Cuffelinks
Connecting investors with ideas

Edition 270, 7 September 2018

This Week's Top Articles

How much is really needed in retirement

Patrick Malcolm

In the UK in 2014, The Independent Review of Retirement Income (IRRI) was commissioned to look at retirement incomes. Two recommendations from IRRI were:

"The use of deterministic projections of the returns on products should be banned."

"They should be replaced with stochastic projections that take into account important real-world issues, such as sequence-of-returns risk (and) inflation."

Quite a bit to digest. There is a broader discussion of these issues in a previous article written by David Bell.

What is deterministic forecasting?

In retirement projections, deterministic forecasting is a set of fixed assumptions around investment returns and inflation to produce one scenario to establish whether a retiree has sufficient financial capital.

An example of a deterministic forecast is the superannuation balances required to achieve a comfortable retirement as calculated by The Association of Superannuation Funds of Australia (ASFA). The ASFA Retirement Standard was developed to objectively outline the annual budget needed by the average Australian to fund a lifestyle in their post-work years, providing benchmarks for both a comfortable and modest standard of living.

ASFA details that:

"a comfortable retirement lifestyle enables an older, 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".

As of March 2018, for a retired couple, the budget for a comfortable lifestyle was $60,264 per annum. Based on a rate of return of 6.0% per annum and inflation of 2.75% per annum, ASFA has determined that a sum of **$640,000** is required for retirement. This method draws down capital over the period of withdrawal so that nothing is left at the end of an average life expectancy.

Stochastic modelling introduces variability and stress testing

A stochastic model considers different outcomes by allowing for variation in the inputs within the forecast.

For example, the Accurium Retirement Healthcheck is a projection tool that allows the assessment of retirement sustainability. It stress tests a retiree's plans through 2,000 possible future scenarios. The investment return assumptions are provided by Willis Towers Watson and are generated using their Global Asset Model. This Model produces 'random' future sequences of possible investment returns for each asset class. These are generated so that 'as a whole' the simulations represent a full distribution for how 'real world' markets could perform in the future.

Stochastic modelling assists in making a scientific assessment of sequencing risk, which is the risk of experiencing poor investment returns at the wrong time. Stochastic modelling can't predict the nature of 'Black Swan' events. Is the chance of a significant crash 1% or 10%? These models can't estimate these odds, so the best that can be said is that these events don't happen very often.

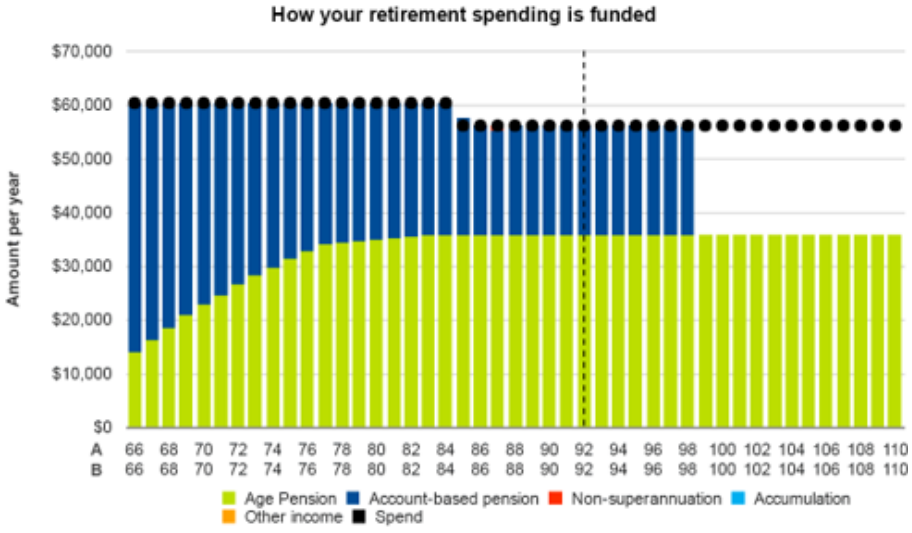
Modelling a 'comfortable' retirement

It is an interesting exercise to model the ASFA example in the Healthcheck software for a two 66-year-olds in a couple couple who are eligible for the age pension.

Let's assume $640,000 in superannuation in a 'balanced' portfolio using the asset allocation constructed to align with the Morningstar Multisector Balanced Market Index (22% Australian shares, 25% international shares, 5% listed property, 33% fixed interest and 15% cash). Fees of 0.9% per annum are assumed. The default long-term asset class return assumptions within the Healthcheck produce a return of 5.3% per annum based on the asset allocation after the deduction of fees. Gross returns of 3.5% for 'cash' and 4.5% for fixed interest are assumed, which could be considered optimistic in the current environment. Nevertheless, the 5.3% per annum is lower than the ASFA assumption of 6.0% per annum.

The Healthcheck also allows settings around the lifestyle of a retiree. ASFA produces budgets for those around 65-years-old and 85-years-old. For those around 85-years-old, the comfortable lifestyle budget is $56,295 per annum, which is approximately 7% lower than that for a 65-year-old. So in the Healthcheck, it has been assumed that expenses reduce to this level at age 85. ASFA also produces budgets for singles and the comfortable lifestyle budget is $42,764 for a single, which is approximately 29% lower than for a couple. Again, in the Healthcheck, it is assumed that expenses reduce to this level at the first death. Personal effects of $25,000 have been assumed for age pension calculations.

The chart below illustrates the misleading nature of a deterministic forecast. It shows that the retirees' money in their account-based pension (the blue bars) should not run out until they are 98-years-old. The dotted line shows where there is a 50% chance that at least one member of the couple will still be alive, and that's in 26 years' time.



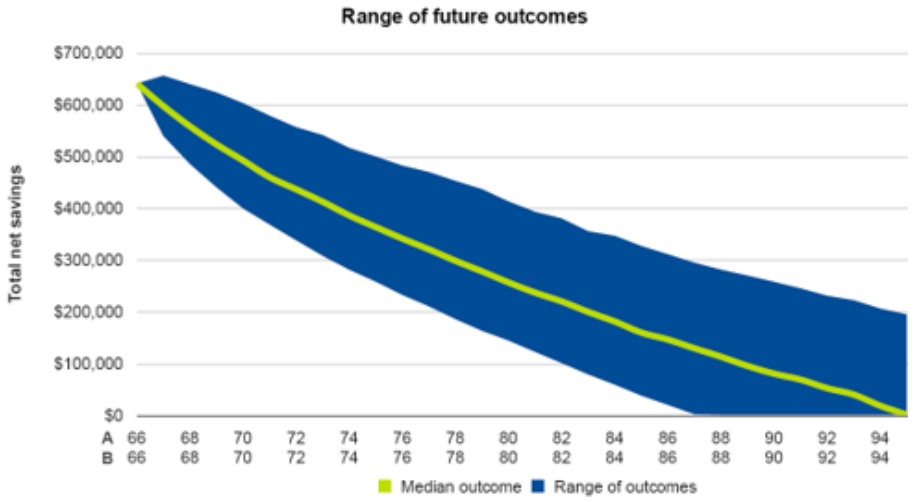
What if a greater range of outcomes is considered?

However, the stochastic modelling produced via the Healthcheck shows that in 64% of the 2,000 scenarios tested, the retirement lifestyle is sustainable. This means that the couple has a 36% chance of **outliving** their savings.

I'm not sure what readers think about a 36% failure rate, but I wouldn't feel comfortable crossing a bridge if it had a 36% chance of collapsing!

The chart below details where variability has been allowed for. There is an 80% chance that the retiree's future savings will fall within the blue shaded area. The bottom of the blue range represents a 'worst case' outcome at each age. There is a 10% chance of running out of money after 22 years. The top of the blue range represents a 'best case' outcome at each age. The green line represents the median of 2,000 scenarios.

When presenting the deterministic forecast, I don't think anyone could reasonably imagine that there was a 10% chance of running of money after 22 years. The deterministic forecast illustrates that the retirees should be fine until they are aged 98, which is 32 years away.

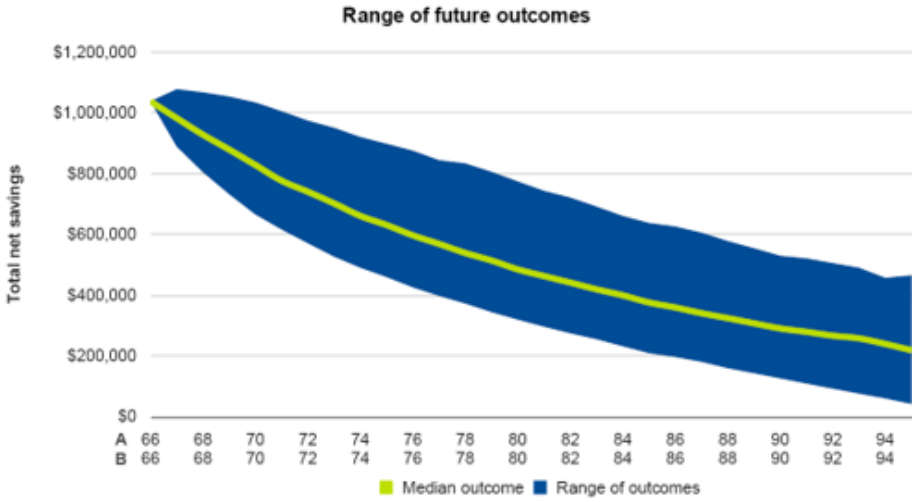


So how much does a retiree need to be 'safe and comfortable' with 95% confidence?

Let's assume that we want 95% confidence that the retiree would not run out of money. I am risk averse, so I still wouldn't walk across a bridge if it had a 5% chance of collapsing. Nonetheless, it is better than walking across a bridge that has a 36% chance of collapsing.

By reverse engineering within the Healthcheck software, based on the previously detailed assumptions, it is estimated that a retiree couple would need **$1,036,000** to have only a 5% chance of running out of money. This is 62% greater than the amount estimated by ASFA. However, it is lower than that implied by some safe withdrawal rate articles that suggest drawdowns of not more than 4% ($1,506,600). This is due to the benefits of the age pension, but if social security laws change significantly in the future, as they have in recent times, then this would impact the results produced by the model.

The chart below is based on $1,036,000 in superannuation at retirement. There is a 10% chance of savings being approximately $40,000 in 29 years' time and a 10% chance of being roughly $460,000.



There is no doubt that a deterministic forecast is easier to explain, easier to understand and still has its place. However, stochastic modelling, while more complicated, considers a vast range of possible scenarios and estimates the most significant financial risk for retirees, which is the likelihood of running out of money.

As David Bell succinctly notes in his article mentioned earlier:

"Many other industries develop complex products which are explained effectively to consumers … Too hard … cannot be an excuse."

Patrick Malcolm is a Senior Partner and Financial Planner at GFM Wealth Advisory. He has attained the Certified Financial Planner® designation, completed a Master of Applied Finance and is also a SMSF Specialist Advisor™. This article is general information that does not consider the circumstances of any individual.

Six key Labor financial policy proposals

Vinay Kolhatkar

In the week of 20-24 August 2018, another round of musical chairs played in Canberra. When the music stopped, the cabinet had changed, and Australia had a new Prime Minister and a new Treasurer. Political pundits picked May 2019 as the most likely date for the next federal election. The Newspoll conducted in late August had Labor as the clear favourite, leading the Coalition in the two-party-preferred measure by 56% to 44%.

With a Labor victory a strong possibility, investors should understand the potential impact on their portfolios.

Labor's plan to make housing more affordable

Labor's document "Positive plan to help housing affordability" asserts that:

- The middle class is being priced out of the housing market.
- Ownership rates for young people aged 25-34 have spiralled downwards in recent years from 60% to 48%.
- In all home purchases, first-home buyers make up only 1 out of 7 buyers.

Labor's response is to reform negative gearing and the capital gains tax discount effective from a yet-to-be-determined date after the next election, a policy which they claim "*… will help put the Australian dream of home ownership back within the reach of middle and working class families.*"

1. Capital gains tax

Capital gains can be offset against previously incurred but unused (carried over) capital losses and against losses incurred that fiscal year.

Currently, individuals and trusts are also entitled to a 50% discount on the capital gain amount providing they have held the asset for more than one year.

Labor proposes to halve that capital gains discount (CGT) for all assets purchased after a yet-to-be-determined date following the next election, if held over a year, to 25%.

The exceptions (for which the current rules will remain as is) are:

- Investments made before this date
- Investments made by superannuation funds
- Assets of small business owners.

2. Negative gearing

Negative gearing is where investment-related expenses (especially borrowing costs on a property) exceed revenue and the loss is claimed as a tax deduction against other income.

Labor proposes to limit negative gearing to 'new' housing from a yet-to-be-determined date after the next election. Investments made before this date will be grandfathered from the impact. Losses from new investments in shares and 'existing' properties will still be able to offset other taxable income. These losses can also continue to be carried forward to offset the final capital gain on the investment.

One industry reaction came from RiskWise Property Research, who co-authored a report assessing the impact on property markets of the proposals to amend the CGT discount and negative gearing. They asserted that the unintended consequences would result in "*some geographical areas especially those with weak or fragile property markets, [being] adversely impacted more than others.*" The report also warns of the consequences in the Sydney unit market being the equivalent of a 1.15% increase in interest rates.

3. Private health insurance

In a radio interview in Adelaide on 18 May, Shadow Health Minister Catherine King outlined that, to cap the rising costs of health insurance,

"Labor will cap [rises in] private health insurance premiums at 2% for the next two years. But we also think the Productivity Commission needs to have a good root and branch look at what's actually happening in this industry across the board."

The industry reaction was swift. Dr Rachel David, CEO of Private Healthcare Australia, spoke to the likely unanticipated consequences:

"An arbitrary cap could put some of our regional and employee-based funds at risk of becoming insolvent. And what it will do in terms of flow-on effects is some even of the larger funds, to retain their prudential reserves, will need to freeze the payments they're making for hospitals and for doctors, which could lead to a cap on nursing wages and a cap on the income of the people who work in hospitals. I know it's only for two years but expenditure in the health sector is very large, we're paying out record amounts in claims, and the effects will be felt very quickly."

4. Superannuation: non-concessional limits, catch-ups and tax deductibility

Speaking on behalf of Labor at the Financial Services Council Political Series Breakfast in Sydney, Labor Senator Kristina Keneally outlined that:

"In 2016 we made it clear that we will oppose the government's measure to allow catch-up concessional contributions and tax deductibility for personal superannuation contributions. We will also lower the annual non-concessional contributions cap to $75,000 and further lower the high-income super contribution threshold to $200,000."

Asserting that the proposals lacked logic and equity, Noel Whittaker countered that by taking us back to first principles.

"One would think a major goal of all political parties would be to minimise changes to superannuation in the foreseeable future. Hopefully that would restore trust in the system, and encourage people to use superannuation for its original purpose: funding their retirement so as not to be a burden on the welfare system."

5. Changes to discretionary trust arrangements

In the "A Fairer Tax System for All Australians" speech in July 2017, Bill Shorten announced the minimum 30% tax on distributions from discretionary trusts:

"Under Labor's policy, individuals and businesses will still be able to use discretionary trusts. However, the new minimum 30% tax rate on distributions will make sure discretionary trusts cannot be used as a vehicle for aggressive tax minimisation.

"Labor's policy builds on the reforms of former Treasurer John Howard in the early 1980s. Mr Howard cracked down on artificial income splitting to minors by taxing distributions at the top marginal tax rate. Labor's policy extends this principle to adult beneficiaries, but at a less punitive rate of 30%."

Writing in Cuffelinks, Matthew Collins considers that since testamentary trusts are to be exempted from the new proposal, "testamentary trusts may become a useful structure for holding investments for the long term," and that, "in selected circumstances, the following strategy may be useful:

- Parents lend money to their adult children
- The children make a contribution to superannuation
- The loan is 'paid back' out of the estate on the death of the parents."

6. Removal of excess imputation as cash refunds

Labor's policy is that it will deny cash refunds for excess imputation credits, with some exceptions.

Cuffelinks has run numerous articles on this issue, commenting on its operation and equity as summarised in "Cuffelinks articles on Labor's franking policy". Subsequent articles include Olivia Long's "SMSFs hit by loss of tax-free status and franking refunds" and Geoff Warren's paper in this week's edition.

Taking stock

Depending on individual circumstances, one or more of Labor's proposed policies may cut sharply into financial plans. While it is worthwhile taking stock now, anyone contemplating changes should note that a lot can happen in eight months of politics, and even if Labor wins, the final policy might be modified.

Vinay Kolhatkar is Assistant Editor at Cuffelinks. This article is general information only and does not constitute financial or tax advice.

How imputation changes will hit retirees

Geoff Warren

with Adam Butt and Gaurav Khemka

The Australian Labor Party has proposed a change in policy under which imputation tax credits can only be offset against existing tax liabilities, with some exceptions such as pensioners and charities. Retirees are the major group that would be impacted by this policy, given that most are untaxed and hence currently able to claim the full value of imputation credits as a tax refund.

Such a policy change would effectively reduce the returns that such retirees receive from investing in Australian equities by the amount of imputation credits, which average 1.3%-1.4% per annum for the Australian market overall. This is a significant number, noting that the expected long-run equity market return might be in the order of 7%-8% per annum. It is no wonder this policy is a subject of heated discussion and much consternation from those nearing or in retirement.

The portfolio effects of franking credits

Our research addresses what full access to imputation tax credits means for Australian retirees in two ways.

First, we ask how imputation could affect how they might invest. Specifically, we find that retirees are justified in having a considerable bias toward Australian equities in their portfolio to capture the imputation credits.

Second, we estimate how valuable imputation credits are to retirees. We confirm they are potentially the equivalent of a 5%-6% increase in spending during retirement.

Our approach involves modelling rational behaviour for retirees who are funding their retirement out of an account-based pension, and may access the age pension under existing eligibility rules. We model retirees with starting balances at age 65 ranging from $25,000 up to $1.6 million (i.e. the cap on tax-free retirement accounts). We assume retirees form their portfolios and drawdown on their pension accounts to maximise their spending outcomes until they die.

We also model two types of retirees with differing preferences. One type prefers a higher level of spending spread over the course of their retirement. The other type has a target spending level, based around either the 'comfortable' or 'modest' retirement spending standards of the Association of Superannuation Funds of Australia. (In technical terms, the first type is modelled using power utility, and the second using a reference-dependent utility function). The model is run both excluding and including imputation credits, and the difference compared.

Our first finding is that access to imputation credits can support holding a portfolio with a considerable 'home bias' to Australian equities, largely at the expense of lower exposure to world equities. The exact portfolio breakdown depends on how the analysis is set up, including the assumed type of retiree, their starting balance, and their age.

To illustrate the tenor of the results, consider a retiree starting with a balance of $500,000 at age 65, who targets spending at the 'AFSA comfortable' of $42,764 per annum. Excluding imputation credits, our modelling suggests that this retiree should allocate their portfolio on average over the course of retirement to 26% in Australian equities, 33% in world equities and 41% in fixed income. When imputation credits are included in the analysis, the portfolio breakdown comes out as 46% in Australian equities, 15% in world equities and 39% in fixed income – a notable home bias.

The reason for the sizable switch away from world equities under imputation is that Australian equities offer substantially higher returns for a retiree who can claim the full credits, but without a meaningful increase in overall portfolio risk. The limited impact on portfolio risk arises because Australian and world equities are substitutes to a large extent. The retiree is swapping one form of equity market risk for another in order to improve their outcomes on a risk/return basis.

The value of imputation credits

We then estimate the value to retirees of having access to the full tax refunds from imputation credits. We do this through converting the uplift in benefit (utility) arising from imputation into three measures that can be readily interpreted. Again, the exact estimates vary with modelling set-up, so we will convey broad averages across retiree types and starting balances.

We find that imputation delivers a value equivalent to an average 5%-6% increase in spending over the course of retirement, an 8%-9% larger superannuation fund balance at the point of retirement, or a 0.6%-0.8% per annum increase in returns on the portfolio during retirement. Such not-insignificant numbers underwrite the consternation among those in or nearing retirement about a potential change in policy.

Portfolio and policy implications

Our study suggests the policy change will have important implications.

First, academics have tended to view home bias as a 'puzzle' to be explained. Our findings suggest that equity home bias might be at least partly explained as a rational response to tax effects that lead to differential returns on investment choices which contribute similar amounts to overall portfolio risk.

Second, the benefit removal would likely have some substantive effects. To the extent that imputation credits supplement income in retirement, the loss of tax credits could exacerbate the problem of the adequacy of superannuation balances for supporting a reasonable level of retirement spending. To some extent, access to imputation credits in retirement might be seen as an alternative to making higher superannuation contributions while at work in order to generate retirement income.

Third, a change in policy might also result in retirees providing less support to Australian companies via the investments they make.

We also highlight the net cost to the government of providing access to imputation tax credits to retirees, accounting for the fact that there will be some offset through reduced age pension payments if tax refunds are retained. For example, we estimate a total expected net cost per individual over the course of their retirement of about $30,000 for retirees that retire with a $100,000 balance, and around $80,000 for those retiring with a $500,000 balance (in 2017-8 dollars). The largest benefit in dollar terms accrues to retirees with the largest initial balances, raising some questions around equality of the policy.

Dr. Gaurav Khemka and Associate Professors Adam Butt and Geoff Warren are from College of Business and Economics at The Australian National University. For the full research paper, click here.

The Australian Investors Association recently asked its members to send in their views on Labor's franking credits proposal. The replies have been compiled in a single document, linked here.

10 years on from the GFC, retirees still jittery

Jeremy Cooper

The Australian share market is booming, riding one of the longest bull runs in history, but retirees are still worried about the impact of a potential downturn.

According to Chant West, super funds are reporting five-year returns of up to 10% p.a. with 10-year returns of 6%-7% p.a., well ahead of fund targets. However, some of this reflects the low starting point. Back in mid-2008, we were in the middle of the GFC, with Lehman Brothers collapsing in September of that year. The Australian market (S&P/ASX200) was already more than 25% off its all-time high set in November 2007. It then dropped another 36% as the GFC wreaked further havoc in the first half of 2009.

With the impressive market returns in the last five years or so, the damaging impact of the GFC has faded in the minds of many. There are also younger investors who didn't experience it first-hand. One group that hasn't forgotten are Australians retirees, who fear the impact of another financial crisis on their lifestyles. A research report recently published by National Seniors Australia (NSA) and Challenger highlights that retirees still harbour concerns over share market downturns. 72% of Australian seniors are concerned about the potential occurrence of another GFC and the impact it would have on their retirement finances.

The stability of capital and inflation-adjusted income

This concern stems, in part, from retirees' need for income. Regular income is their highest priority and many are prepared to trade off the amount of income they get in return for stability. 78% of retirees surveyed by the NSA prefer regular and stable income over less stable, but higher, returns. Nearly 80% want an income stream

that will last for life, even if there is the potential for higher income elsewhere. A market downturn that puts their income at risk is a big concern.

Retirees draw their income from their savings, but most retirees realise that they have to eat some of their cake as well. So it is the **price** index that matters to them, not the **accumulation** indices that compound over decades. The S&P/ASX200 Price Index remains well below its peak in 2007 of 6,873, so it should be no surprise that retirees are still worried.

The 'real' value also matters. For each retiree dollar to recover the spending power it had at the 2007 market peak, the S&P/ASX200 would need to clear 8,600. That's another 34% rise from current levels. I haven't seen a predictions of the ASX index at this level any time soon, but no doubt it will get there eventually. Inflation matters to retirees because wages, which most no longer enjoy, have historically tended to rise broadly in line with rising prices. This trend has not been borne out in recent times for many wage earners.

The NSA report also notes that most retirees are not tolerant to losses (i.e. diminutions of their capital, whether or not actually realised). 23% claim that they cannot tolerate any 12-month loss on their retirement savings and only 25% would tolerate a loss as large as 10% or higher. Given that super funds fell in value by twice this amount in the GFC, retirees are worried about a potential repeat. One retiree in the survey summed it up this way:

"The main issue with the GFC for me was the reduction in my capital investments of approximately $30,000. Up until that point, I would be considered a medium risk investor, however following my loss, I changed to a low risk investor and transferred much of my capital into cash. The income from the cash stream is considerably less than a shares portfolio however I was not prepared to suffer another loss of that magnitude. My attitude has not changed to this day."

Seeking a balance between secure income and growth

When 52% retirees worry that they will outlive their savings, we see evidence of hoarding, where fearful retirees underspend just to make sure they don't run out of money.

The solution is not obvious to the typical retiree. Most retirees need exposure to some growth in their portfolio, but they also need regular and stable income. The retirement income products widely used in the super industry don't meet both these needs and end up concentrating more on flexibility and liquidity at the expense of risk management.

Treasury's retirement income covenant proposal is a step in the right direction. It will make sure that super funds are offering retirement products for their members that meet the needs that NSA, and others, highlight.

Lifetime annuity sales in Australia have been growing as retirees seek to secure some of their retirement income for life in the face of reduced access to the full age pension for many. In doing so, these retirees are being advised to allocate only a portion of their portfolio to a secure income stream with the remainder available to invest in growth assets. This provides the ability to balance flexibility and security for the retiree, while giving them the opportunity to spend more of their hard-earned savings. The Treasury proposal will make this more of a mainstream strategy, something that the large majority of retirees will benefit from.

Jeremy Cooper is Chairman, Retirement Income, at Challenger, a sponsor of Cuffelinks. For more articles and papers from Challenger, please click here.

Strategies for avoiding the super 'death duty'

Noel Whittaker

Whenever I make a speech to retirees, I talk about the death tax of 15% (or 17% when it includes the Medicare levy), which can apply to superannuation death benefits. Most people have never heard of it, and believe that Australia doesn't have death duties.

Well, I guess it is not, strictly speaking, a 'death duty', but the effect is the same. So take the time to get your head around it, as it's an easy tax to minimise with a bit of planning.

Value of a re-contribution strategy

The first thing to understand is that it applies only to the taxable portion of your superannuation fund that is given to a non-dependant. A spouse is always a dependant whether they have a separate income or not.

It does not apply to the tax-free portion of your super, so those over 60 and still eligible to contribute to super could take advice about adopting a withdrawal and re-contribution strategy. This involves taking out a chunk of your super tax-free, and then contributing it back as a non-concessional contribution.

There is no cost involved, as there is no entry tax on these contributions, and it effectively converts the amount re-contributed into a tax-free component. But watch the contribution limits as there are big penalties for exceeding the caps.

The next thing to understand is that you cannot elect to withdraw just from the taxable component. If your balance is partly taxable and partly non-taxable, the components of the withdrawal will be in the same ratio as your existing balance.

Taxable components of a tax-free fund

Many retirees are in pension phase, which means the earnings on their fund are tax-free, as are the withdrawals if they are aged 60 or over and eligible to withdraw. However, the tax-free status of the fund does not mean that all the components become tax-free as well. There will almost certainly still be taxable and non-taxable portions of the components, with the death tax applying to the taxable component when paid to a non-dependant.

One reader asked if the death tax could be avoided by leaving the money to a charity. There is no joy here, as a charity is treated in the same way as a non-dependant. A much better option for anybody who wants to leave money to charity would be to withdraw it from superannuation before they die, make an immediate donation and claim a tax deduction.

However, if you are receiving Centrelink benefits, take advice before doing this, because the gift could be regarded as a deprived asset if it is over $10,000.

Strategies for avoiding death taxes

So, if the tax does apply, how is it calculated? It is a maximum of 17%, not a flat 17%, and is deducted by your superannuation fund before paying your beneficiary the death benefit. The tax paid is recorded on a PAYG payment summary (similar to wages). When your beneficiary lodges their personal tax return, the assessable amount received and PAYG withheld must be reported. If they have a high income, or if the sum is large, the tax is rebated so that no more than 17% is payable. If they have a low income, they may receive a refund of the tax paid by your super fund.

If you are considering a binding nomination, make sure you clearly understand the implications before setting it up. Once a valid binding nomination is in place, the trustee may lose the discretion to distribute the proceeds of the deceased's superannuation fund in the most tax-effective manner.

The simplest way to avoid the death tax is to make sure you have given a trusted person an enduring power of attorney, with instructions to withdraw your superannuation in full if it appears that death is imminent. There would be no tax on the withdrawal, and the money could then be distributed in accordance with the terms of your will after your death.

Noel Whittaker is a leading financial adviser and the author of Making Money Made Simple and numerous other books on personal finance. Noel writes an excellent monthly newsletter and a free subscription is available on this link.

What happens at death of an SMSF member?

Monica Rule

Do you ever wonder what happens to your super after you die? This is particularly important if you have an SMSF. No one wants to burden others with planning a funeral and figuring out what to do with their SMSF, so let's look at what happens when an SMSF member dies.

Compulsory payment upon death of a member

First, death is a compulsory payment situation. It means the deceased's super cannot remain in their SMSF. It must be paid either to their dependants or their legal personal representative "as soon as practicable". The Tax Office will normally allow up to six months for payment. If it takes more than six months, then the SMSF trustee may need to explain the reason for the delay. The Tax Office may accept reasons such as the death benefit nomination being challenged by beneficiaries, or the uncertainty of eligible beneficiaries. But if the trustee just took their time to pay out the death benefit without good reason, then the Tax Office may take compliance action against the SMSF.

Depending on the SMSF's trust deed, the deceased's super may be paid either as a pension, a lump sum death benefit or both. However, a pension is only available to the deceased's dependants such as a spouse, a child under the age of 18, a child up to age 24 who was financially dependent on the deceased, and a child of any age with a disability. Other dependants such as an adult child and the legal personal representative can only receive a lump sum death benefit.

If the deceased was receiving a reversionary retirement pension, then the pension can revert to their nominated beneficiary. If the pension is non-reversionary, then it will cease upon death, and can be paid to the surviving spouse either as a new pension, a lump sum or both. Paying the deceased's pension to their spouse does satisfy the compulsory payment situation as it is no longer in the deceased's super account.

The spouse of the deceased

Under current law, a transition to retirement income stream cannot revert to the deceased's spouse unless the spouse has met a condition of release, such as having reached the age of 65 or reached their preservation age and retired. This does not mean, however, that a new pension cannot commence from the SMSF and be paid to the spouse. In addition, money in the deceased's accumulation account can be paid as a new pension to the surviving spouse. The surviving spouse needs to ensure that if they have their own retirement pension it does not exceed the current transfer balance cap of $1.6 million when the new pension is added to it.

As the deceased's transfer balance cap is not transferable to their spouse, the spouse can either reduce their pension by putting money back into their accumulation account, or pay out some of their pension as a lump sum benefit prior to receiving the reversionary pension or the new pension. The spouse cannot put the deceased's super into their accumulation account.

If the deceased's pension is reversionary, the amount counted towards the spouse's transfer balance cap is the amount in the deceased's retirement pension account on the date of death. It is counted towards the spouse's transfer balance cap twelve months from the date of death. If the pension is non-reversionary then the amount paid to the spouse will count on the date it is paid.

A lump sum death benefit can be paid using assets. However, a pension cannot be paid using assets. If a pension is either partially or fully commuted, then the commutation amount can be paid as a lump sum death benefit using assets. The pension recipient needs to ensure that the minimum pension payment requirements are met prior to the commutation.

SMSF structure

The structure of the SMSF is important. If an SMSF has an individual trustee structure and it becomes a single member SMSF, it has six months to restructure. If the surviving spouse wants the SMSF to remain under an individual trustee structure, a second trustee will need to be appointed prior to the expiration of the six-month period. The remaining trustee can make decisions for the SMSF during the six-month period, which includes paying out the deceased's super.

It is important for SMSF members to take an interest in superannuation law. By understanding the law, members can ensure their super is passed onto their loved ones with a minimum of fuss.

Monica Rule is the author of The Self Managed Super Handbook – Superannuation Law for SMSFs in plain English. See www.monicarule.com.au for more details. This article is general information and does not consider the circumstances of any individual.

Fund managers may use or abuse algorithms

Raewyn Williams

In this era of 'big data', it is not the data itself that is transforming how we live, but the algorithms employed to collect, make sense of and exploit this data. Many sophisticated investment managers have learnt to use algorithms as a powerful tool in their investment armoury, and for quantitative (quant) managers, algorithms are a powerful differentiator of their style and a cornerstone of their investment approach.

The power and limitations of algorithms

An algorithm is a set of step-by-step instructions, written in computer coding language, to use a set of inputs (data) to produce one or more outputs. Given data about investment markets and a specific investment idea, an investment manager can design an algorithm to filter and sort the specific data inputs relevant to the idea, perform the appropriate calculations using the data and produce a set of portfolio constituents, trade list or other output reflecting the investment idea. For example, a manager attracted to large-cap Australian equities with price momentum may purchase the S&P/ASX 200 constituents as a time series data set and write an algorithm that calculates the price momentum of the different stocks, creating a suggested holdings list of higher-momentum stocks, comparing this list to the current stocks and weights in the portfolio and generating a trade list to move to the new target portfolio. While all this could be done manually (without algorithms), it is easy to see how the investment process becomes faster and less prone to error when algorithms do the hard work. Using algorithms instead of investment professionals can also reduce costs and (sometimes) aid transparency.

The thought discipline that coding up an investment idea requires is also very useful – one must be very precise in articulating the idea (in an 'objective function'), the variables that impact it and the degree of influence ('weighting coefficient') of each variable. The algorithm also helps the investment manager adhere to the manager's investment philosophy and does not allow fear, greed or any other human sentiment into the equation. For large fund investors who increasingly want a custom rather than 'one size fits all' solution, it is relatively easy to adapt the algorithms to reflect the personal preferences of the investor (although not all managers are willing to do it). For example, for a superannuation fund who likes the abovementioned momentum strategy but not the added concentration risk, the manager could introduce a step into the algorithm which more equally weights the desired stocks. Or, by adding a risk model to the S&P/ASX data set (inputs), the manager could limit the algorithm's potential outputs to portfolios which do not breach upper bounds in relation to particular portfolio risks, say, by capping higher momentum stocks in the financial sector at a 20% overweight of the benchmark weight to financials.

Three investment problems observed in the market

However, the dazzling power of algorithms should not blind us to their limitations. The 'flash crash' of May 2010, where the Dow Jones Industrial Average crashed 1,000 points in a few minutes, is thought to have been caused by High Frequency Trading algorithms which competed to drive trade bids lower and lower because … well, they did what they were programmed to do.

1. Performance dispersion between similar quantitative strategies

Part of the reason may be that the algorithms that drive many strategies are fitted to the back tests that worked, not the ones that didn't. For example, in the new breed of systematic alternative risk premia harvesting (global macro) strategies, one of the fundamental factor risks de-emphasised in many live strategies is the 'Value' factor, notwithstanding its academic support and intuitive appeal, simply because of its recent poor performance. Algorithms can be the contagion that transmits research data-mining (the selective use of data to fit an idea) into a live portfolio.

Managers of strategies need a sensible narrative about what is, and what is not, in the algorithms that drive their portfolios.

2. Unintended bets driving a portfolio's outcomes

Algorithms can be used to specify a 'maximise return' objective function. These algorithms can seem elegantly simple but equity strategies which use them to tilt to specific factor bets like Value, Growth, Size and Yield often suffer from a large amount of their portfolio risk *not* coming from these intended bets, but other unintended bets. The algorithms do exactly what they are coded to do. There is no risk awareness if risk inputs

are not included in the algorithm. If an investor is surprised to find their income-tilted portfolio loaded with Australian financials or US utilities, a diversification risk-oblivious algorithm may be to blame.

3. Outperformance dragged down by complexity and transaction costs

The power of algorithms is such that sometimes a manager wants every aspect of the investment idea captured in and exploited by the algorithm (just one more data input, one more variable …). This can lead to a strategy inundated with trade signals. It is hard to find an algorithm adept in balancing the expected performance contribution of a signal against the transaction costs of trading. It is even rarer to find an algorithm that accurately calculates the tax costs of trading and balances these against the merits of trading on each and every signal.

Transparency required

Due diligence on managers who use algorithms should not 'stop at the door'. Any manager who won't answer reasonable questions about their algorithms on the basis that it is a proprietary 'black box' is out of step with need of large fiduciary investors to address opaqueness in their investment portfolios. Transparency equips fiduciaries to better understand and justify the risks of the investment, whether the rewards are sufficient compensation and whether the fees are sensible.

Our experience is that investment professionals (the human kind!) are key partners to the coders who build algorithms for investment portfolios. They can check the reliability of the data inputs and how secure the software and systems are. They can provide a wise reality check over the output produced by algorithms before the investment recommendations hit the market.

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