



Australian Government
Productivity Commission

An Ageing Australia:
Preparing for the Future

Productivity Commission
Research Paper
Overview

November 2013

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The Productivity Commission

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Foreword

This Research paper is the first of a series we plan to produce annually, taking a research topic of significant national interest and considering it not just for analytical purposes but for some examples of potential policy implications. The content of these papers are designed to be an input into an area of wide research applicability — in this case, a contribution to the Australian Government’s next Intergenerational Report and the sweeping question of how Australia copes with an ageing population.

The policy issues are carefully chosen to address needs that if not immediate, will necessarily be so tomorrow. The intent is that the paper supports an informed discussion and leads towards policy thought in anticipation of need, rather than in the face of it.

This paper was produced by a team led by Ralph Lattimore, and included Jared Greenville, Andrew Irwin, Tom Nankivell, Hudan Nuch, Peter Varela and Melissa Edwards, with useful inputs from Lindsay Fairhead.

Peter Harris

Chair

November 2013

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Abbreviations and explanations

Abbreviations

3Ps	Population, Participation and Productivity
ABS	Australian Bureau of Statistics
AIHW	Australian Institute of Health and Welfare
ARIMA	Auto-Regressive Integrated Moving Average
CGE	Computable General Equilibrium
COAG	Council of Australian Governments
CPI	Consumer Price Index
DALY	Disability-Adjusted Life Year
DSP	Disability Support Pension
GVA	Gross Value added
GDP	Gross Domestic Product
GST	Goods and Services Tax
HALE	Health-Adjusted Life Expectancy
HILDA	Household, Income and Labour Dynamics in Australia survey
IAC	Industries Assistance Commission
IC	Industry Commission
IGR	Intergenerational Report
IHME	Institute for Health Metrics and Evaluation
LC	Lee-Carter
NAIRU	Non-Accelerating Inflation Rate of Unemployment
NLF	Not in the Labour Force
MFP	Multifactor Productivity
MMRF	Monash Multi-Regional Forecasting model
MTAWE	Male Total Average Weekly Earnings

NRA	National Reform Agenda
NOM	Net Overseas Migration
OECD	Organisation for Economic Co-operation and Development
PBS	Pharmaceutical Benefits Scheme
PC	Productivity Commission
PCPOP	PC Population model (available from the Commission website)
QALY	Quality-Adjusted Life Year
RNNDI	Real Net National Disposable Income
TFR	Total Fertility Rate

Explanations

Billion The convention used for a billion is a thousand million (10⁹).

OVERVIEW

Overview

Key points

Australia's population will both grow strongly and become older. Such slow but profound shifts in the nature of a society do not elicit the same scrutiny as immediate policy issues. The preferable time to contemplate the implications is while these near-inevitable trends are still in their infancy.

Population ageing is largely a positive outcome, primarily reflecting improved life expectancy. A female (male) born in 2012 will on average live for an estimated 94.4 (91.6) years.

However, population growth and ageing will affect labour supply, economic output, infrastructure requirements and governments' budgets.

Australia's population is projected to rise to around 38 million by 2060, or around 15 million more than the population in 2012. Sydney and Melbourne can be expected to grow by around 3 million each over this period.

The population aged 75 or more years is expected to rise by 4 million from 2012 to 2060, increasing from about 6.4 to 14.4 per cent of the population. In 2012, there was roughly one person aged 100 years old or more to every 100 babies. By 2060, it is projected there will be around 25 such centenarians.

Total private and public investment requirements over this 50 year period are estimated to be more than 5 times the cumulative investment made over the last half century, which reveals the importance of an efficient investment environment.

Labour participation rates are expected to fall from around 65 to 60 per cent from 2012 to 2060, and overall labour supply per capita to contract by 5 per cent.

Average labour productivity growth is projected to be around 1.5 per cent per annum from 2012-13, well below the high productivity period from 1988-89 to 2003-04. Real disposable income per capita is expected to grow at 1.1 per cent per annum compared with the average 2.7 per cent annual growth over the last 20 years.

Collectively, it is projected that Australian governments will face additional pressures on their budgets equivalent to around 6 per cent of national GDP by 2060, principally reflecting the growth of expenditure on health, aged care and the Age Pension.

Major impending economic and social changes can create the impetus for new reform approaches not currently on the policy horizon. For example:

- The design of the Age Pension and broader retirement income system might be linked to life expectancy after completion of the current transition to 67 years in 2023.
- Using some of the annual *growth* in the housing equity of older Australians could help ensure higher quality options for aged care services and lower fiscal costs.
- Wide-ranging health care reforms could improve productivity in the sector that is the largest contributor to fiscal pressures. Even modest improvements in this area would reduce fiscal pressures significantly.

In 2005, the Commission reported that timely action to address the consequences of demographic change could avoid the future need for ‘big bang’ policy interventions later. Over eight years later, the discussion of the possible opportunities and policy challenges presented by an ageing population seems to have waned. The most recent Intergenerational Report, which also highlights these issues, is now nearly four years old. Even with ever more information on trends, the near inevitability of significant fiscal and policy consequences of demographic change seems not to have created much genuine desire for reform. Further, recent interventions to address the threats posed by global economic events have left Australian governments less well placed to handle the effects of ageing than most would have expected in initial debates. On top of these factors, Australia is much closer to the time when the most significant effects of ageing are likely to be felt.

Against this background, the Commission has looked afresh at the economic issues raised by population ageing. Like any analysis associated with forecasting very long term trends, this study is exposed to the charge that it extrapolates in ways that may not be representative of reality. The apparent neat precision of any particular number is not meant to convey that this shall inevitably be the result, when over a 50 year period a wide variety of unknown factors will arise. But the existence of unknown factors is no basis for not considering the trends, which are the important aspect of this analysis. The trends are unmistakable in most cases. They point to the need for serious contemplation of future policy measures sooner rather than later.

How will Australia’s population change over the next 50 years?

Australia’s population is projected to increase to more than 38 million by 2060, more than 15 million above the population in 2012. While significant variations are possible around that estimate, it is unlikely that the population would be less than 34 million or more than 42 million (figure 1). Notwithstanding the large projected increase in the population *level*, population *growth* rates are projected to fall over time, halving from 2012 to 2060.

The likely population growth will place pressure on Australian cities. All of Australia’s major cities are projected to grow substantially. Sydney and Melbourne may grow by around 3 million each over the next 50 years (figure 2). In response to the significant increase in the size of Australian cities, significant investment in transport and other infrastructure is likely to be required. This is true both within the cities themselves and for the links between regional and major cities. Policies will be needed to reduce congestion problems, and to ensure adequate infrastructure funding and investment efficiency.

Figure 1 The Australian population will probably grow by around 15 million over the next 50 years
End June 2011-12 to 2059-60

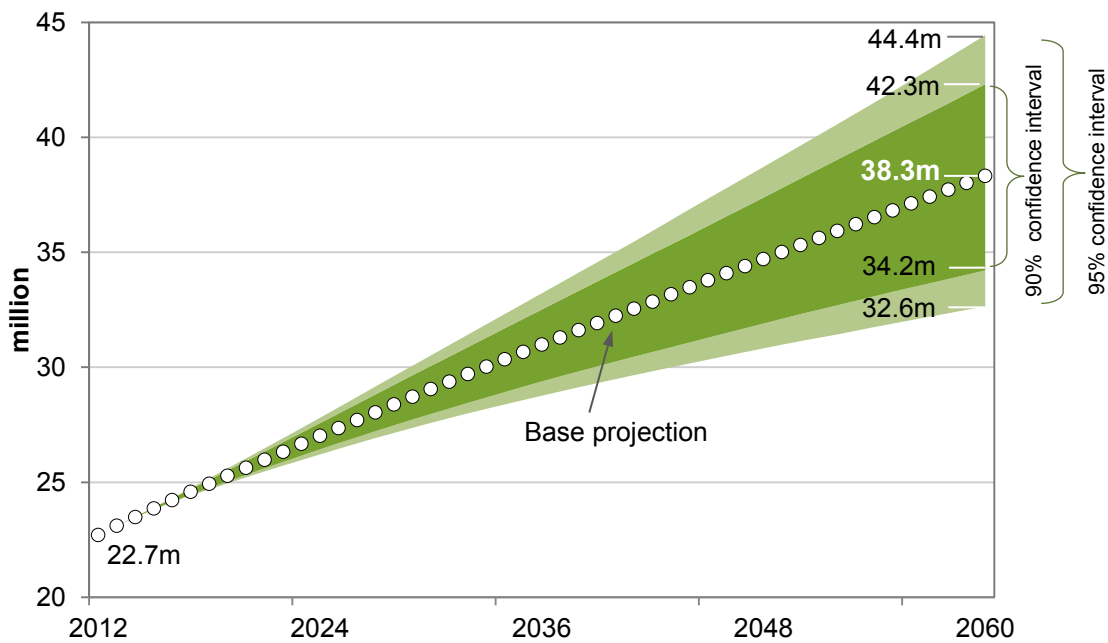
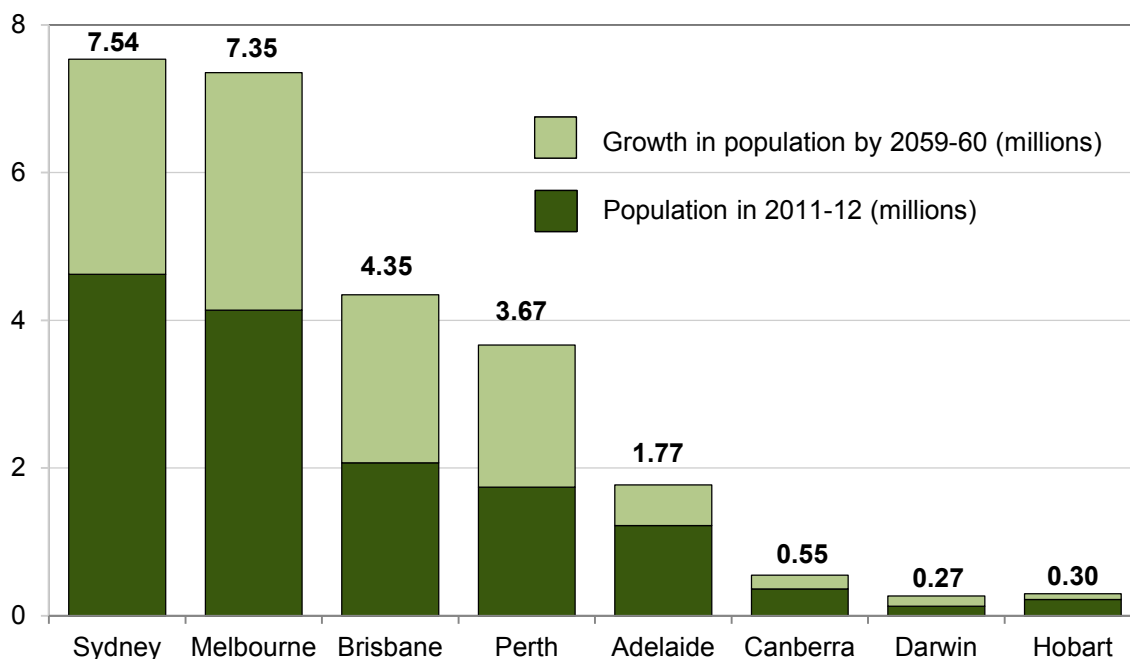


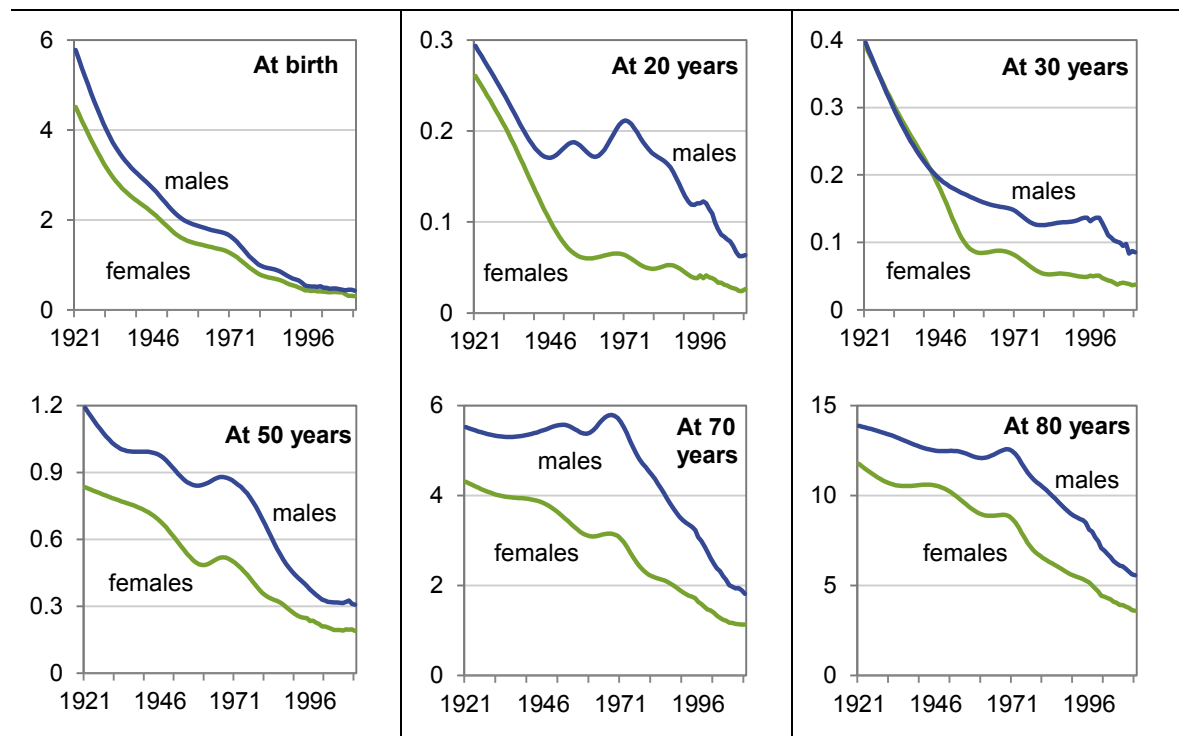
Figure 2 Australia's two biggest cities may exceed 7 million
Projected city populations, end June 2011-12 and 2059-60



While having relatively high rates of immigration and fertility compared with other developed economies, Australia’s population will still age dramatically over the coming years. The primary ‘culprit’ is a virtuous one — Australians are experiencing lower mortality rates and enjoying longer lives (figure 3). Moreover, the figures for life expectancy usually quoted by statistical agencies can significantly understate people’s actual longevity because they do not take into account the likely future reductions in mortality rates as a person ages:

- Using such ‘cohort’ life expectancies, the life expectancy of a girl born in 2012 is projected to be more than 94 years and for a boy nearly 92 years.
- Such cohort life expectancies are particularly useful in considering the length of people’s customary retirement periods. Using the usually published life expectancies, it might appear that a person born in 2012 could expect to live for 19 more years after they reach 65 years old. In fact, it is projected that they will live for around 29 years after that age. This raises issues about optimal retirement ages, provision for publicly funded pensions and rules about access to superannuation savings — an issue explored in more detail later.

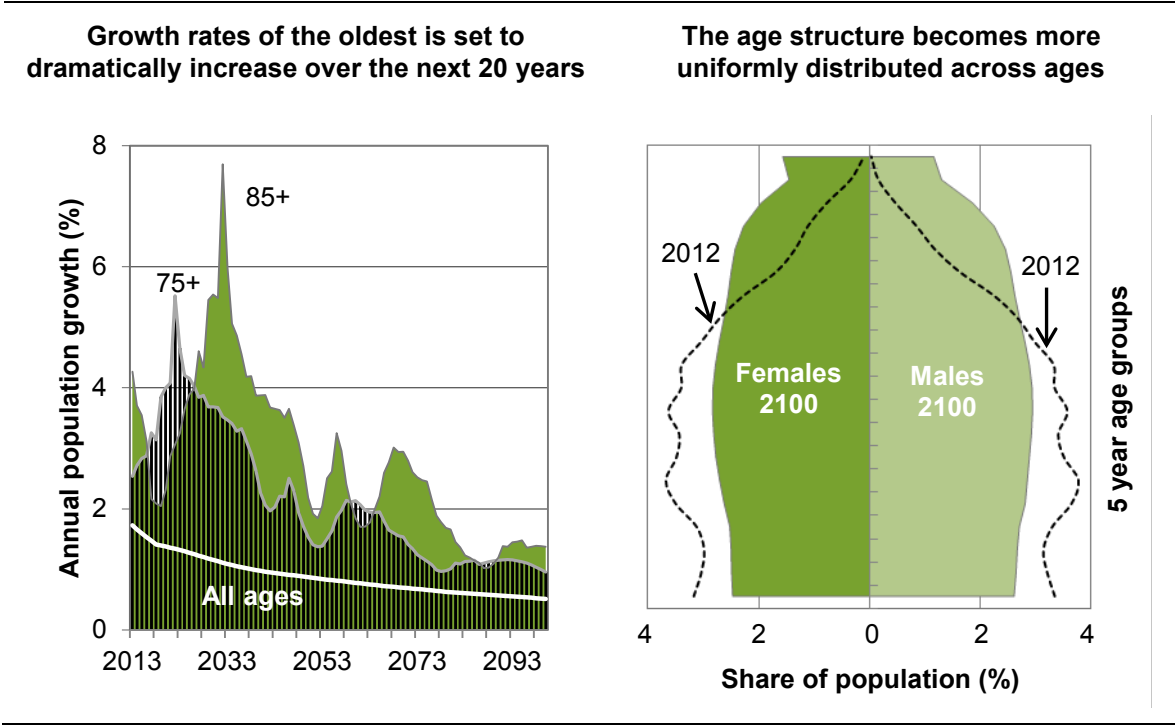
Figure 3 Death rates have fallen
The chance of dying over the next year (%), 1921 to 2011



The pyramid age structure that characterised Australia’s young population at Federation has gradually shifted so that it currently bulges most at middle age. By the end of this century, the pyramid will have entirely disappeared, with the much

more uniform distribution across ages characteristic of a highly aged population (figure 4).

Figure 4 Population ageing until the 22nd century



Growth rates of the oldest segments of the population will accelerate over the coming years, as the baby boomer generation enters old age (figure 4). The number of people aged 75 years and over is projected to increase by about 4 million between 2012 and 2060 — an increase roughly equivalent to the current population of Sydney. The most striking illustration of ageing is the growth in the population of people surviving past 100 years of age. In 2012, there was roughly one person aged 100 years old or more to every 100 babies. By 2060, it is projected that there will be around 25 centenarians for every 100 babies, and with continued small increases in longevity, by 2100, there will be more people aged 100 or more years than babies born in that year.

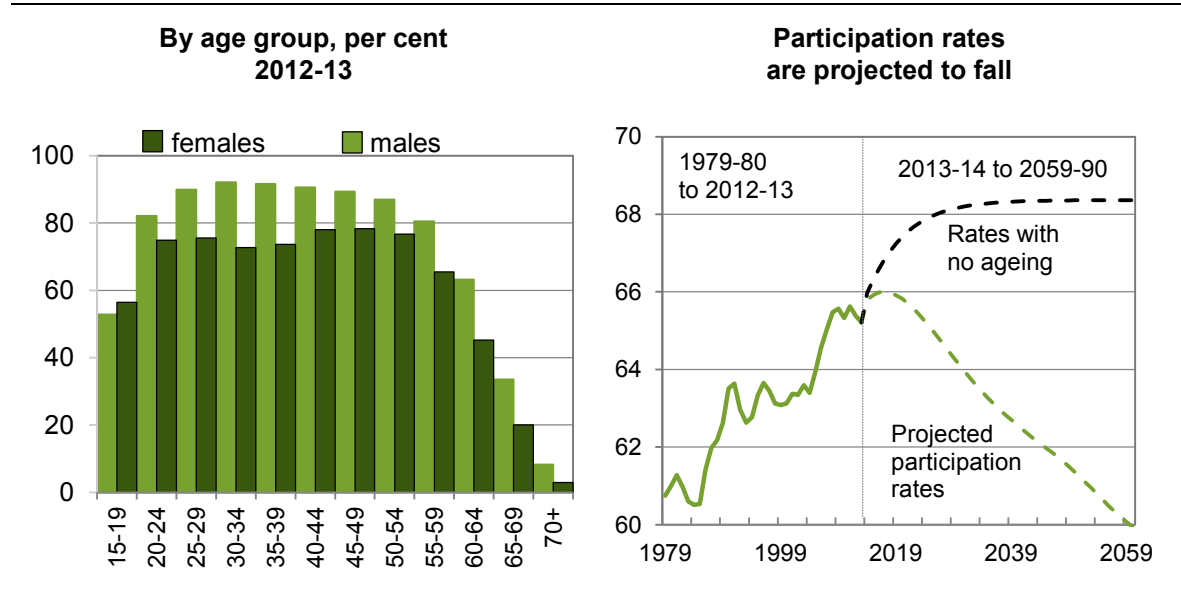
Labour supply

With an aggregate labour force participation rate¹ always exceeding 65 per cent, the period from 2007–2025 represents a peak in labour market engagement in Australia

¹ This is the number of people aged 15 years or more who are in, or looking actively for, work, divided by the population aged 15 years or more.

not exceeded since 1914. After 2025, aggregate participation rates gradually fall to a projected rate of just below 60 per cent by 2059-60 (figure 5).

Figure 5 Labour force participation rates



Paradoxically, this is despite the likelihood that in nearly every relevant age group, and especially among older Australians, people’s projected engagement in the labour force will increase. The reason for the aggregate decline is that, even with those age-specific increases, older Australians have much lower participation rates than the prime-aged working population (those between 25 and 54 years), with population ageing shifting many more into the older age brackets. In fact, were the age structure of the population not to change over the next fifty years, aggregate labour force participation rates would be expected to rise to more than 68 per cent.

In the Commission’s analysis, small increases in hours worked per employee and falls in unemployment rates over the next 50 years partly offset the effect of lower aggregate participation rates on labour supply (best measured as hours worked per capita). The only other major factor determining labour supply per capita is the declining share of people aged 0-14 years, who are excluded from any count of the potential labour force. Given this offsetting influence, overall labour supply per capita is projected to fall by nearly 5 per cent by 2059-60 (figure 6).

While the projected labour force estimates take account of historical trends, they may not fully account for two important influences on future labour supply by older workers:

- the future old will be better educated than both previous generations of older workers and the future young, reflecting the long-run impacts of the large

expansion in tertiary education and the stabilisation of tertiary participation rates at younger ages. Higher levels of tertiary education are strongly associated with greater labour force participation, and this effect may not be fully reflected in historical labour force participation trends

- there is conflicting evidence on trends in disability rates among older Australians. Population surveys of disability suggest rates have been falling, but labour market surveys and usage of the Disability Support Pension tell, at best, a mixed story. Disability is highly associated with low labour force participation. If nothing else, the above evidence suggests an imperative to find out more about the real trends in disability rates relevant to people’s engagement in the labour market, and to understand the policies that may improve engagement. Current policy reforms in disability support should shed light on this over time.

Figure 6 Contribution to the reduction in hours worked per capita
100 x change in natural log values, 2012-13 to 2059-60



What about productivity?

The remaining critical ingredient to future economic growth is productivity, which has a greater impact than the reduction in labour supply per capita. Australia’s labour and multifactor productivity (MFP) growth has languished in recent years. Without broader policy reforms, it appears that it will be difficult to return to the higher growth rates experienced in the 1990s. In part, this reflects the structural shift to (often government-supplied) services, where productivity growth rates have, on average, been lower than other parts of the economy.

Average labour productivity growth is projected to be around 1.5 per cent per annum from 2011-12 to 2059-60 (with multifactor productivity growth contributing 0.7 percentage points). This is considerably below the estimates used in most previous studies of future economic growth. In contrast, prior to the recent slowdown, average peak-to-peak labour productivity growth from 1998-99 to 2003-04 exceeded 1.8 per cent per year.

Around 0.8 percentage points of the projected annual labour productivity growth rate reflects the contribution of capital accumulation. It is projected that the gross fixed capital spending (by the private and the public sectors) required to underpin capital deepening will be around \$38 trillion over the next 50 years in constant 2011-12 prices. This is around 5 times more than the sum of investment required over the previous half century (1959-60 to 2011-12). Given this, it is crucial to have economic settings conducive to efficient capital investment and to its financing.

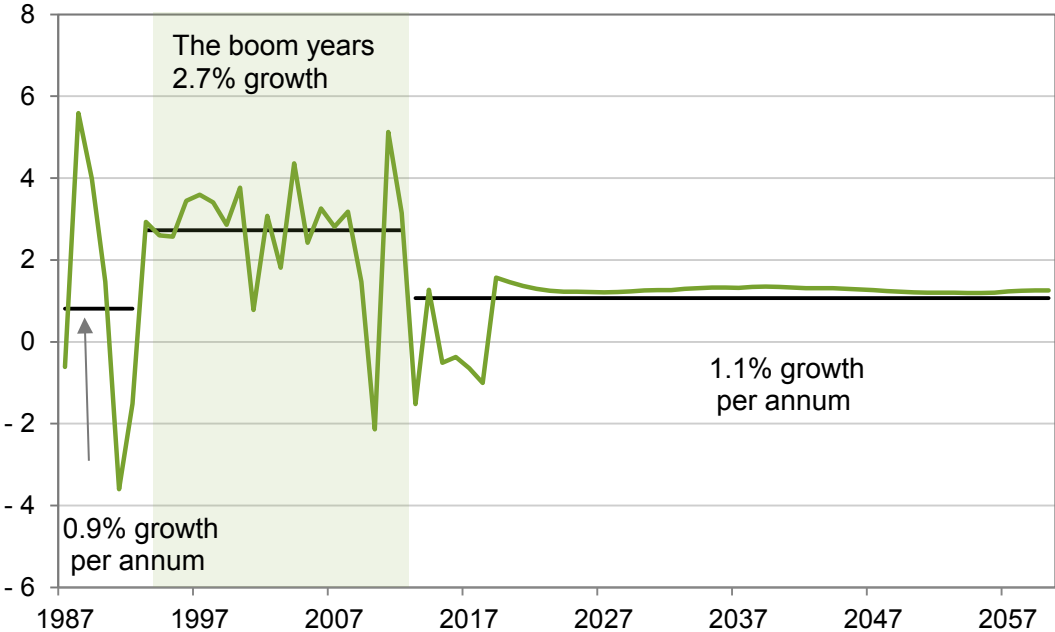
Increases in productivity growth have sizable impacts on output growth. As an illustration, using the Commission's base case value of labour productivity, the cumulative sum of annual GDP values from 2012-13 to 2059-60 is around \$140 trillion in constant 2011-12 prices. An increase in labour productivity of 0.3 percentage points a year increases the cumulative value by \$13 trillion. This is equivalent to around 8 years of Australia's GDP value in 2012-13. Where the improved productivity growth arises from 'doing things better' rather than capital deepening, this value could support some or all of the very significant expected increase in consumption of health, aged care and training services, underlining the link between economic and social policy. Australia has instigated important programs, such as the National Disability Insurance Scheme, to support people in need, and will come under pressure to ensure adequate resourcing of future health and aged care services. The income that underpins such social programs needs to be created in order to be distributed.

The implications for economic growth and national incomes

While the supply-side of the economy is clearly critical to Australia's future prosperity, a country's standard of living is ultimately dependent on the value of its *disposable* income. This takes account of the terms of trade, transfers to foreigners and the need to pay for capital accumulation. The terms of trade is projected to decline so that, with the additional impacts of contracting growth rates of labour supply and labour productivity, disposable income is projected to grow at a much slower rate compared with the boom period from 1993 to 2012 (figure 7).

The bottom line is that the combined cocktail of falling labour supply per capita, a declining terms of trade and poorer productivity growth rates mean that Australians can expect that the growth in disposable income per capita will fall to less than half that of the boom years. A period of truly diminished outcomes is likely to be at hand, unless luck or appropriate policy initiatives intervene.

Figure 7 A major slowdown in income growth is impending
 Percentage change in real net national disposable income per capita



Growing fiscal pressures coincide with lower economic growth

Diminishing economic expectations are likely to coincide with increasing expectations for public spending. Australian governments will face major fiscal pressures over the ensuing decades. This reflects that government expenditure is strongly weighted towards older Australians, and that population ageing will expand their relative importance dramatically (figure 8).

The principal indicator of future fiscal pressure is the degree to which government spending outpaces revenue when the ratio of government tax revenue to GDP is held constant. This provides a measure of the increase in revenue or reduction in aggregate spending required to provide a balanced budget (table 1). Overall, the Australian Government must find funding sufficient to cover additional expenditure of 4.5 per cent of GDP, and combined state and territory governments must find an additional 1.4 per cent of GDP. It is possible that given the limited taxation options

available to the states and territories, much of their fiscal pressure could be ‘passed on’ to the Australian Government in the form of greater demands on federally collected taxes.

The main sources of such pressures over the next 50 years are likely to be rising obligations for publicly-funded health care, aged care and retirement. There is likely to be relatively minor fiscal relief from obligations that typically relate to lower age groups.

Figure 8 Age-related government spending
All governments, \$’000 per person, 2011-12

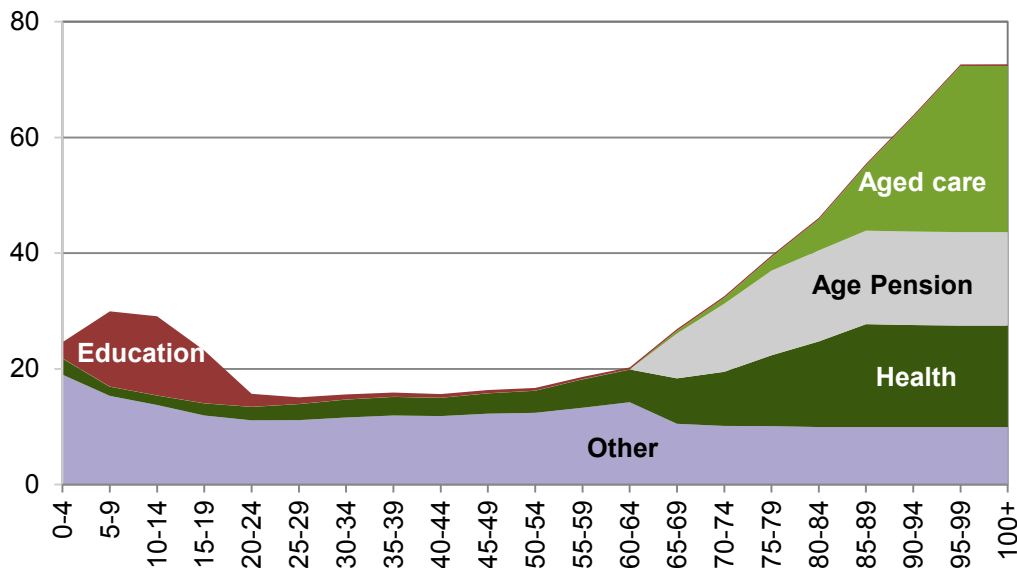


Table 1 Budget pressures grow over the next 50 years

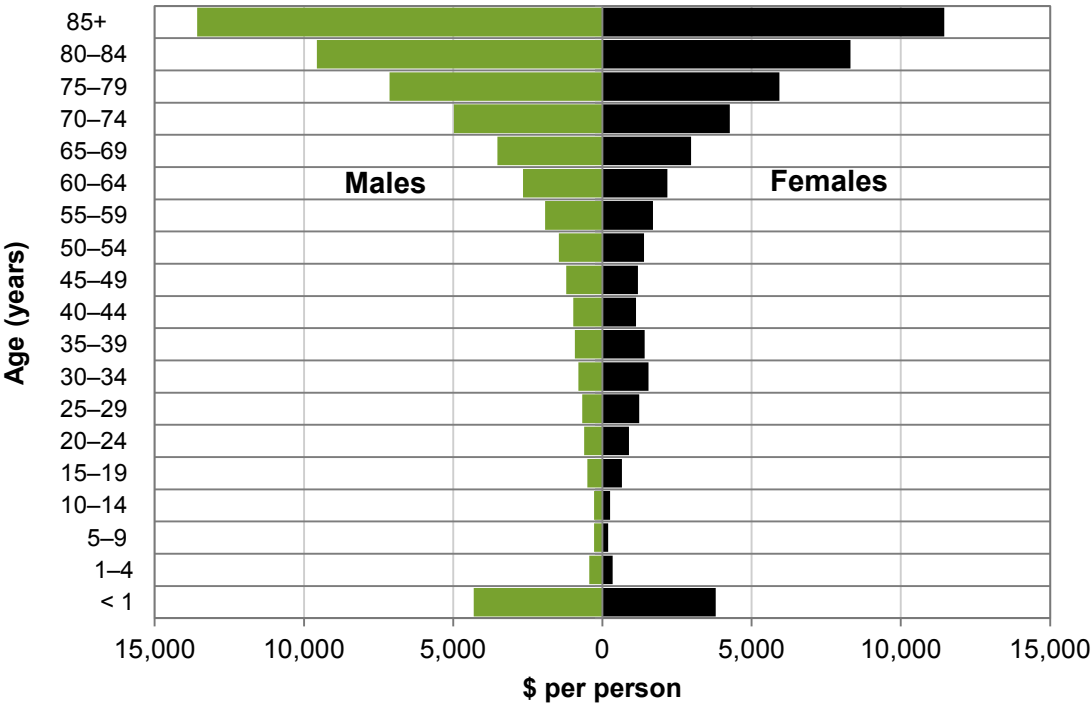
	2011-12	2059-60	Change
	Share of GDP (%)	Share of GDP (%)	Share of GDP (%)
Australian Government			
Health care	4.1	7.0	2.9
Age Pension	2.7	3.7	1.0
Aged Care	0.8	2.6	1.8
Education	1.9	1.7	-0.2
Other (including disability)	11.2	10.2	-1.0
Sum	20.7	25.1	4.5
State and territory governments			
Health care	2.4	3.8	1.4
Education	3.5	3.2	-0.3
Disability	0.2	0.5	0.3
Sum	6.1	7.5	1.4

Numbers may not add to totals due to rounding.

The pressures on health care, the most important driver of fiscal pressure, reflect two related factors:

- Health care costs rise with age, given greater service use at older ages. For example, in 2010-11, the cost of Pharmaceutical Benefits Scheme drugs per person aged 75 or more years was nearly 50 times greater than the cost per person aged under 18 years. Similarly, dramatic relationships between age and per person costs are apparent for other health services, such as hospitals (figure 9).
- This pressure is compounded by non-demographic factors that affect costs, such as advances in the quality of services, and new technologies. Even for a given population age structure, costs per capita in health care tend to rise at around 0.6 to 0.9 percentage points above real GDP per capita growth, depending on the segment of the health care sector.

Figure 9 Hospital costs by age and sex, 2010-11



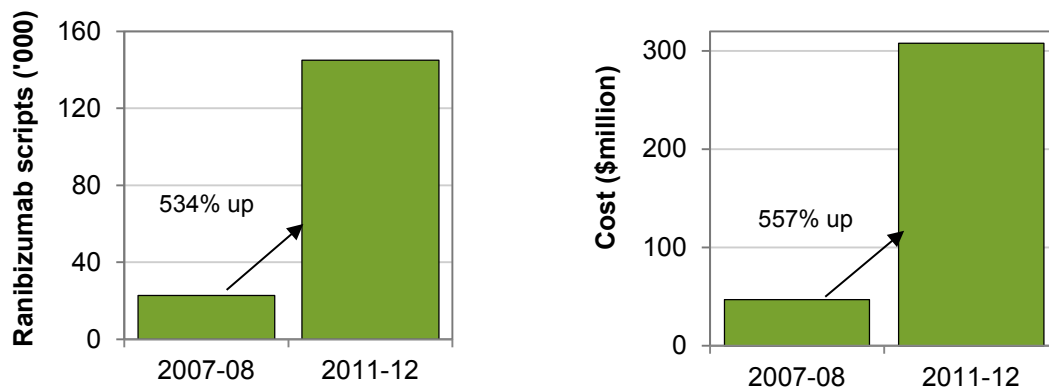
The two factors are interlinked because many technological innovations occur for health interventions intensively used by older Australians. This trend may be accentuated as businesses develop technologies targeting the needs of the aged. The budgetary impact of a new drug (costing some \$2100 per script) that targets macular degeneration among the aged provides a vivid example of this process. Over just a

few years, prescription numbers increased more than sixfold, with annual costs to government rising from \$45 million to nearly \$310 million (figure 10).

Closing the fiscal gap

All governments face the long-run fiscal reality most bluntly put by the character Micawber in Charles Dickens' novel *David Copperfield*: 'Annual income twenty pounds, annual expenditure nineteen six, result happiness. Annual income twenty pounds, annual expenditure twenty pounds ought and six, result misery'. While governments, unlike Micawber, have the capacity to borrow over reasonably lengthy periods, neither that strategy nor selling assets purely on revenue raising grounds are sustainable long-term options to address the widening fiscal gap. (There may of course still be strong efficiency grounds for privatisation.)

Figure 10 The rising costs of a drug for age-related macular degeneration



Accordingly, governments can respond to *long-term* pressures only by raising taxes, cutting aggregate spending or some hybrid. To give a picture of the size of the aggregate funding gap facing all governments, its closure would require that total taxes collected by all Australian governments increased from around 28 to 34 per cent of GDP (about a 21 per cent increase), or roughly an equivalent reduction in the existing expenditure to GDP, or some mix of the two. The key issue will be how governments can manage to close a gap of this size in an orderly, efficient and equitable way. Taxation will inevitably be part of the story, as will be targeting of any wasteful or inefficient spending. But some creative options also warrant exploration in the policy debate that Australia must have.

Some reforms represent opportunities to overcome ageing fiscal pressure and warrant further debate

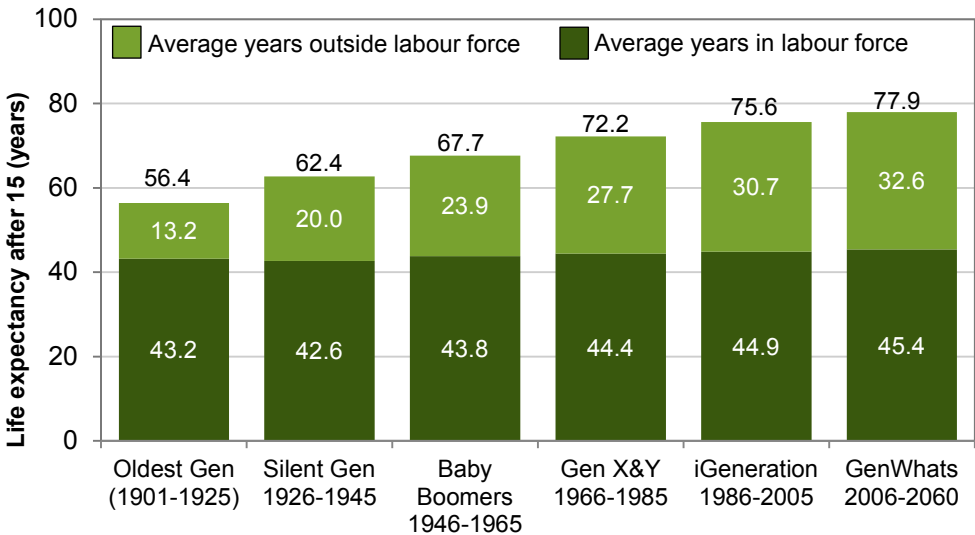
Increasing workforce participation amongst older workers

People are living much longer, yet for the last hundred years, there has been little change in the age at which people are eligible for the Age Pension or the period spent in the labour force (figure 11). The average life expectancy from age 15 years of a male born in the so-called ‘Oldest Generation’ between 1901 to 1925 was just over 55 years. After age 15 years, he would spend just 13 years (or less than 25 per cent) of his remaining lifetime outside the labour force. In contrast, it is estimated that the male generations born between 2006–2060 (‘GenWhats’) will live an additional 78 years once they reach 15 years old, of which 33 years will be spent outside the labour force (mostly not in education).

If time in full-time equivalent work is considered, the average male ‘GenWhat’ aged 15 years is projected to work for an estimated 39 years compared with around 44 years for their ‘Oldest Generation’ counterpart. The additional years in retirement appear likely to be mainly healthy ones.

Figure 11 What is the future of people’s lives once they have reached 15 years old?

Successive male generations 1901 to 2060



Rounding errors means numbers may not exactly sum.

In part, the tendency for people to spend a greater proportion of their lives outside the labour force reflects participation in education in the years from 16 to 20 years

(though many students still work), greater wealth and savings, and the high value of leisure. However, there are several major obstacles to the employment of older people, of which the financial incentives of (and the social norms established by) the tax, superannuation and pension systems figure prominently.

Only in recent times has the eligibility age for the Age Pension (and indeed the former statutory provision for mandatory retirement) been seen as out of step with older people's greater life expectancy and their capacity to contribute to society through paid work. Older Australians are characteristically neither infirm nor inept. While the pension age is scheduled to gradually increase to 67 years by 2023 for both men and women, an important issue is whether there are grounds to make slow and automatic changes to the eligibility age in line with future life expectancy gains — a position advocated by the OECD.

The Age Pension serves a number of purposes and, consequently, it is difficult to determine the optimal eligibility age. Nevertheless, increasing the eligibility age in line with increases in life expectancy would *prima facie* have some benefits. As an illustration of the impacts of rising pension eligibility ages, gradually increasing the pensionable age from 67 to 70 years could:

- increase participation rates for people in the relevant ages by around 3–10 per cent, taking account of the fact that some people would be unable to work (and would transfer to the Disability Support Pension), some would be already working, and others with sufficient privately-funded superannuation would largely not be affected by a change in the publicly-provided pension
- yield ongoing fiscal savings of around 0.15 per cent of GDP per annum in the late 2030s after accounting for some increase in Disability Support Pension recipients (and then falling to 0.1 per cent of GDP in the long run). Over the full period from 2025-26 to 2059-60, the accumulated (undiscounted) savings would be around \$150 billion in constant 2011-12 prices.

There are several complexities in implementing any link between the pensionable age and life expectancy, but these are surmountable (as suggested by the operation of such links in some countries). Shifts in attitudes and expectations amongst employers and the labour force will be important to the effectiveness of any policies in this area.

Aspects of the superannuation system, particularly the taxation arrangements and preservation age, also have incentive effects on labour supply and entail taxpayer costs of a similar magnitude to those posed by the Age Pension eligibility age. The issues raised by growing longevity should be considered for the whole retirement income system.

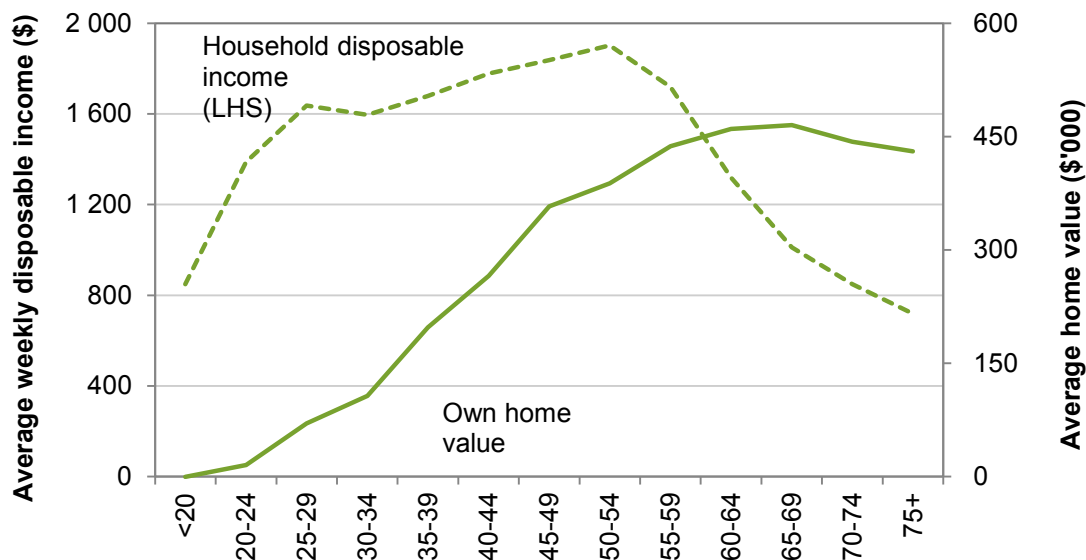
Examining new ways to help fund government-provided services

Among other concerns, affordability has been an obstacle to greater co-contributions by older people for the taxpayer-funded services they use. However, many people may be able to tap certain assets in innovative ways without compromising their current living standards. Many may also wish to contribute if it underpins more consumer-directed service delivery and reduces the risk of rationing of services central to their wellbeing — such as high quality aged and health care.

Any future policy debate about the possibility of innovative arrangements for greater co-contributions should be informed by facts and analysis.

Most households and individuals already save for their retirement, consistently building wealth over their working lives and then using it to fund their retirement. But retirees tend not to draw down the wealth in their home, which represents a significant share of their total wealth (figure 12). Over 80 per cent of older households own their home, overwhelmingly without any mortgage. Even those on the Age Pension often fully own their own home. Evidence on bequests over the past ten years, which most commonly relate to the family home, suggests this trend is continuing.

Figure 12 **Older Australians are often income poor but asset rich**
2009-10



One option, which is already in use to help households pay their council rates, is a government equity release scheme targeted at older households. Having individuals contribute even half the annual real increase in their home values towards aged care

services could reduce government expenditures by around 30 per cent (a conservative estimate). An equity release scheme of this kind would still leave older households with an appreciating asset base and provide a means to increase the quality of services provided over the longer term.

The viability of any such scheme depends on many other matters, but the evidence suggests that further investigation is warranted.

Productivity reforms in health care delivery

Improvements in the productivity of the health sector and more efficient allocation of resources would generally help directly reduce fiscal pressures and, in some cases, improve outcomes for people (such as by avoiding adverse hospital outcomes).

The evidence suggests that there are significant variations in the productivity of different health service providers, providing scope for productivity improvements from shifting the performance of laggards. In Australia, for example, a study found that there were around 200 procedures where the cost can vary from half to around one-and-a-half times the average cost, depending on the hospital undertaking the procedure.

Productivity improving reform can be instituted at an organisational or governmental level (such as funding initiatives, or coordinating databases of clinical evidence).

An illustration of organisational reform at the point of service delivery is the application of ‘lean’ care models, which apply to hospital care some of the management techniques used in modern logistics. As an example, one hospital found that the major source of delays or cancellation of surgery was a bottleneck in just one link of the chain — the post-anaesthesia (and surgery) care unit. Instead of just providing more beds at that point, the usual response to a bottleneck, hospital management managed the flow of patients into the care unit from areas providing anaesthesia, resolving the bottleneck without more resources.

More broadly, across the whole health system, decisions about what resources to use, for whom and when, are informed by a messy assortment of sound evidence, and information that is out of date or not well founded. In the United Kingdom, frustration with the costs of poorly founded practices led to the development of so-called ‘do not do’ lists, which identified health care practices that were not cost effective. The basic infrastructure for evidence-based practices already exists — such as through the international Cochrane collaboration, and the practices of

bodies like Australia's Pharmaceutical Benefits Advisory Committee and the United Kingdom's National Institute for Clinical Evidence. However, diffusing the results of such evidence has proved more difficult, indicating that there may need to be complementary reforms to incentives and institutional arrangements.

Of course, effective preventive and early intervention may avoid the use of costly procedures at a later time (or simply the avoidance of poor outcomes) — the principle behind public health. Many adverse health outcomes — examples cover areas such as those arising from accident trauma, lung cancer, cardiovascular disease, diabetes and illicit drug use — can benefit from preventative approaches. Nevertheless, while it is likely that many prevention strategies are warranted and effective, crafting cost-effective prevention strategies is not straightforward, as reflected, for example, in the case of obesity prevention. The analytical methods used to establish cost-effectiveness need improvement if they are to make a significant contribution to the health reform agenda.

There are several other well-known and promising areas for reforms that may lead to improvements in both productivity and cost effectiveness. These have often been frustrated by problems in implementation (such as the divided responsibility for, and structure of, associated funding) or the actions of interest groups adversely affected by them. The potential reform areas include:

- *Workforce demarcation and regulation*: current arrangements likely inhibit more efficient skill mixes and create unnecessary regulatory burdens.
- *Procurement in the health sector*: particularly in hospitals, increased purchasing power could be leveraged by aggregating some purchases, and achieving efficiencies in the purchasing process itself.
- *Financial and regulatory incentives*: regulation of the health sector and differentiated health funding can distort choices between procedures, and providers (such as emergency departments and general practitioners). The split in funding responsibilities between levels of government can contribute to this issue.

However, as with all significant policy change, careful consideration and analysis of the policies, and the best manner of implementation, is warranted.

Estimates of the benefits from some recent health reforms suggest that these could bring significant benefits and help to alleviate fiscal pressures. Just a 5 per cent improvement in health sector productivity would reduce the projected fiscal pressures for all Australian governments by 0.5 percentage points of GDP in 2059-60.

Planning for the future

Population ageing is a desirable side product of success. All highly-developed countries have longer life expectancy and lower fertility rates than poor countries. However, population ageing entails major economic and social transformation for Australia at a time when it is likely that the terms of trade reverts to its lower long-term average and productivity growth rates fall below the historical norm. Growth rates in output and income per capita are likely to slow, while increased demands on governments to fund age-related expenditure will generate fiscal pressures. Any cyclical downturns will add to these pressures.

The preferable time to contemplate the policy implications of these developments is while these near-inescapable trends are still in their infancy.