



The Benefits of Australia's Compulsory Superannuation System



ASFA is a non-profit, non-political national organisation whose mission is to continuously improve the superannuation system, so all Australians can enjoy a comfortable and dignified retirement. We focus on the issues that affect the entire Australian superannuation system and its \$2.7 trillion in retirement savings.

Our membership is across all parts of the industry, including corporate, public sector, industry and retail superannuation funds, and associated service providers, representing nearly 90 per cent of the 16 million Australians with superannuation.

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Executive summary

The objective of compulsory superannuation has always been about lifting the living standards of Australians in retirement. Despite the Superannuation Guarantee (SG) system being less than 30 years old, and with no generation benefiting from the system for its whole working life, it is not only doing its job but having a positive impact on the whole economy.

With respect to individual's retirement prospects, the compulsory superannuation system underpins higher standards of living in retirement than otherwise would be the case.

Compulsory superannuation counteracts people's biases to 'under-save', which leads to higher levels of household savings and improves the distribution of savings across income cohorts. This has helped make Australian households amongst the world's wealthiest and wealth inequality in Australia among the lowest in the world.

As a result of the SG regime, ASFA's conservative estimate is that Australian households have \$500 billion in savings that they otherwise would not have saved. Of that, around \$35 billion is additional savings of people in the lowest income quintile.

Superannuation is now households' most important asset after the family home. For most low-income earners, superannuation provides their only exposure to growth assets such as equities and infrastructure. It provides access to assets that they would either not have access to or if they did have access, they would face much higher prices. Compared with the time before compulsory superannuation, low-income households now have a broad asset base outside of the family home and bank accounts.

For workers on low incomes, compulsory superannuation allows the accumulation of superannuation balances that can make a material difference to their standard of living in retirement and ensures that it is better than on the Age Pension alone.

That said, not all people who earn low incomes today will do so in the future. The compulsory superannuation system means that people will continue to accumulate savings for their retirement regardless of their circumstances and income – whether their income is relatively high or relatively low. For individuals, ongoing saving via superannuation during periods when income is relatively low can have a very favourable material effect on their retirement outcomes.

As the compulsory system matures, a larger proportion of retirees will reach the ASFA Comfortable Retirement Standard benchmark (currently around \$44,200 per year for a single person and around \$62,400 per year for a couple). ASFA estimates that around 50 per cent of retirees will be able to afford expenditure in retirement at or above the Comfortable Standard by 2050.

However, retirement outcomes between the cohorts of men and women are still likely to differ. When the SG rate increases as legislated, male workers who enter the workforce today and earn median wages throughout their career would be expected to reach a balance (at retirement) that is consistent with the ASFA Comfortable Retirement Standard (currently \$545,000). In contrast, female workers who earn median (female) wages would be around \$100,000 shy of this. Policy changes that would go some way to addressing this imbalance include removing the \$450 per month income threshold when superannuation is paid and providing compulsory superannuation for paid parental leave.

Over time, as the compulsory system matures, the proportion of retirees eligible for either a full or part Age Pension is expected to decline – in effect, more people will be drawing a lower Age Pension longer into their retirement. This will counter the pressure of an ageing population on future Age Pension expenditure by government.

This means that, in terms of payments to the aged, Australia is better placed than most other advanced economies.

Commonwealth expenditure on the Age Pension is expected to remain relatively stable, at low levels, over coming decades. ASFA projects that expenditure on the Age Pension will fall from 2.9 per cent to 2.6 per cent of GDP over the period to 2054-55, assuming the SG rate is increased to 12 per cent.

OECD expenditure on public pensions averages 8.8 per cent of GDP, is projected to increase to 9.4 per cent by 2050 and increase further thereafter. Some European countries already have four times the level of Australian expenditure, with this projected to rise further.

As well as taking pressure off the Commonwealth's finances, compulsory superannuation has broader positive impacts on the Australian economy.

Compulsory superannuation has led to higher levels of national saving than otherwise would be the case. Higher levels of national saving facilitate and support higher levels of fixed capital investment in the Australian economy, which in turn results in a larger capital stock and productive capacity. Ultimately, this means higher levels of GDP, higher levels of aggregate productivity and higher living standards for the broader Australian population.

Compulsory superannuation provides stable sources of funding for domestic infrastructure projects. At present, APRA-regulated superannuation funds have investments of up to \$71 billion in domestic infrastructure. Australian funds continue to invest in both green and brown-field infrastructure opportunities in Australia. With respect to the latter,

funds' participation in asset recycling initiatives helps governments to unlock their balance sheets and fund new infrastructure projects.

Compulsory superannuation provides stable sources of funding for private equity and venture capital investment. In aggregate terms, superannuation funds are the largest group of investors in private equity in Australia, having now committed over \$8.1 billion out of a total commitment of \$26.7 billion.

Introduction

The Superannuation Guarantee (SG) regime refers to Australia’s system of compulsory superannuation.

The SG regime is a key pillar of Australia’s broader retirement income system that is independently ranked as one of the best globally (behind only the Netherlands and Denmark) in terms of sustainability, adequacy and integrity.¹

The SG regime underpins what ASFA considers the core objective of the Australian superannuation system – to provide an adequate income to ensure all Australians achieve a comfortable standard of living in retirement, supplementing or substituting the Age Pension.²

In essence, compulsory superannuation provides individuals with higher incomes in retirement, and a better standard of living, than otherwise would be

the case. However, the compulsory system provides numerous broader benefits – for the Australian government, the Australian economy and the broader Australian population. Overall, these benefits will only grow as the compulsory system matures.

ASFA has long advocated for policy changes that would enhance the long-term integrity of Australia’s system of compulsory superannuation and ensure that no Australian is left behind. These include extending the SG regime to workers who are not presently covered – such as the self-employed and some low-income earners – and increasing the SG rate from 9.5 to 12 per cent.

Context

What is the Superannuation Guarantee?

The development of Australia's superannuation system into a world-class private pension system has been underpinned by the SG regime – which mandates compulsory superannuation contributions be made by employers on behalf of their employees. The SG regime is one of the three key pillars (along with the Age Pension and voluntary savings including via superannuation) of Australia's broader retirement income system that is independently ranked as one of the best globally.³

Australia's SG regime has two key elements – compulsion and universality.

The SG mandates that employers, regardless of their size, make superannuation contributions on behalf of their employees to a superannuation fund. Currently, SG contributions for an employee are set at 9.5 per cent of gross ordinary time earnings.

Coverage of the Australian workforce is near-universal. The SG utilises relatively broad definitions of employer and employee (for the latter, it is broader than under Australian common law). However, there are some important exceptions. Employees who earn less than \$450 in a calendar month are not covered by the SG, nor are the self-employed (other than owner-managers who receive wages and technically are employees of a company they also control). As a result, around 95 per cent of employees are covered by the SG,⁴ and around 80 per cent of the broader Australian workforce.⁵

ASFA has long advocated for the SG regime to be extended to workers who are not presently covered.

With respect to employees, ASFA advocates for removing the \$450-a-month threshold. In general terms, the existence of the threshold penalises some low-income earners, permanent part-time workers, and workers with multiple jobs.

ASFA considers that the SG should be extended to the self-employed. According to the standard definition, a self-employed person is one who owns his/her unincorporated business (as either a sole proprietor or a partner in a partnership and including contractors). People in this group account for around 10 per cent of the Australian workforce⁶ and, on average, have lower superannuation balances than employees in equivalent industry and age cohorts.⁷ A broader definition of the self-employed includes those who have incorporated.⁸

Looking ahead, the ongoing rise of the gig economy means it is likely that an increasing proportion of the Australian workforce will, at various career points, be self-employed (for example, as an independent contractor). If the SG regime is not extended to the self-employed, affected workers will have lower or no superannuation contributions, and lower superannuation balances at retirement.

ASFA has also long supported the legislated increase in the SG rate from its current 9.5 per cent to 12 per cent.

The economic crisis brought about by the coronavirus COVID-19 pandemic (the COVID-19 crisis) demonstrates that the superannuation system, and the compulsory system in particular, can have a broader role in supporting the wellbeing of Australians – beyond solely the provision of higher retirement incomes. As is discussed in Section 1 of this paper, the SG regime ensures that workers tend to save more than otherwise would be the case – such that, at a particular point in time, workers will have a higher stock of savings (on average). While the main purpose of accumulated superannuation savings is to fund retirement incomes, the current crisis has demonstrated that these savings can also support incomes in times of financial hardship.

The SG rate is legislated to increase over coming years

The SG regime came into effect on 1 July 1992, after the then-Government announced the policy in the 1991-92 Federal Budget.

Initially, the SG contribution rate was set at 4 per cent for employees of employers with an annual payroll in excess of \$1,000,000, and 3 per cent for all other employees. A schedule of future increases in the SG rate was also set, with a rate for all employees of 9 per cent applying from 1 July 2002 (Chart 1).

In May 2010, the then-Government announced that the SG rate would increase from 9 per cent to 12 per cent by 1 July 2019. Following subsequent amendments to the legislation, actual increases in the SG rate have, however, been more gradual – starting

with a 0.25 percentage point increase on 1 July 2013 and followed by an additional 0.25 percentage point increase on 1 July 2014. Further increases are currently paused, with the rate to remain at 9.5 per cent until 1 July 2021 – where it will increase by 0.5 of a percentage point. Thereafter, the rate will increase by 0.5 of a percentage point each year until it reaches 12 per cent.

Contributions at 12 per cent would bring Australia more in line with pension systems in other advanced economies. Australia has one of the lowest mandatory contribution rates in the OECD (Chart 2), although in some other OECD countries contributions also fund other types of benefits.

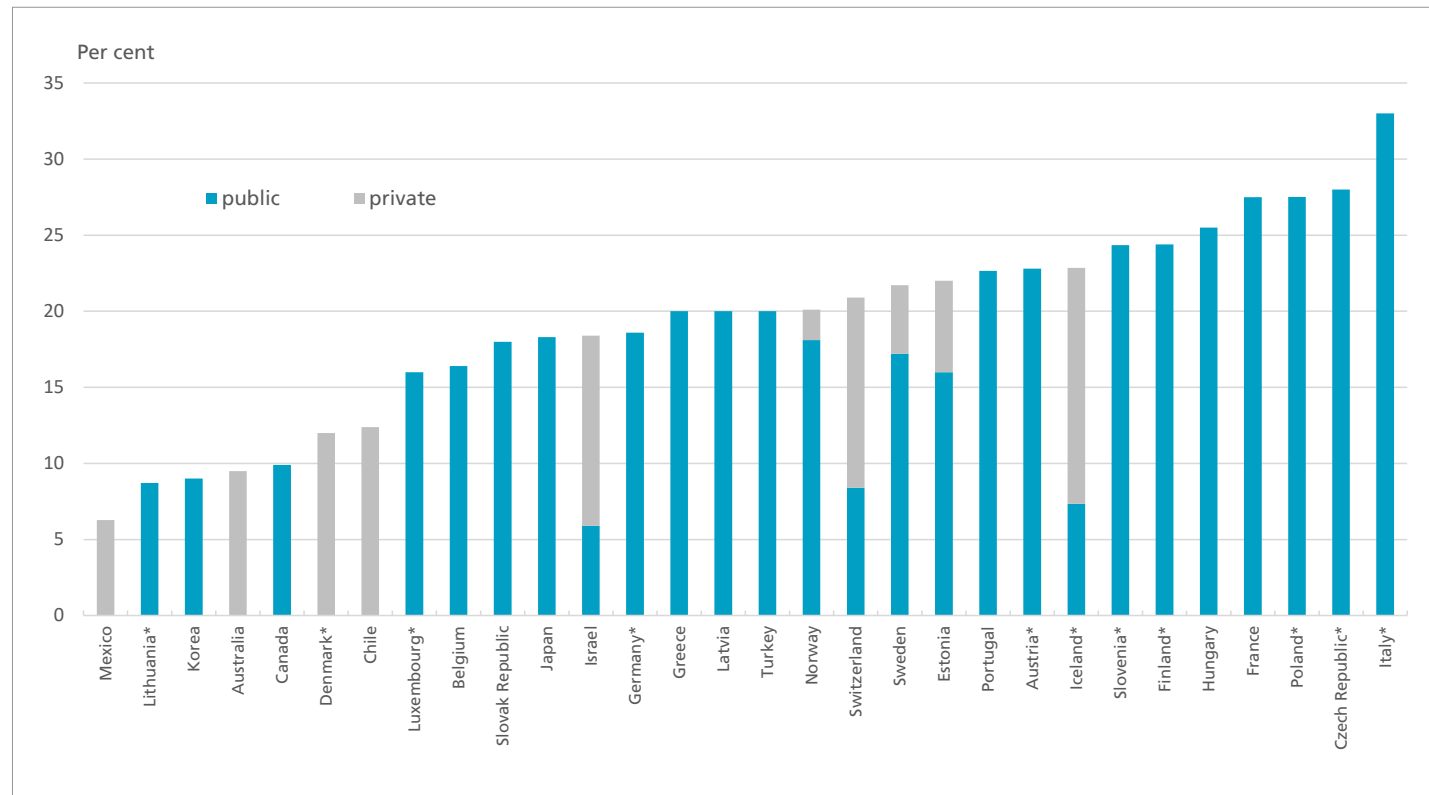
Ultimately, the increase in the SG rate to 12 per cent will boost the retirement incomes of Australian workers – including workers on low incomes.

Chart 1: The SG rate (as at 1 July each year)



Source: ASFA

Chart 2: Mandatory pension contribution rates for an average worker (2018)



Source: OECD⁹

*includes non-pension benefits.

The compulsory superannuation system is still maturing

The compulsory superannuation system is still relatively immature in the sense that many individuals have had superannuation coverage only since the commencement of industrial award-based superannuation in the late 1980s and the introduction of the SG (in mid-1992). Further, as noted above, the SG rate, only reached 9.5 per cent in mid-2014.

However, as time goes on, workers who are covered by the SG regime will receive SG contributions at higher rates for longer periods of time (compared with earlier cohorts of workers).

This, along with voluntary contributions and investment returns on accumulated superannuation assets, means that system-wide superannuation assets as a share of annual GDP (around 140 per cent at present),¹⁰ are expected to continue to increase for a number of decades still. That said, as the number of retirement-phase members continues to increase relative to the

number of accumulation-phase members, system assets are eventually expected to stabilise as a share of GDP.

SG contributions are individual's main source of superannuation contributions

In aggregate, annual superannuation contributions have ramped up markedly since the introduction of the SG regime – driven by compulsory contributions. Total annual compulsory contributions have increased from around \$14 billion in 1996-97 (or around \$24 billion in today's dollars), to around \$71 billion in 2018-19.¹¹

For most Australian workers, SG contributions will be their major source of superannuation contributions during their working life, and as such a major determinant of their superannuation balance at the time of retirement. In annual terms, the total amount of SG contributions to members of institutional superannuation funds typically accounts for around 60 per cent of total contributions to those funds

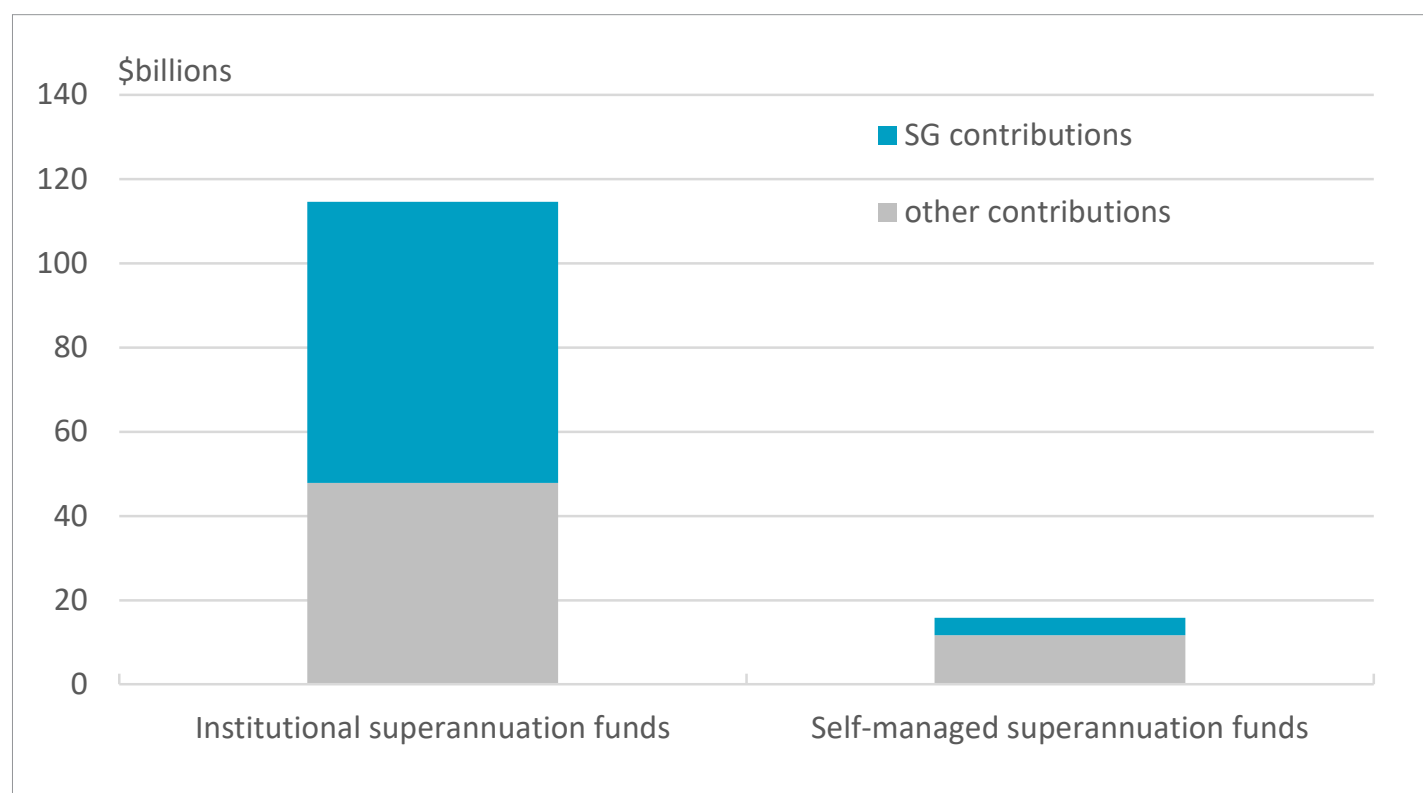
(Chart 3).¹² For self-managed superannuation funds (SMSFs), SG contributions account for a relatively small proportion of total contributions.¹³

Non-SG contributions include voluntary contributions made by workers under salary-sacrifice arrangements, and lump-sum contributions from the proceeds of asset sales. In aggregate, these account for around 40 per cent of total contributions to institutional funds. However, only some members make personal contributions and usually make them infrequently – the average non-SG contribution is larger than the average SG contribution.¹⁴

With respect to voluntary contributions, their share (in aggregate terms) of total contributions has tended to decline over time. In part, this reflects changes in individual’s saving preferences in response to changes to the tax treatment of superannuation contributions. Over the last decade the government has reduced the annual contribution amount against which a member can claim concessional tax treatment (the concessional contribution cap), and also reduced the non-concessional caps.

The trend for voluntary contributions brings into sharp focus the importance of the SG regime for building Australian’s retirement savings over coming decades.

Chart 3: Annual superannuation contributions, by type (2018-19)



Source: APRA, ATO and ASFA calculations ¹⁵

The benefits of compulsory superannuation

Compulsory superannuation underpins what ASFA considers the core objective of the Australian superannuation system – to provide an adequate income to ensure all Australians achieve a comfortable standard of living in retirement, supplementing or substituting the Age Pension.

However, the compulsory component of Australia's superannuation system provides numerous broader benefits – for the Australian government, the Australian economy and the broader Australian population. Overall, these benefits will only grow as the system matures.

The broad benefits of compulsory superannuation are explored in detail in this section of the paper.

Due to compulsory superannuation, individuals have higher retirement savings than otherwise would be the case

- Statistical studies and insights from behavioural economics indicate that, generally speaking, Australians would have saved less – via superannuation and in total – in the absence of compulsory superannuation. This is particularly the case for people on lower incomes.
- That compulsory superannuation can counteract individual's behavioural biases to 'under-save', and so acts to enhance individuals' long-term welfare, is a key public policy rationale to maintain and strengthen the SG regime.
- As a result of the SG regime, ASFA estimates that Australian households have \$500 billion in savings that they otherwise would not have saved. Of the additional \$500 billion in household savings, around \$35 billion is additional savings of people in the lowest income quintile.

People tend to 'under-save'

According to standard economic theory, people will save sufficiently during their working life to support a personalised adequate level of income during their non-work years. This view is epitomised by lifecycle theories of income smoothing – where an individual will forgo consumption from his/her labour income and so accumulate wealth, which the individual will draw down to fund consumption in retirement.

Within the standard framework, it is typically assumed that an individual – when making decisions concerning saving for retirement – will take full account of the information that is made available, and that the individual will act on that information according to personal preferences to maximise lifetime utility, subject to budget constraints.

However, empirical studies show that a typical individual's saving pattern deviates significantly from that predicted by the standard theory. In particular, people do not smooth their income and consumption much over their lifecycle and tend to 'under-save'.¹⁷

Behavioural insights provide the most compelling explanations for under-saving

Within standard economic theory, explanations for observed saving outcomes focus on the presence of

market failures. In the main, these market failures involve certain information asymmetries between individuals and investment/savings institutions – for example, imperfect information and high transaction costs may prevent individuals from being fully informed or acting on available information about particular savings vehicles.¹⁸

While these market failures may affect household savings patterns to some degree, they do not explain the observed (general) behaviour of households to save less than they think they should.¹⁹ More compelling explanations for under-saving are based on behavioural insights.²⁰

Behavioural economics – which has evolved rapidly over recent decades – seeks to explain observed deviations from the rational, optimising behaviour that is a foundation of standard economic theory. Behavioural economics has identified several, deep-seated cognitive biases that influence individuals' decisions (in both financial and non-financial contexts).

Some of these biases are directly relevant to retirement saving. In particular, people tend to 'procrastinate' and are typically 'loss averse' (Box 1). Both these biases (and others) help explain why people tend to under-save – particularly if saving decisions involve long time horizons.

Box 1: Behavioural explanations for observed saving patterns

Behavioural economics provides a number of compelling reasons why individuals tend to under-save for retirement, even if they are aware this is at odds with their long-term well-being.²¹

Of the identified deep-seated cognitive biases that influence individual's decisions, the two most relevant to retirement saving are 'procrastination' and 'loss aversion'.

Procrastination: People tend to delay saving, do not save, or do not save enough. Although people generally understand that they should save more for retirement, they postpone saving.²²

Standard economic theory has long recognised that people require compensation for delaying consumption (via saving), reflected in the required rate of return on savings. However, numerous behavioural studies show that a typical individual's required compensation rate, rather than being constant into the future, can increase the longer the delay. Turning this around, a typical individual values current consumption over delayed consumption – even with a *constant* compensation rate.

It is clear that this tendency would fundamentally interfere with an individual's ability to plan for retirement. For example, O'Donoghue and Rabin (1998) show it is likely to adversely affect personal investment decisions, and lead to under-saving.²³ In a nutshell, the urge for instant gratification (consuming now) leads an individual to avoid taking action (to save), which is in the individual's long-term best interests.²⁴

Loss aversion: This refers to the tendency for people to weigh losses more heavily than gains, which then affects their behaviour. A substantial experimental literature shows that loss aversion is very common in a wide variety of contexts. In very general terms, experiments find that a loss of given value will hurt twice as much as the pleasure yielded from an equivalent gain.²⁵

With respect to an individual's decision to save a portion of his/her income in superannuation, an increase in saving means a cut in current income of the same magnitude. To the degree that the individual feels losses more than gains, the person will tend to under-save.

While financial education can act to counteract such biases, the empirical evidence suggests that the effects on outcomes are generally modest. For conventional financial education to be effective in changing saving outcomes, education must improve relevant knowledge and understanding (that is, improve financial literacy), which in turn must alter individual's behaviour. Studies find that financial education does help some individuals – in particular, those with higher levels of general education. However, more broadly, there is (at best) mixed evidence of lasting beneficial effects of financial education on individual's behaviour.²⁶

The implications of all this are profound for the broader working population, but particularly so for individuals in low socio-economic circumstances, who may have pressures that constrain their capacity to save (for retirement or otherwise).²⁷

Compulsory superannuation boosts individuals' net saving

Generally speaking, compulsory superannuation works to counteract individual's behavioural biases to under-save, and so leads to a higher level of saving than otherwise would be the case.

That Australian households save more under compulsion is best analysed by considering the degree to which households offset higher compulsory saving via the SG regime with lower saving via other vehicles (including voluntary superannuation). In other words, the impact of the SG regime on household's *net* saving.²⁸

For Australia, a number of empirical studies have estimated the effect of compulsory superannuation on

net saving. Although estimates of net saving vary, most point to a sizable positive effect. Broadly speaking, studies have found that for each dollar of saving via compulsory superannuation, net saving is likely to be no less than 60 cents, and possibly much higher.²⁹ The most oft-cited study estimates a net effect of 62 cents in the dollar.³⁰ Some early studies suggest a smaller net effect. However, as Connolly and Kohler (2004) note, early estimates rely on judgment or extrapolation from experiences of other countries.³¹

From a broader macroeconomic perspective, these studies suggest that, as a result of the SG regime, the Australian household sector saves a much higher proportion of current household income – that is, the household sector has a higher aggregate saving ratio – than otherwise would be the case.

This means that, over time, Australian households have accumulated much higher savings than if compulsory superannuation did not exist.

Using data for SG contributions, and assumed parameters for the net saving effect, ASFA estimates that Australian households have \$500 billion in additional savings that they otherwise would not have saved (via superannuation or otherwise) due to the SG regime. Of the additional \$500 billion in household savings, around \$35 billion is additional savings of people in the lowest income quintile.

Why don't households fully offset compulsory superannuation savings? – more behavioural insights

Given the observation that compulsory superannuation boosts household saving, the question then arises: “Why don't households fully offset compulsory superannuation savings?”

Within the standard economic framework, explanations for why Australian households do not fully offset compulsory saving via superannuation (such as by lowering saving in other saving vehicles) assume optimising households where saving decisions can be bound by certain constraints.

In particular, some households may face financial constraints. Typical constraints considered in the literature include those that limit a household's capacity to reduce other forms of saving (that is, a household may not have the equivalent amount of savings

outside superannuation), or constraints that limit a household's capacity to increase their borrowings to maintain a particular level of consumption.³² Typically, it would be expected that such constraints would mainly apply to lower income households rather than higher income households.

In addition, households may not view superannuation as a perfect substitute for other savings vehicles. For example, households may value their superannuation balance less than a (more liquid) bank account.³³

Again, although these factors would be expected to affect certain household's savings patterns, broader-based explanations are provided by behavioural insights that question whether individuals do, in fact, form optimal *a priori* saving targets.³⁴

For some people, SG contributions may provide an ‘anchor’ for their saving preferences. Individuals still make saving decisions based on personal characteristics and circumstances, and the broader economic environment, but as adjustments from their SG contributions. Such biases are explored in the seminal paper from Tversky and Kahneman (1982).³⁵

For other people, saving decisions are overwhelmingly complex, and any offsetting adjustments that people make in respect of other forms of saving do not reflect firm preferences about how much they should be saving.³⁶ For an individual, the required pattern of saving over a working life required to fund income in retirement is, in effect, a multi-period optimisation problem. Behavioural theories of bounded rationality recognise individual's cognitive limits when making complex decisions, even when provided the required information to make decisions. Instead, people tend to use judgements or rely on simple ‘rules of thumb’.³⁷ This is particularly the case where time horizons are long, outcomes involve probabilities, or details are inherently complex – all features of decisions around retirement saving.³⁸

For still others, the operation of default superannuation arrangements and the accumulation of superannuation balances are simply ‘out-of-mind’. For people in this group, little or no offsetting adjustments (in respect of other forms of saving) would be expected. From a public policy perspective, the presence of this cohort of members justifies having a strong default system that provides for compulsory employer contributions.

Compulsory superannuation has helped build the wealth of Australian households

ASFA estimates that Australian households have \$500 billion in additional savings that they otherwise would not have saved (via superannuation or otherwise). This has boosted the overall wealth of Australian households.

- Ongoing saving by individuals via compulsory superannuation has boosted the overall wealth of Australian households.
- Generally speaking, superannuation is Australian household's most important asset after the family home, including for low-income households.
- Looking ahead, as the compulsory system matures, average superannuation balances in Australia will continue to grow for many years, and superannuation is likely to account for a larger share of household wealth.
- Compulsory superannuation has helped make Australian households among the wealthiest, on average, in the group of advanced economies, and helped make wealth inequality in Australia among the lowest.

Superannuation is a long-term investment

For a typical Australian worker, the compulsory system provides for the accumulation of retirement savings over a long working life. While it is certainly the case that many people will take time out of the workforce for a variety of reasons, the general experience is extended periods of employment, and ongoing contributions to superannuation over that period.

Saving over a long horizon allows for a long-term approach to investing. As recent experience demonstrates, financial markets can be volatile and asset values can decline markedly over short periods of time. But history also reminds us that markets do recover from short-term shocks. Over long time periods, average investment returns matter for ultimate retirement outcomes rather than specific year-to-year outcomes.⁷

With respect to the COVID-19 crisis, the benchmark ASX S&P200 index fell by 37 per cent over 4 weeks from mid-February 2020. The ASX suffered similar-sized falls in the second-half of 2008 – where it fell by 33 per cent over the two months from mid-September. However, over the longer-term (since 1992), the index has increased by an average of 6 per cent per annum.

It is with this perspective that superannuation funds invest. Funds purchase and hold assets on behalf of members with the aim of optimising long-term investment returns. Consistent with the principles of asset diversification, funds invest in a variety of different asset classes, and a variety of assets within those asset classes. As is has been the case in prior major economic shocks, the COVID-19 crisis has led to a divergence in asset-class performance.

Superannuation is household's most important asset after the family home

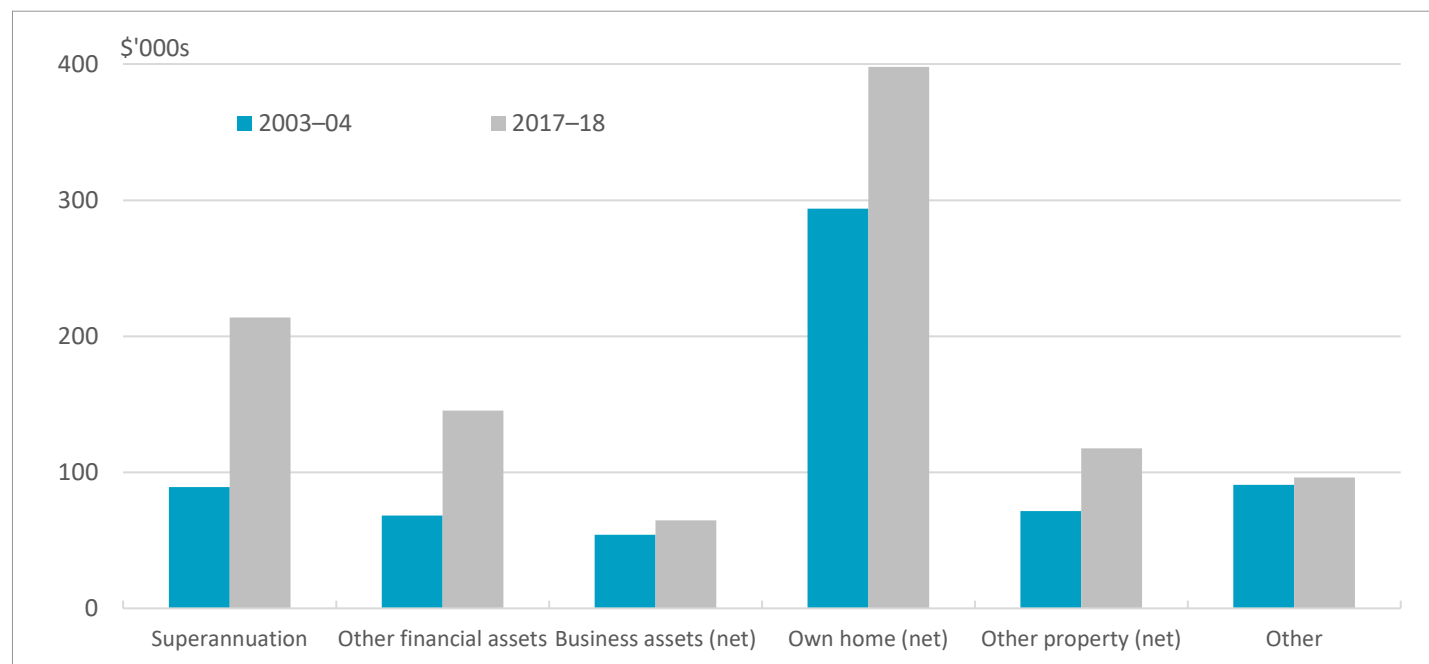
In average terms, superannuation is now clearly Australian household's most important asset, after the family home (Chart 4). The share of household net wealth attributable to superannuation, in average terms, is significantly greater than it was in 2003-04. Looking ahead, as the compulsory system matures, average superannuation balances in Australia will

continue to grow for many years, and superannuation is likely to account for a larger share of average household net wealth.

However, grand averages for household's asset holdings can be misleading, as there is a great degree of heterogeneity of asset holdings among households – with respect to both the types and value of assets. In particular, there is significant variation across the different income and wealth cohorts.

Chart 4: Average value of household net assets

In 2017-18 dollars (adjusted for consumer price inflation)



Source: ABS ³⁹

Superannuation is an important asset for low-income households

With respect to low-income households (defined here as those in the lowest income quintile), Chart 5 shows the relatively high importance of superannuation as an asset class.

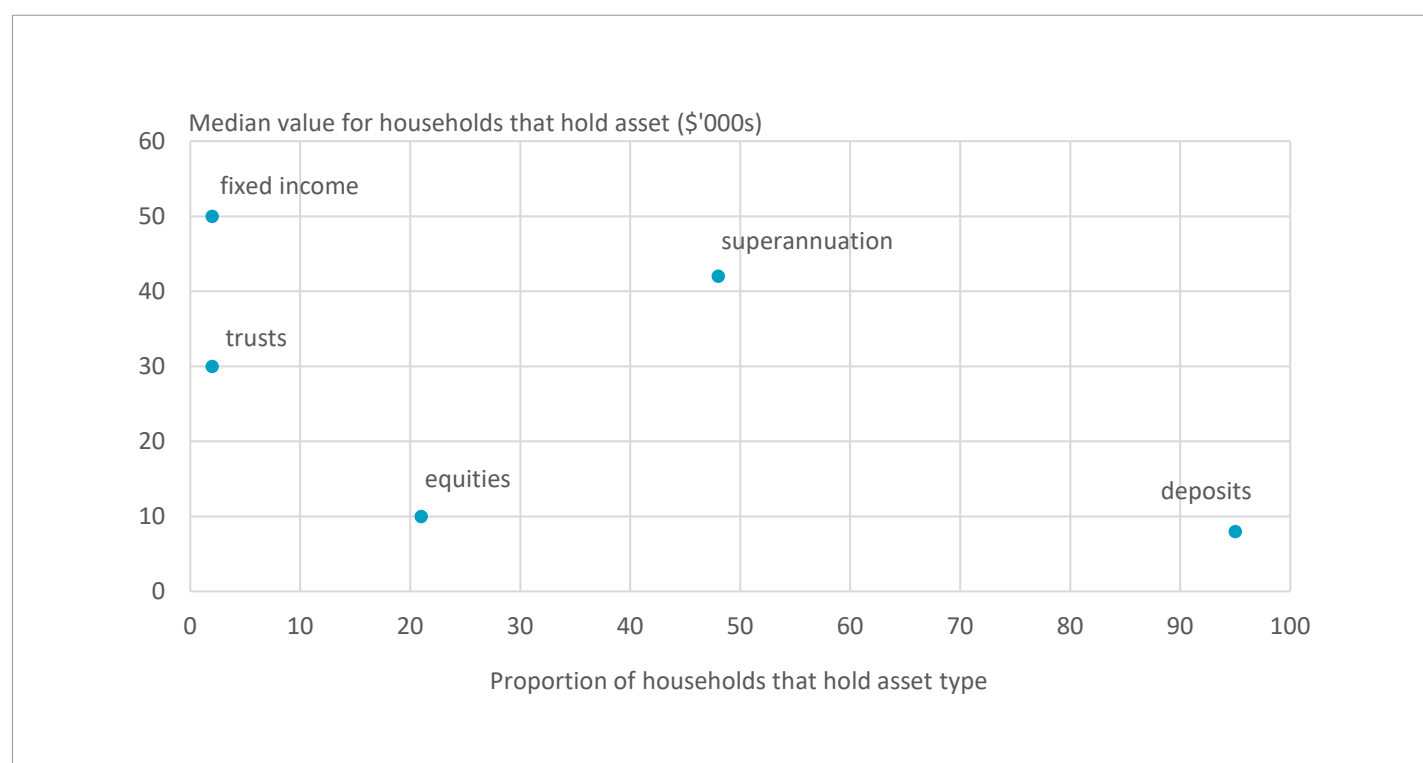
Around half of all low-income households have superannuation assets, with a median value of more than \$40,000. It is certainly the case that the cohort of households who have no superannuation would include some retiree households, who would likely be relying on the Age Pension for retirement income. For households where the 'household head(s)' are still in the workforce, further contributions and future investment returns will help increase superannuation balances. As is demonstrated in Section 4, even a relatively low superannuation balance at retirement can materially boost incomes in retirement.

In contrast to the superannuation assets of low-income households, only around 20 per cent of low-income households directly hold equities, with a median value of around \$10,000. This, in part, is the result of the series of major privatisations and demutualisations that occurred during the 1990s and 2000s, where many households became (direct) shareholders in Australian companies for the first time. At the other end of the spectrum, while 95 per cent of low-income households have bank deposits, the median value is around \$8,000.⁴³

In terms of non-financial assets, only 9 per cent of low-income households own property other than the family home (one-third of which has debt owing), and only 5 per cent of low-income households have business assets. With respect to the family home, 56 per cent of low-income households own their primary residence (with or without a mortgage).⁴⁴

Chart 5: Median value of household financial assets (2017-18)^{40,41}

Households in the lowest household income quintile



Source: RBA, ATO and ASFA calculations.⁴²

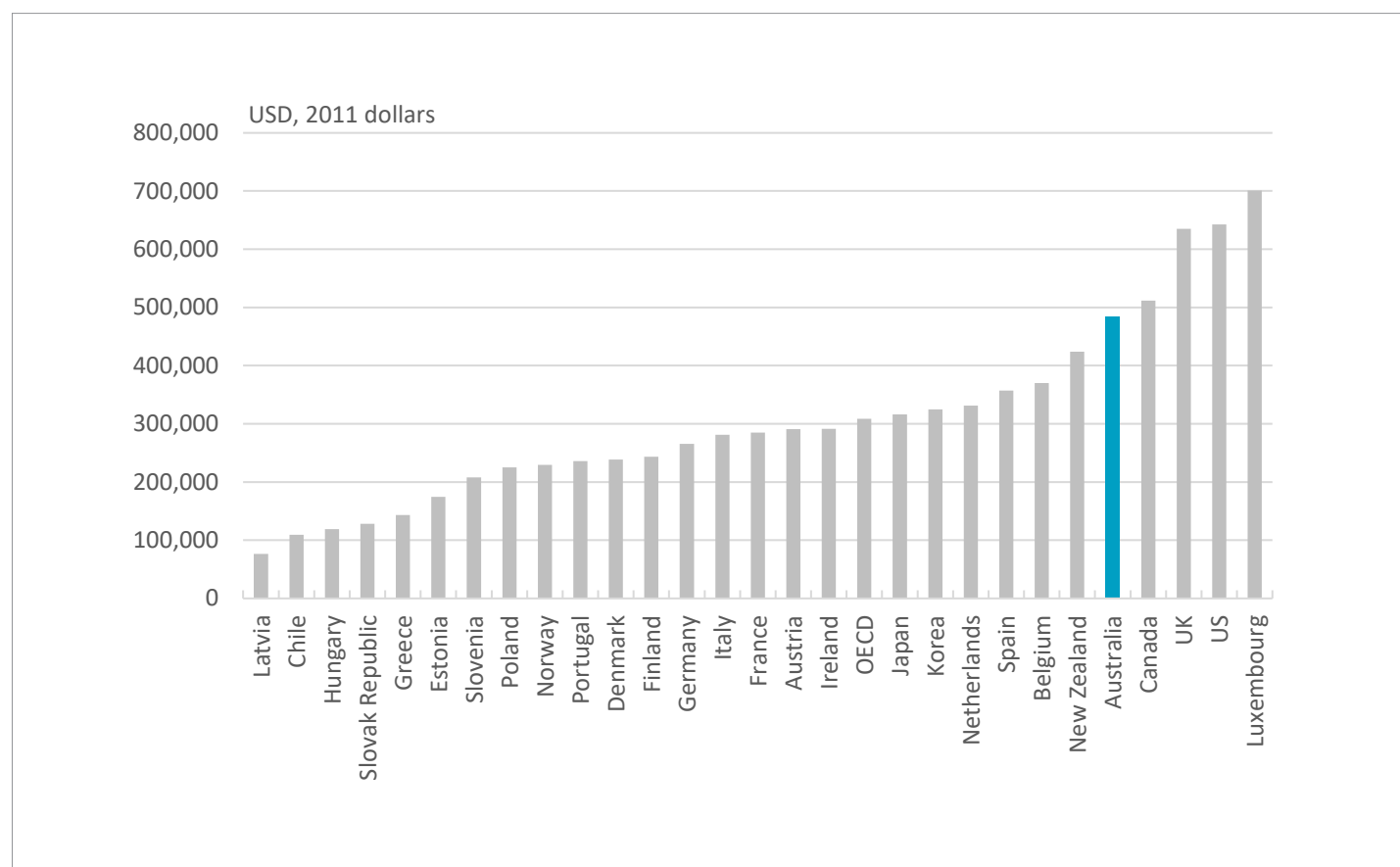
Australian households are among the wealthiest in the world

Compulsory superannuation has also helped make Australian households among the wealthiest, on average, in the group of advanced economies. Data from the OECD show that, in average terms, Australian households have relatively high levels of *net* wealth compared with other advanced economies (Chart 6).⁴⁵

The OECD’s data incorporates the accumulated value of private pension savings – both voluntary and occupational.

Further, the OECD finds that the inclusion of private pension savings (that is, superannuation) in measures of household wealth makes wealth inequality among Australian households one of the lowest in the group of advanced economies.⁴⁷

Chart 6: Average household net wealth, OECD countries (2015)



Source: OECD and ASFA calculations.⁴⁶

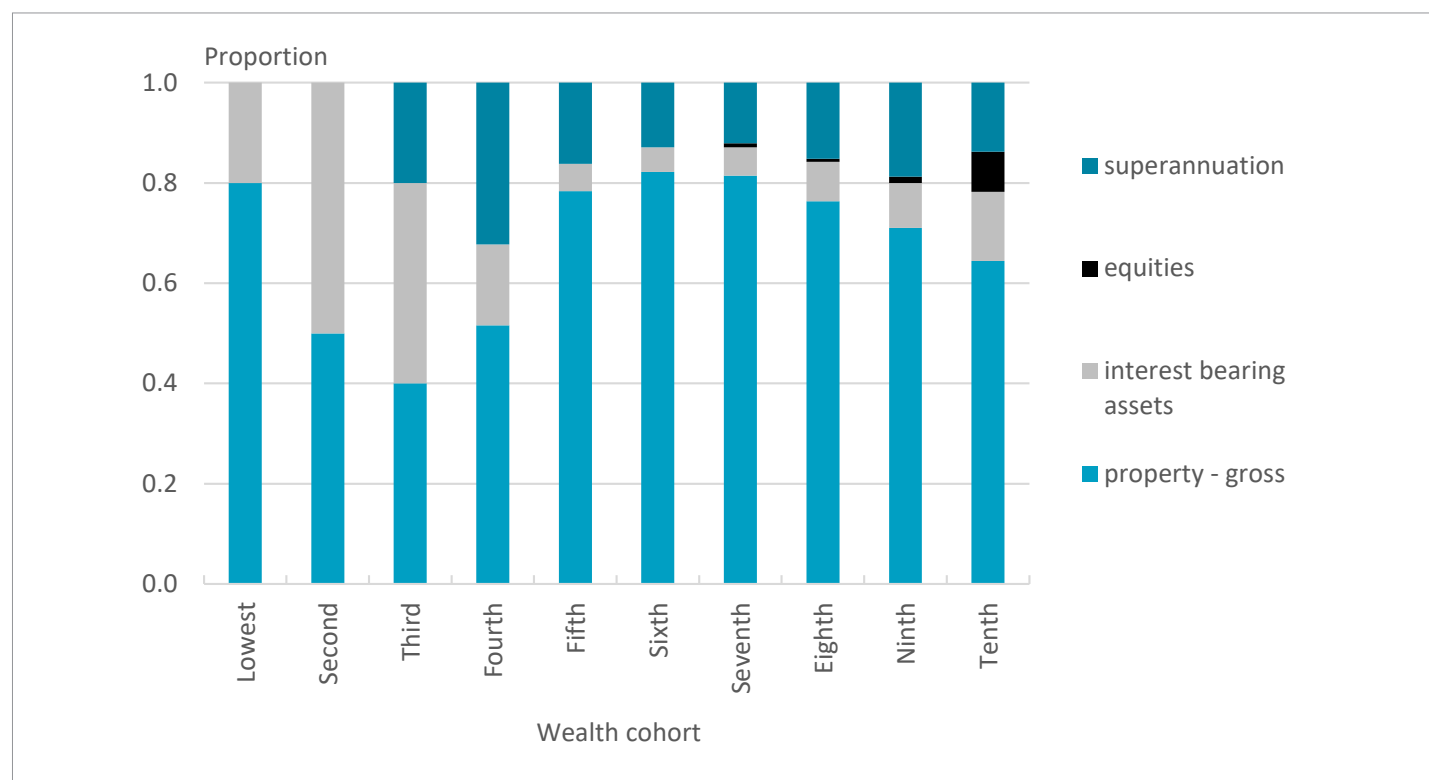
Compulsory superannuation has improved the asset diversification of households

Compulsory superannuation has unambiguously improved the asset diversification of Australian household's balance sheets – particularly for households in the low to middle-income/wealth cohorts. This has improved the prospects for higher risk-adjusted, long-term returns for households.

- As well as boosting household wealth, compulsory superannuation has diversified households' balance sheets.
- Through institutional superannuation funds, members gain exposure to assets they either would not have access to or, if they did have (potential) access, this would be at much higher prices.
- This is particularly the case for households in the low to middle-income/wealth cohorts. Compared with before the SG regime, households outside the wealthiest 10 per cent now have a broad asset base outside the family home and bank accounts.
- This change has improved the prospects for higher risk-adjusted, long-term returns for households.

In 1986 most households kept the vast majority of their wealth in real estate, particularly the family home (Chart 7). For households in low-wealth cohorts, bank accounts were also a major store of wealth. Only the top 10 per cent of households, by wealth, had any significant holdings of financial assets outside superannuation, such as shares in listed companies.

Chart 7: Average gross household assets, by wealth cohort (1986)

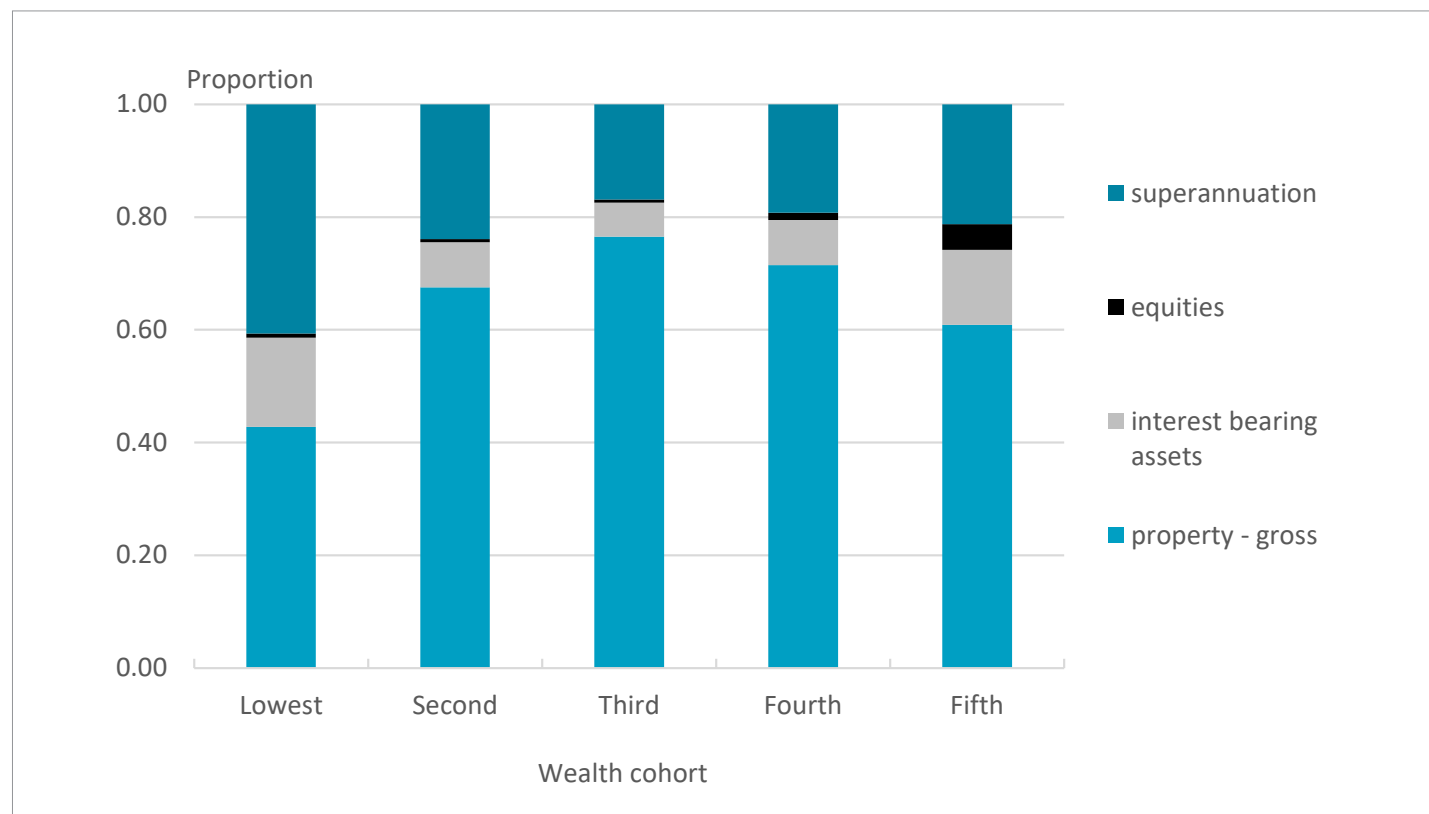


Source: Bækgaard (1998) and ASFA calculations ⁴⁸

With respect to superannuation, accumulated assets accounted for less than 20 per cent of gross wealth for nearly all cohorts, and superannuation assets were negligible for households in low-wealth cohorts. In 1986, only around 39 per cent of all employees had superannuation (around 47 per cent of full-time employees),⁴⁹ although accrued benefits were skewed towards white-collar workers in large corporations and in the public sector.

By 2017-18, superannuation assets had become a larger component of household gross wealth across the cohorts, but particularly for the lower-wealth cohorts (Chart 8). While bank accounts now account for a smaller proportion of assets for lower-income cohorts compared with three decades ago, the value of those holdings are, on average, higher. It should be noted that Charts 7 and 8 depict gross assets rather than net assets (which would incorporate the value of loans associated with assets).

Chart 8: Average gross household assets, by wealth cohort (2017-18)



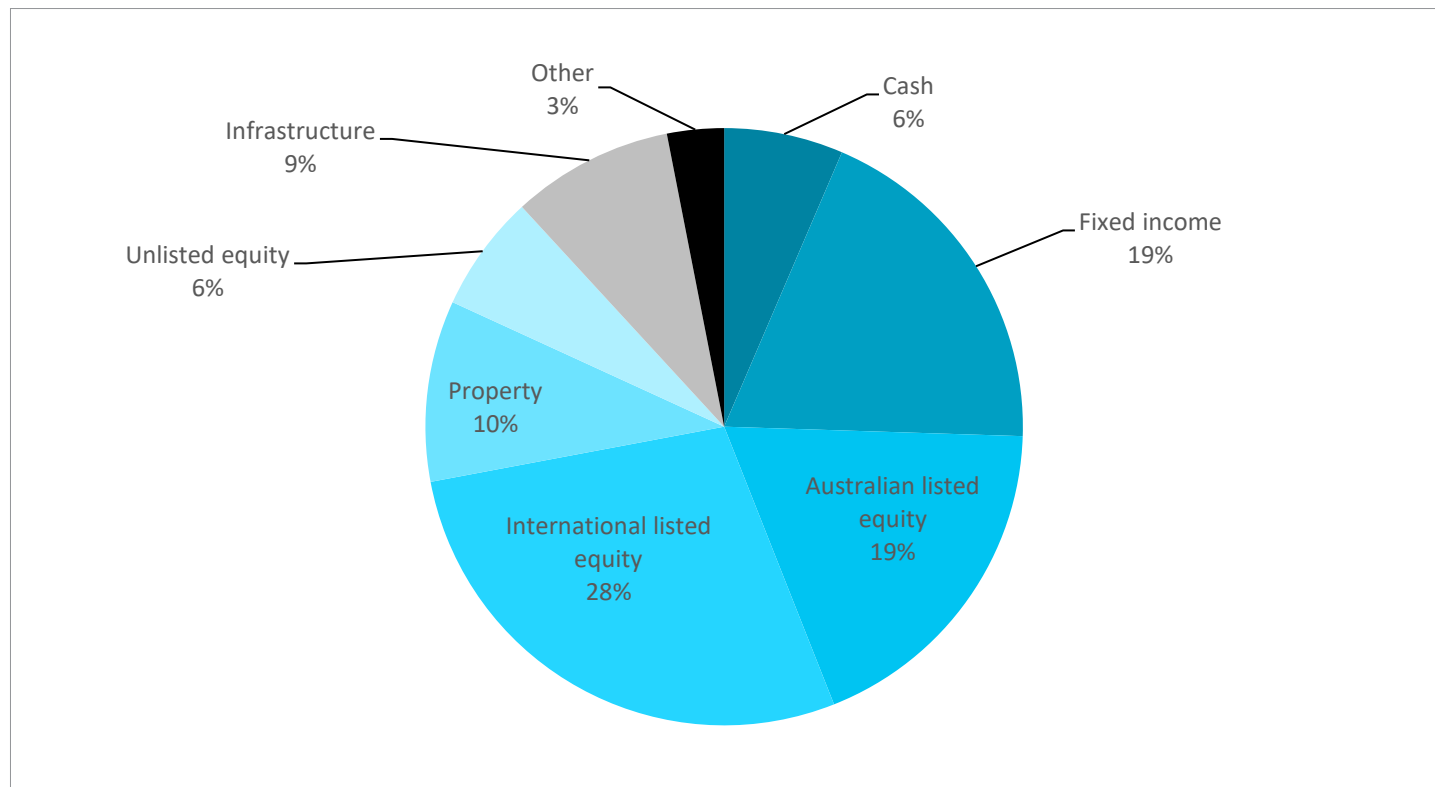
Source: ABS and ASFA calculations.⁵⁰

As such, households generally have exposure to a far more diverse set of assets than was the case three decades ago.

Firstly, institutional superannuation funds have much more diverse asset allocation compared with the direct asset holdings of households. Through institutional superannuation funds, members gain exposure to assets that they either would not have access to, or, if they did have (potential) access, this would be at much higher prices. This benefits the broad range of superannuation fund members, including those who use investment platforms to make personal investment choices, and those in default products – where trustees invest on their behalf. Of course, the asset allocations of self-managed superannuation funds reflect the direct preferences of fund members (in many cases under advice).

As a result, many families outside the wealthiest 10 per cent now have a broad asset base outside the family home and bank accounts. Exposure to equities, bonds and commercial property is now shared more evenly across the wealth distribution. Asset classes such as infrastructure (equity and debt) are available to superannuation fund members, particularly through MySuper options, as well as unlisted and private equity assets (Chart 9).⁵¹

Chart 9: Average asset allocation of MySuper accounts (March 2020)



Source: APRA⁵².

APRA-regulated superannuation funds have also contributed to a reduction in 'home bias' in households' broader investments by investing a significant minority of assets overseas. This provides geographic diversification and, given the concentration of the Australian economy and listed equity market in the financial and mining industries, international exposure also provides a significantly broader industrial diversification.⁵³

Compulsory superannuation underpins higher standards of living in retirement

The operation of Australia's compulsory superannuation system means that members, in general, have much higher retirement savings than would be the case in the absence of the SG regime.

- For most current retirees, income from superannuation supplements or substitutes Age Pension payments. On its own, the Age Pension supports only a very basic standard of living in retirement and exposes households to significant budget stress.
- For workers on low incomes, compulsory superannuation allows people to accumulate superannuation balances that make a material difference to their standard of living in retirement.
- Compulsory superannuation also enables people to achieve a higher, more comfortable standard of living in retirement – such as the ASFA Comfortable Retirement Standard benchmark.
- As the compulsory system matures, a larger proportion of retirees will reach the ASFA Comfortable Retirement Standard benchmark. ASFA estimates that around 50 per cent of retirees will be able to afford expenditure in retirement at or above the Comfortable Standard by 2050.
- However, retirement outcomes between the cohorts of men and women are still likely to differ. When the SG rate increases as legislated, male workers who enter the workforce today and earn median wages throughout their career would be expected to reach a balance (at retirement) that is consistent with the ASFA Comfortable Retirement Standard (currently \$545,000). In contrast, female workers who earn median (female) wages would be around \$100,000 shy.

The corollary of this is that compulsory superannuation also underpins higher standards of living in retirement than otherwise would be the case – from both higher incomes in retirement, as well as the capacity to fund 'lumpy' expenditures, if required.

For most retirees, income from superannuation supplements or substitutes the Age Pension

For most current retirees, superannuation supplements or substitutes the Age Pension. Of the group of people aged 65 and over, around 70 per cent receive a full or part Age Pension. Of those, around 42 per cent are on the full Age Pension and around 28 per cent are on a part Age Pension.⁵⁴

An individual's eligibility for a full or part Age Pension depends on their personal assets/income. The Age Pension asset/income tests means that Age Pension payments phase-out depending on assets/income at a particular point in time.

Considering the assets test in isolation, the current arrangements mean that fortnightly payments reduce by \$3.00 for each \$1,000 of assessable assets (including superannuation) above a minimum threshold (\$263,250 for a single person as at 20 March 2020).

Thus, a single retiree will receive the full payment if his/her superannuation balance is below \$263,250

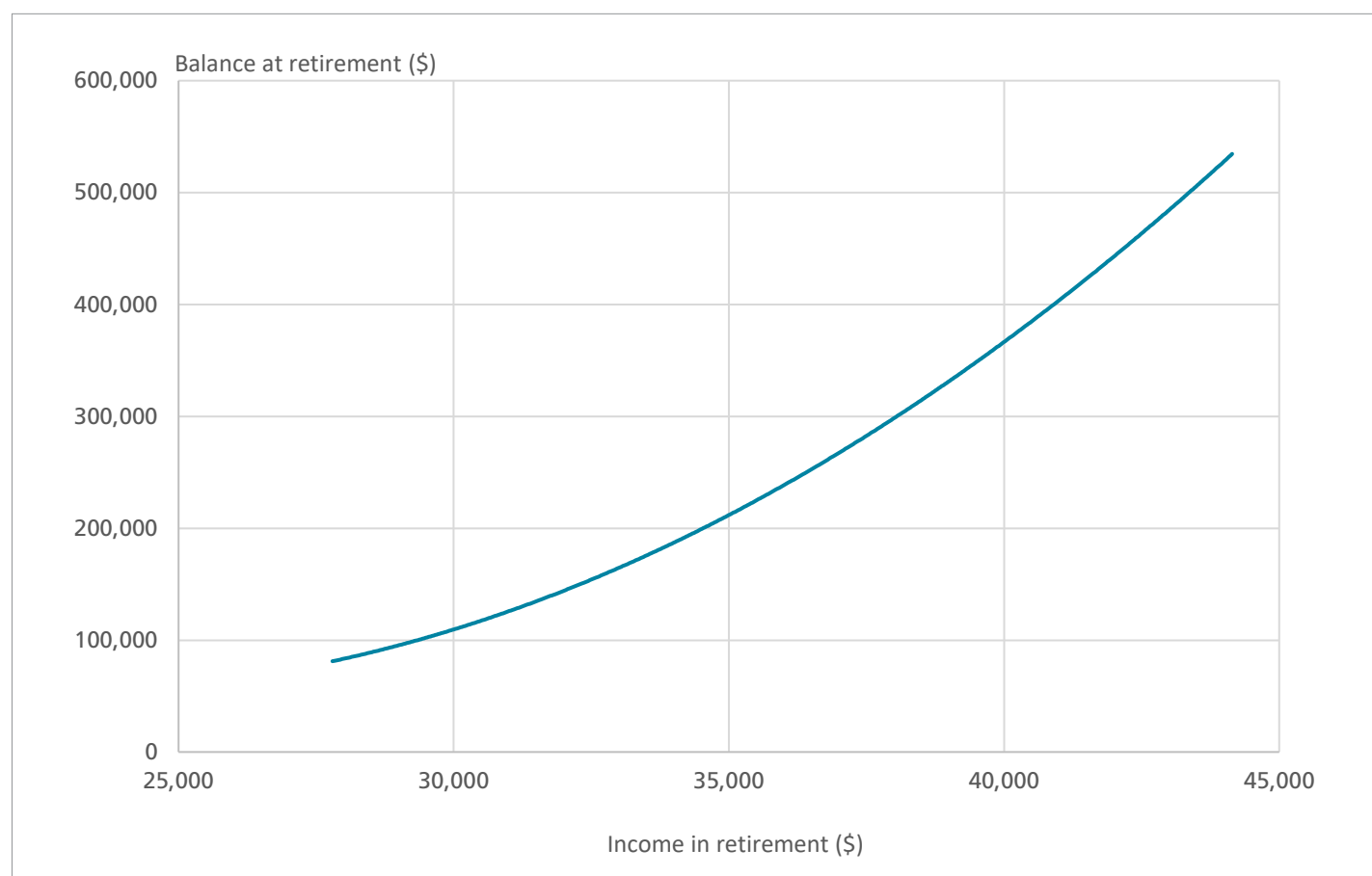
but will not receive any Age Pension payments if his/her superannuation balance is above \$578,250.

In reality, many retirees (who have an account-based pension, or similar product) do not draw-down their capital over time to support higher levels of consumption. Retirees are exposed to the risk of large, unplanned expenditures (such as expensive medical procedures), and the risk of outliving their retirement savings (i.e. longevity risk). Understandably, retirees may lack confidence to draw-down their capital in a way that optimises retirement living standards. The development of retirement solutions that better account for these risks is ongoing.

Looking ahead, a key source of uncertainty for retirees is the future settings for the assets/income tests. In recent years, the government has tightened the Age Pension assets/income tests (for many retirees, with some easing for those with very limited retirement savings). In effect, for a given superannuation balance and income, tighter tests reduce potential retirement income (all else being equal).

For a range of superannuation balances at the time of retirement, Chart 10 shows the approximate corresponding levels of retirement income which can be supported – which is a combination of income from superannuation (including drawdown of capital) and Age Pension payments.⁵⁵

Chart 10: Approximate income in retirement, for a given superannuation balance at retirement⁵⁶



Source: ASFA derived.

The extremities of the line represent the two ASFA Retirement Standards – the ASFA Modest Retirement Standard and the Comfortable Retirement Standard. These standards benchmark the annual budgets needed by Australians to fund either a ‘modest’ or a ‘comfortable’ standard of living in the post-work years (Box 2).

Box 2: The ASFA Retirement Standard

Since 2004, ASFA has published budget standards for older Australians.

The composition of expenditure in the Retirement Standard budgets reflects actual spending patterns of retirees. This is derived from a range of sources, including ABS data, data from the Household, Income and Labour Dynamics in Australia (HILDA) Survey, and feedback from focus groups.

The ASFA Retirement Standard is updated quarterly to reflect inflation and provides detailed budgets of what singles and couples would need to spend to support each lifestyle.

A modest retirement lifestyle is considered better than could be attained on the Age Pension alone. However, a retiree with a modest retirement lifestyle would still only be able to afford fairly basic activities. The Modest budget (which assumes home ownership) is \$28,220 per year, or \$541 per week. This is higher than the equivalent Age Pension payment (of \$24,619 per year, or \$472 per week).

A comfortable retirement lifestyle enables a healthy retiree to be involved in a broad range of leisure and recreational activities and to have a good standard of living through the purchase of such things as; household goods, private health insurance, a reasonable car, good clothes, a range of electronic equipment, and domestic and occasionally international holiday travel. The Comfortable budget (which assumes home ownership) is \$44,183 per year, or \$847 per week.

The most recent Retirement Standard benchmarks are below.

Table 1: Retirement Standard benchmarks (March quarter 2020)

Modest lifestyle		Comfortable lifestyle	
Single	Couple	Single	Couple
\$28,220	\$40,719	\$44,183	\$62,435

In April 2018, ASFA published a comprehensive review of the ASFA Retirement Standard. As part of the review, the budgets for both the Modest Retirement Standard and the Comfortable Retirement Standard were updated. More details can be found at: <https://www.superannuation.asn.au/ArticleDocuments/269/2018-ASFA-Retirement-Standard-Budgets-Review.pdf.aspx?Embed=Y>

The Age Pension supports only a very basic standard of living in retirement

For a single person, the maximum Age Pension payable (including various supplements, but excluding rent assistance) is currently \$944.30 per fortnight. This equates to around \$472 per week, or around \$24,619 per year (Table 2). Rent assistance is available to eligible retirees – up to a maximum of \$139.60 per fortnight (this issue is explored further at the end of this section).

A broad indication of the standard of living that the Age Pension can support can be gleaned by adjusting ASFA’s Modest Retirement Standard. A stylised expenditure basket for someone who relies solely on the Age Pension can be derived by reducing discretionary spending in the Modest Standard (in Table 3, expenditure on ‘Recreation’ has been reduced to equate the Modest benchmark with the Age Pension). The Modest Standard assumes home ownership, where expenditure on housing includes home and contents insurance, council rates, water rates and various home repair costs.

It is certainly the case that the Modest Standard itself allows for only fairly basic expenditures. For example, given the cost of basic food items at the supermarket, limiting expenditure to \$94 per week on quality food to support a healthy diet would be challenging. However, the adjusted standard would only allow for \$28 per week, or just under \$4 per day, on ‘discretionary’ recreation.

For retirees who rent, rental payments place increased pressure on budgets – particularly for those who rely solely on the Age Pension (Box 3). Housing is the largest fixed cost in most household budgets, meaning that those with lower housing costs, such as people who own their homes outright, are able to achieve a higher standard of living than those on the same income but with higher housing costs. Overall, around one in 9 Australians aged older than 65 live in private rentals.

Table 2: Payment rates for the Age Pension, fortnightly (as at 20 March 2020)

Household type	Single	Couple each	Couple combined	Couple apart due to ill health
Maximum basic rate	\$860.60	\$648.70	\$1,297.40	\$860.60
Maximum Pension Supplement	\$69.60	\$52.50	\$105.00	\$69.60
Energy Supplement	\$14.10	\$10.60	\$21.20	\$14.10
Total	\$944.30	\$711.80	\$1,423.60	\$944.30
Maximum rent assistance	\$139.60	\$65.80	\$131.60	\$139.60
Total with rent assistance	\$1,083.90	\$777.60	\$1,555.20	\$1,083.90

Table 3: Age Pension expenditure basket, weekly⁵⁷

Age Pension expenditure basket (derived)	
Expenditure categories	
Food	\$94.01
Clothing and footwear	\$20.49
Housing	\$101.75
Energy	\$36.95
Household goods and services	\$33.90
Health	\$50.25
Transport	\$89.24
Recreation	\$27.51
Communication	\$18.20
Total	\$472.30

Source: ASFA derived

Box 3: Renting exacerbates cost-of-living pressures

Age Pension recipients who also rent may be eligible for rent assistance, which would boost their total pension income. Eligible persons can receive up to an additional \$70 per week (for a single person). This would increase weekly maximum pension income from \$472 to \$542.

In addition, in respect of the stylised expenditure basket for the Age Pension, some of the expenditure allocated to housing costs (for home ownership) would not be applicable to a person who rents – such as home repair costs, council rates and insurance for the dwelling (rather than for contents). All housing related costs in the Age Pension expenditure basket (in Table 3) are disaggregated in Table 4. Those costs that would not be applicable to a person who rents total around \$67 per week.⁵⁸

Table 4: ASFA Modest standard: Housing expenditure items, weekly

Housing: expenditure sub-categories	
Insurance - home and contents	\$25.78
Council rates	\$33.88
Water charges	\$21.92
Home repairs	\$20.16
Total	\$101.74

Source: ASFA derived

Overall, the additional income available to a person to spend on rent would amount to around \$140 per week – assuming that the person makes no offsetting reductions to other expenditure categories. However, this would be unlikely to cover the cost of even the most modest rental accommodation – particularly in the major capital cities (Table 5).

Table 5: Average weekly rents for single bedroom units, outside city centre

City	Weekly rent
Sydney	\$429
Melbourne	\$320
Brisbane	\$288
Perth	\$227
Adelaide	\$241

Source: Numbeo and ASFA calculations⁵⁹

An additional source of budgetary pressure is the lack of financial buffer to meet unexpected expenses – such as emergency dental procedures. A typical person who relies solely on the Age Pension does not have significant savings in a bank account or in the form of other types of liquid assets. For a person to meet unexpected expenses, in the absence of the required savings, he or she would have to reduce spending on day to day items and activities. For many people in such circumstances, the inability to budget for unexpected costs would itself be a significant source of stress, and so would be welfare reducing.

Compulsory superannuation underpins higher standards of living in retirement for low-income earners than otherwise would be the case

As noted in Section 2, superannuation is the most important asset class for low-income earners aside from the family home. Low-income households that do not have any superannuation assets would include some retiree households, who would likely be relying on the Age Pension for retirement income. For households where the 'household head(s)' are still in the workforce, further contributions and future investment returns will help increase superannuation balances.

Compulsory superannuation allows people who earn relatively low incomes to accumulate superannuation balances that would make a material difference to their standard of living in retirement.

In particular, in the context of this paper, the SG regime would enable people who earn relatively low incomes to reach the ASFA Modest Retirement Standard. As noted in Box 2, the Modest Standard (which assumes home ownership) is \$28,220 per year, or \$541 per week (as at March quarter 2020).

ASFA estimates that an individual would need a superannuation balance at retirement of around \$70,000 (in today's dollars) to support a modest lifestyle in retirement. As is the case for the stylised example in the preceding section, the individual's superannuation balance would be drawn down over time (and eventually exhausted), and income from superannuation would be supplemented by Age Pension payments. It is also assumed that the person would have no other sources of income.

Of course, an income consistent with the ASFA Modest Retirement Standard would support only a fairly basic standard of living. For example, compared with the minimum wage, an individual's replacement rate (retirement income relative to income from work) would be around 75 per cent. As people who earn the minimum wage can attest, their lifestyle is by no means prosperous. However, it is far superior than that which can be supported solely by the Age Pension – which would provide a replacement rate for someone on the minimum wage of around 64 per cent.

Some people, for a variety of reasons, may have only a small superannuation balance by the time they

reach middle age. Some women, in particular, spend long periods of time outside the workforce in order to raise children, and so may have relatively low superannuation balances when they return to work.

A person who re-enters the workforce at age 50 with a superannuation balance of \$30,000, and who earns the minimum wage until retirement (at age 67), would – just on the basis of his/her SG contributions – have a balance of just over \$100,000 at retirement. Based on ASFA's Retirement Standard, it is likely that a balance of this size would provide a standard of living in retirement consistent with the modest retirement lifestyle.

Compulsory superannuation enables people to achieve a higher standard of living in retirement

The ASFA Comfortable Retirement Standard (ASFA Comfortable) is a retirement income benchmark that is consistent with a comfortable standard of living in retirement. While it is certainly the case that not all retirees will have income in retirement that is at or above the benchmark, there is clear evidence that the ASFA Comfortable is what a large proportion of the Australian community want (Box 4).

ASFA estimates that an individual would need a superannuation balance at retirement of around \$545,000 (in today's dollars) to support a comfortable lifestyle in retirement. As is the case for the stylised example in the preceding section, the individual's superannuation balance would be drawn down over time (and eventually exhausted), and income from superannuation would be supplemented by Age Pension payments. It is also assumed that the person would have no other sources of income.

Currently, it is estimated that around 20 per cent of retirees are on incomes that are at, or above, the ASFA Comfortable benchmark.

Box 4: The ASFA Comfortable Retirement Standard – what Australians want

The HILDA survey dataset includes responses from people, aged 45 and over, who are not yet retired, about the level of retirement income they would require for a satisfactory standard of living (in retirement).

For 2015, the average required income was \$43,128 for a single person, and \$62,340 for a couple. These average income expectations align closely with ASFA Comfortable Retirement Standard.

Respondents to the question on income requirements were also asked how much they had thought about their income needs in retirement. The survey results indicate that those who had given a lot of thought to the matter had higher expectations of their income requirements in retirement.

The HILDA researchers also concluded that, based on pre-retirement spending, people do not have unreasonably high expectations of their income requirements in retirement.⁶⁰ This is in clear contrast to claims by the Grattan Institute that ASFA Comfortable Retirement Standard involves expenditure in retirement that is much higher than individuals were spending prior to retirement.

This is confirmed by other available statistics. For instance, data from the ABS Household Income and Wealth Survey 2017-18 indicate that even when allowance is made for differences in housing costs, both the average and median disposable incomes for households with a household head aged 55 to 64 are higher than the levels set by ASFA Comfortable Retirement Standard. The circumstances of such households are directly relevant to assessing the adequacy of retirement incomes, as such households contain individuals who are approaching retirement in the not too distant future. The average disposable income for such households in 2017-18 was \$105,120 and the median disposable income was \$78,162.⁶¹

As the compulsory system matures, a larger proportion of retirees will reach the ASFA Comfortable Retirement Standard

It is expected that the proportion of retirees with income at or above the ASFA Comfortable Retirement Standard benchmark will increase as the compulsory system matures – that is, as time goes on, workers who are covered by the SG regime will receive SG contributions at higher rates for longer periods of time – and as the SG rate increases as legislated.

ASFA estimates that around 50 per cent of retirees will have an income at or above ASFA Comfortable Retirement Standard by 2050.

Analysis of the (potential) future superannuation balances of different cohorts of worker bears this out. Table 6 shows superannuation balances for workers on median (wage and salary) incomes by age, and their (potential) future balances at retirement age.

The figures emphasise the role the SG will play in boosting retirement incomes. Today's younger workers will have higher balances at the time of retirement than today's older workers, given that younger workers ultimately will receive SG contributions at higher rates for longer periods of time (compared with older workers). The analysis also shows that retirement balances will be higher if the SG rate increases as legislated.

The starkest insight from Table 6 is the difference in retirement outcomes between men and women. If the SG rate increases as legislated, male workers who enter the workforce today and earn (male) median wages throughout their career would be expected to reach the balance for the ASFA Comfortable Retirement Standard. In contrast, female workers who earn (female) median wages would be around \$100,000 shy of the benchmark. This reflects both lower current median balances, and lower projections for median wages.

Of course, wage and salary incomes are not evenly distributed among Australian employees. At any point in time, a relatively large proportion of employees earn relatively low incomes, while a smaller proportion of employees earn relatively high incomes. Further, an individual's wage/salary income will change over his/her working life. Typically, as an individual gains greater experience, he/she will be able to demand higher remuneration.

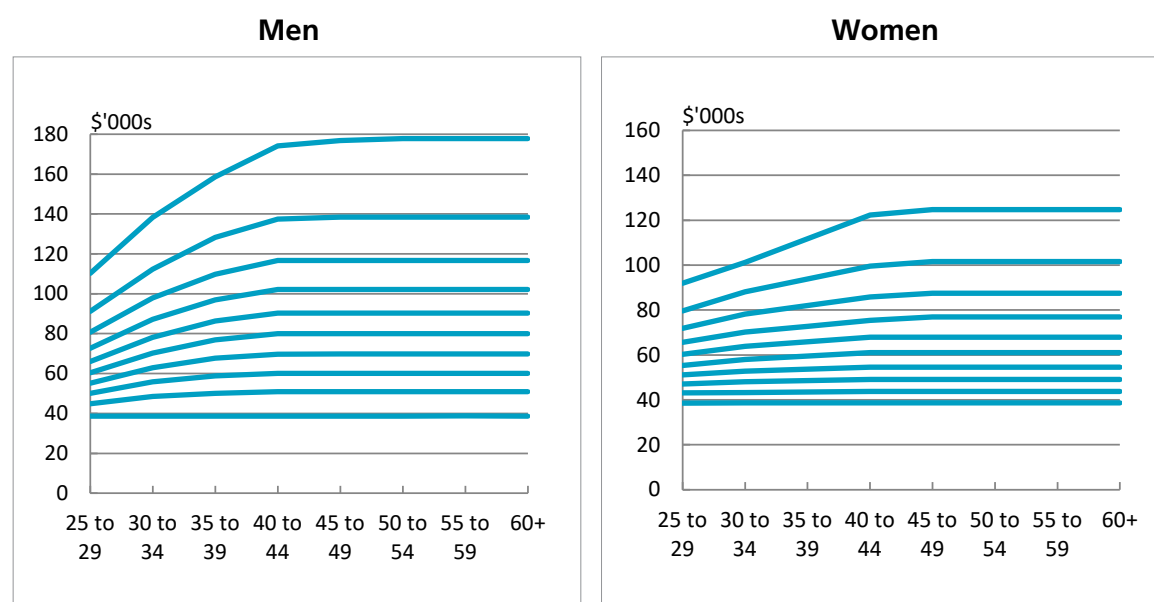
Using ATO data, wage and salary earners can be divided into equal cohorts (deciles), and wage profiles derived for each cohort – where each wage profile represents the minimum wage level for that particular cohort (Charts 11 and 12). Note these profiles are stylised – they are not intended to represent the income experiences of real people (income can vary markedly over a working life).

Table 6: Estimates of superannuation balances for median workers (in today's dollars)

Age	Males			Females		
	Current	Future		Current	Future	
		SG=9.5%	SG=12%		SG=9.5%	SG=12%
25 to 29	17,000	464,000	568,000	16,000	377,000	458,000
30 to 34	36,000	443,000	529,000	30,000	348,000	414,000
35 to 39	57,000	414,000	481,000	43,000	315,000	366,000
40 to 44	79,000	377,000	427,000	55,000	278,000	316,000
45 to 49	99,000	335,000	370,000	66,000	240,000	267,000
50 to 54	116,000	290,000	312,000	76,000	204,000	221,000
55 to 59	137,000	248,000	259,000	93,000	175,000	185,000
60 to 64	154,000	211,000	215,000	123,000	161,000	169,000

Source: ASFA derived

Chart 11 and 12: Wage profiles



Source: ASFA derived

Table 7: Balances at retirement for income cohorts (in today's dollars)⁶²

Income cohort	Men		Women	
	SG rate remains at 9.5%	SG rate increases to 12%	SG rate remains at 9.5%	SG rate increases to 12%
1	248,000	303,000	247,000	303,000
2	315,000	387,000	279,000	341,000
3	368,000	451,000	310,000	380,000
4	420,000	517,000	343,000	420,000
5	474,000	583,000	380,000	465,000
6	525,000	645,000	420,000	514,000
7	581,000	714,000	467,000	572,000
8	647,000	795,000	520,000	637,000
9	735,000	903,000	585,000	717,000
10	893,000	1,098,000	681,000	835,000

Source: ASFA derived

Table 7 shows projected superannuation balances, at the time of retirement, for the different income cohorts. If the SG remains at 9.5 per cent, men in the 7th income cohort and women in the 9th income cohort would be expected to reach the ASFA Comfortable benchmark at the time of retirement – solely on the basis of SG contributions.

Increasing the SG to 12 per cent will help workers in the middle-income cohorts reach ASFA Comfortable by the time of retirement, who otherwise might not attain that benchmark. If the SG rate increases as legislated, men in the 5th income cohort and women in the 7th income cohort would be expected to reach the Comfortable benchmark balance.

Individuals earning low incomes today will not always be on low incomes – and this matters for retirement incomes

As noted above, in reality, an individual’s income can change markedly over the course of his/her life – and, as a result, he/she can move through a number of income cohorts.

Particularly with respect to people who earn low incomes, any analysis of potential retirement outcomes needs to consider that not all people who earn low incomes today will do so in the future. For an individual, a period of low income may be part of a highly-variable income profile – which may include periods of relatively high incomes.

Analysis undertaken by the Productivity Commission bears this out. Table 8 shows the high degree of movement across income cohorts – where the vertical axis represents the proportion of individuals in each decile in 2000-01, and the horizontal axis represents the proportion of individuals in each decile in 2015-16.

Table 8 shows that only a minority of people who start off in a lower income cohort remain there. For example, of all those individuals who were in the bottom decile in 2000-01, only 22 per cent were still in the bottom decile

in 2015-16. 28 per cent had moved to the second decile, while 18 per cent had moved to the top half of the distribution (deciles 6 to 10). Even individuals who were still in the bottom cohort are likely to have been in higher cohorts, at some point(s), during the period. Indeed, the Commission finds that of those who were in the bottom two deciles in 2000-01, less than 2 per cent remained in those deciles during the entire 16-year period.

While an individual’s career advancement certainly affects income, so do discrete changes in life circumstances. For example, at different times in an individual’s life, he/she may be studying while working a part time job, working full-time, or taking time out of the work force to take care of family members or to raise children (particularly relevant for women).

The compulsory superannuation system means that people will continue to accumulate savings for their retirement regardless of their circumstances and income – whether their income is relatively high or relatively low. For individuals, ongoing saving via superannuation during periods when income is relatively low can have a material effect on their retirement outcomes (Box 5).

Table 8: Income distribution

Proportion of people in each income decile in 2000-01, by income decile in 2015-16

		Income decile in 2015-16									
		bottom	2	3	4	5	6	7	8	9	top
Income decile in 2000-01	bottom	0.22	0.28	0.12	0.11	0.07	0.05	0.04	0.03	0.04	0.02
	2	0.18	0.23	0.15	0.13	0.06	0.08	0.07	0.04	0.04	0.03
	3	0.11	0.12	0.15	0.12	0.12	0.11	0.10	0.08	0.07	0.03
	4	0.09	0.07	0.13	0.10	0.13	0.11	0.15	0.09	0.10	0.04
	5	0.08	0.08	0.08	0.12	0.11	0.12	0.10	0.12	0.10	0.07
	6	0.06	0.05	0.10	0.10	0.12	0.11	0.10	0.15	0.11	0.10
	7	0.06	0.04	0.06	0.09	0.11	0.13	0.10	0.12	0.14	0.13
	8	0.09	0.04	0.09	0.08	0.11	0.11	0.12	0.15	0.10	0.12
	9	0.06	0.05	0.07	0.09	0.07	0.09	0.08	0.12	0.15	0.20
	top	0.06	0.04	0.05	0.06	0.10	0.08	0.12	0.10	0.15	0.26

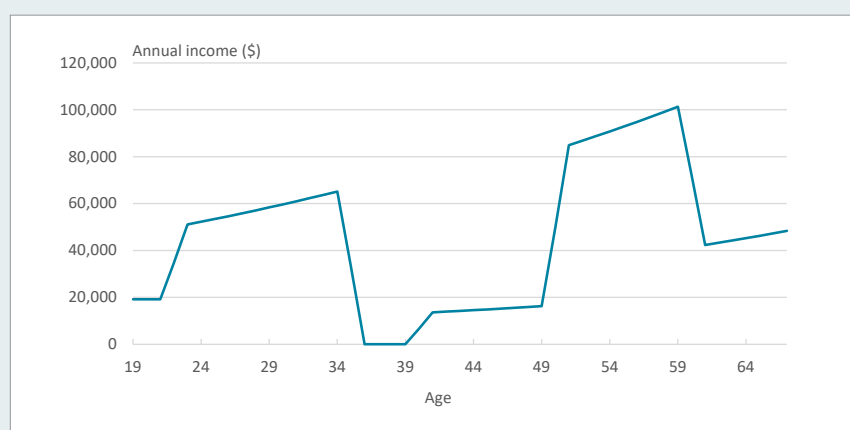
Source: Productivity Commission⁶³

Box 5: Cameo for a person with variable income

Consider the following cameo. Mary's income changes markedly over the course of her life, which mainly reflects changes in her circumstances. Although fictional, elements of the cameo would be familiar to many Australians (all figures are in today's dollars).

After Mary leaves high school, she attends university and studies for four years. During this period, Mary works in a number of cafes and restaurants on a casual basis – earning an average of \$400 per week. Upon graduation, at age 22, Mary secures a permanent full-time job – with a starting salary of \$50,000. In years that follow, Mary progresses professionally, and her salary increases as a result (in real terms). At age 35, Mary exits the workforce upon the birth of the first of her two children, and she remains out of the workforce for the next five years. Mary re-enters the workforce at age 40. She works part-time for the next 10 years. Mary resumes full-time employment at age 50. At age 60, Mary goes back to part-time work so that she can care for her elderly mother. A chart of her working income is below (Chart 13). Mary retires at age 67.

Chart 13: Mary's real annual income



Source: ABS and ASFA calculations.

Notes: Mary's real income is assumed to increase by 2.2 per cent per annum, which comprises 1.5 per cent economy-wide productivity growth, plus an additional growth factor for professional/salary progression.

Some observations can be gleaned from the above chart.

Firstly, Mary's income varies markedly over her career, to the extent that at different times she will be in relatively low and relatively high-income cohorts.

Secondly, Mary receives compulsory superannuation contributions whenever she is employed – regardless of her job, and regardless of her income. Even when Mary is earning a relatively low income, ongoing compulsory contributions help boost her superannuation balance and improve her (potential) retirement outcomes.

In retirement, Mary's superannuation supports an annual income of \$41,000 until she is 98 years of age, where income from superannuation is supplemented by the Age Pension. However, if Mary did not receive superannuation contributions during periods of low income her annual retirement income (to age 98) would instead be \$38,800.

As noted above, there is a minority of people who remain in a relatively low-income cohort(s) for long periods of their working life. Low incomes from work limit an individual's capacity to consume during his/her working life and (via saving) during retirement. In both cases, there is a role for government to provide support.

Compulsory superannuation improves the sustainability of the Age Pension and takes pressure off future federal government budgets

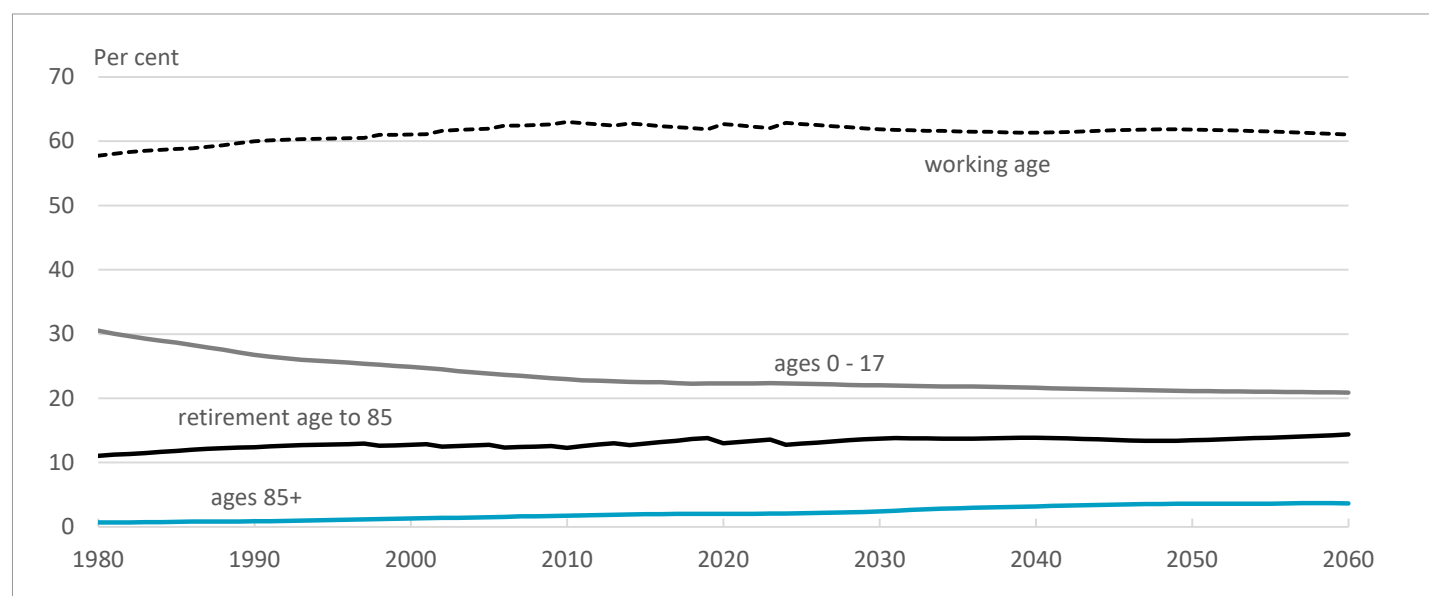
- Population ageing, and its fiscal implications, are an issue for many countries across the world, however Australia is better placed than most other advanced economies.
- As the compulsory system matures, and given the current income and assets tests for the Age Pension, the proportion of retirees eligible for either a full or part Age Pension is expected to decline. This will improve the sustainability of the Age Pension and so take pressure off future federal government budgets.
- Commonwealth expenditure on the Age Pension is expected to remain relatively stable, at low levels, over coming decades. ASFA projects that expenditure on the Age Pension will fall from 2.9 per cent to 2.6 per cent of GDP over the period to 2054-55, assuming the SG rate is increased to 12 per cent.
- Across the OECD, expenditure on public pensions averages around 9 per cent of GDP and is projected to increase to around 10 per cent by 2050. Some European countries already have four times the level of Australian expenditure, with this projected to rise further.

Australia's population is ageing

Over coming decades, the proportion of Australians who are of working age will decline, while the proportion of people of retirement age and older will increase (Chart 14).

By 2040, ongoing population ageing (offset to a small degree by anticipated changes to Age Pension eligibility) means that by 2055 there will be just over three working age people for each person of retirement age and older, compared with over four today and around seven just two generations ago.⁶⁵

Chart 14: Population cohorts (% total population)⁶⁴



Source: ABS, the Australian Treasury and ASFA calculations

Around the world, ageing populations portend fiscal pressures

Population ageing, and its fiscal implications, are an issue for many countries across the world.

Generally speaking, the fiscal pressures associated with an ageing population include a lower base for income tax revenue (in proportionate terms at least), higher recurrent outlays for health care and government funded pensions (as a share of GDP), and higher capital expenditures with respect to aged-care and health care facilities (as a share of GDP). In general, retirement income systems with larger unfunded components – such as unfunded defined benefit schemes and/or equivalents of Australia’s Age Pension – are more vulnerable to fiscal pressures.

Future governments will have to constrain specific age-related spending, or alternatively act to cut other forms of spending, increase taxes or accept permanently higher budget deficits (or a combination of these).

However, for each of these alternative approaches (or combinations of them), there are significant implications for economic growth and inter-generational equity – with the latter a potential source of conflict between generations. For example, in an ageing society, the burden for the unfunded component of a retirement income system will shift to the shrinking (in proportionate terms at least) working-age population.

For Australia, compulsory superannuation will help contain future Age Pension expenditure

Notwithstanding the fact that the proportion of Australians of Age Pension age will increase over coming decades, the superannuation system will help contain future Age Pension expenditure.

Australia’s compulsory superannuation system is maturing. Today, people who are entering retirement have not had the advantage of a full working life of compulsory superannuation contributions. However, as time goes on, people who reach retirement will have received SG contributions at higher rates, for longer periods of time, and receive higher investment income on higher balances (than otherwise would be the case). This will lead to higher balances for workers at retirement.

As such, given the current income and assets tests for the Age Pension, the proportion of retirees eligible for either a full or part Age Pension is expected to decline.

As at 2017, around 70 per cent of people aged over 65 received a full or a part Age Pension. Around 60 per cent of those (or 42 per cent of all people aged over 65) received the full Age Pension. On the basis that the legislated increases in the SG occur, the proportion of the population aged over 65 receiving a full or part Age Pension is expected to fall to around 60 per cent by 2055. Around 40 per cent of that proportion (or 24 per cent of all people aged over 65) is expected to receive the full Age Pension.⁶⁶

For government, the expected shift in the proportion of retirees eligible for the Age Pension will help contain the costs of the retirement income system.

Currently, the superannuation system generates savings for the Commonwealth (from reduced Age Pension expenditure) of around \$9 billion per year. The break-down of the savings are as follows:

- Around \$3.5 billion in savings from around 210,000 people with superannuation balances sufficient to enable them to be fully self-funded.
- Around \$4.2 billion in savings from around 600,000 people receiving around \$7,000 less a year on average due to the means test applying to superannuation assets and income streams.
- Over \$1.2 billion in savings from around 160,000 people in defined benefit pension schemes or otherwise subject to the income test for the Age Pension.

Looking ahead, Commonwealth expenditure on the Age Pension is expected to remain relatively stable, at low levels, over coming decades. ASFA projects that expenditure on the Age Pension will fall from 2.9 per cent to 2.6 per cent of GDP over the period to 2054-55, assuming the SG rate is increased to 12 per cent. This is consistent with the Australian Government’s own projections (Chart 15).⁶⁷

When the cost of superannuation tax concessions is added to Age Pension costs, the total cost to

government is still relatively low and sustainable. ASFA analysis indicates that tax expenditures for superannuation will peak at about 2.5 per cent of GDP in 2054-55, again assuming the SG rate is increased to 12 per cent.

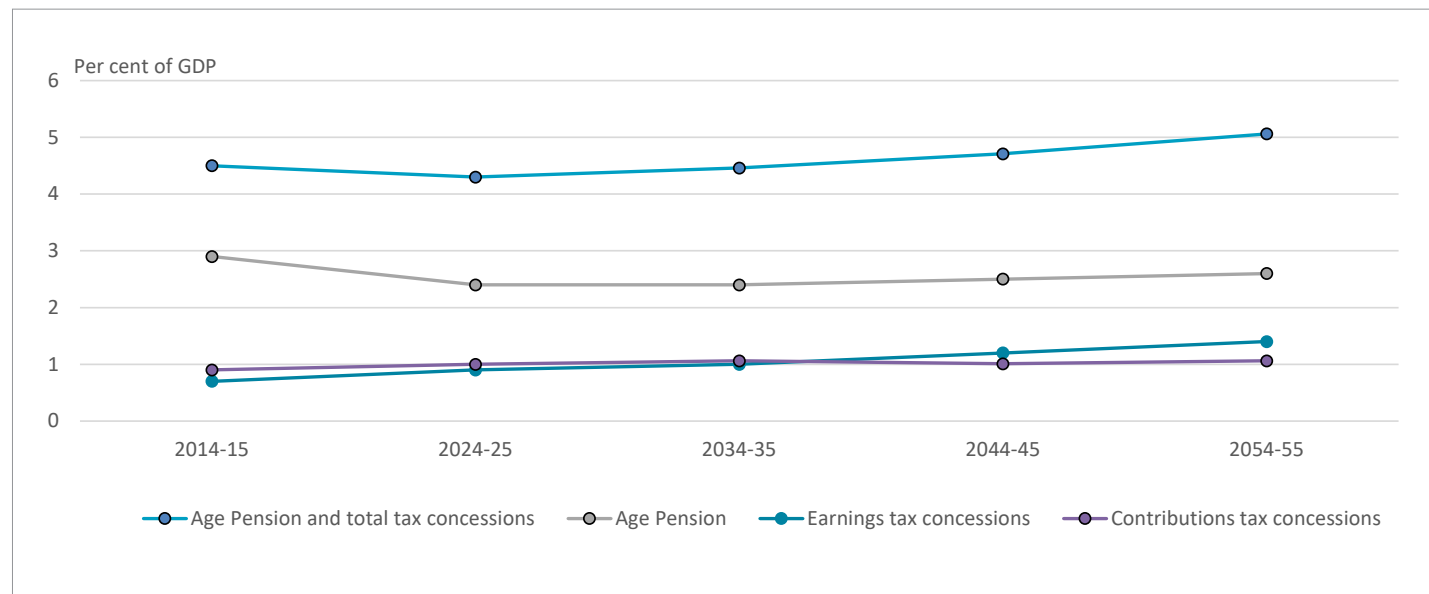
The cost of tax concessions for superannuation contributions will remain stable at around 1 per cent of GDP once the SG rate reaches 12 per cent. SG contributions make up the great bulk of concessional tax contributions.

On the other hand, the cost of tax concessions for investment earnings will increase somewhat as a share

of GDP. In particular, as the system matures assets will shift from the accumulation phase to the retirement phase – where investment income is tax free. That said, the income generated from these assets will lead to lower Age Pension expenditures than otherwise would be the case.

Overall, the total cost of expenditure on the Age Pension and on tax concessions for superannuation are projected to rise, but only from 4.5 per cent of GDP today to around 5.1 per cent of GDP by 2054-55. This is remarkable given the expected ageing of Australia’s population.

Chart 15: Projected fiscal cost of the retirement income system



Source: ASFA derived

Australia is facing far lower fiscal pressures than most other OECD countries

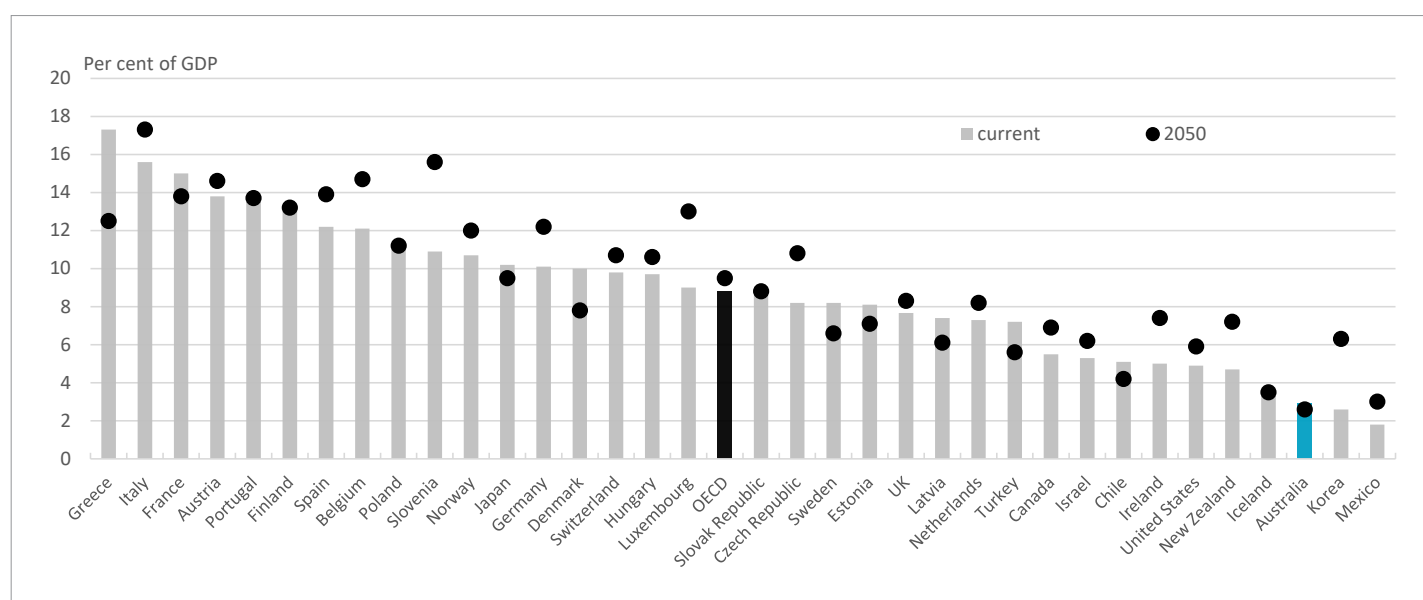
This will mean that the cost to government of Australia's retirement income system will remain more affordable than for most other OECD countries. Australia, both currently and in prospect, has among the lowest levels of public expenditure (in terms of per cent of GDP) on income payments to the aged in the world.

Across the OECD, expenditure on public pensions averages 8.8 per cent of GDP, is projected to increase to 9.4 per cent by 2050, and increase further thereafter (Chart 16). Some European countries already have four times the level of Australian expenditure, with this projected to rise further. Those countries where

expenditure on public pensions is expected to increase (in the absence of reform) include Canada, Germany, New Zealand, the United Kingdom and the United States. In contrast, and as noted previously, Australian expenditure is already relatively low (at 2.9 per cent) and is expected to decline.

Many OECD countries offer favourable tax treatment with respect to retirement savings made through private pension plans – including Australia. It is difficult to compare countries' tax expenditure figures because their magnitude depends on the specific tax benchmark used. However, even when only the cost of Australia's superannuation tax expenditures is included (Chart 17), the broader cost of Australia's system to the government is remarkably low.

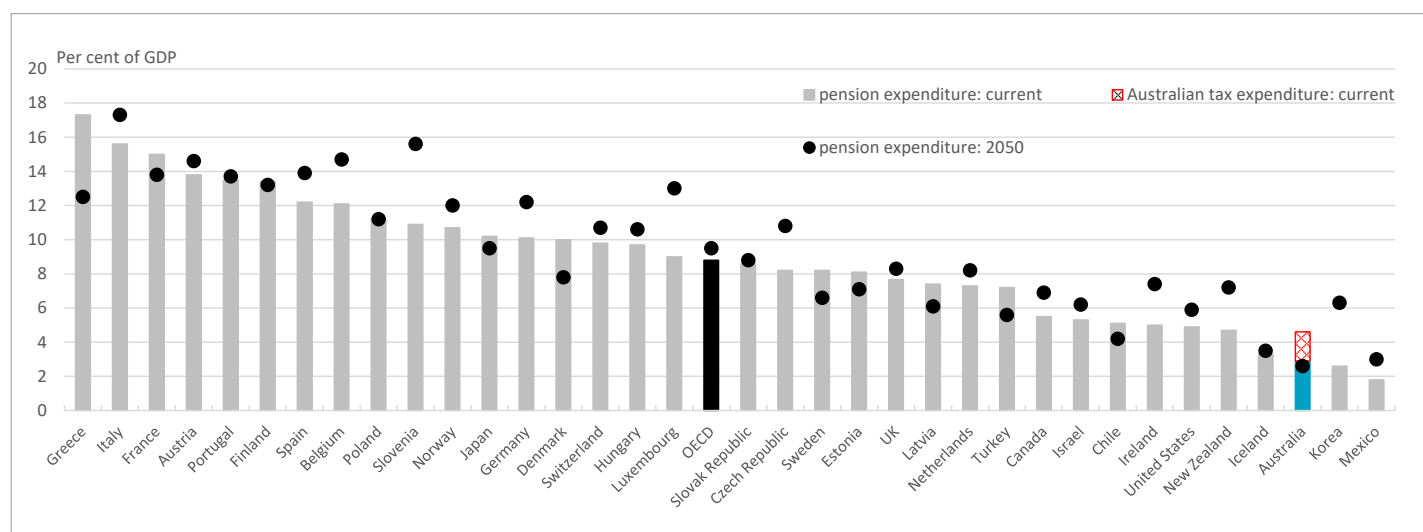
Chart 16: Public expenditure on pensions



Source: OECD and ASFA calculations⁶⁸

Note: The OECD 'current' figures are for the period 2015-16.

Chart 17: Public expenditure on pensions - with tax expenditures for Australia only



Source: OECD and ASFA calculations⁶⁹

Note: The OECD 'current' figures are for the period 2015-16.

Tax treatment of superannuation is broadly equitable across a range of income levels

Not only is government assistance in Australia for retirement incomes more fiscally sustainable than most other OECD countries, it is also more equitable.

The OECD estimates tax benefits as the present value of taxes saved over a lifetime, due to concessional tax treatment, expressed as a percentage of the present value of contributions.

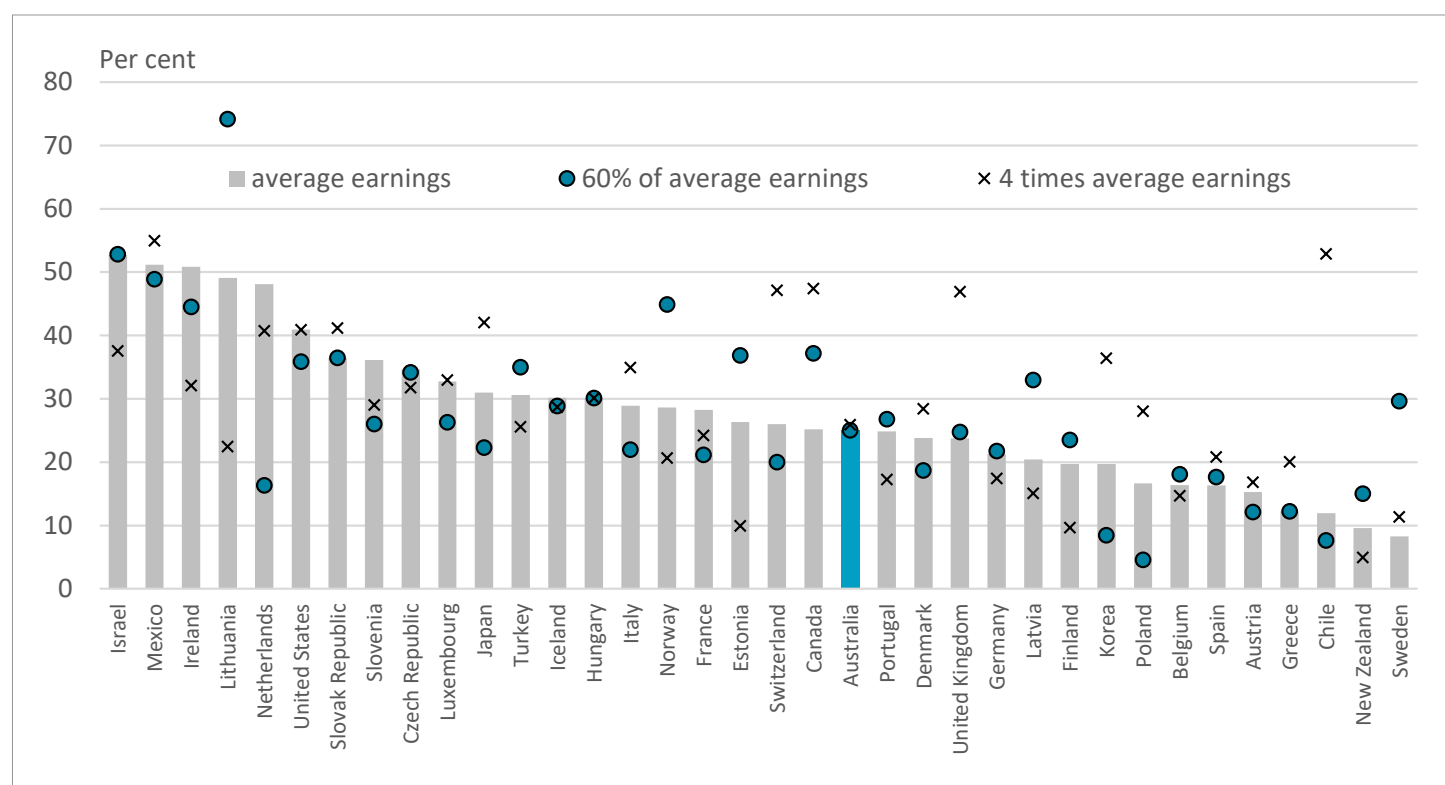
In terms of the broad degree of tax benefits, Australia sits in the middle of the pack (Chart 18), with the amount of tax saved from superannuation estimated to amount to around 25 per cent of contributions.

However, what is most stark about the OECD analysis is that, unlike most other countries, the estimated tax benefits are the same for average-income earners, high-income earners (four-times average earnings) and low-income earners (60 per cent of average earnings). In Australia, the various measures that limit the tax advantage accruing to upper income earners (contribution caps, Division 293 taxation on contributions of upper income earners), together with the Low Income Superannuation Tax Offset, have been very effective in bringing about what is in effect flat taxation rates for superannuation.

Redistribution and more general vertical equity goals in Australia are pursued effectively through a personal tax system with progressive tax rates and also through a flat rate and means tested Age Pension system.

Chart 18: Overall tax benefit for individuals, by income level

Present value of taxes saved over a lifetime, as a percentage of the present value of contributions



Source: OECD⁷⁰

Compulsory superannuation has led to broader macroeconomic benefits

- As well as taking pressure off the Commonwealth's finances, compulsory superannuation has broader positive impacts on the Australian economy.
- In the first instance, compulsory superannuation has led to higher levels of national saving than otherwise would be the case. The legislated increase in the SG rate would be expected to boost national saving further.
- Higher levels of national saving facilitate and support higher levels of fixed capital investment in the Australian economy, which in turn results in a larger capital stock/productive capacity.
- Ultimately, this means higher levels of GDP, higher levels of aggregate productivity and higher living standards for the broader Australian population.

Compulsory superannuation has helped boost Australia's national saving

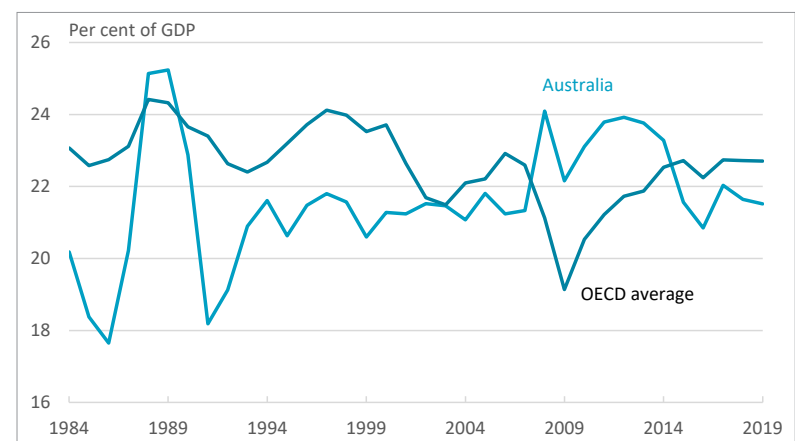
It was demonstrated in Section 1 that compulsory superannuation has led to higher rates of household saving (that is, household saving as a proportion of household income) than otherwise would be the case.⁷¹ Behavioural economics provides a number of compelling reasons why individuals tend to 'under-save' for retirement, and why compulsory superannuation can counteract this. Empirical studies estimate a sizable positive impact of compulsory superannuation on household saving outcomes.

The broader, macroeconomic issues are the implications of higher rates of household saving for Australia's level of national saving.

With respect to the effects of compulsory superannuation on national saving, widely cited work undertaken by the Australian Treasury estimates that higher rates of household saving due to compulsory superannuation translate into higher national saving – with the boost estimated to be around 1.5 per cent of GDP for 2011, and rising to close to 3 per cent over the subsequent few decades.⁷² The latter estimate assumes that the SG rate is increased to 12 per cent.⁷³

The trend for Australia's rate of national saving over the last decade supports this analysis (Chart 19). While Australia's saving rate has fluctuated from year to year, it clearly has increased in trend terms since the early 1990s – a period during which the average saving rate for all OECD countries actually declined (in trend terms). There are of course many factors that influence the saving rate from year to year.

Chart 19: Gross national saving



Source: IMF and ASFA calculations⁷⁴

For example, the impact of the Global Financial Crisis at its aftermath on Australia's national saving is clear in Chart 19. While the level of national saving in OECD countries declined sharply, on average, Australia's level of national saving increased – mainly reflecting the actions of households to contain their consumption expenditure.

Higher national saving facilitates higher domestic investment

The benefits of higher national saving for the Australian economy depend on the particular implications of higher national saving for national (domestic) investment and the current account deficit. The broadly accepted wisdom is that higher national saving through superannuation would be expected to lead to a combination of higher domestic investment and a narrower current account deficit.

For any country, investment (in fixed capital) is a means of increasing future output and consumption. Fixed capital investment, broadly defined, includes physical assets (such as buildings and equipment), and intangible assets (such as investments in research and development).

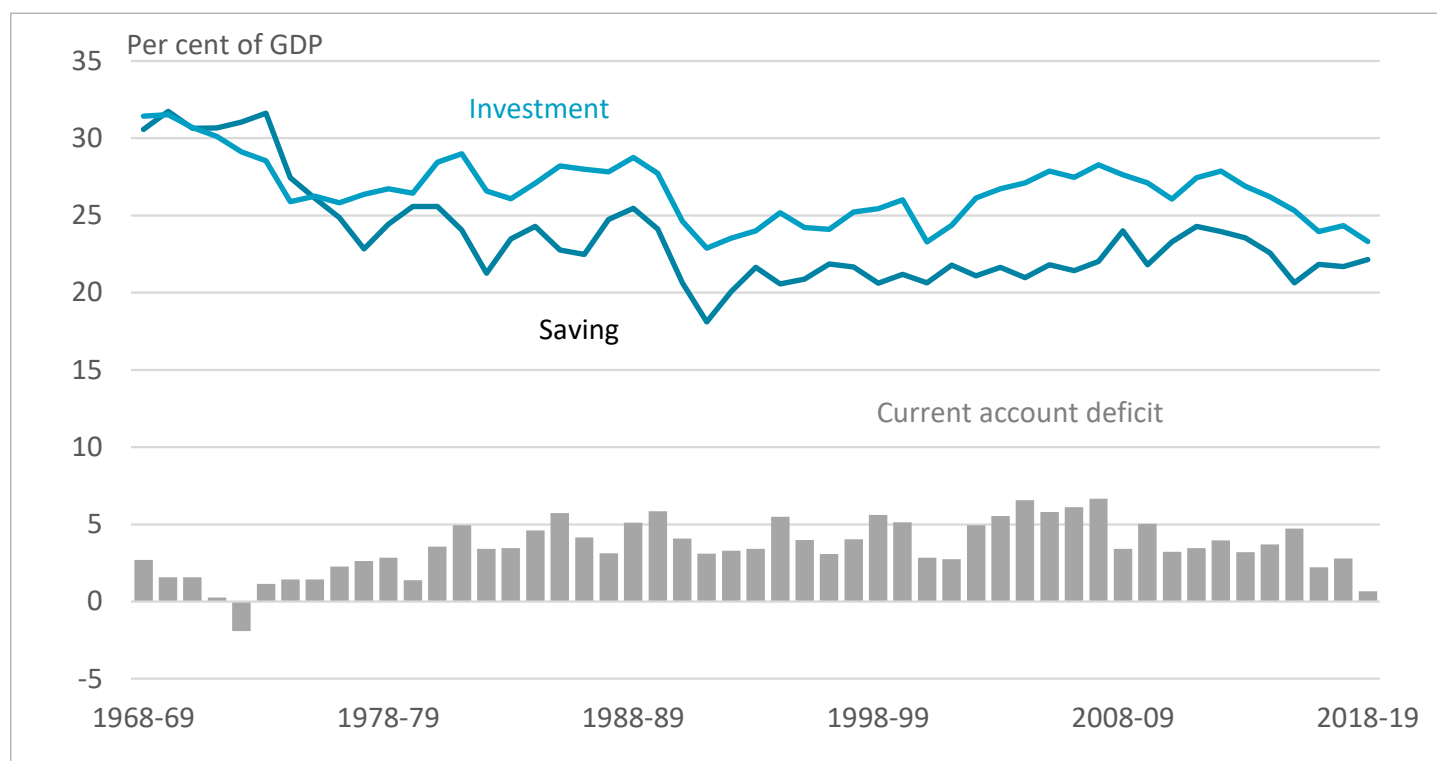
From year to year Australia has typically had more abundant domestic investment opportunities than could possibly be funded from historic levels of national saving, and thus is typically reliant on foreign sources of saving. This is reflected in Australia's persistent (annual) current account deficits, where the current account balance in any year is equivalent to national saving *less* domestic investment (Chart 20).

The key consideration is the degree to which a higher level of national saving facilitates a higher level of domestic investment.

Under standard 'text-book' assumptions that apply to a small, open economy (such as Australia), an increase in the level of national saving would lead to a narrower current deficit than otherwise would be the case, rather than higher investment. For instance, if it is assumed that the country is a pure price-taker in international capital markets, then the quantity of domestic investment would depend on the internationally-determined price of capital, not the level of national saving.⁷⁶

However, the more realistic case is where Australia is not a pure price taker. A higher level of national saving (as a share of GDP) would be expected to lead to increased domestic demand for a range of domestically issued financial instruments. This would allow capital-raising entities (firms) to raise a given level of capital for a lower cost – which would reduce the required rate of return on investment projects. Over the medium term, a lower required rate of return would be expected to lead to higher fixed capital investment by firms.

Chart 20: Australia's gross saving and investment, and current account



Source: ABS⁷⁵

In aggregate, a higher level of national saving would lead to a higher level of domestic investment, although the effect would not be 'one-for-one'. Higher national saving would also reduce Australia's net external financing requirements – reflected in a narrower current account deficit. It should be kept in mind that the level of GDP would be higher as well – generated by a higher level of productive capital stock from higher levels of national investment.

For Australia, the size of the relative effects is an empirical question. However, it would be expected that the effect on the level of investment as a share of GDP would out-weigh that effect on the current account deficit. This supported is by economic theory, and also history – over the period since the compulsory superannuation system was introduced and has evolved, both national saving and domestic investment have tended to move together, while the current account has remained relatively steady (as a share of GDP).

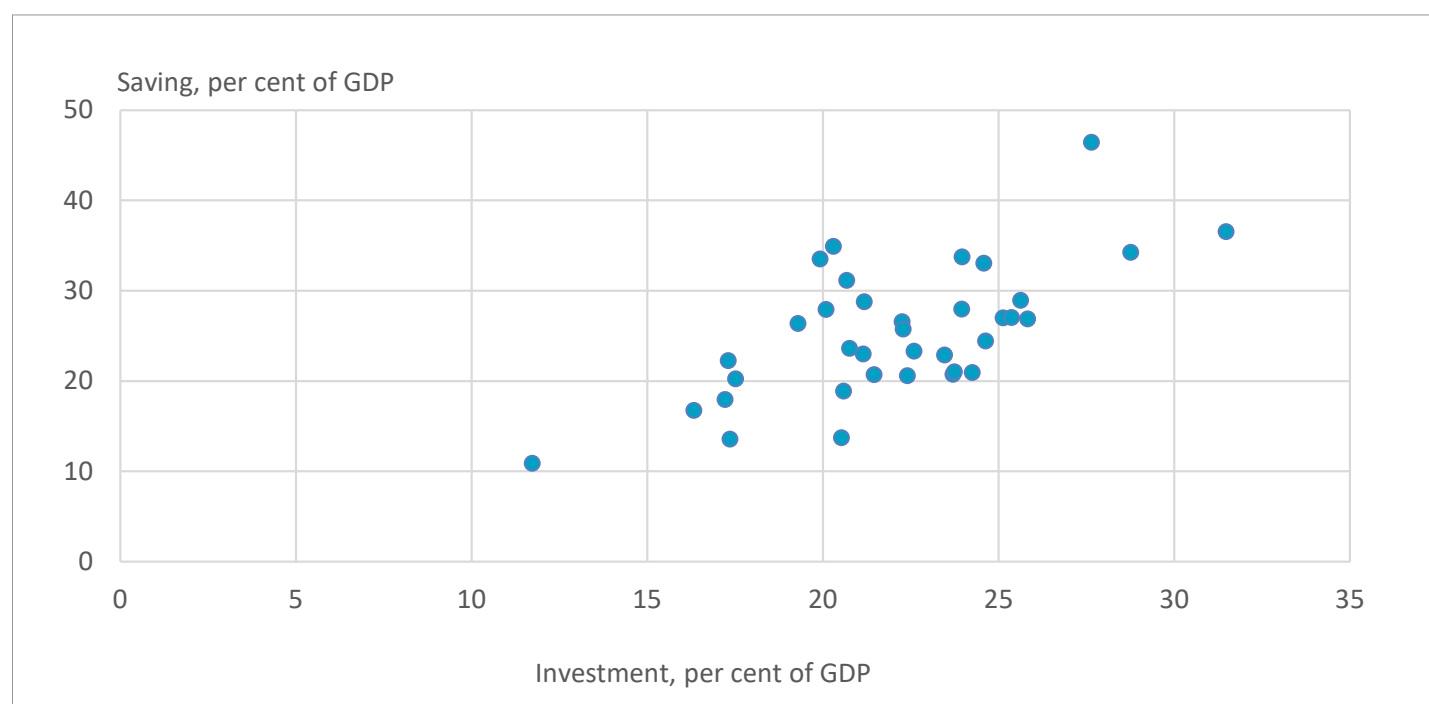
This is also consistent with international data. The stylised fact is that there is a robust cross-country correlation between current levels of saving and investment (Chart 21), notwithstanding that this ignores optimisation (by countries) of saving, investment and consumption through time.⁷⁷

Since Australia's capital stock is higher, so is the value of the financial claims on that capital stock. With respect to Australian corporations, these financial claims include equities and various forms of debt such as corporate bonds and intermediated credit.

Given the reasonable assumption that much of the increase in national saving has led to an increase in domestic investment (rather than a narrowing of the current account deficit), then the increase in Australia's capital stock and the increase in financial claims on Australian entities is likely to be in the order of \$500 billion.

Ownership of those additional claims would be dominated by Australian superannuation funds. As highlighted above, compulsory superannuation has led to an increase Australia's capital stock and, by extension, total wealth. With respect to this additional wealth – held by superannuation funds – this would be invested in the very financial securities that resulted from the introduction, and evolution of the compulsory system. Of course, to some degree, some of the additional wealth would be invested offshore – in line with the principles of asset diversification – with concomitant investment by foreigners in Australian assets.

Chart 21: Gross saving and investment for OECD countries, 2018



Source: IMF⁷⁸

Higher levels of national saving boosts GDP

Superannuation funds are part of the broader economy/financial sector mechanism whereby new savings are mobilised to fund new fixed capital investment for productive purposes in Australia. Ongoing fixed capital investment over time, less depreciation of capital, builds the economy's capital stock. Technological advancements can be thought of as being 'embedded' in higher quality capital.

The combination of increases in the quantity, and improvements in the quality, of capital underpin higher levels of GDP, and higher realised gains in labour productivity (roughly speaking, output per worker). Ultimately, this leads to higher wages for workers and higher living standards for the broader Australian population.

Modelling undertaken by the CSIRO-Monash Superannuation Research Cluster supports the positive effect of compulsory superannuation on GDP, and in particular the positive impacts of a further increase

in the SG rate. The modelling concludes that a 1 per cent increase in the SG rate (and the associated increase in national saving) would increase the level of real GDP by 0.2 percentage points in the medium-term – with the main mechanism underpinning this shift being a higher level of fixed capital investment by firms.⁷⁹

Looking ahead, ongoing investment (in both physical and human capital) in the Australian economy will be crucial to support Australian's living standards as the population ages. Over the next few decades, the proportion of the population involved in producing Australia's economic output will shrink, while the proportion of the dependent population (that is, retirees and children) will increase. This suggests that average output per worker (that is, measured labour productivity) will have to increase, by some degree, just to sustain average living standards.

Superannuation will continue to play an important role in building Australia's productive capacity.

Compulsory superannuation is a source of patient capital for alternate asset classes that are crucial for Australia's long-term productivity performance

The investments made by APRA-regulated superannuation funds are diverse. This includes funding for investments that may not be available through other means – including infrastructure, private equity and venture capital, and various other unlisted assets.

- Compulsory superannuation provides stable sources of funding for domestic infrastructure projects. At present, APRA-regulated superannuation funds have investments of up to \$71 billion in domestic infrastructure.
- Australian funds continue to invest in both green and brown-field infrastructure opportunities in Australia. With respect to the latter, funds' participation in asset recycling initiatives helps governments to unlock their balance sheets and fund new infrastructure projects.
- Compulsory superannuation provides stable sources of funding for private equity and venture capital investment.
- In aggregate terms, superannuation funds are the largest group of investors in private equity in Australia, having now committed over \$8.1 billion out of a total commitment of \$26.7 billion.

Approximately 20 per cent of all APRA-regulated fund assets, or \$349 billion, is invested in unlisted equity, unlisted property, infrastructure or other alternate assets. Among MySuper products these categories represent 26 per cent of investment, or approximately \$183 billion.⁸⁰

Compulsory superannuation provides stable source of funding for infrastructure projects

New infrastructure investment is a key source of productivity growth in modern advanced economies. With respect to direct effects on firms, new infrastructure investment can lower production costs and facilitate greater market access. New infrastructure investment can have further (indirect) effects on productivity growth because of the existence of network

externalities and competition enhancing effects.⁸¹

Particularly in the context of the recent rapid increase in Australia's population, Australia has a significant infrastructure needs. The available international comparisons suggest that, notwithstanding recent increases in government spending on infrastructure and increased private participation in projects, the overall quality of Australia's infrastructure lags well behind comparable nations. Recently, the World Economic Forum ranked the quality of Australia's infrastructure as only 29th out of 141 countries.⁸² Various reports into the state of Australia's infrastructure have highlighted the need for significant improvements to Australia's road, rail, energy and water infrastructure.⁸³

Australian superannuation funds are big investors in infrastructure. On average APRA-regulated funds are estimated to have invested just over 6 per cent of their funds under management in infrastructure, the bulk of which are unlisted assets.⁸⁴ This compares with an allocation to unlisted infrastructure of around 1 per cent for pension funds globally.⁸⁵ That said, there is significant variation in the asset allocation to infrastructure among Australian funds.

The growth in infrastructure as a proportion of total superannuation fund investment has occurred in response to a number of factors; including increased opportunities for private finance, strong financial performance of infrastructure assets, greater recognition by funds of the role of infrastructure as an investment class within portfolios, and a desire to better match liabilities to assets.⁸⁶

With respect to domestic infrastructure, investments of APRA-regulated superannuation funds are currently estimated at between \$48 billion and \$71 billion.⁸⁷ This includes direct holdings, but also investments in listed infrastructure companies (funds also hold infrastructure debt through their fixed interest portfolios).

Australian funds continue to invest in both green and brown-field infrastructure opportunities in Australia. With respect to the latter, funds' participation in asset recycling initiatives helps governments to unlock their balance sheets and fund new infrastructure projects.

A key question is whether, in the absence of superannuation, investment in Australian assets within these categories would have been lower. There are a number of reasons why this might well have been the case.

Pooled superannuation allows investment in lumpy assets (where splitting ownership across many parties is difficult) and over longer time horizons than is the case for most individual investors. Established infrastructure assets are particularly well-suited to pension fund investment because they generate income over the long term, tend to have defensible, regulated market positions and have counter-cyclical properties. That said, liquidity and valuation issues can limit the

attractiveness of infrastructure investment for some funds which, for example, have significant volatility in inflows and outflows.⁸⁸

Compulsory superannuation provides stable source of funding for venture capital investment

Superannuation funds have also contributed significantly to private equity (PE) and venture capital (VC) investment in Australia.

PE is different from VC. PE funds invest in established businesses which are usually already generating a profit. They typically provide capital for growth, more management focus and greater strategic direction. VC funds generally invest in the early stages of a business lifecycle, such as when they are developing new technologies or products. That said, the boundary between the investable universe of assets for VC and PE funds is not always clear cut.⁸⁹

The PE/VC industry delivers material contributions to economic growth through a number of channels. Of course, the PE/VC industry makes direct contributions to the Australian economy – in terms of direct value-added and direct employment. However, it is the indirect economic contributions for which PE/VC is most associated. PE/VC is a source of innovations that ultimately get adopted and adapted in the broader economy.

In aggregate terms, superannuation funds are the largest group of investors in private equity in Australia, having now committed over \$8.1 billion out of a total commitment of \$26.7 billion.⁹⁰

Conclusion

Australia's SG regime is a key pillar of Australia's broader retirement income system that is independently ranked as one of the best globally in terms of sustainability, adequacy and integrity.

The SG regime underpins what ASFA has long argued to be the core objective of the Australian superannuation system – to provide an adequate income to ensure all Australians achieve a comfortable standard of living in retirement, supplementing or substituting the Age Pension.

However, Australia's compulsory superannuation system provides numerous broader benefits – for the Australian government, the Australian economy and the broader Australian population. Overall, these benefits will only grow as the system matures.

ASFA has long advocated for policy changes that would enhance the long-term integrity of Australia's system of compulsory superannuation.

ASFA supports extending coverage of the SG regime to workers who are not presently covered.

Employees who earn less than \$450 in a calendar month are not covered by the SG. ASFA considers that the \$450-a-month threshold for the SG should be removed. In general terms, the existence of the threshold penalises some low-income earners,

permanent part-time workers, and workers with multiple jobs.

ASFA considers that the SG should be extended to the self-employed. The self-employed account for around 10 per cent of the Australian workforce and, on average, have lower superannuation balances than employees in equivalent industry/age cohorts.

Looking ahead, the ongoing rise of the gig economy means it is likely that an increasing proportion of the Australian workforce will, at various career points, be self-employed (for example, as an independent contractor). If the SG regime is not extended to the self-employed, affected workers will have lower or no superannuation contributions, and lower superannuation balances at retirement.

ASFA supports increasing the SG rate from its current 9.5 per cent to 12 per cent. This would help boost the retirement incomes of the broad range of Australian workers and provide for higher standards of living in retirement, while underpinning the long-term sustainability of Australia's Age Pension in the context of an ageing population.

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- ³ Melbourne Mercer Global Pension Index 2019 (<https://australiancentre.com.au/projects/melbourne-mercerglobal-pension-index/>).
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- ⁶ Owner managers of unincorporated enterprises comprise 9.9 per cent of total employed persons as at August 2019 (Australian Bureau of Statistics, Characteristics of Employment, August 2019, ABS Cat. no. 6333.0).
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- ²⁷ Of course, quality financial advice can help overcome behavioural biases. However, this may not be affordable for many on low incomes.
- ²⁸ It is difficult to estimate the direct impact of the SG regime on saving outcomes. For this, one would need to quantify (hypothetical) household saving under the counterfactual – that is, what amount Australian households would have saved (via superannuation as well as in total) in the absence of compulsory superannuation. This

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counterfactual is, of course, unobservable. In addition, households are not identical – the impact of the SG regime on the saving outcomes of individual households would be different.

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⁴² Ibid.

⁴³ Ibid.

⁴⁴ This would include vacation homes, as well as investment properties. Reserve Bank of Australia, Statistical Tables: Household Non-financial Assets – Distribution; and Reserve Bank of Australia, Statistical Tables: Household Debt – Distribution, June 2016.

⁴⁵ Net wealth: assets less any borrowings used to purchase the associated assets.

⁴⁶ Based on methodology in Balestra, C. and R. Tonkin (2018), Inequalities in Household Wealth Across OECD Countries: Evidence from the OECD Wealth Distribution Database, OECD Statistics Working Papers, 2018/01, OECD Publishing, Paris. ([https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=SDD/DOC\(2018\)1&docLanguage=En](https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=SDD/DOC(2018)1&docLanguage=En)), as well as data from the OECD Wealth Distribution Database.

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⁵⁴ Based on 2017 data.

⁵⁵ Where the Age Pension payments are the basic pension, plus the maximum pension supplement and the energy supplement.

⁵⁶ The assumptions used in this analysis are as follows: A person retires at age 67. Administration fees are a flat \$100 per year, plus 0.1 per cent of assets. Nominal investment returns are 5 per cent after investment fees (0.7 per cent of assets). All figures are in today's dollars using 2.75 per cent (average weekly earnings) as a deflator. Superannuation is exhausted by age 97.

⁵⁷ The Comfortable Standard expenditure basket is from ASFA 2018, 2018 ASFA Retirement Standard Budgets Review, April 2018 (<https://www.superannuation.asn.au/ArticleDocuments/269/2018-ASFA-Retirement-Standard-Budgets-Review.pdf.aspx?Embed=Y>). The Age Pension expenditure basket has been derived from the Modest Standard expenditure basket (ASFA 2018, 2018 ASFA Retirement Standard Budgets Review, April 2018).

⁵⁸ That is, the sum of the costs of council rates; home repairs; contents insurance (assumed to be half of the total cost of insurance).

⁵⁹ Numbeo website: <https://www.numbeo.com/cost-of-living/>.

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⁶² The assumptions used in this analysis are as follows: A person starts work at age 19 and retires at age 67. Wage profiles for each income cohort are derived from ATO Individual Sample Files (2016-17). The SG rate increases to 12 per cent as legislated. Administration fees and insurance premia total \$200 per year. Nominal investment returns are 5.7 per cent after investment fees and taxes. All figures are in today's dollars using 2.75 per cent (average weekly earnings) as a deflator.

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⁶⁷ Also, this projection is broadly consistent with the Australian Government's 2015 Intergenerational Report:

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⁷³ Treasury notes that it is certainly the case that part of the boost to household saving comes from the public sector, due to the tax preferred status of superannuation – that is, the government forgoes tax revenue that otherwise would have been collected had compulsory super contributions been paid instead as wages to employees. However, because the government’s fiscal strategy commits to budget surpluses on average over the medium term, it follows that any budget shortfall arising from the tax-preferred status of compulsory superannuation must be offset elsewhere in the budget – on average over the medium term.

⁷⁴ IMF, World Economic Outlook Database.

⁷⁵ IMF, World Economic Outlook Database.

⁷⁶ That said, in this framework an increase in the level of national saving could lead to higher domestic investment if higher national saving lowered domestic risk premia, and thus the required rate of return. Kirchner, S. 2012, Compulsory Super at 20: ‘Libertarian Paternalism’ Without the Libertarianism, Centre for Independent Studies Policy Paper (<http://www.cis.org.au/product/compulsory-super-at-20-libertarian-paternalism-without-the-libertarianism/>).

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