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Combining investment and insurance... managing the retirement risk paradox

The term Retirement Risk Paradox has been used by industry commentators to describe the conflict retirement savers face between the need to generate enough income to maintain an acceptable lifestyle in retirement, but without exposing themselves to an unacceptable or unknown level of risk.

To understand this conflict, we should consider the two risks we need to manage in any retirement income plan:

- **longevity risk:** outliving the income that can be generated by your accumulated pension fund
- **inflation risk:** a reduction in the real value of an income stream which is 'fixed' in money terms.

It used to be simple: we worked for 40 years... longevity risk was managed by the DB pension sponsor, or more recently the insurance company, pooling risk across many individuals and providing an annuity. Inflation risk... we managed that by dying young, gradually reducing our expenditure, or by relying on state support – in rare cases we may even have bought an index-linked annuity!

Over the last 20 years, we have evolved rapidly to a position where DC funds make up a significant proportion of accumulated pension wealth, where many of us hope to live through 25 years of retirement, and where interest rates persist at historically low levels. Fixed annuity rates seem painfully low: rates for 65 year-olds have fallen by around 30% in the last 10 years (and were falling even faster before then). For many, this would represent a drastic lifestyle adjustment. Over the same period, RPI-linked annuity rates have fallen even further - inflation risk is not something experienced only by those in the tail of the mortality tables!

In this market environment, UK providers have developed alternative retirement products – customers are faced with a range of investment-linked or with-profit annuities and unsecured pension drawdown (USP) products. Retirement investors can now variable annuities and other products with a variety of different guarantees intended to mitigate different risks. These products offer retirees much greater flexibility in managing longevity and inflation risks, rather than simply insuring these through a conventional annuity.

Whilst USP is similar to the US concept of a Systematic Withdrawal Plan, UK tax legislation is intended to limiting the level of income withdrawn from the fund to 'lifetime sustainable' levels, based on equivalent annuity rates. To reinforce this, all USP funds must be annuitised by age 75. Although the UK government's current consultation will result in some adjustment to these rules which may impact the product landscape (for a separate report...) the principle of the legislation will remain.

With the rise of DC, the challenge of managing the Retirement Risk Paradox is being handed over from pension funds and insurance companies to the retirement investor. The complexity and scale of the risk, combined with the lack of tools to measure and understand them, has resulted in some life-changing outcomes for retirees. For many people, dying might have become the least of their worries!

The retirement risk paradox: a recent case study ***(This is all too real - names have been changed to protect the innocent...)***

In the summer of 2000, Mr Alpha was retiring at the age of 60 after a successful career in financial services. His firm had closed its DB scheme years ago, and he had transferred much of his DB benefit into personal (DC) savings, most of which was invested in passive equity funds. The bull market of the 80's and 90's, together with generous contributions had allowed him to accumulate pension assets of around £1m. However, Mr Alpha had spent 20 years in asset management doing his best to avoid actuaries... perhaps his pencil was less sharp when it came to managing his own retirement finances.

Despite a variety of annuity products that he didn't fully grasp, for Mr Alpha, the options at retirement boiled down to a choice between a conventional annuity paying about £4,400 per month, or one of the more flexible Drawdown products that were gaining popularity. He hoped to live for a while and understood that a fixed payment annuity would expose him to significant inflation risk over the course of his retirement. The high cost of insuring this risk away via an RPI-annuity seemed unappealing.

So his advisor explained the drawdown option... there was lots of detail, but the salient points were:

- The initial income limit would be around £4,160 per month – slightly lower than the prevailing market annuity rate: GAD rules were 'prudent'; the insurers were competing on price.
- This GAD income limit would be reviewed every three years and would be adjusted up or down according to fund performance and changes in annuity rates.
- The concept of mortality drag was clear enough, and he understood that he would probably need to annuitize his fund over the next 10-15 years.

Mr Alpha understood the risk that poor investment performance could erode his investment, such that the amount of annuity he could buy at the end of the drawdown period might be lower than the £4,400 pcm he could get today. However, the fundamental features of Drawdown were appealing: investment choice, opportunity to participate in market growth (it was early-2000!), and continued access to capital. With two daughters in their 20's, he was not keen on the idea of handing over all his cash to an insurance company!

Mr Alpha's advisor also presented an illustration which showed how the drawdown product would have worked over the last 10 years (1989 – 1998), showed that Mr Alpha's income would have almost doubled (relative to the immediate annuity). Although annuity rates had come down over the last decade, investment returns would have more than offset this. In addition, the residual value of Mr Alpha's fund would have been left with a significant amount of capital, which would have provided a bequest to his daughters had he died in the intervening period.

Mr Alpha chose the drawdown option (otherwise this story might get boring)... He was offered a list of risk graded investment funds, and was able to select a FTSE Index Tracker,

with a low annual charge. This offered the potential for growth required to maintain income in line with inflation, without appearing to take on too much active risk.

That's the theory... Now step forward to August 2009 and consider Mr Alpha's experience. We can start by considering the returns on the underlying FTSE Tracker investment fund:

Exhibit 2a:

FTSE Total Return Index (August 2000 – August 2009)

Although the underlying investment index experienced significant volatility, the FTSE was overall almost 'flat' over the 9 year period. In fact, the index was about 4% higher at August 2009 than when Mr Alpha bought the product in August 2000.



However, if we look Mr Alpha's experience of drawdown in Exhibit 2b, the picture is very different.

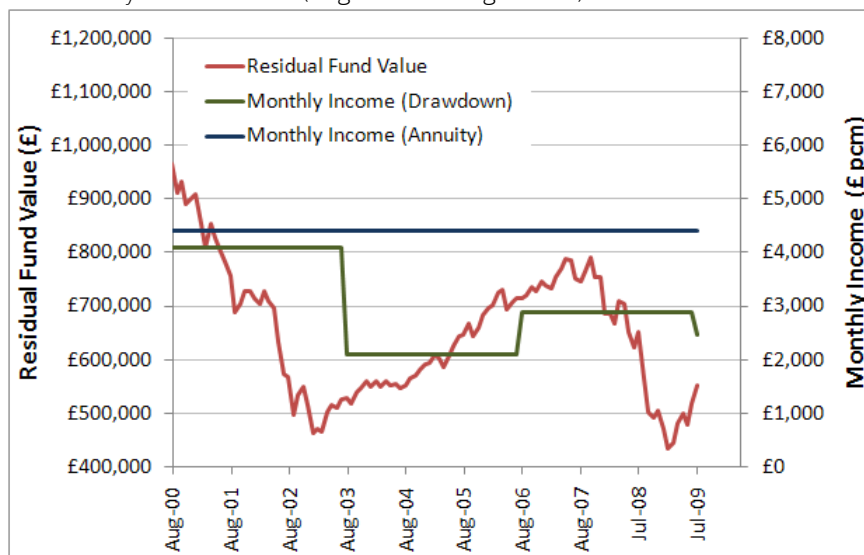
Exhibit 2b:

Historic Analysis of Drawdown (August 2000 – August 2009)

Mr Alpha's income, and the annuity value of his fund, has fallen from £4,160 pcm to around £2,500 pcm.

As at August 2009, the residual value of Mr Alpha's fund sat at around £550k.

The inevitable result has been a significantly diminished retirement lifestyle. The reality is that he is considering selling his house to generate income to offset this shortfall.



So the outcome for Mr Alpha has been severely diminished retirement wealth and the need to painfully re-align his lifestyle to cope with a significantly reduced lifetime income level.

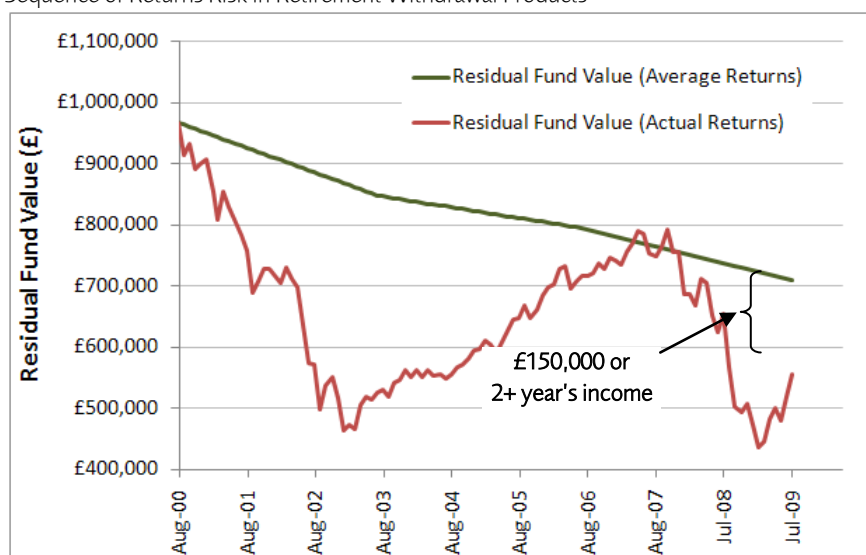
While the outcome for Mr Alpha has been drastic and irrevocable, there is an important question we should address if we are to understand how to better manage the Retirement Risk Paradox... If we consider the underlying investment return (the index returned +4% over the 9-year period), the total amount of withdrawals (£350k), and the final residual fund value (£550k), there appears to be a 'gap' of around £150k (equivalent to around 3 years of income).

Retirement income risk: the importance of the sequence of returns

To understand where this 'gap' arises, we can compare the actual outcome against a hypothetical scenario where the underlying investment fund had delivered the +4% return steadily over the 9 year period. This hypothetical scenario is shown by the green line in Exhibit 3.

Exhibit 3:

Sequence of Returns Risk in Retirement Withdrawal Products



This chart highlights the impact of a 'bad' sequence of returns on the fund value... Taking income from a fund which suffers falls in value will erode capital much more rapidly than in a case where returns are constant (even where the average return is the same). It is exactly this 'sequence of returns' effect that has ruined Mr Alpha's retirement.

Managing retirement income risk – option A: asset allocation?

So Mr Alpha's retirement has been ruined by a bad 'sequence of returns' - but the obvious question is 'How might he have avoided this problem?'

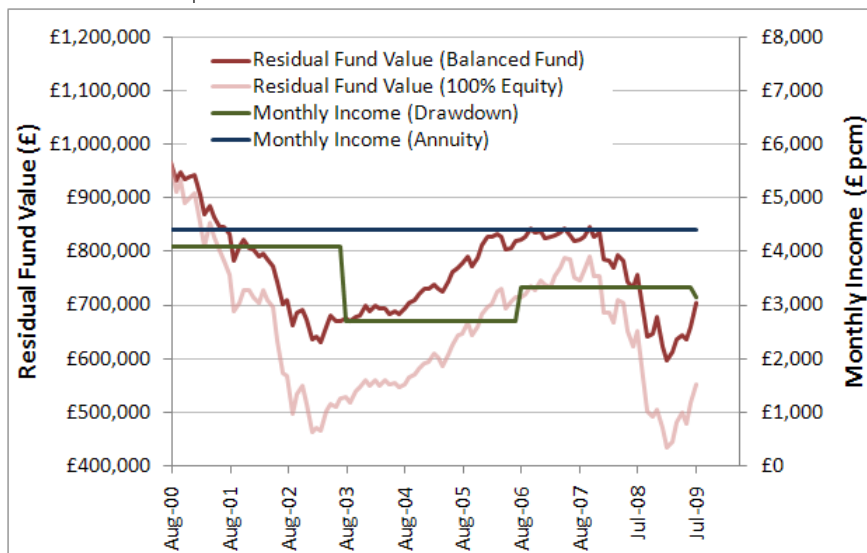
In the simpler world of **accumulation**, one option would be to adjust the asset allocation to reduce the equity exposure of the fund. The following chart shows the impact of investing in a Balanced fund with a 60% Equity, 40% Bond allocation. To simplify, we've ignored the fact that such funds would often incur higher charges than an Index Tracker...

Exhibit 4:

Asset Allocation: Impact on Retirement Income Risk

Despite the reduction in equity exposure, Mr Alpha's retirement income still falls by around 25%, from £4,160 to £3,100 pcm.

In periods where the equity market falls, fund returns are still negative (just less so!). In the presence of withdrawals, this still has a disproportionate impact on the fund. The fact that the equity exposure is lower also means the fund is less able to recover.



So the combination of a 'bad' sequence of returns, particularly during the early part of the drawdown phase, means that adopting a more 'Cautious' asset allocation has only a limited impact on the outcome – Mr Alpha is still going to be badly hurt by fluctuations in value of the underlying investment.

This suggests we should find an investment strategy where the risk of substantial negative returns is removed.

Managing retirement income risk – option B: downside protection (insurance)?

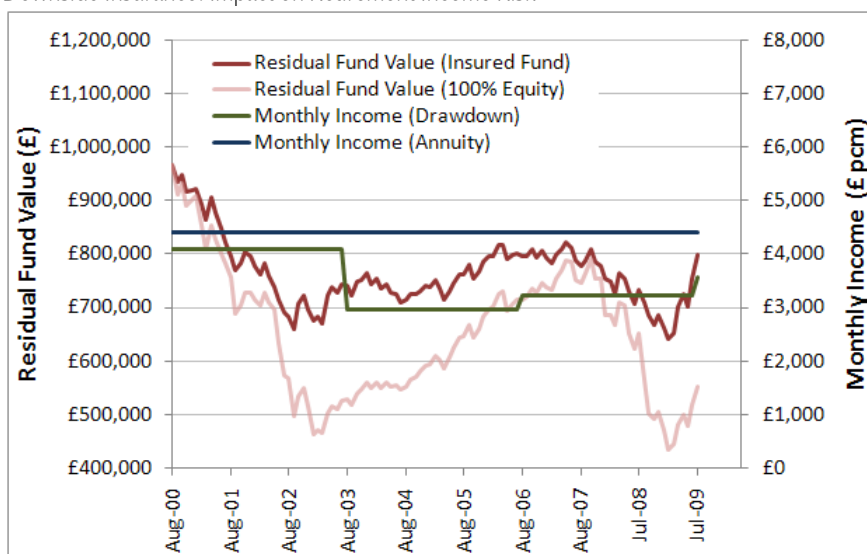
To provide a simple illustration, Exhibit 5 shows the result of using a simple investment strategy where we purchase a put option on the underlying FTSE Index at the start of each month with a strike of 97 and sell a call with a strike of 105. In other words, we maintain a 100% equity exposure in the underlying fund, but pay a premium each month to hedge out any losses greater than 3%, paying some of this cost by selling some potential upside. The exact cost of this is not too critical here, but we've assumed the annual cost of these options is around 3%.

Exhibit 5:

Downside Insurance: Impact on Retirement Income Risk

In this case, Mr Alpha's retirement income bears up much better - falling only 13% to around £3,600 pcm.

Furthermore, despite the additional insurance cost, the residual fund value at the end of the period in August 2009 would have been around £800k – a significant improvement on the original £550k.



Managing retirement income risk - summary

The following table summarises the different scenarios we've considered here:

	Equity Allocation (%)	Return Period	Income at Retirement	Income after 10Y	Change in Income	Fund Value after 10Y
1	100% (FTSE Tracker)	Historic (2000-09)	£4,160 pcm	£2,500 pcm	-39%	£550k
2	60% (Balanced)	Historic (2000-09)	£4,160 pcm	£3,100 pcm	-25%	£700k
3	100% (Insured)	Historic (2000-09)	£4,160 pcm	£3,600 pcm	-13%	£800k

The key point we should take from this is that while a drawdown option may have seemed like a reasonable approach to mitigating some of the inflation risk inherent in buying a fixed annuity at age 60, a more 'cautious' investment strategy alone would not have saved Mr Alpha from a poor sequence of returns. *It is clear that Mr Alpha would have required some element of downside protection.*

Managing the retirement risk paradox: a portfolio approach

Since most retirement investors are unlikely to be able to construct this type of option strategy, there is a more practical solution that gets the same result – we can combine the basic investment and insurance products available in the market.

Consider the case where Mr Alpha had allocated his £1m savings as follows:

- £300k Conventional Annuity
- £300k USP Drawdown (60% Equity)
- £400k USP Variable Annuity (70% Equity; GMWB guarantee)

Under this portfolio approach, Mr Alpha would annuitize £300k of his retirement fund, leaving the remaining £700k invested, but with £400k of this subject to a Guaranteed Minimum Withdrawal Benefit guarantee. This has a number of important benefits:

- The residual capital from a significant part of Mr Alpha's retirement fund will be available in the form of death benefits
- Mr Alpha will also be able to participate in equity market growth.
- Most importantly, Exhibit 6 demonstrates that this portfolio strategy would have protected Mr Alpha's retirement income level during the bad 'sequence of returns' over the period 2000-09:

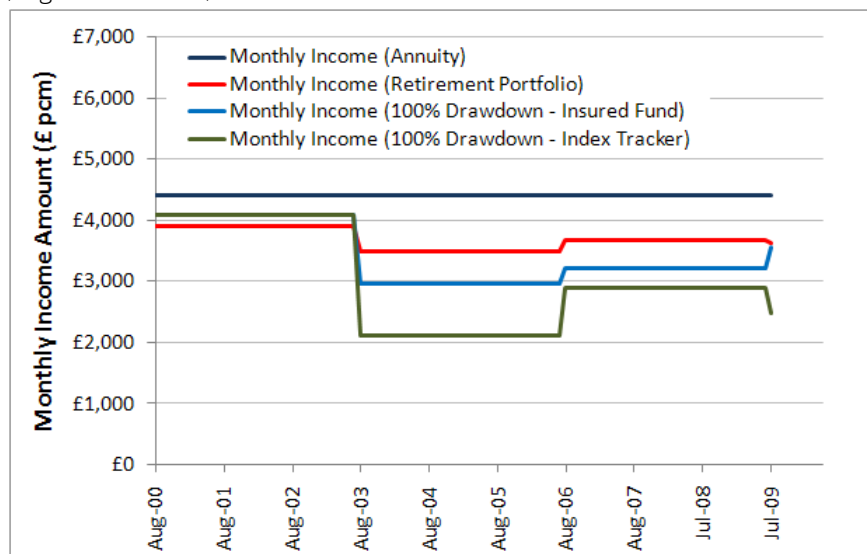
Exhibit 6:

A Retirement Product Portfolio: Impact on Retirement Income Risk
(August 2000 – 2009)

Under the retirement portfolio strategy (red line), Mr Alpha's retirement income level is largely protected from the significant fluctuations in the underlying index.

The sustainable lifetime income level at the end of the period has fallen by 12% to £3,600 pcm.

Contrast this with the 39% fall to £2,500 pcm under the simple Drawdown option (green line).



Had Mr Alpha been able to use some of the retirement products now available in the market, and combined these in a retirement portfolio, he would have been able to meet most of his objectives and would have effectively insured his retirement income at a sustainable level.

Summary

Insuring away all inflation and longevity risk in retirement in the form of fixed and RPI-linked annuities can be expensive. For many, annuity rates represent a lower retirement standard of living than was envisaged during long years of hard work and pension contributions. Giving up a large accumulated personal pension fund and associated death benefits can be another difficult decision.

In addition, this note has shown that without any insurance against a 'bad' sequence of returns, retirement customers have been very highly exposed to short-term fluctuations in investments – even when invested in funds that may have been regarded as reasonably well diversified or moderate risk.

This presents a significant challenge, and the horror story described in this note reflects the experience of many retirement investors over the last 15 years. However, we have seen that much more effective solutions already exist to manage this Retirement Risk Paradox.

It is important that we learn some clear lessons from this experience:

- Investment and insurance companies have put significant effort into designing new products to enable customers to manage these risks. *Product providers must work harder to communicate how these products work, and how they can be combined within retirement portfolios.*
- *Retirement customers must be specific and honest about how much risk they are willing to accept in relation to their retirement income.* Of course, this requires financial advisors to be asking the appropriate questions in the first place.
- *Financial advisors and sales consultants need to make better use of more sophisticated retirement portfolio planning tools which allow them to combine investment and insurance products together to meet their clients' needs.*

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