

INVESTING FOR REAL INCOME

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The common approach to post-retirement investment is lifecycle derisking. However, defensive investment strategies exacerbate the longevity challenge to retirement incomes and ignore the primary objective of durable real income. This research paper focuses on the volatility of investment income, and real growth, revealing that a high yield equity strategy can be the cornerstone of retirement income planning and that account-based pensions with this investment approach can resolve the longevity question by minimising the need to sell down assets. It illustrates that a robust income strategy involves careful consideration of cashflow support for dividends, and an avoidance of overly leveraged investments.

Account based pensions anticipate that in most cases capital will be drawn down over retirement. Life expectancy and changing income needs with age complicate the decision about the drawdown rate. Because capital is being steadily liquidated, fluctuations in the value of that capital will influence how long the liquidation can continue. For this reason investors are inclined to reduce investment risk as they approach retirement to manage the uncertainty. This will normally involve a lower allocation to equities given it is the most volatile asset class.

An alternative approach to account based pensions is to invest for real income, with the intention of avoiding capital liquidation. High yield equity investment is the essential element of this alternative approach. The achievable level of real income is very competitive with other current solutions to the longevity question, including guaranteed and variable annuities.

Aside from the investment merits of this alternative approach investing for real income is also easily understood. This contrasts with other retirement income solutions where guarantee structures can be difficult to comprehend, and product disclosures may be deficient as recently noted by ASIC¹.

This paper is divided into two sections. The first covers high yield equity investment. The growth and variability of dividend income is examined for the Australian and world equity markets. Then, high yield equity investment is compared to normal equity investment. The second section examines the income potential of standard balanced investment options when high yield equity is substituted for normal equity investment.

¹ ASIC Report 201 'Review of disclosure for capital protected products and retail structured or derivative products' July 2010.

HIGH YIELD EQUITY INVESTING

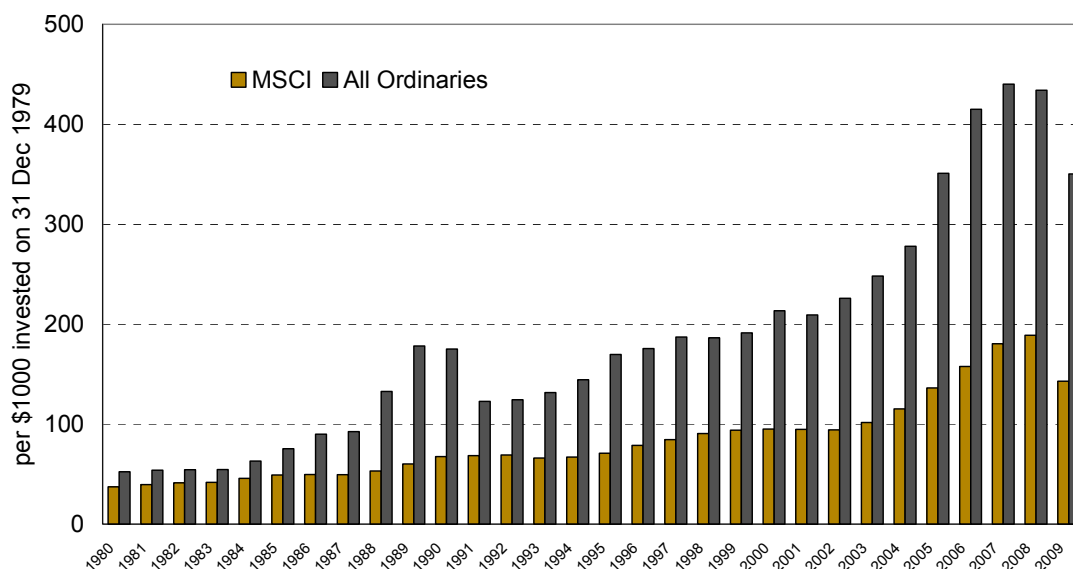
Investors are wary of the volatility of equity prices, particularly after the last few years. But the volatility of equity dividend income is much less intimidating. A significant opportunity exists whereby the level of dividend income can be increased without reducing income growth.

Equity income is much less volatile than equity prices

In the wealth accumulation phase investment is concerned with the level and variability of total return. When income is being reinvested the distinction between income and capital appreciation is less important. In the retirement phase the level of income generated from investment has greater significance because this can be consumed without impairing future income generation of capital. The volatility of equity returns is predominantly due to price fluctuations.

The chart below looks at the dividend income generated by the Australian All Ordinaries Index and the local currency variant of the MSCI World Index over the last thirty years².

Figure 1: All Ordinaries and MSCI Dividends



Source: Ankura Capital, S&P/ASX, MSCI

From an initial income generation of \$52 in 1980 per \$1000 invested, the dividend income for the All Ordinaries grew to \$350 in 2009, for an average nominal growth rate of 6.7%pa. Over that same

² The income generated by each index is derived from the difference in returns of the respective price and accumulation indices. The local currency variant of the MSCI World Index is used to abstract from the effects of exchange rate movements.

period CPI inflation³ averaged 4.5%pa, so that the real growth in dividend income was 2.2%pa. For the MSCI World Index in local currencies, the nominal growth rate was 4.7%pa. For an Australian investor, abstracting from currency fluctuations, there would have been marginal real growth. The long-term history of the Australian equity market is exceptional in delivering positive real dividend growth⁴.

Dividend income does not increase every year and does suffer some meaningful retreats. For example in Australia in 1991 and 2009 the financial environment in both of these years was exceptional, and exposed some fragile business models, with consequences for dividends in some parts of the market. Older investors will recall the dividend illusions of the Adelaide Steamship group of companies, and the travails of Westpac twenty years ago. More recently, due to the Global Financial Crisis (GFC), the high leverage and financial engineering prevalent in infrastructure vehicles and property trusts has brought about some drastic cuts in distributions. However these years simply brought the dividend generation of the market back to trend, following a period of short but rapid increase.

The consistency of income generation from equity investment is at odds with the higher volatility of equity prices. Recent market experience provides a good example. The All Ordinaries Index fell by 43% in 2008 before recovering by 33% in 2009. But the fall in dividend income in an extreme environment was less severe with 2009 dividends 19% below their 2008 levels.

The foregoing analysis is concerned with the year to year variability of dividend income relative to itself rather than variation in dividend yield. The 2009 dividend yield was 4.9% of the 2009 start of year price level, with the corresponding figures for 2008 and 2007 figures being 3.5% and 4.0%. When looking at dividends as an income level rather than as a component of return the arithmetic is different. The units for dividend income are per \$1000 invested at the start of the period. So for example when the All Ordinaries Index dividend income changes from \$434 in 2008 to \$350 in 2009 the change is -19%. For 2008 the change was -1% and for 2007 was 6%. So dividend yield doesn't change too much year by year but dividend income can change much more significantly relative to itself. It's this second perception of change (income relative to itself) that matters when investing for income.

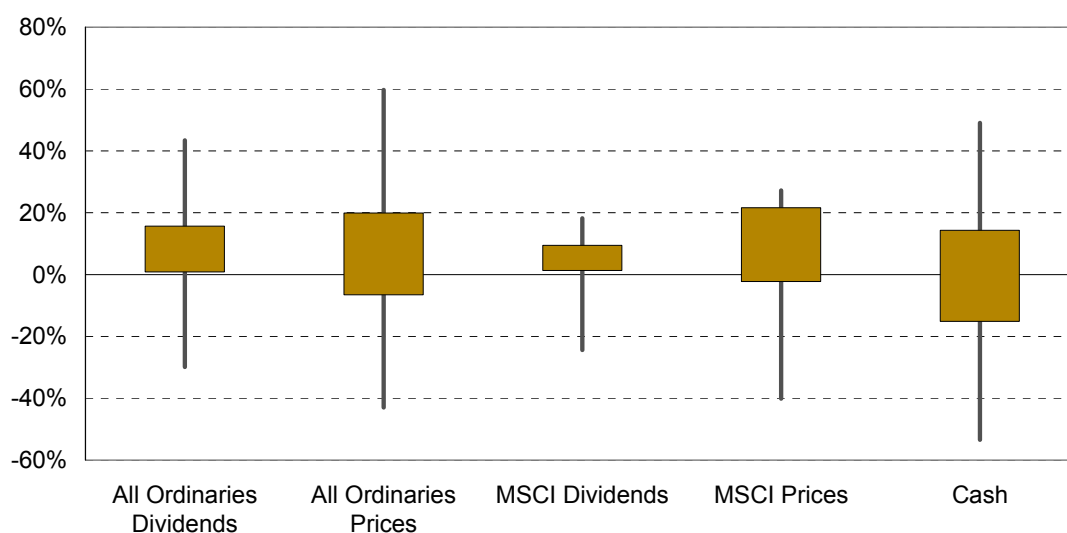
The chart below contrasts the volatility of income generation and price levels over the past thirty years. The volatility of cash income is based on the UBS Bank Bill Index⁵.

³ Cost of living increases for self-funded retirees have been in line with the CPI over the last twelve years at 3.0%pa, although age pensioner cost of living increases have been a little higher at 3.2%. Source: ABS 6463.0 Analytical Living Cost Indexes for Selected Australian Household Types.

⁴ Dimson, E., P. Marsh, M. Staunton, 'Credit Suisse Global Investment Returns Sourcebook 2010', p 31. Australia's growth rate of real dividends of 1.26% from 1900-2009 is ranked 3rd of 19 markets and compares to an average of -0.10%.

⁵ Prior to 1987 this is combined with a similar construction based on 90 day Bank Bill yields sourced from the RBA.

Figure 2: Distribution of Annual Changes in Equity Income and Prices, and Cash Income 1980-2009



Source: Ankura Capital, S&P/ASX, MSCI, IRESS, UBS

The boxes show the interquartile spreads of annual changes⁶ while the stems extend to the maximum and minimum changes. For both the All Ordinaries Index and the MSCI World Index the volatility of income is much lower than the volatility of price level changes. Based on annual data the All Ordinaries income volatility is 14% compared to 22% for price level changes. For the MSCI World Index the income volatility is 8% compared to 17% for price level changes. Prior to his 'irrational exuberance' fame, Yale professor Robert Shiller in his 1989 book, 'Market Volatility' (MIT Press), demonstrated that share prices are much more volatile than the future income they are supposedly valuing, which is essentially what these results reflect. If the market maintained a constant dividend yield, the volatility of dividend income and price levels as shown above would be similar.

How safe is cash?

The results for a bank bill portfolio are included as a cash equivalent. An investor relying on the income from bank bills would have experienced income volatility of 23%. They would have started the period in 1980 on an income of \$112 per \$1000 invested but in 2009 would have received only \$34.

When investing for wealth accumulation, cash is commonly regarded as the risk free asset, because volatility is dominated by change in price levels, which don't move at all for cash. When investing for

⁶ For income the change is calculated by comparing the income through a year to that of the previous year. For example the Australian dividend income in 2009 was \$350 compared to \$434 in 2008 for a change of -19%. These numbers are per \$1000 invested in December 1979. Over 2009 the All Ordinaries index moved from 3659.3 at 31 December 2008 to 4882.7 at 31 December 2009 for a change of 33.4%.

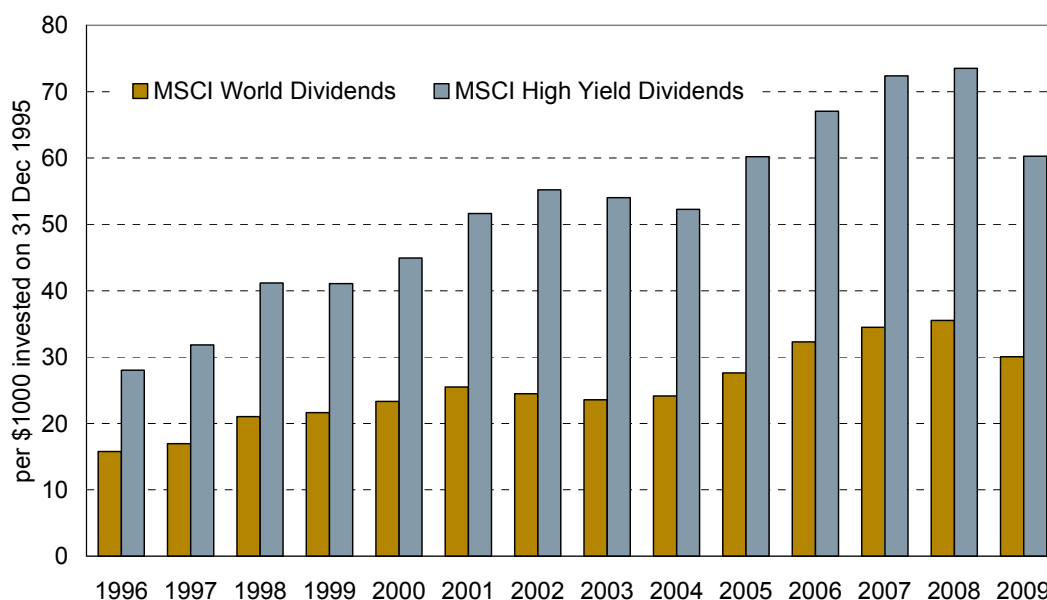
real income, cash is a very risky asset. The risk free asset in the context of real income generation would be indexed bonds.

High Yield Equity

As demonstrated above equity income has attractive characteristics. Its volatility is moderate, particularly compared to that of price changes, and much less than that of cash equivalent income. Over time equity income has achieved real growth relative to the CPI which is important to preserve purchasing power.

Equity markets provide wide opportunities for selection. Hence the profile of an equity portfolio is very flexible. Stocks vary by their yield, growth and risk characteristics. Portfolio selection can aim to deliver a higher dividend yield than the typical broad market index by simply favouring stocks with higher dividend yields. A simple application of this approach is the construction of the MSCI High Dividend Yield Index. The constituents are stocks with dividend yields 30% higher than that of the normal index, non-negative dividend growth over the preceding five years, and reasonable payout ratios. Using the same approach as above the income generation of the MSCI High Dividend Yield Index in local currency can be compared to that of the normal MSCI World Index. The calculations are based on an investment of \$1000 on 31 December 1995. The later start is due to the shorter history of the MSCI High Dividend Yield Index.

Figure 3: MSCI World High Yield Dividends versus MSCI World Dividends



Source: MSCI, Ankura Capital

The period here is relatively short at fourteen years, but does include the global economic slowdown at the start of the decade, and the impact of the GFC, so there is some diversity of market conditions.

An important question to be addressed is whether the investment objective of high yield adversely affects the growth of income. If that does occur then a preference for higher yield may potentially detract from total return, if any reduction in growth more than offsets the improvement in yield. The income of the normal MSCI World Index (in local currency) grows from \$15.80 in 1996 to \$30.00, at an average rate of 5.1%pa. By comparison the income of the MSCI/Barra High Yield Index (in local currency) grows from \$28.00 in 1996 to \$60.30, at an average rate of 6.1%pa. Importantly the rate of growth of income has not been harmed by the increase in yield.

Is high yield income more volatile? Over this relatively short period there is not much difference in the volatility of annual changes in income. The volatility of high yield dividend income is 11.5% compared to 10.1% for normal equity.

If dividend income can be increased, without any offsetting reduction in the growth in dividends, then total return will be enhanced. The chart below shows the cumulative performance of the normal MSCI World Index compared to that of the High Yield Index. Over the period the High Yield Index has outperformed by 2.3%pa, albeit with some variability. Statistically there is about a one in fifteen chance this level of outperformance would have occurred randomly so it is strongly suggestive that high yield investing has a performance advantage.

Figure 4: Cumulative Performance of MSCI World and MSCI High Dividend Yield



Source: MSCI, Ankura Capital

Why might high yield equity outperform?

There are two key characteristics of the High Yield Index which are related to well-researched anomalies in equity investment. Firstly, dividend yield is a value measure so favouring yield creates a

value bias in the index portfolio. The value anomaly has been well researched⁷ and is a widely acknowledged. Secondly, filtering stocks on the stability and growth of dividends gives rise to a quality bias. Quality is less well defined than value, but is now common in the guise of accrual research⁸. When companies inflate earnings through accounting accruals, eventually the weakness of underlying cashflows becomes apparent to the detriment of the share price. Dividends are paid from cash flow so companies with weak cash flows tend not to have stable and growing dividends.

In the current environment of global de-leveraging, economic growth faces a strong headwind. The world's largest economy, with a stock market that accounts for over 40% of the MSCI, is hamstrung by high unemployment, stagnant incomes, a crippled housing sector, and a political conflict between austerity and further stimulus. The promise of low yielding stocks is that growth will compensate in the make-up of total return, and retained corporate earnings will be profitably invested. But in the current environment it seems more rationale to take the yield up front and rely less on the promise of growth.

What can go wrong?

In practice high dividend yields can be apparitions created by financial engineering, and attractive dividend histories in extreme cases can be artificial. The filtering of yield needs to take into account the prospective free cash flow backing of dividends as well as past dividend history. High leverage can also compromise dividends as debt rollovers at higher interest rates can crimp cash flows, or in case of financial distress banks can restrict dividend payments.

High yield investing can also create some exaggerated sector biases in portfolios. In the Australian market for example the high yielding banking sector accounts for 24% of the market by value. A yield bias, if not controlled, could create an even more lopsided allocation to banks. Small capitalisation stocks also tend to have higher yields so a preference for yield will tend to change the capitalisation profile of the portfolio. Economic sensitive or cyclical stocks tend to trade at higher yields than defensive stocks, partly because there is more circumspection of their income generation through the economic cycle. A preference for yield may therefore also tend to create a cyclical bias in a portfolio.

In the Australian context resource stocks are lower yielding than the market overall. A high yield portfolio will tend not to hold resource stocks and so relative performance will be heavily influenced by the fortunes of the resource sector, and in particular the sustainability of China's strong economic growth.

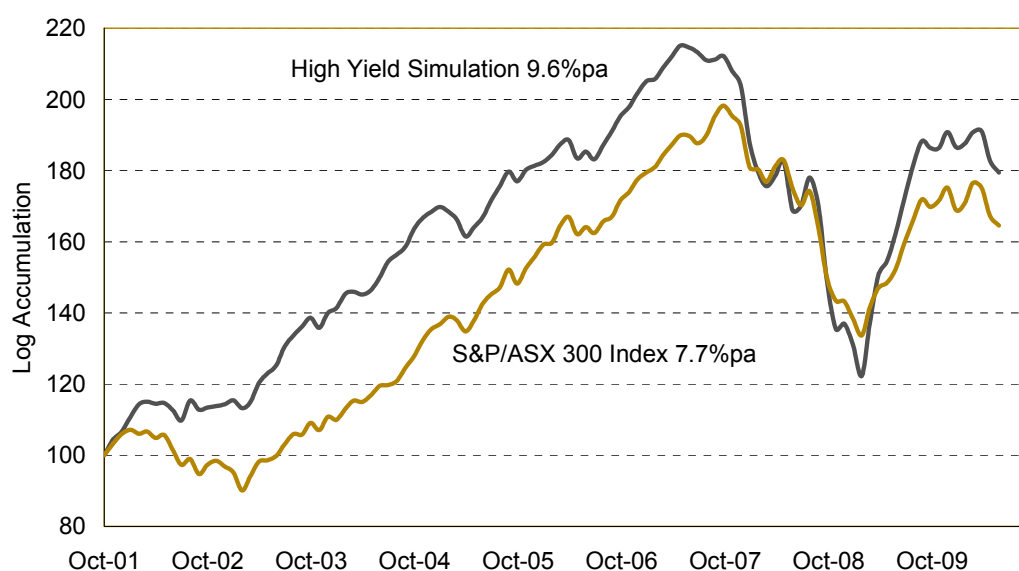
⁷ See for example Lakonishok, K., A. Shleifer and R.W. Vishny, 'Contrarian Investment, Extrapolation, and Risk', *The Journal of Finance*, December 1994. Also Capaul, C., I. Rowley, and W. Sharpe. "International Value and Growth Stock Returns." *Financial Analysts Journal*, 50 (1993)

⁸ See for example Sloan, R.G., 'Do Stock Prices Fully Reflect Information in Accruals and Cash Flows About Future Earnings?', *The Accounting Review*, July 1996

Australian Simulated High Yield Performance

The MSCI/Barra High Yield Index benefits from the wide diversification afforded by the global equity market. Given the narrowness of the Australian market, and the peculiar sector structure, high yield equity investment is best illustrated by a more controlled portfolio construction than simple index construction. The simulation below illustrates the performance of a high yield portfolio in the Australian market with cash flow filtering of yield, elimination of highly leveraged stocks, and controls on portfolio construction to manage the sector allocation distortions referred to above.

Figure 5: Australian Simulated High Yield Performance



Source: Ankura Capital

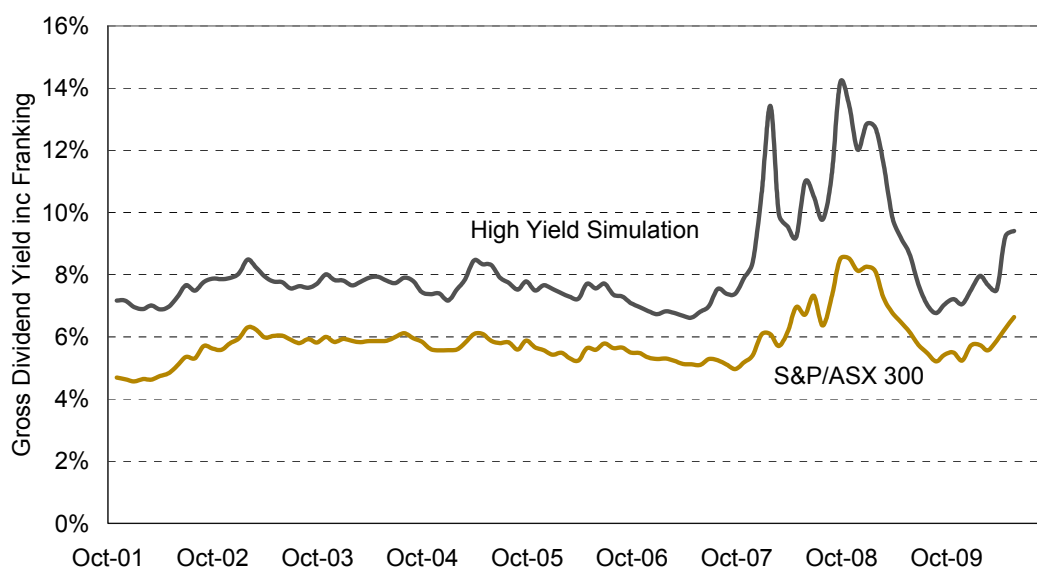
The period of simulation is short, but importantly it takes into account the GFC. The accumulation is shown on a log scale to avoid distortions of compounding. The performance of the High Yield Simulation is better than the index overall, by around 1.9%pa over the entire period. Given the short period and variability of relative performance this is not a significant result. The relative performance accrues very strongly before the GFC, but that performance advantage is then given back before a late recovery. The soft performance through the GFC is explained by a higher allocation to small capitalisation stocks which underperformed through that period, and an absence of resource stocks which outperformed the broader market.

The simulation shows that the total return comparison to the broad market index has been volatile. However there is no suggestion that total return performance is harmed by the preference for yield, other than at the height of the GFC. The total return advantage is consistent with the results for the MSCI/Barra High Yield index.

Dividend Imputation

An important feature of the Australian market is the franking system which effectively allows for dividends to be received before corporate tax, so as to avoid double taxation. In the case of portfolios for account based pensions this is particularly significant as there is no tax on investment income. The chart below shows the underlying prospective dividend yield of the High Yield Simulation, including franking credits.

Figure 6: Australian Simulated High Yield - Gross Dividend Yield



Source: Ankura Capital

On average over the last decade a filtered high yield portfolio in the Australian market has delivered a gross dividend yield around 2%pa higher than the S&P/ASX 300 index. The Australian market is a high yielding market compared to world equities on average in terms of nominal yield⁹. The franking system further extends that yield advantage. Finally portfolio construction targeting high yield can elevate the gross dividend yield to a level beyond even corporate debt yields¹⁰. The important difference between equity yields and fixed income yields is that the income from equities grows over time as illustrated in Figure 1.

⁹ At 30 June 2010 the nominal yield of the MSCI World Index was 2.7% compared to 4.0% for the S&P/ASX 300 Index on a trailing basis.

¹⁰ At 30 June 2010 the BBB corporate debt yield in Australia was 7.1% (Source: RBA) compared to 9.0% for the prospective gross dividend yield on the Simulated High Yield portfolio.

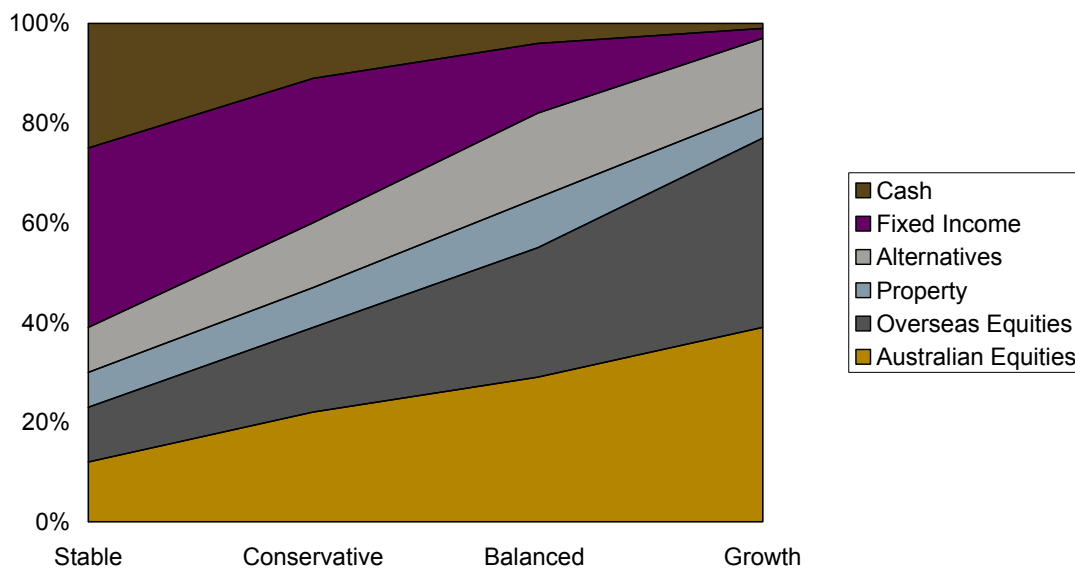
ASSET ALLOCATION FOR REAL INCOME

In the previous section the merits of high yield equity investing were discussed. In this section the standard asset allocations for standard superannuation investment options are compared to yield oriented alternatives. By substituting high yield equity for both the Australian and overseas equity allocations, the income profile of standard asset allocations can be substantially improved.

The asset allocation landscape

The chart below, based on an average of asset allocations for a dozen major superannuation funds, shows the standard investment choices on offer to superannuation fund members.

Figure 7: Asset Allocation of Standard Investment Options



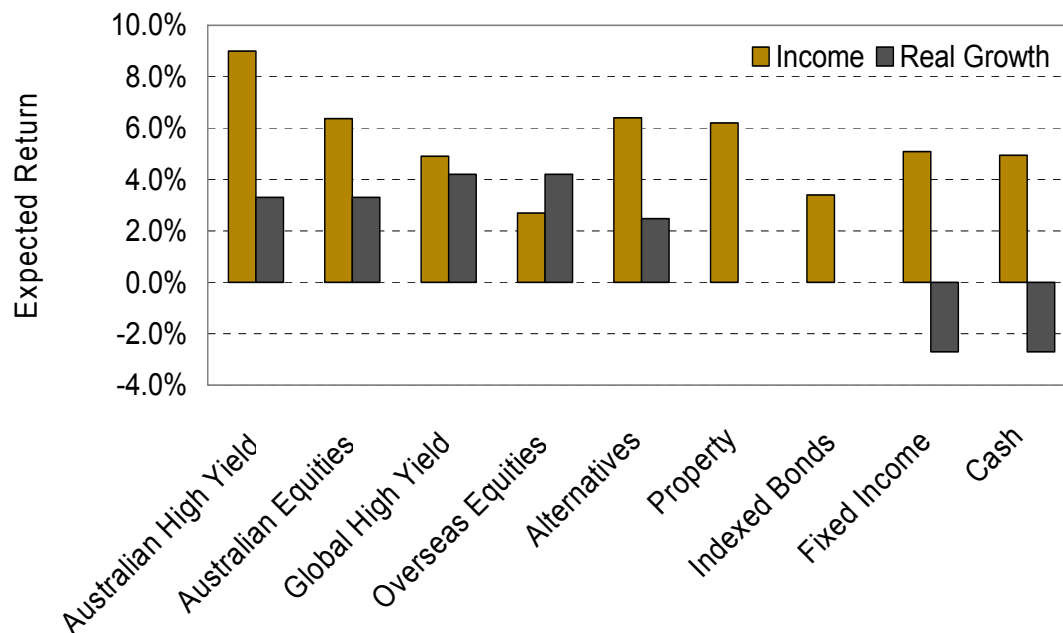
Source: Ankura Capital

Lifecycle derisking sees investors move from right to left as they approach retirement. These investment options are designed to cater for varying risk tolerances of investors in the wealth accumulation phase. The investment focus of these standard options is total return, and uncertainty of total return. The income and capital appreciation make up of that expected total return is of secondary importance. Because of the relatively small component of superannuation funds backing account based pensions, it is not yet common for superannuation funds to design investment options specific to the retirement phase.

The chart below summarises the current¹¹ income yields of asset classes and orthodox assumptions about income growth¹². The addition of yield and growth gives the total return expectation.

¹¹ Prospective consensus yield forecasts as at 30 Jun 2010, sourced from major brokers by Ankura Capital.

Figure 8: Asset Class Income and Growth

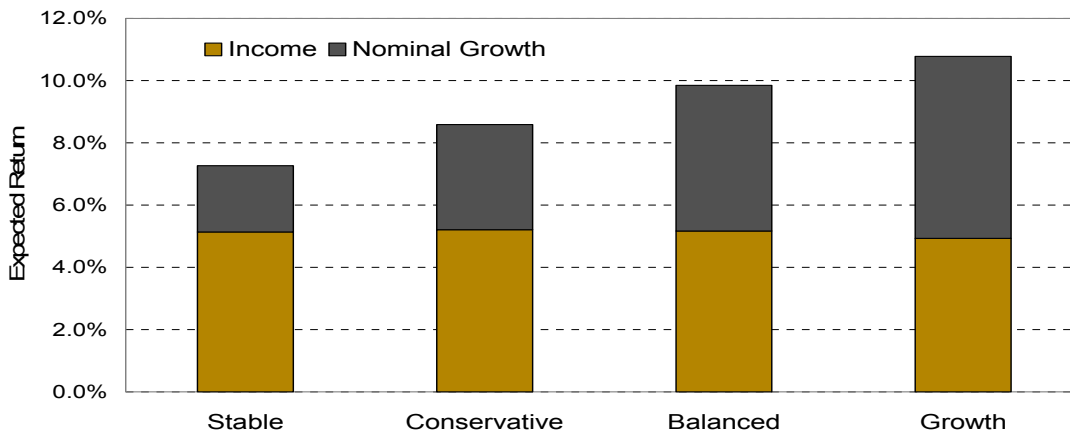


Source: Ankura Capital

Based on the discussion in the previous section, high yield variants for Australian and overseas equity are assumed to have the same income growth as their normal yield counterparts. The rationale for substituting these high yield variants for normal yield equity is compelling. Applying these assumptions to the standard investment options in Figure 7, gives the return profile shown below. This calculation does not include high yield equity.

¹² Equity income is assumed to grow at the 10 year forecast GDP growth rate for Australia and the world sourced from Consensus Economics Inc. Property Income is assumed to grow at the expected rate of inflation (ie no real growth) while alternative assets are assumed to grow at half the real rate of GDP. Income growth for overseas equities is assumed to benefit from exchange rate movements implicit in current bond yield differentials.

Figure 9: Investment Option Return Profile



Source: Ankura Capital

What is clear from these return profiles is that there is limited choice of income level. The long term forecast for Australia's inflation rate¹³ is currently 2.7%pa so the stable investment option with nominal growth of 2.1% does not keep pace. Investors wanting to preserve the purchasing power of income in retirement would need to start with the Conservative investment option which has an estimated nominal income growth of 3.4%pa.

If the investment objective is durable real income, rather than total return, these standard investment options would be improved by:

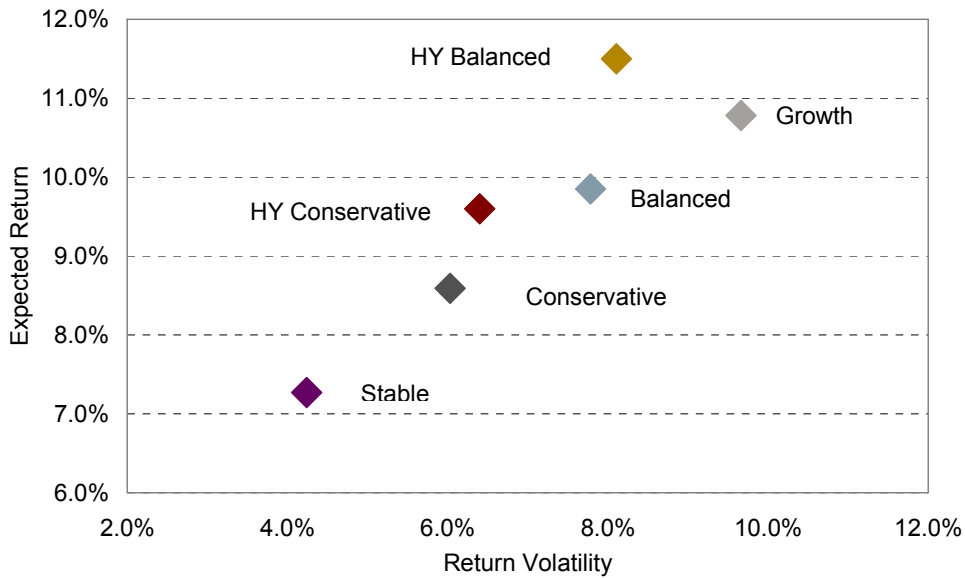
- Substituting high yield equity for normal yield
- Changing the domestic/global equity balance from 1:1 to 2:1
- Substituting defensive alternatives for growth alternatives
- Avoiding highly leverage vehicles in property and infrastructure
- Reducing cash exposure

The Appendix includes asset allocation pie chart comparisons illustrating the first two of these changes for Conservative and Balanced Investment Options. The alternative asset allocations also include a modest exposure to indexed bonds.

The normal perspective on asset allocation choices is to summarise expected return and volatility, as shown below.

¹³ Source: Consensus Economics Inc. April 2010.

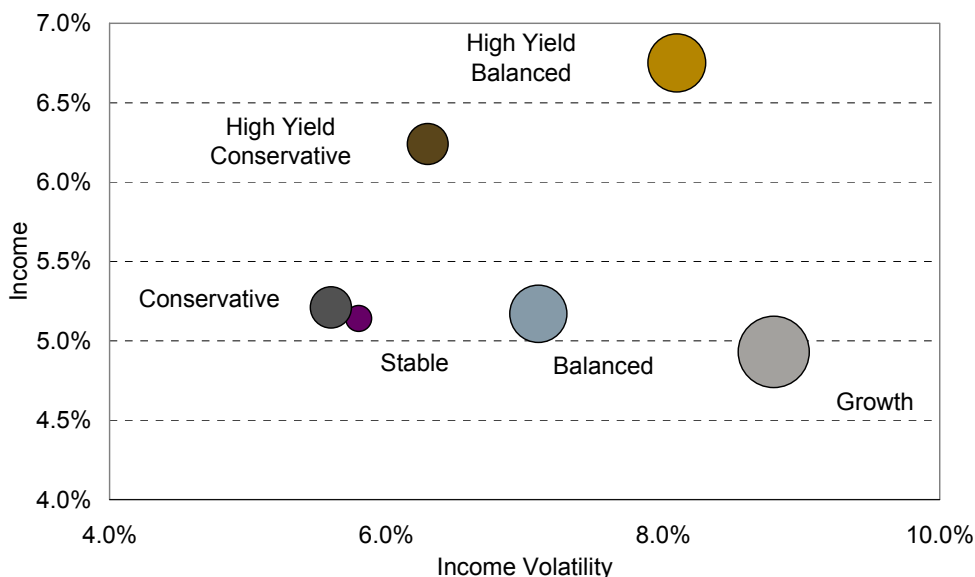
Figure 10: Investment Option Return versus Volatility



Source: Ankura Capital

The more attractive positioning of the high yield investment options is simply a statement that these are not inferior in the conventional perspective. The real advantage is apparent when these investment options are evaluated in terms of income yield, income variability and income growth. Because there are three criteria to summarise, growth is illustrated by a bubble chart where the size of the bubble indicates nominal income growth.

Figure 11: Investment Option Income, Volatility and Growth



Source: Ankura Capital

Recall the threshold for real income growth was that of the conservative investment option. Figure 11 shows the substantial improvement in income yield achievable by the substitution of high yield equity and a change in the domestic/global balance from 1:1 to 2:1. The table below applies these results to an investment at retirement of \$500,000.

Income per \$500,000 invested at retirement

	Normal Yield			High Yield		
	Income	Real Growth	Annual Volatility	Income	Real Growth	Annual Volatility
Conservative	26,000	0.7%	+/- 1,500	31,200	0.7%	+/- 2,000
Balanced	25,900	2.0%	+/- 1,800	33,800	2.1%	+/- 2,700

Another way of looking at these results is to calculate what investment at retirement would deliver a comfortable living standard. The latest estimate from Westpac-ASFA of a comfortable cost of living is \$53,565 per couple¹⁴. For simplicity assume that the deductible proportion of the income stream, the tax free threshold, and the 10% tax offset effectively eliminate income tax. The high yield conservative options would deliver that income with an investment of \$865,000. By contrast the normal yield conservative options would require an investment of \$1,030,000.

¹⁴ Westpac-ASFA Retirement Standard (March Quarter 2010)

These estimates suggest a couple with \$865,000 at retirement can look forward to a comfortable living standard and not worry about drawing down their capital. The income stream should keep pace with inflation. Unlike an annuity, they can expect that the capital will always be available to them in retirement, and should maintain its real value. They might expect some year to year variability of income (+/- \$3,400 in two of three years). Importantly they should largely ignore the volatility in the value of their investment (+/- \$55,000 in two of three years). Because they are living off the income of their investment, capital fluctuation should not affect them.

CONCLUSION

An overriding advantage of this concept is its simplicity. The longevity question can be addressed without the complexity inherent in current annuity products.

The attraction of dividend income from equities is that it can be expected to grow in real terms over time. Evidence suggests increasing the dividend yield of equities by high yield portfolio construction does not impair this real growth. The volatility of equity income, especially in the context of a diversified portfolio, is moderate. Once the income generated by investment is sufficiently high, the volatility of capital value becomes a secondary issue so the volatility focus should be on income, not capital.

Account based pensions are a robust mechanism for delivering income in retirement. However to achieve their full potential the investment strategy should take advantage of high yield equity investment.

APPENDIX

Figure 12: Normal Conservative Option Asset Allocation

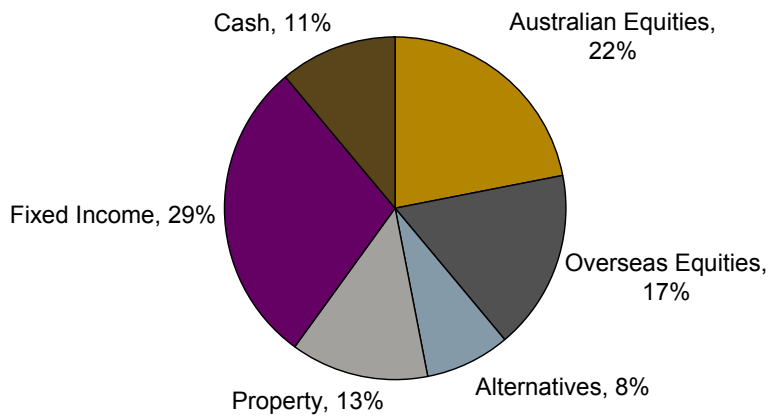
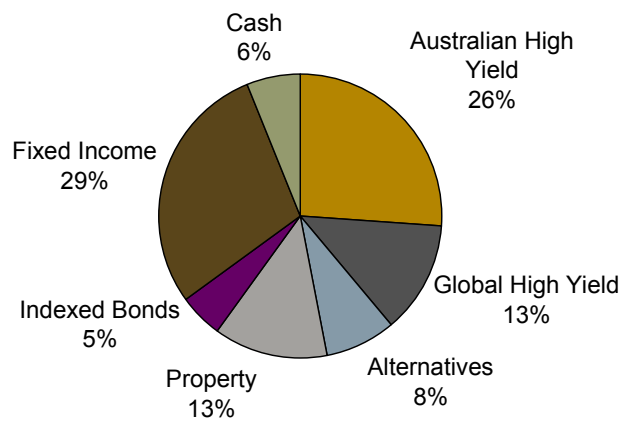


Figure 13: High Yield Conservative Option Asset Allocation



Source: Ankura Capital

Figure 14: Normal Balanced Option Asset Allocation

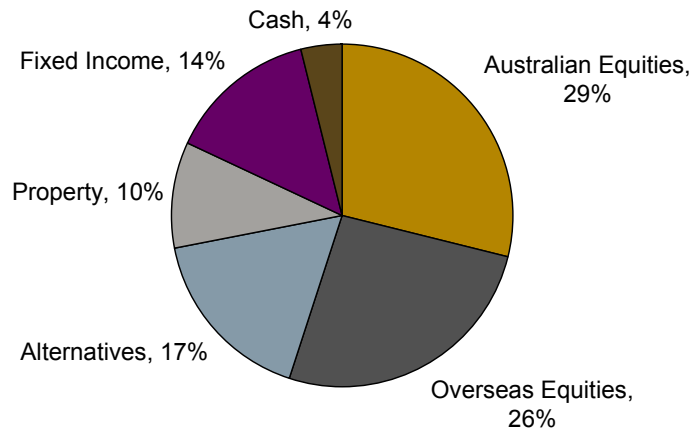
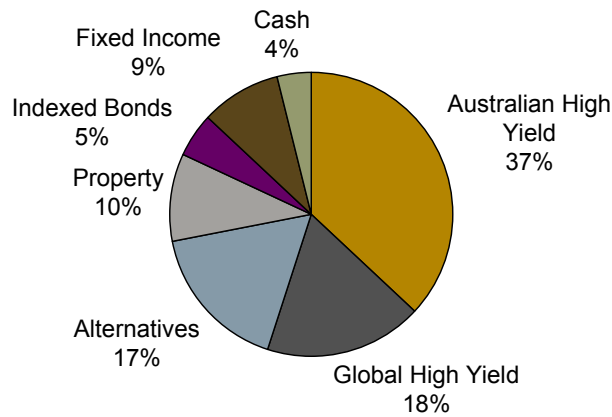


Figure 15: High Yield Balanced Option Asset Allocation



Source: Ankura Capital

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