Australia.

### 1.3 TRENDS IN MORTALITY

While mortality is a measure of the likelihood of dying, it is expressed in terms of the expected length of life for a person born today. Male and female life expectancy and mortality are separate measures and in theory they can move independently of one another, implying different movements in mortality assumptions. In practice they have increased in a similar fashion, although male life expectancy levels have risen even faster, raising them towards the higher female levels.

As a simplistic guide, a man can expect to live almost 10 years longer than his father, and a woman can expect to live some 8 years longer than her mother.

#### Technical measures of mortality

As with TFR (which measures a value calculated across all persons’ current ages rather than one specific to a person of a given age), the life-expectancy at birth is effectively ‘overwritten’ as a person ages due to decreasing mortality rates over time. That is, while the estimate of life expectancy at birth for a male born today (about 79 years) relies on a series of likelihoods of dying at each age (so, there is an assumed 0.096% chance a male aged 20 at the start of the 2006 year will die this year), by the time that person reaches each age the probability of dying will almost certainly be different.

For example, a male born in 1981 would have the calculation of their life expectancy (of 71.2 years) include an assumption that they had a 0.179% change of dying at age 20. However, when they actually reached age 20, they would only have a 0.098% change of dying.\(^4\)

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\(^4\) This is a different effect from the natural increase in life expectancy that a person aged 20 has compared to a newborn – due to the fact that that person has reached age 20, and avoided the possibility (measured at about 1.06% for males) that they would die earlier than that age.
The actual mortality profiles will change over time – Chart 5 shows the Productivity Commission’s ‘high’ life expectancy assumptions for males in 2010 (with a life expectancy at birth of just over 80 years) and in 2050 (with life expectancy having risen to 92.2 years).

A second measure of mortality (and one more useful for short-term analysis) is the death rate – either in crude terms (deaths per head) or standardised to account for differences in the initial population age structure of the region in question.

For example, South Australia has a relatively old population compared to the national average; therefore, it would naturally expect more deaths per head than the average. The standardised figure weights deaths per head (in each age group) as if the population structures were the same – allowing a comparison of rates that may illuminate whether there are underlying health or other factors that are driving differences in mortality.

**Death rates in the ACT and Australia**

There were approximately 1.4% fewer deaths registered in Australia in 2005 compared to 2004. The standardised death rate in 2005 was the lowest on record, slightly lower than that in 2004 and down 38.8% from 1985 (9.8%). Over the past 20 years there has been a decline in the standardised death rates for all States and Territories, with the ACT having the lowest rate.

Chart 6 shows the impact of the ACT’s relatively young population on measure mortality, with the crude death rate – on the right – far lower relative to the national average than the standardised rate – on the left. Population ageing in the ACT has actually lifted the crude death rate consistently since the mid-1970s, while the standardised rate has remained on a downward path, staying slightly below the national average.
This sharply divergent pattern apparent in ACT death rates (a sharply declining standardised rate but an increasing crude rate) is to be expected in a population that is ageing as the Territory’s population has.

As Chart 5 shows, the likelihood of dying increases roughly tenfold between the ages of 40 and 70 – as the share of local population in these age groups rises (that is, as the interstate migration who arrived in the early 1970s aged in their twenties age) then actual death rates are likely to increase – even as increases in the health of the population drive the standardised rates down.

**Life expectancy in the ACT and Australia**

Life expectancy at birth has been steadily increasing over the last decade while infant mortality rates have decreased slightly. As with some of the fertility measures, the ACT figures are relatively volatile, largely due to the small sample. While local infant mortality rates are generally in line with the national average, babies born in the ACT have a higher life expectancy than the national average (as the left panel of Chart 7 illustrates).

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5 Defined as number of deaths per 1,000 standard population. Standardised death rates use total persons in the 2001 Australian population as the standard population.

6 Defined as number of deaths per 1,000 population.
Higher life expectancy in the ACT compared with Australia overall extends to those aged 65 and 85. In 2005, a male of age 65 in ACT could be expected to live another 18.8 years while the comparable figure was 18.1 years for Australia. The difference is smaller once the male reaches age 85 and for females.

Mortality expectations in the ACT and Australia

The outlook is for continuing rises in life expectancy – slightly more for men than women (given that their life expectancies are shorter to begin with), but with little regional difference in either life expectancy or the change in life expectancy.

In brief, age expectancies for men are currently advancing at about 2¼ months every year, and by about 2½ months every year for women.

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7 Defined as number of infant deaths per 1,000 live births.
Impacts of mortality across the period to 2015

Mortality movements can have a number of different impacts on the demography and economy of the region:

- **The impact on health demands.** The chart below shows the link between age and demand for health services. Although there will be an improvement in disability rates over time – the 80 year old of the future will be healthier than the 80 year old of today – that will not be sufficient to outweigh the impact of a swing towards the 'high utilisation' end of the demographic spectrum as Australia and the ACT age.

- **The impact on the labour force.** The likelihood of a fairly predictable and steady rise in life expectancy means that changes to prospects for the size of the ACT’s labour force will be driven more by migration trends (particularly the movements of older persons into and out of the ACT) than by mortality rates *per se*.

**CHART 9: USAGE RATES OF HEALTH SERVICES BY AGE**

1.4 **TRENDS IN INTERNATIONAL MIGRATION**

Births and deaths of those already in Australia account for most of the trends and forecasts for population growth. But as one of the three traditional big intake countries (along with the United States and Canada), international migration can also cause significant changes to Australia’s population growth and composition.

Overall, international migration is forecast to temper both the slowing of population growth and the ageing of the population inherent in the fertility and mortality forecasts.

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8 The chart – sourced from Federal Treasury’s April 2007 *Intergenerational Report* – measures usage rates of the Pharmaceutical Benefits Scheme (PBS), Medicare Benefits Scheme (MBS), and hospitals by age group, with average usage across all Australians set to an index level of 100.
Trends in natural increase (births minus deaths) tend to move relatively slowly, whereas net international migration flows\(^9\) can be rather more volatile (see Chart 10).

This reflects both economic and political factors. When the Australian economy is doing well, especially relative to other potential destinations, official migration targets tend to increase.

More recently, the strength of the Australian economy has led to skill shortages in crucial trades, leading to fears of a “wage breakout”. The recent increase in skilled migration of up to an additional 20,000 per year – only just beginning to flow through to recorded population estimates – is one example. Obviously, skilled migrants will find Australia attractive if their chances of finding a job quickly are high.

**International migration to Australia**

In June 2006 almost one quarter of the Australian population was born overseas; this represents a 1.5% increase per year on average in this group between 1996 and 2006. This increase was higher than that of the Australia-born population (1.1%).

In 2005-06 Australia's population increased by 134,600 persons due to net overseas migration, or some 51% of total population growth for the year. In 2005-06 net overseas migration made a positive contribution to the populations of all States and the Northern Territory. The ACT experienced a slight fall in net overseas migration of 113 people.

In recognition of the clear economic and budgetary advantages of doing so, the Federal Government has steadily moved towards business and skilled migration. The midpoints of the official target intakes for migration levels in the past are shown in Chart 11.

\(^9\) Net overseas migration equals permanent and long-term temporary arrivals less the permanent and long term temporary departures. On average, migrants are younger than residents, which has a minor retarding impact on population ageing, but the fertility rates of migrants are little different to those of residents, so any second round impacts on ageing are minimal.
Note that these figures represent the Government’s target for migration, rather than actual figures that will be influenced by demand for migrant places. In addition the figures are the gross migration inflow to Australia; population outflow to other countries will detract from these estimates.

However, good job prospects tend to attract Australians living overseas to return. They also tend to lift the rate of migration of New Zealanders to Australia as there are fewer regulatory restrictions on New Zealanders coming to Australia than others. Neither of these groups is included in the official intake, and so actual migration tends to fluctuate with the business cycle even when official targets remain constant. For example, net migration hit lows in 1975, 1983 and again in 1992, with those years matching or just lagging Australian recessions (1974-75, 1982-83 and 1991).

After many years of focussing on family migration rather than skilled migration, migration rates fell to an average 115,000 across 2001-02 to 2004-05. Migration has picked up again over the past two years, due to the additional 20,000 skilled migration visas which commenced in 2005. Net migration levels in 2005-06 rose to over 130,000.

Political considerations also have a role to play: the other factor explaining weakness in the wake of recessions is that official targets have sometimes been wound down in response to higher unemployment. Refugee/humanitarian migration is also adjusted according to need and/or judgements about how willing and able Australia is to help.

**International migration to the ACT**

As Chart 12 shows, this measure does not have much significance to the ACT, with very few international migrants arriving in Canberra. Overseas migration, however, has an indirect impact on the ACT through interstate migration of earlier migrants – particularly those who initially settle in New South Wales. These persons will, however, show up as interstate migrants.
Expected trends in international migration

The future world and Australian political and economic situations cannot be forecast with any great accuracy, so future migration trends must allow for a substantial band of uncertainty – a situation that is fairly clear from Chart 10.

Subject to that caveat, overall migrant numbers continue to look very healthy. From an economic viewpoint, and especially in terms of their job market impact, the increase in the number of skilled migrants is very important. In fact today’s average new migrants, particularly those from the skilled stream, have skills greater than those of existing residents, a factor that will help lift both Australia’s productivity and participation rate in coming years.

In response to forecasts of an almost stagnant working age population in the 2020s, business groups have been pushing for a more radical increase in the migrant intake, particularly skilled migration, in the context of the development of a whole population policy.

Other groups would like to see family reunion and humanitarian migration, as well as skilled migration, increase. There has been little change to the official refugee and other humanitarian intake in recent years, except that places in the 2002-03 refugee program were reallocated to refugees approved from overseas.

A policy of greater immigration, skilled or otherwise, is not universally supported. Some green groups oppose policies aimed at increasing the population, arguing that the Australian environment is too fragile and lacking in water and soil resources to support more people. Opposition has also come from some quarters who doubt Australia has the ability to harmoniously absorb greater numbers of immigrants.

That suggests that the current target rate, around 145,000 per year will be maintained in the short to medium term. However, longer run considerations – such as the ageing of the population and the relative decline of taxpayers to retirees – may see migration levels begin to increase eventually.
The projections shown in Chart 13 allow for 145,000 per year until that number falls below 0.6% of the Australian population, at which point migration levels are projected to begin to edge up again in line with the total Australian population. By 2031, net migration is expected to reach 163,500, and be rising at around 1,500 per year.

**Chart 13: Assumed net migrant intake for Australia**

[Source: ABS Cat 3101.0, Access Economics]

**Impacts of international migration across the period to 2015**

Given the relatively small measured and projected international population flow into and out of the ACT, this measure does not have as much direct significance for population projections in the ACT as it does nationally, although overall national trends are important both in terms of population projections and in relation to skills shortages.

As noted above, there is some further indirect impact through interstate migration of earlier migrants – particularly those who initially settle in New South Wales.

**1.5 Trends in interstate migration**

As Chart 12 suggests, interstate migration is the key swing factor in determining the pace of local population growth. Indeed, most of the extra growth in population across Canberra’s history (see Chart 1) is due to the steady inflow of Australians into Canberra as Federal Government functions were relocated to the town.

**National trends in interstate migration**

Interestingly, levels of interstate movement in general in Australia have declined sharply since 2002 after almost 400,000 Australians changed their State of residence during the year.

The 2005-06 year saw fewer than 350,000 such moves, the lowest level since 1994 and the lowest as a share of national population since 1984.
This downturn marks a sharp break from the longer term trends of increasing rates of interstate migration. A number of explanations have contributed to the decline:

- **Relatively even growth in the national economy in recent years (with the possible exception of New South Wales, see below).** No States are falling significantly behind the national average, and while States that have traditionally grown relatively slowly are still doing so, the gap is relatively less than before. This means that there is little ‘economic flight’ happening at the moment (such as the exodus from Victoria in the 1990s);

- **High house prices.** With the cost of moving relatively high, and house prices in traditional population magnets such as Sydney, Brisbane and Perth surging, there is a strong disincentive to move at present;

- **The poor performance of New South Wales.** While New South Wales traditionally loses migrants to other States, this is usually due to the fact that many international migrants start their new life in New South Wales. However, Sydney, in particular, has always been a popular destination for many younger people. With Sydney’s poor economic growth of recent years limiting this effect, many of those who many have moved from Brisbane or Melbourne to Sydney have instead stayed put.

That said, there are mitigating factors here too, with unemployment rates in Western Australia and Queensland particularly low.

**Interstate migration to the ACT**

Being a small Territory, and one which has traditionally had a more transient population than the Australian average, interstate migration plays an important role in the ACT population.

In 2005-06, net interstate migration was marginally positive for the ACT and, as Chart 14 illustrates, the Territory’s share of interstate migrants in terms of the populations of State or Territory was second only to those of the NT.

**Chart 14: Population share of interstate migration, 2005-06**

![Chart showing population share of interstate migration](chart.png)

Source: ABS Cat 3101.0
As noted in the previous section, overseas migration – particularly those who arrive in NSW – may have an indirect impact on ACT population through interstate migration. Indeed, NSW has not only been an important source of interstate migrants to the ACT, but also an important destination for departing ACT residents. During the past ten-year period Victoria has also gained importance in terms of the share of interstate migrants coming to, and leaving, from the ACT.

**Chart 15: Interstate movement to and from the ACT**

<table>
<thead>
<tr>
<th></th>
<th>1995-96</th>
<th>2005-06</th>
</tr>
</thead>
<tbody>
<tr>
<td>NT</td>
<td>Depart to</td>
<td>Arrive from</td>
</tr>
<tr>
<td>TAS</td>
<td>-558</td>
<td>595</td>
</tr>
<tr>
<td>WA</td>
<td>-235</td>
<td>401</td>
</tr>
<tr>
<td>SA</td>
<td>-951</td>
<td>1120</td>
</tr>
<tr>
<td>QLD</td>
<td>-754</td>
<td>1024</td>
</tr>
<tr>
<td>VIC</td>
<td>-645</td>
<td>3150</td>
</tr>
<tr>
<td>NSW</td>
<td>-975</td>
<td>9678</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Depart to</th>
<th>Arrive from</th>
</tr>
</thead>
<tbody>
<tr>
<td>NT</td>
<td>-442</td>
<td>587</td>
</tr>
<tr>
<td>TAS</td>
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<td>562</td>
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<td>1951</td>
</tr>
<tr>
<td>SA</td>
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<tr>
<td>VIC</td>
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<td>2433</td>
</tr>
<tr>
<td>NSW</td>
<td>-9960</td>
<td>10677</td>
</tr>
</tbody>
</table>

In 2005-06 the highest share of interstate migrants was in the 20-24 years age group, followed by the 25-29 and the 30-34 years age group. This reflects a large number of young people moving to the Territory for work.

As shown in the right panel of Chart 16, in 2005-06 the 15-19 years age group had the largest net positive interstate migrants, followed by the 20-24 years age group. This could partly reflect the higher quality of educational institutions in the ACT.

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10 Note that overseas migrants may not ever settle in the State they arrive in. Most migrants arrive in Australia by plane in Sydney, and so they are shown as an overseas migrant for NSW in the statistics, regardless of whether they then catch a plane to Brisbane, Perth, etc.
The right panel of the chart also shows that among those aged 50+, there is a trend of migration away from the capital. As discussed in the next section, this may reflect the tendency of ACT retirees moving somewhere else.

**Expected trends in interstate migration**

There are several drivers of interstate migration. Broadly, the pace and direction of interstate migration trends respond to levels and changes in the benefits and costs of moving:

- People sometimes move to further their careers in regions experiencing greater prosperity (faster growth, better prospects). Examples include the exodus over time from the likes of Tasmania and South Australia, or more temporary shifts such as that out of Victoria in response to its particularly sharp recession in the early 1990s.

- People sometimes move to further their careers in regions with greater depth in their area of specialisation (for example, Sydney dominates some parts of employment in the finance sector, just as the Whitsundays dominate some areas of employment in marine biology).

- People sometimes move in response to the relative costs of housing. For example, the leap in housing prices in Sydney from 2001 to 2003 engendered a net exit to other States as people ‘cashed in’ on the larger absolute differential between their selling price in Sydney and their buying price elsewhere.

- And people sometimes move in response to lifestyle and/or work status (downsizing, sea changes, retirement).

These factors become more complicated still by the degree of mutual recognition (is my qualification as an electrician recognised in Western Australia?) and by differences in school starting ages and curricula (it is ‘harder’ to move from some States to others).

**Impacts of interstate migration across the period to 2015**

Interstate migration across the next decade is likely to see a continuation of movements away from inland regional areas to the coast and capital cities. It will also see an unwinding of some of the ‘house price’ driven movements away from Sydney and towards Melbourne and Hobart.
In the case of the ACT, only a marginal trend in interstate migration is expected, although (as in the past) the trends will see a net movement inwards of young adults and a net movement outwards of those of retirement age. This tendency will help maintain the Territory’s relatively young population structure and keep its participation rate relatively high, though it won’t stop the ageing of the ACT’s population, or a relative shift in the ACT’s age structure closer to the national average.

1.6 THE CHANGING AGE STRUCTURE OF THE POPULATION

While Australia’s population continues to grow, that growth is slowing. Additionally, within the overall population, Australia is ageing, reflecting both lower fertility rates and increased life expectancy. Within the latter, substantial declines in infant mortality began to occur a century ago, while higher life expectancy at older ages has become particularly evident in the past two decades.

The current ‘ageing’ phase that the Australian population (in total) is entering will probably take around four decades to stabilise, ending only once the huge post World War II baby boomer cohort has died and the impacts of the steep fall in national fertility rates seen in the 1970s have worked their way through the population statistics.

This process can be viewed as having a number of steps, as shown below.

**FIGURE 1: THE LONG-TERM IMPACTS OF POPULATION AGEING**

<table>
<thead>
<tr>
<th>Decade</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000s</td>
<td>Labour supply and economic growth start to slow at the end of the decade</td>
</tr>
<tr>
<td>2010s</td>
<td>Retiree numbers rising fast by mid-2010s, pensions outlays start to lift</td>
</tr>
<tr>
<td>2020s</td>
<td>Health outlays start to rise</td>
</tr>
<tr>
<td>2030s</td>
<td>Residential care demands increase</td>
</tr>
<tr>
<td>2040s</td>
<td>Demographic trends reach new plateau</td>
</tr>
</tbody>
</table>

There are nearly 2¾ million over 65s in Australia in total at present, which should increase to over 5¾ million by 2031 – the comparative figures for the ACT are 32,500 at present, rising to 81,000 in 25 years.

Even more than the size of the group, it is its growth that will have major implications for Australia. While the ten years to 2006 saw the growth in the number of people over 65 occur at around twice the rate of the rest of the country, in the next ten years their growth rate will be more than four times the rate of the rest of the population, and it will be nearly five times in the following decade.

The ACT’s population structure

Chart 17 shows that from a young Territory, the ACT has evolved into a relatively “mature” population.

Since 1976 the share of those in the 35+ year age group has increased while the share of those in the 0-34 year age group has fallen. In addition, the share of those aged 65+ rose from around 3.0% in 1976 to 9.8% of total population in 2006. This may see the demand for aged care rising as people between the age of 45 and 65 years move into retirement in the next two decades.
As shown in Chart 18, in the three decades since 1976 the 0-4 and 5-9 age groups have lost close to half of their previous share of total population. The good news is that the last decade (1996) has seen the decline in the share of these two age groups slow. That good news however, is partly offset by the decline in the share of people in the 35-40 and 45-49 age groups as shown in the right panel of Chart 18. This decline is in part driven by falls in younger age groups in earlier years (in the left panel) flowing through to higher age groups over time\(^\text{11}\).

Moreover, even though over the ten-year period, the decline in the share of people between the age of 25-29 and 30-34 is less dramatic, it is still declining.

The age structure of the ACT is different from that of the national average. Chart 19 shows the ACT population relative to the Australian population by age group. Where we are above

\(^{11}\) The axes of these two charts have been chosen to allow a better comparison of the chart over time (the left panel extends three times as far in time and the axes extend three times as far as well).
the 100% line, that means we tend to have relatively more people in that age group than does the nation as a whole – and vice versa.

The chart shows that, relative to Australia as a whole, the ACT is overrepresented among young to early middle age workers, and notably underrepresented among retirees.

**CHART 19: THE ACT’S RELATIVE POPULATION STRUCTURE BY AGE GROUP, 2006**

The chart shows that Canberra has a relative over-representation of those aged 20-34, and a relative under-representation of those aged 60 and over.

We also have a more marginal over-representation of people in their 50s.

**Outlook for population ageing**

In the context of the decline in overall population growth, the age composition of the population is forecast to change dramatically. The combination of falling fertility rates, declining death rates and the one-off surge in births during the baby boom means that the Australian population is already ageing rapidly.

The expected degree of ageing to 2015 can be seen clearly in the charts below.

- The number of people aged 85 or over is projected to nearly double in this time – although growth is from a low base, so this group will see its share of the population rise from 1.1% to 1.8%.
- The 65-84 year age group has the second largest gains and will continue to increase until around 2030.
- The younger groups do not fare well, with the number of those aged 0-14 hardly changing for the next five years, before the current increase in the level of births begins to lift population in these age groups.
There is a period of decline in the number of 15-24 year olds (and eventually in older groups – although they are beyond the time horizon shown here) in the coming years, reflecting national trends across this period.

The working age population (officially defined as those aged 15 to 64) may grow by just 4.4% in total between 2006 and 2015. However, the next 15 years may see only a further 3.9% growth in total, indicating that the period shown here is fairly benign.

**CHART 20: FORECAST ACT POPULATION BY AGE GROUP – OLDER GROUPS**

Index: June 2006 = 100

Source: Access Economics

**CHART 21: FORECAST ACT POPULATION BY AGE GROUP – YOUNGER**

Index: June 2006 = 100

Source: Access Economics
The change in the local age structure is best encapsulated by the population pyramid (Chart 22) which sees a significant increase in the share of population in older age groups.

**Dependency ratios**

The ‘aged dependency’ ratio is measured by the population over 65 divided by the working age population, 15-64; the ‘child dependency’ ratio is measured by the population 0-14 divided by the working age population and the ‘total dependency’ ratio is the sum of these two.

These three ratios basically measure how many people there are to support those who need support, among either the very young or the elderly. Across the past 15 years the total dependency ratio has been fairly consistent at around 50% – implying that there have been roughly two persons of working age for each child or retiree.\(^{12}\)

---

\(^{12}\) Obviously ‘working age person’, ‘child’ and ‘retiree’ are defined very broadly here – referring to people strictly on the basis of their age.
These ratios are set to change rapidly over the next few decades (Chart 23):

- The aged ratio has been rising slowly but steadily over the past 20 years. It is projected to continue rising slowly during the remainder of the decade, before accelerating sharply from around 16% to 31% between 2011 and 2031. The implication is that across these twenty years, the ratio of retirees to the working age population will rise from 1:6 to 1:3.

- Offsetting this, it can be seen that the child dependency ratio will initially continue its decline. But whereas the rise in the aged dependency ratio has been relatively benign to date and will accelerate, the biggest falls in the child dependency ratio have already been seen – and will broadly have ended by the middle of the next decade (and, if fertility rates maintain their recent improvement, will eventually begin to rise slightly). Thus the falls in the dependent young will not be sufficient to offset the increase in the dependent elderly.

- As the above chart shows, the combination of the two, a total (albeit simple) measure of those tending to require support to those tending to provide it, rises rapidly from about 2011.

**Impacts of population ageing across the period to 2015**

The implications of this are enormous, especially for State and Federal Budgets, which have the formal responsibility for reallocating resources according to need. Policymakers have already acknowledged and discussed this at length in the 2002 and 2007 Federal Intergenerational Report. Tax rate increases and cuts to benefits are likely.

They will send an important signal to those considering leaving the workforce: increased taxes may reduce the ability to retire from the workforce, or even cut back to part-time employment (as savings will be lower, all else equal), while lower government benefits will reduce the inclination to retire.

It should be noted that the effects of higher tax rates, or equivalently, lower wages, are ambiguous – the ‘income’ and ‘substitution’ effects work in different directions. Higher tax rates (or lower wages) decrease the incentive to work as workers receive less for their time.
and effort. On the other hand, the very fact that you are receiving less may mean you have to work more to support yourself.

Economists sometimes consider that, at lower wage levels, an increase in wages (or lower taxes) will increase the incentive to work, but that, past a certain point, higher wages (lower taxes) will act in the opposite direction, and lead to the taking of more leisure time.

The reduced value of alternatives, however, will definitely encourage people to continue working, as will the fact that people will need to accumulate more wealth before they can consider retiring, as Australians are generally living longer, and want to lead active lives.

Not only will wages and tax affect incentives to continue working, but so also will returns from superannuation. If super fund returns fail to match those of recent years in coming decades, people again may have to work longer.

More specific implications of population ageing in the ACT are discussed in Chapter 3.

1.7 OVERALL NATIONAL POPULATION TRENDS

While these are more fully examined in Chapter 3, some key results are apparent:

- While birth rates (measured by the TFR) have stabilised and levels of births have seen a mini-boom (driven by the arrival of grandchildren for the baby boomers), population growth will stall (and indeed, fall) without migration from overseas.

- Demographic ageing will see a rapid increase in the number of older Australians, both in absolute terms and relative to other groups in the population. This has implications for health demand, and the relationship between the number of taxpayers and those no longer in the workforce.

- While slowing overall, growth in younger age groups will be even weaker than the average.

- National population growth rates will ease gradually (even with rising migration), with all States and Territories seeing slower population growth.

- Canberra’s growth is more exposed than most to movement in interstate migration trends – although outward migration of retirees does assist in lowering health costs somewhat. This trend is one that has lessened in recent decades.
2. ACT LABOUR FORCE PARTICIPATION TRENDS

Historically, the ACT’s labour force participation rate has been much higher than that of Australia as a whole, reflecting a relatively well educated, young population.

While the ACT is not the only State or Territory with above average participation rates (the Northern Territory’s participation rate is also been much higher than the Australian average), the ACT’s participation rate is also relatively stable.

This chapter sets out three alternative scenarios for future participation rates in the ACT.

- **‘No change’** – meaning that there is no change in age-specific participation rates from their 2006-07 averages.
- **‘Expected’** – AE’s current forecasts, which assume a lift in mature age population.
- **‘Target’** – assumes national age-specific participation rates move to the 80th percentile for the OECD by 2014-15, while ACT rates maintain their relative gap above Australia’s.

Given the strength of the ACT’s starting point in participation, these gains are relatively modest. Compared with ‘no change’, the ‘expected’ scenario – Access Economics’ forecasts from the latest release of our Business Outlook publication points to the potential for an additional 8,888 people in the workforce by 2014-15. And, compared with the ‘expected’ scenario, the ‘target’ scenario adds an extra 3,371 people to the workforce by 2014-15.

2.1 THE DRIVERS OF PARTICIPATION

A worker’s willingness to participate in the labour force governs their labour supply. In brief, aggregate rates of participation are higher:

- Where age distribution is skewed towards ‘working age population’ – traditionally those aged 15 to 64 years (which is why the ‘younger’ populations of the ACT and the Northern Territory have higher aggregate participation than ‘older’ Tasmania and SA).
- Where economies are stronger (creating an ‘encouraged worker’ effect – seen, for example, in aggregate participation rates of Western Australia of late).
- Where education levels are higher (as higher skills command higher wages, which not merely encourages more people to work, it also encourages them to have longer careers – another reason why aggregate participation tends to be higher in the ACT).
- Where birth rates are lower (as many parents choose to stay at home with young children – thereby lowering aggregate participation rates where birth rates are lower, and raising them where birth rates are higher).
- Where facility in English is higher (affecting participation among some migrant groups).
2.2 RECENT PARTICIPATION TRENDS

In 2006-07 participation rates rose in all States/Territories except in Western Australia and Tasmania where participation rates fell by 0.4 percentage points and 1.0 percentage point, respectively.

- The largest increase in participation rate was in the ACT (up by 2.1 percentage points).
- National participation rates on the other hand, rose by a mere 0.6 percentage points, as shown in the chart below.

And, as the next two charts show:

- The ACT has a relatively high participation (the highest of any State or Territory).
- Although it widened again during 2006-07, over time the relative gap has been closing (see the right panel in particular), in part as participation by women in the rest of Australia catches up with that in the ACT.

**CHART 24: LABOUR FORCE PARTICIPATION RATES OVER TIME**

<table>
<thead>
<tr>
<th>Labour force participation rate</th>
<th>Ratio of ACT to national rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of workforce</td>
<td>%</td>
</tr>
<tr>
<td>Source: ABS Cat. 6202.0</td>
<td>Source: ABS Cat. 6202.0</td>
</tr>
</tbody>
</table>

![Chart Image](chart24.png)
Age-specific trends in labour force participation rates are used in projecting future labour force participation rates and analysing trends in the retirement age. As seen in Chart 26, in the two decades to 2006-07 there has been a general increase in age-specific participation rates. Indeed, participation rates have increased to an unprecedented level given the strength of economy; even more so in the ACT than for Australia as a whole.

For both Australia and ACT the most notable increases are in the participation rates of 60-64 and 55-59 age groups, who are partly responding to fears over adequacy of their retirement incomes, though they also now have the carrot of the abolition of benefits tax on superannuation for those aged over 60.
The rise in the participation rates of 65-69 and 70+ age groups is indicative of a tendency to postpone retirement\(^{13}\), as tax incentives have been introduced to try to keep older Australians in the workforce, while the increase in participation of those in the 45-54 age bracket is due to an increase in the participation of women – some of whom are responding to the higher interest rates of recent times.

A combination of lower mortality rates and higher life expectancy in the older age groups implies higher demand for health and aged care services as more survive into their old age. With the right incentives, this could also imply higher mature-aged labour force participation.

For all other age groups the increases are more significant for ACT than for Australia as a whole.

### 2.3 PROJECTIONS OF PARTICIPATION RATES

The outlook for participation rates over the medium term sees a tug-of-war between two opposing factors:

- A general tendency for participation rates to decline as the population ages; but
- An increase in participation rates in some older age groups due to increasing life expectancy, increasing levels of health and concerns about funding of retirement.

Over the longer term, the first factor will dominate, and participation rates will decline from the middle of the next decade. But the trajectory to that point is more complicated.

**Chart 27: Forecast participation rates**

![Chart 27: Forecast participation rates](chart.png)

```
Source: ABS Cat. 6202.0, Access Economics
```

Chart 27 shows past and projected participation rates in Australia and the ACT. In the short term (to around 2010) there is an expectation of increasing participation rates in general, as

\(^{13}\) The aggregation of those above 70 years into 70+ renders assessing changes in the “average” age of retirement difficult if not impossible.
mature age participation in particular increases due to a combination of demand factors (skill shortages, a strong economy, good wages growth etc) and supply factors (increasing health, increasing acceptance of the need to fund a longer than anticipated retirement).

In the last few years of the projection, however, the trend reverses, and it eventually reverses quite sharply. This occurs because the weight of retirement of the peak of the baby boom generation (born from 1945-1955) reached age 65. It is important to remember that, despite increasing mature age workforce participation, the underlying direction of participation will come under very strong pressure from the middle part of the next decade.

To put the longer term relationships into perspective, while it is true that, in 20 years time, a typical 60-year old will be more likely to be in the workforce that a typical 60-year old today, a 60-year old in 20 years time is still far less likely to be working than a 40-year old today.

Chart 28 compares the projections for participation shown in Chart 27 (in both cases given by the solid lines) with the implied participation rates (shown by dashed lines) that would be found with our population projections and no change in participation rates by age (that is, males 50-54 would continue their current participation rates and so on). The gaps are quite large by June 2015, with the increase in age-specific participation adding around 9,000 workers to the available pool in the ACT and some 190,000 nationally.

Because the chart shows financial year averages, the ACT results for 2006-07 are inflated by the quarterly pattern – which can be quite volatile. The results for the June quarter 2007 were lower than shown and so the actual trend from that point in the ACT is positive – rather than negative as shown in the chart.
2.4 THE IMPACT OF IMPROVED PARTICIPATION

The projections in the previous section are based on an expectation of a modest lift in participation by the mature aged. However, Australia currently lags well behind many other OECD countries on participation, meaning that the supply of workers in the economy is below what is could possibly be.

This section examines what might happen if Australia boosted its general participation rates to match the 80th percentile in the OECD – basically lifting us to rank 6th in participation among the members of the OECD (see Chart 29 and Chart 30).

**Chart 29: National participation performance – males**

There are two complicating factors to this comparison:

- First, while Australia lags in many areas, our participation rate for those aged 15-24 is actually higher than the OECD 80th percentile. This is, in many ways, bad rather than good, as the main reason for not participating in these years is due to attendance in secondary and tertiary education – so our relatively low educational attainment rates lift participation rates for younger workers. Many studies indicate that higher educational attainment (while lowering participation in the short term) has a significant benefit for longer term participation. In other words, one way to lift longer term participation would be to lift rates of education, even though it may suppress youth workforce participation.

- Second, the ACT is already ahead of the game – current ACT participation rates are already above both the national average, but also above the target rates (of 80th percentile in the OECD). Merely moving the ACT’s participation rates to the target rate would actually lower participation rates, rather than indicating what might occur if a better-than-anticipated outcome were achieved.

We will assume that, where necessary, national participation rates do fall to reach the OECD 80th percentile – based on the recognition that longer term gains in older age groups may be dependent on losses among younger groups.
To get around the second point, the following projections assume that, while national participation rates move to the 80th percentile OECD target rate, local rates maintain their present offsets from the national rate – a methodology that implicitly assumes that some of the differences that drive the current higher rate of participation in the ACT relative to that in the rest of Australia will be maintained (our higher levels of education, a more urban population and so on).

It should be noted that Access Economics assumes that national participation rates in the future move towards today’s OECD 80th percentile, rather than what that rate might be in the future. Many of the trends expected in Australia will also be seen among our peers in Europe and North America, so even reaching the target set out here may not significantly lift our overall ranking in the OECD should others see similar increases over the forecast period.

Three possible outcomes are shown in Chart 31. Two of the projections (the expected and the ‘no change’ outcomes) are equivalent to those shown for Australia in Chart 28, while in the final case (called ‘target’), age-specific participation rates move to the 80th percentile for the OECD by 2014-15.

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15 In these two charts, ‘no change’ means no change in age-specific participation rates from 2006-07 averages.
Chart 32 shows a comparative outcome for the ACT. The key difference in this projection is the relative gaps between scenarios. In the national results, there is a larger gap due to moving to OECD participation rates than there is between the expected and no-change scenarios while the results are reversed for the ACT.

This occurs because the ACT’s participation rates in some age groups are already very high, so improvements in the rate are harder to achieve. The larger impact is due to the relative levels of those aged in their 50s compared with those aged in their 60s in the ACT.
Because the ACT has a relatively larger share of population in their fifties (slightly above the national average) and because over the forecast period the ACT sees a relatively large increase in those aged 60 and over, the impacts of ageing on the local participation rate are particularly large.

However, because – while increasing – the ACT still has a lower than average share of those aged 60 and over, the relative improvements in age-specific participation (which accrue primarily to those aged 60 and over) are of less benefit to the ACT. In addition, the ACT has a higher than average proportion of persons in the 15-24 age group, which see participation rates falls in the target scenario.

These declines have a relatively large impact on the ACT’s participation rate as well – cutting into increases in other areas.

As a result, the ‘target’ scenario sees rather more benefits to the rest of Australia than the ACT.

Or, in other words, our current outperformance on participation may be eroded in coming years as the rest of Australia has a greater capacity to ‘catch up’ to best practice participation.

**Table 1: Impact of participation assumptions – Australia (2014-15)**

<table>
<thead>
<tr>
<th>Group</th>
<th>Group size</th>
<th>Different from no change</th>
<th>Additional in Target</th>
<th>Contribution to (% of total)</th>
<th>Group size</th>
<th>Different from no change</th>
<th>Additional in Target</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(A)</td>
<td>(B)</td>
<td>(C)</td>
<td>(D)</td>
<td>(B)</td>
<td>(C)</td>
<td>(D)</td>
</tr>
<tr>
<td>Total</td>
<td>19,017,898</td>
<td>191,422</td>
<td>773,891</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aged 15-24</td>
<td>3,081,353</td>
<td>-37,907</td>
<td>-124,577</td>
<td>16.2%</td>
<td>-19.8%</td>
<td>-16.1%</td>
<td></td>
</tr>
<tr>
<td>Women 30-39</td>
<td>1,545,526</td>
<td>54,073</td>
<td>124,737</td>
<td>8.1%</td>
<td>28.2%</td>
<td>16.1%</td>
<td></td>
</tr>
<tr>
<td>Aged 60+</td>
<td>4,991,333</td>
<td>78,102</td>
<td>268,947</td>
<td>26.2%</td>
<td>40.8%</td>
<td>34.7%</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>9,399,686</td>
<td>97,154</td>
<td>504,785</td>
<td>49.4%</td>
<td>50.7%</td>
<td>65.2%</td>
<td></td>
</tr>
</tbody>
</table>

Relative changes in population group size have a significant impact of participation in the longer run. Lower participation in the 15-24 age group is offset by increasing participation by women aged 30-39 (assuming the larger gap in Australia than the OECD in participation due to childbearing is closed) and among the mature aged.

Table 1 suggests that much of the required lift in mature aged participation is already expected to occur across the next decade – in fact that the expected pattern of participation change is already skewed rather more towards the areas of largest difference, and that the subsequent changes required to achieve the OECD 80th percentile target will rely on broader based increases in participation.
<table>
<thead>
<tr>
<th>Group</th>
<th>Group size</th>
<th>Level Difference from no change</th>
<th>Additional in Target</th>
<th>Contribution to (% of total)</th>
<th>Group size</th>
<th>Difference from no change</th>
<th>Additional in Target</th>
<th>(B)/total</th>
<th>(C)/total</th>
<th>(D)/total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aged 15-24</td>
<td>49,383</td>
<td>-1,676</td>
<td>-1,342</td>
<td>16.5%</td>
<td>1,592</td>
<td>9.1%</td>
<td>45</td>
<td>-18.9%</td>
<td>-1.3%</td>
<td>-39.8%</td>
</tr>
<tr>
<td>Women 30-39</td>
<td>27,122</td>
<td>1,592</td>
<td>45</td>
<td>23.6%</td>
<td>2,264</td>
<td>25.5%</td>
<td>2,858</td>
<td>84.8%</td>
<td>1.3%</td>
<td>84.8%</td>
</tr>
<tr>
<td>Aged 60+</td>
<td>70,544</td>
<td>2,264</td>
<td>2,858</td>
<td>20.9%</td>
<td>152,262</td>
<td>50.9%</td>
<td>1,810</td>
<td>75.5%</td>
<td>53.7%</td>
<td>75.5%</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A similar analysis can be done for the ACT. In this case, the ACT’s differences lie more between the ‘no change’ case and the expected profile, making the differences to the OECD target more difficult to interpret. The results of Table 2 suggest that the base projections already anticipate that participation rates for women of child bearing age will lift to match the OECD benchmarks, but that some further gains will be able to be made in local mature-aged participation.
3. POPULATION PROJECTIONS FOR THE ACT AND REGION

Population projections crucially rely on the assumptions they use. These are outlined in specific terms in this chapter (they have been alluded to at various points in Chapter 1, but the following allows a recap).

In brief, the ACT is projected by Access Economics (and by the ABS) as having population growth less than the national average. Mechanically, that is because the rest of the country receives a relatively larger boost from international migration (the ACT receives just 0.5% of international migrants coming to Australia despite having over 1.5% of total population), while the ACT’s growth is also lowered marginally by net interstate migration outflow.

At the economic level, the ACT is projected to see slower rates of population gain than the national average because:

- Not all of the sharp boost to Federal revenues and spending in recent years – funded by a China-driven boom in commodity revenues – is expected to be permanent, and because

- The delivery of government services has the potential to see greater gains in efficiencies (productivity) than the national average, as office-based work environments are participating strongly in the productivity gains from adopting new technologies.

3.1 ASSUMPTIONS

Where possible, we compare the assumptions we use to those adopted by other forecasters – most notably the ABS (in its publication Population Projections, Australia 2004-2101).

Fertility

While relatively low by historical standards, national rates of fertility have risen gradually across the past few years. While this rise may not be totally played out, there are strong reasons to expect that further gains in these rates are not likely. In particular, the recent rise has been confined to particular age groups, rather than being broad-based.

This is important, because it suggests that, at least in part, the recent rise is a reaction to previous declines – women who did not have children in their twenties having children in their thirties instead. This trend, called the ‘tempo effect’ has been noted in other countries, notably in the rebound in French fertility rates that has stalled recently.
However, Access Economics would not anticipate much downward movement in the period to 2015. As a result, the projections here assume national TFR of 1.80, and an ACT equivalent of 1.61. This maintains the ratio between national and Territory births that has existed in recent years.

While the TFR (total fertility) is constant, there is an assumed move towards women having children slightly later. This implies a modest change in the age-specific pattern of fertility as outlined in Chart 33. This is similar to the trends seen across the past decade (although it is slower in general), and is similar in the Australia and the ACT.

The latest ABS population projections – released in late 2005 – have a lower expectation of fertility at 1.7 lifetime births per woman (1.53 for the ACT) in its medium range forecast. A high range of 1.9 and low range of 1.7 are also examined by the ABS.

**Mortality**

Life expectancy levels are expected to rise, although at a decreasing rate. The projections here assume national life expectancy at birth for women will rise by 2.2 years across the decade to 2015 (to 85.5 years) and for men by 2.7 years (to 81.2 years). Comparative 2015 figures for the ACT would be life expectancies at birth of 86.2 and 82.6 years respectively.

These forecasts lie in line with ABS ‘medium range’ projections\(^\text{16}\), which have male life expectancies at birth rising by 0.3 years each year to 2011 and 0.2 years per year to 2016 (for females the rates at 0.25 years and 0.15 years respectively).

\(^{16}\) In the case of mortality, the ABS has a medium and high profile – the high profile maintains the initial rate of increase throughout the forecast.
**Net international migration**

While our projections use very similar fertility and mortality profiles to the ABS projections, we have a much larger rate of increase due to international migration.

The ABS’ mid-range projection assumed 110,000 migrants per year from 2005 onwards (and then maintained), but actual intake levels have soared to nearly 135,000 — in line with the ABS high case. Our projections assume that the increase is not only maintained, but rises further to an intake of 145,000 per year\(^\text{17}\).

While this is significant for national population growth, the ACT is still expected to take just 0.5% of these migrants, or 725 persons per year.

**Net interstate flow from the ACT to other States**

Our methodology for forecasting interstate migration rates is slightly different from the ABS’s as we forecast both the inward and outward flows, and take into account both the relative size and age structure of the Territory and national population. In contrast, the ABS projects a ‘net migration’ figure for the ACT.

Both this projection and the ABS medium projection expect moderate net interstate outflow from the ACT across the first half of next decade. Indeed our forecasts expect ACT will lose around 500 people a year by 2015, the same as the ABS projection. However, in our modelling this represents a fall back from the current position (the flows increase over time), while the ABS has much larger short term outflows (which did not eventuate) which then dissipate.

In our modelling, the relative ageing of the population — particularly the surge of retirement age persons in the first half of the next decade — will lead to a temporary jump in net outflows across this period. That temporary jump peaks in 2016.

### 3.2 POPULATION FORECASTS

**Natural increase**

The individual components of natural increase are identified in Chart 34. While the resultant total increase in the population remains quite stable across this period — if below recent averages — the underlying trend hides the gradual increase in both births and deaths that is expected to occur across this period.

Across a longer term, the rise in births is largely completed by 2015, and the level of births remains fairly static for another 15 years. The ageing of the population however, means that the number of deaths rises steadily, doubling between the end of the projection here and the middle of the century.

\(^{17}\) The ABS high case grows to 140,000 per year from 2008 onwards.
**Total migration trends**

In addition to the projections of natural increase, there will be implications from migration levels. Projections of levels of growth in the ABS population are shown Chart 35, with levels of natural increase and migration components identified.

The chart itself suggests two key points:
Natural increase is by far the largest component of growth for the ACT, with interstate migration levels (though large in each direction) fairly small in net terms and the ACT not a major recipient of international migration; but

Volatile migration trends drive the swings in the Territory’s population growth. That trend is exacerbated by the interstate migration profile (which can be large in each direction) as a relatively small rate of change in inflows or outflows can lead to a relatively large change in the net movement level.

As a result, the projections here indicate the underlying trend in population growth over the medium term.

Total population growth

Overall growth forecasts to 2015 are shown in the chart below. National growth rates remain above the ACT average, as the rest of the country receives a relatively larger boost from international migration (the ACT receives just 0.5% of international migrants coming to Australia despite having over 1.5% of total population), while the ACT’s growth is also lowered marginally by net interstate migration outflow.

At the economic level, the ACT is projected to see slower rates of population gain than the national average as:

- Not all of the sharp boost to Federal revenues and spending in recent years – funded by a China-driven boom in commodity revenues – is expected to be permanent, and as
- The delivery of government services has the potential to see greater gains in efficiencies (productivity) than the national average, as office-based work environments are participating strongly in the productivity gains from adopting new technologies.

**CHART 36: GROWTH RATES – TOTAL POPULATION**
3.3 SOME IMPLICATIONS FOR THE ACT POPULATION

In addition to the overarching impacts of falling rates of population growth and demographic ageing, some differences in comparative population growth between the ACT and Australia need to be examined.

- The pattern seen above arises because the ACT’s population is biased towards the 45 to 59 age group (with the relative overrepresentation most notable among those aged 50 to 54). The retirement timing of this age group – and especially those aged 50 to 54 – will have an even greater impact on the ACT workforce than it will nationally.

- Specifically, the above chart can be viewed as a measure of the difference between workforce entrants and workforce exits – and it suggests the ACT workforce will only grow modestly by the middle of the next decade.

- The only other period of negative (or close to zero) growth in this measure was the downturn driven by public sector job shedding in the mid-1990s – that is, it was a period of demand-driven weakness in the local workforce. However, the next period of risk for the ACT may be a period of supply-driven weakness in the local workforce.

- As noted earlier, retirees tend not to stay in Canberra. However, Chart 38 (an equivalent to Chart 19 in Chapter 1) shows how that is expected to change over time. While the ACT is currently overrepresented among young to early middle age workers, and notably underrepresented among retirees, trends in interstate migration suggest that more retirees are staying in Canberra (or coming to be where their children are).

- Even though the ACT still loses retirees, detailed data from the ABS on interstate migration suggests that – relatively speaking – the net losses at older age groups are declining, or at least not rising in line with the increase in the raw level of retirees in the ACT.

- However, the ratios suggest the Territory will still have a relatively young population in 2051, reflecting a tendency for interstate migration to arrive at younger ages.

**Chart 37: Growth in the population aged 15-64 (ACT and Australia)**

![Growth in the population aged 15-64 (ACT and Australia)](chart)
That direct trend may be mitigated as population may spread into the surrounding parts of New South Wales – particularly the South Coast. Indeed, population growth in the ACT cannot (and should not) be totally divorced from trends in the immediate region.


While cross-border movements have some specific implications in regards to public finances and funding, growth on the immediate outskirts of the ACT would (in general) act to mitigate the general slowing of the growth of the workforce.

### 3.4 BROADER POPULATION GROWTH IN THE ACT REGION

This section examines the broader population growth trends for the Canberra region. We first examine growth directly across the border in Queanbeyan (specifically the Queanbeyan City Council area), and then a broader consideration of the South Eastern part of New South Wales (in this case, the South Eastern Statistical Division as defined by the ABS – which is in turn defined in line with New South Wales State Government regional definitions).

**The Canberra-Queanbeyan urban centre**

While separated by a State border, Canberra and Queanbeyan make up a single market in many respects, most notably for labour. The ABS regards the Canberra-Queanbeyan area as the seventh-largest urban centre in Australia and (after Gold Coast-Tweed Heads) the second largest cross-border urban centre with a population of 372,000 in 2006 having grown around 1% per year across the past decade.
Queanbeyan itself has grown three times as fast as the ACT across the past decade – although as Chart 39 shows the relative size of the two centres still means that the bulk of the increase in absolute numbers of people has occurred in Canberra.

South Eastern New South Wales

South Eastern New South Wales reflects the area largely within the ACT’s ‘sphere of influence’ in socio-economic terms. The ABS requirements note that a region should be “defined as a relatively homogeneous region characterised by identifiable social and economic links between the inhabitants and between the economic units within the region, under the unifying influence of one or more major towns or cities” – with the main city in this case being Canberra.

The region consists of the South Coast from Batemans Bay to the Victorian border, and corridors around the key highways in the ACT region – the Barton, Federal, Kings and Monaro (see Figure 2). In 2006 this area contained just under 540,000 people.
As Chart 40 indicates, trends in ACT population dominate the overall growth rates in the broader region – Canberra accounting for over 60% of the region’s people. Faster than average growth in Queanbeyan City (one of the faster growing regions in Australia, and certainly the fastest growing inland area) does lift total growth rates slightly.
Within the regions, the more urban areas tend to have a younger demographic, with the regional areas (such as SE New South Wales) losing a large number of people to the capital cities once they finish education. Chart 41 shows the sharp decline in population in these age groups, and how the ACT tends to benefit overall at this age.

The total ACT-SE NSW region has a still younger than average age structure (with relatively more people aged in their forties and fifties and slightly fewer aged sixty and over), and is expected to see population growth rates above the New South Wales average and only marginally behind the national average.

The trends here suggest that population demands from the broader region can have significant effects, notably through increased health demand from the older population in the region, while (in general) the broader South East of New South Wales loses its twenty-somethings to Canberra (and to Sydney and Melbourne), boosting the revenue potential for the larger cities, both through increased property demand (people in the age groups where the regional areas lack population are most likely to be entering the housing market) and increased payroll tax receipts (these groups are the most likely to be in the workforce).
4. TRENDs IN ACT TRAINING DEMANDS

The link between current and potential in participation and productivity lies with education and training.

Ever since the release of the first *Intergenerational Report* in 2002, researchers in the Federal Treasury have been making the point that one way to increase both productivity and participation is to have a higher skilled workforce.

Productivity rises due to increased skills, and participation rises as those increased skills lead to higher wages, a reduced likelihood of unemployment and (typically) better working conditions.

Such arguments have been made by Kennedy and Hedley of Federal Treasury in a 2003 Working Paper, Gruen and Garbutt in a 2004 paper and Davis and Ewing in a 2005 paper.

The analysis here looks at current rates of education and training in the ACT.

In brief, the ACT has the best trained population in the country, with almost 60% of people aged 15 to 64 possessing some form of non-school qualification. Indeed, the ACT has the highest year 12 retention rate for both males and females in Australia and the highest proportion of education participation among 20 to 24 year olds.

This chapter outlines the current standard of education and training within the ACT population, as well as discussing trends in university and vocation training within the ACT over the past decade.

The ACT has the best trained population in the country, with almost 60% of people aged 15 to 64 possessing some form of non-school qualification (such as a university degree, diploma, training certificate etc), compared to the national average of just 52.4%.

Chart 42 shows that almost one quarter of the ACT working age population holds a bachelor degree, with a further 11% holding postgraduate qualifications.

The Federal public service – by far the largest employer in the ACT – requires minimum educational qualification standards for many of its employees. This underpins much of the relatively high educational attainment and workforce participation rate of the ACT population, with many highly skilled workers relocating to the ACT to take up positions with the Federal public service after completing their education. While that may boost the educational qualifications of the ACT population as a whole, the level of education among young people in the ACT is also strong.
The ACT has the highest year 12 retention rate for both males and females in Australia and the highest proportion of education participation among 20 to 24 year olds.\textsuperscript{18} Young people in the ACT tend to pursue educational qualifications to a greater extent than the Australian average, supporting demand for education and training within the ACT.

Much of the demand for education and training in the ACT is at the vocational education and training (VET) level. Chart 43 shows that the number of ACT students undertaking VET has been on an upward trend over the past decade. Notably, more females have been undertaking VET than males in the ACT since 2003. An expanding population and a further strengthening of the service and construction sectors within the ACT is likely to see further upward growth in VET participation in the ACT.

\textsuperscript{18} Australian Bureau of Statistics (2006), \textit{Australian Social Trends}, Cat. no. 4102.0
Chart 44 shows that the number of ACT VET students by age has remained relatively flat across age groups over the past five years. The number of students aged 19 and under and 20 to 24 has essentially remained constant, while numbers of VET students aged 25 and over has risen slightly. The 25 to 44 year age group comprises nearly 70% of all ACT VET students.

Chart 32 shows that the number of VET students studying particular qualification types (such as diploma, certificate IV, certificate III etc) has also remained generally constant over the past five years. The number of certificate III and certificate IV students has increased slightly since 2000, while the number of certificate II students has declined, suggesting an increasing demand for higher level VET qualifications.

Chart 45 shows the number of ACT students undertaking VET by their highest currently held educational qualification. The chart shows, overwhelmingly, that students undertaking VET hold a maximum of either year 12 or year 10 qualifications. The chart shows that, by current educational level, the number of students undertaking VET has remained relatively steady over the past five years. Interestingly, the number of VET students who have already attained a university degree or certificate III or IV increased slightly since 2000.
Overall, the demand for vocational education and training in the ACT has trended up over the past decade, with a strong increase in female students, and students aged 25 and over.

Similar trends can be seen in the number of ACT apprentices and trainees.

Chart 46 shows the number of ACT apprentices and trainees by age. The chart shows that the demand for apprenticeships in the ACT is trending upward, with the number of apprentices and trainees increasing solidly over the past five years for all age groups. The increase in apprentices has been at the AQF III and IV levels, with the number of students training towards AQF I or II qualifications declining slowly since 2001. This implies that most
of the increasing demand for apprenticeships and traineeships in the ACT is targeted at higher qualification levels.

Chart 47 shows that the largest proportional increase in the number of apprentices and trainees in the ACT has occurred in the associate professional occupation type. This area includes professions such as nurses, hospitality managers and business and administration associate professionals – groups in which the requisite standards of training have changed over time (leading to a demand for ‘catch up’ qualification by the existing workforce in these areas).

Chart 47 also shows increases in the number of apprentices undertaking trades (electricians, plumbers, hairdressers, carpenters etc), while the number of intermediate clerical, sales and service trainees has also risen.

Along with the number of people undertaking VET and apprenticeships, the number of students commencing at higher education institutions in the ACT has also been on the rise.

Chart 48 shows that the number of students commencing at the Australian National University, University of Canberra and the Australian Defence Force Academy has increased solidly over the past two decades. While the number of commencements turned down in 2005 after a peak in 2004, the latest available statistics show that the number of commencements in the first half of 2006 was higher than in the first half of 2005, boosted mainly by a large increase in commencements at ADFA.

The turndown in higher education commencements in 2005 came at a time when the ACT economy had been performing strongly for a number of years. At times of low unemployment, higher education commencements tend to decline, reflecting the increased capacity for young people to find work immediately after completing school. That trend is less evident in the ACT, however, with the high quality of institutions such as the ANU attracting large numbers of international exchange students. These international students support strong demand for university places within the ACT.
Chart 49 shows that the number of completions (graduations) from ACT institutions has also been increasing – a result that is unsurprising given the lift in commencements.

The overall level of demand for education and training in the ACT has been increasing over the last decade. The number of students undertaking vocational education and training, apprenticeships and traineeships and commencing higher education has been rising, adding to the relative wealth in educational attainment within the ACT population.
5. DEMAND FOR CHILDCARE IN THE ACT

The combination of the ACT's young population and high levels of workforce participation mean that – despite our below average birthrates – the local community makes above average use of child care. The coming decade is likely to see some trends collide. **Raising demand for child care in the ACT will be:**

- The recent strong gains in local employment and, associated with that, rising ACT participation rates.
- The recent lift in numbers of births.
- Increased Federal subsidies for child care, and changes in the way child care support is paid.
- The lift in the threshold at which the tax rate lifts to 30 cents in the dollar (from 15 cents) from $25,001 to $30,001.
- The recent lift in mortgage rates (a ‘push’ factor into the workforce, as opposed to the ‘pull’ factor of strong employment gains).

**Lowering demand for child care in the ACT will be:**

- The long term downtrend in birth rates.
- The extent to which the recent lift in numbers of births proves to be a temporary ‘echo’ effect.
- The extent to which the recent boost to jobs and participation proves to be a temporary impact from strong Federal revenue gains due to the China boom.
- The extent to which the recent lift in mortgages rates also proves temporary.

The forecasting methodology here is mechanical in nature. It models two alternatives – the first assumes constant utilisation rates by age of the children (that is, changes in child care usage are purely driven by demographic demand).

The second approach assumes the change in participation rates in the ‘expected’ scenario also has an impact – that is, demographics plus usage. Note that the forecasts in the ‘expected’ scenario allow directly and indirectly for some but not all of the factors noted above.

In both cases there is a relative lift in child care usage which, in turn, Access Economics has modelled as leading to an increased reliance on more formal channels of child care in preference to less formal channels.

The first methodology shows that, by 2014-15, 32,500 ACT children might be in some level of formal or informal child care – or 60.9% of those aged 0 to 11.

The second methodology shows that, by 2014-15, that figure may be closer to 38,000 – or more than 71% of ACT children.
5.1 RECENT TRENDS

Child care usage in the ACT has historically been higher than in Australia as a whole, in part reflecting our young population and high participation. In June 2002, 55% of children aged less than 12 years used some type of child care in the ACT, whereas the comparable figure for Australia was 49%.

**Chart 50: Proportion of Children using ‘formal care only’**

Detailed by aged for June 2002

<table>
<thead>
<tr>
<th>Age Group</th>
<th>ACT</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 1</td>
<td>1.1%</td>
<td>0.8%</td>
</tr>
<tr>
<td>1-2</td>
<td>15%</td>
<td>11%</td>
</tr>
<tr>
<td>3-4</td>
<td>21%</td>
<td>16%</td>
</tr>
<tr>
<td>5-6</td>
<td>32%</td>
<td>26%</td>
</tr>
<tr>
<td>7-8</td>
<td>17%</td>
<td>12%</td>
</tr>
<tr>
<td>9-11</td>
<td>12%</td>
<td>9%</td>
</tr>
<tr>
<td>Total</td>
<td>55%</td>
<td>49%</td>
</tr>
</tbody>
</table>

Source: ABS Cat. 4402.0 June 2002 and June 2005

Child care usage varied with age, particularly for formal care. As the right panel of Chart 50 illustrates, the use of ‘formal care only’ by children under the age of one was low (7% of all children in the ACT versus 4% of all children nationally), but increased rapidly from age one (26% in the ACT versus 16% of all children nationally) up to age four (46% of all children in the ACT versus 54% of all children nationally).

In 2002, the higher use of ‘formal care only’ by three and four year olds reflects preschool attendance. From age five, when most children have started school, the proportion of children using ‘formal care only’ dropped sharply, with 12% of five year old children and 9% of 9-11 year old children in the ACT in formal care.

Use of ‘informal care only’ in the ACT was highest for 6-8 year olds (26%) and lowest for four year olds (3%). Overall, 14% of children under the age of five used ‘informal care only’, compared with 23% of children aged 5-11 years. Nationally, 20% of all children under the age of five and 26% of 5-11 year olds used informal care only.

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19 Preschool has been excluded from the definition of formal care in the June 2005 Survey of Child Care due to the widely-accepted view that the main focus of preschools is education and preparing children for school, rather than providing a child care service.
A comparison between the Territory’s and Australia’s usage of formal and informal care shows the Territory’s tendency towards formal child care usage.

Chart 52 shows that, compared to Australian children, children aged 2, 4 and 5 in the ACT utilise relatively less formal care whereas all children use relatively less informal care in 2002. The results of Chart 53 however, suggest that this second pattern has reversed in recent years.²⁰

²⁰A possible explanation is that the ACT’s utilisation rate by 12 year olds is particularly high (meaning the slight change in coverage is significant). There does not seem to be any reason why this particular case would be more likely than the alternative explanations.
Chart 53 depicts ACT’s child care usage relative to Australia’s as a whole by care types.

Where values are above 100, then the ACT’s share of children in that type of care is higher than the national average – and vice versa. Not only do we utilise child care more than nationally, but local relative rates of utilisation of all care types have increased over time (that is, the rate of usage of care has risen faster than nationally). In the case of formal care in particular this is partly due to a fall in national utilisation. The ACT’s relative usage of informal child care has not only increased over time but now surpasses the national average.

On the other hand, because of the increasing tendency of children in childcare to be solely in either formal or informal care (across the period shown the ACT saw the share of children in care using formal or informal care only rise from 70% to 80%), the Territory’s relative and absolute use of a combination of formal and informal care has fallen.

Overall, over the last three years there has been:

- an increase in the utilisation of formal care only and informal care only in the ACT;
- a move towards informal care only nationally; and
- a move away from using a combination of formal and informal care to solely formal or informal care both in the ACT and in Australia.

A longer (and consistent) run of data is available for Australia only. Chart 54 shows the results for younger and older children across the past decade – splitting the results into formal and informal care as well as those children utilising both types.
The chart shows a gradual tendency for usage rates to rise over time – particularly those in formal care of some sort (with those in ‘informal care only’ and not using care both declining slightly).

Combining the age groups together gives an overall rate of usage in childcare shown in Chart 55. Interestingly, while the use of informal care has fallen in both age groups shown in Chart 54, because the group with relative less care (the older age group) has grown faster across this period, the overall ratio of children aged 11 and under using childcare has largely remained constant (and rose across the late 1980s).

A comparison of Chart 54 and Chart 55 indicates how the projections of child care demand here need to consider the age structure of children in child care or underlying patterns may be missed. With a large group of younger children entering the ‘market’ for child care in
recent years, there may be a swing back towards rising usage rates of child care by children, even if the rates for each age group remain constant.

5.2 PROJECTIONS OF CHILDCARE DEMANDS

Two possible scenarios are examined. The first takes Access Economics’ projections of the number of children aged 0 to 4 and aged 5 to 11 and then develops the outlook for demands for child care assuming no change in the rates of demand for care. That is, the first demand profile developed here is purely demographic-driven.

**Chart 56: Projected childcare demand with no change in usage rates**

Chart 56 shows that demand growth will be relatively slower in the ACT, rising by around 7% across the decade to 2014-15, with demand nationally rising 9% over the same period. That said, and as a share of children aged 0 to 11, the ACT still sees a far higher proportion utilising some form of care. While utilisation rates in the two age sub-groups remain constant, there is always higher demand for younger children, so the recent surge in national births lifts the usage rates until early next decade as this group moves through the system. Once these children reach school age the overall utilisation rate begins to drop back slightly.

The alternative scenario uses the changes in the participation rate of women aged 25 to 39 as a proxy for the changes in child care utilisation of children aged 0 to 4 and similarly participation of women 30 to 44 for child care utilisation of children 5 to 11.\(^{21}\) That is, the second demand profile developed here adds the impact of higher expected rates of participation to the purely demographic-driven first scenario.

This is not a straightforward link, because an increase in participation tends to lead to:

- A strong rise in utilisation of formal care;
- A moderate rise in utilisation of ‘mixed’ care;
- A moderate fall in the utilisation of solely informal care; and

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\(^{21}\) The linkage is based on a combination of the data available for participation and utilisation, and the fact that most children are born to women aged 30-34, with a large proportion also born to women five years either side of this age range.
A strong fall in the proportion of children not in the child care system.

An examination of how national utilisation rates have moved with relevant participation rates suggests that a one percentage point increase in female participation will have the impacts on utilisation of child care shown in Table 3. These changes also vary by age group – being more pronounced with younger children, the impact of a given change in participation being roughly twice as great.

<table>
<thead>
<tr>
<th>Age of women</th>
<th>25 to 39</th>
<th>30 to 44</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in participation</td>
<td>+1pp</td>
<td>+1pp</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age of children</th>
<th>0 to 4</th>
<th>5 to 11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in utilisation of:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formal care only</td>
<td>+2.0%</td>
<td>+1.2%</td>
</tr>
<tr>
<td>Mixed care</td>
<td>+0.9%</td>
<td>+0.5%</td>
</tr>
<tr>
<td>Informal care only</td>
<td>-1.2%</td>
<td>-0.5%</td>
</tr>
<tr>
<td>No usage of care</td>
<td>-1.7%</td>
<td>-1.2%</td>
</tr>
</tbody>
</table>

These usage rates can be applied to our population projections to give a second demand scenario. However, because the projections are spread over a period of time with assumed strong rises in female participation, we have dialled down the rate of linkage from Table 3 by 25%.

The results of Chart 57 suggest that (if participation rates do drive the rates of child care utilisation), then the surge in female participation in the past two years should have had a strong impact on demand for local child care. That trend will diminish in the longer run as:

- There are fewer gains to be made in female participation in the ACT; and
- The demographic drivers of demand (the number of children) are more subdued in the ACT than elsewhere.
However, increasing female participation might lift overall child care utilisation rates by around a further 10% across the next decade (that is, over and above the first scenario), thereby roughly doubling the projected growth in child care demand across this period.

Indicative results for the ACT are shown in Table 4.

<table>
<thead>
<tr>
<th>Table 4: Child care demand projections</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td><strong>Base</strong> (June 2005)</td>
</tr>
<tr>
<td>Children (0-11)</td>
</tr>
<tr>
<td>Formal care only</td>
</tr>
<tr>
<td>Mixed care</td>
</tr>
<tr>
<td>Informal care only</td>
</tr>
<tr>
<td>Total in care</td>
</tr>
<tr>
<td>Share of children</td>
</tr>
<tr>
<td>Shares by age group</td>
</tr>
<tr>
<td>Aged 0-4</td>
</tr>
<tr>
<td>Aged 5-11</td>
</tr>
</tbody>
</table>
6. PROFILE OF THOSE NOT IN THE LABOUR FORCE

Who is not working? This chapter discusses those ‘not in the labour force’.

In brief, that group has shrunk over time amid continuing good employment gains (although the fall is more evident nationally than in the ACT).

Of that group of 61,700 people, some three-quarters have chosen to remain outside the labour force – for example, that will include many mothers of young children, and many of the disabled, and many students, and many retirees.

Others count themselves as ‘discouraged workers’, though that group – some 200 people – is relatively few in number.

The official statistics show some 3,000 people in the ACT ‘actively looking for work’ and a further 7,700 people not actively looking for work, but who could be available to start work within four weeks.

Those numbers broadly correspond with the estimates of the potential upside in numbers of people in the ACT workforce by 2014-15. The ‘no change’ scenario discussed earlier implies a potential increase in the 2014-15 ACT workforce of 8,888 people, while the ‘Target’ scenario adds an extra 3,371 people over and above the ‘no change’ scenario.

There are various statistics covering those ‘not in the labour force’. They include the ‘marginal attachment’ of some workers to the labour force, ‘discouraged worker’ estimates and measures of ‘underemployment’.

One of the key measures can be obtained from the detailed breakdown of the ACT labour force shown in Figure 3. This set of data comes from an irregular (occasional) ABS publication – and does not necessarily correspond with more regular ABS estimates of the non-working population.

Some key groups include those who are:

- unemployed at present, but could be expected to move more readily into the workforce with relevant training; or are
- underemployed at present, that is either working part time when they would rather be working full time, or currently stood down from work; or are
- not in the measured labour force (that is, who are neither employed nor officially ‘unemployed’) but could be expected move back into work with some assistance (these would be generally be regarded as discouraged workers).
Figure 3: Breakdown of ACT Labour Force, September 2006

Chart 58 shows that over the past few years the strength of economic growth has seen the number of people not in the Australian labour force (but who are of working age) fall notably.

Chart 58: Number of People Aged 15-64 Not in the Australian Labour Force

When times are good, jobs grow fast and unemployment falls, so people are encouraged to try to work (and vice versa when times are bad). But supply is relevant too. Supply responds to social trends (such as the move of women into the paid workforce in recent decades) and economic factors (people want to “keep up with the Joneses”, so they will often
take on big mortgages and shift to two income family status when mortgage rates rise, and they respond to incentives such as taxes and benefits).

Those demand and supply factors broadly offset over the past fifteen years, leaving participation stuck in a narrow groove at the national level. However, it recently moved out of that range, as excellent job growth provided opportunity, and as higher mortgage rates provided motive.

The recent lift in participation has been particularly notable among those aged 55-64, though there has also been a lift among women aged 45-54. The first group are partly responding to fears over the adequacy of their retirement incomes, though they also now have the carrot of the abolition of benefits tax on superannuation for those aged over 60.

The second group is dominated by shifts in female participation. Although overall participation rates have crept up over time – with the number of women not in the labour force gradually falling even as the population has grown (see Chart 59) – this group is particularly sensitive to mortgage rates. When the latter go up, Mum gets sent out to work. With rates above their longer term average at the moment, that has particularly pushed up participation of late. And, not surprisingly, that lift in participation has been concentrated in NSW, where mortgages are largest. The ACT has seen a dip in the number of women not in the labour force as well in 2007, although the results can be volatile and the dip has rebounded in recent months.

There are some reasons to expect further gains in participation – interest rates and the abolition of taxes on super benefits may both ‘push’ participation up, although weaker job growth may eventually ‘pull’ it down. And then there will be a downtrend in participation over the longer term as the boomers retire. That means there is a risk that participation rates start to fall more notably from about 2012 onwards.

### Chart 59: Persons aged 15-64 not in the labour force by gender

![Chart 59](chart59.png)

Chart 60 divides all those not in the labour force (among those aged 15 and over). The top four groups are largely outside the prospective workforce – those permanently not intending to work are confined to those aged 65 and over (that is, retired). The remaining workers (almost entirely the 'not looking for work') are more able to move into the workforce.
Chart 60 divides all those not in the labour force (of those aged 15 and over). The top four groups are largely outside the prospective workforce – those permanently not intending to work are confined to those aged 65 and over (that is, retired). The remaining workers (almost entirely the ‘not looking for work’) are more able to move into the workforce.

The comparison of available labour by age (Chart 61) shows both the lower rates of available labour in the ACT, but also the areas where gains are more likely to be made – females in general and the mature aged.

The expected trends in participation expected in coming years would tend to drive the rates not looking for work down over time – and the rates regarded as ‘unavailable’ (generally the permanently retired).