STRATEGIES FOR MANAGING INVESTMENT RISK IN RETIREMENT

A BetaShares Educational Whitepaper

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The rapidly rising number of Australians either in, or close to, retirement face a major investment challenge: how to best manage their financial nest egg for up to a further 20+ years. Invest too cautiously and there's a risk of insufficient income. Invest too aggressively, however, and there's a risk of exposure to significant losses, which could prematurely deplete funds when they are most needed. Indeed, history suggests most investors are likely to face at least one major equity market crash during their retirement years.

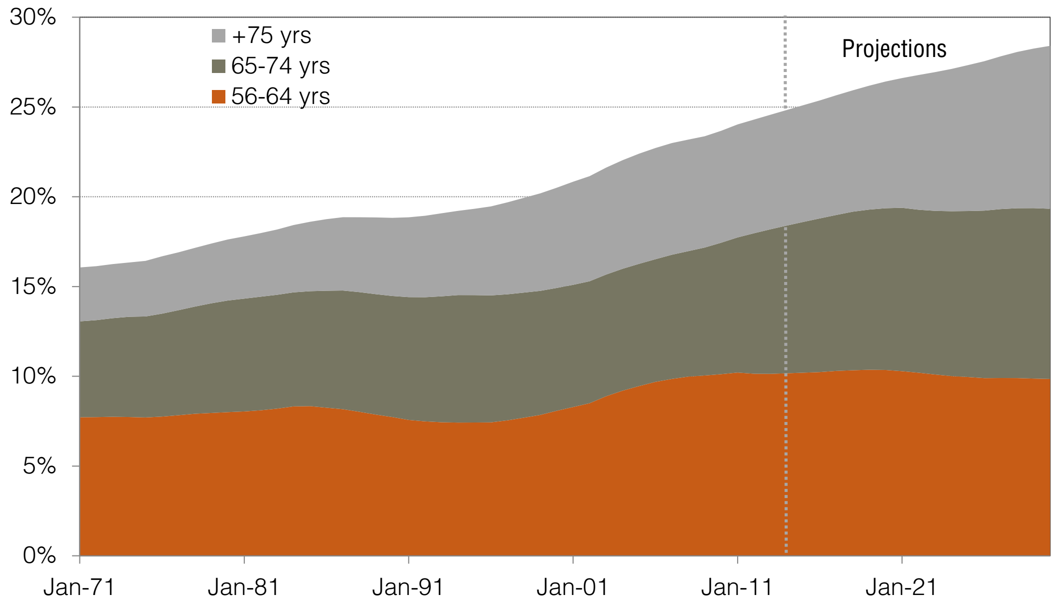
Adding to the challenge, a conservative asset allocation approach (or a move away from "risky" assets) may not adequately address the income needs of retirement portfolios. Low risk assets (such as cash and fixed income) don't provide the returns they once did, while global equity markets remain as correlated and volatile as ever. In this environment, low interest rates and uncertain equity markets make finding the "right" portfolio a real challenge. Interest alone will not generate enough income. Equities, on the other hand, can generate the required returns, but not with any certainty over finite time periods. How do retirees structure their portfolios so that they can generate sustainable income and produce equity like total returns?

In light of these challenges, alternative approaches to managing investment risks in retirement - which complement traditional asset allocation - are required. One such approach, which we outline in this paper, is to harvest a strong dividend income stream from the equity market, while limiting excessive portfolio volatility through a risk management strategy that has been used for many years by some of the world's largest insurers and institutional investors.

The Ageing Population & More Independent Investors

At the crux of Australia's retirement investment challenge is the fact that, as in most of the developed world, our population is getting older, and we're living longer. According to the Australian Bureau of Statistics latest estimates, the share of the population aged 55-years or more has almost doubled in the past 40 years, from 16% in June 1971 to 25% in June 2014[1]. What's more, the ABS projects this share will rise to around 30% over the next 20 years[2].

FIGURE 1: OLDER POPULATION AS SHARE OF TOTAL POPULATION



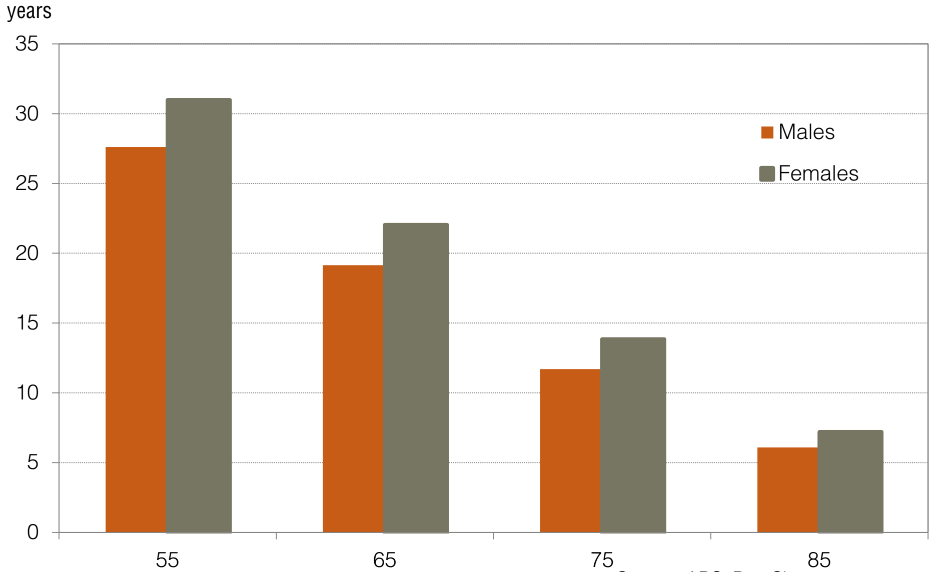
Source: ABS, BetaShares

1 Australian Bureau of Statistics, Demographic Statistics, March 2014. Cat. No.3101.0.
2 Australian Bureau of Statistics, Population Projections 2012-2032, Cat. No. 3222.0

In terms of sheer numbers, there are already 5.8 million Australians aged 55 years or more, who are therefore either in or starting to ponder retirement. This number is projected to grow to 8.6 million by June 2030. As of today, there are already 3.5 million Australians aged 65 years or more, with this number projected to grow to 5.6 million by June 2030.

We're also living longer. The average life expectancy for new born children has increased by around 10 years over the past 40 years – to 80 years for males, and 84 years for females. As of today, approximate average life expectancy for those aged 55 years is another 30 years, and for those aged 65 years it is another 20 years.

FIGURE 2: EXPECTED REMAINING YEARS OF LIFE BY CURRENT AGE: AS AT SEPTEMBER 2014

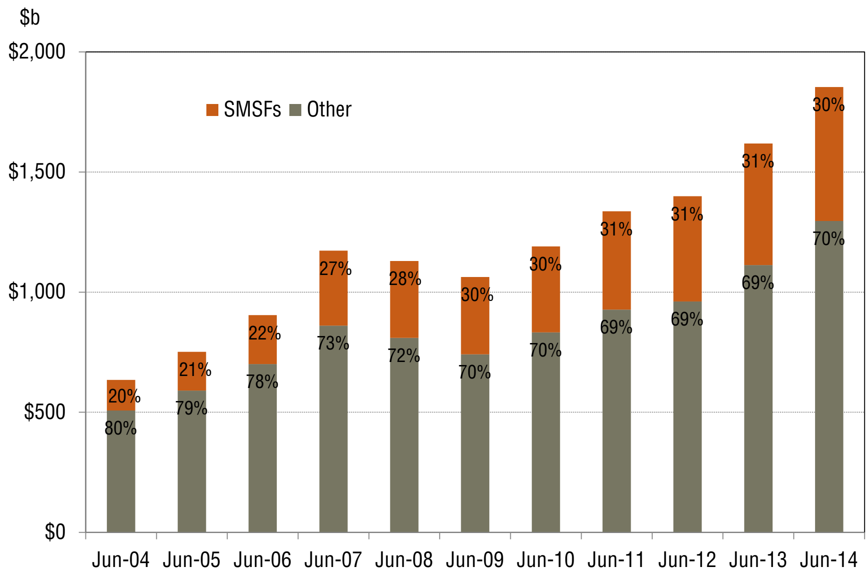


Source: ABS, BetaShares

In addition, more and more Australians are choosing to invest for retirement through self-managed super funds (SMSFs).

In the past decade alone, the share of superannuation assets managed by SMSFs has increased from 20% to 30% - surpassing the share of assets managed by either retail or industry funds. As at June 2014, the Australian Tax Office estimates there were 534,000 SMFs with just over 1 million members, who were collectively holding $557 billion in assets.

FIGURE 3: SUPERANNUATION FUNDS UNDER MANAGEMENT (A$B)



Source: ATO

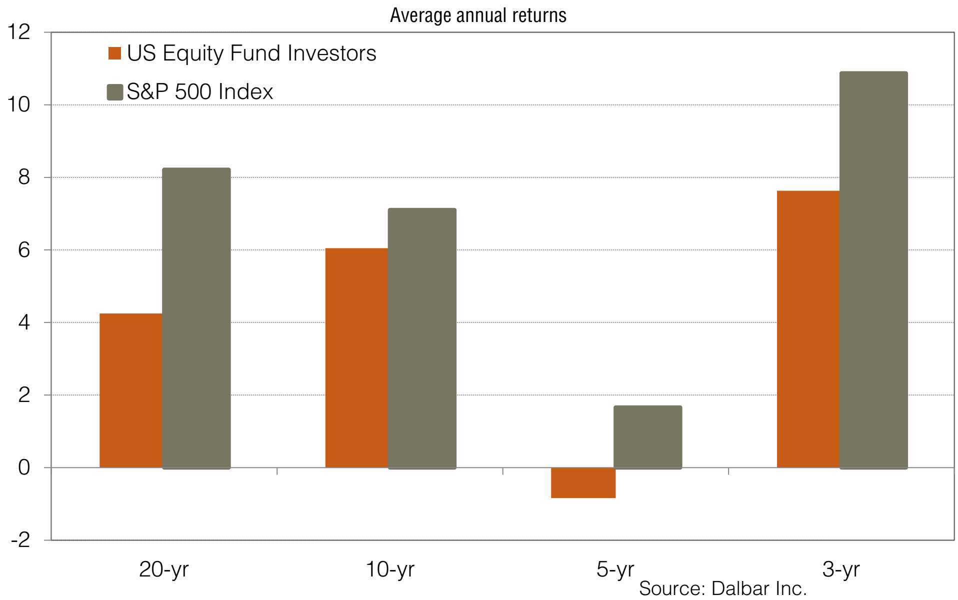
The evidence also suggests that a large number of SMSF investors are making their own investment decisions. According to Investment Trends as at June 2014, approximately 59% of SMSFs are investing without the aid of a financial adviser[3].

Controlling one's own destiny is fair enough, but it does leave investors open to basic investment traps associated with human psychology – such as panicking and selling out of risky assets at market lows and/or taking on too much risk during bubble periods of high market valuation.

Indeed, while professional fund managers can have a hard time beating their investment benchmarks and avoiding market crashes the evidence suggests individual investors often don't fare much better.

According to surveys by US based research firm Dalbar Inc, for example, while the S&P 500 index has returned 8.2% annually over the last 20 years to 2013, the average investor in US equity mutual funds has earned only 4.3% per year. One explanation for this could be that investors tend to chase the latest hot performing fund, which then tends to underperform as investment returns eventually "regress to the mean" of other fund managers.

FIGURE 4: PERFORMANCE OF INVESTORS IN US EQUITY FUNDS V S&P/500 INDEX: END DECEMBER 2013

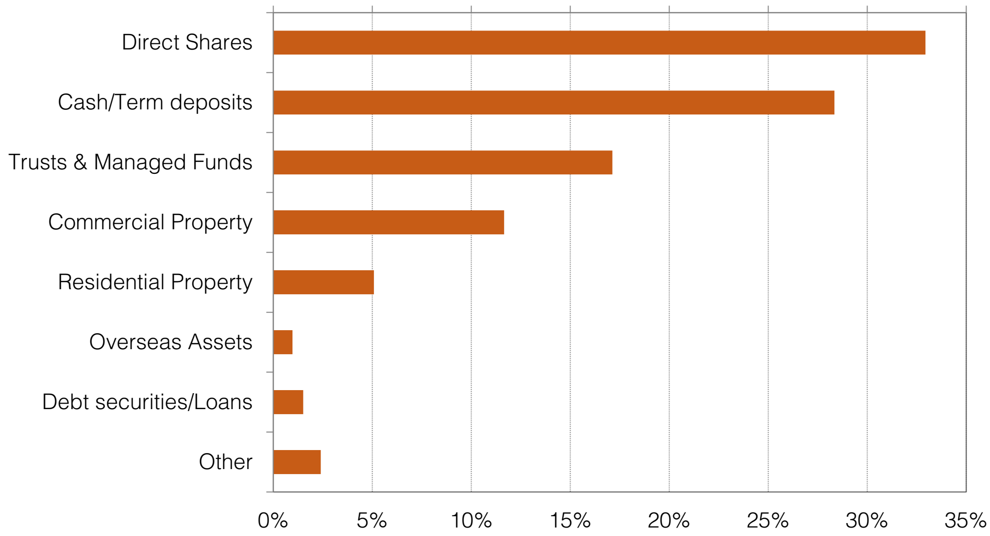


Source: Dalbar Inc.

3 Investment Trends Self-Managed Super Fund Planner Report 2014

Evidence from the Australian Tax Office also suggests the average SMSF fund has a relatively heavy exposure to low yielding cash products, offset by a relatively high exposure to much more volatile Australian company shares. While low risk, cash can be a major drag on investment performance over market cycles. However, by investing in individual Australian stocks (rather than, say unlisted managed funds, exchange traded funds or LICs), investors may not be sufficiently diversified against company-specific risks.

FIGURE 5: SMSF ASSET ALLOCATION: JUNE 2014

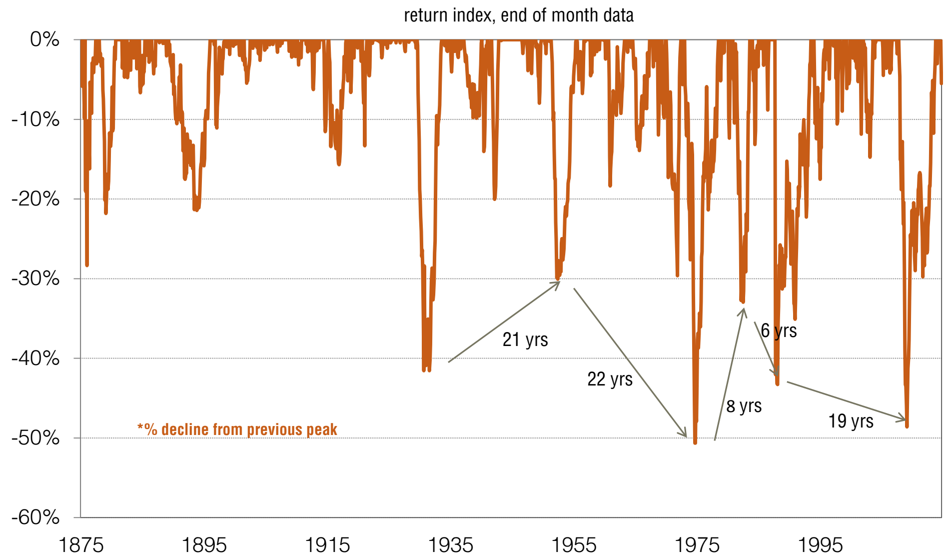


Source: ATO, BetaShares

Key Retirement Investment Challenge: Balancing Longevity Risk vs. Sequencing Risk

The sobering reality for those facing retirement is that risk markets remain just as volatile as ever. Indeed, history suggests the Australian equity market can suffer a 30-50% total return decline at least once every 10-20 years. Based on current life expectancy estimates, therefore, those entering retirement can expect to face at least one more gut wrenching market decline in their lifetime.

FIGURE 6: ALL ORDINARIES DRAW DOWN CURVE*: 1871-2014



Source: Thomson Reuters, BetaShares

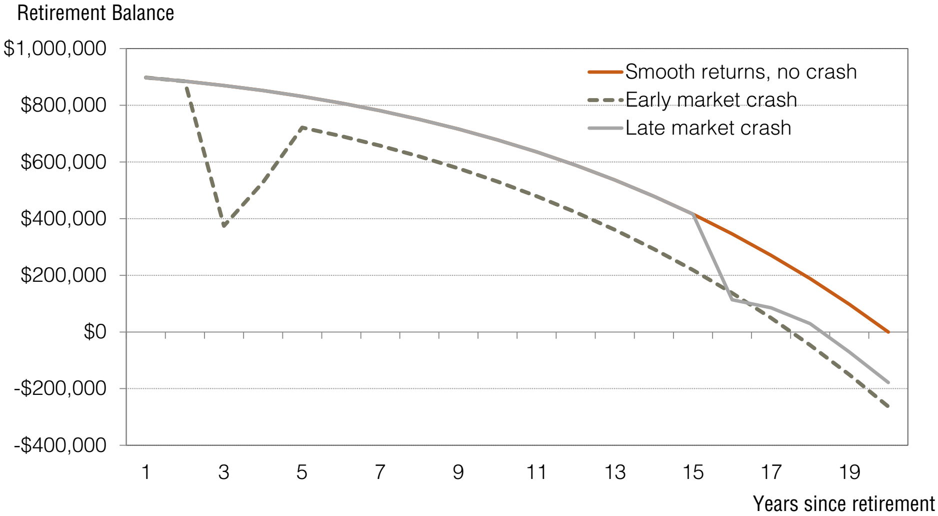
With long retirement periods ahead, and markets as treacherous as ever, the key challenge for an investor facing retirement is to earn enough to live comfortably, without taking risks that could prematurely wipe-out their nest egg. In effect, the challenge is balancing longevity risk with sequencing risk.

By way of example, consider that at retirement you had an annual salary of $100,000, and a superannuation balance of $962,000. Ignoring taxation, that would be just enough to allow you to withdraw $65,000 per year (rising by 2.5% each year to allow for inflation) over the next 20 years - provided you earned a steady 6% annually on your reducing superannuation balance. Longevity risk arises from the fact the investment return might fall short of 6% per year and/or you might live longer than another 20 years.

But even assuming a 6% compound annual return, sequencing risk arises from the fact that your portfolio might suffer a large decline in the early stages of retirement. For example, assume that the above portfolio suffers a 50% decline in year 3 but then recovers in the following two years – such that compound annual returns for the portfolio balance over the 20 year period are still 6% (depicted in the chart below as "Early market crash"). As seen in the chart below, even with such a strong recovery in portfolio returns, you will still run out of money two years early.

Were the market crash to come somewhat later (depicted in the chart below as "Late market crash") – the money would still run out, but not as quickly.

FIGURE 7: SUPERANNUATION RUN-DOWN SCENARIOS



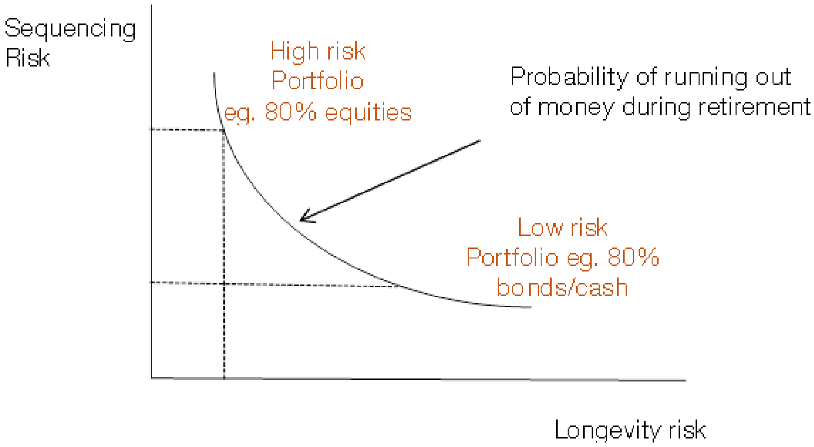
Source: BetaShares

This sequencing problem arises because of the impact of withdrawals. By taking out money during a downturn, there's less money left to then participate in any subsequent market rebound. In a sense, by taking money out during a large market downturn, you are effectively "selling low" – hurting future investment performance.

Challenges with Traditional Asset Allocation

The traditional way of dealing with some of the risks described above for retirement portfolios is through asset allocation – or mixing high risk and low risk assets in a way that leaves the investors most at ease with the overall risk and volatility profile of their portfolio. As seen in the diagram below, this is essentially a trade-off: a high risk portfolio may provide higher average returns – reducing longevity risk – though at the expense of leaving the investor exposed to sequencing risk if a large market crash takes place early.

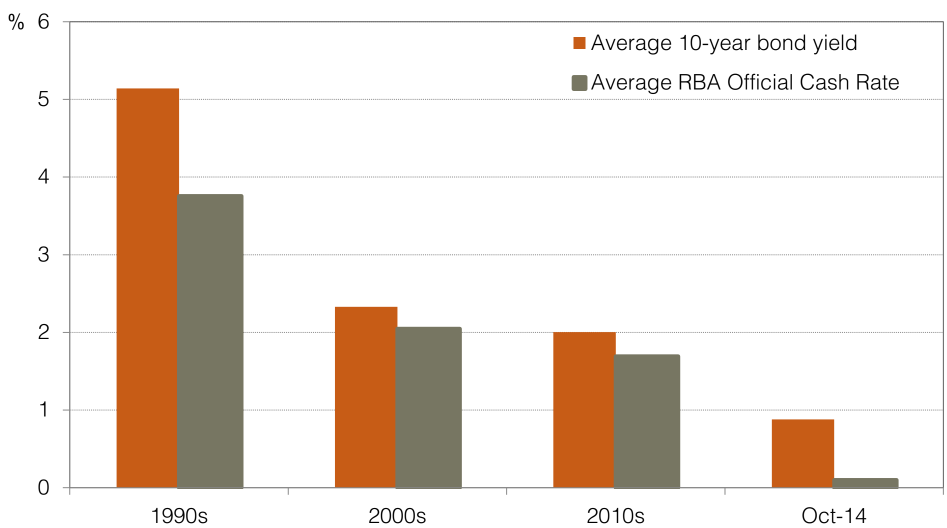
FIGURE 8: BALANCING RETIREMENT RISKS



But asset allocation has its own challenges.

For starters, the price of seeking safety has gone up – as the real (inflation-adjusted) returns provided by cash and bonds have declined notably in recent decades. Bond yields today are offering little more than a 1% real return, while the real cash return is close to zero. That means investors need to sacrifice a lot more in forgone returns in order to reduce portfolio volatility

FIGURE 9: AUSTRALIAN CASH, BOND & EQUITY REAL YIELDS



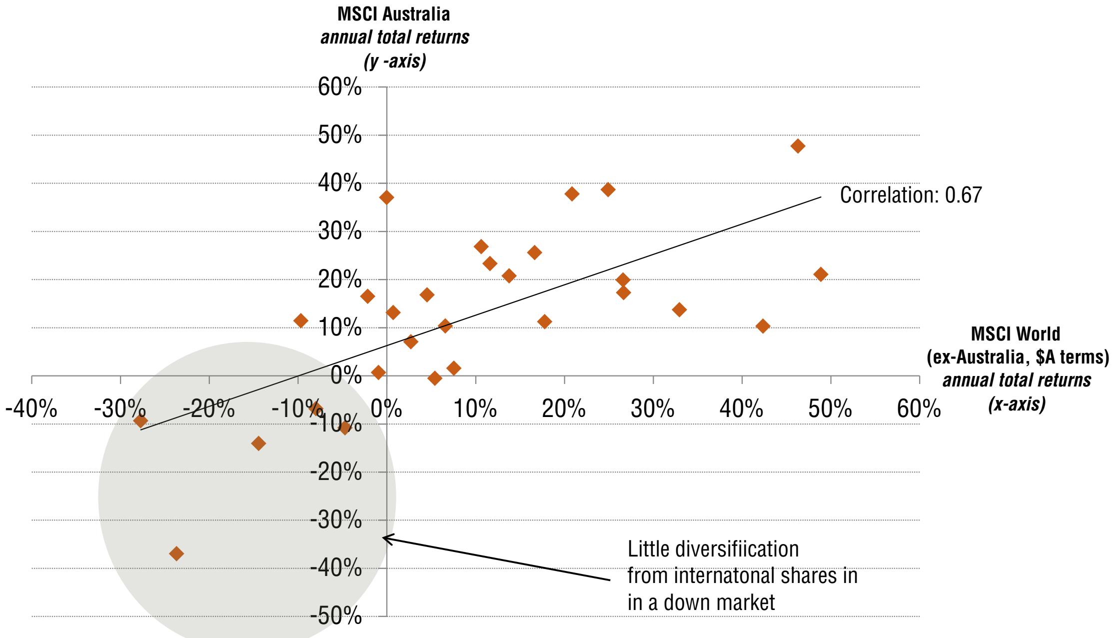
*Deflated by weighted median CPI

Source: RBA, BetaShares

What's more, with many expecting long-term interest rates to rise somewhat in coming years to long-term average levels, the medium-term return on bonds is likely to be even lower than today's low yield due to expected capital losses (as interest rates rise). Depending on how high interest rates eventually rise, bonds may not be the safe haven that conservative asset allocation strategies typically assume.

As for diversification achieved by investing in a range of international equity markets, history suggests this is not as effective as might be hoped, as equity market correlations have risen over time – and tend to especially rise during market crashes.

FIGURE 10: CORRELATION IN ANNUAL EQUITY RETURNS: MSCI AUSTRALIA VS. MSCI WORLD (EX-AUS): 1985-2013



Source: Datastream, BetaShares

In turn, this raises the risk that investors may succumb to panic and sell-out of risky investments at precisely the wrong times. If they do so, this will make their longer-run investment returns much worse.

The cost to investment performance from holding low return cash and bonds is made worse by the fact such conservative asset allocation provides a static and symmetrical hedge against market volatility. It is static because the allocation to defensive cash or bonds is not generally changed over the economic cycle. What's more, the protection afforded during market declines is broadly equal – or symmetrical – to the relative loss of returns during market advances. For example, a 40% portfolio allocation to cash would mean it would suffer only 60% of the loss during market downturns compared to a pure equity portfolio, but also then only participate in 60% of the gains when markets rebound.

As we'll see, alternative risk management strategies exist which attempt to provide more dynamic and asymmetrical hedging – adjusting the degree of protection over the cycle in ways that reduce downside risk with comparatively less loss of upside exposure.

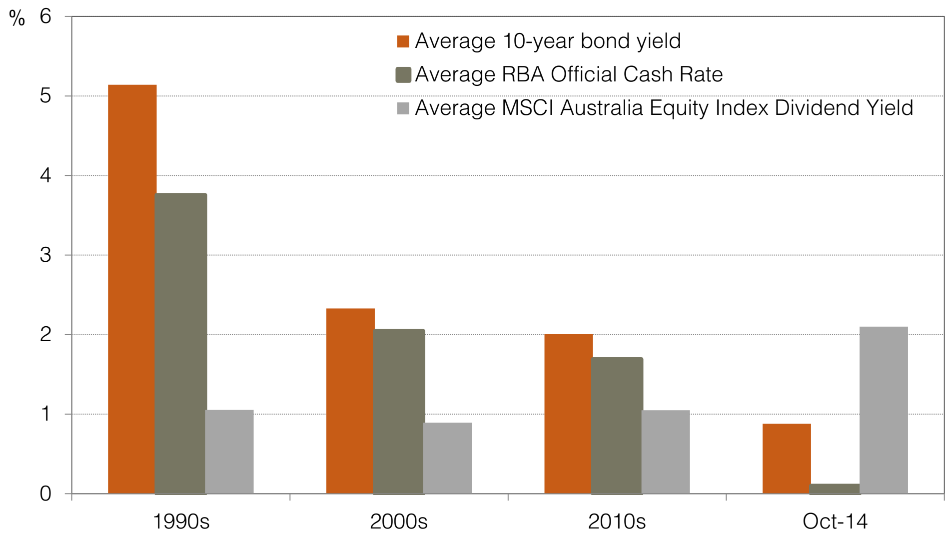
Outcome Oriented Investing: Alternative Approaches to Managing Risk in Retirement

Due to the especially poor returns on cash and bonds, and the still high volatility of equity markets, Australia's swelling ranks of SMSFs and retirees need to consider alternative investment strategies.

One such approach seeks to extract the relatively attractive income returns available from equity markets, while using more sophisticated risk management techniques to better mitigate the often substantial downside capital risks – and hence sequencing risk – to the extent possible.

For starters, note that the nominal dividend yield on the Australian equity market has remained relatively steady at around 4%p.a. over recent decades, meaning it has increased in real terms as consumer price inflation has fallen. With the S&P/ASX 200's current dividend yield around 4.5%p.a., the real yield is 2% p.a. (i.e. after inflation). Compared to cash and bonds, dividends now offer a competitively attractive source of income in their own right.

FIGURE 11: AUSTRALIAN CASH, BOND & EQUITY REAL YIELDS*

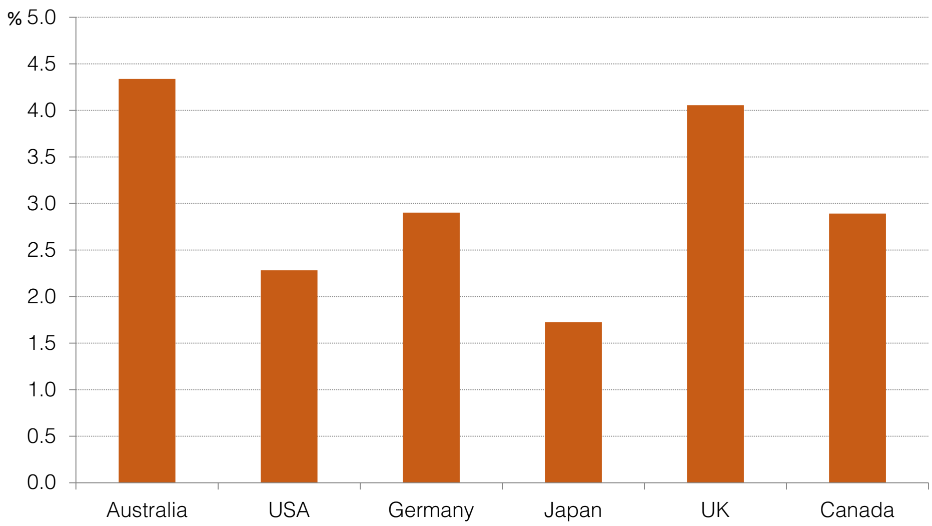


*Deflated by weighted median CPI

Source: RBA, BetaShares

By international standards, the Australian equity market's dividend yield is relatively high - and accounts for almost half the market's long-run total return.

FIGURE 12: COMPARATIVE DIVIDEND* YIELDS - OCTOBER 2014



Source: Datastream

*Dividends calculated as average trailing cash yield for the benchmark index per country (S&P/ASX 200, S&P 500, DAX Index, Topix FJ Index, FTSE 100, S&P/TSX 300)

Adding to the allure of Australian dividends are the attractive tax benefits that come from franking credits. Franking credits available from Australian securities provide investors with a tax credit in lieu of the company tax already paid. That means the effective "grossed up" pre-tax dividend yield from Australian equities can be around 1-2%p.a. higher than the traditionally measured cash dividend yield. The Australian equity market's currently quoted dividend yield of around 4.5%p.a., for example, is effectively closer to a pre-tax yield return of 5.7%p.a. once allowance is made for franking credits.

The tax credits are particularly appealing to retirees who pay no tax on their investment returns, as, under certain conditions the tax credit is paid back to them in cash by the Federal Government.

What's more, Australian investors can potentially do even better than this average market yield (both in terms of franking credits and income) to the extent they concentrate on the high dividend yielding stocks – such as banks, property trusts, utilities, consumer staples and telecommunication companies.

BetaShares Australian Dividend Harvester Fund

In recognition of income benefits available from dividends, the BetaShares Australian Dividend Harvester Fund (managed fund) (ASX ticker: HVST) aims to provide investors with exposure to large capitalisation Australian shares along with a strong income stream comprising dividends and franking credits – paid monthly – that is at least double the annual income yield of the broad Australian share market.

The Fund uses a dividend "harvesting" strategy in which the Fund gains exposure to 10 or more Australian securities – from among the top 50 market capitalisation stocks – that are expected within approximately the next two months to provide the highest gross yield outcomes (based on declared dividends or analyst consensus). After this period, the Fund is rebalanced with a new selection of stocks expected to provide the highest gross yield outcomes for the following rebalance period. For any given rebalance period, if there is not a sufficient number of stocks that meet the yield threshold, then one or more ASX exchange traded funds with broad Australian sharemarket exposure will be added to the portfolio, increasing the level of diversification in the Fund.

Utilising this strategy, investors gain some exposure to the underlying capital growth of the securities held over the relevant two month period, but even more importantly, a source of relatively high regular dividend income potential, plus the benefit of any associated franking credits.

However, as we noted above, equity markets are not a 'straight road'. Volatility in the market generates many 'bends and turns'. In order to create a 'smoother ride' for investors, BetaShares has implemented a risk management strategy in the HVST Fund.

The Fund's risk management strategy involves monitoring the volatility of equities daily. If volatility rises beyond 'normal' levels, the Fund will apply a 'handbrake' and reduce market exposure by selling ASX SPI 200 futures. These futures are highly liquid and transparent instruments which are traded on the ASX. By selling SPI futures, the Fund seeks to stabilise the volatility of the portfolio, and reduce the downside exposure of the portfolio during periods of significant and sustained market declines. The Fund's risk management strategy aims, over market cycles, to provide most of the upside in rising markets while avoiding most of the downside in periods of decline.

The risk management strategy employed by the Fund is being run in conjunction with Milliman, one of the largest institutional global risk managers in the world, assisting clients in hedging US$500B worldwide and employing over 2,600 professionals, including more than 1,300 qualified consultants and actuaries. Milliman's risk management strategies have been used for the last 15 years by some of the largest firms and institutional investors in the world. Strategies used by Milliman helped their clients navigate the 'tech bubble' and global financial crisis. The Fund provides investors access to such a strategy, which was previously primarily confined to large institutional investors.

Compared with a traditional asset allocation strategy, the Fund's risk management strategy offers a level of both dynamic and asymmetric protection over the market cycle.

To illustrate generally how the risk management strategy seeks to influence portfolio returns, the chart below shows simulated results for how such a risk management overlay on the S&P/ASX 200 Index could have performed over the past 7 years.

FIGURE 13: S&P/ASX 200 INDEX V S&P/ASX 200 INDEX + MILLIMAN MANAGED RISK STRATEGY: 4 DECEMBER 2007 - 30 SEPTEMBER 2013 (INDEXED TO 100)

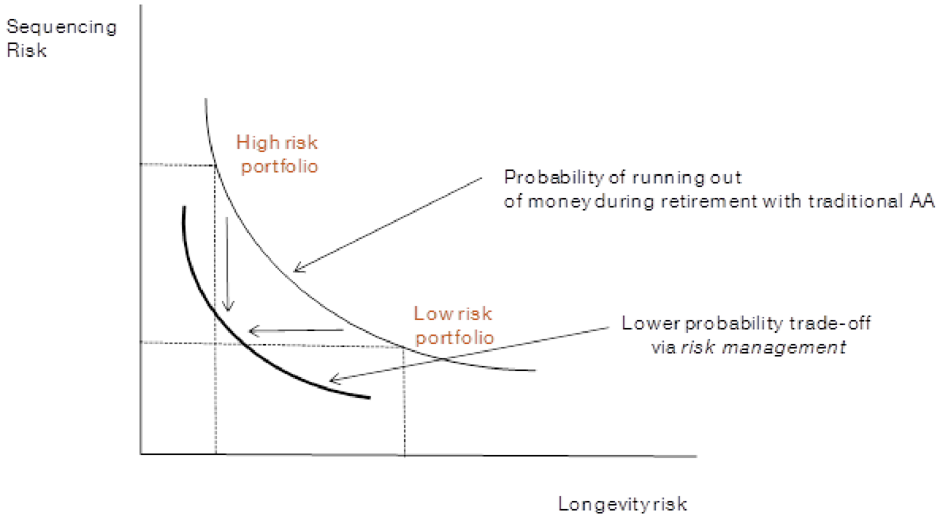
	S&P ASX 200 Index + Risk Strategy	S&P ASX 200 Index
Annual return (%, p.a.)	4.2%	1.5%
Volatility (%, p.a)	9.1%	19.6%

Source: Bloomberg, Milliman, BetaShares

Please note that simulated performance results have certain inherent limitations. Unlike an actual performance record, simulated results do not represent actual trading, are based on certain assumptions, and are produced with the benefit of hindsight. Also, since the trades have not actually been executed, the results may have under- or over-compensated for the impact, if any, of certain market factors, such as lack of liquidity. HVST Fund's equity portfolio is actively managed and therefore differs from the passive index shown above. No representation is being made that the Fund will achieve results similar to those shown. Past performance, simulated or actual, is not an indication of future performance.

As seen, the risk management overlay would have reduced the impact of the equity market declines in 2007-2008 and 2011, and left investors better off after the entire period. The chart also indicates the volatility (a common measure of risk) in the strategy involving the risk management overlay would have been substantially lower than without such an overlay. All up, the combination of relatively high income producing equity market exposure, together with dynamic risk management, offers scope for investors to construct more "efficient" retirement portfolios than that possible through traditional asset allocation alone. As seen in the diagram below, investors might be able to reduce longevity risk without increasing sequencing risk, and vice versa.

FIGURE 14: ILLUSTRATION: SEQUENCING AND LONGEVITY RISK



It should be noted, however, that while the BetaShares Australian Dividend Harvester Fund aims to generate attractive levels of tax-effective income, together with a risk management strategy to manage volatility and downside exposure, the Fund is designed to be used by investors as only one component of any investment portfolio. Diversification must still play a key role in the choice of assets in any defensive portfolio – especially for retirees. In this context, the Fund can be a valuable inclusion in a retirement investment strategy.

Conclusion

With more and more Australians facing a potentially long retirement, the stark reality is that traditional low risk investments they might have relied upon in the past don't provide the returns they once did. This leaves them at risk of running out of retirement funds.

The equity market, by contrast, is now offering a relatively alluring source of income in its own right, though the market's volatility remains as treacherous as ever.

One solution is to capture the income returns from equity markets whilst adopting a professionally developed, tried-and-tested, risk management strategy, which aims to reduce the volatility of equity investment returns and defend the portfolio against the risk of significant losses during major market downturns. As a complement to traditional asset allocation approaches to managing risks in retirement, this can potentially offer better risk-adjusted returns to a diversified portfolio over time.

Paper prepared by:

David Bassanese
Chief Economist, BetaShares
david.bassanese@betashares.com.au
www.betashares.com.au
www.betasharesblog.com.au

Trading Information

BetaShares Funds can be bought or sold throughout the trading day on the ASX, and trade like ordinary shares.

EXCHANGE	ASX
ASX CODE	HVST
CURRENCY	AUD
TRADING	10:00-16:00 (AEST)
BLOOMBERG CODE	HVST AU
IRESS CODE	HVST.ASX
IRESS INAV CODE	HVSTINAV.ETF

About BetaShares

BetaShares Capital Ltd ("BetaShares") is a leading provider of exchange traded products ("ETPs") which are traded on the Australian Securities Exchange. BetaShares offers a range of ETPs which cover Australian equities, cash, currencies, commodities and alternative strategies. As at 31 October 2014, BetaShares has approximately $1.6 billion in assets under management.

BetaShares is a member of the Mirae Asset Global Investments Group, one of Asia's largest asset management firms. Mirae currently manages in excess of US$60B, including over US$8B in ETFs

www.betashares.com.au
T: 1300 487 577 (Australia)
T: + 61 2 9290 6888 (ex Australia)
info@betashares.com.au

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