THE

Frontier Line

Thought leadership and insights from Frontier Advisors

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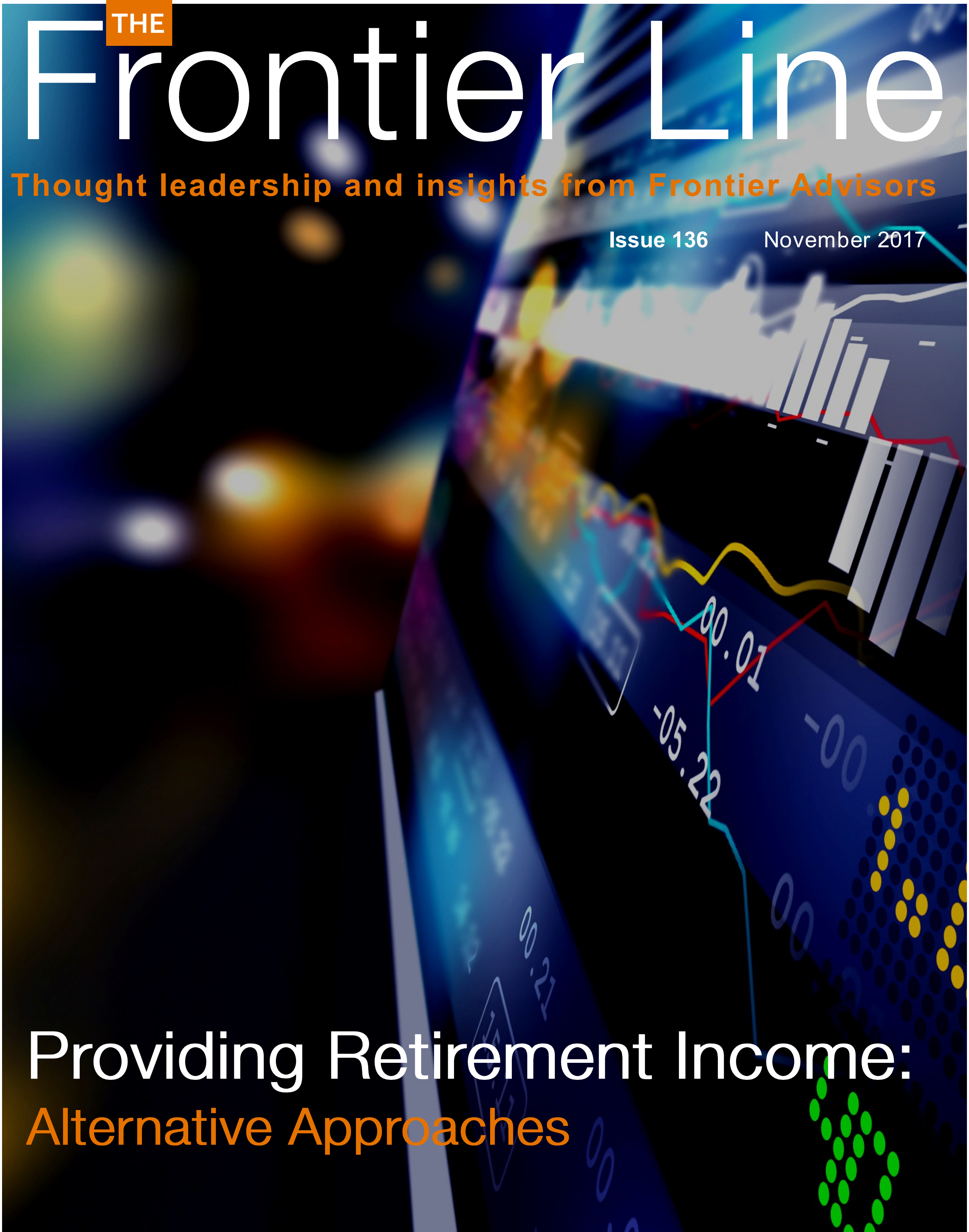

Providing Retirement Income:
Alternative Approaches

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Frontier Advisors has been at the forefront of institutional investment advice in Australia for over two decades and provides advice over more than $265B in assets across the superannuation, charity, public sector and higher education sectors.

Frontier's purpose is to enable our clients to generate superior investment and business outcomes through knowledge sharing, customisation, client empowering technology and an alignment and focus unconstrained by product or manager conflict.

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Prior to Frontier David spent nineteen years at Mercer in roles that included global product management in the areas of Investment Data and Analytics and Wealth Management and in the design and implementation of Mercer's GIMD database. He also worked with Mercer in London as the Head of Investment Information Services for Europe and was a member of the Executive Group responsible for the operation of the UK practice. Prior to joining Mercer, David was at Towers Perrin for around six years, working with a number of clients in an investment advisory and research capacity. David holds a Bachelor of Economics from Macquarie University and is a Fellow of the Institute of Actuaries (in both the UK and Australia).

Providing retirement income - alternative approaches.

In our previous Frontier Line, "Providing Retirement Income – Analysis of Current Approaches",[1] we considered the needs of retirees and then analysed the current approaches of superannuation funds to meet those needs.

We discussed that, in retirement, the needs of individual retirees are more diverse than in accumulation, and there is less likely to be a "typical member". Whilst retirees' needs are not homogeneous, a regular, inflation adjusted income that lasts a lifetime, together with some flexibility to withdraw savings, are all highly valued.

Despite this, to date most funds have merely provided the same products in retirement as they offer in the accumulation phase. Furthermore, funds passively encourage members to draw down income at the lowest possible level. This produces poor outcomes in terms of proving a regular, stable income for life. Drawing down a set dollar amount, increased by inflation produces much better outcomes.

However, less than 20% of superannuation funds provide this option to retirees.

Drawing income above the minimum rates increases the risk of individuals outliving their superannuation savings (by definition, a retiree will never fully extinguish their assets if they draw down at a percentage rate). However, drawing down at the minimum rates reduces the standard of living that individuals could enjoy in retirement, and increases the size of unintended bequests.

In this Frontier Line we look at other solutions to providing retirees with a regular, stable inflation adjusted income and analyse the likelihood it will last for their lifetime.

1. For previous issues of The Frontier Line please see our website: https://frontieradvisors.com.au

Alternative approaches

Almost all pension assets are in account based pensions which provide the member flexibility to drawdown any amount, subject to prescribed minimums.

Over half of members draw down at the minimum rate, whilst a smaller proportion draw down at a set dollar amount, or an inflation adjusted dollar amount.

In this Frontier Line, we consider the following alternate approaches:

- drawing down only the income produced by the pension assets;
- using an endowment approach to distributing income; and
- drawing down an amount each year which smooths spending over the member's expected lifespan.

Income distribution approach

For most people, the luxury of being able to live off the earnings of their capital will remain a dream. However, research has shown that many pensioners are spending conservatively, preserving (and even building) their wealth in retirement.

Particularly in today's low yield environment, drawing down at more than the minimum rate whilst preserving capital is difficult. For a person aged 65, an overall return of at least CPI + 5% p.a. would be required. By age 85, when the minimum drawdown rate is 9%, the investment return objective would need to be a significant CPI +9% p.a. to preserve the real value of capital. Indeed, the minimum rates set by the government have been developed to ensure that retirees are drawing down (rather than preserving) their capital.

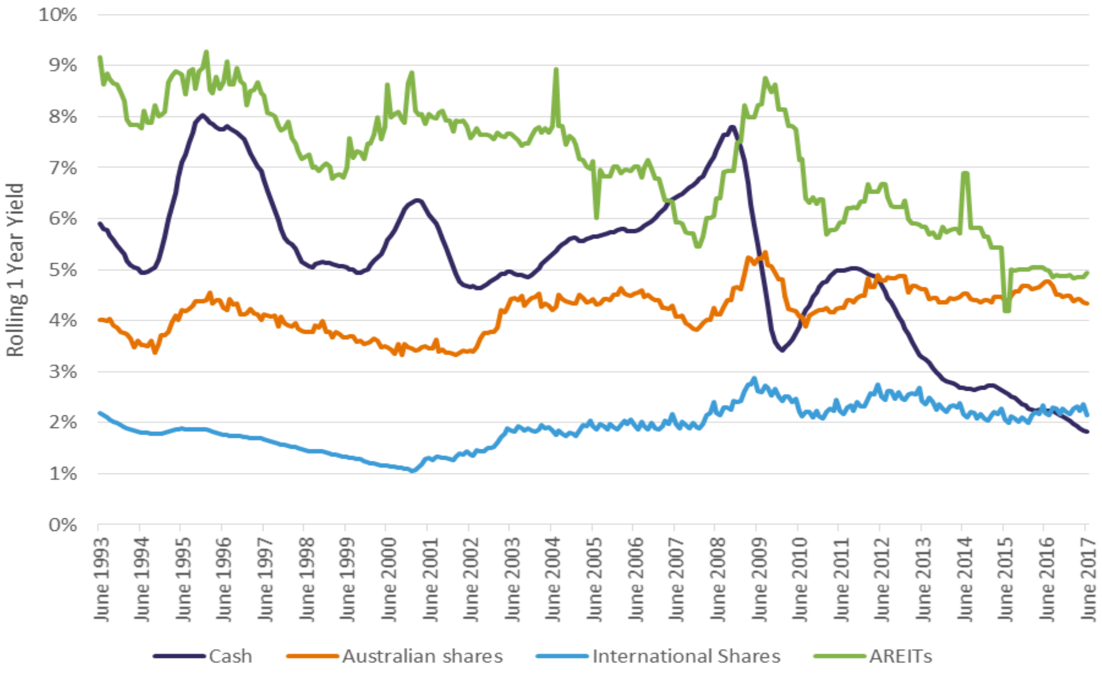
Nonetheless, for a retiree concerned about future medical and aged care costs or of outliving their savings, living off the income produced by their superannuation balance would be an attractive option, at least in the earlier years of retirement.

The chart below highlights the yield that has been achieved by investing in shares and cash over the last 25 years. In the 1990s, achieving a yield of 5% was achievable simply by investing in cash. With cash now returning less than 2%, a significant allocation to equities is required.

As can be seen, Australian shares have produced a fairly stable dividend yield of between 4-5% p.a. over the last 15 years – with the inclusion of franking credits this yield would increase by around 1.5% p.a. Australian listed property trusts (AREITs) historically have provided a much higher yield, but in today's market are more in line with the broader Australian equity market. International shares are lower yielding, and don't provide franking credits, but are now yielding more than cash.

A portfolio solely invested in Australian shares and AREITS could be expected to produce a 5% yield or more, however it would be relatively high risk. For the purpose of this analysis, we have constructed a portfolio with a risk level comparable to a balanced fund, but with a higher yield objective.

Chart 1: Equity Dividend Yield



Source: Thomson Reuters Datastream

Endowment spending approach

There are similarities between the investment objectives for retirees and those for charities and endowments. Endowments need to balance two competing goals: the need to fund the operating budget at a rate that is stable and predictable year after year, and the obligation to protect the value of endowment capital against inflation.

US endowments such as Yale and Stanford have developed spending rules where the spending in any year is a combination of:

- a set percentage of the prior year's spending; and
- a percentage of the average value of the portfolio over recent years.

The spending policy is specifically designed to stabilise annual spending and to preserve the real value of the endowment over time.

The Yale spending policy uses a long-term targeted spending rate of 5.25% - for the purposes of this analysis we have set the target spending rate at 0.25% more than the minimum draw down rate. The spending amount in any year is then calculated using 80% of the previous year's spending (adjusted for inflation) and 20% of the targeted long-term spending rate applied to the market value.

Future life spending approach

This novel approach is different from the endowment approach, which smooths based on recent returns. Under this approach, the income drawn down is calculated each year by smoothing the assets equally over the expected future life of the member. The amount is recalculated each year based on the performance of the assets over the year, and the increased life span of the member.

Siegel and Waring[2] investigate this approach in more detail, labelling it an "Annually Recalculated Virtual Annuity". In essence, each year's spending is adjusted to avoid running out of money, with the spending allowance directly related to the variability of the assets.

Under this approach, the income initially will be quite smooth, as it will be spread over a 20 year period. As the member ages, and their expected lifespan decreases, the amount will be smoothed over a shorter number of years and therefore more volatile.

This approach is more complex, both to calculate and explain to members, but has the benefit of providing some longevity protection – as the assets are spread over life expectancy each year.

2. Waring & Siegel 2015, "The Only Spending Rule Article You Will Ever Need", *Financial Analysts Journal* 71, 1 (January/February): 91-107

Analysis of alternative approaches

As in our previous Frontier Line, we consider a female retiring at age 65 with a balance of $100,000. Any income from the Age Pension has been ignored. The assets are invested in the same way (a real return of 4% p.a. has been assumed) and the retiree draws down approximately $180,000 in real terms over their projected lifetime.

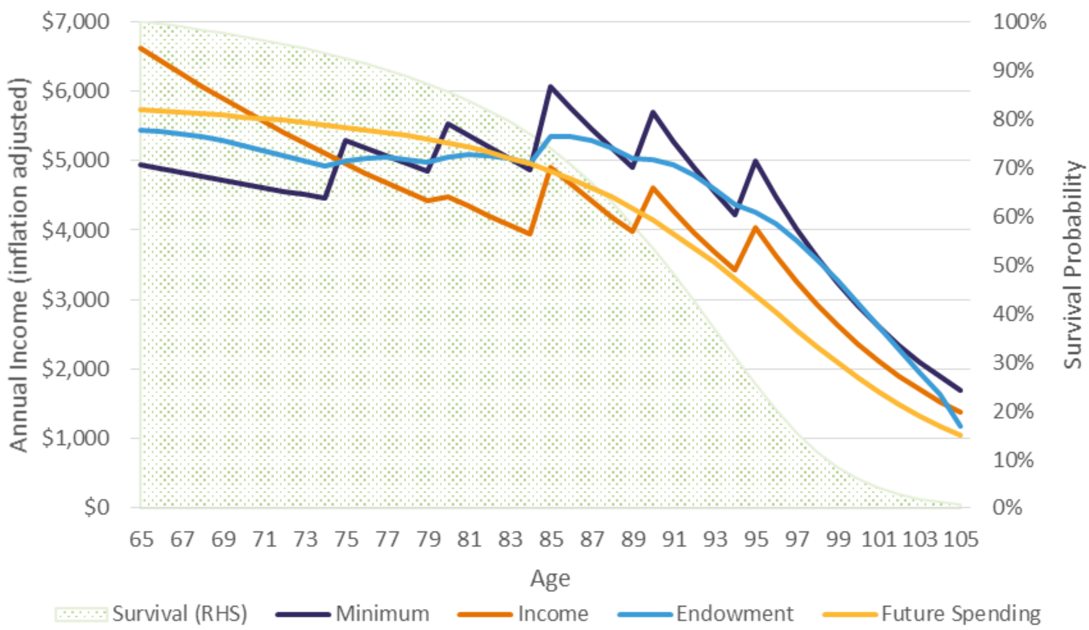
In Chart 2, we project the expected income of various approaches. The draw down approaches analysed are:

1. **Minimum**: An Account Based Pension (ABP) drawn down at minimum rates – this has been included for reference;
2. **Income**: Drawing down only the income produced from an ABP (subject to minimum rates);
3. **Endowment**: Smoothing the amount drawn down each year, based on an endowment spending model (subject to minimum rates); and
4. **Future Spending:** Each year drawing down an amount which spreads the assets evenly over the future lifetime.

The real (i.e. adjusted for inflation) income each year is highlighted in the chart. The probability of survival for each age has been superimposed on the chart, highlighting that the retiree has a 50% probability of living to the age of 90 and a 25% probability of living to age 95.

In terms of the important characteristics – a stable, regular income and money that lasts a lifetime – the approach used by most members, drawing down at the minimum rates, often results in the lowest level of income being drawn down, especially initially. It is poor in terms of providing regular, stable income and doesn't provide a natural inflation protection.

Chart 2: Real Income



In the case of the **income approach**, the chart highlights the following.

- Initially, the income approach works well, providing higher income than the minimum approach. However, after ten years, it provides income less than the amount that using the minimum rate approach would provide.
- It produces an income trajectory similar to the minimum approach, with the income decreasing in value each year for the first 15 years. At that point the income produced is less than minimum rate, and those rates apply thereafter.
- The income produced using a balanced investment approach is not sufficient to maintain the real value of the capital. Whilst a higher growth approach (such as an all equity investment strategy) may provide the required capital growth, this would introduce a higher level of investment risk.

In the case of the **endowment approach**, the chart highlights the following.

- The real income produced under this approach is fairly stable until the retiree reaches the age of 90. Initially it produces higher income than the minimum approach, and isn't as subject to the five yearly increases of the minimum rate approach.
- The income starts declining at around age 91, by which time the survival probability is around 50%. From that point on, the income is similar to, but still more than, the minimum approach.
- This approach is not particularly affected by the five-yearly increase in the minimum rates.

In the case of the future **spending approach**, the chart highlights the following.

- The real income produced under this approach is the most stable of all the alternative approaches considered. The income starts out higher, and then declines slowly each year. For most years until age 85, this approach produces higher income than the minimum approach.
- If the retiree survives beyond age 85, the income will be lower under this approach, as higher income has been consumed in earlier years.
- This approach is not subject to the volatility caused by the five-yearly increase in the minimum rates.

Analysis against retirees' needs

In terms of meeting a retiree's needs, all of the alternative approaches are variations of account based pension drawdown methods. As such, they rate highly in terms of flexibility and generally lack explicit longevity risk management features.

In terms of the important characteristics – a stable, regular income and money that lasts a lifetime:

- The income approach, while initially producing a higher level of income, does not result in an outcome significantly different from the minimum approach. Particularly in later years, the income varies significantly every five years as the minimum draw down rate increases.
- The endowment approach performs well in terms of stability of income. There is a degree of variability but the smoothing method provides a dampening effect.
- The future spending process results in the most stable income, although it gradually declines in real value if the retiree survives until later ages. It also results in lower income at older ages, as more income is paid out earlier in the retiree's life.

The final word…

In our previous Frontier Line, we analysed the current approaches to providing income for retirees. We noted that most superannuation funds passively encourage members to draw down income at the minimum rates that the government has set. This produces poor outcomes in terms of proving a stable, real income. Drawing down at set amount, increased by inflation produces much better outcomes.
In terms of the alternative innovative approaches we have considered in this Frontier Line, the income approach performs similarly to the minimum draw down approach – the real value of the income decreases steady.

The endowment and future spending approaches both result in much more stable income. The future spending approach has low variability, but declines in real value over time. The endowment approach is slightly more volatility in the income it produces, but retains its real value better.

In a forthcoming Frontier Line, we will investigate how these methods perform when market volatility is introduced and compare their outcomes to annuities and other guaranteed products.

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