

The future of retirement income

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About State Street Global Advisors

For nearly four decades, State Street Global Advisors (SSgA) has been committed to helping their clients, and the millions who rely on them, achieve financial security. SSgA partner with many of the world's largest, most sophisticated investors and financial intermediaries to help them reach their goals through a rigorous, research-driven investment process spanning both indexing and active disciplines. With trillions in assets, their scale and global reach offer clients unrivalled access to markets, geographies and asset classes, and allow SSgA to deliver thoughtful insights and innovative solutions. State Street Global Advisors is the investment management arm of State Street Corporation.

About ASFA

ASFA is a non-profit, non-politically aligned national organisation that is the peak policy and research body for the superannuation sector. Our mandate is to develop and advocate for policy in the best long-term interest of fund members. Our members – which include corporate, public sector, industry and retail superannuation funds, plus self-managed superannuation funds and small APRA funds through its service provider members – represent more than 90 per cent of the 12 million Australians with superannuation.

ASFA would like to acknowledge the work of Stephanie Weston in producing this paper.

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Executive summary

This report is the outcome of collaboration between ASFA and State Street Global Advisors Australia (SSgA). It provides a detailed analysis of the sustainability of Australian retirement savings from the perspective of today's average Australian. Most Australians don't have enough money to retire on. Most recent data (2011/2012) indicates that the average Australian retires with an accumulated balance \$197,000 for men and \$105,000 for women. It will not be until around 2040 that most Australians will be retiring having contributed to superannuation for their entire working life. As the system matures and the Superannuation Guarantee (SG) contribution is increased to its target level of 12 per cent, accumulation balances at retirement will be larger and the need for retirees to rely, even in part, on the Age Pension will reduce.

The report draws the following conclusions:

- 1. The average couple needs just over \$500,000 to ensure that they can live comfortably in retirement.** However, this relies on the Age Pension contributing to retiree income and this is only true if the retirees are relatively healthy and own their own home. Critically, while this amount is adequate, it does not factor in the risk of living longer than expected, having to face unexpected health care costs, or changes in the Age Pension arrangements.
- 2. That including growth assets in the retirement portfolio, may help to achieve a longer stream of retirement income.** While cash and fixed income investments generate an income stream from interest paid, the growth that is generated from assets like equities and property should result in a retiree's lump sum lasting longer.
- 3. Sequencing risk – where money is withdrawn from a superannuation account immediately after the market drops, and before it recovers – is less of a problem in retirement than in the late accumulation stage.** This is because relatively smaller amounts are being withdrawn (and therefore relatively less loss crystallised) compared with the late accumulation phase or at the point of retirement when the asset allocation of the entire portfolio may be shifted dramatically.
- 4. Longevity risk remains a problem for those individuals who outlive their savings.** Without additional protection against the risk of living longer, retirees may see their lifestyle significantly diminished, as they have only the Age Pension to support them when all of their superannuation assets have been spent.

Based on these findings and on other ASFA policy research, we make the following statement:

The industry must be able to help retirees by providing retirement products which generate a regular and stable income stream, provide longevity risk management and which are flexible enough to deal with unexpected life events. This will help prevent retirees over spending, and running out of income earlier than expected, or conversely under spending and leading an unnecessarily frugal life.

This means it is vital that the recommendations in relation to the super system by the FSI be implemented, regulatory impediments to income streams product development be removed, the qualifications for financial advisers be reviewed so that increased requirements are placed on those that provide retirement advice and the development of self-guided advice retirement tools be encouraged.

It will be important not to throw the baby out with the bath water in coming up with the solution to this challenge. Allocated pensions can be appropriate in solving part of the retirement conundrum provided that individual retirees have a disciplined drawdown approach and that the asset allocation is consistent with the projected lifetime. What the industry does need however, are additional products which provide more flexibility and meet the need to protect against the risks of longevity. These may be add-ons to an allocated pension-style product, or a standalone product which bundles together desirable features such as: a regular income stream; a deferred annuity; and a deferred cash lump sum for aged care costs.

While this paper deals with the income which can be generated from portfolios with different mixes of assets, it links closely with the need to help individuals to plan their retirement spending. In the current system, there is no standardised guidance as to how to manage assets in retirement. And this means that decisions which must be made at the point of retirement can be challenging and confusing. As most retirees will not have access to good financial advice, there is a risk that their decision making is sub-optimal, and that they may end up invested in an inappropriate product. Further, ASFA supports the Murray Report recommendations to review the qualifications for financial advisers and to develop self-guided retirement advice tools.

Introduction

Most Australians in retirement face the issue of deciding how much of their superannuation they can draw down each year, without risking that their superannuation will not last long enough. While there has been recent debate around the appropriateness of the regulations for *minimum* withdrawal levels, this is a problem faced by the minority of Australians. For most retirees, the challenge is the opposite; they would like to spend more money, but don't have a big enough balance to meet those needs.

ASFA's focus in this paper is on the individual for whom the *maximum* drawdown is the focus of their decision making, rather than the minimum. It deals with the common problem of retirees not being able to make their retirement savings last long enough to live a comfortable lifestyle until the day they die.

To illustrate how common the problem of insufficient superannuation assets is, we can look at 2011/2012 data, which shows average superannuation balances at the time of retirement are around \$197,000 for men and only \$105,000 for women. While balances are likely to have increased since then, they are likely to have only just passed around \$260,000 for males and \$160,000 for females.

In 2011/12, around **13 million odd Australians had less than \$300,000 in superannuation**. Only one million individual members had larger balances.

Without certainty around:

- how long they have to live
- what unexpected health expenses they might face
- what their investment return will be,

Australians face the risk of either: spending too much and needing to rely exclusively on the Age Pension on their last years; or, spending too little, and living an unnecessarily frugal lifestyle.

Australians also face uncertainty around the settings of the Age Pension: the amount of income; indexation to inflation; and the asset test rules, particularly around the eligibility of the family home.

These issues heighten the focus on the need to understand what factors are important in assessing how much retirement savings are needed to retire comfortably, how these assets should be invested and what amount of income can be withdrawn with some degree of confidence that these savings will not be eroded too quickly.

ASFA has partnered with SSgA to model retirement savings, investments and spending under the current settings of the retirement system, tax system and Age Pension arrangements. The paper below describes this modelling and its conclusions.

Model parameters

What is the objective of the superannuation and retirement system?

The accumulation phase of superannuation is intended to build up a balance, which can be gradually drawn upon in retirement. Assets in superannuation before retirement are concessional taxed; the government hopes that this will encourage Australians to save more in superannuation and become less dependent on the Age Pension in retirement.

In this paper – and consistent with ASFA’s 2014 submission to Treasury on the regulation of retirement income streams – ASFA agrees with the Treasury that the objective of concessional taxed retirement income streams is to ensure that they:

- provide a regular, steady source of income to facilitate dignity in retirement – and specifically guard against individuals excessively deferring income
- do not accumulate excessive balances (i.e. are not used as an estate planning vehicle).

These principles are based around concepts that the monies accumulated through the tax-concessional superannuation system should be used for income in retirement and that the balance within the tax-exempt environment should be significantly reduced by the time of death. The purpose of the retirement system is not to provide a bequest or for estate planning purposes but to help Australians have an appropriately comfortable lifestyle in retirement.

What income do you need?

So, how much income is needed to allow an individual to live comfortably in retirement? Individuals’ income needs, while differing at the margin from person to person, have common elements across most of the community. All Australians need to pay for basic living requirements – electricity, food and so on. ASFA have been calculating indices of living costs in retirement for the past 10 years.

The ASFA Retirement Standard benchmarks the annual budget needed by Australians to fund either a ‘comfortable’ or ‘modest’ standard of living in their post-work years. It is updated quarterly to reflect inflation, and provides detailed budgets of what singles and couples would need to spend to support their chosen lifestyle.

Few people calculate with any degree of certainty exactly how much money they will need to spend each year to fund a comfortable lifestyle in retirement. The ASFA Retirement Standard has been developed to help with this problem by objectively outlining the annual budget needed by Australians to fund their living expenses in the post-work years. The Standard is regularly updated to provide a comprehensive and relevant picture of how much is needed to spend to support a retirement lifestyle. It reflects changes in living standards, new expectations of retirees and their evolving spending patterns. In particular, the budgets for communications, health, energy, clothing, household goods and services, recreation and transport have been updated. Using the ASFA Standard, Australians see a more comprehensive picture of how much they need to spend to support their retirement lifestyle.

The Standard incorporates expenditure on:

Communications	reflecting the increased number of retirees who want a mobile phone and broadband internet connection to keep in touch with friends and relatives.
Private health insurance	the cost of this is included in the ‘Health’ budget for both lifestyles, reflecting that a majority of retirees hold private health insurance.
Energy	the allocation for this is in-line with contemporary levels of cost in this area.
Clothing	this budget is based on more diverse shopping patterns for both modest and comfortable lifestyles.
Household goods and services	includes the costs of computer equipment upgrades as well as services such as hairdressing and personal care items. The ‘comfortable’ standard budget includes air conditioning, home alarm system, and regular pest inspections.
Recreation	this budget has been substantially amended over the years, and now, amongst other things, includes the costs of membership of social and sporting clubs. There is also allowance for the costs of eating out and other excursions. A ‘comfortable’ budget allows for the purchase of sporting items such as golf clubs or fishing gear.
Transport	is regularly updated to reflect the increased costs for a retiree to own, maintain and run a car.

The ASFA Retirement Standard differentiates between a 'modest' and a 'comfortable' lifestyle.

A *modest* retirement lifestyle is considered better than the Age Pension, but still only able to afford fairly basic activities.

A *comfortable* retirement lifestyle enables a 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.

Both budgets assume that the retirees own their own home outright and are relatively healthy.

The difference between the two budgets mainly relates to the extra items included in the comfortable budget. These include items such as being able to update the kitchen or bathroom at some stage, some wine, eating out from time to time, being able to entertain family or friends at home, private health insurance at the top rate, purchasing magazines and CDs, an economy overseas holiday and being able to afford additional alcohol, purchase tobacco or make gifts.

Budgets for various households and living standards (December quarter, 2014)

	Modest lifestyle – single	Modest lifestyle – couple	Comfortable lifestyle – single	Comfortable lifestyle – couple
Housing – ongoing only	\$69.47	\$66.68	\$80.52	\$93.33
Energy	\$41.07	\$54.55	\$41.68	\$56.53
Food	\$77.13	\$159.76	\$110.18	\$198.32
Clothing	\$17.69	\$28.71	\$38.28	\$57.43
Household goods and services	\$26.70	\$36.21	\$75.12	\$88.00
Health	\$40.29	\$77.75	\$79.93	\$141.06
Transport	\$93.92	\$96.58	\$139.96	\$142.62
Leisure	\$74.51	\$111.00	\$225.79	\$309.42
Communications	\$9.32	\$16.32	\$25.62	\$32.60
Total per week	\$450.09	\$647.57	\$817.07	\$1,119.32
Total per year	\$23,469	\$33,766	\$42,604	\$58,364

For the purposes of this analysis we have focused on the comfortable lifestyle only. While this does not cover every Australian's circumstances, it does cover the retirement goal of the majority of Australians.

What investments do you have?

SSgA developed two benchmark portfolios against which the sustainability of retirement savings has been assessed. These were categorised as 'diversified' and 'defensive' and the exposure to different asset classes of these portfolios is given in the table below.

Portfolio asset allocation

	Diversified	Defensive
Australian equities	26%	25%
International equities	17%	0%
Property	5%	0%
Alternatives	10%	0%
Cash/fixed income	43%	75%

In order to assess the sustainability of retirement savings and the impact of significant market events, SSgA has undertaken an extensive simulation of portfolio returns in retirement.

To assess these portfolios, SSgA needed to estimate:

- the investment returns that will be delivered
- how much those investment returns will vary from year to year and
- how much the returns of different investments will follow the same patterns.

SSgA used regime dependent average return, risk (standard deviation) and correlation estimates as the main inputs for the simulations. In order to get more representative estimates at the individual asset level, depending on the data availability, the base period started as early as July 1990 with the last month being June 2012.

The modelling also needed to take into account both normal and extreme market conditions. SSgA has covered this by assuming a multi-variate normal distribution to generate random monthly returns, which are regime based (crisis and normal). This gives an appropriately skewed distribution for the overall portfolio returns, which is more representative of actual return experience than using the assumptions for the 'normal' regime only. The analysis also used the observed transition probability of four per cent in the simulations which represents the probability experiencing two consecutive crisis months. The actual returns used in the analysis are provided in the table below.

Asset class returns

Assets	All months		Crisis months		Normal months	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Australian equity	6.70%	13.0%	-6.95%	3.70%	9.88%	12.02%
Australian equity – high dividend yield	6.70%	14.0%	-8.78%	2.75%	10.66%	12.71%
International equity	6.70%	13.0%	-7.21%	1.86%	9.99%	12.13%
International equity – high dividend yield	6.70%	14.0%	-7.69%	4.11%	10.19%	12.88%
Emerging market equity	7.60%	23.0%	-13.45%	5.07%	13.56%	21.21%
Listed property – Australian	4.70%	17.0%	-15.86%	4.22%	11.58%	13.26%
Australian high yield bonds	5.90%	13.0%	-3.96%	2.38%	7.79%	12.80%
Alternatives – diversified futures trading fund	9.00%	15.5%	4.43%	4.73%	7.44%	15.27%
Alternatives – active commodities fund	11.00%	26.5%	0.917%	7.65%	11.00%	26.50%
Australian bonds	3.90%	7.0%	0.325%	2.02%	3.90%	7.00%
Australian cash	3.00%	1.5%	0.250%	0.43%	3.00%	1.50%

Outcomes

The simulation of investment experiences from SSgA was combined with retirement income standard and Age Pension parameters to forecast how long retirement savings would last under different investment scenarios. The Retirement Standard and Age Pension arrangements were adjusted for a constant inflation rate of 2.5 per cent.

ASFA were particularly interested in the experience for retirees of different investment outcomes. We identified three outcomes which were relevant to thinking about retirement income:

- 1. The average outcome:** represents the retirement income generated, if an individual had experiences the average investment return in each year of retirement. This is the *50th percentile* of the simulation data.
- 2. A pessimistic outcome:** represents the return for the lowest quartile (25th percentile). There is only a 25 per cent chance that the outcome will be *worse* than this.
- 3. An optimistic outcome:** represents the return for the highest quartile (75th percentile). There is only a 25 per cent chance that the outcome will be *better* than this.

The results for a couple, receiving income consistent with the Comfortable Retirement Standard, for both the defensive and diversified portfolios are shown in the following boxes. The data is based on a lump sum at retirement of \$510,000. This is the amount that ASFA has typically used in any retirement calculations for a couple looking to maintain a comfortable lifestyle.

The graphs show that:

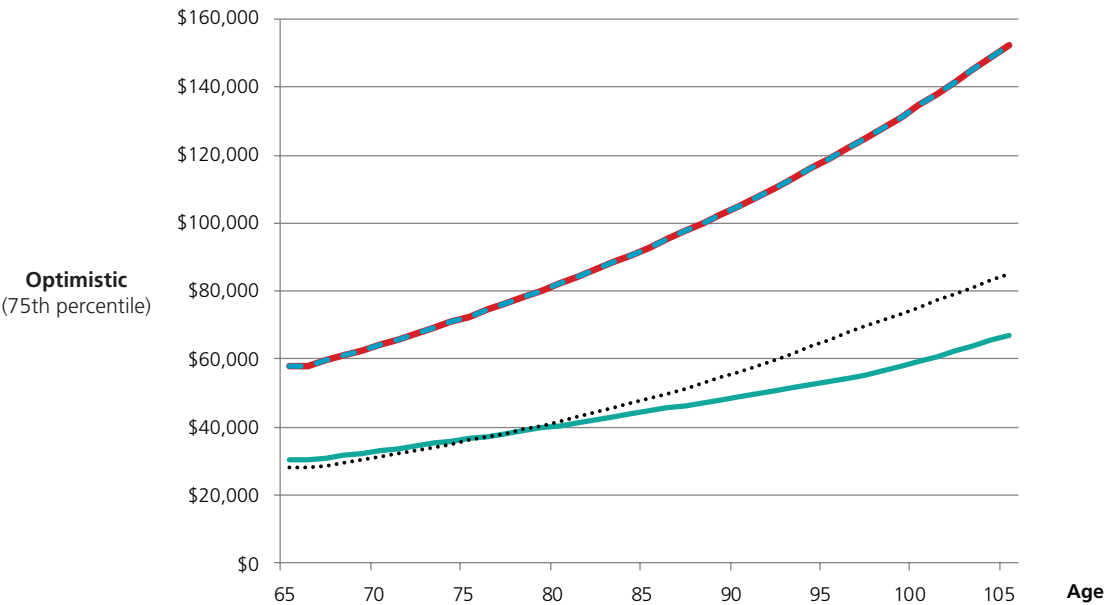
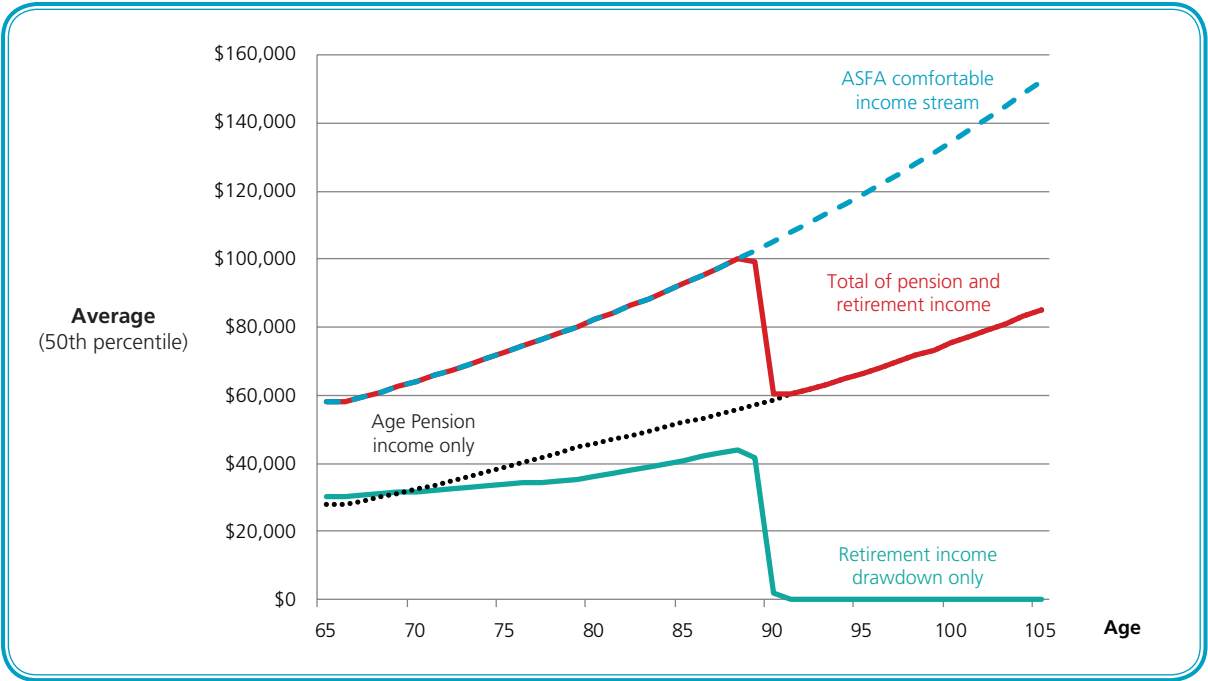
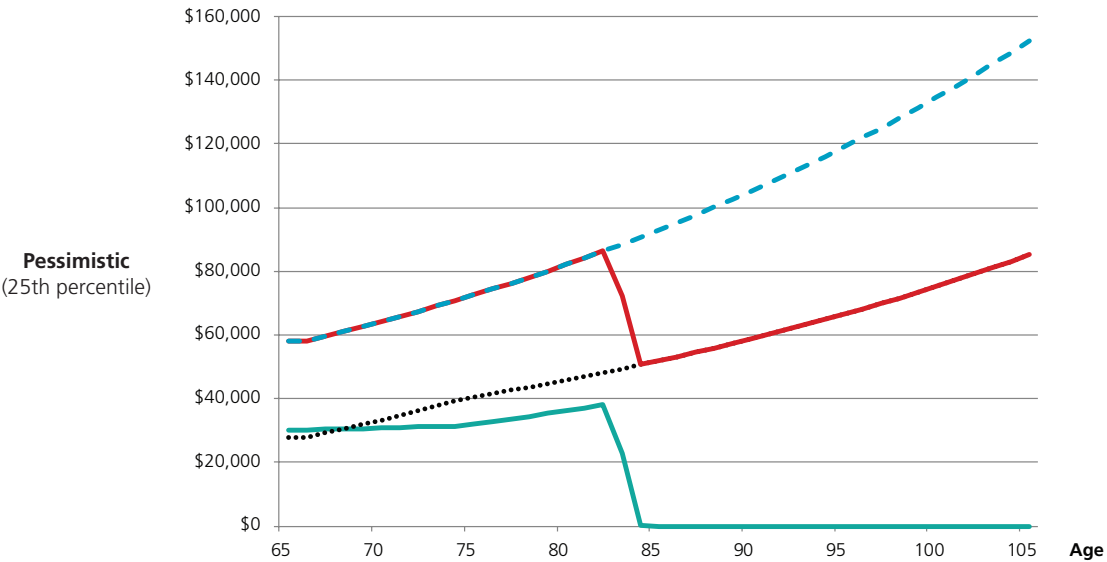
- **for a defensive portfolio** (75 per cent cash and fixed income and 25 per cent Australian equities), you should expect to be able to drawdown on the lump sum until around age 90 with a reasonable degree of certainty. This also relies on your ability to draw a part Age Pension
- **for the more pessimistic**, the statistics show that there is a 75 per cent chance of the lump sum invested in the defensive portfolio being fully consumed by around age 84
- **for the optimists**, there is a probability of around 25 per cent that the lump sum invested in the defensive portfolio is intact through to the age of 105. This latter result relies on the returns from the portfolio mostly exceeding the drawdowns each year.

However, the analysis also shows that *increasing the growth assets and the diversification in the portfolio has positive benefits* in terms of the period over which the retirement income can be maintained. Many retirees look to reduce the volatility of their portfolio balance and increase the steadiness of income received by increasing the amount of cash and fixed income in their portfolio, however, this will usually shorten the period over which income is paid. The benefits of diversification into growth assets are shown by:

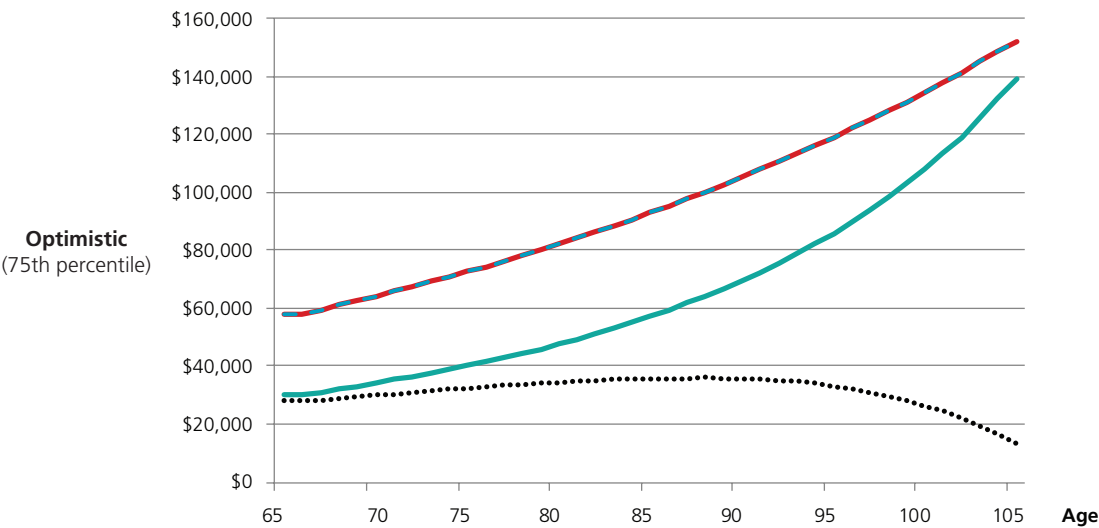
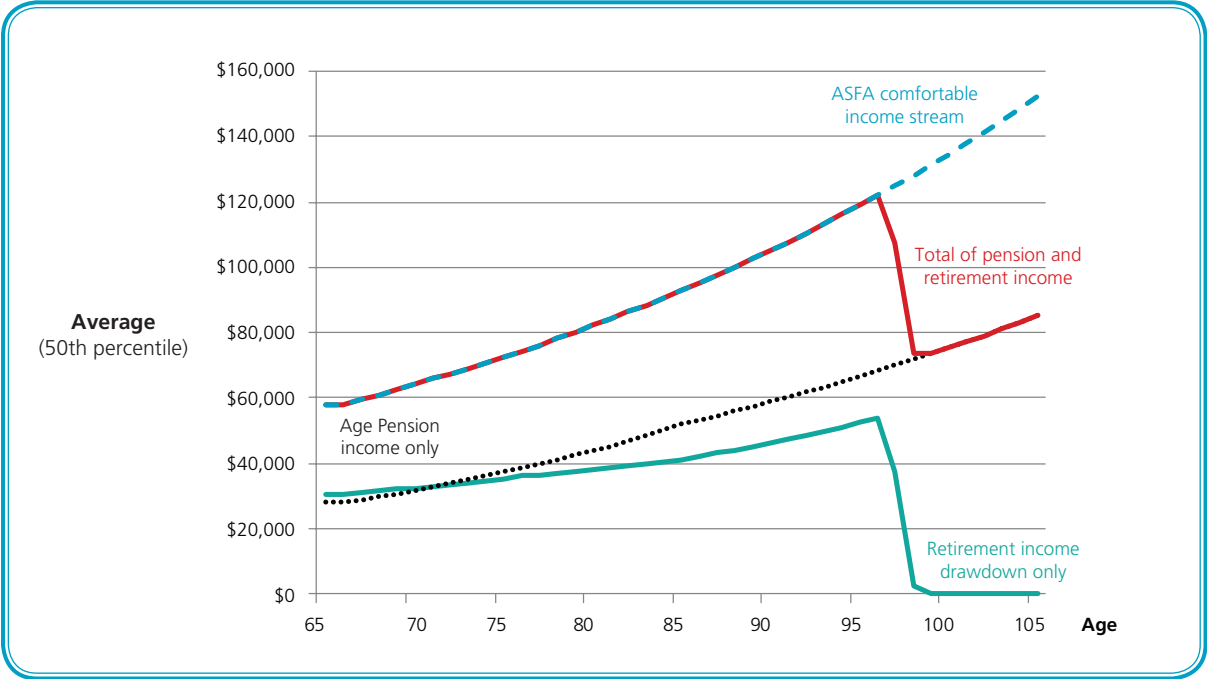
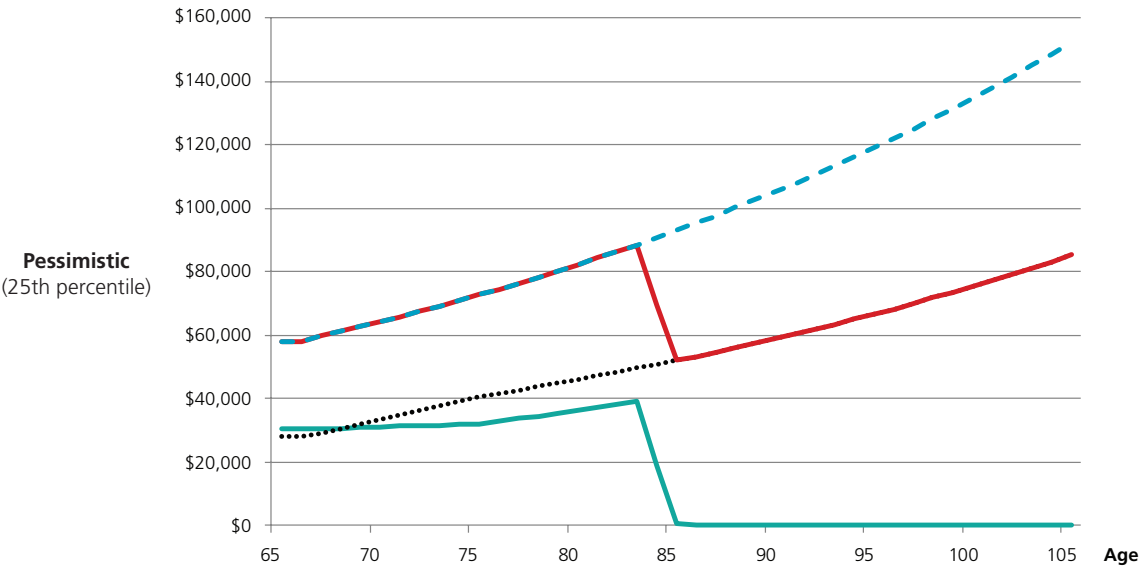
- the diversified portfolio was significantly better than the defensive, with average results, increasing the length of period of drawdowns from the lump sum by around eight years
- it shows a slight improvement at the 25th percentile level, with lump sum balances lasting around two years longer
- the portfolio is significantly larger at the 75th percentile level when more growth assets are held.

Retirees are sometimes uncomfortable with the concept of holding larger proportions of growth assets in retirement, preferring to spend the income which is generated by dividends from equity or interest payments from cash deposits. However, this analysis shows that a disciplined approach to withdrawing cash from your account, including selling assets as required to meet income requirements, will achieve a better end result.

Couple defensive portfolio



Couple diversified portfolio

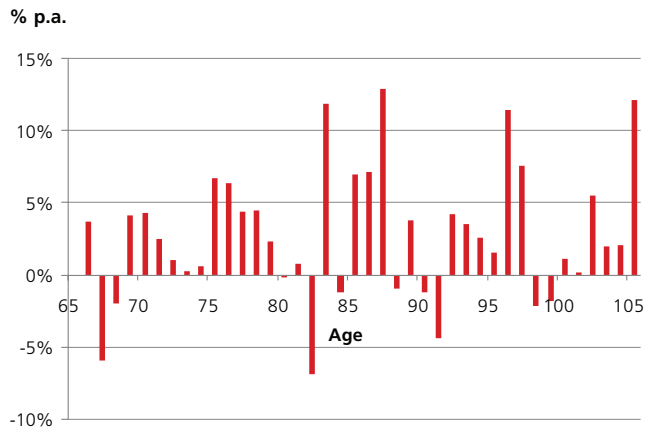


But not everything turns out average!

Analyses such as these will necessarily concentrate on the highest probability or 'average' outcome. While this provides good overall conclusions, the investment experience of the individual will be unique. By way of example, ASFA is often asked about the impact of a significant drawdown early in retirement, or late in retirement. To provide some colour around the individual experience and the impact of market volatility, we have examined a number of single simulations and measured their deviation from the average experience. In this case, we have used an individual retiree – a 'single' – to illustrate the way the lump sum balance declines, when faced with regular drawdowns and a particular sequence of annual portfolio returns from the 'defensive' portfolio.

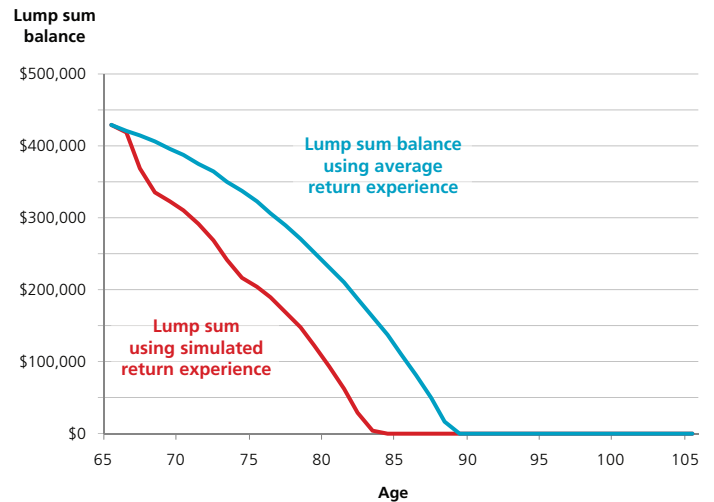
Investment returns from defensive portfolio allocation (% p.a.)

Example 1

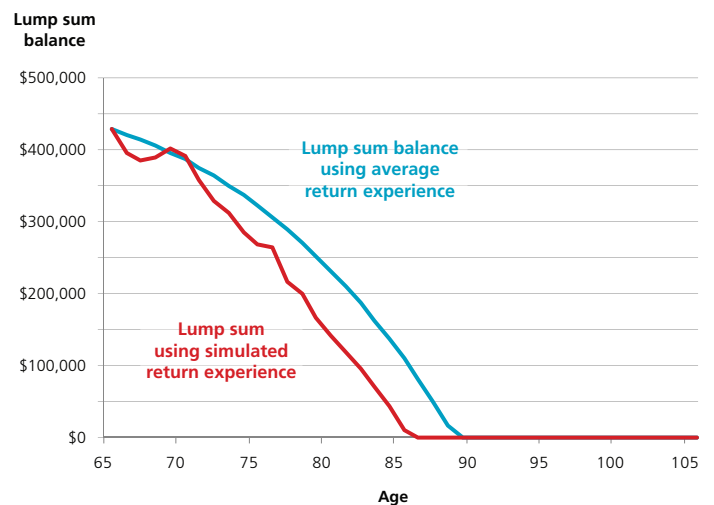
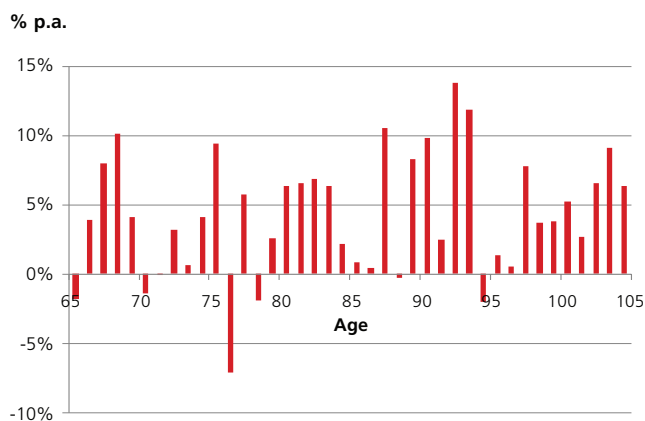


Impact on lump sum balance for a single retiree

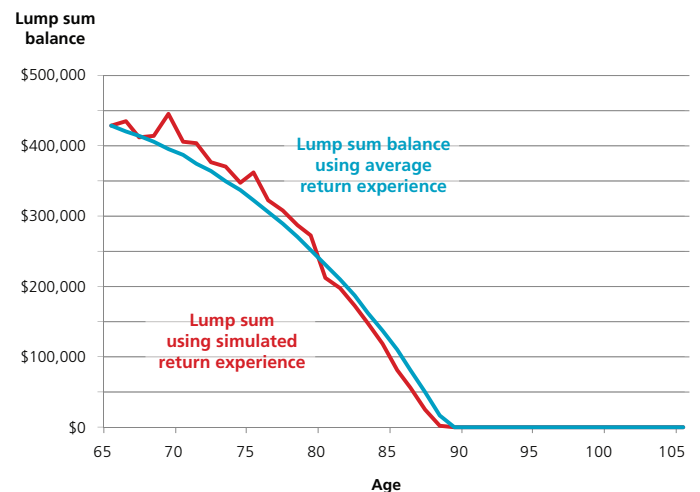
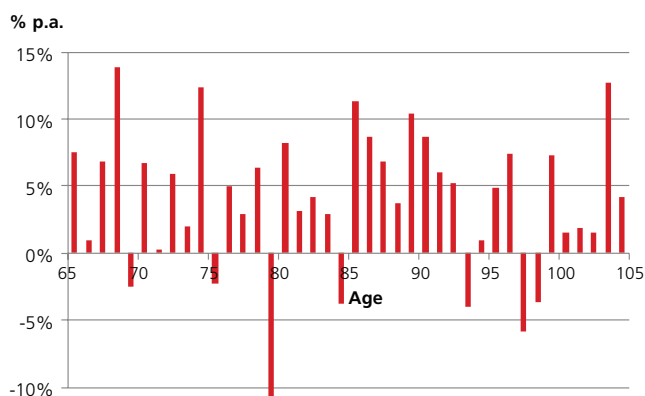
(with a starting lump sum balance of \$430,000)



Example 2



Example 3



While we have only shown a sample of the simulations here, the pictures demonstrate the impact to the retirement income stream of larger drawdowns in the portfolio value. Each of these particular paths has a very low probability of occurring. However, we can generalise to say that a significant drawdown early has a demonstrably larger effect on the lifetime of the income stream, than a drawdown later in retirement. In the first chart above, the income stream lasts five years less after experiencing two years of poor returns when the retiree is in their late 60s. By contrast, a -11 per cent return experience at age 80, has a minimal impact on the final result.

This opens the question of 'sequencing risk' in retirement portfolios. This has been frequently raised as an issue in the design of the superannuation and retirement income system design. The need for income in retirement – particularly for those with relatively fewer assets in their portfolio – means that many Australians must drawdown from their portfolio, regardless of recent market experience.

ASFA contend that sequencing risk is far greater for individuals still in the accumulation phase, who significantly adjust their portfolios. For these people, the transaction may be to crystallise the loss on a large proportion of their growth assets, and to move into more defensive assets which may be relatively more expensive at the time.

This is not the case for a retired couple with a lump sum of around half a million dollars invested in the 'defensive' portfolio. This couple will likely only draw down around 2.5 per cent of their equity holdings every year, which is a relatively small proportion of their total equity portfolio. It is likely that these drawdowns will happen every month, with swings and roundabouts as to whether equities are fairly valued or not at the time. Of course, there is a small probability that there is a very poor investment experience early in retirement, which may necessitate some adjustment in retirement spending. This might be delaying any discretionary spending for a few years, until the balance of the portfolio has had time to adjust. However, the probability of this is low, and should be balanced against the more likely increase in the number of years of income which can be generated by a portfolio with a modest exposure to growth assets.

Longevity risk

The ability of retirement savings to support a comfortable lifestyle is shown previously to be somewhat dependent on the choice of portfolio allocation and on the market movements experienced by each individual. However, a difficult variable to model into the decision making process is the age at which an individual will pass away, and no longer need retirement income. All the graphs above – other than those where an above average investment return is experienced – show some point at which the retirement savings run out and the individual (or couple) must rely on the Age Pension. Ideally, this point would not happen before death.

This uncertainty highlights the need for some kind of longevity protection, if Australians want to extend the comfortable lifestyle across their entire period of retirement.

The recently released 2010-12 Australian Life Tables indicate that the life expectancy of a 65 year old female is about 22 years, meaning that 50 per cent of 65 year old females can expect to live to 87 or beyond. A 65 year old male has a life expectancy of around 19 years, with 50 per cent of males aged 65 expected to live until 84 or older.

The proportion of 65 year old females expected to live to age 90 is around 40 per cent while for males it is around 26 per cent. After 90, life expectancy tends to drop away rather rapidly.

The implication of these figures is that to provide reasonable protection against the financial risks of longevity an income stream should be designed so that it has a good probability of being able to be paid until age 90 at least. Individuals who are particularly risk averse and concerned about managing the risk of outliving their savings, or those with a family history of longevity, should consider supplementing their basic income needs with some additional longevity protection.