Introduction

When you are working and contributing to a pension, short term volatility and losses can generally be managed. This is because you have more time to invest and for your investments to recover.

Once you stop working and retire, this changes, as you may need to keep taking an income regardless of whether financial markets have fallen or risen. Any significant losses experienced in the early years of retirement may be hard to make up, and in turn this may reduce your income in retirement. There will be less in your fund to benefit from future gains.

As people are tending to live longer than ever before, it is essential that your income lasts as long as you do. Just think, if the value of your pension pot fell by 20% in the first year of your retirement and you were taking an income of 5%pa, after one year the value is down by 25%. This means you only have 75% of your pension pot to provide for the rest of your life.

The chances are that you will run out of money to live on. Putting it another way, you will out-live your money.

We have therefore written this e-book, to help you understand the particular risks that people face, when investing money to produce an income in retirement.

The most important of these risks (and probably the least understood) is Sequence Risk. This risk has the potential to decimate savings and ruin people's retirements.

We hope that you will find this a useful guide in what to look out for and how to minimise these risks.

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Chapter 1. Background

The 2014 UK pension reforms presented UK pension savers with significantly greater freedom than previously. The reforms have major implications for DC scheme investment strategies — in particular for individuals' investment choices regarding the post retirement period.

The new flexibility in UK pension provision is likely to result in a greater flow of assets towards 'drawdown' products, rather than annuity purchase. The post-retirement drawdown investment options are important as they directly influence the investment strategies adopted by pensioners.

Analysis from Standard Life has shown that the continued generation of returns in the period approaching retirement, and thereafter, can be powerful. However, volatility has a significant impact on investor outcomes and the sustainability of the drawdown pension. In adverse market environments, volatility combined with withdrawals can result in cliff-edge-type positions, which are virtually impossible to escape without resorting to additional finance.

It is also a well-known fact that investing before retirement is different to investing after retirement. What separates pre-retirement and postretirement attitudes to risk are, time and money. Before retirement, clients have time to recover from a period of poor returns and they do not need to withdraw money. After retirement, time is not on their side and money is needed to meet income requirements. Getting the wrong sequence of returns can have devastating consequences.

Investors face many challenges when deciding how to spend from their retirement savings. One of the most important challenges they face is choosing a spending strategy that will best balance their two competing goals: maintaining their desired level of current spending and increasing or preserving their portfolios to support future spending.

This e-book has been written to provide the reader with knowledge about the issues and some ideas and solutions, designed to alleviate many of the problems faced by people who are depending upon their savings i.e. to provide them with an income in retirement, whilst simultaneously reducing the risk of them running out of money.

Chapter 2.Shortfall Risk & Cashflow Planning

Studies that estimate shortfall risk in retirement have helped illustrate how portfolio allocation and withdrawal rates affect the likelihood of running out of wealth late in life. This is extremely important to financial planners and retirees as they decide how best to invest and consume their savings. Shortfall analyses, however, do not provide much insight into how much shortfall risk a client can bear.

It is therefore essential for the financial planner and a client to understand the trade-off between shortfall risk and the risk of not living well in retirement, how risk tolerance affects withdrawal rates and how a stream of guaranteed income sources from outside the investment portfolio affects both the withdrawal rate and portfolio allocation to equities.

An important consideration that needs to be considered, when designing a strategy, is what is lost when withdrawal rates are overly conservative. By emphasizing a portfolio's ability to withstand a 30- or 40-year retirement, we ignore the fact that at age 65 the probability of either spouse being alive by age 95 is relatively small (the average life expectancy is shown in the table below.

	1980-1982	1980-1982	1997-1999	1997-1999	2013-2015	2013-2015
	Males	Females	Males	Females	Males	Females
United Kingdom	13.0	16.9	15.2	18.5	18.5	20.9
England	13.1	17.0	15.3	18.6	18.6	21.0
Wales	12.5	16.6	14.9	18.2	18.1	20.5
Scotland	12.3	16.0	14.2	17.5	17.3	19.7
Northern Ireland	12.5	16.3	14.9	18.3	18.1	20.5

Source: National Life Tables, Office for National Statistics

If we strive for a 90 percent confidence level that the portfolio will provide a constant real income stream for at least 30 years, this means that we are planning for an eventuality that is only likely to occur a small percent of the time. And even that figure assumes that clients are unable to adjust their spending later in retirement.

So, by relying on standard historical or Monte Carlo simulations to determine a safe withdrawal rate, clients may be unduly sacrificing much of their desired lifestyle early in retirement.

A client's willingness to adjust spending in retirement is an important issue. An all-or-nothing approach to retirement simulation is inconsistent with the way trade-offs are framed in retirement. In practice, financial planners often help their clients prioritize spending goals with basic living expenses, insurance premiums, and debt payments receiving top priority. Other goals, such as travel and vehicle purchases, are scalable and may even be reasonably expected to disappear entirely late in life. Different spending goals have different priorities and importance. Some clients may reasonably prefer a higher travel budget in their 60s and 70s, even if it means a higher probability of having to cut back on their dining and vehicle budgets in their 80s. This would be considered failure in most shortfall risk analyses.

If a couple do not have a very strong desire to leave a liquid bequest (or have planned for the bequest through life insurance), the result of relying on standard simulations is that the vast majority will die with a lot of unspent money that they had intended to use to support their lifestyle. Ideally, we would like to include these unspent funds and the happiness they could have provided if spent, in a calculation that also considers the serious implications of experiencing a shortfall. Fortunately, both can be modelled by using utility theory—the same concept that underlies modern portfolio theory.

Utility theory assumes that we get less satisfaction from each additional £ spent. The level of risk aversion determines how much less utility we get for each £. For example, a risk-averse client will see his or her utility increase less for a given percentage increase in consumption than someone who is risk tolerant. The implication is that risk-averse clients won't be much happier with retirement income of £80,000 than £60,000 but will be much worse off with income of £40,000 because they value the spending between £40,000 and £60,000 much more than the spending between £60,000 and £80,000.

This makes sense because lower levels of spending cover items we may consider essentials, and higher levels of spending may cover lessessential spending. But the extra spending does still provide some enjoyment.

Professional Financial Planners will therefore use a Cashflow Planning / Monte Carlo asset return simulation to estimate how different portfolio allocations interact with withdrawal rates to produce optimal portfolio/withdrawal rate combinations for varying levels of risk tolerance.

In addition, their approach to optimization should be more holistic because they should consider all the client's sources of retirement income, not just the financial portfolio. They should consider how a guaranteed income stream, such as State Pension, Annuities, or Defined Benefit pension income, changes the optimal asset allocation and withdrawal rate choice. This will allow them to recommend a more volatile / adventurous portfolio for clients who have reasonable levels of guaranteed income sources.

There are a variety of software programs to assist Financial Planners to look at a clients situation. The first step in this process should be to use a Cash Flow Planning programme as it can help them to have meaningful discussions with thei clients around important planning areas related to investment risk, especially in decumulation strategies. The software can be used to illustrate sequential risk and the potential impact of a market disturbance on a clients future standard of living.

They should also use software to model future investment growth scenarios (fixed growth rates vs. asset allocations), perform risk related simulations, including different performance analysis, produce historic and Monte Carlo simulations, major loss events, and calculate the investment return rate needed to achieve the clients goals and objectives.

The use of such software can also help them to identify drags on performance such as taxation, help focus on optimum spending strategies and to engage with clients around what happens when they eventually pass away.

Chapter 3. Spending Strategies

As investors plan for retirement, one of their most difficult decisions is to select a spending strategy that will provide an ample income stream for their lifetime. What makes this so challenging is that many of the critical factors that affect the decision are completely out of the investor's control and are entirely unpredictable. For example, Investors have no control over the returns of the investment markets, the rate of inflation, or even the length of their planning horizon (life expectancy). Each of these variables has a significant impact on how much an investor can "safely" withdraw from a portfolio to maximise current consumption while preserving the potential to generate future income for an unknown period.

The conventional method for evaluating safe withdrawal rates assumes that retirees maintain a stable standard of living through retirement in real (inflation-adjusted) £'s. While there's nothing unsound about this assumption – at least so long as it reflects a retiree's goals – it is worth considering how accurate this assumption is relative to observed retirement spending behaviour of the "typical" retiree.

Many strategies have been devised to help investors deal with these uncertainties, each placing a different emphasis on the competing goals. An investor's decision will depend on his or her assessment of the trade-offs and a number of the strategies are explained below.

Spend Conservatively

The first spending strategy you could consider is is to spend conservatively. Retirees want to keep spending consistently, on an inflationadjusted basis throughout retirement.

With a total returns investment portfolio, an aggressive asset allocation provides the highest probability of success if the spending level is pushed beyond what bonds can safely support and annuities are not otherwise considered. The primary question with this strategy is how low spending must be to ensure a sufficient probability of success. Combining an aggressive investment portfolio with concerns of outliving your assets means spending must be conservative.

Ultimately, a fearful retiree may end up spending less with an aggressive investment strategy than they might have done, had they focused more on fixed income assets.

This aggressive portfolio/conservative spending strategy can be rather inefficient, as the safety-first school argues that there is no such thing as a safe spending rate from a volatile investment portfolio.

While this approach seeks to mitigate sequence of returns risk, it can actually increase it, as there is no lever to provide relief after a market decline. The only solution is to sell more shares to keep spending consistent.

£ amount grown by inflation

In the "£ amount grown by inflation" strategy, the investor decides on a £ amount of spending in the initial year of retirement. To determine the spending amount in each subsequent year, the investor multiplies the prior year's spending by an inflation factor—typically the change in the Retail or Consumer Price Index.

This strategy is indifferent to the performance of the capital markets, with the result that investors may accumulate unspent surpluses when markets perform well and face spending shortfalls when markets provide poor returns. In either case, the strategy provides short-term spending stability; however, the long-term consequences (positive or negative) can be significant if an investor does not make as-needed adjustments along the way.

However, research suggests that constant real spending is not particularly realistic for most retirees. Instead, various studies are finding that real spending declines throughout retirement, by as much as 1% to 2% per year. And compounded throughout retirement, this discrepancy between standard industry assumptions and actual retiree behaviour may be underestimating the safe withdrawal rate.

While some may argue that "overstating" spending assumptions is good for the sake of being conservative in making retirement projections (they assume it is worse to run out of money than it is to have some extra!), assuming constant real spending is not the only (nor necessarily the best!) way to incorporate a margin of safety. Further, an appropriate safety margin will vary by retiree, depending on their risk tolerance and spending flexibility. If Financial Planners wish to give advice that is customized to an individual's goals and values, then the safety margins utilised should reflect an individual retiree's situation, too.

Obviously, the best way to capture an individual's unique circumstances is simply to create a customised financial plan, but it is still important to understand what is customisable within a plan and what remaining assumptions may be biasing the results.

The conventional approach to safe withdrawal rate research, starting all the way back with Bill Bengen's original 1994 "4% rule" study in the U.S. Journal of Financial Planning, assumes that retirees maintain a stable standard of living throughout retirement – which means receiving a consistent stream of cash flow that increases annually with inflation to maintain purchasing power. And the results of that spending pattern are then tested against various historical sequences of returns to determine what initial spending rate is a "safe" starting point.

The logic behind this approach is straightforward. Earlier approaches to securing retirement income tended to focus simply on generating a consistent nominal stream of cash flow throughout retirement but given the risks of inflation (especially as life expectancies and the retirement time horizon increased), the need for nominally increasing cash flow throughout retirement became more apparent. Exploring both the consequences of inflation and the sequence of inflation (when paired with the sequence of returns), was a key insight of the original Bengen study (along with the impact of sequence of returns).

In the decades since Bill Bengen's original "4% rule" research set a stable-standard-of-living baseline, we've gained further insight into the actual spending behaviour of individuals in retirement.

What researchers have found is that both the composition of spending and the level of spending vary throughout retirement – with both tending to change in some predictable ways. As it turns out, on average, most retirees experience decreasing rates of real spending throughout retirement.

Utilising consumption data from the Consumer Expenditure Survey, one study from the Center for Retirement Research (CRR) at Boston College found that real retirement spending decreases by about 1% per year throughout retirement.

A follow-up study from David Blanchett at Morningstar utilised data from the Rand Health and Retirement Study (HRS) to find that real spending actually increased slightly in the first few years of retirement, but then began decreasing at an increasing rate through the remainder of the first half of retirement (bottoming out at an annual change of about -2.0%), before beginning to decrease at a decreasing rate for the remainder of retirement (ending at an annual change in real spending of roughly -0.5%). This U-shaped real spending pattern found by Blanchett was dubbed the "retirement spending smile".



So, the fundamental point is that an assumption of constant real spending – where the retiree increases their spending for the full amount of inflation each year – will project materially higher lifetime spending than what is borne out in the available real-world data.

Percentage of portfolio

As the name implies, the percentage of portfolio strategy bases annual spending on a stated portion of the portfolio's value at the end of the prior year. As a result, this strategy is strongly linked to the performance of the capital markets. Because spending levels vary based on investment returns, short- term planning can be problematic, especially if most of an investor's spending is nondiscretionary.

On the other hand, this strategy builds in regular adjustments: Spending is automatically cut back when the markets have been doing poorly, and automatically increased after periods when the markets have done well. Thus, poor investment returns are at least partially offset by reductions in current spending. Such cutbacks help to preserve the portfolio value and thereby sustain future spending.

As a result, over the longer term, the percentage of portfolio strategy provides for at least some level of annual spending. Although the £ amount may decrease over time (if market conditions are poor), spending will never drop to zero because the portfolio is never depleted.

Percentage of portfolio with ceiling and floor

To address the pitfalls of these commonly used spending strategies, investors can employ a more dynamic method: applying a ceiling and a floor to percentage-based withdrawals. In essence, this strategy is a hybrid of the two others.

As in the percentage of portfolio strategy, the investor calculates each year's spending by taking a stated percentage of the prior year-end portfolio balance. The investor also calculates a "ceiling" and "floor" by applying chosen percentages to the prior year's spending amount. The investor then compares the three results. If the newly calculated spending amount exceeds the ceiling, the investor limits spending to the ceiling amount; if the calculated spending is below the floor, the investor increases spending to the floor amount.

Although spending will vary from year to year based on what the markets do, it is not allowed to go beyond a set range as long as assets remain — a factor that can assist with short-term planning.

The strategy allows investors to benefit from good markets by increasing their spending, while in less favourable periods it prompts them to adjust spending downward, thereby supporting the portfolio's longevity. By regularly monitoring the portfolio and allowing for some flexibility in annual spending based actual requirements and on recent market performance, investors can improve their likelihood of meeting long-term financial goals.

Keep in mind, however, that although this strategy does provide for some reduction in spending in poor markets, it does not preclude the possibility of a substantial decline in the portfolio's principal, which could require spending to drop below the "floor" and could even result in premature portfolio depletion.

While believing it's useful to analyse these conceptual spending frameworks, we recognise that most investors determine their annual spending in a less rigid way. Certainly, no strategy should be followed blindly; indeed, it is essential for investors to periodically evaluate their income strategies, assess their portfolios, and consider whether alterations are needed. Still, working through calculations such as these on an annual basis can assist investors with their long-term planning and help them move toward the realisation of their financial goals.

Maintain Spending Flexibility

The last approach adopts an aggressive investment portfolio, while allowing for totally flexible spending. Sequence risk is mitigated here by reducing spending after a portfolio decline, thereby allowing more to remain in the portfolio to experience any subsequent market recovery.

At the extreme, Dirk Cotton demonstrated at his Retirement Café blog that a strategy of withdrawing a constant percentage of remaining assets eliminates sequence of returns risk. Just like investing a lump sum of assets, the order of returns no longer matters.

Such a strategy results in volatile spending amounts, so most practical approaches to flexible retirement spending seek to balance the tradeoffs between reduced sequence risk and increased spending volatility by partially linking them to portfolio performance.

In our view, flexibility is the word that best describes a prudent spending strategy.

Rigid spending rules cannot eliminate investment volatility; they simply push its consequences into the future.

Spending strategies insensitive to returns are risky, in as much as they rely on the assumption that the portfolio will recover before a crisis point is reached, at which time much more dramatic reductions in spending would be necessary.

If the portfolio is to rely on the capital markets for growth, then investors must either accept continuous, relatively smaller changes in spending or else run the risk of having to make abrupt and significantly larger adjustments later. The more investors can tolerate some short-term fluctuations in spending, the more likely they are to achieve their longer-term goals.

Chapter 4. Sequence Risk.

Sequence risk is also called sequence-of-returns risk. It becomes a danger as an individual takes withdrawals from a fund's underlying investments. The order or the sequence of annual investment returns is a primary concern for retirees who are living off the income and capital of their investments.

The danger comes when an investor receives lower or negative returns due to withdrawals made from their investment. Long-term average returns and the timing of taking those returns impact financial wealth.

Financial outcomes can be dramatically different depending on when and how a person begins their retirement days. Issues like the state of the market and if it is a bull market or a bear market are not under the control of the investor. However, investors do have some opportunities to limit their downside risk.

Protecting Against Sequence Risk

Investors have a range of options for protecting retirement assets against sequence risk including working longer and putting off retirement and planning with a worst-case-scenario regarding rates of return. Continuing to make contributions to the retirement fund helps to offset losses during market downturns and provide capital for continuing growth. Investors may diversify their portfolio away from higher risk stocks, which can see considerable fluctuations in value based on the state of the market.

Why Sequence Risk Matters

The sequence of returns may significantly impact the income available during retirement. Two retirees with identical wealth can have entirely different financial outcomes, depending on the state of the economy when they start retirement, even if the long-term market averages are the same.

For example, a person entering retirement at the bottom of a bear market will see the prices of the holdings in their portfolio rise when the market recovers. More crucially, however, that retiree will also see a reduction in the overall return of that portfolio because of how much had to be withdrawn in early retirement when prices were down. Plus, this retiree is essentially withdrawing funds as his or her portfolio loses value. Consequently, that retiree would have less shares of equities which can benefit from positive returns down the road.

By contrast, someone who retires when equity prices are high – letting him or her take early withdrawals of fewer equities because they are worth more – will likely have a higher overall portfolio return than the bear market retiree earns. This is because the bull market retiree has more equities left in that portfolio which can allow this retiree to continue earning returns later in retirement, particularly during a period of strong market returns

Clearly if we achieve a 6% return each year then a withdrawal of 4% per annum will never run out. However, we know that we get sequences of good returns and sequences of bad returns. Possibly the most neglected topic in investment management is 'Sequence Risk'- the worst possible returns in the worst possible order.

These are the quarterly returns from the FTSE 100 over the last 17 years

Year	Q1	Q2	Q3	Q4
2000	-4.97	-3.06	0.37	-0.76
2001	-8.71	0.65	-12.42	6.38
2002	2.06	-11.1	-19.3	-8.71
2003	-7.02	12.44	2.55	9.97
2004	-0.84	2.52	3.36	5.89
2005	2.89	5.29	8.07	3.16
2006	7.31	-1.4	3.08	4.91
2007	2.52	5.62	-1.28	0.43
2008	-10.49	-0.37	-12	-8.68
2009	-10.29	9.67	21.9	6.15
2010	5.98	-12.62	13.75	6.9
2011	1.1	1.58	-12.93	9.4
2012	4.64	-2.33	4.07	3.4
2013	9.84	-2.03	4.91	5.09
2014	-1.26	3.2	-0.89	-0.25
2015	4.23	-2.76	-6.12	3.71
2016	0.07	6.54	7.06	4.32
2017	3.65	1	1.82	

Every quarter that delivered a positive return above 2.5% is shown as green, whilst red shows a negative quarterly return. You will notice that there are very few small positive returns (denoted in black) whilst we get periods in which we experience a sequence of more negative returns. For example, every quarter in 2008 showed a negative return whilst we haven't had a negative quarter over the last 8 quarters. If you had transferred out of your DB scheme in January 2000 or July 2007 then you would have experienced a sequence of negative returns and seen the value of your pension fall significantly. This is because most investment portfolios have a significant amount invested in equities.

If a client experiences a sequence of bad returns immediately after retiring, they may be forced to accept a significantly less income in retirement or work longer than expected.

Perhaps the best way to explain sequence risk is by introducing them to Mr Lucky & Mr Unlucky.

Mr Unlucky retired in December 1999, with a pension pot of £500,000 and started to draw a regular pension of £25,000 from a typical UK equity and bond investment portfolio, represented here by the IA Sector Mixed Investment 40-85% average. *By 2017 Mr Unlucky's pot had shrunk to just over £200,000.*

Meanwhile Mr Lucky retired with the same size investment pot, but in March 2003 (as opposed to December 1999) and he also drew a regular pension of £25,000 from the exact same asset mix as Mr Unlucky. *By 2017 Mr Lucky's pot was worth £900,000.*



It was the sequence of returns that made the difference. Experiencing a heavy loss at the start of the decumulation period (as Mr Unlucky did) was what created this huge difference in fund values.

Chapter 5. Assessing Risk

When it comes to planning a clients' retirement, understanding the level of risk that's appropriate for them to take always has been at the heart of good advice. In the past, the focus was solely on a client's attitude to risk, but equally important is assessing their ability to absorb falls in the value of their investment – or their capacity for loss.

The FCA has been at pains to emphasise the distinction between a client's 'attitude to risk' and 'capacity for loss', yet Modern Portfolio Theory (MPT) has focussed on the Standard Deviation of investment returns as a measure of risk, especially since Markowitz's seminal work in 1952.

Indeed, parallel with Markowitz's work, Roy (1952)7 developed an approach to investment decisions that sets a minimum required return for a given level of risk: such a minimum level can be couched in the language of capacity for loss.

Roy's safety-first criterion allows portfolios to be compared based on the probability that their returns will fall below this minimum desired threshold. It is calculated by subtracting the minimum desired return from the expected return of the portfolio and dividing the result by the standard deviation of portfolio returns. The optimal portfolio will be the one that minimizes the probability that the portfolio's return will fall below a threshold level.

While the question of how to measure a client's attitude to risk is well understood, assessing their capacity for loss and demonstrating good practice in doing so, can be more challenging.

This focus is particularly important for older clients who will rely on their investment portfolio to provide an ongoing income in retirement. They need an income stream that is sustainable during their later years while also trying to avoid some of the risks in retirement, such as the dangers of market falls and sequence risk.

Clients need to appreciate and understand the trade-offs that are involved in setting up an investment to cover their wants and needs and be comfortable with the investment decision that's ultimately made.

The following 'capacity for loss' framework, which consists of several discussion themes, may help to determine someone's capacity for loss. Depending on a persons objectives, these themes could help provide a more meaningful picture of their capacity for loss: -

1. How long do you intend to hold this investment before you start drawing an income from it, or need the capital from it?

2. How much would your standard of living be affected if the income from this investment or the capital sum produced by it were to fall below your expectations?

3. If you needed sudden access to a lump sum, how likely would you be to take it from this investment?

4. Investments can go up or down in value and experts often say you should be prepared to weather a downturn. By what percentage could the total value of your investment go down before this would impact upon your standard of living?

5. Approximately how much income do you have remaining each month, after all monthly expenditure?

6. Do you currently have any debts and if so, how much? (short-term debt such as credit cards, car loans; long- term debt such as a mortgage)

7. Are ouy anticipating any changes to your current financial circumstances?

8. Are you able to save on a regular basis without affecting your standard of living and if so, how much would you be able to comfortably save?

9. Are you in good health?

- 10. How knowledgeable are you of investments and their risks?
- 11. How many dependants are there in your family, besides yourelves, that you intend to fully or partially support?
- 12. Insurance can cover a wide variety of life's major risks; theft, fire, accident, illness, death. How much cover do you have?

13. What is the value of your net worth?

Having considered a client's attitude to risk and capacity for loss, we also need to consider how to evaluate investments when someone is near or in the early phases of a withdrawal period (I.e. we need to look beyond average annual returns). People need to evaluate performance with measures that consider the level of risk taken: -

• The Sharpe ratio is one measure that people use to examine an investment's risk-adjusted returns. The Sharpe ratio looks at the returns an investment generates, relative to the risk that it assumes. Risk is gauged by the volatility of the returns.

• Volatility – which is typically measured as the standard deviation of returns – can come on the upside and the downside. Investors typically aren't concerned about the volatility on the upside. It is volatility on the downside that is worrisome, as downside volatility early in a withdrawal period will have a lasting negative impact on an investor's principal.

• The Sortino ratio is a more precise measure of the true risk of volatility because it only looks at the impact of down market volatility on returns. A high Sortino ratio for an investment would suggest a fund can deliver strong returns over time even through periods that include declining markets.

• Maximum drawdown is another measure to consider. It looks at the maximum loss an investment incurs through a market cycle by comparing its value at its peak with its value at its trough. Less volatile investments will experience much lower drawdowns during periods of volatility.

When taking withdrawals, investors will want to consider investments that have historically high Sortino ratios and low maximum drawdowns.

Chapter 6. Annuities

As mentioned previously, you should always try to match the essential expenditure required, with guaranteed sources of income (i.e. State Benefits, Defined Benefit Scheme, Annuity).

The general strategy that you should adopt is: -

Identify essential living expenses. Estimate the 'must-have' living expenses for each year of retirement. Things like food, accomodation, taxes, utilities etc. Total up the monthly costs of each expense category and assign them to the 'essential costs' category, as these are the costs that a person will need to cover as long as they live.

Estimate any State Benefits and Defined Benefit Pension Income. State Benefits (i.e. OAP, Winter Fuel Allowance, Attendance Allowance etc) and Defined Benefit Pension Plans are guaranteed sources of income. It's important that you develop a plan to get the most from them. Start with State Pension, which is foundational income for both spouse & partner

Add State Benefits and Defined Benefit Pension Income together. This will determine how much monthly income will be received.

Fill the income "gap." If the State Benefits and Defined Benefits Pension Income won't cover all the essential expenses, you have a financial gap that will need to be covered.

Considering an annuity. You should then consider a source of guaranteed income in retirement, such as an annuity. Annuities are retirement products that allow you to convert a lump sum of money into a steady stream of payments that last as long as you live. Annuities are quite different than other retirement savings options because if you choose a lifetime annuity, the payments never "run out.

As with any big purchase, it is important to understand all the annuity options available and shop around for the best deal. Pension annuities are no different. There are different types of annuities and many options enabling us to tailor an annuity to meet our client's personal needs.

The real value behind this retirement product is that it gives you peace of mind by providing them with a guaranteed, regular income stream that they can rely on for the rest of their lives.

So, depending on the amount of savings you have and how much you will need to cover their essential expenditure in retirement, you could use a portion of your pension pot to buy an annuity.

That then gives you the freedom to use one or some of the other investment options with the rest of your pension savings.

The changes introduced on 1st March 2018 by PS17/12 prompts retirees to review their options for a guaranteed income for life (GlfL), provided by an annuity. From 1 March 2018 each GlfL quote will compare the income offered with the market's best available on a like-for-like basis. It will also clearly state that an 'enhanced rate' may be available.

It is important to note that the comparisons will only be as accurate as the information provided so will be reliant on full medical details being disclosed. If only minimal, or no, health conditions are used, then the results aren't going to give the full picture.

You can obtain the most accurate guaranteed quotes by completing a Retirement Health Form.

Financial Planners can therefore play a vital role: -

If you want to pursue the best rate, you'll have two options:-

1. Do your own research - having been directed to MAS.

2. Seek out the services of a financial adviser.

Currently around half of those buying a GlfL are staying with their ceding provider.

It is our experience that more people would shop around if they knew better rates were available, especially if the income matched what they're trying to achieve through an invested solution.

However, Annuities are unloved. Even before the reforms that mean most pensioners are no longer obliged to buy one, these products had become unpopular.

There are many reasons for this, but the one that loomed largest for most people was that annuities had grown steadily more expensive, particularly since the financial crisis. Also, once purchased, they offered virtually no flexibility. Having bought one, you were stuck with it for life, come what may.

In recent years, Annuities have started to look increasingly expensive, meaning that the income the insurance company will offer you for every pound you put in has been declining. As recently as 2008, it was possible for a person of 65 to secure an income approaching £8,000 per year in return for a pension pot of £100,000. In 2015, the level of income fell to £5,700 a year. As the income available from annuities continued to decline, many retirees resented the obligation to purchase one.

The long-term drop in the amount of income insurers offer to people buying annuities is the result of two main factors.

First, annuity rates are closely linked to interest rates, in particular the yields on longer-term government bonds, because these are what insurance companies buy to provide the income they pay to people who purchase an annuity. If the yields on these bonds fall, the income from annuities will fall too – and in recent years yields on government bonds have been extremely low by historical standards. Annuity sales fell at least 50 per cent in the months leading up to the "pension freedom" on April 6, 2015

Second, we are all living longer. According to the Office of National Statistics, a woman who reached 65 between 1996 and 1998 could expect to live another 18.4 years; a woman reaching 65 between 2011 and 2013 could look forward to another 20.8 years. As average life expectancy goes up, so an annuity must pay out for longer. Given that the income we are buying with our pension fund will have to be spread over more years, the amount we can expect per year will necessarily fall.

Annuity incomes have been squeezed by these factors, leaving them looking much less attractive than in the past.

With life expectancy rising and interest rates very low, annuities do not tend to look an attractive option for people just entering retirement. But pushing back the point at which you consider buying one by 10 years or more could change that calculation considerably (although there is no guarantee of that).

So, whilst you should always consider an Annuity to provide a guaranteed income to meet essential expenditure, I realise that this may not always be what you want.

We therefore need to consider investment solutions, that are suitable for someone in 'drawdown'. The final chapter gives you a brief overview of some of the types of investment that could be suitable for someone who wants to draw an income from them, in retirement.

Chapter 7. Investment Solutions

It is a well-known fact that investing before retirement is different to investing after retirement. What separates pre-retirement and postretirement attitudes to risk are time and money. Before retirement clients have time to recover from a period of poor returns and they do not need to withdraw money. After retirement, time is not on their side and money is needed to meet income requirements. Getting the wrong sequence of returns can have devastating consequences.

Managing risk should clearly be a key aim if we want to achieve good investment outcomes. There are a number of different investment strategies for clients that have been identified as a solution to reduce sequence risk and we include a summary here: -

- Investing in managed or multi-asset funds and selling units when income is needed.
- Investing in high yielding funds and take the running yield as income.
- The bucket approach short-term cash mid-term safety and long-term growth.
- Guaranteed funds and structured products.
- Trend following

Multi-asset funds

Active investment management in the form of multi-asset risk-controlled funds as well as absolute return funds clearly have a role to play here, given their risk and return characteristics.

Pros

- Multi-asset funds can access non-traditional asset classes which generate attractive inflation protected income.
- Income from multi-asset funds tends to be more stable, drawing from multiple asset classes across the world.
- Investors not needing to dip into capital may be more likely to remain in their investment plan.
- Many multi-asset funds offer monthly distributing share classes for regular income payments.
- Better alignment of manager and investor interest.

Cons

• Investors wanting capital to last should draw income from funds which pay out of natural income, not capital. Otherwise, they risk seeing their capital sum diminish over time.

- Some income distributions are too aggressive to be sustainable in the long term.
- High yields can be reflective of a falling fund price.
- Chasing yield can lead to an inferior total portfolio structure.
- Some income-focused multi-asset solutions can carry high fees not great in retirement.

It is also important to document what the maximum losses would have been for that specific strategy/asset allocation over the last 20 years. In 2008-9 the well-known big US university endowments, including those at Yale and Harvard, each lost nearly 30% of their capital with resulting redundancies among staff and the cancellation of capital projects. Diversification is vital but what happens when most asset classes fall together?

High yielding funds

The rationale for using High yielding funds is that by relying on the natural yield from their portfolio, retirees can avoid drawing on their capital or selling fund units, thereby avoiding the dangers of sequence risk.

The natural yield approach contrasts with the total return approach, which essentially ignores the difference between capital growth and dividends, and instead seeks to draw income from both in a sustainable way. The trouble with this approach is: -

* Dividend and bond yields fluctuate significantly over time. This means that a retiree's income will change significantly from year to year. This creates an unacceptable level of volatility in their income and makes budgeting nearly impossible.

* Once adjusted for inflation, natural income yield is highly unlikely to meet the spending pattern of most retirees, bar the very wealthy.

* Even if yields appear stable in percentage terms, the income received in £ terms will still be calculated in relation to the outstanding capital, which invariably fluctuates over the retirement period.

Proponents of a 'natural yield' retirement strategy have offered little empirical evidence to back their theory. They erroneously focus on recent percentage yield of the FTSE 100 or FTSE All Share.

Most retirees are more likely to have a portfolio consisting of bonds and shares, at the very least and it's crucial that any retirement income strategy works over a very long period and under various market conditions, including the extreme ones!

Again, it is important to document what the potential losses were for these funds during the last few crashes. It is then important to consider what happens to high yielding strategies if we experience a period of rising rates especially if this coincides with bonds and high yielding equities falling in value at the same time.

The Bucket approach

The Bucket concept is anchored on the basic premise that assets needed to fund near-term living expenses ought to remain in cash. Assets that won't be needed for several years or more can be parked in a diversified pool of long-term holdings, with the cash buffer providing the peace of mind to ride out periodic downturns in the long-term portfolio.

The All-Important Bucket 1

The linchpin of any Bucket framework is a highly liquid component to meet near-term living expenses for one year or more. With cash yields close to zero currently, Bucket 1 is close to dead money, but the goal of this portfolio sleeve is to stabilize principal to meet income needs not covered by other income sources.

To arrive at the amount of money to hold in Bucket 1, we need to start by sketching out spending needs on an annual basis. We then subtract from that amount any certain, nonportfolio sources of income such as State pension or Defined Benefit Pension payments. The amount left over is the starting point for Bucket 1: That is the amount of annual income that Bucket 1 will need to supply.

More conservative investors will want to multiply that figure by two or more to determine their cash holdings.

Alternatively, investors concerned about the opportunity cost of so much cash might consider building a two-part liquidity pool--one year of living expenses in true cash and one or more year of living expenses in a slightly higher-yielding alternative holding, such as a short-term bond fund.

A retiree might also consider including an emergency fund within Bucket 1 to defray unanticipated expenses such as car repairs, additional healthcare costs, and so on.

Although retirees may customize different frameworks for the number of buckets they hold, and the types of assets in each, a normal model Bucket Portfolio strategy includes 2 additional buckets, as follows.

Bucket 2:

Under this framework, this portfolio segment contains five or more years' worth of living expenses, with a goal of income production and stability. Thus, it's dominated by high-quality fixed- income exposure.

Income distributions from this portion of the portfolio can be used to refill Bucket 1 as those assets are depleted.

Bucket 3

The longest-term portion of the portfolio, Bucket 3 is dominated by equities.

Because this portion of the portfolio is likely to deliver the best long-term performance, it will require periodic rebalancing to keep the total portfolio from becoming too equity-heavy.

By the same token, this portion of the portfolio will also have much greater loss potential than Buckets 1 and 2.

Those portfolio components are in place to prevent the investor from tapping Bucket 3 when it's in a slump, which would otherwise turn paper losses into real ones.

Bucket Maintenance

The Bucket structure calls for adding assets back to Bucket 1 as the cash is spent down. Yet, investors can exercise a lot of leeway to determine the logistics of that necessary Bucket maintenance.

The following sequence will make sense in many situations:

Income from cash holdings in Bucket 1.

These will be of limited help in the current yield-starved environment, but they could become more meaningful if yields rise.

Income from bonds from Buckets 2 and possibly even 3.

Income-focused investors might decide that their bucket maintenance starts and stops with these distributions. **Rebalancing proceeds from Buckets 2 and especially 3.**

Principal withdrawals can often be taken from Bucket 2, provided the above methods have been exhausted.

Such a scenario would tend to be most likely in a 2008-style environment, when bond and dividend yields fell, and equities slumped, thereby making it an inopportune time to sell equities.

The problem with the bucket approach is that the lower risk cash bucket can act as a significant drag on the long-term performance of the strategy. You therefore need to calculate what the expected return from the strategy adopted will be.

For example, if cash/short dated bonds are expected to return 1%, medium risk 5% and long-term growth 7%, with an asset allocation of 20%, 40%, 40% then the expected return is 5%. If you take off the charges, then you may be left with an expected return of just 3.5% (as long as we don't experience a sequence of poor returns early on).

Guaranteed funds and structured products

Like the bucket approach you will need to document how the cost of the guarantees will affect long term performance.

Trend Following

Academic Research conducted by Cass Business School have identified an investment technique that seek to minimise the most pernicious effects of sequence risk. They have found that simple trend following techniques, applied at a monthly frequency over long periods of time can help reduce the impact that the date of drawdown can have on investment returns.

Essentially the trend following process involves investing in the risky asset – whatever it is – as long as that asset class is in a positive trend. When it is in a negative trend, one simply puts the capital assigned to that asset class into cash, until the asset class returns to a positive trend. The process is purely mechanical and involves no human discretion. It can be thought of as a built-in risk management process.

Trend following offers two important outcomes that can provide a solution for an investment strategy for decumulators: -

It helps reduce the risk of receiving a sequence of poor returns

Long term returns are as good, if not better, than a buy and hold portfolio

Trend following works by capitalising on these periods of expansion and contraction, exposing client portfolios to the upward trends in markets, and disinvesting when markets are trending down.

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