Are DC funds fit for purpose [in retirement]?

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Abstract

Australia has been democratising access to the global investment markets via its compulsory defined contribution (DC) superannuation system for over 20 years. We have all become investors and owners of capital; like it or not. The aim has been to provide a level of dignity via financial security in retirement. But, are the challenges of low financial literacy, investor behaviour foibles and increased retiree risk aversion surmountable in a choice-based system? Is DC superannuation structurally capable of producing sustainable income streams in the face of the risks of increasing longevity, ongoing inflation and market volatility? Does DC super need to be re-intermediated to some degree and, if so, whose balance sheet could be used to absorb those risks?
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1. Introduction

The Australian superannuation system has had a ‘lump sum’ approach to retirement, as distinct from a ‘replacement rate’ or lifetime income stream approach. After all, superannuation is a defined contribution (DC) system. Like in the United States, we are now realising the limitations of a DC retirement system insofar as it relates the provision of reliable retirement income for a population with increasing life expectancy.

In Australia, the core DC retirement product is called an account-based pension (ABP). This is a bit of a misnomer because it is only a ‘pension’ because the legislators decided to give it that name. It is really just a mutual fund account that allows retirees to draw out, usually via a regular payment, their retirement savings to live on. Withdrawals are tax free. Like in the United States, there is a minimum amount that must be drawn out each year to prevent perpetual exclusion of the balance from the taxation system. Unlike the UK, there is no limit to the amount that can be drawn out and hence no guarantee that the money will last.

ABPs reflect a choice-based system where retirees can invest in a large range of options and decide how much income to draw down each year.

Towers Watson’s 2013 Global Pension Assets Study shows that DC assets represent about 43 per cent of total pension assets globally, but are growing at an annual rate of about 8 per cent, compared to a 4.6 per-cent growth rate for defined benefit (DB) assets. In a country like Australia, DC assets represent over 80 per cent of pension assets.

So what is wrong with DC retirement savings schemes? Principally, that they are like a troubled teenager: aimless with no particular goal in mind.

Workers contributing a total of 10 per cent to DC pension schemes for 40 years only have a 53 per cent chance of targeting 70 per cent of their final salary says the Organization for Economic Co-operation and Development (OECD). At a five per cent rate, only 14 per cent of retirees will reach the target.

DC systems work on the basis that you only get out what you put in, plus the net investment returns on those contributions, less tax. There is a tendency for DC schemes, particularly in a compulsory system, to lack a clear goal other than to build up a lump sum. In itself, a lump sum is not particularly useful in retirement. It must either produce an income to live off or be so large that it can merely be spent in pieces to fund a retirement of an indeterminate length. Our system makes sense of this problem by using averages: average length of retirement, average investment returns and average rate of consumption. The trouble is that almost nobody has an ‘average’ retirement. It is a highly individualised experience.

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1 In spite of recommendations in the Final Report of the National Superannuation Committee of Inquiry (Hancock Report) in 1976 that there be a compulsory National Superannuation Scheme that would involve a ‘purchased pension’ on reaching age 65 payable weekly and based on a multiple of paid-in contributions. The report was rejected by the Fraser Government in 1979. A task force was formed to examine occupational superannuation and participation by the union movement. The Commonwealth Task Force on Occupational Superannuation reported in 1983 - http://trove.nla.gov.au/version/26012857

2 http://www.towerswatson.com/en-ZA/Insights/IC-Types/Survey-Research-Results/2013/01/Global-Pensions-Asset-Study-2013

3 Ibid

Central to the idea of a DC retirement product is the idea that asset allocation can address all of the needs of the retiree.\(^5\)

Success in a DC scheme is also dependent on informed choices, rational behaviour and notions of consumer sovereignty. In the real world, information asymmetry, issues with financial literacy and innate behavioural biases often make it hard for the consumer to achieve any degree of ‘sovereignty’. The result is a system heavily reliant on (potentially conflicted) agents.

DC pensions also tend be more expensive to run than DB schemes because the individualisation that is central to their operation means that they cannot easily pool risk and therefore need to take a bit less risk and hence accept lower average returns.\(^6\)

2. **History of development of DC schemes**

It is useful to begin a study of the effectiveness of DC schemes by considering the history of how such schemes came to be such a large part of the global pension system.

Governments and corporations around the world realised that retirement is expensive and making concrete promises about paying people in retirement is even more expensive. Systematically, it became obvious to many that taking on market, inflation and longevity risk for people in retirement was simply too risky other than for specialist asset managers. There are countless examples where the corporate pension plan became the core business (or brought down the business altogether) due to problems with funding liabilities.\(^7\) Many governments had the same experience, with Greece being the latest example.

DC seemed like the perfect solution and the risk can be made to look like it is not even there. Because the typical DC plan does not aim to provide the retiree with a particular level of income, there is no target from which there can be a shortfall. This is, of course, a fiction because the present value of a person’s future cash flow needs in retirement, for a given standard of living, can be worked out to a reasonable degree of certainty (using various assumptions).

DB plans pool longevity risk\(^8\) while DC plans leave it to the participants to deal with. This forces each individual to self-fund their retirement income. They can be thought of as small insurance companies taking on their own longevity risk without the capital or the skills to do so.

3. **Comparison to DB schemes**

Amid the global trend to more DC schemes, there are often vocal proponents of one system over the other based on differing measures of success. The reality is that each system has its own advantages and disadvantages. Keith Ambachtsheer, a leading pension expert from Canada, made the point that both structures are flawed and, in his view, there is a desperate need for a fresh design for approaches within...
the pension sector. While the economy may not be able to afford the promises made through a DB system, neither can the members of a DC system take any real comfort from the building of assets without a specific goal for those assets.

This distinction is important to remember in considering whether or not DC schemes are suitable for retirement income purposes. We should not be asking whether or not DC schemes can replicate DB scheme outcomes, rather we should ask whether DC schemes can deliver what is required by their members. Can they deliver a reliable stream of income in retirement to meet the needs of entire cohorts of retirees?

Part of the problem here has been that the method used to convert DB scheme members to a DC scheme has been used as the (default) objective of the DC scheme. The conversion from DB to DC required a calculation of a lump-sum amount that was the present-day equivalent of the future benefits that had already been accrued by the member. While the DB was focussed on the benefit, being the ultimate income payments, however expressed; the DC metric now focusses on the dollar balance that is accrued. In general, DC schemes focus on this target balance at retirement. Even in Australia, where the contribution rate is mandated as 9 per cent of salary, increasing to 12 per cent by 2020, the focus of the system is the balance at retirement, not what level of income the retiree is going to need in retirement. A recent survey in the United States found that less than half (46 per cent) of workers have tried to calculate how much money they will need to have saved by the time they retire.10

In order to consider the appropriate goals for a retirement income system, we need to understand how the concept of retirement and retirement incomes has evolved.

4. Retirement

The modern-day concept of retirement has changed since Bismarck first introduced the idea of a pension for workers in the 1880s. While the original pensions were aimed as a reward for surviving military service, Bismarck introduced the concept that workers could still get paid if they stopped working due to old age. At an initial age of 70 years, this did not apply to a lot of people at the time.

Improvements in health, leading to increased longevity have changed the concept of retirement. It is no longer a lucky few who will finish their life at leisure, but it is the majority who expect to have a period of their life in retirement where they will still be healthy and active.

It is these expectations that a DC scheme is required to meet. Central to this is the need to have a regular income in retirement to be able to cover the expense of the activities through the active, passive and frail stages of a retiree’s life.11 Paul Keating referred to these differing requirements in a speech to The Association of Superannuation Funds of Australia conference in 2012.12 He also made the point

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12 Keating provided some of these comments in a subsequent article at www.cuffelinks.com.au
that Australia’s superannuation system, like many DC schemes, was never designed to create income in retirement, but instead was a supplement to retire with. His call for change now echoes this very need. The objective of a DC retirement income scheme should be the provision of an adequate level of income (in conjunction with whatever social security is available) across the different stages of retirement.

Keating also makes an interesting challenge in his speech. He questioned whether or not it is possible for the superannuation sector (a DC scheme) to manage the risks associated with longevity, positing an alternative where the public sector takes control of the longevity phase by running a funded DB scheme for the provision of a deferred lifetime annuity or similar. With the absence of a price mechanism on longevity, this has a lot of similarity to the old DB schemes. The reason for setting up the alternate DC scheme was to ensure that the provision of retirement income would be sustainable. This does not sound like a real solution to the problem.

Instead, adjustments to the superannuation promise should be considered so that it can retain its DC nature and yet deliver the required retirement income. Any approach to guarantee a person against a specific risk (or the combination of longevity and inflation in this case) will have a cost. One way to ensure that the cost can be managed sustainably is to use a price mechanism around the cost of that guarantee. This is a potential development in the DC framework that is explored further below.

5. Global Approaches

In June 2012, the OECD Working Party on Private Pensions issued a 10-point roadmap for the good design of DC pension plans. The following is a summary of the 10 points:\(^{13}\)

1. Ensure the design of DC pension plans is internally coherent between the accumulation and payout phases and with the overall pension system.

2. Encourage people to enrol, to contribute and contribute for long periods.

3. Improve the design of incentives to save for retirement, particularly where participation and contributions to DC pension plans are voluntary.

4. Promote low-cost retirement savings instruments.

5. Establish appropriate default investment strategies, while also providing choice between investment options with different risk profile and investment horizon.

6. Consider establishing default life-cycle investment strategies as a default option to protect people close to retirement against extreme negative outcomes.

7. For the payout phase, encourage annuitisation as a protection against longevity risk.

8. Promote the supply of annuities and cost-efficient competition in the annuity market.

9. Develop appropriate information and risk-hedging instruments to facilitate dealing with longevity risk.

10. Ensure effective communication and address financial illiteracy and lack of awareness.

Australia scores about 6 or 7 out of 10 on these measures, with the key deficiencies being in the payout phase. This doesn’t mean that our system is broken, just that it has a way to go in its evolution. We are part way down the track of turning a lump sum DC savings system into a retirement income system.

6. Similar situation in the United States

The situation in Australia and the United States regarding DC pensions and retirement is very similar. 401(k) plans were only ever intended as a lump sum supplement, not to provide retirement income streams. The contribution cap, currently $US17,500 per annum, and lack of compulsion (employee participation is only voluntary) mean they are generally incapable of providing the main source of retirement income. A typical household where the head was aged 55 to 64 had only $US42,000 in a 401(k)-like plan in 2010, according to a recent report.15

The harshest critic of the 401(k) plan is US academic Teresa Ghilarducci16 who says that they are a failed experiment17 and advocates a government scheme which would guarantee a rate of inflation, plus 3 per cent in retirement.18 A rosier picture is put by the industry body for the mutual fund industry in the United States: the Investment Company Institute, in its 2012 report: ‘The Success of the US Retirement System’.19

What about very good DC plans in the United States? How do they fare? The Thrift Savings Plan (TSP) is a United States DC plan for civilians who are, or previously were, employed by the government and for members of the uniformed services.

The TSP has around US$300bn in net assets, with approximately 4.5 million members. TSP uses a passive management strategy (currently using Blackrock as asset manager) by investing in various US and global equity indices and in fixed interest. The TSP charges ultra-low fees to its members, being around 2.5 basis points (ie 0.025 per cent) a year.

Even then, the TSP falls down where most DC funds do in that it does not provide a pension in retirement, but only a lump sum that either has to be judiciously drawn down for consumption or separately transformed into a lifetime income stream via an intermediation with a third party (eg life company). In other words, the TSP suffers from the existential criticism of DC funds: it is a savings plan (as its names suggests) and not a retirement plan.

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14 The common way of describing popular, but non-mandatory, tax-deferred workplace DC pension plan accounts operating in the United States since the early 1980s.
16 Teresa Ghilarducci is the Irene and Bernard L. Schwartz Chair of Economic Policy in the Department of Economics at The New School’s New School for Social Research in New York.
18 http://www.economicpolicyresearch.org/index.php/guaranteeing-retirement-income
20 US$298.1bn as at 31 December 2011.
7. ‘Wealth management’ conception of the retirement challenge

Another way of approaching the problem with DC funds is to say that they essentially flow from a conception of the retirement challenge as one of ‘wealth management’. In fact, retirement is about creating spendable income and managing some specific risks that are more acute in retirement: inflation, longevity risk and market risk. The justification for the wealth management approach is that a person is a long time in retirement and thus needs exposure to growth assets. This ignores the impact of volatility in retirement. A 7.5 per cent return with a standard deviation of 20 per cent a year gives a retiree the same outcome as a constant return of 5.9 per cent. DC funds spend too much time chasing the more volatile return in retirement. Interestingly also, this is not actually what retirees want. Recent research carried out by National Seniors Australia suggests that retirees want much lower levels of risk in retirement.\(^{21}\) So, this will have to change.

Steering the financial services industry in Australia and elsewhere away from this wealth management paradigm will involve a big change in attitude. Using the idea often attributed to Peter Drucker that ‘what is measured improves’,\(^{22}\) the DC industry does not know how to measure success in retirement. We are still using league tables of the highest (non-risk adjusted) investment returns to measure a good retirement product. Following Drucker’s logic, we must work out a better way of measuring a good outcome in retirement and then we can start managing for those outcomes.

8. Success and failure

In accumulating assets in a DC pension plan, there is really only one goal: accumulate as many assets as possible, with minimal outgoings and an optimal level of volatility to create the largest possible pool of savings. This provides a clear success measure (the familiar performance league tables) and also clear steps to improve the ultimate outcome, including: asset allocation; saving more; reducing fees; minimising taxes; contributing (working) for longer; right down to the typical competition to get better investment returns. The financial services industry is well accustomed to working in this paradigm.\(^{23}\)

In retirement, typically, there are four forms of expenditure to plan for:

- Everyday living costs which requires predictable and regular cash flows;
- Discretionary or lumpy items;
- Expenditure beyond life expectancy (which itself is only an expectation based on averages); and
- Bequests for the estate.

In addition, there are increasing needs around the liquidity and security of the investments to address increased loss aversion, but also the fact that the retiree is living off the portfolio. Success will often involve meeting all of these objectives.\(^{24}\)

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\(^{22}\) Peter F Drucker, Austrian born management consultant (1909-2005).

\(^{23}\) J. Stock, W. Sharpe and J. Watson, 2009 ‘The 4% Rule - At What Price?’ Journal of Investment Management Q3 2009 provides a discussion on the different costs associated with failure and the surplus with success for a retiree following a simple plan.

\(^{24}\) A discussion of some of these objectives in an Australian context can be found in: ‘Retirement Solutions I: Gaps in the state of the art’ Russell Investments, April 2012.
Sequencing risk\textsuperscript{25} will produce some situations where higher investment returns fail to deliver the objectives, while lower returns deliver a financially successful retirement because losses are avoided and compounding of capital continues to occur.\textsuperscript{26}

The point here is that success in the DC pension world is much more difficult to measure in retirement and this could be a key factor in the difficulty the Australian industry is experiencing in meeting the challenges presented.

\section*{9. Retiree behaviour}

When people consider an immediate good (more spending) against a potential future negative (running out of money), all the evidence points to poor choices being made because of our internal framing mechanism. This, along with other behavioural issues in retirement,\textsuperscript{27} highlights the need to have a more rigorous approach to investment advice about the retirement phase. The average person does not have the financial literacy to deal with each of these on their own. We need financial advisers to have the appropriate level of professional expertise to ensure that their clients are better educated on these matters that ultimately leads to better client understanding.

It is, and will remain for some time, a curious feature of our superannuation system that a person can spend their working life in a default fund and then, at retirement, be required to make complex decisions about the sustainability of their savings, inflation and the future value of money, investment risk and budgeting without a regular wage.\textsuperscript{28}

The standards applying to advisers need to reflect these burdens with a view to helping clients overcome these shortcomings.

\section*{10. Product shortcomings – additional burden on the system}

The pure DC model (ie where there is no intermediation or insurance of risks in retirement) places a disproportionate burden on schemes and advisers to make some difficult and complex assessments about the durability of retirees’ savings and the ultimate outcomes they are likely to experience. How long a retiree’s savings might last depends on assumptions about market returns, longevity and the spending assumptions inherent in the retirement plan. These are complex matters and require very individualised attention.

Recent reforms to the superannuation system in Australia, (ie FOFA and Stronger Super\textsuperscript{29}) do not include any changes that are directed towards retirement itself (as opposed to the accumulation phase). It therefore remains the case that advisers are

\textsuperscript{25} Sequencing risk arises because accumulating savings is path dependent. The path or sequence of investment returns can have a dramatic effect on the eventual amount saved. For this reason, two retirees can have had the same overall average investment returns over their lifetime, but end up with very different balances.

\textsuperscript{26} Stock et al provide a graphical representation of this in their figure 1 on page 13.


often unwittingly ‘carrying the can’ for poor retirement product design. This is compounded by the limitations inherent in the current risk profiling process (rather than a goals-based approach) typically undertaken by the industry (see paragraph 1 of this appendix).

Despite being an almost universal retirement product, the account-based pension fails to deal with the three key risks facing retirees: inflation, longevity risk and market risk (including sequencing risk) and typically exposes retirees to too much volatility and uncertainty about the durability of their savings and how much sustainable spending cash flow they can expect in retirement. When they retire, it is also very difficult to work out how much they should spend and, when they spend it, whether what they are spending is income or capital.

For so long as the Australian regulatory system remains agnostic about financial products (ie leaves it up to the market to design them) and relies on disclosure alone to regulate them, a great deal of additional pressure will be placed on the system to ensure that retirees understand the risks they face in retirement. As the ASIC shadow shop survey into retirement advice has shown, the fallout from this policy setting is felt by the clients who, according to the survey results, are currently not being given adequate advice about how long the money is going to last.30

11. Modern Portfolio Theory has a timeframe longer than retirement

The investment techniques, studied and practised by DC fund managers, are based largely on the concepts of Modern Portfolio Theory (MPT) which was developed primarily by Markowitz31 and Sharpe32 in the 1950/60s. This creates difficulties when dealing with retirement. The results of MPT require a long-horizon investor that does not require any cash flows in the near term. This is a point acknowledged by Markowitz himself in 199133 where he notes that there is a difference between institutional investing and investing by an individual person.

In practice, MPT only deals with one third of what is required to generate a sustainable retirement income stream. It deals with the middle investment phase. The first stage is that of saving which in Australia is targeted through the compulsory nature of superannuation contributions. The third stage is that of spending in retirement. This should be about determining a suitable drawdown strategy that will provide the cash flow that is expected after years of saving and investing. It is not about investing to access long term average returns of various asset classes. That is largely the privilege of accumulators, even though retirees are a long time in retirement. Because of their cash flow needs and their inability to recover from losses, most retirees have very different time horizons for most of their retirement savings in retirement.

12. The role of financial literacy and education

Most Western democracies devote some level of resources to financial literacy. They are forced to do this because so many complex decisions have been devolved to the general populace. Australian consumers struggle with incomprehensible mobile
phone plans; analysing the comparative cost of their utilities; complex financial products and, later in life, the complexities of health care, social security and aged care rules.

The National Financial Literacy Strategy\textsuperscript{34} was launched in 2011 to improve the financial literacy of Australians. Likewise, the Australian Securities and Investments Commission (ASIC) established a MoneySmart\textsuperscript{35} website in 2011 to provide people with guidance on how best to handle their finances. The site offers tips on how to deal financially with major life events (e.g., losing a job, having a baby, buying a home or retiring). Other government agencies, major financial institutions and not-for-profit organisations make efforts in financial literacy.

While all of these services are well directed and, some would say, essential in a first world economy like Australia, they all suffer from the same fundamental problems: the sheer scale of the information asymmetries involved; investor behaviour flaws and generally low levels of literacy and numeracy in the community.\textsuperscript{36} A leading survey into adult literacy and life skills showed that around half the adult population lacked functional literacy and numeracy skills to the point where they were unable to participate in a knowledge-based economy.\textsuperscript{37} These are major impediments to the worthy aim of having all of the population fully financially literate.

Lauren Willis from the University of Pennsylvania sums up the issue of financial literacy neatly in her paper: Against Financial Literacy Education.\textsuperscript{38} She advocates introducing policies that support good financial outcomes for consumers, rather than increasing the financial education of a generally disengaged general public; a task she views as an impossible task.

13. **Focus on individual management - investor behaviour**

The DC model pushes risk and decision-making down to the individual level. As a result, in a compulsory system like Australia’s, there is a high degree of cognitive and other inefficiencies involved. Take driving cars as an example. Because of what a car is, we all need to be trained and licensed to operate them. This is not so of pensions. Who thought it was a good idea to make an entire population become investment experts? Global pension expert Don Ezra put it this way in a 2009 article:\textsuperscript{39}

‘...there is zero chance of making the average person an investment expert. This is simply common sense, as we don’t launch healthcare plans intending to educate employees to be their own doctors or surgeons. We use qualified experts. If we need to fly from point A to point B, we don’t learn to fly our own planes. We use qualified experts. The average person will never become a doctor, surgeon, pilot or engineer by reading pamphlets. Just as the average person will also never become an investment expert that way.’

DC schemes individualise the retirement challenge, giving up scale and pooling of risks in the process. They lead to the odd situation that occurs in Australia where DC funds that control US$50bn in assets outsource life insurance risk to for-profit

\textsuperscript{35} https://www.moneysmart.gov.au/  
\textsuperscript{36} http://www.financialliteracy.gov.au/research  
\textsuperscript{37} ABS 2006 Adult Literacy and Life Skills Survey (ALLS)  
\textsuperscript{38} http://www.law.uiowa.edu/documents/lr/willis.pdf  
insurers because of the individualised, account-based ownership of the fund’s assets. These very same funds expose members to market risk such that, during the 2008 financial crisis, it was not uncommon for account balances to drop by 30 or even 40 per cent and up to 60 per cent in US dollar terms.

The risk of being able to deliver a retirement outcome is now forced on to individual members. They are ultimately responsible for the provision of their own retirement outcomes. In many cases, this awareness comes too late to be properly managed.

14. Other models

In Europe, notably Denmark, the Netherlands and the UK, there has been quite a bit of recent thought about other models, where DC looks more like DB. What the model actually looks like can depend on whether it is a DC scheme morphing or a DB one. Let’s have a look at the models.

a. Collective DC schemes

Under collective DC (CDC) found in Denmark and the Netherlands, the employer pays a fixed rate of contributions and the risks are shared between members. There is an expected or target benefit, but it is not guaranteed. Investing is done on a ‘with profits’ basis, smoothing outcomes across all members. The actual pension benefit paid depends on the funding level of the scheme at the relevant time. Changing the rate of indexation of pensions year-on-year is often used as a risk-sharing lever if the scheme suffers poor investment returns. Importantly also, this model overcomes a lot of the negatives of the individualisation of DC. Investment risk is pooled across the fund so it can stay invested in higher risk assets and earn an illiquidity premium (even in respect of members approaching retirement). Also, there are greater economies of scale and efficiencies available under the CDC model. Their weakness lies in their ambiguity (what is the promise exactly?) and intergenerational equity issues: is one generation funding another? They depend for their success on cultural norms of solidarity and collectivism that are not sufficiently embedded in most Western societies.

b. Defined ambition

The Netherlands has decided that the DB system is no longer sustainable. Instead, defined ambition (DA) pension schemes, are to be implemented in the from 2015 and are also being discussed in the UK DA aims to combine two competing needs: employers want predictable pension costs and members want predictable outcomes. There are various models under consideration. Typically, it involves sharing longevity risk and investment risk between employers, members and insurers.

A key reason for not going to pure DC is the Dutch concern for intergenerational risk sharing in their notion of ‘solidarity’. They also found the lack of a target in pure DC to be inadequate.

The Dutch are trading off the nominal guarantee, in favour of an indexed (ie real) pension, conditional on investment performance. The target pension is indexed each year, and adjusted up and down based on realised investment returns. Longevity experience is also tested each year and any necessary adjustments made.
i. DB to DA perspective
The first step away from a pure DB scheme is to soften the promise. Change the rules so that when an employee leaves, the pot crystallises to DC which is portable. They don’t remain as inactive members. There is then no longevity risk for the fund.

ii. DC to DA perspective
This can sometimes mean CDC or even just a simple money-back guarantee added to a DC scheme, bulk-purchased annuities or smoothing. Sometimes, these ideas are just described as ‘DC Plus’.

c. Target date/lifecycle funds
Much has been written on this subject. However, a fund that takes over the asset allocation decisions and aims to tailor asset allocation based on the age of the member (and possibly other factors) with the aim of delivering a better retirement outcome certainly sounds like a worthy idea. The key challenge in this approach has been to find a solution that can be implemented en masse. Products popularised in the US have had some success in reducing exposure to market risk near retirement, but this has come with a reduction in return and failure to meet the ultimate income goal. There is an arbitrary reduction in exposure to the market that actually increases the risk of income failing to meet the needs of the investor in these products.40

There is a need to extend the factors beyond simply age, (or using an investment horizon) to better target the desired outcome. The typical funds fall into the same trap as other DC approaches by focusing on the balance at a particular point, rather the aim to deliver the required stream of income.

15. Adjustments to existing settings

a. Re-intermediation - the ‘DB-isation’ of DC
Not every DB scheme that ever existed has failed.

That is, there are DB schemes that have been, and still are, run effectively to deliver the income that is required for their retired members.41 This demonstrates that it is possible for a well-managed scheme to provide a defined benefit outcome. An alternative for the outcome of a DC system is to be able to use the skills that can manage a successful DB plan, potentially with a form of price mechanism, and deliver a guaranteed income for retirees.

This ‘re-intermediation’ would not be without risk, but it should be possible to have experts in the management of balance sheets, managing the balance sheet of the guaranteed income provider. This is in contrast to the traditional corporate DB schemes, where every employer needed to have skills in managing assets and liabilities in order to deliver the defined

40 Basu, Byrnes and Drew (2009) ‘Dynamic Lifecycle Strategies for Target Date Retirement Funds’ Griffith Business School Discussion Papers, 2009-02 discusses these points in more detail
41 The large Canadian schemes (eg OTPP) would be examples, but there are plenty of others.
benefits outcomes. The twist is that the benefit would be defined towards the end of the DC accumulation phase, rather than at the start.

This approach would still take the risk away from the employer who, as sponsor of the old DB scheme, was responsible for managing all the investment risks of the pension plan (depending on the strength of the promise). What would happen for the employee in this situation is that their risks would be managed by a third party. For some, this will be an advantage, but for most there will be additional costs in order to ensure that the promise can be delivered. This would include the cost of the capital that would be required to back the payment of any promises.

b. A role for system-wide guarantees?

Some DC pension systems incorporate system-wide guarantees of various types to support them. For example, Switzerland currently has a 2 per cent minimum investment return guarantee. In future, it is proposed that the rate be linked to the average market yield on 7-year Swiss government debt.

German funds must offer a guarantee that, in nominal terms, a member will have their contributions available at retirement. In other words, that their nominal capital is protected.

In 2012, the UK Pensions Minister, Steve Webb, started a conversation about so-called ‘money-safe’ pensions where members of workplace DC schemes could pay for the security of at least getting their money back when they retire. This was a forerunner to the release of a green paper entitled ‘Reinvigorating workplace pensions’ in November 2012. The OECD, in a recent paper, estimated that the discounted sum of fees payable for a nominal guarantee of capital would cost at total of 1.28 per cent of an average retirement lump sum at age 65, the Swiss-style guarantee 4.98 per cent and a real (as opposed to nominal) guarantee of capital would cost 5.49 per cent. These seem like quite reasonable amounts.

c. Higher levels of financial literacy and engagement

While increasing financial literacy and engagement with compulsory superannuation are worthy aims, any policies that rely on either of these occurring as a pre-condition to some other outcome are highly unlikely to be successful. Calls for greater levels of financial literacy so that ordinary people will be able to cope with ever-increasing levels of financial complexity should be strongly resisted.

d. Annuity outcome target

i. NEST

In the recently established default DC pension scheme in the UK, NEST, when a member nears retirement age they move into what is
known as the consolidation phase, progressively moving out of return-seeking assets. Their asset allocation shifts into a combination of annuity-tracking assets and money market investments preparing them for retirement, aiming primarily to manage ‘pension conversion risk’. This is the risk that pure DC funds leave unhedged: the risk that the lump sum accumulated cannot be converted into a satisfactory retirement income stream.

ii. Switzerland

In Switzerland, they go one step further. Swiss DC schemes compel retirees to convert their lump sums into income streams at a guaranteed rate which is 7 per cent for males and 6.95 per cent for females. These are, of course, unsustainable rates and there have been a lot of debates about their reduction.

iii. Managed DC – Dimensional

The approach taken by Dimensional and Professor Robert Merton is to target an appropriate level of income in retirement. Using a mathematical framework, Merton and Dimensional set about maximising the probability of being able to afford an annuity at retirement that provides a retiree with their desired level of spending in retirement. The critical focus of this approach is a target of the desired level of spending in retirement. The target is the cost of purchasing an annuity at retirement that would provide the cash flows to meet the desired spending needs through retirement. The ‘managed’ element of the process is the way in which outcomes that exceed the target are traded against a higher probability of achieving the target outcome.

e. Mass-scale individualised DC retirement plans

Another approach is that being pioneered in Australia by QSuper. QSuper is pursuing the idea that a large DC fund can engage in a certain amount of mass customisation by identifying defaults designed to suit most members. Those not wanting to participate are given the opportunity to opt out. Given the amount of personal information able to be gathered by a fund over time, increasingly customised options can be tailored for members based on age and account balance first, but also other characteristics over time. The end result could be an increasingly tailored ‘default’ experience as opposed to current arrangements that depend on the member making the decisions, with or without an adviser.

16. Private sector capacity to manage longevity risk

One of the reasons that DB systems have been dismantled over the years has been the desire of private sector firms (and some public sector groups) to avoid the problems of managing exposure to longevity risk (ie the financial consequences of outliving your savings). It is reasonable, therefore, to question whether or not the private sector actually has the capacity to manage this risk.

44 Details on the approach, including presentations and white papers are available on the Dimensional website: http://www.dfaus.com/service/dimensional-managed-dc.html
The key to the longevity risk capacity is simply the ability to earn a sufficient return on capital. Pooling itself does not guarantee the result for any member of a longevity pool. What is required is the capital of a third party, typically a life insurer, to ensure that the promised payments are made. It is the responsibility of that insurer (and its regulators/supervisors) to ensure that:

- It has enough capital to cope with extreme events (based on robust stress testing of asset values)
- It projects average longevity accurately
- The asset pool earns a sufficient return to pay a return on the capital commensurate with the risk

Like most markets, the overall supply and demand for longevity protection will determine a suitable price. Increased demand for longevity protection will require more capital to make the protection low-risk and as a result the longevity-protected payment will be lower. This creates a market that will be cleared as long as there is sufficient available capital for a reasonable supply of the longevity protection. A model where low premiums are paid for consistently high returns is one that is doomed to fail.

The UK market has demonstrated that the private sector is prepared to provide the capital to manage these products. In other markets, the key is to consider the cost of unexpected mortality improvements. Expected improvements should be reflected in the price in the same way that a life insurer without a compulsory market will adjust its pricing for the adverse selection effect. A life insurer will expect that customers who think they have a shorter than average life expectancy will not buy annuities, so the longevity pool is distorted. The same is true of mortality improvements over time.

17. Usefulness of DC pension schemes beyond retirement savings

Apart from their obvious social usefulness in accumulating retirement savings, DC pension schemes have other roles to play. Peter Drucker, in his Pension Fund Revolution, conceived large US pension schemes as socialising the means of production; turning capitalism on its head. Drucker pointed to the formation of the General Motors pension fund in 1952 as the start of this trend. While his utopic vision hasn’t quite materialised, there is no denying the role that large pension funds play in corporate governance. The notion that pension funds are ‘universal owners’ is a particularly potent one. This is the idea that pension funds are always going to own a slice of the economy and so are, by definition, incapable of meaningfully exiting a particular industry or type of company. As a result, and given their long-term horizons, they have an interest in sustainable growth with limited externalities in the form of social and environmental costs.

A more contemporary example is the way in which modern DC funds can create a ‘buy side’ for equities and other capital markets. This is particularly useful in emerging equities markets, such as in the Shanghai and Shenzen exchanges in China.

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45 Total sales of annuities in the UK market is currently around £12 billion a year.
47 Monks, R and N Minow, Corporate Governance 1995 (Blackwell).
48 http://universalowner.com/universal-owner-what-is-this/
where direct retail investing accounts for about 80 per cent of turnover. Pension funds can improve corporate governance, stimulate more informed price discovery and lower the cost of capital formation.

A recent example of how potentially potent this can be is evidenced by new policies being trialled by the National Employee Savings Trust (NEST) in the UK. In summary, NEST is proposing to attack complex pay structures, high fees to auditors and male-only boards. It says it will consider will voting against the chair of the remuneration committee if there are too many bonus schemes, making it difficult to calculate how executives are being paid. It will also vote against the re-election of the chair of a nomination committee where the company has failed to disclose an aspirational target for women on the board.

18. High frequency trading, dark pools etc

ASIC’s most recent report49 into its supervision of Australian securities markets (principally ASX) and their participants in the six months to December 2012 shows that the average cash equities trade size on ASX is now fluctuating between $6,000 and $6,500. This represents a significant fall from the average trade size in the corresponding period in 2005 of around $35,000.50 Over that same period, the trade count, or the frequency of trading, went up from roughly 2 million trades per day to around 10 million. However, the value of trades, while peaking in the middle of the period at up to $7 billion, ended up at much the same level of around $4 billion per day. So, it is clear that trading is becoming more frequent and in parcel sizes that do not make sense from an ‘investment’ point of view.

Dark pools also account for 30 per cent of total cash equities trades at the end of March 2013.51

What this suggests is that the global trend towards algorithmic, high frequency trading and dark pools is well and truly alive in Australia. What this data doesn’t tell us is where do our superannuation funds sit in this picture? Given that the major investment banks are no longer principal trading due to the Volcker reforms enshrined in the Dodd Frank Act, who is doing this trading and on what account? To what extent are our DC pension funds involved in this? It is difficult to say, but the proportion of the free float of equities traded on ASX that are owned by DC pension funds makes it inevitable that this trend is affecting them.

In the UK, hedge funds, high frequency traders and proprietary traders are responsible for 72 per cent of market turnover.52

The deeper problem here is the ‘ownerless corporation’ syndrome where share trading completely takes over from share ownership and corporate stewardship. Former UK Financial Services Secretary, Baron Paul Myners, warned about this in the UK in a 2009 speech, concluding that:53

52 Kay Review of UK equity markets and long-term decision making – Final Report – July 2012, Figure 8, page 50.
Fund managers in most cases act as agents for clients, the ultimate owners of companies. As the agents of owners, the asset management industry is critically placed to ensure that companies in which they invest their clients’ money deliver long-term, sustainable returns. Not all fund managers offer ‘governance’ as part of their bundled package, but it is clearly incumbent on pension fund trustees and others in similar positions to ensure that someone is taking this role seriously on their behalf – and doing it well. The onus here should clearly be on the ultimate owner – the investment trust, insurer or pension fund. If the owner’s interests are not represented through effective stewardship, we cannot be surprised if agents substitute their own goals.

... 

I believe the answer lies with clients of fund managers taking a much greater interest in the care exercised over the management of assets bought and held on their behalf by their fund managers. Government can facilitate the right framework and make clear the legal basis for fiduciary responsibility, but the principle drivers for change must be the ultimate owners. They must insist on at least some of their portfolio managers taking a serious responsibility for governance - and they must recognise that this will require skills beyond those of management [of] styles that focus on trading and/or eschew a governance responsibility (and skills that needs to be appropriately incentivised and compensated).

This remains a major issue for Australian DC pension funds because their investments are substantially outsourced to third party fund managers. However, it is possible that new rules requiring trustees to manage after-tax outcomes for their members will ameliorate the situation. High frequency trading can be highly tax inefficient, without special care being taken, because any gains will not qualify as discount capital gains and so 50 per cent more tax is payable (ie a rate of 15 per cent as opposed to 10 per cent applies).54

There are also new rules being introduced, similar to US mutual fund portfolio disclosure laws, under which pension funds will be required to disclosure all of their investments every six months (with a 90-day lag). This might also mitigate the tendency towards higher portfolio turnover.

19. Conclusion

Compulsory DC super is an effective piece of public policy because it forces people to save. But, it is a blunt tool. The arbitrary selection of 9 or 12 per cent of wages doesn’t necessarily lead to the right amount or shape of sustainable cash flows in retirement. Fund trustees need to do more to get members focused on the real game: targeting a replacement rate of income and a guaranteed floor of inflation-adjusted income in retirement. Trustees need to work towards a properly integrated retirement income solution that hedges the three key risks in retirement: inflation, deviation from expected outcomes and longevity.

54 With effect from 10 May 2011, super funds have ceased to be able to treat investments as trading stock and so all investments are subject to the capital gains tax provisions. For an excellent paper on turnover and tax in superannuation, see Russell Research: ‘Beyond Turnover – Why after-tax investing requires a more informed approach to turnover’ - http://www.russell.com/AU/_pdfs/capital-markets-research/research/2011-Nov_R_RPT_RES_Turnover_V1F_WEB_1111.pdf