

4. SUSTAINABILITY

Outline of this chapter

This chapter considers the sustainability of the retirement income system. The costs of the system analysed include: Age Pension expenditure, superannuation tax concessions, the superannuation fees paid by members and social transfers in kind.

This chapter is organised in five parts:

1. Historical system costs.
2. Projected future system costs.
3. The cost-effectiveness of the retirement income system, including how Government support is allocated to promote adequate retirement outcomes.
4. The potential effects of alternative trends, including lower returns, lower wage growth and lower superannuation account fees.
5. Public confidence, including the effects of economic and integrity shocks on confidence, as well as policy changes and how to achieve reform without undermining confidence.

The immediate (and likely ongoing) detrimental impact on financial and labour markets of the COVID-19 Pandemic is not reflected in baseline projections. However, Box 4A-4 contains analysis using Treasury's MARIA (Model of Australian Retirement Incomes and Assets) model of a large, but short-term, shock to superannuation and how it impacts the retirement income system in the long term.

Section 4A. Sustainability

Box 4A-1 Chapter summary

- **Under current policy settings, the total projected cost of Age Pension expenditure and superannuation tax concessions together is estimated to grow from 4.6 per cent of GDP today to 5 per cent by 2060.** The overall increase is projected to be due to the growing future cost of earnings tax concessions.
- **Age Pension spending has been stable over the past 20 years and is projected to fall moderately as a percentage of GDP over the next 40 years.** This is despite growth in the maximum payment rate and the number of retirees. Higher superannuation balances driven by a maturing system, combined with means testing, will continue to constrain Government spending on the Age Pension.
- **The cost of superannuation tax concessions — although difficult to measure — is projected to increase as a percentage of GDP as the superannuation system matures.** This is projected to be due to growing earnings tax concessions. Recent tightening of caps on contributions should help contain superannuation contributions tax concessions into the future. Earnings tax concessions increase as the system grows and are not subject to direct caps.
- **Social transfers in kind are substantial and increasing.** This is mostly due to increasing Medicare and aged care expenditure.
- **Superannuation tax concessions boost retirement incomes across the income distribution.** They increase retirement incomes most for households at the higher end of the income distribution. Superannuation tax concessions cost more than the Age Pension savings they produce across the income distribution.
- **The retirement income system is robust to changes to trends such as reductions in earnings and wages growth.** Lower earnings and lower wages would reduce incomes in retirement from superannuation, but Age Pension income would cushion this impact for people. Lower fees would reduce the cost of the system and improve outcomes for people in retirement.
- **Public confidence can be undermined by poorly executed policy changes, economic shocks, concerns over system integrity or a general mismatch between expectations and outcomes.** Broadly, the Australian system appears to enjoy reasonable levels of public confidence.

Box 4A-2 Stakeholder views on sustainability

Some stakeholders suggested taking a whole-of-system perspective when analysing sustainability, incorporating public funding and private savings, alongside assessing intergenerational equity (addressed in 3H. *Intergenerational equity*).

'... the sustainability of the Retirement Income System as a whole depends on the overall cost of the Age Pension, superannuation concessions and tax treatment of other assets and income.' (COTA, 2020, p. 37)

Some stakeholders recommended assessing whether the system was 'good value' to taxpayers.

'The key measure is whether taxpayers and members receive good value.'
(Rice Warner, 2020, p. 24)

Stakeholders considered means testing of the Age Pension and the compulsory nature of the Superannuation Guarantee (SG) play key roles in influencing the sustainability of the system. Tax concessions on superannuation and the concessional treatment of owner-occupied housing in the Age Pension means test were identified as policies that decreased system sustainability. Many stakeholders were concerned about the sustainability of the cost of social transfers in kind, such as health and aged care benefits. One submission argued that while the retirement income system was sustainable, the same could not be said for aged care:

‘Government support for retirement incomes is affordable now and in the future. In contrast, the Commonwealth government faces significant long-term fiscal challenges from escalating future health and aged care expenses.’ (ASFA, 2020a, p. 22)

More stakeholders raised concerns about the benefits of tax concessions being inequitably distributed, than about the sustainability of those concessions, although the two are linked. The large benefits going to higher-income earners were often framed as inequitable and unsustainable.

Stakeholders noted that public confidence was essential to the sustainability of the system. Concerns raised centred on:

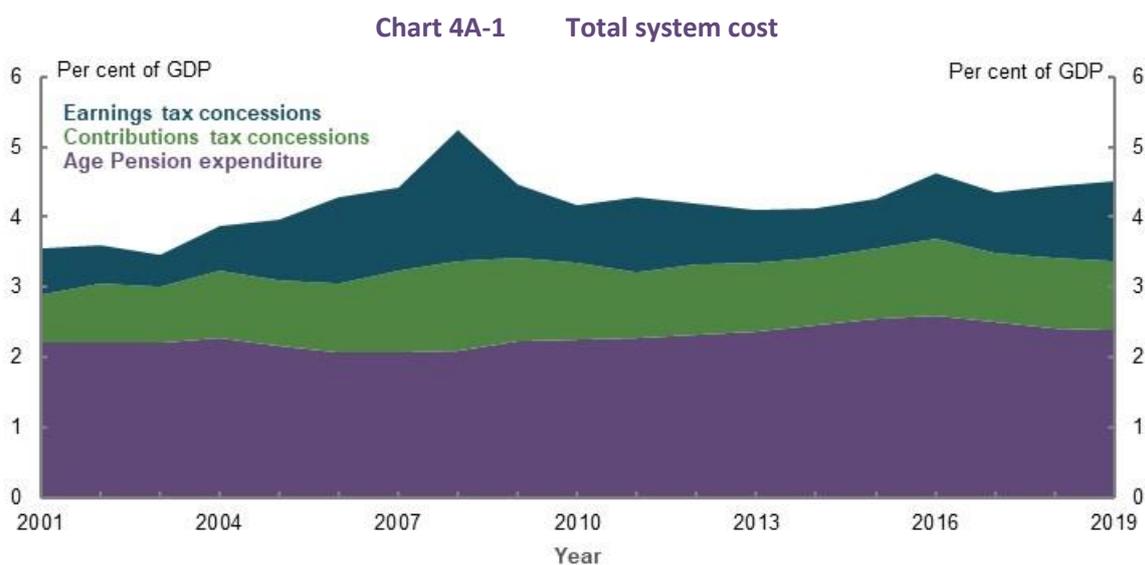
- Whether complexity makes it difficult for people to understand and have confidence in the system
- The frequency of policy changes
- Misconduct and failings exposed by the *Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry*, and the Productivity Commission report *Superannuation: Assessing Efficiency and Competition*
- A lack of trust in financial advice

*‘National Seniors believes confidence in the retirement income system is impacted largely by perceptions about complexity, instability and unfairness.’
(National Seniors Australia, 2020, p. 63)*

Some stakeholders suggested the review should consider the impact of shocks or alternative trends, such as lower investment returns.

Historical costs

The total cost of Age Pension expenditure and superannuation tax concessions, both contributions and earnings concessions, have risen from 3.55 per cent of GDP in June 2001 to 4.52 per cent of GDP in June 2019 (Chart 4A-1). All components increased as a percentage of GDP over the period, although tax concessions have grown by more than Age Pension expenditure (0.8 percentage points compared with 0.2 percentage points).

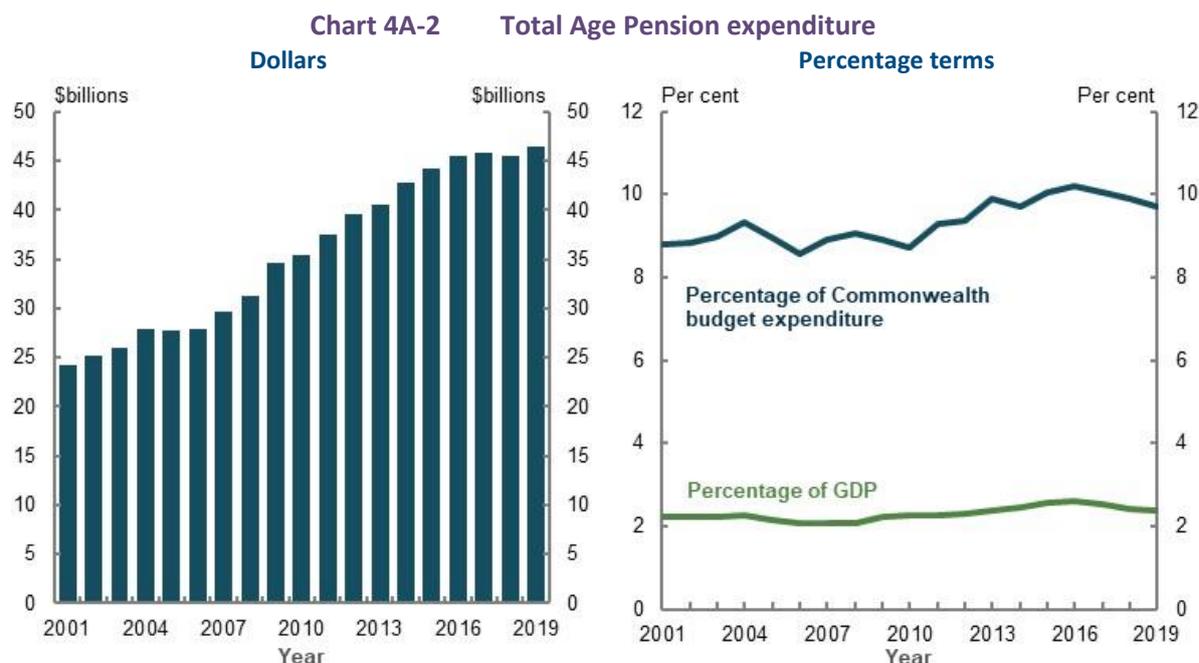


Note Age Pension expenditure includes supplementary allowances. The tax concessions time series is presented to illustrate the general trend. The cost of tax concessions is estimated independently each year (i.e. there is no dynamic impact of the removal of concessions over time), and year-to-year estimates may be subject to changes in policy benchmarks, data, assumptions and methodology. Source: Analysis of Annual Report 2000-2001 to 2018-19 (Department of Social Services, 2019); Tax Expenditures Statement 2004 to 2017 (The Treasury, 2018b); Tax Benchmarks and Variations Statement 2018 to 2019 (The Treasury, 2020); (ABS, 2019d).

Age Pension

Since 2000-01, the cost of the Age Pension (including supplementary allowances) has grown by 92 per cent in real²³⁷ terms, from \$24 billion to \$46 billion (Chart 4A-2).

Age Pension spending has been reasonably stable as a percentage of GDP, increasing by 0.2 percentage points to 2.4 per cent between June 2001 and June 2019 (Chart 4A-2). As a share of the Commonwealth Budget, Age Pension spending has increased by 0.9 percentage points over the same period. As a share of average wages, Age Pension spending per working-age person has been relatively stable over several decades (see 3H. Intergenerational equity).



Note: Values are in 2018-19 dollars, inflated by CPI. Age Pension expenditure includes supplementary allowances. Source: Annual Reports 2000-2001 to 2018-19 (Department of Social Services, 2019) and (ABS, 2020e).

Note: Age Pension expenditure includes supplementary allowances. Source: Analysis of Annual Report 2000-2001 to 2018-19 (Department of Social Services, 2019); (ABS, 2019d); and data provided to the review by The Treasury.

Age Pension costs are affected by the size of the population of Age Pension eligibility age, the rate of payment and the impact of means testing (see 1B. Design of Australia's retirement income system).

From June 2002 to June 2019, the size of the population over Age Pension eligibility age grew 46 per cent to 3.9 million people. Reflecting Australia's ageing population, this exceeded the overall population growth of 32 per cent.²³⁸ Increases to the Age Pension eligibility age have partially moderated this growth.²³⁹

From June 2001 to June 2019, the maximum rate of payment (including supplementary allowances) grew 28 per cent in real terms for couples and 37 per cent for singles (Chart 4A-3). The rate of the

²³⁷ Throughout this chapter, unless stated otherwise, 'real' refers to inflation-adjusted figures.

²³⁸ Annual Reports 2000-2001 to 2018-19 (Department of Social Services, 2019); (ABS, 2019b).

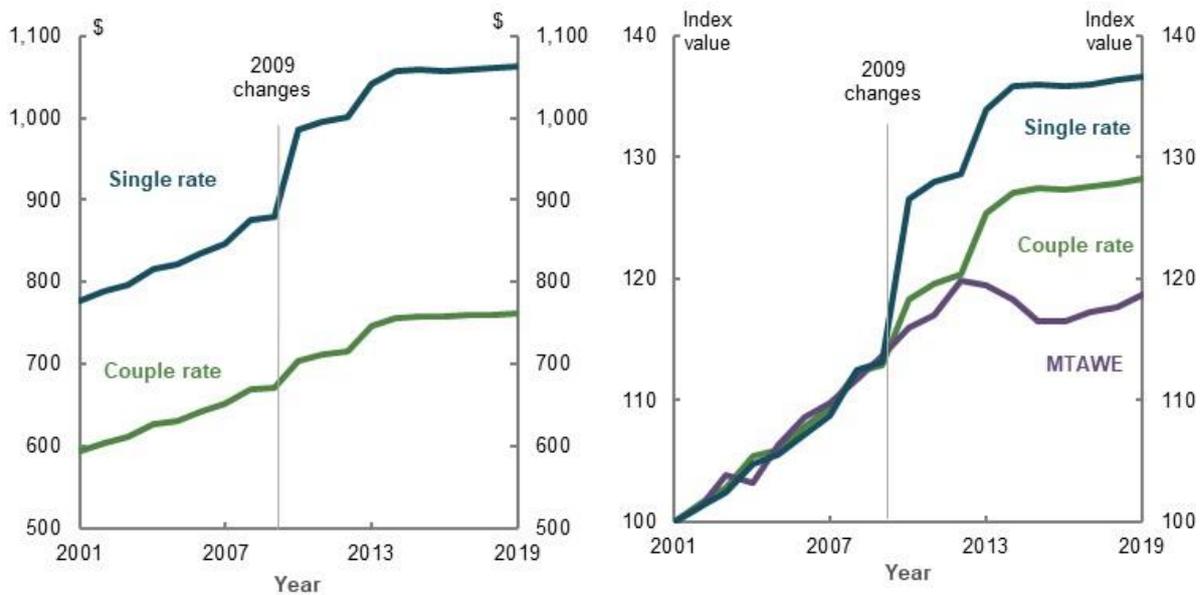
²³⁹ From 1 July 1995, the Age Pension eligibility age for women was gradually increased from 60 to match the male age of 65, reaching parity from 1 July 2013. From 1 July 2017, a process of six-month increases in the Age Pension eligibility age (for all people) every two years began. From 1 July 2023, the Age Pension eligibility age will be 67.

Age Pension is benchmarked to male total average weekly earnings,²⁴⁰ which means the value of the Age Pension generally increases in real terms over time.

From June 2001 to June 2019, male total average weekly earnings grew 19 per cent in real terms.²⁴¹ The rate of growth in the maximum rate of the Age Pension is also influenced by:

- The changes following the Harmer review in 2009 (see 2A. *Achieving a minimum standard of living in retirement*)
- Recent real decreases in male total average weekly earnings (resulting in the Age Pension being increased the CPI or the Pensioners and Beneficiaries Living Cost Index, whichever is higher)

Chart 4A-3 Maximum Age Pension rates and male total average weekly earnings (MTAWE)
Dollar terms Indexed to 2000-01



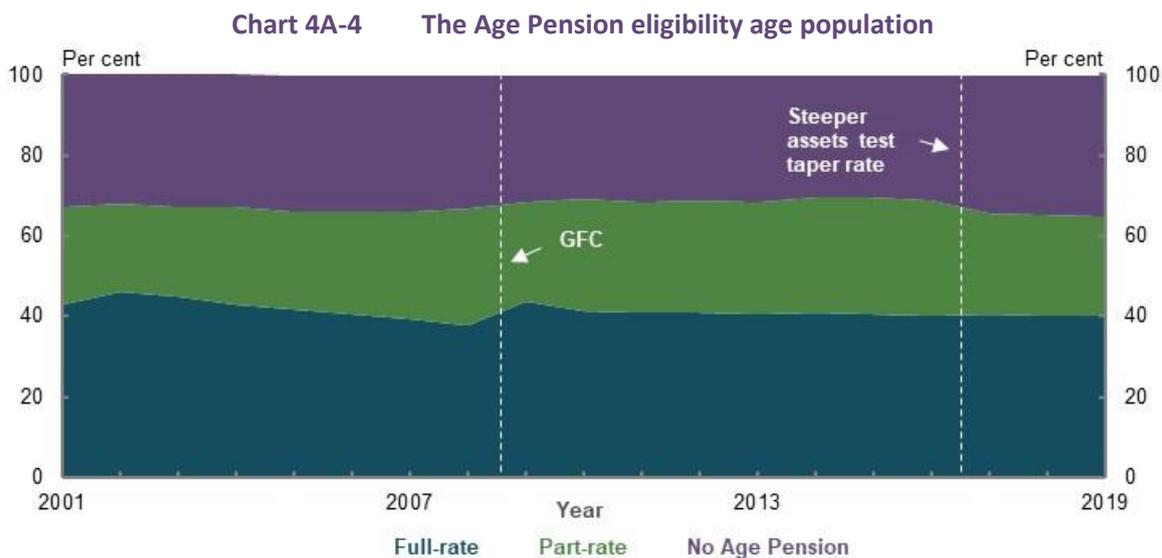
Note: Values are in 2018-19 dollars. Source: Analysis of Annual Reports 2000-2001 to 2018-19 (Department of Social Services, 2019); A guide to Australian Government payments 2015 to 2019 (Services Australia, 2019); (ABS, 2020e); (ABS, 2019d).

Note: Values indexed relative to 2000-01. Source: Analysis of Annual Reports 2000-2001 to 2018-19 (Department of Social Services, 2019); A guide to Australian Government payments 2015 to 2019 (Services Australia, 2019); (ABS, 2020e); (ABS, 2019d).

The composition of Age Pension recipients was broadly stable from June 2001 to June 2019 (Chart 4A-4). The share of part-rate age pensioners was increasing up until the Global Financial Crisis (GFC), which reduced retirees' net worth and increased the share of retirees receiving a full-rate Age Pension. In 2017, when the assets test taper rate steepened (from \$1.50 per \$1,000 of assets to \$3), some part-rate age pensioners moved off the Age Pension.

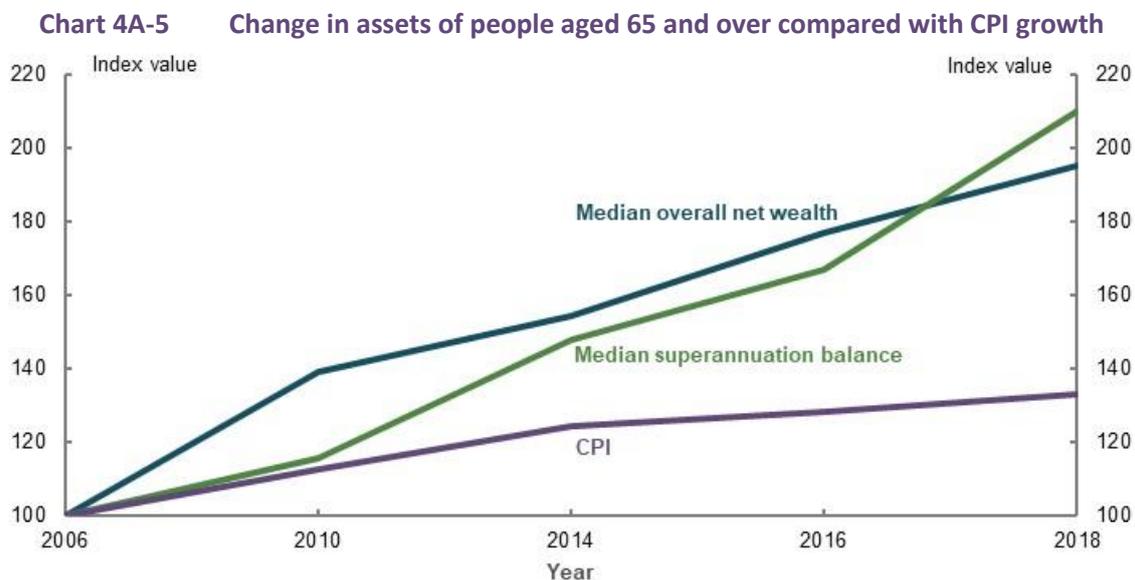
²⁴⁰ Some stakeholders submitted that there may be benchmarks more suitable than male total average weekly earnings. The review has not sought to assess this.

²⁴¹ Analysis of (ABS, 2020d; ABS, 2020e).



Source: Annual Reports 2000-2001 to 2018-19 (Department of Social Services, 2019).

The composition of the Age Pension population has not changed as much as superannuation balances and net worth for those over age 65. Superannuation balances (and overall net worth) for people aged over 65 have increased substantially in real terms since 2006 (Chart 4A-5). However, this growth has been from a relatively low base. The median age pensioner still has limited assets outside owner-occupied housing (see 3C. Home ownership status). The design of the means test results in people moving from full-rate Age Pensions to part-rate Age Pensions more quickly than people move off the Age Pension altogether.



Note: Values indexed relative to 2005-06. Source: Analysis of Household Income and Wealth, 2005-06 to 2017-18 (ABS, 2019k); (ABS, 2020e).

Superannuation tax concessions

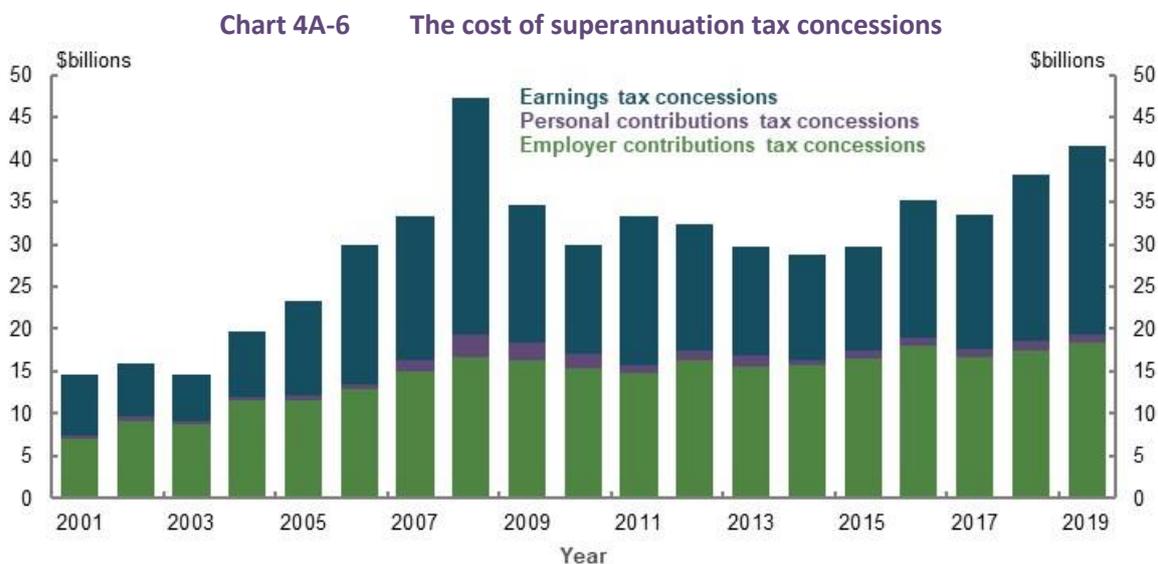
The cost of superannuation tax concessions represents forgone tax revenue for the Government, as opposed to a direct expenditure cost.²⁴² The cost of tax concessions is not observed but estimated by

²⁴² The cost of tax concessions is referred to as tax expenditure or tax benchmark variation. See Palisi (2017) for a historical summary of the concept and surrounding debate.

comparing actual revenue received with what might have been collected in the absence of concessions. Constructing this counterfactual is not straightforward. Opinions differ around the appropriate tax benchmark and the potential effect of behavioural change.

This review uses a comprehensive income tax benchmark to measure the cost of superannuation tax concessions. This means tax revenue actually collected is compared with the estimated amount that would have been collected if contributions and earnings were all taxed at full marginal rates. An alternative benchmark is an expenditure tax benchmark, which taxes contributions at full marginal rates but treats earnings as tax-free. *Annex — estimating superannuation tax concessions* provides more detail on the tax benchmark used in this review.

Both contributions and earnings tax concessions have increased in real terms over the past 20 years (Chart 4A-6). In general, earnings tax concessions are more volatile than contributions tax concessions because earnings are closely linked to financial markets. Contributions tax concessions are linked to wage growth and employment levels. Some variation in the value of both tax concessions can be attributed to changes in the personal income tax rates and thresholds, which are the benchmark tax treatment.



Note: Values are in 2018-19 dollars, inflated by CPI. This time series is presented to illustrate the general trend. The cost of tax concessions is estimated independently each year (i.e. there is no dynamic impact of the removal of concessions over time), and year-to-year estimates may be subject to changes in policy benchmarks, data, assumptions and methodology. Personal contributions tax concessions stem from people making contributions from post-tax income, but claiming a deduction on their tax return. Source: Tax Expenditures Statement 2004 to 2017 (The Treasury, 2018b); Tax Benchmarks and Variations Statement 2018 to 2019 (The Treasury, 2020).

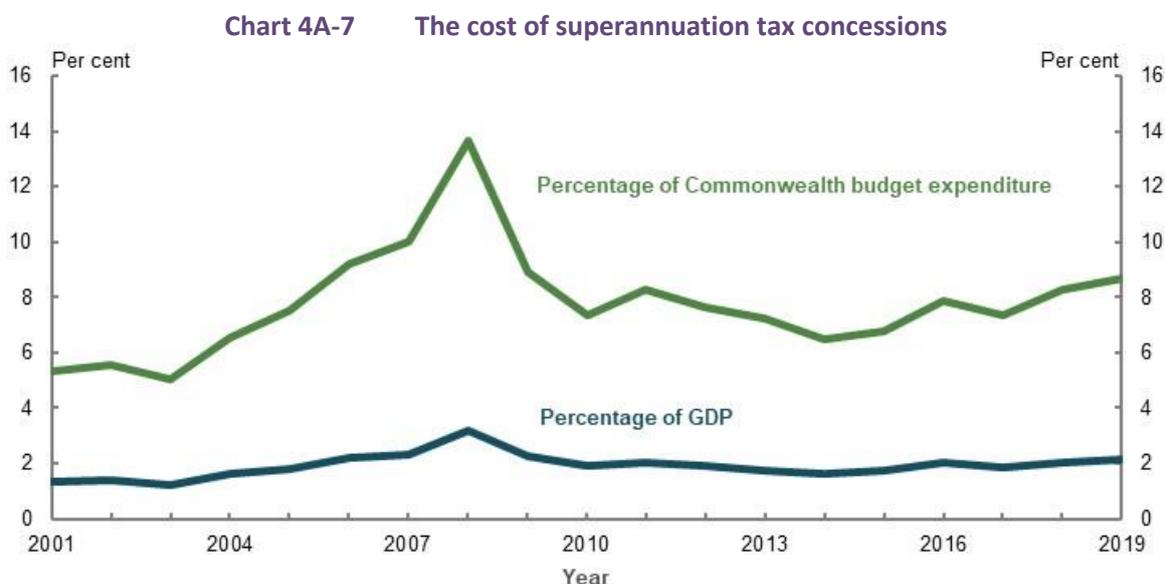
Total contributions have grown faster (75 per cent from June 2004 to June 2019) in real terms than salary and wages (55 per cent),²⁴³ partly due to the 0.5 percentage point increase in the SG rate over 2013-15. The cost of contributions tax concessions has grown more slowly (62 per cent) than contributions, reflecting the tightening of policy settings, such as lower contributions caps and a reduced Division 293 tax threshold. Introducing the transfer balance cap, which restricts the amount that can be taken into the retirement phase where earnings are tax-free, has partly restrained growth in earnings tax concessions.

²⁴³ Analysis of (ABS, 2019d; Australian Prudential Regulation Authority, 2020a; ABS, 2020e).

Contributions and earnings tax concessions together were estimated to cost a total of \$41.55 billion in revenue forgone terms in 2018-19 (Chart 4A-6).²⁴⁴ Of this, \$18.3 billion was employer contributions tax concessions (both compulsory and salary sacrifice) and \$22.1 billion was earnings tax concessions. Only \$1.1 billion was personal contributions tax concessions, reflecting that less than 10 per cent of personal contributions are concessional.

The cost of tax concessions peaked in 2007-08 at \$46.6 billion, before declining substantially to \$29.7 billion in 2009-10.²⁴⁵ They were then relatively stable in real terms until around 2015. Since then, they have grown by almost 40 per cent. The same pattern is observed as both a percentage of GDP and the Commonwealth Budget (Chart 4A-7).

Since 2000-01, the cost of superannuation tax concessions has grown faster than the Age Pension as a percentage of GDP. **By 2018-19, the cost of superannuation tax concessions was only 0.25 percentage points less than the cost of the Age Pension as a percentage of GDP.**



Source: Analysis of Tax Expenditures Statement 2004 to 2017 (The Treasury, 2018b), Tax Benchmarks and Variations Statement 2018 to 2019 (The Treasury, 2020), (ABS, 2019d), and data provided by The Treasury for the review.

Superannuation fees

Superannuation fees have been analysed extensively in recent years (Productivity Commission, 2018a; Minifie, et al., 2014; 2015). These studies found fees across the system have trended down as a percentage of assets in recent years but there is scope for further reductions that would improve net returns, particularly among retail funds. The Productivity Commission (2018a) noted that **just 0.5 percentage points extra in fees across a working life can reduce retirement balances by 12 per cent.** The projected impact of lower fees on future retirement incomes is analysed below.

²⁴⁴ Tax concessions are separately estimated and are not strictly additive. A minor overestimation is produced by adding contributions and earnings tax concessions together. This is because no earnings (and subsequently no earnings tax concessions) can be realised on contributions that are not invested in response to a higher contributions tax. However, this is expected to have a minor impact. The entire stock of assets at any one time are invested. The review estimates that trimming the extra tax off the flow of contributions into that stock would see earnings tax concessions fall by only around 0.5 per cent for any given year.

²⁴⁵ The 2007-08 peak was driven by the 2007 Simpler Super package, which, among other things, eliminated tax on most withdrawals in the retirement phase and allowed a one-off \$1 million post-tax voluntary contribution.

Other costs of the retirement income system

A range of other costs are incurred in supporting retirement outcomes. Some of these are not large by themselves (compared to the Age Pension and superannuation tax concessions), but they are numerous and can add up to a substantial cost.

- Government superannuation co-contributions have fallen substantially in real terms, from \$819 million in 2010-11 to \$121 million in 2018-19.²⁴⁶ This is mostly the result of changes in 2011 that: reduced the income threshold; halved the maximum co-contribution a person could receive to \$500 a year; and reduced the co-contribution rate from 100 per cent to 50 per cent of the personal contributions made (The Treasury, 2011).
- The system has several tax concessions targeted at lower-income earners, including the low income superannuation tax offset, the low income spouse contribution offset and the tax-free status of Government co-contributions. The estimated cost of these concessions is aggregated but the low income superannuation tax offset is by far the largest. The aggregate cost of all these tax concessions has been relatively stable in real terms at around \$200 million a year since 2011-12.²⁴⁷
- The seniors and pensioners tax offset reduces the tax paid for eligible seniors and pensioners. Since 2012-13, the cost of this tax concession has been relatively steady in real terms at around \$800 million a year.²⁴⁸ Seniors and pensioners tax offset recipients also benefit from a higher Medicare Levy threshold, although the cost of this is not separately reported. The distribution of these benefits is covered in 3A. *Income and wealth distribution*.
- Since 2005, people aged over 65 have received a more generous private health insurance rebate than others. The Grattan Institute estimated the cost of this at \$250 million in 2015-16 (Daley, et al., 2016, p. 34).

Social transfers in kind

Government provision of social transfers in kind improves retirement outcomes by decreasing retirees' effective living costs (see 2A. *Achieving a minimum standard of living in retirement*). This may not be well understood in the community (see 5A. *Cohesion*). Social transfers in kind reduce or fully cover the costs people would be required to pay to access a range of essential services, such as health and aged care. Some social transfers in kind are universal and some are targeted to people and cohorts based on eligibility criteria (often based on a means assessment). Social transfers in kind are provided by all levels of government in Australia.

The most comprehensive valuation of in-kind support currently available is social transfers in kind compiled by the ABS. Social transfers in kind includes non-monetary transfers in the form of education, health, social security and welfare, housing and electricity (ABS, 2018c).²⁴⁹ The measure attributes the value of these transfers on a per household basis.

The value of social transfers in kind attributed to all households has increased in real terms, as has the share attributed to households where the reference person was aged 65 and older (Chart 4A-8). In 2003-04, almost \$27 billion of social transfer in kind expenditure was attributable to households aged 65 and over compared with \$55 billion in 2015-16, representing growth in real terms of

²⁴⁶ Note: Values are in 2018-19 dollars, inflated by CPI. Source: Analysis of (ATO, 2020a).

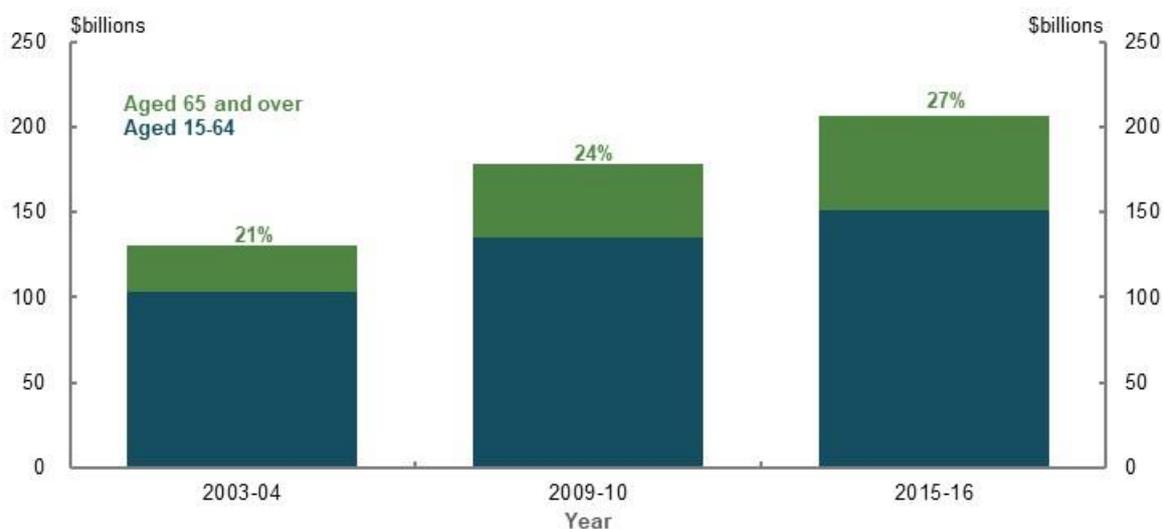
²⁴⁷ Note: Values are in 2018-19 dollars, inflated by CPI. Source: Tax Expenditures Statement 2004 to 2017 (The Treasury, 2018b); Tax Benchmarks and Variations Statement 2018 to 2019 (The Treasury, 2020).

²⁴⁸ Note: Values are in 2018-19 dollars, inflated by CPI. Source: Tax Expenditures Statement 2004 to 2017 (The Treasury, 2018b); Tax Benchmarks and Variations Statement 2018 to 2019 (The Treasury, 2020).

²⁴⁹ Education includes school and tertiary, and other education benefits. Health includes acute care institutions, community health services, pharmaceuticals, private health insurance rebate and other health benefits. Social security and welfare includes childcare assistance and other social security benefits. Excludes all cash transfers.

106 per cent. Social transfers in kind attributed to households aged 65 and over as a percentage of GDP has increased from 2.3 per cent in 2003-04 to 3.3 per cent in 2015-16. This is higher than the cost of the Age Pension as a percentage of GDP.

Chart 4A-8 Social transfers in kind



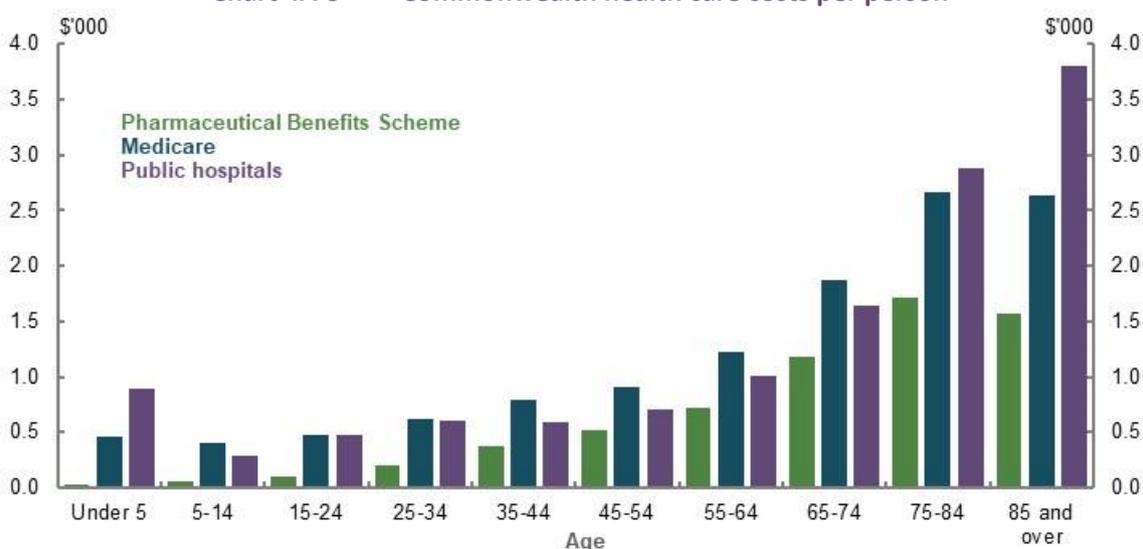
Note: Values are in 2015-16 dollars, inflated by CPI. Source: Analysis of Government Benefits, Taxes and Household Income 2003-04 to 2015-16 (ABS, 2018c).

Health and aged care comprise the largest social transfers in kind attributed to people aged 65 and over by the Commonwealth Government.

Health transfers

At the Commonwealth level, most health transfers are Medicare, the Pharmaceutical Benefits Scheme and public hospitals (Parliamentary Budget Office, 2019a). Demand for and therefore expenditure on these three health services increase as people age (Chart 4A-9).

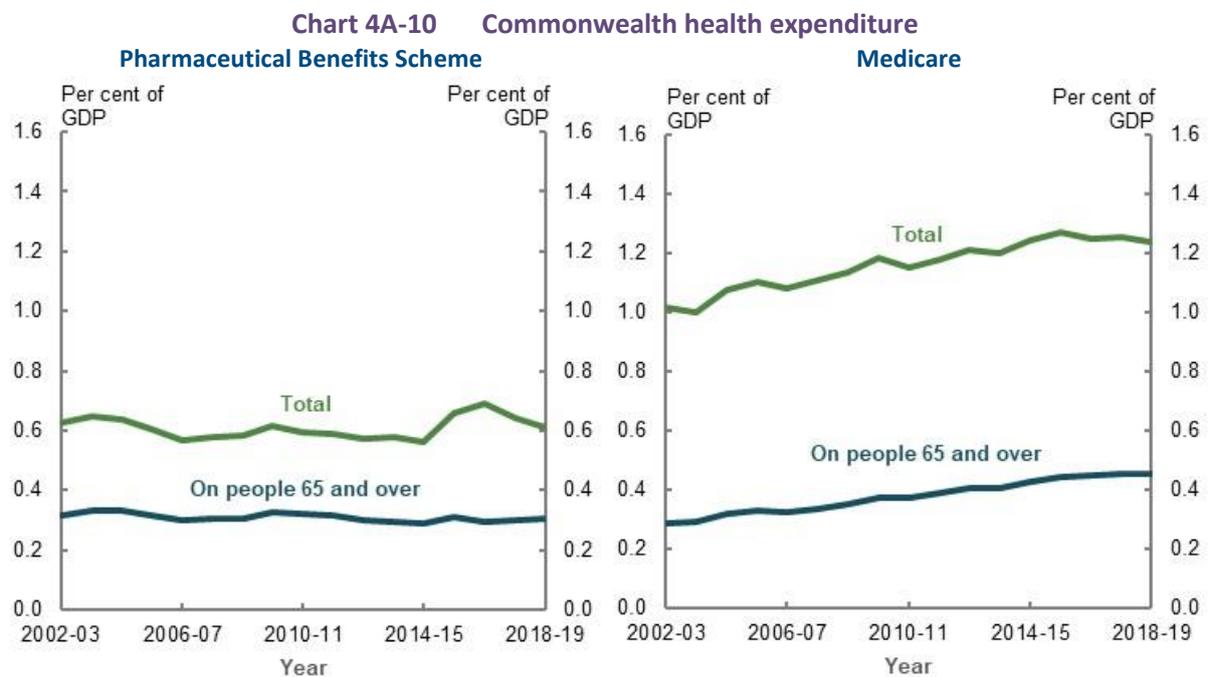
Chart 4A-9 Commonwealth health care costs per person



Note: 2017-18 Source: (Parliamentary Budget Office, 2019a).

Government expenditure on the Pharmaceutical Benefits Scheme for older Australians has remained relatively stable as a percentage of GDP (Chart 4A-10). People aged 65 and over account for around

50 per cent of Pharmaceutical Benefits Scheme spending,²⁵⁰ receiving more prescriptions and a greater subsidy per script (Department of Health, 2013, p. 43). Growth in the Pharmaceutical Benefits Scheme has been fairly muted over the past two decades as a result of successive reforms that reduced the price to Government of Pharmaceutical Benefits Scheme medicines (Department of Health and Ageing, 2010).



Note: The increase in total Pharmaceutical Benefits Scheme expenditure in 2015-16 and 2016-17 is due to the listing of treatments for hepatitis C on the Pharmaceutical Benefits Scheme from 1 March 2016. Source: Analysis of (Department of Health, 2019b); data provided by the Department of Health; and data provided by The Treasury for the review.

Government expenditure on Medicare has increased for Australians aged 65 and over. The share of expenditure attributed to people aged 65 and over grew from 28 per cent in 2002-03 to 37 per cent in 2018-19 (Department of Health, 2019b). Growth in Medicare spending has been suppressed since 2013, when the indexation of various listings to the Medicare Benefits Schedule was paused. Indexation recommenced in 2019.

Research suggests health costs are primarily driven by technological improvements, such as developing new treatments, rather than the ageing population (Parliamentary Budget Office, 2019a). Higher national incomes are also associated with increased health spending (Parliamentary Budget Office, 2019a). Wealthier countries show a preference for more or higher-quality health care. The extent to which these factors drive Commonwealth health spending partially depends on Government policy, such as decisions to add new listings to the Pharmaceutical Benefits Scheme or Medicare.

Aged care

Aged care is the largest social transfer in kind attributed to older Australians, at a cost of \$20.1 billion in 2018-19, and a projected cost of \$25.4 billion by 2022-23 (Productivity Commission, 2020b, p. 14.3; Aged Care Financing Authority, 2019). Government expenditure has increased by an average of 4.7 per cent a year since 2012-13 (Chart 4A-11). Aged care expenditure has increased as a percentage of GDP from 0.8 per cent in 2009-10 to 1.1 per cent in 2018-19.

²⁵⁰ Analysis of data provided by the Department of Health for the review, 2002-03 to 2018-19.

Chart 4A-11 Government expenditure on aged care services



Note: Values are in 2018-19 dollars, inflated by CPI. Source: Analysis of (Productivity Commission, 2020b) and data provided by The Treasury for the review.

Most of the cost associated with aged care comes from residential care, which accounted for around 65 per cent of total expenditure in 2018-19 (Department of Health, 2019a). Most home care consumers and a large proportion of residential aged care consumers are full-rate Age Pension recipients (Tune, 2017), which reduces the amount they are required to contribute to the cost of their care (Box 4A-3), (see Box 5A-6 in 5A. *Cohesion* for more information about aged care means testing).

Box 4A-3 Aged care and the retirement income system

The aged care system is not part of the retirement income system, but the two systems interact. Aged care basic daily fees are determined by the rate of Age Pension (set at 17.5 per cent of the single rate of the Age Pension for home care and 85 per cent for residential care).

Many people find it challenging to estimate and plan for the cost of their aged care (Aged Care Financing Authority, 2018). The actual costs can vary significantly depending on the type of and length of time spent in care. People also find it difficult to estimate their likelihood of requiring care or how means testing may apply to them.

As outlined in *Appendix 6A. Detailed modelling methods and assumptions*, health and aged care costs do not significantly increase during retirement. Consumer costs of aged care are relatively low overall under current funding arrangements. Fees for home care and residential care are means tested. The majority of people pay only a small fraction of the total cost of the care they receive (see Box 5A-6 in 5A. *Cohesion* for full details of aged care means testing).

For people who pay the basic daily fee for **home care** (83 per cent in 2018-19), the average fee is \$73 per week or \$3,813 per year. Fewer than half of home care providers charge the maximum allowable daily fee. Only 11 per cent of home care consumers pay income-tested care fees, averaging an additional \$70 per week or \$3,675 per year. The Government contributes between 72 per cent and 93 per cent of the cost of a home care package, depending on the level of care the person needs. In total, **the Government covers more than 90 per cent of the cost of all home care provided.**²⁵¹

At age 65, the lifetime risk of admission to **residential care** is 39 per cent for men and 53 per cent for women. Lifetime risk is generally increasing because more people are surviving to an age (beyond 80) where they may need high-level care. Since peaking around 2011-13 (at 40 per cent for men and 55 per cent for women),

²⁵¹ Analysis of data provided by the Department of Health for the review.

lifetime risk has declined slightly.²⁵² This is likely due to the increased preference for and availability of home care, rather than a reduction in overall care needs.

More than one-third of people exit residential care within 12 months, but the average length of stay is around three years (Aged Care Financing Authority, 2019).

All residential aged care consumers pay the basic daily fee set at 85 per cent of the single rate of Age Pension (\$19,071.25 per year at 1 May 2020). Around half of residents pay some or all of their accommodation costs (Aged Care Financing Authority, 2019). One-third of residents also pay means-tested care fees. In 2018-19, the average weekly means-tested fee was \$173 (around \$9,000 per year). Overall, **the Government covers up to 81 per cent of the costs of care in a residential setting**, depending on the level of care needed.²⁵³

Table 4A-1 Residential aged care subsidies and supplements

Level of assistance needed	Category or area of assistance		
	Activities of daily living (\$)	Behaviour (\$)	Complex health care (\$)
Nil	Nil	Nil	Nil
Low	13,753.20	3,142.65	6,099.15
Medium	29,948.25	6,515.25	17,377.65
High	41,489.55	13,581.65	25,090.10

Note: Daily Aged Care Funding Instrument subsidy rates as at 1 May 2020. These figures have been annualised and do not include temporary additional daily amounts. Consumer assistance needs are assessed against each category, with the total Government contribution calculated accordingly. For example, the Government contribution for a consumer needing high-level assistance with activities of daily living and behaviour, but without complex health care needs, would be \$55,071.20 (\$41,489.55 + \$13,581.65 + \$0). Source: (Department of Health, 2020b).

Concession cards

Concession cards provide the basis for other forms of social transfers in kind governments provide. Concession cards are not directly linked to the retirement income system but serve a broader purpose of subsidising the living costs of lower-income earners.

Most Australians of Age Pension eligibility age (81 per cent)²⁵⁴ are eligible for a concession card, either as supplementary assistance to the Age Pension or by meeting an income test.²⁵⁵ The three types of card (Pensioner Concession Card, Commonwealth Seniors Health Card and Health Care Card) all provide similar benefits at the federal level. State and territory and local governments provide most concessions to Pensioner Concession Card and Health Care Card holders. This is because the cards are directly linked to social security payments and holders have to meet more stringent means test requirements.

Estimating the value of social transfers in kind from concession cards at a state and territory level is challenging as each government independently determines the types of concessions offered, who can access them and how benefits are reported. As a result, the concessions vary by state and territory. For example, Victoria offers a 50 per cent reduction on council rates while Tasmania offers 30 per cent (Victorian Government, 2020; Tasmanian Government, 2017). Given these differences, historical and future costs of social transfers in kind to concession-card holders have not been estimated or projected.

²⁵² Analysis of data provided by the Department of Health for the review.

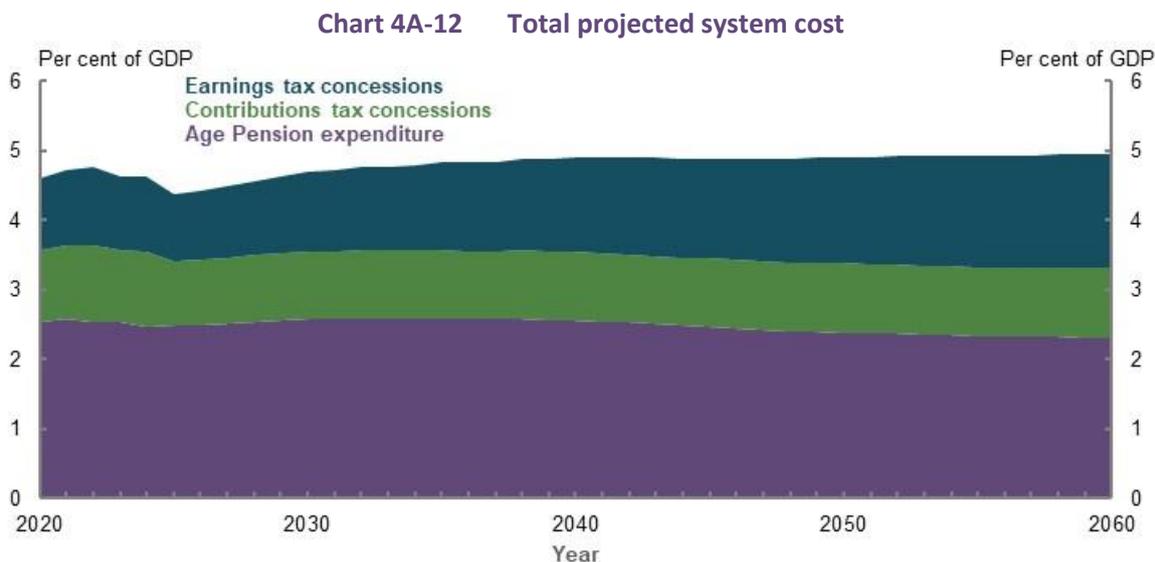
²⁵³ Analysis of data provided by the Department of Health for the review.

²⁵⁴ As at June 2019, using ABS population projections for people over Age Pension eligibility age. Includes Department of Veterans' Affairs.

²⁵⁵ People over Age Pension eligibility age who are not eligible for the Age Pension but do meet an income test may be eligible for a Commonwealth Seniors Health Card.

Projected future costs

The total projected cost of Age Pension expenditure and superannuation tax concessions together is estimated to grow from 4.6 per cent of GDP today to 5 per cent by 2060. With Age Pension expenditure falling and contributions tax expenditure stable as a percentage of GDP, the overall increase is projected to be due to growth in earnings tax concessions (Chart 4A-12). By 2047, the cost of superannuation tax concessions is projected to be greater than the cost of the Age Pension as a percentage of GDP.



Note: Includes service pensioners. The tax concessions time series is presented to illustrate the general trend. The cost of tax concessions is estimated independently each year (i.e. there is no dynamic impact of the removal of concessions over time). Earnings tax concessions includes the concessional taxation of superannuation earnings and capital gains tax discount for superannuation funds (broadly C1 and C4 in the Tax Benchmarks and Variations Statement). Contributions tax concessions includes the concessional taxation of employer and personal contributions (broadly C2 and C3 in the Tax Benchmarks and Variations Statement). Projections in MARIA broadly follow the methodology of the Tax Benchmarks and Variations Statement but have been calculated on an additive basis. The value of superannuation tax concessions is estimated by adding contributions and earnings to taxable income in two stages and applying the progressive income tax rates at each stage. The value of the earnings tax concession is the difference between the total value of concessions and value of contributions tax concessions. Personal income tax thresholds are also indexed for movements in wages beyond the medium-term period. Source: Treasury estimates for the review using MARIA.

The projections in this chapter are long term and do not take into account the potential short-term effects of the COVID-19 Pandemic. Box 4A-4 offers an illustration of how a large, but short-term, shock to superannuation might impact the retirement income system in the long term using Treasury's MARIA.

Box 4A-4 The long-run impact of a large short-term shock to the retirement income system

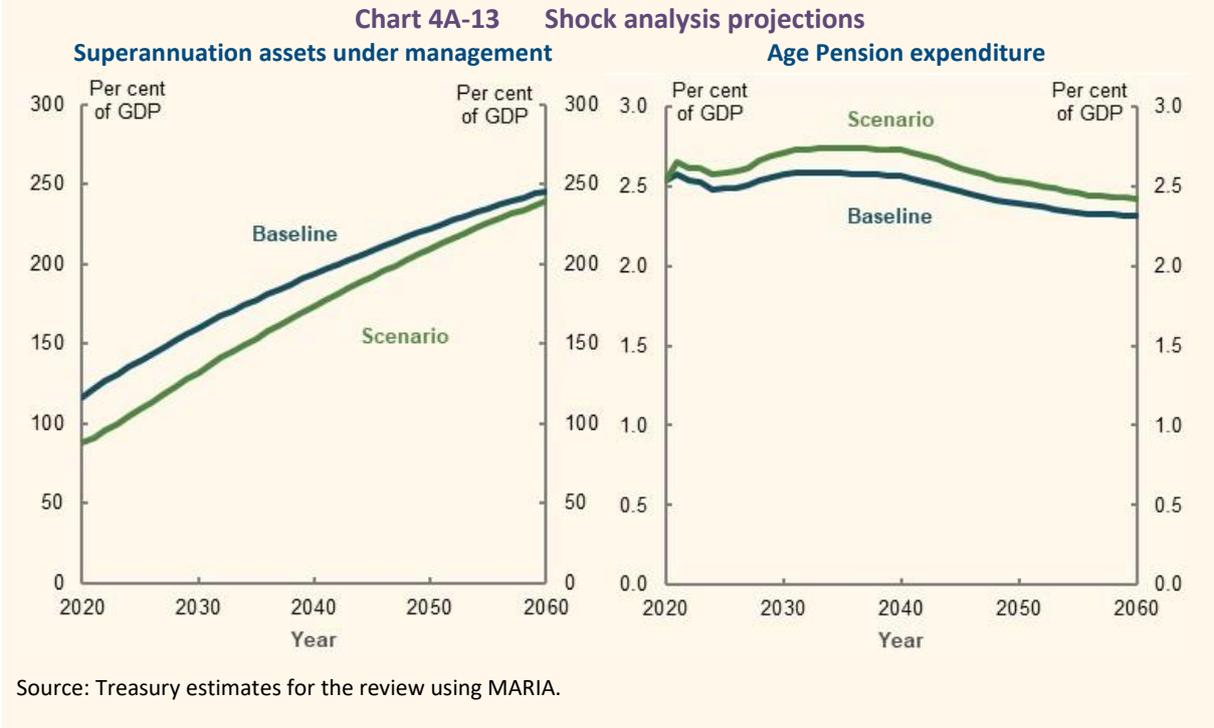
The models used in this review to understand long-term trends in the retirement income system are based on historical data and the economic outlook for Australia at the time of the 2019-20 Mid-Year Economic and Fiscal Outlook.

The review examined the impact of a large short-term shock to superannuation assets. **The shock is not projecting the impact of the COVID-19 Pandemic**, which remains uncertain, but provides a stylised path of a short-run shock on the system over the long term. The shock includes a:

- 20 per cent reduction in superannuation balances in 2020
- 50 per cent reduction in superannuation fund earnings in 2020 and 2021

- 90 per cent reduction in voluntary pre- and post-tax contributions to superannuation in 2020

Broadly, the scenario sees superannuation funds under management fall sharply, eventually leading to higher Age Pension expenditure as a percentage of GDP than the baseline (Chart 4A-13). By 2036, the gap in projected Age Pension expenditure is highest, at under 0.2 per cent of GDP. As superannuation assets converge back to the baseline path, the gap in Age Pension expenditure falls.

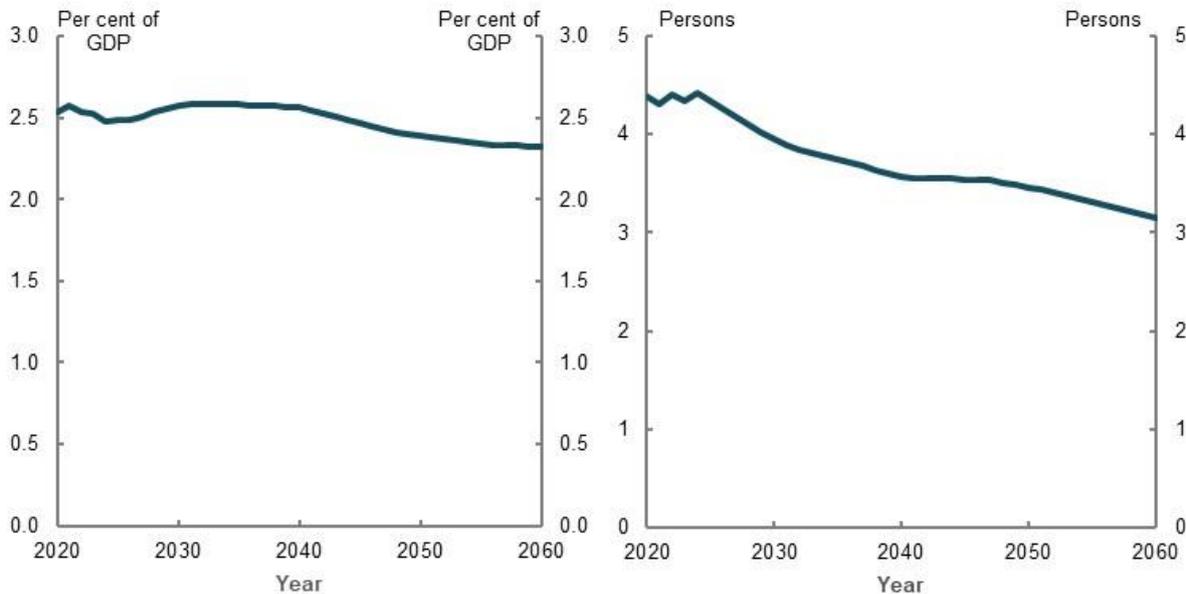


Age Pension

Age Pension expenditure as a percentage of GDP is expected to fall moderately over the next 40 years, from 2.5 per cent today to 2.3 per cent in 2060 (Chart 4A-14).²⁵⁶ This is despite the population over Age Pension eligibility age being expected to grow faster than the working-age population, leading to fewer working-age people for each person of Age Pension eligibility age.

²⁵⁶ Analysis of Age Pension expenditure in this section includes service pensioners.

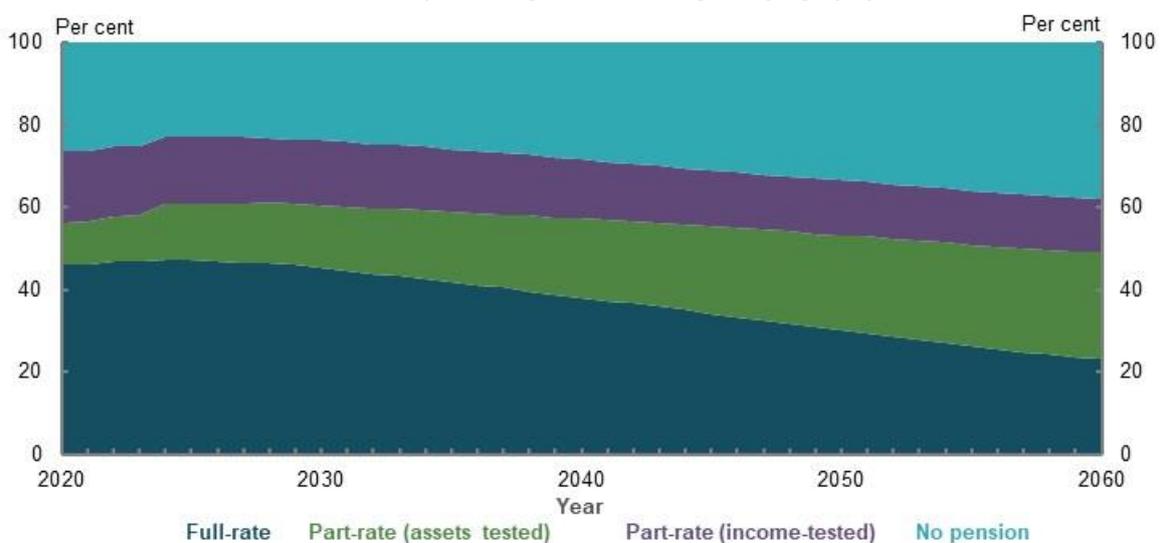
Chart 4A-14 Age Pension projections
Age Pension expenditure **Working-age persons to persons of Age Pension eligibility age**



Note: Includes service pensioners. The volatility in the early years of the projection is mostly due to the legislated future increases to the Age Pension eligibility age. 'Working-age' refers to all persons aged 15 and over but under the Age Pension eligibility age. Source: Treasury estimates for the review using MARIA; population projections provided by the Centre for Population, The Treasury as at December 2019.

The fall in the cost of the Age Pension as a percentage of GDP is primarily driven by the maturing of the superannuation system and the effect of means testing. **The share of the Age Pension age population receiving a pension (Age Pension, service, carer and disability pensions) is projected to fall from 73.5 per cent in 2020 to 62 per cent in 2060 (Chart 4A-15).**²⁵⁷ Within this, the combination of the maturing superannuation system and the design of the means tests leads to a projected shift towards part-rate age pensioners: from an estimated 37.6 per cent of age pensioners today, to 62.5 per cent of age pensioners in 2060.

Chart 4A-15 Projected Age Pension eligibility age population



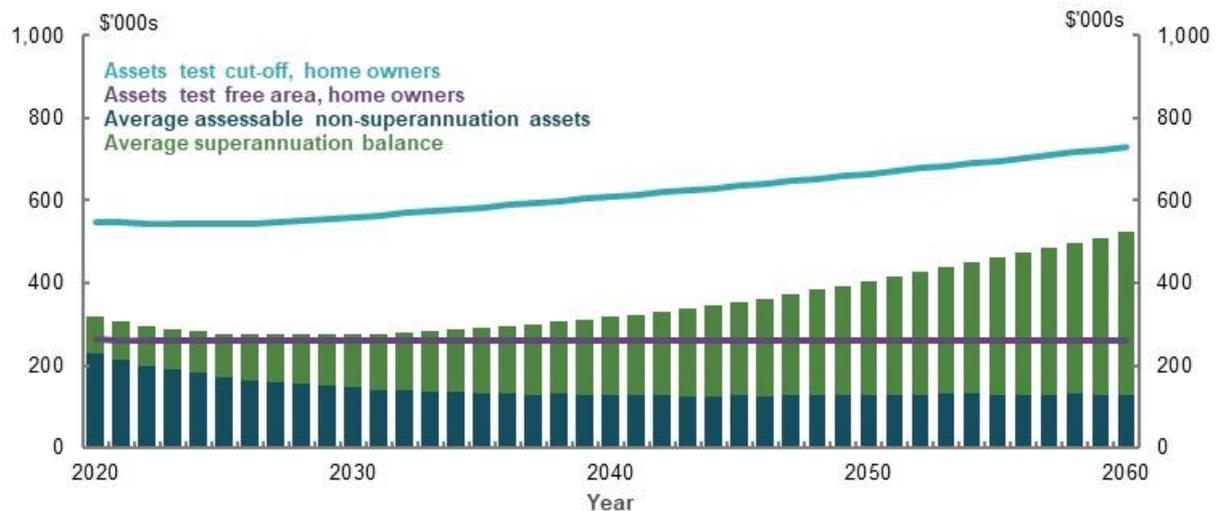
Note: Includes service, carer and disability pensioners. Source: Treasury estimates for the review using MARIA.

²⁵⁷ The estimate of 74 per cent has not been re-benchmarked to either recent actuals or the 2019-20 MYEFO forward estimates.

In future, increasing numbers of part-rate age pensioners are projected to have their payment determined by the assets test rather than the income test. In 2020, an estimated 37.3 per cent of part-rate age pensioners were asset tested. By 2060, this is projected to rise to 66.7 per cent.

These changes will be supported by growth in superannuation balances. Over the next 40 years, the average superannuation balance for a single person is projected to grow at a compound annual average real rate of 3.8 per cent a year. This outstrips projected growth in the singles means-test free areas (which increase in line with the CPI) and cut-offs (that increase faster than CPI because of growth in the maximum rate of the Age Pension²⁵⁸) (Chart 4A-16).

Chart 4A-16 Projected assets and Age Pension means test thresholds, single retirees



Note: Values are in 2019-20 dollars, deflated by the CPI. The single, home owner assets test parameters are chosen for illustrative purposes. Similar trends would be evident using other configurations (e.g. couple, non-home owner income test). 'Assessable' non-superannuation assets refers to non-superannuation assets that are assessable in the Age Pension assets test. Source: Treasury estimates for the review using MARIA.

Means testing and higher superannuation balances play an important role in reducing reliance on, and therefore the cost of, the Age Pension. If the composition of Age Pension recipients in 2060 remained the same as in 2020 (46 per cent full-rate age pensioners and 28 per cent part-rate age pensioners), Age Pension spending would be projected to be 3.6 per cent of GDP in 2060, instead of 2.3 per cent.²⁵⁹

Superannuation tax concessions

As the superannuation system grows, the cost of contributions tax concessions as a percentage of GDP is projected to remain stable, while earnings tax concessions as a percentage of GDP are projected to grow (Chart 4A-17).

Broadly, the future cost of contributions tax concessions is a function of wage growth, contributions rates and population growth. Concessional contributions caps and the additional contributions tax

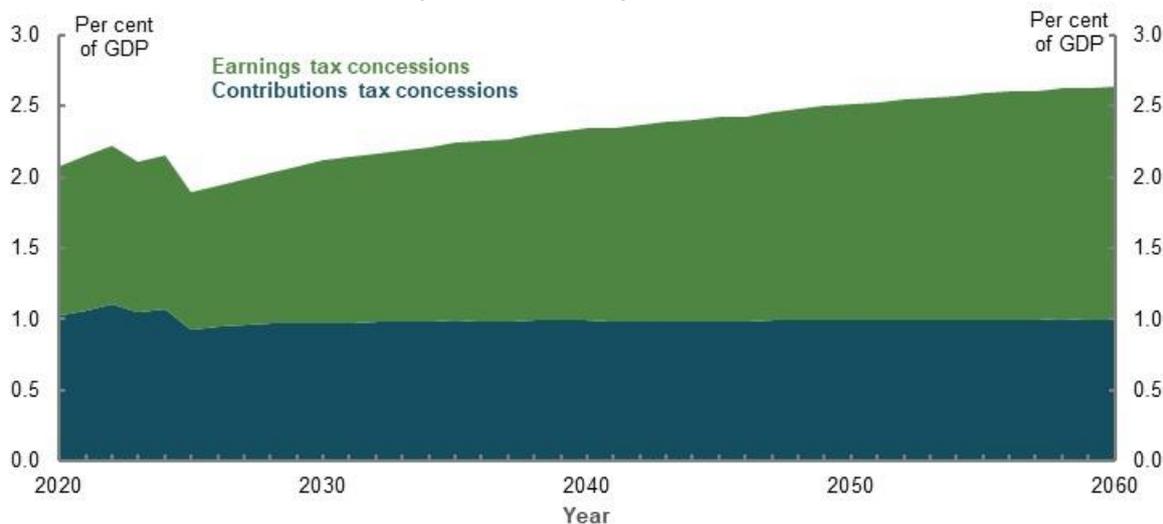
²⁵⁸ As the maximum rate goes up, there is more payment to 'taper through' before the cut-off is reached. To illustrate, the single home owner assets test cut off is projected to grow at an average annual real rate of 0.7 per cent, compared to the free area, which is indexed to CPI and therefore does not grow in real terms. This means the tapered area widens over time, helping to explain why the share of part-rate pensioners is projected to increase.

²⁵⁹ This estimate implicitly assumes no changes in home ownership and couples status rates for the Age Pension eligibility age population.

paid by the top 1.8 per cent of people in employment (in the form of Division 293 tax), help to contain contributions tax concessions.

The cost of earnings tax concessions is a function of the growth in the size of the superannuation system and the projected rate of return. Both of these inputs exceed projected GDP growth. Therefore, earnings tax concessions are projected to grow as a percentage of GDP. In particular, the cost of the earnings tax exemption in the retirement phase is likely to grow as the superannuation system matures.

Chart 4A-17 Projected cost of superannuation tax concessions



Note: The tax concessions time series is presented to illustrate the general trend. The cost of tax concessions is estimated independently each year (i.e. there is no dynamic impact of the removal of concessions over time). Earnings tax concessions includes the concessional taxation of superannuation earnings and capital gains tax discount for superannuation funds (broadly C1 and C4 in the Tax Benchmarks and Variations Statement). Contributions tax concessions includes the concessional taxation of employer and personal contributions (broadly C2 and C3 in the Tax Benchmarks and Variations Statement). Projections in MARIA broadly follow the methodology of the Tax Benchmarks and Variations Statement but have been calculated on an additive basis. The value of superannuation tax concessions is estimated by adding contributions and earnings to taxable income in two stages and applying the progressive income tax rates at each stage. The value of the earnings tax concession is the difference between the total value of concessions and value of contributions tax concessions. Personal income tax thresholds are also indexed for movements in wages beyond the medium-term period. Source: Treasury estimates for the review using MARIA.

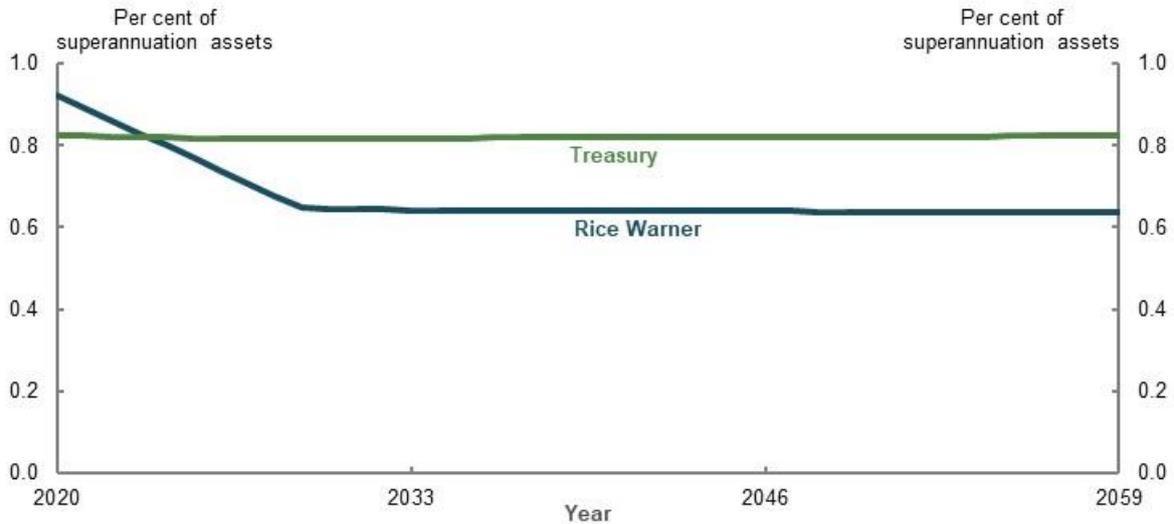
Superannuation fees

Accurately projecting trends in superannuation fees is challenging. On balance, future decreases in fees as a per cent of assets are likely as the industry consolidates and the regulatory environment shifts. Anticipating this outcome, industry projections from Rice Warner suggest fees could fall by as much as 0.3 per cent of assets over the coming decade (Chart 4A-18). Such a fall would represent an acceleration relative to historical trends. The Productivity Commission (2018a) found that, over the decade to 2017, fees as a share of assets fell by only around 0.2 per cent of assets.

The Productivity Commission (2018a) also noted that current fee levels are unnecessarily high and that there is scope for further reductions without compromising members' outcomes. If fee levels do not fall, total fee revenue as a percentage of GDP is projected to double to be around 2 per cent by 2060.²⁶⁰

²⁶⁰ Treasury estimates for the review using MARIA.

Chart 4A-18 Projected superannuation fees



Note: Values are in 2019-20 dollars, deflated using CPI. Source: Treasury estimates for the review using MARIA; Analysis of Rice Warner estimates for the review.

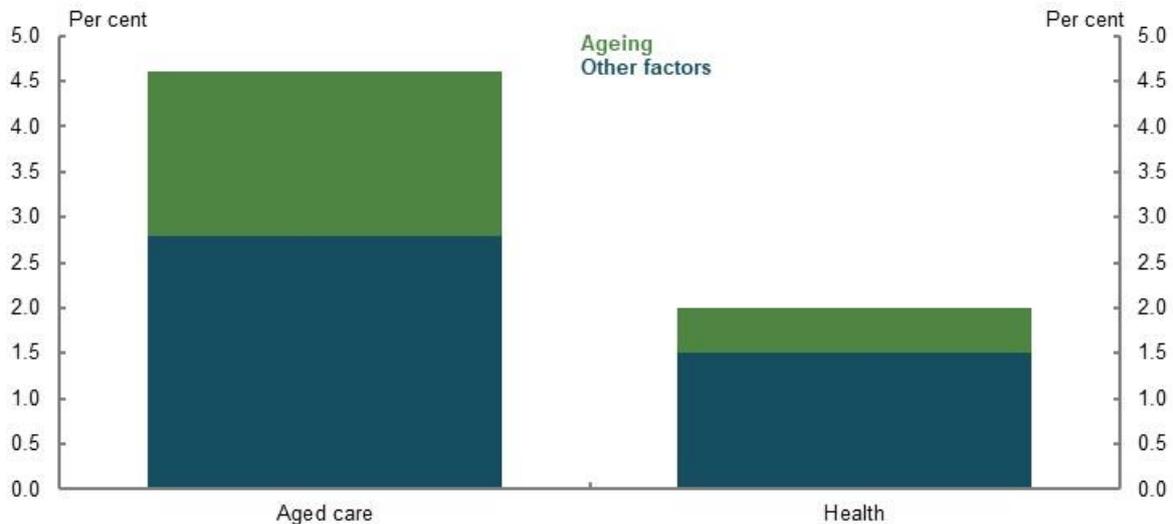
Social transfers in kind

Projections of social transfers in kind have not been undertaken. However, medium-term projections of health and aged care costs under current policy settings are regularly prepared by the Parliamentary Budget Office (PBO). The latest PBO expenditure projections from 2018-19 to 2029-30 indicate that: Pharmaceutical Benefits Scheme expenditure will decline by 0.2 per cent as a proportion of GDP; and Medicare and aged care spending will increase by 0.1 per cent and 0.2 per cent of GDP, respectively.

Aged care expenditure is particularly at risk of increasing faster than GDP as it is more sensitive to the impact of ageing than health care. Over the decade to June 2029, population ageing is projected to increase annual average growth in aged care spending by around 1.8 percentage points, compared with 0.5 percentage points for health (Chart 4A-19).

The effect of ageing on aged care expenditure is projected to peak as the baby boomer generation reach their 80s, from 2030 (Parliamentary Budget Office, 2019a, p. 15).

Chart 4A-19 Projected average annual real growth in aged care spending



Note: Medium-term projections for the period June 2019 to June 2029. Source: (Parliamentary Budget Office, 2019a).

Stakeholders expressed concerns about the sustainability of the aged care system. This concern is raised directly in the recent *Legislated Review of Aged Care 2017* (the Tune Review) stating:

‘Currently, the government provides around three-quarters of all aged care funding, with consumers meeting less than a quarter of the cost. This is likely to be unsustainable into the future and there is a strong case to increase the proportion of the costs that are met by consumers.’ (Tune, 2017, p. 8)

The Aged Care Funding Authority (ACFA) (2019) has also identified some challenges with the sustainability of the aged care system from a funding perspective, including the need for equitable contributions to costs by consumers.

The shift in consumer preferences from residential care to home care, which costs the Government less than residential care, is expected to help improve the affordability of the aged care system for taxpayers (Parliamentary Budget Office, 2019a, p. 16; Aged Care Financing Authority, 2019). The *Royal Commission into Aged Care Quality and Safety* is currently considering aged care costs. The final report of the Royal Commission is due to be released on 12 November 2020.

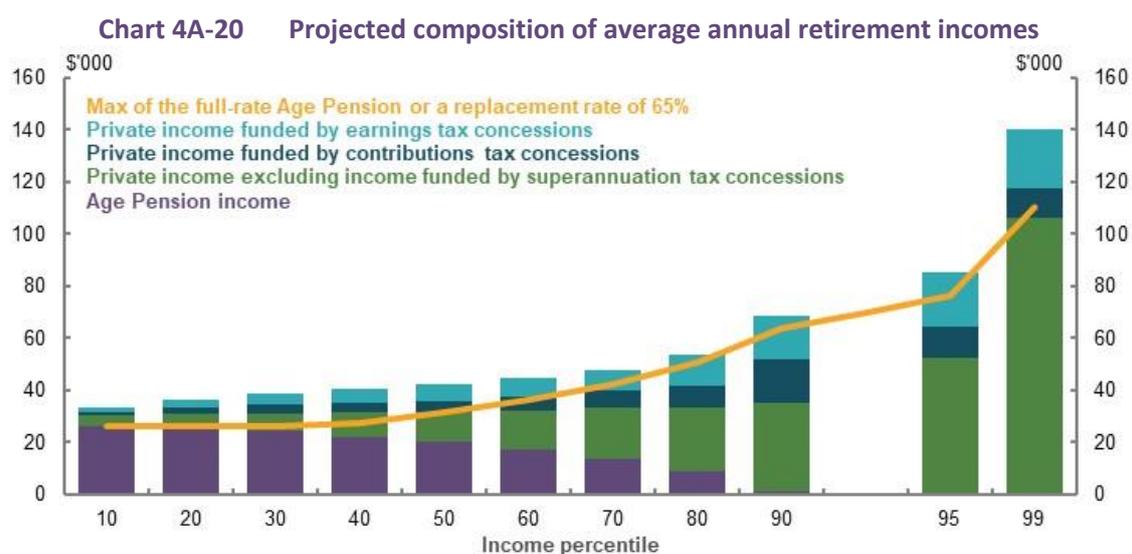
Cost-effectiveness

The cost-effectiveness of the retirement income system is best assessed by the efficiency with which Government support produces adequate retirement outcomes. The Age Pension and superannuation tax concessions make up most of the monetary support in the retirement income system.

Age Pension support is based on a person’s means in retirement. Superannuation tax concessions increase with income, contributions during working life and investment earnings.

The Age Pension delivers or supports adequate retirement incomes for the bottom two-thirds to three-quarters of income distribution (see 2C. *Maintaining standards of living in retirement*).

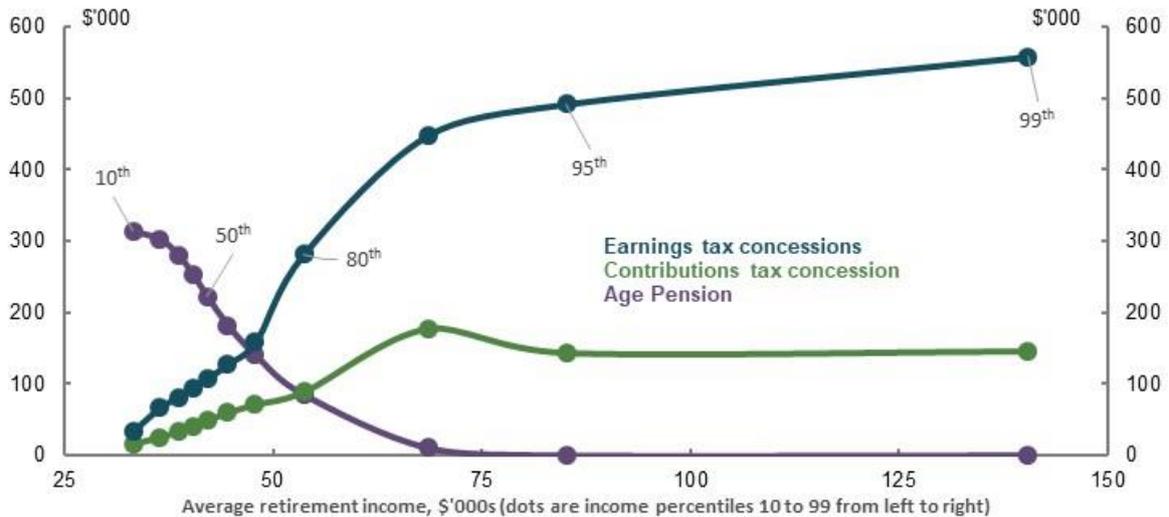
Superannuation tax concessions contribute to adequate replacement rates for the top 50 per cent of households in terms of the income distribution (Chart 4A-20). However, superannuation tax concessions have the most significant impact on the retirement incomes of the top 10 per cent of the income distribution, as earnings tax concessions grow strongly. As noted in *Appendix 6A. Detailed modelling methods and assumptions*, stakeholders agree that higher-income earners can maintain their standard of living with lower replacement rates.



Note: Incomes are deflated in line with the review’s mixed deflator. See *Appendix 6A. Detailed modelling methods and assumptions*. Private income includes superannuation and non-superannuation savings. The ‘private income funded by tax concessions’ components are estimated by projecting retirement incomes with contributions and earnings taxed at marginal rates separately. Source: Cameo modelling undertaken for the review.

People with higher retirement incomes receive the most tax concessions over a lifetime (Chart 4A-21). Controls on contributions tax concessions result in lifetime support flattening as retirement incomes increase. Earnings tax concessions continue to increase as average retirement incomes increase, particularly from the 70th to 95th percentiles. These projections do not include post-tax voluntary contributions. If included, they would further increase the lifetime earnings tax concessions support provided to the upper percentiles, as they are most likely to make post-tax voluntary contributions (see 3A. *Income and wealth distribution*).

Chart 4A-21 Projected average annual retirement incomes and lifetime Government support



Note: Y-axis values (lifetime Government support) are deflated to 2019-20 dollars using with the review's GDP deflator. X-axis values (average retirement incomes) are deflated using the review's mixed deflator. See Appendix 6A. *Detailed modelling methods and assumptions*. Source: Cameo modelling undertaken for the review.

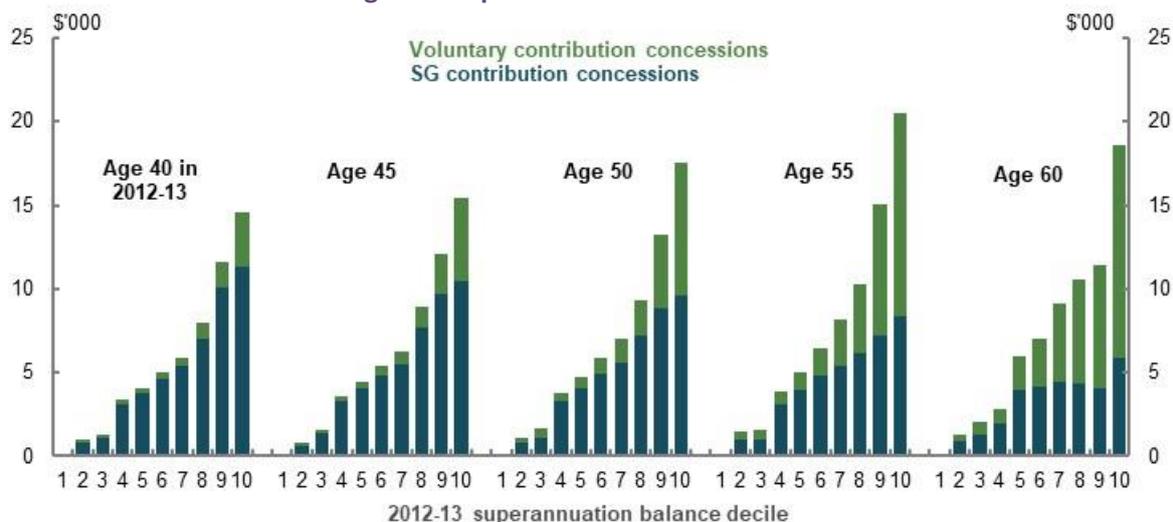
Aside from providing adequate retirement incomes, three other rationales for tax concessions have been proposed:

1. **As an incentive for additional savings.** As outlined in 5A. *Cohesion*, the evidence suggests tax concessions are of limited effectiveness in increasing people's overall savings. Instead, they appear to encourage people to *reallocate* existing savings, or savings they would have made in any case, into superannuation.
2. **As compensation for preservation.** Tax concessions are poorly targeted as compensation for preservation. Contributions tax concessions are received disproportionately by people with higher balances, who are either close to or above the preservation age, rather than those furthest away (Chart 4A-22). These people typically make large voluntary contributions. Total superannuation contributions increase with income and age up until retirement, with the size of increases jumping most noticeably after age 50 (see 3A. *Income and wealth distribution*).

The result is that contributions tax concessions are accessed most by older people with higher balances as they approach retirement. From 2012-13 to 2016-17, a typical 55-year-old (59 in 2016-17) with a balance in the top decile, received more than \$20,000 in contribution concessions in real terms (with more than half coming from voluntary contributions). By 2016-17, this individual's balance was around \$1.1 million.

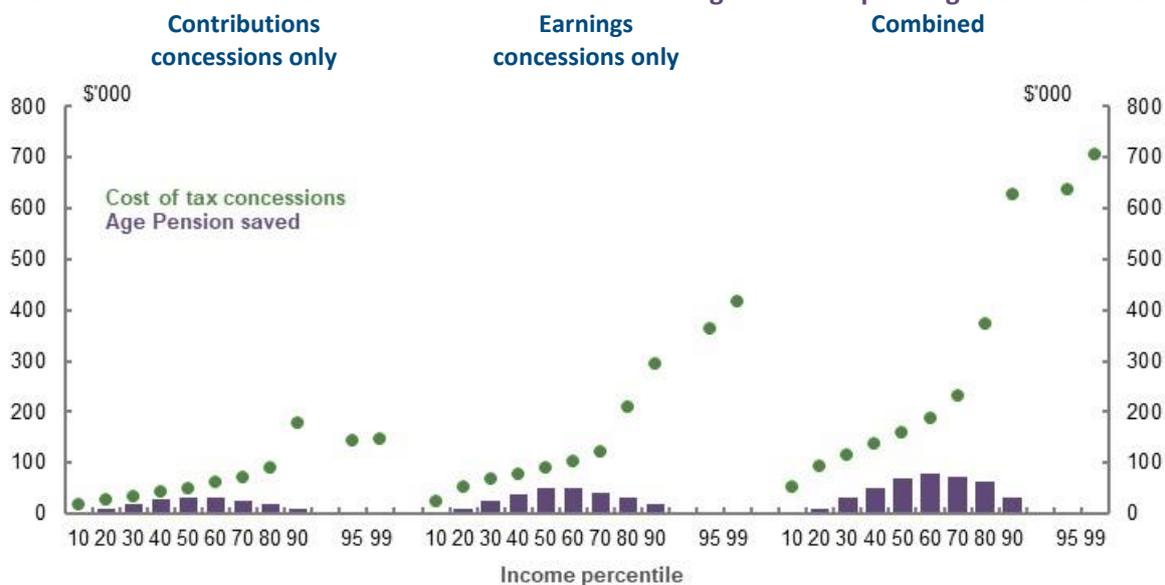
3. **To reduce Age Pension spending.** The cost of tax concession support over a lifetime is projected to outweigh the associated Age Pension savings (Chart 4A-23). This is true for either of the contributions and earnings tax concessions alone, and both together. This result does not alter even assuming salary sacrifice contributions are redirected to consumption in the absence of tax concessions.

Chart 4A-22 Cumulative superannuation contribution concessions over five years, averages by age and superannuation balance decile



Note: Values are the average cumulative concessions for the period 2012-13 to 2016-17 and are presented in 2016-17 dollars, inflated by CPI. The review estimates concessions as the estimated increase in tax if contributions were all made from post-tax income. Cumulative refers to the total concessions received across the five years under observation. Tax settings in both scenarios are tailored to the year under observation. Data are from before the 2016-17 reforms; however, the highest average annual concessional contribution for a cohort observed in the data is below the revised \$25,000 cap. The changes to the contributions caps are unlikely to have affected the trends in voluntary contributions. Source: Longitudinal data provided by the ATO for the review.

Chart 4A-23 The interaction of tax concessions and Age Pension spending over a lifetime



Note: Values are in 2019-20 dollars, deflated using the review's GDP deflator. See Appendix 6A. Detailed modelling methods and assumptions. Source: Cameo modelling undertaken for the review.

Potential effects of changing trends

The system's sustainability is affected by changes in trends. Three scenarios were modelled against the baseline to estimate the effect on Government expenditure, the Age Pension population and individual retirement outcomes:

- **Lower earnings.** A 1 percentage point reduction in investment returns across all asset classes.²⁶¹
- **Lower wages.** A 1 percentage point reduction in nominal wages growth.
- **Lower fees.** A faster (than that modelled above) reduction in annual superannuation fees charged.

These scenarios are partial and do not account for flow-on effects that would likely occur in the wider economy. For example, lower returns are likely to be accompanied by lower GDP growth.

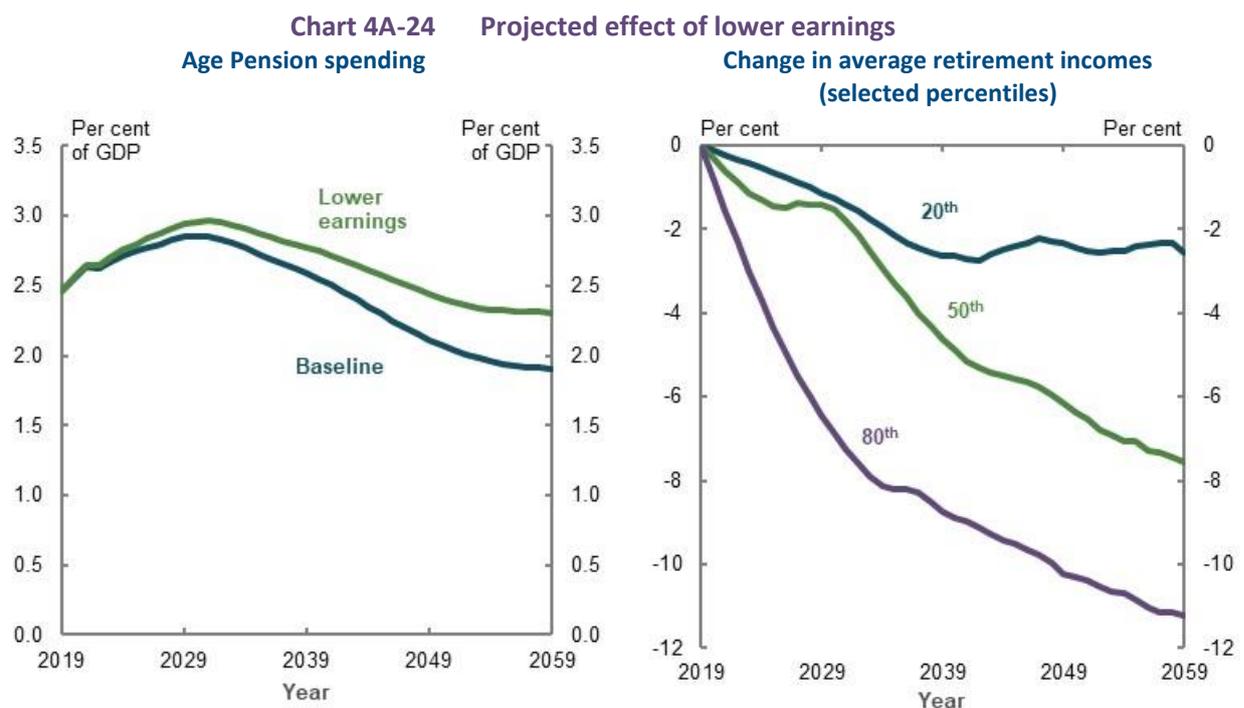
Broader macroeconomic relationships have not been modelled. The results presented are designed to provide insight into the first-order effects of alternative assumptions.²⁶²

More detail and results from these scenarios can be found in *Annex — scenario analysis*.

Lower earnings

The lower earnings scenario assumes superannuation earnings are one percentage point lower across all asset classes than assumed in the baseline.

Lower earnings are projected to lead to lower superannuation balances and therefore higher Age Pension expenditure. While higher Age Pension payments partially offset the impact of lower superannuation balances for lower and median percentiles,²⁶³ average retirement incomes fall across the population (Chart 4A-24).



Source: Analysis of Rice Warner estimates for the review.

²⁶¹ For example, where Australian shares were previously assumed to return 7.9 per cent per year, they are now assumed to return 6.9 per cent per year.

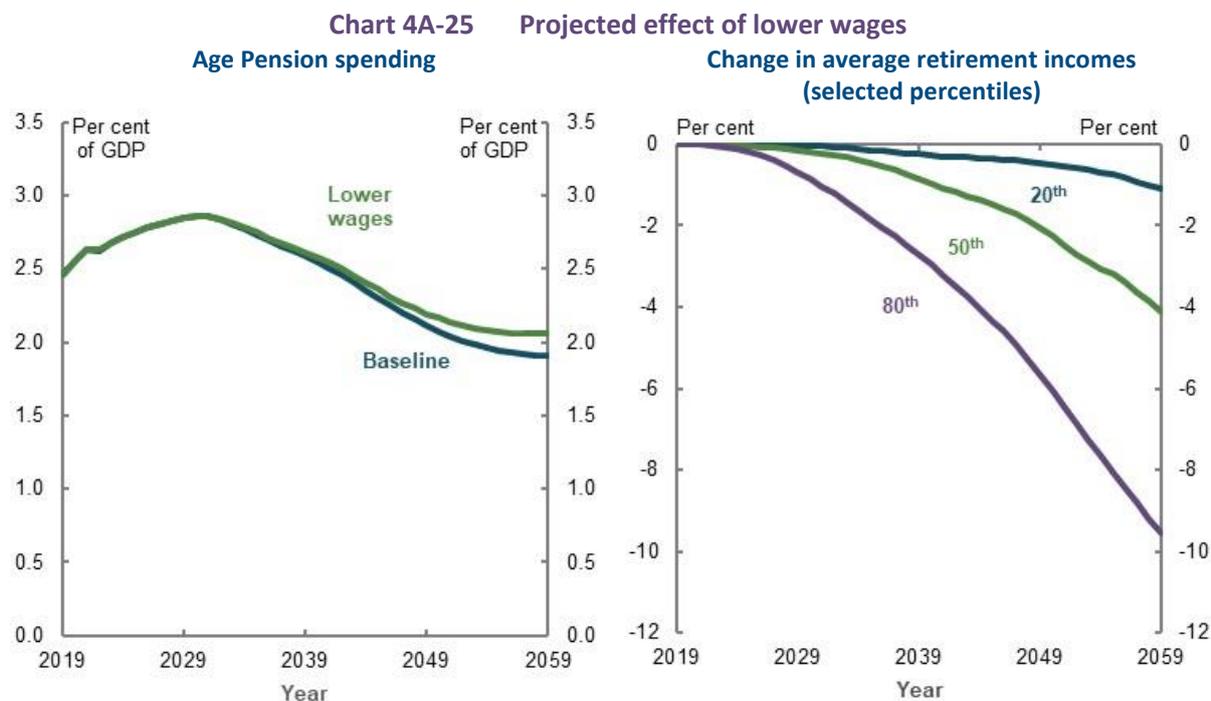
²⁶² In particular, the partial nature of these scenarios makes them ill-suited to projecting the effects of alternative trends on tax concessions. Tax concessions estimates are dependent on a correctly estimated tax benchmark, which is linked to broader economic conditions.

²⁶³ Percentiles are calculated as a composite of income and wealth. See *Appendix 6A. Detailed modelling methods and assumptions*.

Lower wages growth

This scenario assesses the impact of wages growing at 2.5 per cent, instead of the baseline assumption of 3.5 per cent.

As with lower earnings, lower wages are projected to lead to lower superannuation balances, higher Age Pension expenditure and lower retirement incomes (Chart 4A-25). However, the impact of lower wages is more gradual than that of lower earnings, as lower wages lead to lower contributions, which take time to feed through to retirement outcomes.



Source: Analysis of Rice Warner estimates for the review.

In this scenario, the growth in Age Pension expenditure is partially offset by the fact the lower wages assumption also affects the Age Pension indexation. With lower wages growth, growth in the maximum payment rate of Age Pension is also subdued.

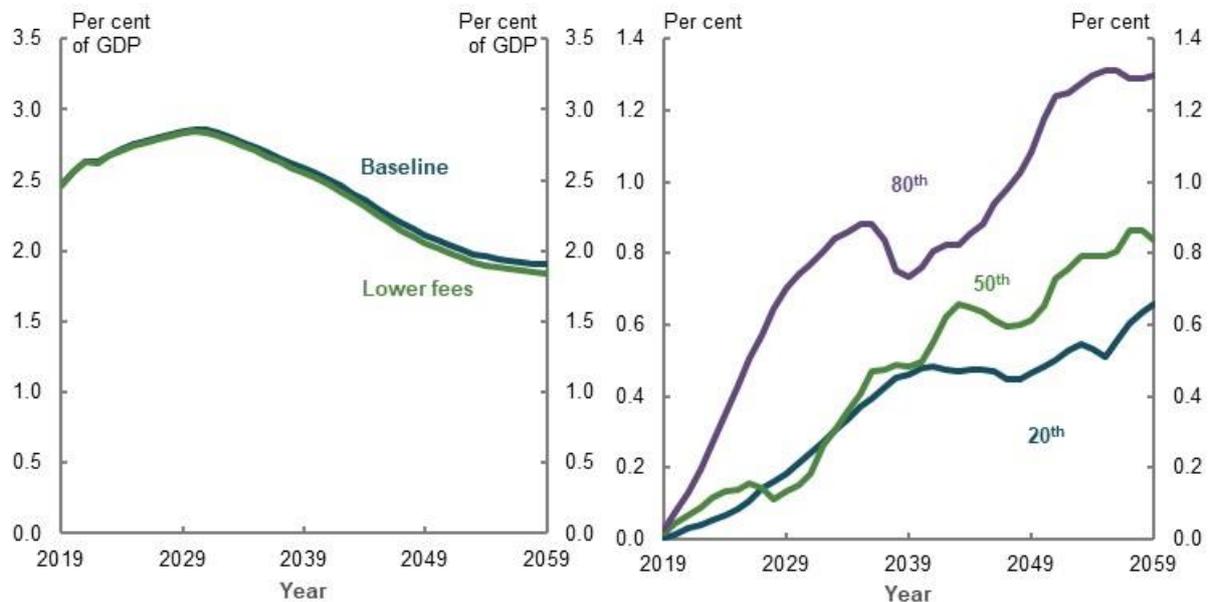
More broadly, lower wages do not materially impact replacement rates, given lower wages decrease living standards across both working life and retirement.

Lower fees

This scenario considers a situation where both fixed and percentage of asset-based fees are reduced to the lowest fees of a particular sector (industry, retail and corporate), reflecting faster than expected consolidation and stronger competition within each sector. In aggregate, this leads to fees reducing to 0.53 per cent of system assets by 2059, rather than 0.64 per cent in the baseline.

Lower fees are projected to slightly reduce Age Pension expenditure as a percentage of GDP and improve retirement incomes across the population (Chart 4A-26). The effect of lower fees on overall retirement incomes is smaller than the effect on balances at retirement (the latter detailed by the Productivity Commission (2018a)). This is because the latter does not account for the offsetting impact of the Age Pension.

Chart 4A-26 Projected effect of lower fees
Age Pension spending **Change in average retirement incomes (selected percentiles)**



Source: Analysis of Rice Warner estimates for the review.

Public confidence

The public has to have confidence in the retirement income system for it to be sustainable. Public confidence is shaped by people’s beliefs about whether the system will both deliver an adequate retirement income for them and generate adequate outcomes across society.

Public confidence can be undermined by poor system integrity or by people experiencing, expecting or perceiving poor outcomes or uncertainty in policy settings. A lack of public confidence that policy settings are delivering on expectations could lead to public demands for reform.

System integrity

Concerns about the integrity of the retirement income system can undermine public confidence. Integrity and governance failures identified over the past decade include ‘fees for no service’, misconduct by superannuation trustees and non-payment of superannuation by employers. Concerns have led to numerous inquiries and investigations, including the *Royal Commission into Misconduct in the Banking, Superannuation and Financial Service Industries* (Hayne Royal Commission).

The Hayne Royal Commission report (2019) and the Productivity Commission report (2018a) also questioned the effectiveness of regulators in protecting superannuation members from harm. The Productivity Commission found a lack of transparency around fees and performance.

The period of the Hayne Royal Commission hearings was associated with large flows of funds from retail superannuation funds to industry superannuation funds (Rice Warner, 2018). For example, \$10.9 billion was transferred from retail funds in 2018, up from \$3.5 billion in 2017 (Australian Prudential Regulation Authority, 2019b). This suggests the misconduct aired during the hearings undermined confidence in at least part of the superannuation sector. That said, overall, **most people still trust superannuation**. One survey found around 60 per cent of members trust their superannuation fund to act in their best interests (Qantas Super, 2019). Another survey found most

people still consider superannuation to be a stable investment for their retirement (53 per cent agreed, 17 per cent disagreed) (BETA, Forthcoming).

Stakeholders noted **low public confidence in financial advisers is affecting the retirement income system**.²⁶⁴ A recent ASIC report found 49 per cent of survey respondents had little or no trust in financial advisers and that this was a barrier in seeking advice (ASIC, 2019b).

As discussed in 5A. *Cohesion*, the financial advice industry is undergoing a period of transition. New professional standards are likely to improve the quality of financial advice and, ultimately, consumer trust in that advice. Survey results suggest consumers are aware of some of the reforms to financial advice (ASIC, 2019b, p. 35).

More broadly, the *Government's response to the Hayne Royal Commission 2019* aims to enhance trust in superannuation funds. The recommendations of the Productivity Commission (2018a) aim to improve the efficiency of the system and align the incentives of participants. Successful reforms may reduce the risk of future misconduct and scandals affecting public confidence in the system.

Economic shocks

The retirement income system is exposed to financial markets through superannuation investments. Although superannuation is a long-term investment, **economic shocks can still undermine public confidence and affect people's retirement outcomes** (see 2C. *Maintaining standards of living in retirement*), particularly for those close to or in retirement.

The GFC provides a case study of how an economic shock can affect confidence. For many people, the GFC was the first time they experienced a significant fall in their superannuation balance, having grown accustomed to balances only increasing. Many did not realise their superannuation was invested in financial markets (Colmar Brunton Social Research, 2010). Many who had planned to retire around this time may have delayed their retirement plans (Kendig, et al., 2013).

Initial behavioural responses to the GFC were relatively small and short term. Few superannuation members switched their investments to reduce exposure to market volatility during and directly after the GFC (ASFA, 2010, p. 4; Gerrans, 2012). While some people paused and stopped making voluntary contributions to superannuation as a result of the GFC (Colmar Brunton Social Research, 2010, p. 110), aggregate voluntary contributions continued to generally trend up afterwards.

Since the GFC, research has shown some pre-retirees are more wary and distrustful of superannuation because it exposes them to market volatility (Souvlis, et al., 2016, p. 28).

2C. *Maintaining standards of living in retirement* provides more detail on the effect of market volatility and sequencing risk on retirement incomes. A BETA (Forthcoming) survey, undertaken as the effects of the COVID-19 Pandemic were beginning to emerge, found two-thirds of respondents were concerned about how financial markets will affect their superannuation. Survey responses may change as the effect of the COVID-19 Pandemic develops. Retirees generally have greater retirement worries about financial markets falling than those not yet retired.²⁶⁵

Research undertaken after the GFC found people see property as an alternative, 'safe' investment compared with superannuation (Colmar Brunton Social Research, 2010; Melbourne Business School, 2019). It is not clear whether the GFC influenced these views. Surveys have also found retirees exposed to the GFC say they were more concerned about a future market collapse and were more conservative with their retirement income strategies (National Seniors and Challenger, 2018).

Superannuation members who switched to a more conservative investment strategy during the GFC were generally older and held higher balances, and were more likely to be women (Gerrans,

²⁶⁴ (COTA, 2020; Australian Institute of Superannuation Trustees, 2020; Super Consumers Australia, 2020).

²⁶⁵ Investment Trends October 2019 Retirement Income Report.

2012). SMSF members, who tend to be older, were more likely to switch to more conservative investment strategies and therefore crystallise losses, than members in default funds (Colmar Brunton Social Research, 2010, p. 9). This switching is likely to have been detrimental. Subsequent research found members who moved from balanced investment strategies to conservative investment strategies were more likely to have lower balances than those who remained in balanced investment strategies 10 years later (SuperRatings, 2018). One fund found most people who switched to more conservative investment strategies during the GFC did not switch back (First State Super, 2019).

In response to the GFC, the Government lowered superannuation minimum drawdown rates and Age Pension deeming rates, which allowed retirees to avoid using their capital and, for those on an income-tested part-rate Age Pension, increased their public income. Similar measures were undertaken in response to the COVID-19 Pandemic. By demonstrating the Government was responsive to retirees' concerns, these measures may have improved retirees' confidence that the system would continue to provide income into the future. However, such measures likely discouraged current consumption of retirement assets at a time when retirees could have benefited from this consumption (see 5A. *Cohesion*). It may take some time to assess the effect of the Government response during the COVID-19 Pandemic on public confidence in the retirement income system.

Box 4A-5 The COVID-19 Pandemic and public confidence

The full effect of the COVID-19 Pandemic on public confidence in the retirement income system remains to be seen. Many superannuation funds have reported spikes in member engagement, including members switching to more conservative investment strategies (Sunsuper, 2020; First State Super, 2020a). Reports note members switching around 1.5 per cent of funds held under management into more conservative investments, such as cash, since the beginning of the market volatility related to the pandemic (Chong, 2020; Mather, 2020). Some funds have noted members who have not received financial advice are more likely to switch to more conservative investment strategies. As discussed in 2C. *Maintaining standards of living in retirement*, forthcoming research by First State Super indicates that rates of investment switching in response to the COVID-19 Pandemic were more than four times higher among largely unadvised First State Super retirees, compared with retirees advised through the StatePlus financial planning practice. The role of advice and guidance in improving retirement outcomes is expanded in 5A. *Cohesion*.

In response, funds have increased their levels of member engagement, reminding members that:

- Superannuation is a long-term investment
- It is not a good time to switch to cash investments
- It is difficult to successfully time a switch to cash and a switch back to riskier investments

Funds note that people should seek advice before changing their investment strategies.

Policy changes

Elements of the retirement income system have been reviewed extensively over the past decade by the:

- 2009 Harmer Review
- 2009 Cooper Review
- 2010 Henry Review
- 2014 Financial System Inquiry
- 2016-17 Superannuation Budget Reform Package started by the 2016 Tax White Paper

- *2018 Productivity Commission Inquiry Report: Superannuation: Assessing Efficiency and Competitiveness*

All of these reports recommended, and many resulted in, significant policy reforms.

Many submissions noted, and consumer surveys have consistently found, people are concerned that retirement income policy changes too much (BETA, Forthcoming).²⁶⁶ In one survey: 28 per cent of people over the age of 40 who were not retired were worried about changes to the Age Pension; and 26 per cent were worried about changes to superannuation rules.²⁶⁷ Some previous Government reviews have also raised the concern that frequent changes to policy and inconsistent policies undermine public confidence in the system (Financial System Inquiry, 2014; Super System Review, 2010).

Older people are particularly concerned about policy changes as they have less time to respond before their retirement (Souvlis, et al., 2016; Melbourne Business School, 2019), especially if changes are not grandfathered. Among those who have already retired, surveys show concern about changes to the Age Pension has increased over the past five years. Concern about changes to superannuation has slightly decreased.²⁶⁸

Policy reform can undermine public confidence even when it improves outcomes. For example, a CHOICE consumer focus group found people were anxious about the 2016-17 Budget Superannuation Reform Package (Super Consumers Australia, 2020, p. 5). This was despite the package aiming to improve sustainability and confidence in the system by reducing the extent to which superannuation could be used for non-retirement income purposes (The Treasury, 2016a). Treasury modelling indicated the combination of measures in the package would adversely affect only 4 per cent of superannuation fund members, while benefiting more than 20 per cent (The Treasury, 2016a).

People can lose confidence in the system because they misunderstand how reforms will affect them. People are more sensitive to losses than gains (Kahneman & Tversky, 1979). Those adversely affected by policy changes may be more vocal than those who benefit from changes. People who have benefited from policy reform may not be aware they were beneficiaries, partly due to the complexity of the system. For example, the 2016-17 Budget Superannuation Reform Package contained more than 11 measures that affected different cohorts of people in different ways but people may not have understood the changes. **People may be more confident if there is better or more targeted communication about the effects of policy reform.**

Stakeholders noted the industry may be contributing to community concerns around reforms by attributing new fees or increases in existing fees to Government reforms when they disclose the fees to consumers (Super Consumers Australia, 2020, pp. 23-24). While policy changes can undermine public confidence, a lack of change can inhibit effective and practical reform.

Uncertainty over the future of the Age Pension

Many people are uncertain about the future of the Age Pension. Surveys suggest that less than half of all respondents (48 per cent) and only 37 per cent of people aged under 55 agreed the Age Pension will exist when they reach retirement (BETA, Forthcoming). The same survey found only 39 per cent of people agreed the Age Pension will maintain a similar value when they reach retirement. For those aged under 55, this number was 28 per cent.

One focus group found consensus for the idea that the Government intended to ‘wean’ people off the Age Pension by increasing eligibility requirements (Melbourne Business School, 2019, p. 37).

²⁶⁶ Investment Trends October 2019 Retirement Income Report

²⁶⁷ Investment Trends October 2019 Retirement Income Report

²⁶⁸ Investment Trends October 2019 Retirement Income Report.

Other qualitative research has found people have a deep-seated fear the Age Pension will no longer exist when they retire and their private savings will be insufficient to make up the difference (Colmar Brunton Social Research, 2010, pp. 6,7,35,96).

Some of the concerns around the future of the Age Pension may stem from the 2003 and 2007 Intergenerational Reports, which found Age and Service Pension payments were expected to rise substantially as a percentage of GDP as the population ages (Commonwealth of Australia, 2002; 2007). More recent modelling, including for the 2015 *Intergenerational Report* (Commonwealth of Australia, 2015) and for this review, projected the cost of the Age Pension as a percentage of GDP to decline over the next 40 years.

While the Age Pension has broad public support (McCallum & Rees, 2018) (Table 4A-2), concerns around the future of the Age Pension may stem from different views as to its role as either a:

- Safety net or poverty relief for those who do not have enough private savings
- or
- Primary form of income support for most retirees

Some stakeholders supported a universal (not means tested) Age Pension to better enable people to plan for their retirement (Davis, 2020; Mercer, 2020; Murray, 2020), or because they believe the original intent of the Age Pension was to provide universal support (Australian Pensioner Voice, 2020). Some stakeholders cited historical policy statements by lawmakers as reasons for this view (Your Life Choices, 2020). The National Welfare Fund, which operated from the 1940s until the 1980s, may also have contributed to this belief. Its associated Social Services Contribution may have been perceived by some older Australians as pre-funding their Age Pension entitlement. In fact, receiving the Age Pension has always been contingent on meeting eligibility and means test criteria. Entitlement has never been based on contributions.

Others considered the role of superannuation is to reduce or replace the Age Pension. Some stakeholders argued the system should be designed to reduce reliance on the Age Pension (Business Council of Australia, 2020). Other submissions suggested people have a more dignified retirement when they are self-sufficient and not relying on the Age Pension (AMP, 2020, p. 7), and that the system should encourage people to be self-reliant (Self-managed Independent Superannuation Funds Association, 2020, p. 26).

These different views about the role of the Age Pension, in addition to concerns about its future costs, may be contributing to concerns about its future.

Table 4A-2 Views on who should be eligible for the Age Pension

Eligibility criteria	Per cent in agreement
Full payment for all, irrespective of other income	15.4
At least part payment for all, irrespective of other income	49.5
Only paid to those without other income	28.4
Nobody should receive the Age Pension	2.8
Don't know	3.9

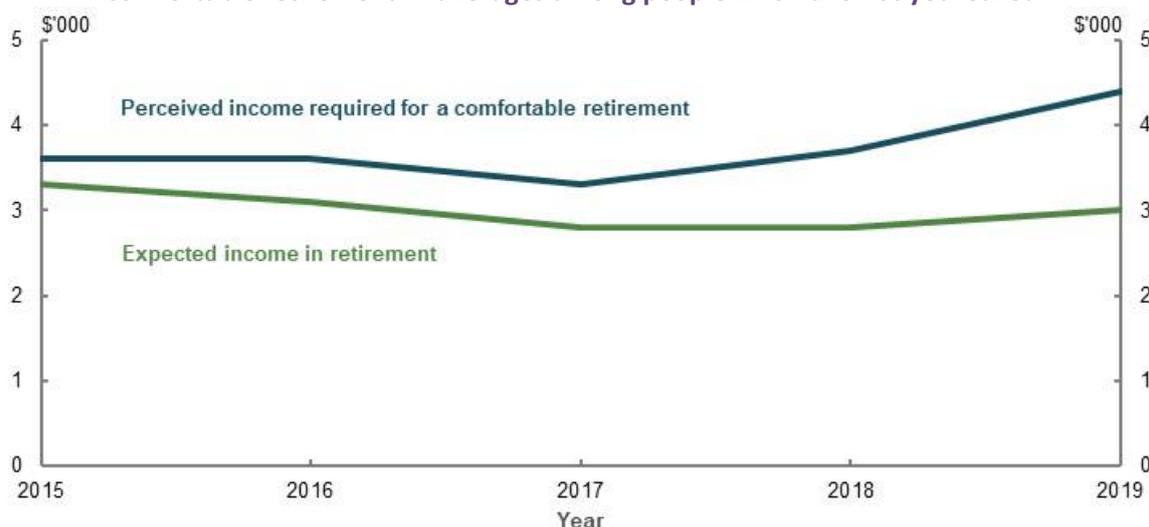
Source: (Bray & Gray, 2016, p. 18).

Expectations and realities of retirement outcomes

Whether people have confidence the retirement income system will produce adequate outcomes depends on their expectations of retirement needs and their confidence in the system to deliver them.

Large numbers of pre-retirees fear they are not saving enough to last through their retirement (Daley, et al., 2018b).²⁶⁹ How much income people expect to have in retirement is significantly less than how much they think they would like or need (Chart 4A-27). One survey found just over half (52 per cent) of respondents think they will reach their retirement aims (BETA, Forthcoming). Similarly, people do not have confidence in the current regulatory settings. Another survey found only 31 per cent of people agreed they were confident in Government regulations for retirement, and 47 per cent disagreed (Ghafoori, et al., 2017).

Chart 4A-27 Expected monthly retirement income and perceived income required for a comfortable retirement — averages among people who have not yet retired



Source: Investment Trends October 2019 Retirement Income Report.

Fear of not having enough savings for a comfortable retirement may be exacerbated by industry and media estimates of what constitutes an adequate superannuation balance (Super Consumers Australia, 2020, p. 3).

People who actively prepare for their retirement feel more confident about their expected retirement incomes (Bray & Gray, 2016).²⁷⁰ The same is true of people who access financial advice, as discussed in 5A. *Cohesion*. This suggests if access to advice improves, confidence is also likely to improve.

Compared to people who have not yet retired, retirees are generally less worried about having enough income to meet ongoing costs in retirement. But many are concerned about running out of funds before they die (see 5A. *Cohesion*).²⁷¹ Pre-retirees and retirees appear to have very different ideas about what is needed to achieve a comfortable lifestyle in retirement. One survey found pre-retiree respondents believed the average SG rate they would need for a comfortable retirement was 12.1 per cent. In contrast, retirees thought it was 10.8 per cent.²⁷² This suggests that until they retire, people lack confidence that the system will deliver the level of income in retirement they are seeking. Overall, **better community understanding of the system is needed.**

Loss of public confidence from perceptions of unfairness

International evidence shows the public will make political demands when confidence in the retirement income system falls far enough. Events in other nations, such as the following two recent

²⁶⁹ Investment Trends October 2019 Retirement Income Report.

²⁷⁰ Investment Trends October 2019 Retirement Income Report.

²⁷¹ Investment Trends October 2019 Retirement Income Report.

²⁷² Investment Trends October 2019 Retirement Income Report.

international examples, demonstrate what can happen if the public loses confidence in a retirement income system's ability to deliver fair outcomes.

Chile

In 2019, Chile experienced rioting and mass protests over several issues, including adequacy and equity within the existing retirement system (Bloomberg, 2019).

Chile's retirement income system is largely privately provided through a mandatory defined contribution scheme managed by a for-profit funds management industry. It also includes supplementary employer-sponsored schemes and a small means-tested social assistance pillar (Mercer, 2019b, p. 26). Chileans expected to receive 70 per cent replacement rates of their final salary if they contributed 10 per cent of their income throughout their working lives (The Economist, 2019). While Chile's system is considered fiscally sustainable (Table 4A-3) (Mercer, 2019b, p. 26), it delivers low replacement rates (37 to 45 per cent) (OECD, 2019b). Up to one-third of Chile's population are in irregular employment (Financial Times, 2019), meaning they are often not covered by the scheme, or may not make regular payments into the scheme.

In 2020, in response to protestors' concerns, the Chilean Government proposed a range of reforms to improve adequacy and equity. These included increasing the defined contribution rate paid during employment and increasing current and future public pension payments (Reuters, 2020).

France

The French retirement income system may not be fiscally sustainable (Mercer, 2019b, p. 29). France's system includes an earnings-based public pension, and mandatory and voluntary occupational pension plans. It is regarded as generous in terms of replacement rates (OECD, 2019b, p. 147; Mercer, 2019b).

Attempts by the French Government to improve its fiscal sustainability have resulted in mass protests (The Economist, 2019). The French Government is proposing reform to create a simplified pension system that encourages a longer contribution period. Protestors claim the plan undermines the economic security of women and self-employed people, as well as existing benefits and rights (France24, 2019; The Guardian, 2020).

Table 4A-3 Mercer Global Pension Index Scores 2019

Country	Grade	Overall score	Adequacy score	Sustainability score	Integrity score
Australia	B+	75.3	70.3	73.5	85.7
Chile	B	68.7	59.4	71.7	79.2
France	C+	60.2	79.1	41.0	56.8

Source: (Mercer, 2019b, pp. 6-7).

Little robust evidence exists to explain what determines public confidence in, or the political sustainability of, a retirement income system. Nevertheless, these cases are suggestive. In Chile and France, governments faced strong public opposition as a result of widely held beliefs that retirement income systems were failing, or that reforms would fail, to achieve adequate and equitable outcomes. The protests demonstrate how difficult it can be for governments to improve fiscal sustainability if it comes at a perceived cost to the adequacy and equity of outcomes.

The example of Chile shows that a retirement income system based on significant private contributions is not necessarily more politically sustainable than systems with a large public provision of retirement benefits. In the case of Australia, compulsory superannuation was introduced with the intention of making Australia's retirement income system more politically sustainable and giving

people more control over their retirement incomes. At the time, the then Treasurer, Paul Keating, said: '[compulsory superannuation] is the difference between a full, active life and a life governed by budgetary exigencies and the vagaries of politics' (Keating, 1991).

Survey results indicate most people (60 per cent) think the rules of superannuation and the Age Pension change too much. But more people see superannuation as a stable investment for retirement (53 per cent) than believe the Age Pension will still exist when they retire (48 per cent) (BETA, Forthcoming). This suggests that introducing superannuation has made Australia's retirement income system more politically sustainable than might otherwise be the case.

Perceptions of fairness and equity in Australia

Many stakeholders raised concerns about fairness and equity in their submissions on the Australian system. Many of these issues are analysed in 3. *Equity*. At least one stakeholder considered inequitable tax concessions and falling home ownership rates could become a source of intergenerational conflict (National Seniors Australia, 2020, p. 67). Academic literature suggests views of intergenerational inequity are focused towards excessive benefits across life rather than just in retirement (Kendig, et al., 2019). **Although some concerns about system equity may be valid, limited evidence exists to suggest they will undermine the system's political sustainability.**

How reform can be undertaken without undermining public confidence

There is a view that retirement income system reform may be more successful if it is implemented during a crisis, such as an economic shock (Lora & Olivera, 2004). This could be because public confidence in existing policy settings falls to a point where the public is willing to accept reform, or at least to accept that reform is necessary. Many foreign retirement income systems were reformed in response to the GFC and sovereign debt crises (Hassel, et al., 2019).

International literature on pension reform suggests people are more willing to accept changes to the system when: it benefits them as individuals; it is in line with their political beliefs; or they are well-informed about the system (Boeri & Tabellini, 2012; Gouveia, 2017).

Submissions suggested reform could be implemented while maintaining confidence by:

- **Grandfathering existing outcomes** and providing a sufficient transitional period for people to adjust to new settings (National Seniors Australia, 2020, p. 3; Alliance for a Fairer Retirement System, 2020, p. 35; Bunbury Branch of the Association of Independent Retirees, 2020, p. 2)
- **Effectively communicating the benefits of reform.** People are more willing to support reform if its benefits are communicated well (Super Consumers Australia, 2020)
- **Aligning reforms with public attitudes toward equity.** The public is more likely to accept reforms consistent with (perceived) equitable outcomes

Box 4A-6 Impact of changes to certain policy settings on the sustainability of the retirement income system

A significant number of submissions raised policy proposals affecting the sustainability of the retirement income system. The following summary outlines some implications of some of those proposals.

- **Means testing promotes the sustainability of Age Pension spending.** Over time, the SG leads to superannuation balances growing faster than the means test free areas and cut-offs. This will move some people on full-rate pensions to part-rate pensions, and some on part-rate pensions off the Age Pension. Age Pension means testing also makes the system effective at offsetting the consequences of low earnings and lower wages for lower- and middle-income earners. Sustainability of the system will depend on its overall costs and both Age Pension and superannuation tax concessions.
- **Earnings tax concessions increase the cost of the system over time.** While contributions tax concessions are not projected to increase the cost of the system as a proportion of GDP over time, earnings tax concessions are. Earnings tax concessions disproportionately benefit people who are already likely to achieve adequate retirement incomes. SG contributions are the main influence reducing Age Pension expenditure.

Annex — estimating superannuation tax concessions

Treasury publishes estimates of the cost of superannuation tax concessions in the annual Tax Benchmarks and Variations Statement (previously the Tax Expenditures Statement). The Tax Benchmarks and Variations Statement includes estimates for 12 different superannuation tax concessions. Of these, contributions tax concessions (both employer and personal) and earnings tax concessions make up the vast majority of the total cost.

Estimating tax concessions requires considering two issues: what the counterfactual tax benchmark should be and behavioural change.

The tax benchmark

The Tax Benchmarks and Variations Statement uses an income tax benchmark, which means the counterfactual tax treatment of contributions and earnings are the general settings of the personal income tax system.

Some stakeholders argued a better benchmark to use would be an ‘expenditure’ benchmark. An expenditure benchmark compares the revenue actually collected with the revenue that might have been collected had contributions been taxed at personal marginal rates and all earnings been tax-free. This is sometimes called a TEE benchmark, referring to fully taxed contributions (T), but exempted earnings and withdrawals (EE).²⁷³

Broadly speaking, two main arguments were put forward, each subject to challenge:

1. The benchmark selected is inevitably an implicit judgement about what is the ‘best’ alternative tax treatment. A range of influential papers on the optimal taxation of saving — for example, Atkinson and Stiglitz (1976); Chamley (1986); and Judd (1985) — suggest that, under certain conditions, the ‘normal’ (or risk-free) return to savings should not be taxed. Drawing on such analysis, some stakeholders consider the benchmark should reflect such a structure. Some considerations that challenge this approach include:
 - Estimating the cost of tax concessions is about ‘what is’ not ‘what should be’. This means estimating the cost of legislated deviations should be from the norm (whether the norm is ‘optimal’ or not), not deviations from a theoretical optimum.
 - Few superannuation members receive the risk-free level of return. Most receive a ‘supernormal’ return from diversified portfolios of risky assets. The Mirrlees Review (2011) stopped short of proposing a TEE framework for returns from such portfolios (as is superannuation).
 - More generally, not everyone agrees about the theoretical optimum tax treatment. For example, extensive literature surveys by Auerbach (2006), Sorensen (2007), and Diamond and Banks (2009), report a number of findings that a positive tax on the normal return to savings can be part of an optimised tax mix, and a tax rate of zero is only optimal under certain assumptions.
2. A comprehensive income tax benchmark does not represent a politically sustainable option because the public would not accept compelled savings with no concessional tax treatment. However:
 - Political acceptability is not relevant to the relatively narrow task of measuring Government costs. For example, removing the Age Pension would almost certainly be unacceptable to the public, yet the cost of the Age Pension is still measured in its entirety.

²⁷³ A TEE benchmark is conceptually equivalent to an EET benchmark under certain conditions. An expenditure tax benchmark contrasts with current policy, which is best referred to as tTE. The lower-case t referring to concessional taxation; whereas, an upper-case T refers to non-concessional taxation.

Behavioural change

Another issue in estimating the cost of superannuation tax concessions concerns behavioural change. People could alter their behaviour if the concessional tax treatment of superannuation was removed, perhaps by saving less or using alternative savings vehicles.

As outlined in 5A. *Cohesion*, tax concessions have a limited effect at encouraging *additional* savings or increasing people’s overall savings. Instead, they mostly encourage people to *reallocate* existing savings, or savings they would have made in any case, into superannuation. Compulsory superannuation is the main driver of increased household savings. This suggests people are unlikely to save less in total if tax concessions were removed. But they may choose alternative savings vehicles.

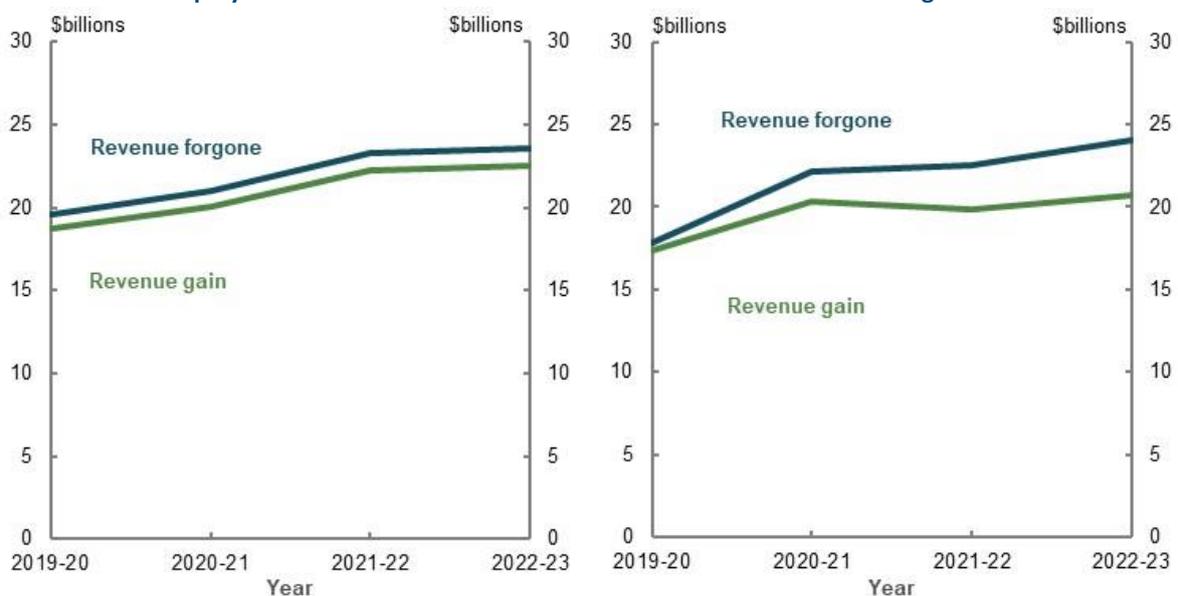
Since 2009, Treasury has produced estimates that attempt to account for this expected reallocation of savings. These estimates are called ‘revenue gain’ (RG) estimates (as opposed to the general estimates that do not account for behavioural change called ‘revenue forgone’ (RF)). They are done for the highest-cost superannuation tax concessions: employer contributions (both SG and salary sacrifice) and the earnings tax concession.

These estimates cannot be used for long-term analysis as the methodology depends on the year in which the estimates are based. Regardless, estimated behavioural change makes a relatively small difference to the estimates of total superannuation tax concessions over a four-year projection period, provided compulsion continues (Chart 4A-28).

RG estimates assume the concessional tax treatment is withdrawn at the start of the next financial year, with behavioural change assumptions made over the following three financial years.

The RG employer contributions concessions estimate is steady at around 4 per cent below the RF estimate. This is because other avenues (rather than voluntary salary sacrifice contributions) are used to reduce average tax rates on personal income.

Chart 4A-28 Superannuation tax concessions: revenue forgone and revenue gain estimates
Employer contributions **Earnings**



Source: Treasury (2020).

The RG earnings concession estimate assumes voluntary contributions and retirement-phase assets are gradually redirected from superannuation towards alternative tax-preferred vehicles. At the end of four years, the RG earnings estimate is 14 per cent lower than that for RF. This is because the

earnings on these alternative tax-preferred vehicles are subject to lower marginal tax rates than those used in the RF estimate.

For both the earnings and contributions concessions, the difference between the RF and the RG estimate is relatively small. This is largely because the effective tax rate on superannuation is lower than other tax-preferred savings vehicles.

Annex — scenario analysis

The scenarios are:

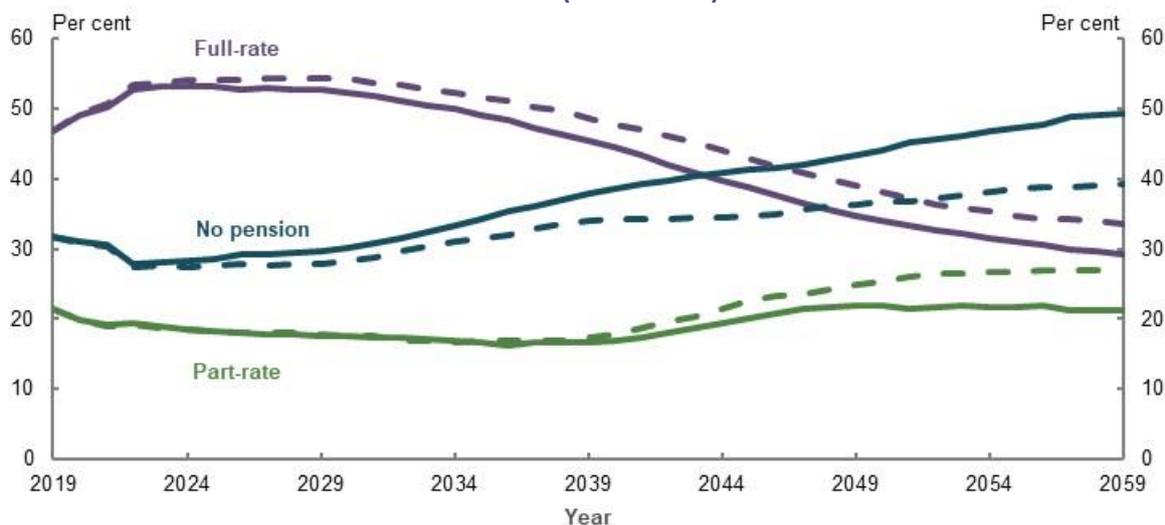
- **Lower earnings.** A 1 percentage point reduction in investment returns across all asset classes²⁷⁴
- **Lower wages.** A 1 percentage point reduction in nominal wages growth
- **Lower fees.** A faster (than that modelled above) reduction in annual superannuation fees charged

These scenarios can help inform understanding of the potential effects of alternative trends on the retirement income system. Importantly, the scenarios only allow for partial modelling. They do not account for flow-on effects that would occur in the wider economy, should these scenarios occur.

Lower earnings

The lower earnings scenario projected higher Age Pension expenditure as a percentage of GDP and lower retirement incomes. In 2059, lower earnings increases Age Pension coverage to 61 per cent of the eligible population compared with 51 per cent in the baseline (Chart 4A-29).

Chart 4A-29 Age Pension population projection — baseline (solid line) and lower earnings scenario (dashed line)



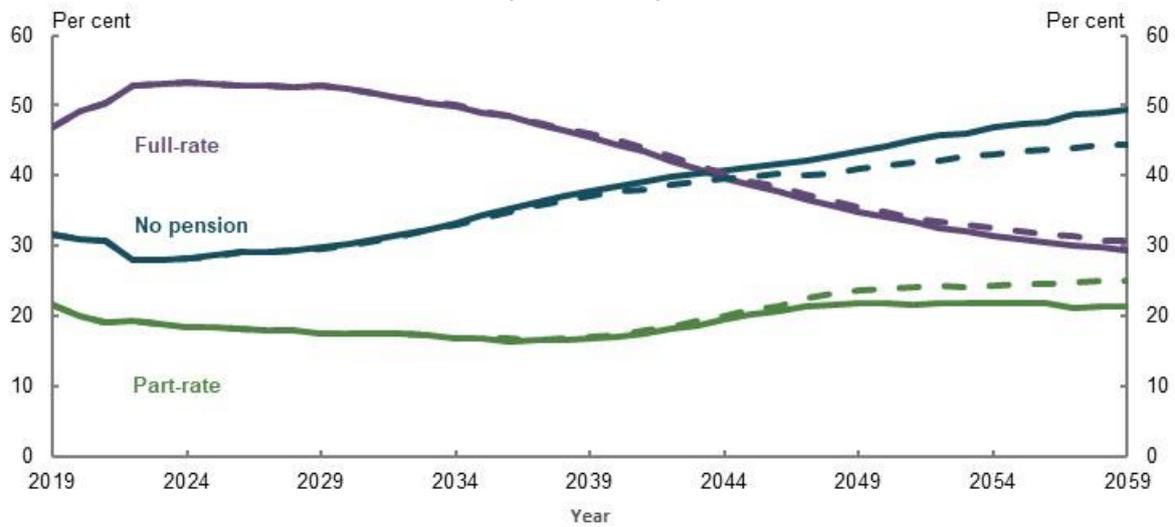
Source: Analysis of Rice Warner estimates for the review.

Lower wages growth

The lower wages scenario projected higher Age Pension expenditure as a percentage of GDP and lower retirement incomes. The proportion of the eligible population receiving the Age Pension in this scenario (56 per cent) (Chart 4A-30) is smaller than in the lower earnings scenario (61 per cent) (Chart 4A-29).

²⁷⁴ For example, where Australian shares were previously assumed to return 7.9 per cent per year, they are now assumed to return 6.9 per cent per year.

Chart 4A-30 Age Pension population projection — baseline (solid line) and lower wages scenario (dashed line)

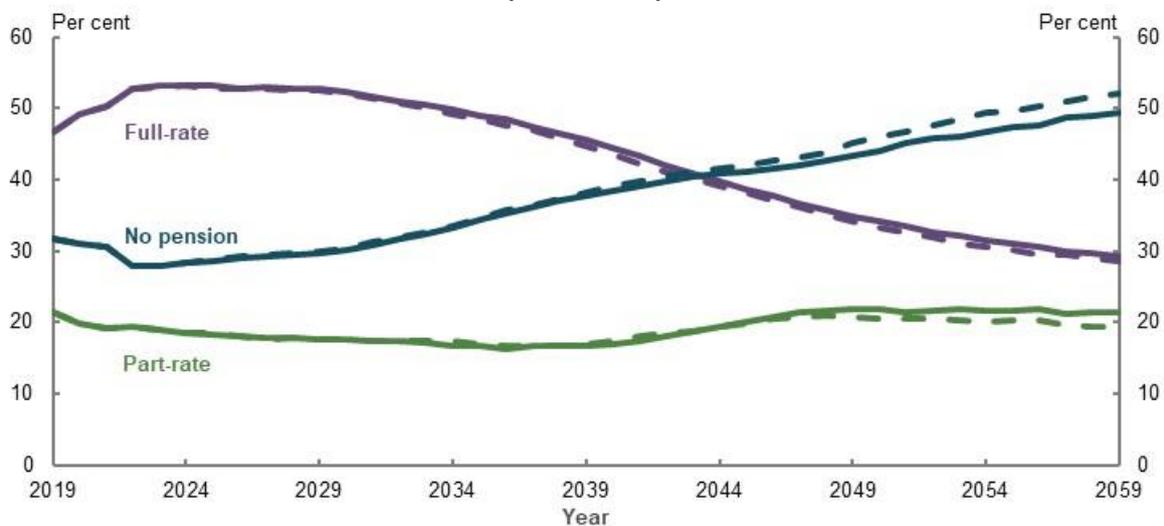


Source: Analysis of Rice Warner estimates for the review.

Lower fees

The lower fees scenario projected lower Age Pension expenditure as a percentage of GDP and higher retirement incomes. The proportion of the eligible population receiving the Age Pension is projected to be 48 per cent, compared with 51 per cent in the baseline (Chart 4A-31).

Chart 4A-31 Age Pension population projection — baseline (solid line) and lower fees scenario (dashed line)



Source: Analysis of Rice Warner estimates for the review.

