

# The State of Ageing in WA

Report by Access Economics Pty Limited for the



**Office for Seniors Interests  
and Volunteering**  
Government of Western Australia

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## EXECUTIVE SUMMARY

### Ageing impacts on public sector finances

Federal Treasury's 2002 *Intergenerational Report* (IGR) painted a bleak picture for government finances across the next 40 years. It suggested that demographic pressures brought on by retiring baby boomers, combined with rapidly rising expenditure on government-subsidised pharmaceuticals and other health services, would inevitably lead to larger and larger budget deficits.

Subsequent work by Access Economics<sup>1</sup> suggested that State Governments too would be subject to many similar pressures.

### The bigger picture – seniors as assets

Yet too much of the growing literature on the effects of population ageing focuses on public sector and/or private financial impacts. That financial focus runs the risk of undervaluing some of the key contributions of seniors (people 60 years of age and older) to the community.

The literature on the impact of population ageing has mostly been focused on the negative side of the phenomenon, and particularly on public finances.

This view has to be balanced against the economic and social benefits that older people provide to their family and their community – as well as to the economy through their rising rates of workforce participation.

The expected rapid growth in numbers of seniors will present challenges for public spending, but will also at the same time boost the supply of key community assets – such as the time of senior volunteers.

It is the recognition of this potential contribution and the sheer increase in the number of WA seniors that prompts the investigation into WA seniors' contributions.

The so-called “unpaid work” by seniors is vital for the daily conduct of our society: by taking on the responsibility of caring for the elderly, the disabled and children of their own or others' family, they enable those who would otherwise have to perform this duty to stay in the workforce. Although this is not to say that they will stay in the workforce had they not taken these responsibilities – for they may have chosen to retire anyway – substituting their time away from what could have been spent on leisure presents a lost opportunity. Seniors' contributions moreover, extend beyond caring for their own family for they are often involved in their communities through volunteering.

### A stocktake of the contributions of seniors

The modelling in this report adds a further dimension to the IGR analysis undertaken in Australia and Western Australia to date.

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<sup>1</sup> See, for example, *Long Term Fiscal Projections – Report on Results for Western Australia versus All States and Territories* (Access Economics, 2003)

This report concentrates on seniors as assets, identifying their contribution (both now and in 2025) to formal measures of economic strength, including seniors' share of:

- ❑ Total State employment.
- ❑ Total State net household wealth.

This report also identifies contributions to the informal economy, including:

- ❑ Seniors as providers of informal childcare.
- ❑ Seniors as carers for elderly or disabled family members.
- ❑ Seniors as volunteers.

Finally, this report identifies:

- ❑ Cost savings to the Federal and WA State Budgets from the voluntary work of seniors.

It should be noted that the above is not a comprehensive list of the contributions of seniors to community welfare – and hence to the nation and to the State. Because many of those contributions are particularly difficult to value, the above list is simply limited to those contributions more amenable to measurement.

## The estimates of the contributions of seniors

The three components of unpaid work measured in this report are shown below, with the value of unpaid work by Western Australian seniors estimated at \$1.11 billion in 2003. While seniors make up just under 20% of the State's population, they provide close to half the unpaid services in caring, volunteering and child minding.

### UNPAID WORK IN WESTERN AUSTRALIA (\$M – 2003)

Service	Seniors	Total	Seniors' share
Caring	\$392	\$1,002	39.1%
Volunteering	\$172	\$702	24.5%
Child minding	\$546	\$806	67.7%
Total	\$1,110	\$2,511	44.2%
Population (15 and over)	305,495	1,551,336	19.7%

The table below presents a simple stocktake of seniors' contributions to WA – formal and informal, and both for 2004-05 (the latest available data) and again in 2024-25 (on Access Economics' projections)<sup>2</sup>.

<sup>2</sup> The results are from the ageing scenario. See Chapter 5 for a more detailed discussion.

## WA SENIORS SUMMARY

	2004-05	2024-25
<b>Formal measures of economic strength</b>		
Share of State population	16.3%	24.3%
Share of State population (aged 15 and over)	20.4%	29.2%
Share of State employment	5.5%	8.1%
<b>Measures of income and wealth</b>		
Share of State total incomes	20.0%	21.5%
Share of State after-tax wage incomes	4.0%	6.0%
Share of State non-wage incomes	52.1%	59.6%
Share of State net household wealth	31.5%	41.9%
Share of State net super wealth	10.0%	23.3%
Share of State net housing wealth	33.3%	45.7%
Share of State net other wealth	37.9%	50.8%
<b>Contributions to the informal economy (% of GSP)</b>		
Seniors as providers of informal childcare	0.64%	0.89%
Seniors as carers for elderly or disabled relatives	0.46%	0.65%
Seniors volunteering in WA	0.20%	0.29%
<b>Fiscal offsets (% of Western Australian GSP)</b>		
Cost savings to the WA Budget	0.38% (\$386 m)	0.60% (\$2,053 m)
Cost savings to the Federal Budget	0.91% (\$920 m)	1.24% (\$4,257 m)

### Contributions to formal measures of economic strength

As the table above shows, seniors grow not only in relative numbers (from a sixth to a quarter of the total State population across the coming two decades) but also in economic importance. In addition, the increasing level of unpaid work – in childcare, caring for others in the community and in volunteering for community organisations – will be an increasingly important offset to the underlying Budget pressures wrought by demographic ageing.

### Contributions to the informal economy and fiscal offsets

While earlier modelling has concentrated on how ‘demand pressures’ affect public sector finances, this modelling also examines to what extent the increasing ‘volunteer supply’ alleviates this overall trend.

Those impacts are surprisingly large. Although accounting for just 20% of the adult population aged 15 and over, Western Australian seniors (aged 60 and over) provide nearly 40% of unpaid caring, nearly 25% of unpaid volunteering and 68% of unpaid child minding.

In terms of replacement cost measure, the value of WA seniors’ care for the elderly and the disabled is estimated to have been worth \$392 million in 2003, nearly 40% of the total \$1 billion worth of unpaid caring undertaken in Western Australia in that year. Seniors’ contribution towards their community amounts to \$172 million, or 24.5% of the \$702 million total replacement cost of volunteering. Their contribution in caring for children is greater still: valued at \$546 million or 67.7% of the \$806 million total value of child care.

Indeed, while demographic ageing will place pressures on the Western Australian State Budget, the relative contributions of seniors will become an increasingly important offset to overall trends. For example, under fairly realistic assumptions for population change and health cost inflation, the State primary balance (the shortfall between revenue and expenditure) would approach 1.0% of output by 2025. Without the offsetting benefits of volunteering, caring and child minding by Western Australian seniors, the gap would be

closer to 2.6% – even accounting for the increasing value of concessions received by older Western Australians<sup>3</sup>.

Taking these “unremunerated” contributions explicitly into account will give a more accurate Budget outlook and assist to provide a more balanced view towards the budget implications of an ageing population.

On that basis Access Economics calculates that seniors’ unpaid work saves around \$1.1 billion for the WA and Federal Budgets, nearly 30% of which goes to the State Government.

### Estimates of the future fiscal costs of seniors

This report also delved deeper into fiscal costs with and without the ageing of WA’s population.

The tables below set out key cost categories in the WA Budget and the Federal Budget (with all costs shown as a share of overall economic output).

The results are presented for 2025 – but for three alternative versions of 2025:

- ❑ In one there has been no ageing of the population, and health care costs have grown in line with consumer prices more generally;
- ❑ In the middle case demographic ageing has proceeded along the line that can be expected given recent trends in fertility, mortality and immigration, but inflation in health care costs has remained in line with other prices; and
- ❑ Finally the economy takes a ‘double-whammy’ from an ageing population and rapid rises in health care costs, with compounding implications for Federal and State Budgets. This version corresponds to the analysis contained in the 2002 Federal IGR.

#### FORECAST WA BUDGET SPENDING IN 2024-25 (\$M)

	Without ageing (A)	With ageing (B)	With ageing & health inflation (C)	Ratio of (C) to (A)
Health	12,052	14,194	15,237	26.3%
<i>of which:</i>				
Aged care	430	672	730	69.7%
Education	14,187	11,474	11,636	-18.0%
Public order and safety	3,026	2,757	2,796	-7.6%
Welfare payments	2,086	2,097	2,127	1.9%
<i>of which:</i>				
WA Seniors Card	28	43	44	54.1%
All seniors’ concessions	473	720	730	54.1%

The implications of the growth in the older population and relative health care costs, not surprisingly, shows up dramatically in the health expenditure in the State Budget – which would be pushed 26.3% higher in the combined scenario. The aged care cost component

<sup>3</sup> Due to the timing of demographic pressures in Western Australia in particular, and States and Territories in general, 2025 is well before the key negatives become strongly apparent on the State primary balance. In this scenario – the underlying State Budget deficit hits 3.0% of GSP by 2040, 5% without the assistance of seniors’ unpaid work.

risers even faster in percentage terms, but is a very small component of the State Budget. Education and public order and safety costs decline due to fewer younger people in the State.

Welfare payments at the State level are restrained due to the impact of increasing numbers of grandparents on the required level of funding for childcare, but this benefit is outweighed by rising health expenditure. Concession card costs, including those for the WA Seniors Card, also rise significantly.

### FORECAST FEDERAL BUDGET SPENDING IN 2024-25 (\$M)

	Without ageing (A)	With ageing (B)	With ageing & health inflation (C)	Ratio of (C) to (A)
Health	125,115	141,812	162,086	29.5%
<i>of which:</i>				
Aged care	25,407	36,901	40,114	57.9%
Education	35,112	34,002	34,454	-1.9%
Social Security	219,765	238,654	241,764	10.0%
Other Welfare	28,561	26,225	26,582	-6.9%

Federal Budget results show similar swings. In this case the impacts from aged care are far more significant – a rise in expenditure of some \$15 billion (compared with just \$300 million for the State Budget), with total health expenditure lifted by \$37 billion. Education costs fall, although not by as much as for the State, which benefits more from the fall in school enrolments, but does not face the slightly more buoyant growth from the tertiary sector.

Social security levels are boosted via rising demands for pensions and disability allowances, but 'other welfare' costs are lower due to falls in demands for family allowance payments.

Note that both these tables show changes between two sets of assumptions at a given point in time (2025) – the costs of education still rise over all the scenarios, but the growth is lower under the assumptions of demographic ageing.

### Summary

To date the analysis conducted on ageing effects has concentrated on the negatives for public sector finances over coming decades.

This report looks to the bigger picture – the changing demographics of WA are indeed likely to pressure State and Federal public sector finances in coming years, but the State and nation will also be considerable beneficiaries of other key trends, including an expected sharp rise in the share of formal economic measures being accounted for by seniors, as well as a striking rise in the unpaid contributions of seniors – many of which will save large sums for younger taxpayers.

**Access Economics**  
**26 February 2007**

## 1. INTRODUCTION

Federal Treasury's 2002 *Intergenerational Report* (IGR) painted a bleak picture for government finances across the next 40 years. It suggested that demographic pressures brought on by retiring baby boomers, combined with rapidly rising expenditure on government-subsidised pharmaceuticals and other health services, would inevitably lead to larger and larger budget deficits.

Subsequent work by Access Economics suggested that State Governments too would be subject to many similar pressures.

Yet much of the growing literature on the effects of population ageing in Australia focuses on financial impacts. That financial focus runs the risk of undervaluing some of the key contributions of seniors to the community.

After all, seniors make a major contribution towards the well-being of society through the unpaid work they undertake. This contribution is largely in the form of informal care for loved ones (including child minding) and volunteer work with community support, sporting and emergency service organisations.

There are many forms of informal contribution to society, and these contributions are often not included in formal measures of the flows economic activity. While it may be true that many older Australians provide other assistance to the community, such as mentoring or providing 'knowledge through experience', such contributions are very hard to measure, and may prove impossible to 'value'. With that in mind, Access Economics has limited its analysis in this project to focus on areas which are more clearly defined and understood.

As a result, three major areas of contribution have been identified and modelled in this report to obtain a picture of the value of seniors' unpaid work:

- 1 **Caring for the elderly and disabled.** Seniors are more likely to care for their spouse as many have retired from paid work, and are also more likely to care for a disabled family member.
- 2 **Caring for children**, particularly for their own grandchildren but also for children not related to them<sup>4</sup>.
- 3 **Volunteering in the community.**

The value of such unpaid work can be measured in two ways:

- ❑ The **opportunity cost** method measures the amount of paid work or leisure time that would have been undertaken had it not been for caring/volunteering responsibilities (this measure is sometimes also referred to as the **self-valuation method**, which involves the person themselves estimating what their time is worth).
- ❑ The **replacement cost** method which measures the cost of buying the number of hours of informal care/volunteering provided through the formal (paid) sector.

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<sup>4</sup> Note that 'caring' here refers specifically to 'informal child care' rather than raising children (as their primary care giver).

The emphasis in this report will be on replacement cost measure as seniors are likely to have already retired or scaled back their involvement in the paid workforce, so the issue is not so much about substitution away from paid work as it is about substitution away from leisure. Leisure time is difficult to value objectively due to the lack of a market price, making the opportunity cost method more difficult to apply to the efforts of seniors.

The basis of the valuation of unpaid work are prevalence rates and average number of hours spent in the three major areas by age groups. This information is readily available from Australia-wide and WA specific surveys.

While valuation of the first two roles is straightforward, volunteering presents more of a challenge. Volunteering roles are generally split into 'activities' (as opposed to 'professions'), which means each activity must somehow be matched to a similar profession in order to determine appropriate remuneration figures. Volunteering is further complicated by the fact that a person may volunteer across more than one activity. Simply adding the proportions of volunteers involved in each activity would thus include some double counting.

Alternatively, a different method to estimate the number of hours spent on volunteering by each age class is required. Access Economics' preferred method is to retain the relativity of each activity by dividing the proportion of volunteers in one activity by the proportion of volunteers in all activities, assuming in effect, that time spent increases proportionally with the share of volunteers. The 'weight' of each activity is then used to allocate the average number of hours spent by a particular age group to each activity.

Unlike caring and child minding, replacement cost per hour of volunteering for a particular age group is obtained by summing up the cost of each activity and dividing it by the average hours spent by a particular age group. Average number of hours is thus used to obtain the amount of time spent on each activity and the per hour replacement cost.

The remainder of this report is organised into four chapters:

- ❑ **Chapter 2** gives an overview of population ageing in WA.
- ❑ **Chapter 3** documents the contribution of WA seniors in the paid workforce, caring for the elderly and the disabled, caring for children and volunteering in the community.
- ❑ **Chapter 4** presents the results from the modelling of the value of WA seniors' unpaid work.
- ❑ **Chapter 5** considers the impact of alternative demographic and macroeconomic scenarios on the Budget bottom line, and highlights the value of seniors' unpaid work to the health of Budget outcomes.

## 2. BACKGROUND

### 2.1 POPULATION AGEING IN WESTERN AUSTRALIA

What is the outlook for the level of seniors (people 60 years of age and older) in Western Australia?

Table 1 shows some basic demographic statistics for WA seniors and Australia as a whole.

It shows that Western Australia's population is generally younger than the national average (with 16.3% of the population aged 60 and over, compared with 17.6% nationally), with the same proportion of the population in Perth (WA Metro) aged 60 and over as in the rest of the State. There are, however, differences between the sexes, with proportionately more older men in the rural areas of the State but a greater share of women in the metropolitan area aged 60 and over.

The other main difference between metropolitan and rural areas is at the "very old" end of the demographic, with 19.2% of the seniors population in Perth aged 80 and over, compared with just 16.0% of the rural seniors population being "very old". Even Perth however, has a lower share of very old persons compared with Australia as a whole (which includes similar trend for metropolitan and rural areas).

**TABLE 1: WA SENIORS DEMOGRAPHIC STATISTICS (JUNE 2005)**

	WA metro	WA rural	Total WA	Australia
Share of population in the region aged 60 and over				
Male <sup>5</sup>	15.1%	15.9%	15.3%	16.5%
Female	17.5%	16.8%	17.3%	18.8%
Total	16.3%	16.3%	16.3%	17.6%
Share of population aged 60 and over in the region who are				
60-64	27.3%	28.5%	27.6%	26.3%
65-69	21.6%	23.6%	22.2%	21.4%
70-74	17.2%	17.8%	17.3%	17.4%
75-79	14.7%	14.1%	14.5%	15.2%
80 and over	19.2%	16.0%	18.4%	19.7%

Source: Population by age and sex, Australian Bureau of Statistics June 2005 (Cat No. 3235.0)

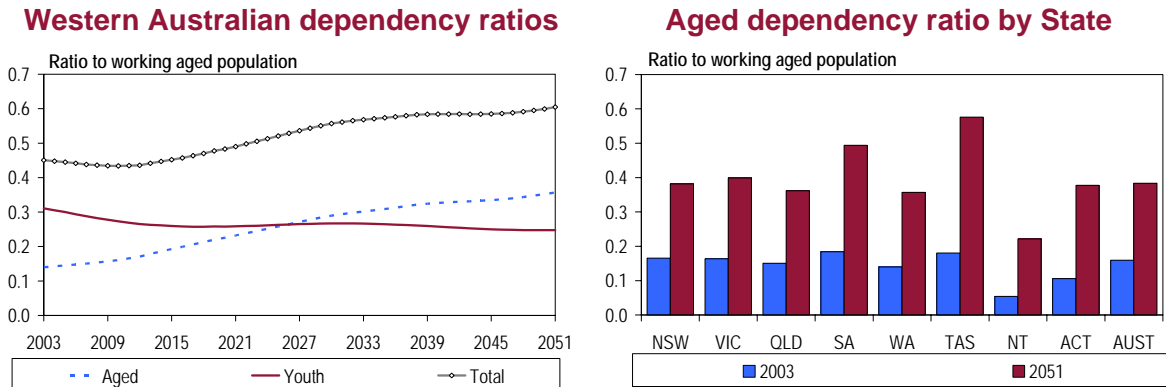
The left panel of Chart 1 shows the forecasts of dependency ratios in Western Australia, while the right panel illustrates aged dependency ratio in every State/Territory as at June 2003 and as projected for June 2051;

- ❑ **The youth dependency ratio** is defined as the ratio of those aged 14 and younger to those aged 15 to 64;
- ❑ **The aged dependency ratio** is defined as the ratio of those aged 65 and over to those aged between 15 and 64; and

<sup>5</sup> This gives the share of male population who are aged 60 and over.

- ❑ **The total dependency ratio** is the sum of the two. It is a very broad indicator of the number of ‘benefit recipients’ per ‘tax provider’.

**CHART 1: DEPENDENCY RATIOS**



Source: ABS Population Projections, Series B, November 2005 (Cat No. 3222.0)

As can be seen, the aged dependency ratio is forecast to increase substantially in coming decades. In general, the trend of each State/Territory’s old-age dependency ratio mirrors that of Australia, however the ratios are the second lowest in Western Australia (behind the Northern Territory) when compared to the other States and Territories.

That said, it is worth remembering that dependency measures are indicative ratios. They do not necessarily provide a full picture of the changing balance between the seniors population and the workforce, because they do not take into account all the factors that influence workforce levels (or benefit recipients). That is, they are only a partial indicator of net contributions to community welfare – workers typically contribute mainly through the tax they pay, while seniors typically pay less in tax but provide more unpaid contributions.

Increasing workforce participation of those aged over 65 will be a partially offsetting factor to this picture of rising aged dependency, as will the continued increase in female workforce participation across all age groups. Minor declines in male participation rates in prime working ages, plus moderate falls in younger participation (due to rising levels of educational attainment) may add slightly to the overall pressures of demographic ageing.

## 2.2 ATTITUDES TOWARD AGEING

Section 2.1 noted the expected rapid growth in numbers of seniors in Western Australia. What might that mean for the State?

Before proceeding to the quantification of WA seniors’ unpaid contributions, it is useful to examine WA seniors’ attitude towards ageing and their self-assessment of whether ageing is a productive or unproductive stage of life<sup>6</sup>.

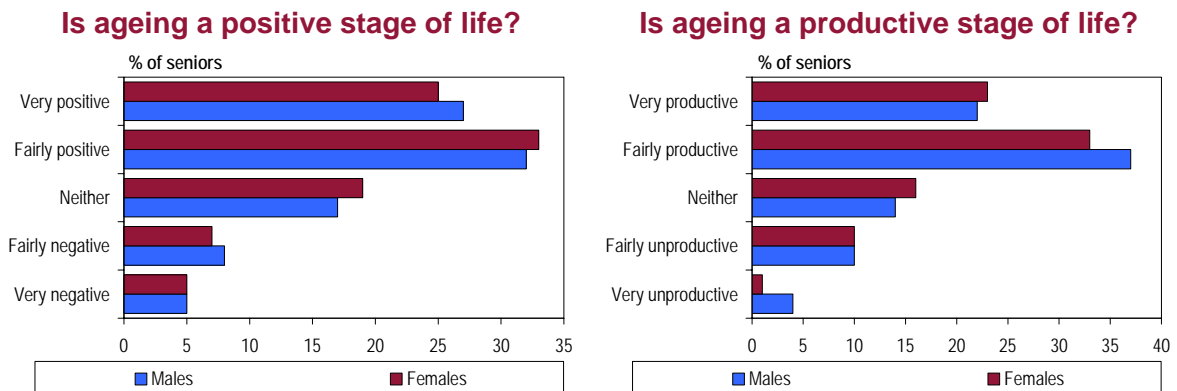
Chart 2 shows that of all respondents (800 in total), over 50% view ageing as a positive stage of life. This proportion is consistent across gender, age and location groups, with the highest proportion viewing ageing as a positive stage of life being found in non-metropolitan areas (67% compared to 56% of respondents residing in metropolitan areas).

<sup>6</sup> The information is drawn from Office for Seniors Interests and Volunteering, *A Report on the Seniors’ Community Participation Survey, 2004* which was conducted by Patterson Market Research.

In contrast, the proportion of respondents viewing ageing as a negative stage in life is a little over 10%.

An interesting point drawn from the data is that there is very little variation between those aged 75 and over and those in the other age groups in viewing ageing as a positive stage of life. Among 60 to 64 year olds, the proportion of people viewing ageing as a negative stage was 11%, while among those aged 75 and over the matching proportion was 14%.

**CHART 2: ATTITUDES TO AGEING AMONG WA SENIORS (AGED 60 AND OVER)**



Source: Office for Seniors Interests and Volunteering (2004)  
*A Report on the Seniors' Community Participation Survey, conducted by Patterson Market Research.*

Except for those in the 75 and over age group, the majority of respondents in all categories (gender, age and location) view ageing as a productive stage of life. Only 1% of female respondents view ageing as a very unproductive stage of life even though 5% of female respondents view the phenomenon very negatively.

As expected, the proportion of respondents viewing ageing as a very productive stage of life decreases as one gets older, from 67% viewing it as very productive or fairly productive in the 60 to 64 age category, to 41% in the 75 and over age category.

Yet the proportion of respondents who view ageing as a hindrance to productivity does not exhibit a steady increase as one would expect. It is noteworthy that the proportion of respondents in the 70 to 74 age group who view ageing as a very unproductive stage is higher than that of respondents aged 75 and over.

## 2.3 THE ECONOMIC AND FISCAL IMPACTS OF AGEING

### 2.3.1 THE INTERGENERATIONAL COMPACT

Life cycles can be usefully divided into three: childhood, working age and retirement.

These *three ages of mankind* are important because, as a society, we treat them differently.

In essence every society makes an intergenerational compact with itself. It subsidises investment in children by subsidising the education costs of children, and also their health costs. Society also subsidises retirement among seniors by paying pensions to the less well off and by subsidising the healthcare costs of the ill and aged.

Society pays for these subsidies to the young and the old by taxing the incomes of workers. Broadly speaking, government budgets balance over the life cycle, as workers subsidise the young and the old.

### 2.3.2 THE COMMONWEALTH'S INTERGENERATIONAL REPORT

In 2002 the Australian Government's *Intergenerational Report* (IGR) noted that the current intergenerational compact will be under pressure, but then focuses narrowly on the impact of ageing on public sector finances – arguing that both quantity and price effects are set to operate to raise the cost of society's subsidy to those in their 'third age', leading to rising public sector deficits.

#### The quantity challenges ahead

On the quantity side, Australia has an ageing population structure, as the combination of falling death rates and associated rising life expectancy combines with the demographic bulge of the baby boomers to indicate that, in 40 years time, the number of Australians aged 85 and over will go up by a factor of five. This is some seven times for men, and four times for women (as relative life expectancies for men and women move closer into alignment).

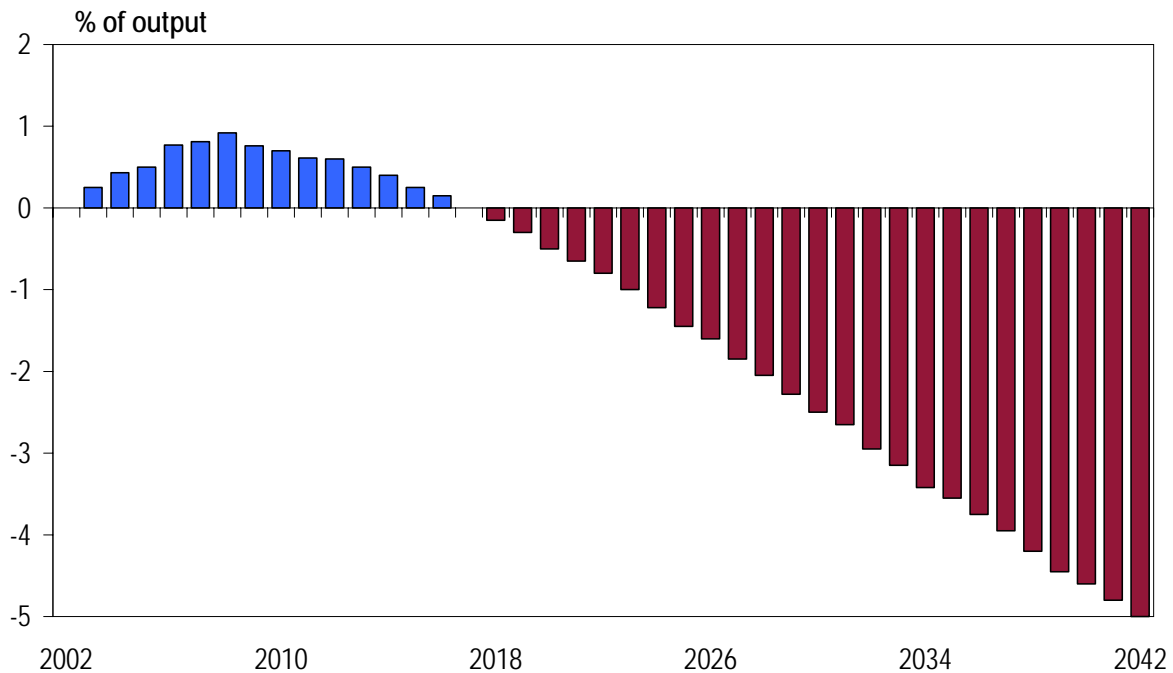
That quantity impact, other things equal, means that the pension and health care subsidies extended by society to the aged will pose a heavier burden in the future than they do at the moment. Indeed, the quantity shift ahead of us is larger still than that factored into the 2002 IGR, as the Australian Bureau of Statistics released updated long term population projections in August 2003. These updated projections indicate that the number of persons aged 85 year and over in 2025 will be at levels some 24% more than the numbers assumed in the *Intergenerational Report*.

#### The relative price risks

Along with the change in the quantity demanded of various goods and services implied by an ageing population structure in Australia, there are also relative price effects at work. The 2002 *Intergenerational Report* noted that health care costs, which make up a large proportion of Australian Government subsidies to the aged (and other age groups), have tended to grow at a faster rate than economy-wide prices in recent decades.

**Or, in other words, both quantity and price effects are set to operate to raise the cost of society's subsidy to those in their 'third age', leading to rising Australian Government deficits** (the official estimates of the worsening primary balance – that is, the Budget balance before allowance for interest payments on debt – are shown in Chart 3).

CHART 3: PROJECTED FEDERAL DEFICIT



Source: Federal Intergenerational Report (2002)

Implicit in the discussion in the *2002 Intergenerational Report* is that these price and quantity effects imply that a deal-breaker is required so far as Australia's current intergenerational compact between its citizens is concerned.

The 2002 IGR implies that if in the future we wish to sustain a new intergenerational compact, it will have to involve either reduced services per person relative to national output per head, or average rates of tax will need to rise.

### 2.3.3 CRITICISMS OF THE 2002 IGR

It is worth reviewing some of the criticisms of the 2002 IGR.

- ❑ The **first** key criticism that has been made is that, although a quantity effect of population ageing on the relative number of aged Australians in coming decades is clear enough, the assumption that the past increase in the relative costs of health will continue into the future may not hold true. In effect, some critics have argued, health care technology and management practices may stem or even reverse the tide in the relative rise in health care costs to governments and the wider society.
- ❑ The **second** key criticism raised by some in regard to the *Intergenerational Report* is that, apart from quantity and price effects, the IGR tended to ignore a key **income** effect. In particular, the critics have argued that continued productivity growth will raise average incomes in Australian society well above today's levels, meaning that any need to raise tax rates to pay for a rising number and relative cost of the elderly would be easily achievable.
- ❑ A **third** criticism is that the IGR fails to take into account the potential effect on future Australian Budgets of political pressures from the ageing baby boomer generation for relatively higher age pensions. Such pressures may well be acute if there is not an

increase in private retirement incomes over and above what will be delivered by the current compulsory superannuation system and the tax treatment of savings.

- ❑ A **fourth** criticism is that the IGR focuses on the Australian Budget, with the success or failure of any policy change being judged by its impact on the Australian Budget alone. But shifting costs to the States or to households does not really deal with emerging costs of an ageing population – it merely shifts the responsibility for paying for these costs.

### 2.3.4 THE COMING 2007 UPDATE OF THE IGR PICTURE

Since the initial *Report* was released in 2002, some factors have improved the basic outlook on longer term fiscal finances, while others have worsened the outlook. In brief:

- ❑ **Demographic developments now imply a greater quantity challenge from ageing**, as the latest population projections show a greater increase in the numbers among the 'frail aged' than those underlying the 2002 IGR, while birth rates have stabilised at better-than-expected rates.
- ❑ **Economic developments have tended to improve the outlook**, as larger numbers of Australians are working than was previously predicted, and a commodity price boom has delivered a large boost to profit-related taxes.
- ❑ **Policy effects have had a mixed impact**, with improvements in PBS spending more than offset by higher spending and further tax cuts.

### Demographic developments since the 2002 IGR

When compared with those underlying the 2002 IGR, more recent population projections show an **increase in absolute numbers of older Australians, but a decline in the relative ageing of the population.**

At the time of the 2002 IGR, falling birth rates and increased life expectancy were expected to lead to significant demographic pressures – with the growth in workers lagging well behind growth in those not working.

ABS population projections released in the year 2000 had indicated that the number of Australians aged 85 and over would more than triple by 2025. The implication was that in the 2040s there would be 2.4 Australians of working age for every person aged 65 and over.

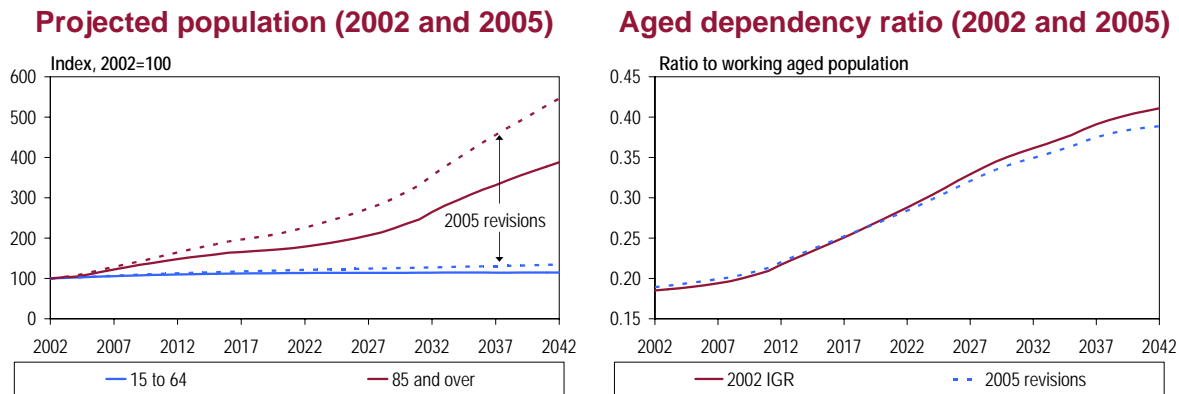
Although the Treasury used its own demographic model in the 2002 IGR, its figuring was essentially similar to the ABS estimates of 2000.

Since the IGR was released, the ABS has twice published updated population projections, with both revisions including significant changes to the long term underlying assumptions. The current ABS expectations show a number of changes:

- ❑ **Birth rates** are now projected to stabilise at a higher rate than envisaged in 2000, leading to an increase in projected population among younger age groups.
- ❑ **Life expectancy** continues to rise at a faster rate than expected, leading to a rise in projected numbers of older Australians, particularly among those aged 85 and over.
- ❑ **Official migration** targets also continued to rise, adding to the expected number of working aged Australians.

A comparison of the Australian Bureau of Statistics population projections from 2002 and 2005 is shown in Chart 4. In each case the ‘medium’ case projections are shown, with the results for each age group (15 to 64 year old and 85 years and over) given in index terms, with population levels in 2002 set to a common value of 100.

**CHART 4: COMPARISON OF ABS MID-RANGE POPULATION PROJECTIONS**



Source: Access Economics, ABS, Treasury

The latest figures show a greater relative increase in the number of people aged 85 and over compared to the number aged 15 to 64 (as seen in the left hand panel). The earlier projection suggested the number of Australians aged 85 and over would more than treble between 2002 and 2042, with the revised estimates suggesting that the period will see numbers rise to five-and-a-half times their initial level.

The right hand panel of Chart 4 shows that the later projections suggest a slightly more positive outlook for the ‘intergenerational compact’ (because the increase in the expected levels in the younger age group is large enough to lower the ‘aged dependency ratio’ slightly).

### Economic developments since the 2002 IGR

On balance, higher participation rates have outweighed slower productivity growth, leading to higher real output.

In addition, a leap in commodity prices has meant that nominal output has been even higher still.

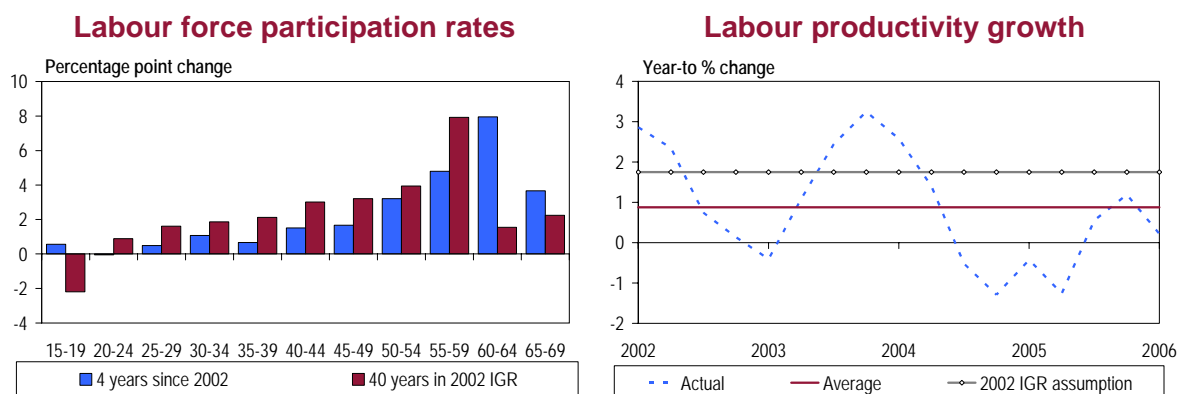
If these gains are maintained, then the economic projections in the original IGR may prove to be on the conservative side.

Each of the ‘three Ps’ identified as crucial to long run economic prospects have seen a variety of changes since the initial IGR report was released. The first, population, has been discussed above. In addition, since 2002:

- ❑ **Participation has seen strong gains**, outpacing the assumptions underlying the IGR projections. In particular:
  - **Teenagers** have increased their workforce participation. Participation in this age group was expected to fall slightly over coming decades, although it may still do so.

- **Younger workers** (those in their early twenties) have seen slight falls in participation rather than the modest gains that the IGR predicted, in part reflecting a greater increase in educational commitments.
  - **Older workers** have produced the biggest surprise, with the last four years seeing a dramatic acceleration in the number of Australians choosing to work longer or take advantage of more flexible work patterns rather than opt for an early retirement. As Chart 5 shows, for workers in their sixties the gains since 2002 have already exceeded the gains anticipated for the 40 year horizon.
- **Productivity growth has faltered slightly** in recent years – failing to meet the benchmark assumed in the IGR. There is a risk that ‘reform fatigue’ could keep productivity growth, on average, below that benchmark.

**CHART 5: RECENT PARTICIPATION AND PRODUCTIVITY TRENDS**



Source: Access Economics, Treasury

While the outcomes of the past four years are over a far shorter period than the projected changes in the 2002 IGR, they mean that a significant proportion of the predicted long term gains in output due to participation have already been achieved (whereas gains due to productivity growth have not been achieved).

**Changes to Government revenues and spending since the 2002 IGR**

While surging company taxes have served to strengthen the medium term Budget position, offsetting changes to policy have meant little improvement in the Budget surplus since the original projections were released.

When Treasury prepared the first IGR in 2002, it focused on the likely impact of ageing and the rapid pace of cost growth in health on government spending.

In contrast, it assumed no change in government policy and that taxes would remain a constant share of the economy.

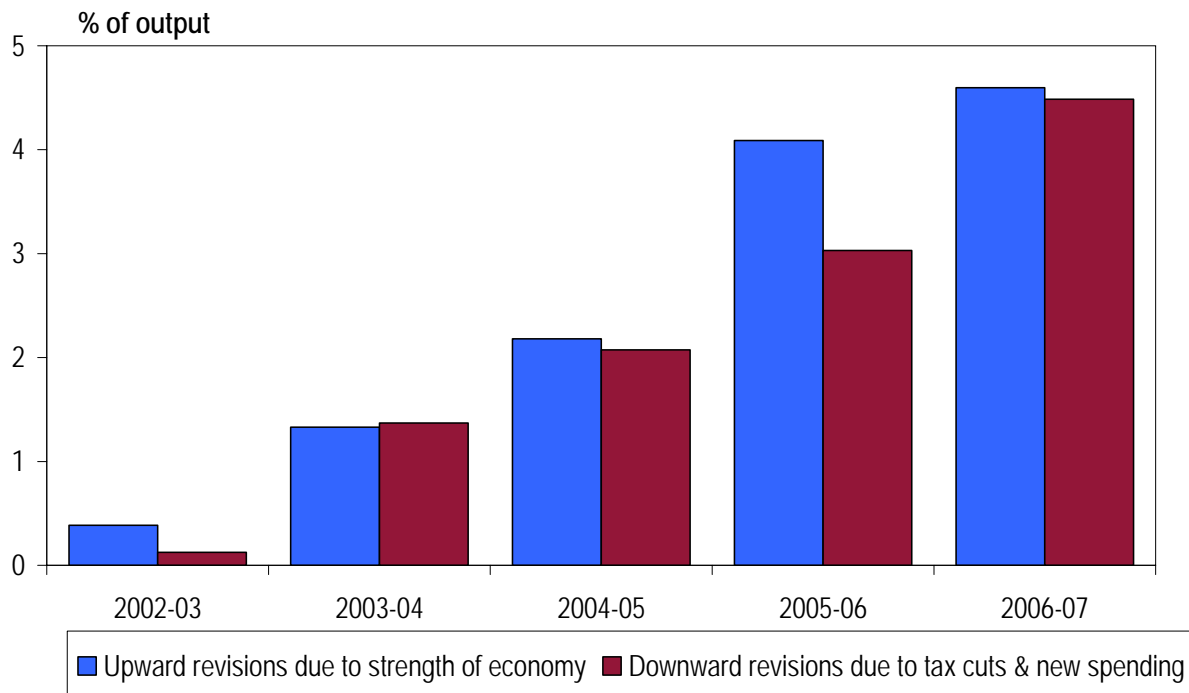
Since the 2002-03 Budget, revenues have been growing rapidly, riding a mining-led boom in corporate profits (and resulting in corporate tax). In fact, the underlying position of the Federal Budget has been revised upward no less than eight times since the IGR was released.

These revisions have resulted in an *economy-driven* net revenue gain since the 2004-05 Budget of \$47 billion for the 2006-07 financial year, as shown in Chart 6.

However, spending and tax cuts announced since the IGR have been considerable. There has been a *policy-driven* revenue cost, with a series of cuts to personal income tax and continued strong growth in new spending largely offsetting the increased revenues and lower welfare payments delivered by the strong economy.

Indeed as Chart 6 shows, government policy decisions since the 2002-03 Budget have increased rapidly, and are now running at a cost of more than \$46 billion a year, or some 4.5% of GDP.

**CHART 6: CHANGES TO FEDERAL BUDGET ESTIMATES SINCE 2002-03**



In the short term, these two trends have cancelled each other out, as tax cuts and spending have been offset by stronger tax revenues on the back of surging global commodity prices.

However, recent policy changes are a greater concern going forward, as corporate taxes may wane if commodity price gains prove to be rather shorter-lived than the demographic challenges Australia faces.

Indeed, the OECD's 2006 *Economic Survey of Australia* noted that commodity prices had delivered an additional 1.75% of GDP in revenues to the Government in 2005-06 – the equivalent of an \$18 billion hole in the Budget once commodity prices return to their longer term average (see the discussion at page 34).

And, adding to longer term fiscal risks, some other policy changes will become more costly over time. For example, petrol excise is no longer indexed to inflation<sup>7</sup>, and the foreshadowed removal of taxes on super benefits appears likely to have a growing impact on the total tax take.

<sup>7</sup> This decision was taken prior to the 2002 IGR, but the latter simply assumes revenues are a constant share of national income.

## 2.4 COMPLETING THE PICTURE

The foregoing discussion is a reminder that much of the growing literature on the effects of population ageing in Australia focuses on public sector financial impacts.

For example, the 2002 Federal IGR focussed solely on the implications for the Commonwealth Budget.

### 2.4.1 ADDING THE STATE DIMENSION

However, expected changes in the age composition of the population, and from relative health cost inflation will have effects at other levels of government as well.

In particular, State finances are also hit by rising demands for health services, particularly in hospitals, although demand for education will be relatively less due to past falls in birth rates.

The addition of State finances to IGR figuring covers an allowance for two broad factors:

- ❑ **The revenue and expenditure implications of demographic ageing.** A relatively older population implies lower payroll tax receipts via falls in workforce participation, lower land tax and conveyancing duties due to lower demand for new housing and lower motor vehicle revenues due to lower car usage. But the older population also implies a rising demand for health and community services. Both trends will place increasing pressures on State Budgets in the longer term.
- ❑ **The balancing effects of the Commonwealth Grants Commission's horizontal fiscal equalisation (HFE).** Revenue shares from Federal GST receipts are not split merely by population share, but by a weighted share that accounts for each State and Territory's required level of service provision and revenue base potential. As the general effect of ageing is to limit revenue and boost expenditure, those States that experience more significant ageing impacts (such as South Australia and Tasmania) will tend to receive a relatively larger share of Federal assistance than States with a less significant ageing trend (such as Western Australia and Queensland). Therefore the impacts on the Western Australian Budget are not driven solely by local developments, but are also affected by movements in other States as well.

### 2.4.2 ADDING THE COMMUNITY DIMENSION – SEEING SENIORS AS ASSETS

But widening the analysis of ageing effects from Federal to State finances still only captures a part of the future effects of ageing – those factors affecting public sector finances.

The literature on the impact of population ageing has mostly been focused on the negative side of the phenomenon, and particularly in financial terms.

That financial focus runs the risk of undervaluing some of the key contributions of seniors to the community.

This view has to be balanced against the economic and social benefits that older people provide to their family and their community.

As is true in much of economics, the 'bigger picture' is best glimpsed in a broader approach. The expected rapid growth in numbers of seniors will present challenges for public spending, but will also at the same time boost the supply of key community assets – such as the time of senior volunteers.

It is the recognition of this potential contribution and the sheer increase in the number of WA seniors that prompts the investigation into WA senior contributions, which mostly take the form of unpaid work.

The modelling in this report adds a further dimension to the IGR analysis undertaken in Australia and Western Australia to date.

It sees Western Australia seniors not merely in terms of their potential public sector costs, but also as an asset to the wider community. This modelling allows for the current size of the 'volunteering workforce' to grow in line with demographic ageing.

Because volunteering is relatively more common in older age groups, the increase in the relative size of the older Western Australian population means its size should grow in proportion to other economic measures.

By adding in unpaid work, Access Economics estimates the extent to which the community sector will take pressure off future public finances. While earlier modelling examines how 'demand pressures' affect public sector finances, this modelling examines to what extent the increasing 'volunteer supply' alleviates this overall trend.

Increasing levels of caring for the elderly and the disabled by older members of the community, the benefits of increasing child care undertaken by grandparents and higher levels of volunteering are modelled as offsets to increases in demand for relevant Government expenditure.

In addition, Governments make no attempt to close the 'gap' between revenue and expenditure that develops over time – allowing Budget deficits to steadily rise across the forecast period. This approach allows a comparison of the pressures that will develop under differing scenarios, which assists in measuring the size of the problems that the community may face over time.

### 3. THE CONTRIBUTIONS OF SENIORS IN WA

The literature on the impact of population ageing has mostly been focused on the public sector costs of ageing, particularly in financial terms.

This view has to be balanced against the economic and social benefits that older age groups provide to their family and their community, which mostly take the form of unpaid work.

#### 3.1 PARTICIPATION IN THE PAID WORKFORCE

As shown in Table 2, the seniors' workforce is characterised by low participation rates, and very low unemployment rates. In part, the latter are a result of lower participation among this group, with temporary or early retirement often an alternative to seeking work.

The average overall unemployment rate for Western Australia (that is, for those aged 15 and over) across 2005-06 was 4.1%, but for those aged 60 and over it was less than half that rate.

**TABLE 2: WA LABOUR FORCE STATUS – SENIORS AND TOTAL<sup>8</sup>, 2005-06**

	<b>Males</b>	<b>Females</b>	<b>Seniors</b>	<b>All ages</b>
Labour force participation (%)	29.1	13.3	20.7	67.8
Unemployment rate (%)	1.6	2.2	1.8	4.1
% employed full-time	65.4	39.8	56.8	70.7
% employed part-time	34.6	60.2	43.2	29.3
% population in full-time work	18.7	5.2	11.6	46.0
% population in part-time work	9.9	7.8	8.8	19.1

Source: Australian Bureau of Statistics, Labour Force (Cat No. 6202.0)

Participation rates (that is, the proportion of the population who are either employed or unemployed but actively seeking work) are only one-third the rate of the overall population, and there is a relatively large gap between male and female participation rates.

Combining participation, unemployment and employment statistics shows that seniors are around half as likely to be employed part-time than the general population (8.8% against 19.1%), but less than one-quarter as likely to be in full-time employment (11.6% of the seniors population against 46.0% in general).

As is true overall, employment for WA female seniors is more heavily weighted to part-time employment than full-time.

The total labour force participation rate of 20.7% can further be broken down into that of WA seniors aged 60-64, which stood at 50% and that of seniors aged 65 and over at 10.5%.

At 2.7% in November 2005, the unemployment rate of WA seniors living in non-metropolitan areas was twice that of seniors living in metropolitan areas. Labour force participation rates however, do not exhibit marked differences between metropolitan and rural areas.

<sup>8</sup> Seniors are defined as persons aged 60 and over, total refers to all persons 15 and over.

There is a broad expectation, reflected in the Federal IGR and other modelling, that participation rates for seniors will rise across the coming years. This rise is driven fundamentally by increasing life expectancy, which has two effects:

- ❑ **It increases the amount of retirement that needs to be funded by each worker.** With an increase in life expectancy comes an increase in the expected time spent retired. However the levels of saving achieved by age 65 may not be sufficient to fund the additional period of retirement, hence encouraging further time spent working;
- ❑ **It increases the amount of time during which work may be enjoyable.** Increases in life expectancy generally imply that people will be healthier at retirement age than in earlier generations. If work is still practical and enjoyable, then participation in the labour force is far more likely to be maintained.

These two factors suggest that labour force participation will fall less dramatically than it would if age-specific participation rates remained at current rates. However, the overall trend in participation will still be negative – while a 65 year old in 2025 is more likely to be in the labour force than a 65 year old in 2005, they will still be less likely to be in the labour force than a 45 year old in 2005.

### 3.2 CARING FOR THE AGED AND THE DISABLED

Table 2 below shows the distribution of primary carers (those responsible for the majority of an individual's care) and non-primary carers across Australian States and Territories. Reflecting their respective population weights, NSW has the highest proportions in both categories, while Western Australia is ranked fourth. Primary carers account for a range of between 1.2% of the population in the ACT to 3.1% of the population in Tasmania, the State with the second lowest population. WA had one of the lowest proportions of primary carers, above only the ACT, at 2.0%.

The number of non-primary carers lies between 3.8 times the number of primary carers in Queensland to 8 times in the ACT. WA ranked second, with some 5.4 times as many non-primary carers as primary carers.

**TABLE 3: CARERS AS A SHARE OF POPULATION, NOVEMBER 2003**

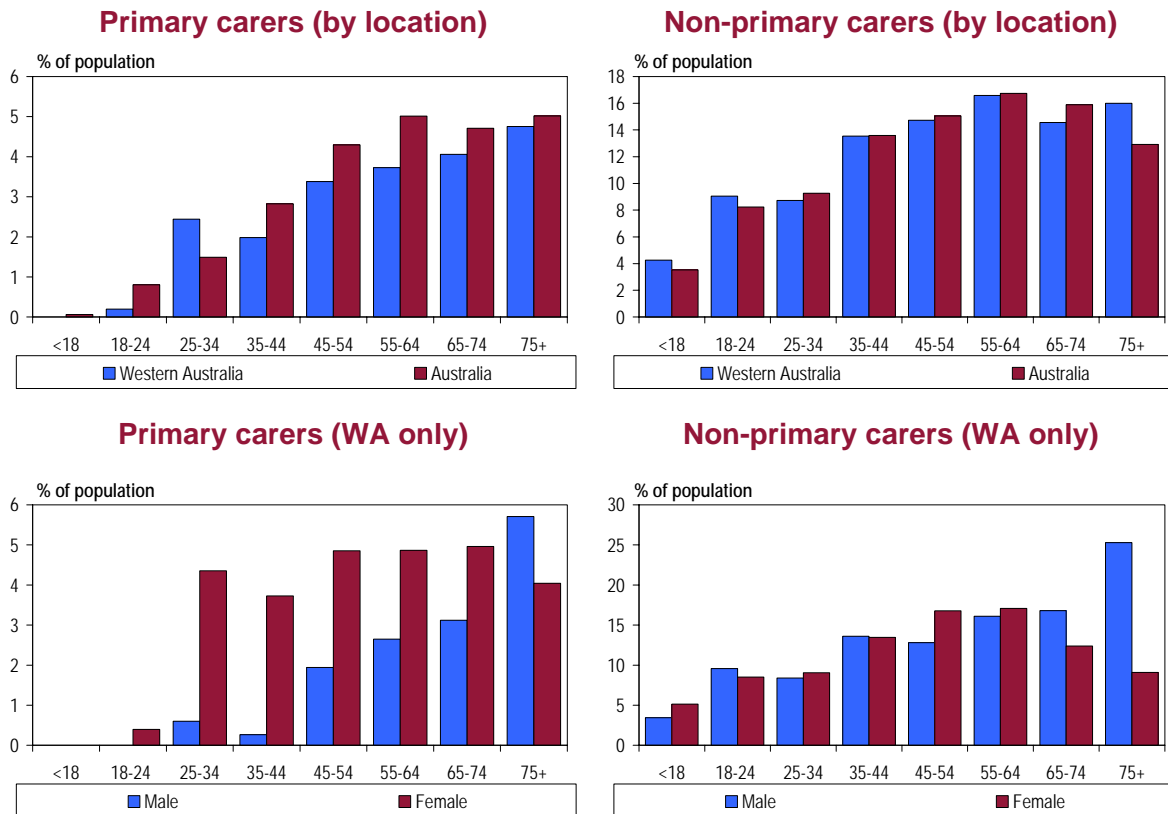
	Primary Carer (%)	Non-primary Carer (%)	Non-Carer (%)
New South Wales	2.3	9.1	88.6
Victoria	2.4	11.7	85.9
Queensland	3.0	11.3	85.7
Western Australia	2.0	10.7	87.3
South Australia	2.5	12.3	85.2
Tasmania	3.1	11.6	85.2
Australian Capital Territory	1.2	9.6	89.2
<b>Australia</b>	<b>2.4</b>	<b>10.6</b>	<b>87.0</b>

Source: ABS Survey of Disability, Ageing and Carers (Cat. No. 4430.0), November 2003

Chart 7 shows that in all age groups (except the 25 to 34 year olds) the Australian primary carer prevalence rates are higher than those of WA. This exception is due to the high prevalence rate of WA female primary carers in that age group.

Among non-primary carers, the prevalence rate of WA males in the 55 to 64 year age group is higher than the comparative Australian figure (albeit only by a small margin).

**CHART 7: CARER PREVALENCE RATES, 2003**



Source: ABS Survey of Disability, Ageing and Carers (Cat. No. 4430.0), November 2003

The data shows female **primary carer** prevalence rates higher than those of males in all but the 75 and over age group in both WA and Australia – consistent with anecdotal evidence that women are more likely to provide care than men. Indeed, WA females account for just under three-quarters of all primary carers in WA. Furthermore, WA females are more likely to be carers, with the proportion of females not in the carer category lower than that of males.

- ❑ Australian female primary carer prevalence rates increase across age groups, peaking in the 55 to 64 age group (who are typically caring for their parents), before dipping in the 65 to 74 age group.
- ❑ In contrast, WA female rates do not show evidence of a similar increase, and are steady at around 5% for the 45 to 74 age group. Unlike Australian females, WA female prevalence rate peak in the 65 to 74 age group.
- ❑ WA’s male primary carer prevalence rates mostly follow the pattern of Australia’s, rising from lower age groups to higher age groups and peaking among those aged 75 and over.

Among **non-primary carers**, WA prevalence rates are higher among the under 18s (due to higher WA female prevalence rates), as well as the 18 to 24 and 75 and over age groups. Moreover, where Australian rates are higher than those in WA, the difference was very small – except in the 65 to 74 age group. The most notable difference is in the oldest age group, where WA’s prevalence rate is rather higher than the matching Australian figure. Females comprise half of the total number of non-primary carers in WA.

As in the primary carer category, male non-primary carer prevalence rates are highest in the 75 and over age band. For Australia, the peak is in the 65 to 74 age group, staying constant thereafter.

Unlike WA, Australia's male non-primary carer prevalence rates increase constantly. The pattern of WA female non-primary carer prevalence rates however, follows that of Australia's, exhibiting a steady increase up to the age of between 55 and 64 and then declining thereafter.

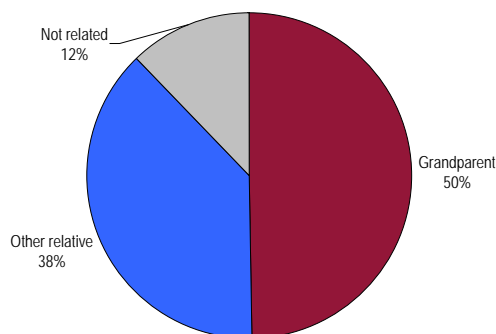
### 3.3 CARING FOR CHILDREN

The ABS released a survey of the child care industry in Australia in June 2005.<sup>9</sup> The survey found that two-fifths of all seniors undertake informal child minding, with female seniors more likely to do so than male seniors.

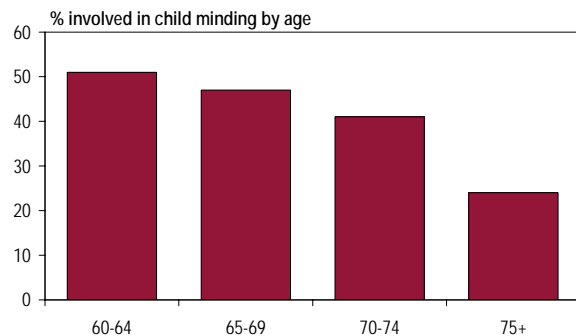
Some 50% of informal childcare is undertaken by grandparents, as shown in Chart 8. Not surprisingly, the proportion of WA seniors undertaking childcare fell with an increase in the age of the seniors. Again unsurprisingly, only 34% of WA seniors living in non-metropolitan areas do child minding compared with 43% of those living in metropolitan areas. (Those in non-metropolitan areas are less likely to have their grandchildren living nearby.)

**CHART 8: INFORMAL CHILD CARE, SHARE OF HOURS 2005 AND SHARE OF WA SENIORS**

**Child minding by relationship to child**



**Child minding rates among WA seniors**



Source: ABS Child Care Australia, June 2005 (Cat. No. 4402.0). WA Dept of Community Development

Grandparents are the most likely, after parents, to provide unremunerated childcare. The ABS survey reported that some 97% of the caring done by grandparents was done so at no cost, compared to 70.6% of caring by another person. By contrast, only 4.8% of formal care was unremunerated.

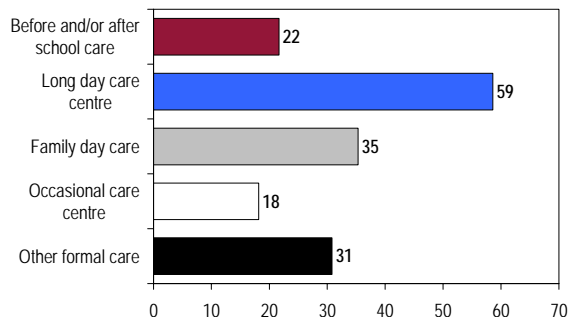
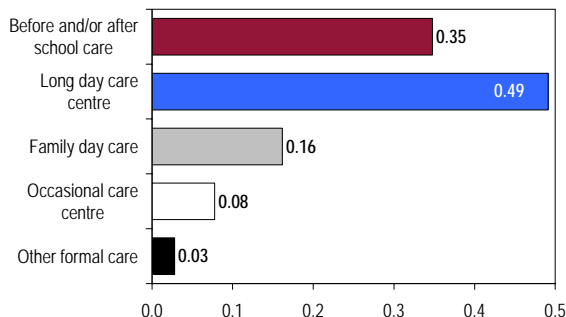
The mean weekly cost of care reported in the survey (seen in Chart 9) illustrates this stark difference in child care costs. The weekly cost of formal care (shown in the right hand panel) ranges from 18 to 59 times the weekly cost of care by grandparent. This explains the left hand panel, which shows that the number of children in formal care alternatives is only between 0.03 to 0.49 times the number of children cared for by a grandparent.

<sup>9</sup> ABS Child Care Australia, June 2005 (Cat. No. 4402.0)

**CHART 9: NUMBER OF CHILDREN CARED FOR AND WEEKLY MEAN COST OF CARE**

**Number of children cared for as a multiple of the number of children cared for by a grandparent**

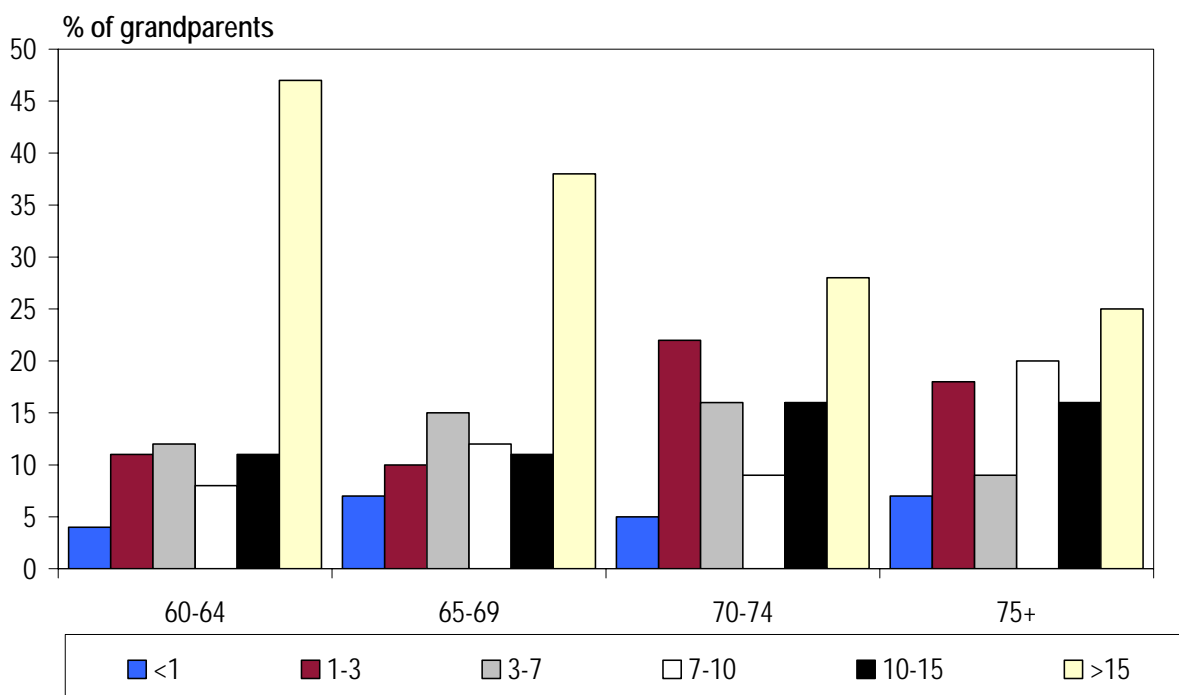
**Weekly mean cost of care, as a multiple of the weekly mean cost of care by a grandparent**



Source: ABS Child Care Australia, June 2005 (Cat. No. 4402.0)

As seen in Chart 10, a significant proportion of WA grandparents who undertake child minding spend more than 15 hours a week caring for children. This pattern is consistent across all senior age groups.

**CHART 10: CHILD MINDING BY GRANDPARENTS – WA (HOURS PER WEEK)**



Source: Office for Seniors Interests and Volunteering (2004)

A Report on the Seniors' Community Participation Survey, conducted by Patterson Market Research.

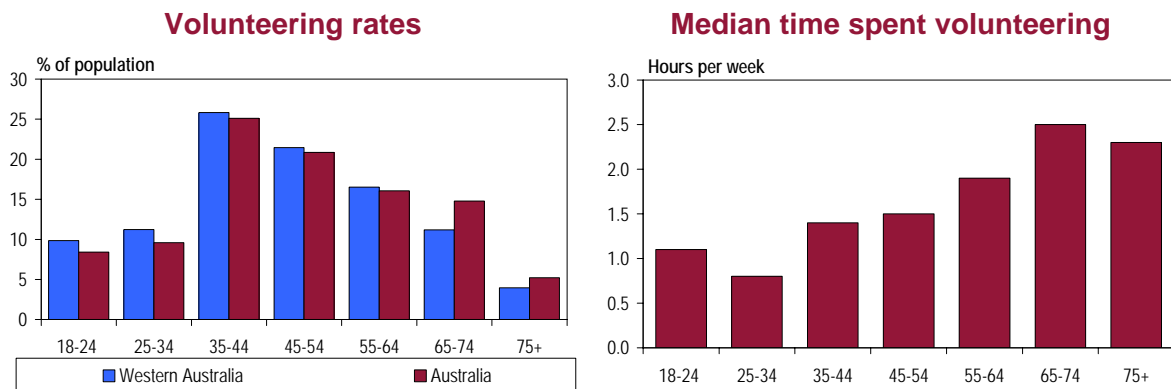
Note: Seniors who are not grandparents are excluded from the data.

### 3.4 SUPPORTING THE COMMUNITY SECTOR

As Chart 11 shows, the share of seniors undertaking volunteer work is high, although it falls away after the age of 75. A look at the figures suggests that, although there are lower rates of volunteering among those aged 65 and over compared with those aged 35 to 64, older volunteers spend the largest number of hours per week volunteering.

Indeed, median hours spent volunteering rise rapidly after the age of 55, and peak in the 65 to 74 year age group (and remain high after the age of 75).

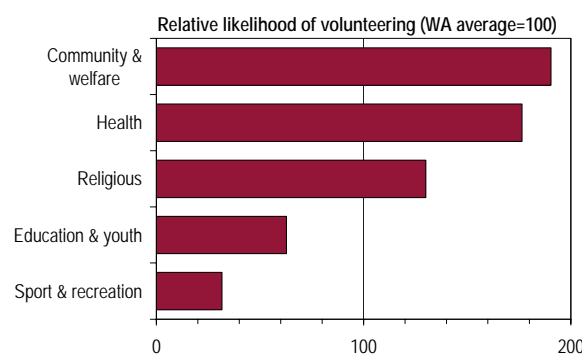
**CHART 11: VOLUNTEERING RATES AND MEDIAN HOURS OF VOLUNTEERING BY AGE**



Source: Access Economics calculation based on ABS Survey *Voluntary Work, Australia 2000* (Cat. No. 4441.0)

More importantly, seniors also emerge as a different kind of volunteer than their younger counterparts. Chart 12 shows the participation of WA volunteers aged 65 and over by the type of organisation they assist. It measures older volunteers' participation relative to that of all WA volunteers, showing the organisations that seniors are more likely to assist.

**CHART 12: WA VOLUNTEERS AGED 65 AND OVER – PARTICIPATION BY ORGANISATION TYPE**



Source: Access Economics calculation based on ABS Survey *Voluntary Work, Australia 2000* (Cat. No. 4441.0)

Unlike those aged 35 to 64, who are more inclined to be involved in sporting and recreation activities (often in the organisation where their kids are involved), those aged 65 years and over are far more likely to be involved in providing health and community assistance, as shown in Chart 12 above.

### 3.4.1 SUPPORTING REGIONAL COMMUNITIES

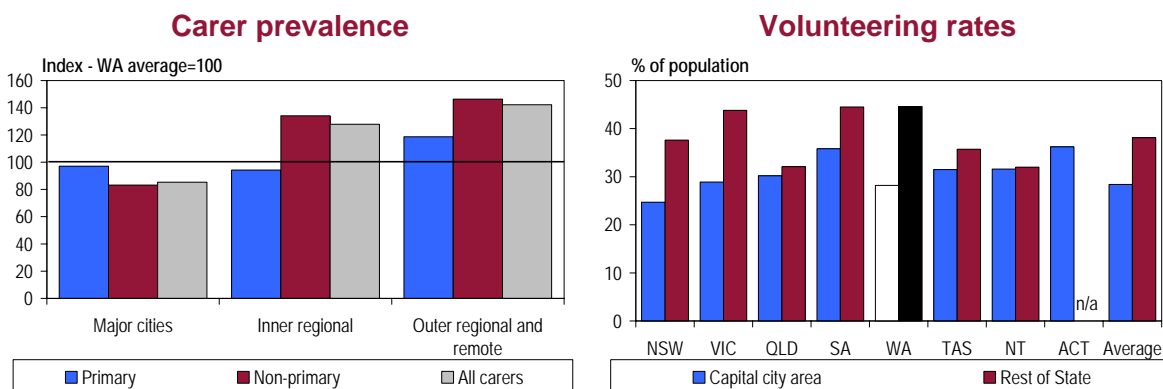
The nature and reach of senior contributions differs in outer regional and remote areas.

The left hand panel of Chart 13 shows that WA seniors are rather more likely to be carers in outer regional and remote areas than in either the major cities or inner regional areas.

- ❑ Prevalence rates for caring among females are generally higher across WA regions (with the exception of prevalence rates in the non-primary carer category in outer regional and remote areas). Only 1.1% of all males in major cities provide primary care, compared with 2.8% of all females.
- ❑ This comparison also applies to males and females living in inner regional areas. The difference between male and female prevalence rates is less stark among non-primary carers.

Chart 13 shows the relative proportions of carers and volunteers in metropolitan and regional Western Australia. The left hand panel shows a slightly lower proportion of the population of Perth are either primary or non-primary carers than on average across the State. So called 'inner regional' areas of WA (ringing Perth and extending south to Bunbury and east to Northam) have relatively high levels of non-primary carers, while the proportion of the population in the rest of the State who are either primary or non-primary carers exceeds the State average.

**CHART 13: WA REGIONAL COMMUNITY CONTRIBUTIONS**



Source: Office for Seniors Interests and Volunteering (2004)  
*A Report on the Seniors' Community Participation Survey, conducted by Patterson Market Research, and Voluntary Work, Australia, 2000 (ABS Cat. No. 4441.0)*

The right panel shows non-metropolitan volunteering rates in WA are equal to or higher than those in all other States and Territories, with many of these volunteers drawn from among WA's seniors.

## 4. VALUING THE UNPAID WORK OF WA'S SENIORS

The contribution of senior Australians to the community is considerable. They not only give their time to organisations, but often the volunteer work of seniors includes the donation of other costs (such as the wear and tear on vehicles while delivering meals on wheels and other out of pocket expenses).

Estimates of the value of informal care are very sensitive to the estimation methodology used. This study uses the opportunity cost method to estimate a lower bound of the value of informal care (as it is not possible to include some compositional effects, as well as the value of leisure time), and it uses the replacement cost method for the upper bound estimate.

### 4.1 VALUING THE COMMITMENT OF CARERS

#### 4.1.1 OPPORTUNITY COST

Opportunity cost measures the losses to measures of formal economic output associated with caring, that is, it is the cost of undertaking a caring role instead of participating in the formal workforce. This measure attempts to derive the amount of paid work carers would have undertaken if they had not had their carer responsibilities.

The ABS Survey of Disability, Ageing and Carers found that carers are more likely to be unemployed or not participating in the paid workforce compared with those who are not carers. This is particularly true of seniors, as they are more likely to be retired.

In order to measure differences in employment and participation rates between carers and the general community, it is necessary to standardise for differences in the demographic composition of the two groups.

Carers are more likely to be female and older than the general population while, on average, both women and older people are less likely to be employed than the general population.

Even when the demographic differences between the carer population and the overall population have been accounted for, there remain differences in the level and type of employment. All carers are less likely to be working full-time than the average (42.0%). Conversely, carers are more likely to be in part-time work.

The opportunity cost of informal care is measured as the income foregone by the carer spending time providing care rather than undertaking paid work.

That cost is calculated assuming that, in the absence of their caring responsibilities, carers would be employed at the same rate as members of the general population of the same age and gender. Hence the difference between the standardised employment rates for carers and that of the general population is a measure of the rate of foregone employment as a result of providing informal care. It is important to note that this method will not include the opportunity cost of foregone leisure time, as leisure (like informal care) is a non-market good.

Across Australia in 2005, 112,600 carers were not employed because of their roles as a carer. It is assumed that, if these people were employed they would receive, on average, the

same rate of pay as the average Australian, as measured by average weekly earnings.<sup>10</sup> Across 2005, the average weekly earnings of all workers was \$798 per week, equivalent to \$41,600 per annum. This average includes overtime and penalty rates where earned. This means that the estimate of opportunity cost of informal care is \$4.7 billion in lost earnings in 2005. The Western Australian equivalent measure (based on differential wages and demographic rates in the State) is around \$360 million in 2005.

This latter estimate is a minimum since there are compositional differences in relative earnings between the age and gender standardised carer workforce in 2003 and the Australian workforce in 2005. These compositional differences are important, and in order to be consistent with later disaggregation of costs and income support payments to primary and non-primary carers, Access Economics has calculated the opportunity cost of care separately for primary and non-primary carers.

Primary carers have much lower rates of employment than the national average, even when demographic differences have been accounted for (42.1% compared to 59.1%), suggesting that 17.0% of primary carers are not in paid employment due to their caring role. In Western Australian in 2003, would be equivalent to 6,450 primary carers. Note that this is higher than 14.1% of primary carers who expressed a desire to return to work (equivalent to around 5,350 primary carers).

A much smaller percentage of non-primary carers are not employed due to their caring responsibilities. It is estimated that 1.6% of non-primary carers are not in paid employment due to their caring role (equivalent to around 2,500 Western Australians in 2003).

Combined with the 6,450 primary carers, **this gives a total of 8,950 people who were kept out of the paid workforce in 2003.** This is equivalent to 0.9% of Western Australia's measured workforce.<sup>11</sup>

At average weekly earnings (and assuming a similar proportion of the workforce was excluded during 2005), this is equivalent to an opportunity **cost of just under \$400 million** in 2005.

### 4.1.2 REPLACEMENT COST

The estimate of the replacement value of care is quite sensitive to changes in the estimate of the wage parameter for alternative formal sector care, so much depends on the classification of the carers' work into a matching formal profession. In this analysis, the unit cost used has been based on the Western Australian Aged and Disabled Persons' Hostels Award ('Domestic' classification). Across 2003, this rate was just over \$520 per week, equivalent to just over \$13 per hour.

This amount does not take into account on costs (such as superannuation incurred by employers, workers compensation, payroll and fringe benefits taxation allowances). An additional loading of 15.6% is added to the unit cost measure above in order to allow for these on costs. The addition of this loading brings the hourly rate to around \$15.

In 2003 the value of **informal care provided by primary carers in Western Australia is estimated as \$960 million.**

<sup>10</sup> ABS, *Average Weekly Earnings* (Cat. No. 6302.0), February 2005.

<sup>11</sup> ABS, *Labour Force* (Cat No 6202.0), March 2005.

As non-primary carers are, by definition, not providing the majority of informal care, the replacement cost has been calculated based on an estimate that each of the 158,000 non-primary carers in Western Australia in 2003 provided an average of five hours of care per week to people. On this basis the replacement value of care provided by non-primary carers is \$606 million a year.

The replacement valuation approach therefore yields an estimate of \$1.6 billion in 2003, more than four times the estimate of \$400 million generated using the opportunity cost method. It is important to bear in mind that:

- ❑ The opportunity cost measure reveals the resources that are diverted each year from production in the formal economy to informal care.
- ❑ The replacement cost measure reveals the resources that would need to be diverted each year from the formal economy to replace the work done by informal carers, were their services no longer available.

The true value of the unpaid work undertaken by carers will lie somewhere between these bounds. The replacement cost measure will overstate the cost of replacing home-based care by a spouse or other carer with nursing home-based care. The opportunity cost measure fails to account for the value of foregone leisure time of the carer, so is likely to be an underestimate of the true opportunity cost involved.

Given the uncertainties in the data, both in coverage and measurement, and given the large difference between the two estimates, an average of the two values is typically used. This implies a reasonable estimate for the value of caring undertaken in the Western Australian economy in 2003 would be \$1.0 billion.

Of this \$1.0 billion in total, around \$390 million would be provided by Western Australia's seniors – this share is based on the share of the replacement cost estimate derived previously.

## 4.2 VALUING THE CONTRIBUTIONS OF VOLUNTEERS

For the purpose of modelling the value of volunteers' contribution, we make use of data on the proportion of volunteers undertaking the 12 types of activity by age group.

Since volunteers may participate in more than one activity for up to three organisations, the figures for individual age categories do not add to 100%.

That said, the figures for individual age categories can be used to obtain the relative weights by type of volunteer activity by age group, which are then multiplied by the median hours spent by volunteer in each age group to obtain the number of median hours spent by type of volunteer activity by age group. These numbers are then multiplied by the corresponding hourly wages of each activity to get the median value of hours worked in each activity. Wages used varies by the type of activity the volunteer is undertaking, but include elementary clerks, social welfare professionals and hospitality workers. The estimates include overtime, but do not include on-costs.

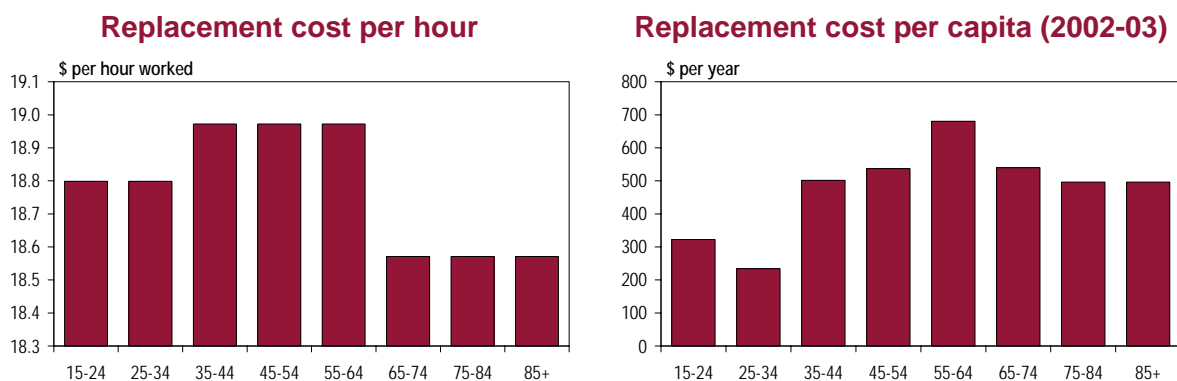
For each age group we then sum up these figures to obtain the median weekly cost per volunteer which are then multiplied by the number of weeks in a year to obtain the total median cost per volunteer in that year. Further multiplication by volunteer prevalence rate

and the number of population in a particular age group yields total median cost of volunteering by age group in a year.

From the left hand panel of Chart 14 we can see that the replacement cost per hour for the 65 and over age group is lower than that applied to the 39 to 64 year age groups. However, higher median hours of volunteer work among the 65 and over age groups (as shown in Chart 11) offset this lower replacement cost per hour.

The right hand panel of Chart 14 shows the replacement cost for volunteer work per head of population. For those aged 65 years and over, these costs amount to an average of \$514 per head, compared to \$680 per head for those aged 55 to 64 and \$537 per head for those in the 45 to 54 year age group.

**CHART 14: WA VOLUNTEER REPLACEMENT COST**



Source: Access Economics

In total, the value of volunteer work in WA was in excess of \$702.9 million in 2003, of which around \$172 million can be attributed to volunteers aged 60 and over.

**Around \$172 million of the value of volunteer work in WA is due to the contribution of volunteers aged 60 and over.** Around one sixth of the Western Australian population, therefore, provides around a quarter of the State's volunteering efforts. Even if we exclude people aged under 15 from the estimates – then some 19.5% of the population provides 24.5% of the volunteering effort.

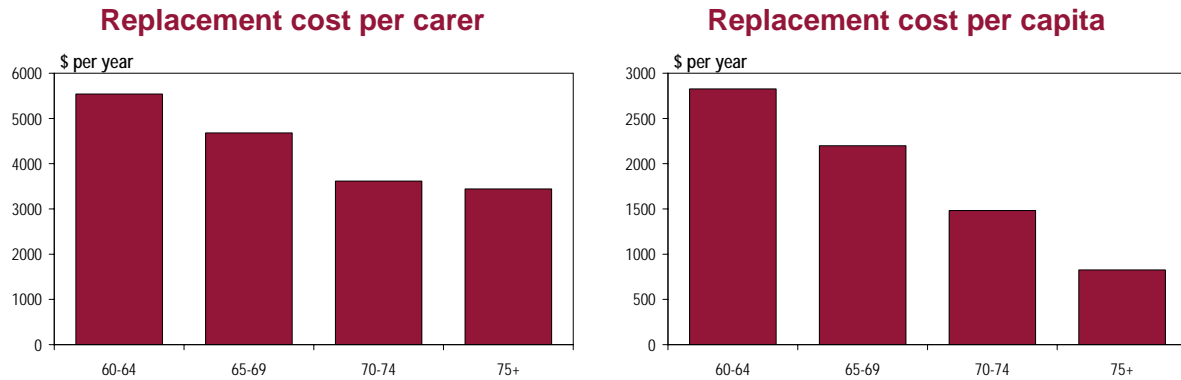
### 4.3 VALUING THE CARE OF GRANDPARENTS

In addition to other, more general, caring and volunteer work that they may provide (which will be captured in the previous analysis), seniors often assist in minding their grandchildren. The annual value of this additional unpaid service is the product of:

- Child minding prevalence rates (as seen in Chart 8 above);
- Hours of care per week;
- Replacement cost per hour (which we assume to equal the lowest rate of WA Child Care Award – Cleaners and Level One Carers); and
- The number of weeks in a year.

Unlike the previous section, replacement cost is assumed to be constant across all age groups, reflecting the nature of the award. As a result, the estimated replacement cost depends directly on the total amount of time spent caring for children.

**CHART 15: WA CHILD MINDING REPLACEMENT COST**



Source: Access Economics

Chart 15 shows the estimated replacement cost of care provided by WA seniors. The left hand panel shows the average replacement cost of carers, while the right hand panel shows the replacement cost per head of population in each age group. These estimates show that:

- ❑ At \$2,826 per head, the replacement cost of child minding is highest for the 60 to 64 age group – reflecting the fact that people in this age group provide an average of 7.7 hours per week compared with an average of 5.2 hours in the general population.
- ❑ Replacement costs among seniors decline with age, with the 65 to 69 year age group providing \$2,199 worth of care followed by the 70 to 74 age group at \$1,482.
- ❑ The estimates presented for seniors are considerably higher per carer than for younger age groups. Those aged under 60 provided an average of \$209 worth of child care per head. This pattern is due both to higher child-minding prevalence rates in older age groups and a greater average amount of time spent child minding.

In total, **seniors contribute towards \$546 million worth of child care services** – suggesting that around two-thirds of the total amount of unpaid care provided in the Western Australian economy is provided by one sixth of the population (one fifth if we exclude children).

#### 4.4 TOTAL UNPAID WORK BY SENIORS

When combined, these three measured components place the value of unpaid work by Western Australian seniors at \$1.11 billion in 2003. Table 4 below shows that while seniors make up just under 20% of the State’s population, they provide close to half the unpaid services in caring, volunteering and child minding.

**TABLE 4: UNPAID WORK IN WESTERN AUSTRALIA (\$M – 2003)**

<b>Service</b>	<b>Seniors</b>	<b>Total</b>	<b>Seniors' share</b>
Caring	\$392	\$1,002	39.1%
Volunteering	\$172	\$702	24.5%
Child minding	\$546	\$806	67.7%
<b>Total</b>	<b>\$1,110</b>	<b>\$2,511</b>	<b>44.2%</b>
Population (15 and over)	305,495	1,551,336	19.7%

## 5. THE ECONOMIC IMPACT OF AGEING IN WA

In relative terms, ageing has a rather later and smaller impact on State Budgets than the Federal Budget.

In terms of population ageing, a State may be expected to do better (in terms of having a lower final deficit on fiscal balance in 2025):

- ❑ The better its opening position on fiscal balance;
- ❑ The less the projected increase in its aged dependency ratio (or, more broadly, in its total dependency ratio);
- ❑ The less it spends (as a share of output) on expenses at risk of more rapid cost inflation (such as health as well as law and order), or of ageing effects (health);
- ❑ The more it spends (as a share of output) on expenses likely to shrink as the population ages (education), and
- ❑ The more it raises from taxes (as a share of output) expected to rise with ageing (gambling taxes).

A look at those rules of thumb suggests that Western Australia is a young State with a healthy fiscal and primary balance. It is also the jurisdiction which spends relatively least on both health<sup>12</sup> and law and order – all factors which stand it in good stead when it comes to weathering the longer run budget pressures of an ageing population.

However, there are key offsets – Western Australia also spends less than other jurisdictions on education, limiting its savings potential on that front, and its gambling taxes are the lowest in the nation, limiting the upside there too. That leaves Western Australia almost as exposed to ageing pressures as the average State.

Both Federal and WA finances suffer under ageing. Most of the economic negatives of demographics for the Federal Budget hit early, as the baby boomers retire (and so leave the labour force), and the Federal Budget feels more of those economic negatives. But most of the WA Budget negatives hit rather later, especially in aged care, but also in hospital costs. That is why the worsening in the WA and Federal positions does not occur at anything like comparable rates until the 2020s. In fact, the specifics of demographic ageing may well be helping State Budgets until around 2015, at which time the growth in the demands on the health system will outweigh the earlier benefits from faster economic growth. There are also some potential State Budget positives, such as reduced pressure on education spending, which hit early (though achieving those savings may be politically difficult to achieve). There is less potential for education savings at the Federal level.

Second, an underlying assumption is that, as economic growth and therefore real income growth slows, that translates into slower spending on a myriad of State Government

<sup>12</sup> Note: Health expenditure in Western Australia, expressed as a proportion of GSP, is lower than the national average mainly because per capita GSP in Western Australia is higher than most other states. In per capita terms, health expenditure in Western Australia exceeded the average of other states in 2004-2005. Sources: ABS, *Australian National Accounts: State Accounts 2005-06 Reissue* (Cat. No. 5220.0); ABS, *Australian Demographic Statistics* (Cat. No. 3101.0); and ABS, *Government Finance Statistics, Australia 2004-05* (Cat. No. 5512.0).

functions. That automatically limits the downside to State Budgets of ageing. Indeed, that is a reminder that both consumers and policymakers need to be aware of the necessity of cutting their cloth to suit the available capacity to pay of the State economy and the State Budget.

Third, Federal grants act as a helpful nominal anchor – here they are assumed linked simply to population and CPI growth, both of which are invariant to ageing. That limits the downside to State Budgets from ageing.

At the national level, the GST tax take is expected to grow more slowly than nominal consumer spending over the period to 2025 – a conclusion which matches Access Economics' results in our 2001 report *Population Ageing and the Tax Base*. That mostly arises because health spending, largely outside the GST base, is projected to grow faster than consumer and housing investment spending. That said, the GST is still expected to rise rather faster over time than would the old sales tax base.

The sharpest slowing in GDP growth rates (compared with an economy without an ageing population) occurs during the years of maximum retirement by the baby boomers, from 2015 to 2030. (The baby boomers are, broadly, those born between 1946 and 1961. In 2015 the leading edge of the baby boomers are 69. In 2030 the trailing edge of the boomers reach 69.)

The 'typical' State Budget might see an average deterioration in net lending across the 40 year period of 0.6% of GSP. The equivalent figure for Western Australia is exactly the same, with positives (the low starting rank of WA in health spending, and its younger than average population – though its increase in total dependency ratio between 2002-03 and 2025 actually equals the 17.5 percentage points projected nationally) matching negatives (low education spending, and low on gambling taxes too).

### 5.1 THE 'STARTING POINT' PROJECTIONS

The initial modelling here examines what might happen if ageing and relative health price inflation both disappeared. In particular, Access Economics assumes:

- ❑ While population growth occurs at the same rate as in our expected population forecasts, the population age-structure remains unchanged. This is, of course, an almost impossible feat for the population to achieve, but allows us to examine what might happen without the effects of demographic ageing.
- ❑ Health prices rise at the same rate as the general price level in the economy.

#### 5.1.1 OVERALL ECONOMIC TRENDS

Chart 16 shows the key demographic and macroeconomic impacts in this scenario. Each scenario shows a consistent set of charts, so we will outline their meaning here.

- ❑ **Population growth** shows Access Economics' latest forecast of the expected increase in Western Australia's population. This is consistent across all the scenarios.
- ❑ **Participation rate** is the proportion of the working age population (defined here as the population aged 15 and over) either employed or looking for work. Participation rates in the model are assumed for each age cohort (and separately for males and females).
- ❑ **Real output growth** is growth in inflation adjusted output in Western Australia (often termed real Gross State Product or GSP).

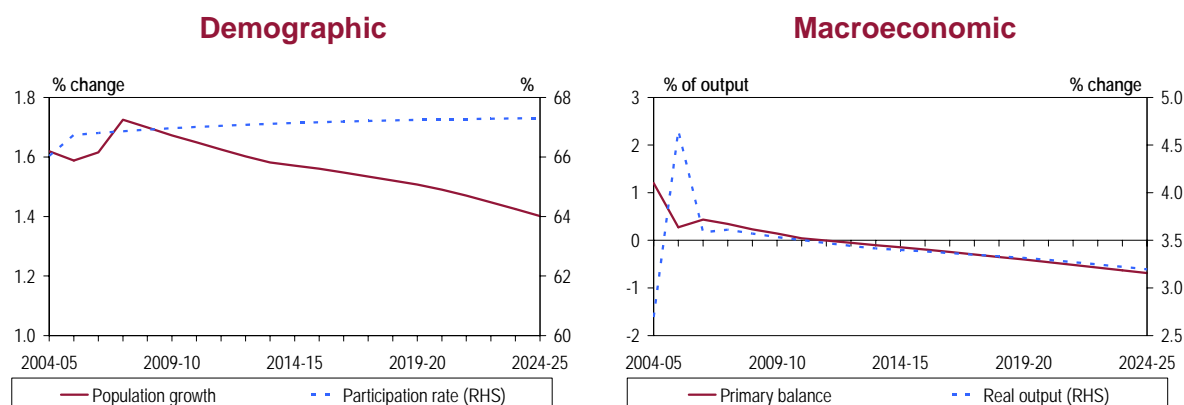
- ❑ **Primary balance** is the key underlying measure of Budget pressures in the State. It measures State Budget revenues less State Budget expenditures ignoring interest revenues and debt expenses (and is expressed as a share of State output so that increasing prices and the size of the economy in general do not cloud the real picture). The removal of these Budget items allows us to ignore the compounding effects of running large Budget deficits (or, if it were the case, surpluses) which often develop when forecasting Budgets out over an extended period.

In this scenario, overall participation rates rise (the sharp rise initially has already occurred – but the remaining increase is assumed) due to increasing participation rates by older Australians, a trend that is consistent across all the scenarios considered.

This assumption results in an increase in the labour force participation rate from 65.5% in 2003-04 to 67.4% in 2025 – which helps to offset the negative effects of slowing population growth rates on output growth. Population growth eases slowly over time, and so does overall output growth, but the rise in participation helps boost overall economic growth which is at its highest in this scenario.

The Budget balance is also at its best in this scenario. The primary balance edges down slightly over time – falling gradually from a surplus of 1.2% of GSP in 2004-05 to a deficit of 0.7% of GSP at the end of the projection.

**CHART 16: WA PROJECTIONS, STARTING POINT SCENARIO**



**TABLE 5: WA SENIORS SUMMARY IN THE STARTING POINT SCENARIO**

	2004-05	2024-25
<b>Formal measures of economic strength</b>		
Share of State population	16.3%	16.3%
Share of State population (aged 15 and over)	20.4%	20.4%
Share of State employment	5.5%	5.5%
<b>Measures of income and wealth</b>		
Share of State total incomes	20.0%	19.0%
Share of State after-tax wage incomes	4.0%	4.1%
Share of State non-wage incomes	52.1%	51.4%
Share of State net household wealth	31.5%	32.9%
Share of State net super wealth	10.0%	17.2%
Share of State net housing wealth	33.3%	35.4%
Share of State net other wealth	37.9%	40.0%
<b>Contributions to the informal economy (% of GSP)</b>		
Seniors as providers of informal childcare	0.64%	0.60%
Seniors as carers for elderly or disabled relatives	0.46%	0.43%
Seniors volunteering in WA	0.20%	0.19%
<b>Fiscal offsets (% of Western Australian GSP)</b>		
Cost savings to the WA Budget	0.38% (\$386m)	0.39% (\$1,407m)
Cost savings to the Federal Budget	0.91% (\$920m)	0.82% (\$2,964m)

However, as shown in

Table 5, by 2025 the share of employed persons being seniors is almost unchanged from 2005 levels as the impact of higher participation in the over 60s age groups is almost the same as the impact of higher participation in younger age groups (notably those in their 50s).

There are some very small changes in seniors' share of income (the small rise in employment share enough to push the group's share of wage income up slightly) although the fall in non-wage incomes sees a slight fall in seniors' share of total income. This fall is driven by changes in the relative importance of different income types – seniors' share of all types of incomes actually rise, but those that are more important to younger age groups, such as family benefits, are growing faster in importance to overall non-wage incomes.

As a result, seniors would generally be 'earning' less per head than the overall average in the Western Australian economy – with the gap slightly larger than at present.

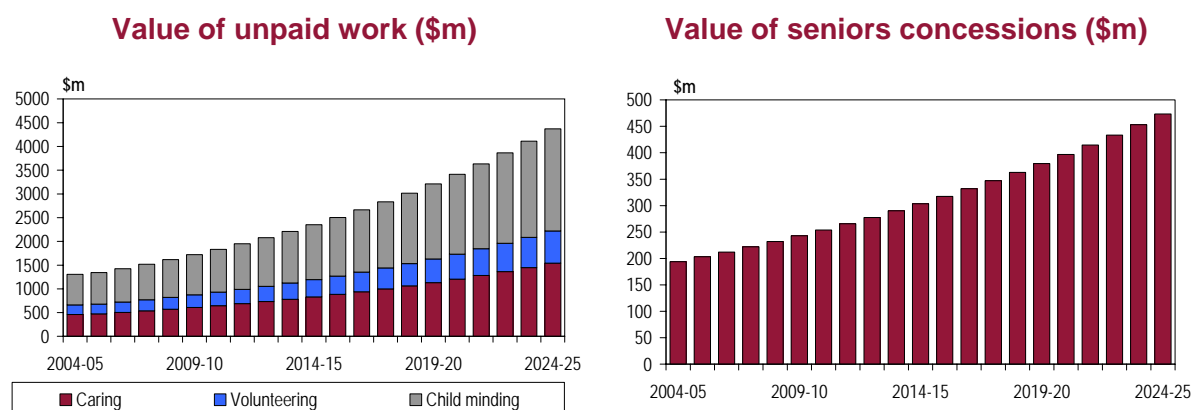
There are more significant changes on the wealth side – most of which reflect past policy changes. Seniors will hold a much larger share of superannuation wealth in the future as by 2025 those aged 60 and over will have spent a far greater proportion of their working lives under the superannuation system than at present. Gains in the other wealth components reflect underlying trends in the economy that have seen wealth accrue relatively rapidly to older age groups than the young – a trend expected to continue.

### 5.1.2 THE CONTRIBUTION OF SENIORS IN THE STARTING POINT SCENARIO

As in the other scenarios, the value of WA seniors' unpaid work is projected to increase strongly (Chart 17) and so is the cost of concessions linked to both the WA Seniors Card and Commonwealth Pensioner Concession Card. Since the number of seniors is lowest in this starting point projection – a consequence of assuming away ageing effects to start with – however, the value of unpaid work is low as well. The value of the Seniors Card concessions is by the same token, the lowest in comparison to that in the other scenarios. The projection

sees total value of WA seniors' unpaid work growing by 6.2% annually during the projection period while the cost of the WA Seniors Card concessions increases by 4.6% per annum during the same period. The slower growth in the value of Seniors Card concessions relative to the value of seniors' unpaid work translates into a net 'contribution' from WA seniors which is not recognised in previous analyses of the impacts of ageing.

**CHART 17: WA SENIORS' PROJECTIONS, STARTING POINT SCENARIO**



**TABLE 6: WA BUDGET SPENDING IN THE STARTING POINT SCENARIO (\$M)**

\$m	2004-05	2024-25	Annual growth
Health	3,118	12,052	7.0%
<i>of which:</i>			
Aged care	113	430	9.3%
Education	4,185	14,187	6.3%
Public order and safety	895	3,026	6.3%
Welfare payments	599	2,086	6.4%
<i>of which:</i>			
WA Seniors Card	12	28	4.6%
All seniors' concessions	194	473	4.6%

Because there are no relative demographic effects (underlying demand for all types of service rise in line with population measures), cost measures generally rise at similar rates, the key differences being driven by one of three factors:

- ❑ The share of growth that is driven by **wage rates** and the share that is driven by **inflation** (CPI growth) – with concession cost increases (assumed to rely on CPI linked price rises) kept lower;
- ❑ Differences in the ratios between labour and materials – with more labour intensive sectors seeing faster growth overall (this therefore explains why health costs rise faster than education), and in particular Federal education expenditure (see Table 7) grows more slowly; and
- ❑ The impact of volunteering and child minding as a 'brake' on spending growth, with increases in the value of community contributions partially offsetting increases in government expenditure. This is more important for welfare expenditure – particularly at the Federal level – via reductions in demand for childcare benefits.

**TABLE 7: FEDERAL BUDGET SPENDING IN THE STARTING POINT SCENARIO (\$M)**

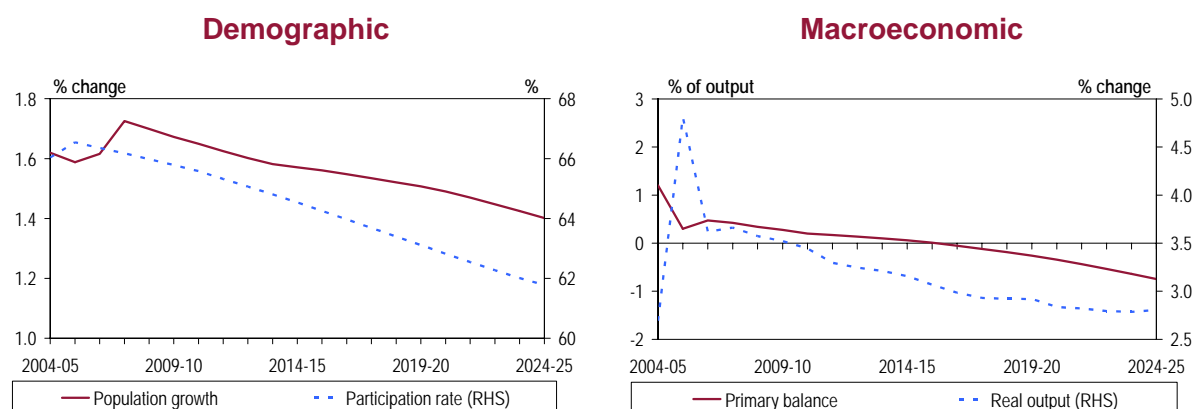
	2004-05	2024-25	Annual growth
Health	35,593	125,115	6.5%
<i>of which:</i>			
Aged care	5,409	25,407	8.0%
Education	14,382	35,112	4.6%
Social security	73,354	219,765	5.6%
Other Welfare	9,573	28,561	5.6%

## 5.2 ALLOWING FOR AGEING PRESSURES

This scenario examines what might happen if ageing pressures are taken explicitly into the model, thereby changing population age structures while at the same time maintaining the assumption that health prices rise at the same rate as the general price level in the economy.

### 5.2.1 OVERALL ECONOMIC TRENDS

**CHART 18: WA PROJECTIONS, AGEING SCENARIO**



As shown in Chart 18, the overall workforce participation rate falls steadily from a peak of 66.5% to 61.8% by 2025 compared to 67.4% in the starting point scenario. As output growth is driven by the product of population growth and change in participation – both declining necessarily drive a fall in output growth, from around 4% to closer to 2.5% over the next 35 years. It should be noted that this is above the national average (where participation falls to under 60% by 2025 and output growth is 2.4% rather than 2.8% in the final projection year).

It should be remembered that overall participation rate declines occur despite rises in age-specific participation. However, the overall trend in participation will still be negative – while a 65 year old in 2025 is more likely to be in the labour force than a 65 year old in 2005, they will still be less likely to be in the labour force than a 45 year old in 2005.

Overall, the proportion of the Western Australian population aged 60 and over increases from 16.3% in 2005 to 24.3% in 2025. Their relative importance in most areas also increases, although the relative growth (compared with growth in population or working age shares) is not uniformly positive.

The main area of improvement is superannuation wealth (as it is in the no ageing scenario), driven by the maturing of the superannuation industry in the future. The other areas where seniors make larger than expected gains is the share of housing wealth due to the tendency

for Australians in their 40s and 50s to have done relatively better in acquiring housing in the most recent boom than those in their 20s and 30s. As a result, in twenty years a relatively greater share of housing wealth will be in the hands of older Australians than at present.

**TABLE 8: WA SENIORS SUMMARY IN THE AGEING SCENARIO**

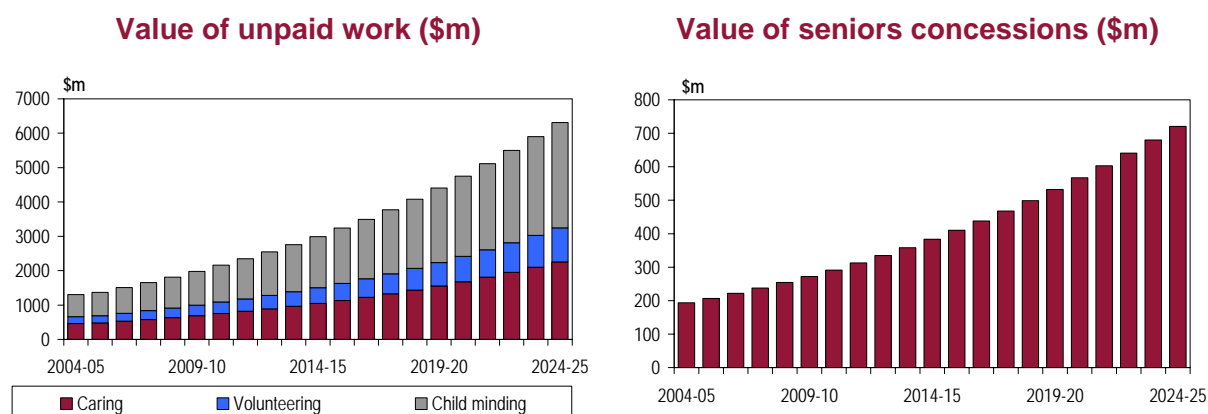
	2004-05	2024-25
<b>Formal measures of economic strength</b>		
Share of State population	16.3%	24.3%
Share of State population (aged 15 and over)	20.4%	29.2%
Share of State employment	5.5%	8.1%
<b>Measures of income and wealth</b>		
Share of State total incomes	20.0%	21.5%
Share of State after-tax wage incomes	4.0%	6.0%
Share of State non-wage incomes	52.1%	59.6%
Share of State net household wealth	31.5%	41.9%
Share of State net super wealth	10.0%	23.3%
Share of State net housing wealth	33.3%	45.7%
Share of State net other wealth	37.9%	50.8%
<b>Contributions to the informal economy (% of GSP)</b>		
Seniors as providers of informal childcare	0.64%	0.89%
Seniors as carers for elderly or disabled relatives	0.46%	0.65%
Seniors volunteering in WA	0.20%	0.29%
<b>Fiscal offsets (% of Western Australian GSP)</b>		
Cost savings to the WA Budget	0.38% (\$386m)	0.60% (\$2,053m)
Cost savings to the Federal Budget	0.91% (\$920m)	1.24% (\$4,257m)

Seniors lose some relative ground in wages, although they increase their share of after-tax incomes from 4.0% to 6.0% of the total. If they maintained the small relative 'dollar per person' levels as at present, they would be expected to reach 6.1% of income by 2025. This reflects the gradual increase in 'very senior' Western Australians with very low participation rates at the expense of those in their 60s who will be an increasingly important sector of the workforce in the future.

## 5.2.2 THE CONTRIBUTION OF SENIORS IN THE AGEING SCENARIO

While the economy grows more slowly overall, growth in health and aged-care related sectors grows much faster. Nominal expenditure in health in the WA Budget rises by 7.9% per annum across the forecast period (compared with 7.0% in the earlier case). Combined with the slower output growth the State's primary budgetary balance deteriorates relative to that in the starting point scenario. On the plus side, the benefits that seniors' contributions to unpaid work are significantly higher than before, growing by 8.4% per annum compared to 6.2% without ageing. The value of the Seniors Card concessions is also much higher at the end of the modelling (at \$720 million, up \$250 million from the base case).

**CHART 19: WA SENIORS' PROJECTIONS, AGEING SCENARIO**



**TABLE 9: WA BUDGET SPENDING WITH AGEING SCENARIO (\$M)**

\$m	2004-05	2024-25	Annual growth
Health	3,118	14,194	7.9%
<i>of which:</i>			
Aged care	113	672	9.3%
Education	4,185	11,474	5.2%
Public order and safety	895	2,757	5.8%
Welfare payments	599	2,097	6.5%
<i>of which:</i>			
WA Seniors Card	12	43	6.8%
All seniors' concessions	194	720	6.8%

Annual growth in expenditure swings towards health and welfare and away from education and public order and safety, reflecting the differing demands of younger and older population demographics between this scenario and our starting point. The demands on the Federal health and aged care sector are significant, with an increase in expenditure of over \$100 billion – although with the growth in the overall economy this implies growth from 4.0% of GDP (national output) in 2005 to 5.1% in 2025.

**TABLE 10: FEDERAL BUDGET SPENDING WITH AGEING SCENARIO (\$M)**

	2004-05	2024-25	Annual growth
Health	35,593	141,812	7.2%
<i>of which:</i>			
Aged care	5,409	36,901	10.1%
Education	14,382	34,002	4.4%
Social security	73,354	238,654	6.1%
Other Welfare	9,573	26,225	5.2%

Aged care rises from 0.60% of GDP to 1.32% across this period. Social security and welfare expenditure moves between the two extremes; boosted by pension demands, but benefiting from declining unemployment and family payments.

## 5.3 ADDING HEALTH COST INFLATION

As in the ageing case, this scenario projects the WA Budget by assuming that ageing takes place and allowing health prices rise at a different rate from the general price level in the economy – with prices rising in line with the differential assumptions used in the Federal IGR.

### 5.3.1 OVERALL ECONOMIC TRENDS

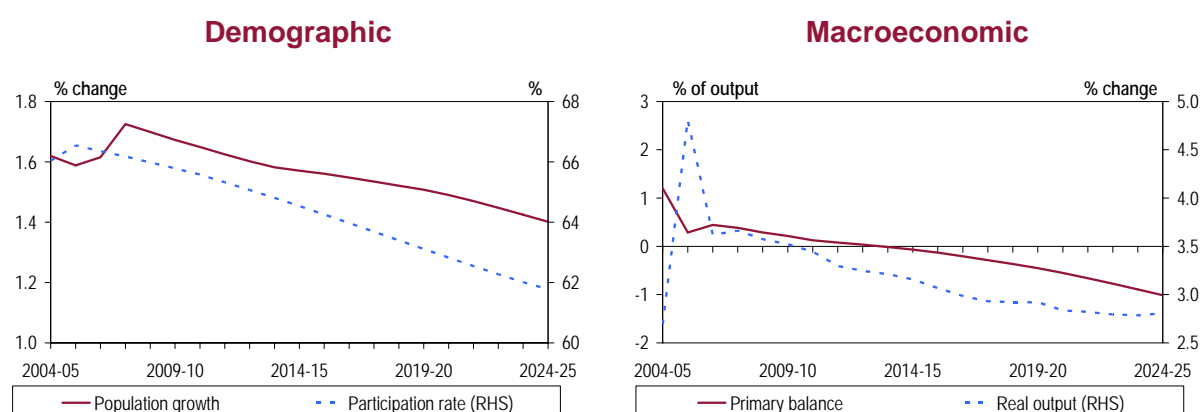
As in the ageing scenario, labour force participation rate and real output growth falls – in fact, real output grows at the same rate as in the ageing case. In nominal terms there are significant differences as the increasing cost of health services boosts overall inflation (and boosts health's share of nominal output, reinforcing the effect).

**TABLE 11: WA SENIORS SUMMARY IN THE HEALTH INFLATION SCENARIO**

	2004-05	2024-25
<b>Formal measures of economic strength</b>		
Share of State population	16.3%	24.3%
Share of State population (aged 15 and over)	20.4%	29.2%
Share of State employment	5.5%	8.1%
<b>Measures of income and wealth</b>		
Share of State total incomes	20.0%	22.7%
Share of State after-tax wage incomes	4.0%	6.0%
Share of State non-wage incomes	52.1%	60.4%
Share of State net household wealth	31.5%	42.0%
Share of State net super wealth	10.0%	23.3%
Share of State net housing wealth	33.3%	45.7%
Share of State net other wealth	37.9%	50.8%
<b>Contributions to the informal economy (% of GSP)</b>		
Seniors as providers of informal childcare	0.64%	0.89%
Seniors as carers for elderly or disabled relatives	0.46%	0.65%
Seniors volunteering in WA	0.20%	0.29%
<b>Fiscal offsets (% of Western Australian GSP)</b>		
Cost savings to the WA Budget	0.38% (\$386m)	0.61% (\$2,118m)
Cost savings to the Federal Budget	0.91% (\$920m)	1.22% (\$4,272m)

There is very little change in seniors' share of the variables shown in Table 11. By assumption, there is no impact on real demographic variables or employment, nor on wealth and incomes. There are some minor changes to the importance of seniors to the Budget, mainly due to minor changes in relative prices in the areas that seniors contribute.

**CHART 20: WA PROJECTIONS, ADDING HEALTH COST INFLATION SCENARIO**



### 5.3.2 THE CONTRIBUTION OF SENIORS IN THE HEALTH COST INFLATION SCENARIO

The value of WA seniors’ unpaid work grows only marginally faster, as it is predominantly linked to the wages component of health – while it is the materials components that are seeing the particularly fast growth in prices.

**TABLE 12: WA BUDGET SPENDING IN THE ‘AGEING AND HEALTH COST’ SCENARIO (\$M)**

\$m	2004-05	2024-25	Annual growth
Health	3,118	15,237	8.3%
<i>of which:</i>			
Aged care	113	730	9.8%
Education	4,185	11,636	5.2%
Public order and safety	895	2,796	5.9%
Welfare payments	599	2,127	6.5%
<i>of which:</i>			
WA Seniors Card	12	44	6.9%
All seniors’ concessions	194	730	6.9%

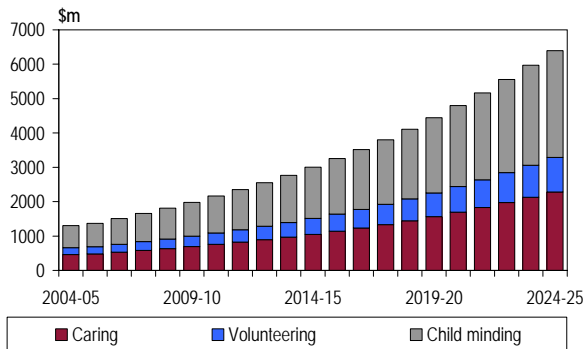
**TABLE 13: FEDERAL BUDGET SPENDING IN THE ‘AGEING AND HEALTH COST’ SCENARIO (\$M)**

	2004-05	2024-25	Annual growth
Health	35,593	162,086	7.9%
<i>of which:</i>			
Aged care	5,409	40,114	10.5%
Education	14,382	34,454	4.5%
Social security	73,354	241,764	6.1%
Other Welfare	9,573	26,582	5.2%

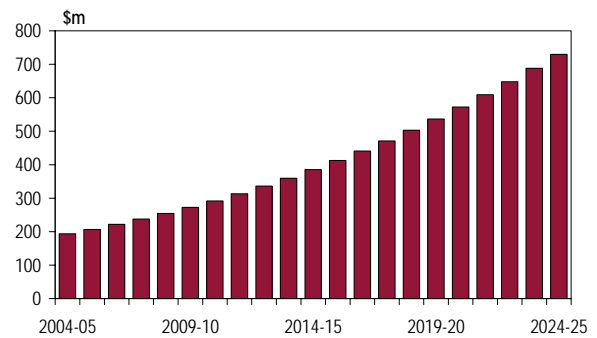
Although growing by more than those in the starting point and ageing scenarios (7.5% per year here versus 7.4% with ageing only and 6.2% without any price or demographic structure changed). The WA Budget’s primary balance in this projection falls from a surplus of 1% in 2003-04 to a deficit of 3.1% of GSP in 2025. This figure is rather less than the indicative 5% figure found in the Federal IGR, reflecting the differential impacts on Western Australia and the improvements in the general output seen in the past four years.

**CHART 21: WA SENIORS' PROJECTIONS, HEALTH COST INFLATION SCENARIO**

**Value of unpaid work (\$m)**



**Value of seniors concessions (\$m)**



The key budgetary impacts in this case flow from the increase in health costs over time – and the flow-on effects to costs linked (through various means) to prices or wages. Note, the rise in prices (measured through the CPI) will tend to flow through to wages and employees will attempt to ‘claw back’ the gradual loss in purchasing power.

The effects are therefore more keenly felt in health (with the WA Budget seeing an increase in health expenditure in 2024-25 of 7.3% – or just over \$1 billion) and only marginally in education (a rise of just 1.4% at the same point). Because the rise in the value of concessions is linked to the CPI the impact of health cost increases is muted. Similarly, the value of unpaid work is only increased marginally as the difference between the two scenarios is driven by changing wage levels – the supply of seniors and volume of unpaid work being unchanged.

## 5.4 AN ALTERNATIVE ASSUMPTION ON THE IMPACT OF AGEING

An alternative, and perhaps more realistic, scenario mitigates the impacts of demographic ageing somewhat by linking a number of health-related expenditure variables to ‘age-from-death’ rather than chronological age.

This analysis builds on the observation that a large proportion of health costs are incurred in the last years of life, rather than at a particular age. That is, if you live to be 65, a large amount of expenditure might occur between ages 60 to 65, while for someone who lives to be 85, there may be very little expenditure during ages 60 to 65, but much more in ages 80 to 85.

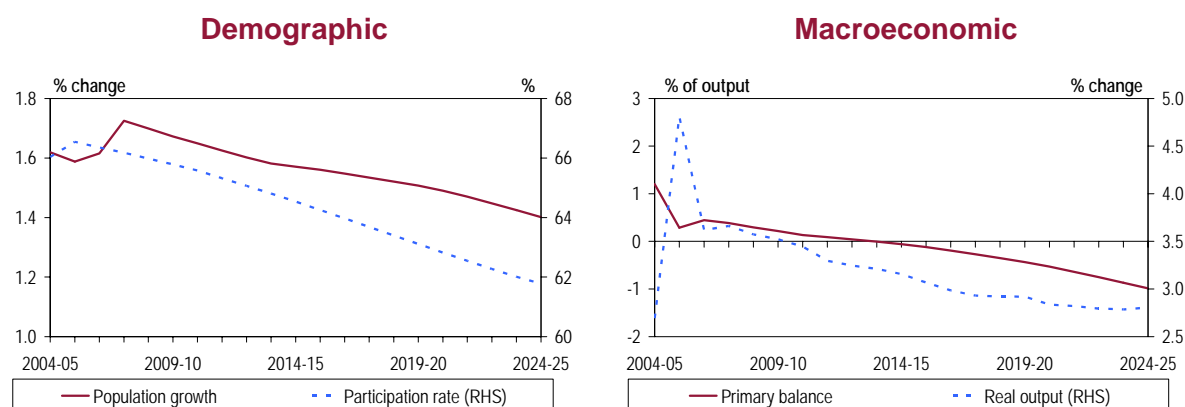
As life expectancies are anticipated to increase steadily, either at a similar or slightly slower pace than across the past two decades, this implies that some of the expenditures that currently occur in people aged (say) 60 to 65, will be postponed in a given persons life in later years. This observation is obviously one that occurs **on average** in the population.

### 5.4.1 ECONOMIC AND GOVERNMENT SPENDING TRENDS

There are no significant economic implications of the lowering of health demands due to increasing life expectancy, and only a marginal improvement in Budgetary conditions by 2025 (although the benefits do begin to increase rapidly beyond 2030).

This additional modelling mitigates overall negatives from ageing slightly – not surprising as it implicitly treats older Australians in the model as if they were slightly younger in the longer term. The primary balance deficit for Western Australia is barely changed in 2025 – but a longer term analysis (out to 2040) begins to see overall benefits to the Western Australian budget (which sees primary balance some \$500 million better or about 0.1% of GSP with mitigated ageing due to life expectancy increases).

**CHART 22: WA PROJECTIONS, AGE-FROM-DEATH SCENARIO**



**TABLE 14: WA BUDGET SPENDING AGE-FROM-DEATH SCENARIO (\$M)**

\$m	2004-05	2024-25	Annual growth
Health	3,118	15,154	8.2%
<i>of which:</i>			
Aged care	113	729	9.8%
Education	4,185	11,631	5.2%
Public order and safety	895	2,795	5.9%
Welfare payments	599	2,126	6.5%
<i>of which:</i>			
WA Seniors Card	12	48	6.8%
All seniors' concessions	194	729	6.8%

**TABLE 15: FEDERAL BUDGET AGE-FROM-DEATH SCENARIO**

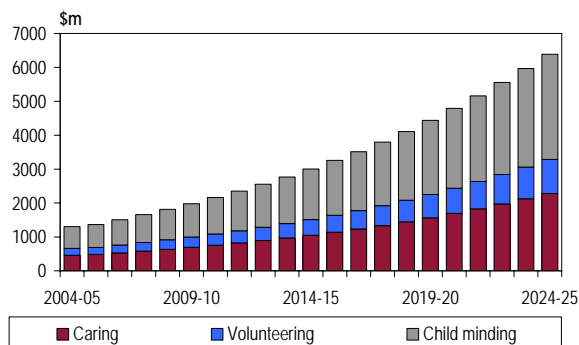
	2004-05	2024-25	Annual growth
Health	35,593	161,205	7.8%
<i>of which:</i>			
Aged care	5,409	40,113	10.5%
Education	14,382	34,440	4.5%
Social security	73,354	241,673	6.1%
Other Welfare	9,573	26,571	5.2%

### 5.4.2 THE CONTRIBUTION OF SENIORS IN THE AGE-FROM-DEATH SCENARIO

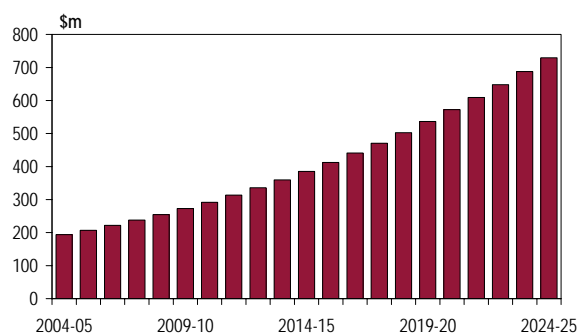
The value of seniors' unpaid work is projected to grow at 7.5% per annum while the value of Seniors Card concessions is expected to grow at 6.1% per annum – virtually the same rates as in the health cost inflation scenario.

**CHART 23: WA SENIORS' PROJECTIONS, AGE-FROM-DEATH SCENARIO**

**Value of unpaid work (\$m)**



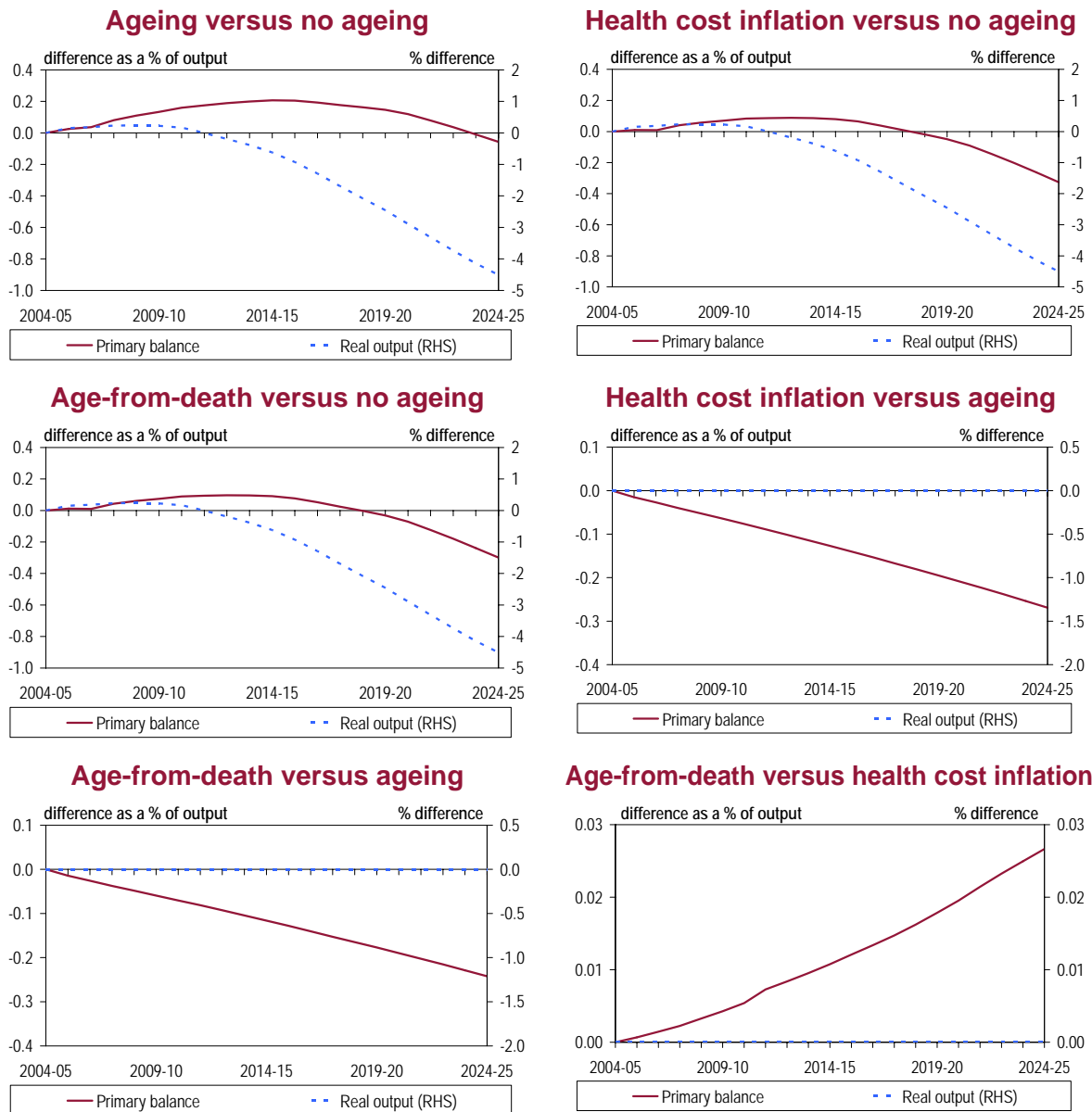
**Value of seniors concessions (\$m)**



## 5.5 COMPARING OUTCOMES

As shown by the top left panel of Chart 24, the effect of allowing population age structure to change is an improvement in the primary balance until 2014-15 as education and youth-related expenditure decreases and ageing has not taken its full effect.

**CHART 24: DIFFERENCE IN WA OUTCOMES, COMPARISON BETWEEN VARIOUS SCENARIOS**



In fact, it is not until 2021-22 that primary balance starts turning into primary deficit. Real output growth however, worsens sooner than does primary balance, with the difference in real output growth weakens by 2008-09. Real output growth in fact, continues to dip before finally takes off again in 2021-22, albeit at a lower rate compared to the no ageing scenario. The mirror-like pattern of the two macroeconomic variables indicates that ageing causes the WA Budget's primary deficit to grow faster than the growth in real output.

If, on top of ageing, Access Economics allows health cost inflation to be higher than the rise in general price level, then not only does the difference in real output growth turn negative sooner but also the primary balance. In fact, as the top right part of Chart 24 shows, the WA Budget's primary balance starts to deteriorate as soon as 2005-06 while real output growth slows down in 2009-10. This pattern is followed by the age-from-death scenario.

As the health cost inflation scenario takes into account the changing population age structure brought about by ageing, the difference in the macroeconomic outcome in the two scenarios really is the pure effect of having health cost inflation higher than the increase in the general price level. Real output growth does not change as the higher health cost inflation is fully absorbed by the nominal output growth. The WA Budget's primary balance however, deteriorates as a result of higher health cost per capita (middle right panel of Chart 24).

As shown by the bottom left panel of Chart 24, moving from health cost inflation case to age-from-death case does not change this picture for the assumptions employed – apart from age-from-death – are essentially the same ones. The only difference is that the difference in primary balance is smaller than that in the comparison between health cost inflation scenario and ageing scenario.

## APPENDIX A: THE MODELLING

### THE WA ECONOMIC MODEL

Economic modelling for the WA economy follows a top-down approach, with national trends having significant implications for the selected individual State economy. Within this general approach, differential demographic structures (affecting the relative impacts of ageing on education, health and law and order expenditures) cause WA's longer term trends to differ from the national baseline.

The WA economic model uses the same broad categories of economic output as the Australian economic model. It covers the components of consumption (public, medical, education, rental and other), investment (public, dwelling and business), and a stable external sector. In addition there is a balancing item to account for changes in stocks and interstate trade.

Unlike the national model, the WA external sector links import and export volumes so that they have a constant gap in output terms (the national model assumes no gap), with exports modelled as a constant share of the national total, and imports modelled from export levels.

To pick up both Federal and State Government influences, WA public sector consumption and investment levels are linked to indicator series that comprise a share of national aggregates and a component from the State Budget model – with portfolio costs (excluding superannuation, interest and grants) adding to consumption and asset purchases adding to investment.

Private sector dwelling investment is modelled identically to the national model, with new dwellings driven by depreciation and a component for population growth.

Other private investment is driven by a mix of output growth shares and population growth shares, as well as adjustments that have been driven by use of the fiscal reaction function (if it has been used). State investment in this case is modelled as a share of the national total.

The modelling of WA private consumption is also done as a share of the national total – with adjustments for fiscal reaction if needed. Medical and education rise more rapidly if the relevant demographic groups show faster growth than nationally, with rental consumption growth moving in line with the State's share of the dwelling stock. Other consumption moves in line with general trends in the State's share of private sector demand.

The final component of real output, the balancing item, grows in line with lagged output, maintaining a constant share of the total.

The WA GSP deflator is driven by growth in the national equivalent, with the medical price component allowed to move these two apart if it grows at a rate different to that seen nationally.

Most remaining variables are equivalent to the matching national economic variables, with movements in them differing due to the underlying population movements (or State demand movements) modelled elsewhere.

## THE WA BUDGET MODEL

WA Budget expenditures are modelled via a two-stage process.

Initially, total State-sector expenditure (that is, for all States and Territories) is calculated. This expenditure estimate splits costs into three components:

- ❑ Sector demand (or basic expenditure on output). This grows in line with an underlying indicative demand series and the relevant inflation rates (which is important for the health sector). The indicative demand series will generally be based on age-based propensities for demand for the service – so as the population rise and ages, relative demand will be boosted for health services, but lowered for education and public order.
- ❑ Wage and on costs. These also rise in line with sector demand (which is assumed to drive the required number of employees) and wages.
- ❑ Other costs. Generally the smallest component – assumed to rise with output in the economy. In some sectors of the Government Accounts the modelling uses a specific indicator, such as public debt which is governed by the starting stock of public debt and the interest rate.

That expenditure is allocated to Western Australia. The process used to determine the State's share of relevant expenditure compares its initial actual expenditure share (in dollars) to 'expected' share of an indicative demand series and then notes how the State's share of the indicative series will change over time.

So, a State that begins with a higher share of expenditure than its share of the indicative series will retain that tendency, but the actual share of expenditure will rise or fall as the State's expected demand share rises or falls. The formulation used effectively assumes that if initially a State spends (say) 10% more per 'unit of demand' on an area than the rest of the country then it will continue to do so into the future.

## MODELLING THE IMPACTS OF SENIORS ON BUDGETS

Estimating the Budgetary impacts in the model is a three stage process.

- ❑ Initially, an estimate of the value of each of the three types of assistance (volunteering, caring and child mining) is calculated.
- ❑ These benefits are then allocated to specific programme areas at either the Federal or combined State level, and
- ❑ Final Federal and Western Australian specific estimates are calculated for Budget expenditure with and without the effects of seniors' volunteer work.

### Initial estimates

The value of seniors' assistance for each category is the product of the volume of assistance provided and the relevant price of that assistance.

The volume of assistance is determined using the relevant 'cohort-specific' estimates of assistance by age outlined in the report. These will change in line with the changes in the State population aged 60 and over, with any differences (which are minor) driven by relative growth in particular age groups and each age groups' tendency to participate in each type of assistance.

The price of each type of assistance rises in line with estimated growth in average weekly earnings in the State.

### **Allocating to line items in Federal and State Budgets**

The value of each type of assistance will help various areas of State and Federal Budgets and will help in reducing both the cost of relevant wages and outputs. Each type of assistance is split between programmes based on ABS data for the areas in which the relevant assistance is provided – with the split between the reduction in costs of wages and costs of output (service provision) based on historical splits in each programme (so the effects in the health sector are more heavily weighted to a reduction in wages, split those in the welfare sector more to reductions in output).

There is a secondary adjustment applied to reduction in service delivery costs due to changing relative health costs (so, as health costs rises relatively faster than the broader CPI, the reductions in health expenditure rise slightly faster than they would otherwise).

### **Allocating impacts to Western Australia**

At the Federal level, these adjustments are applied in a fairly straightforward manner; an estimate of what expenditure would be in the absence of volunteers is estimated, the contribution by volunteers is estimated and the difference in the final level of expenditure.

At the State Budget level however, the model estimates total (combined) State expenditure and then allocates these to individual States or Territories. Because the impacts of WA volunteers accrue solely to Western Australia, a secondary step is required. Effectively, combined jurisdiction estimates in the absence of volunteers are inflated by the contribution of WA volunteers and a new estimate of the relative share of expenditure that occurs in WA is estimated (that is, the old share is WA expenditure divided by combined State expenditure, the new share is WA expenditure plus WA volunteers' contributions divided by combined State expenditure plus WA volunteers' contributions).

The model then projects these three variables forward (combined State expenditure, WA share of expenditure and WA volunteering contributions) and then provides the final outputs, WA expenditure in the absence of assistance from seniors, the value of assistance by seniors and the actual (or expected) level of Budget expenditure in each programme area.

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