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## Building a sustainable retirement plan

### From asset allocation to product allocation

Against a background of increased personal retirement wealth, low interest rates, increased longevity and heightened awareness of financial market risk, insurance and investment companies are busy developing an array of new retirement products. Investors and advisors can now choose between a range of asset-backed or with-profit annuities, income drawdown, and a new generation of "third way" products. All these are designed to mitigate risks to investors and/or provide greater flexibility. If trends in other developed markets are followed, other institutions will develop alternative capital market solutions to meet similar long-term savings needs.

While this increasing variety of new retirement products is good news for investors approaching retirement, the practical challenge for advisors is in finding the product or products that best meet the needs of each individual.

Over the last 10–15 years, retirement options such as drawdown and asset-backed annuities have become more popular. However, tools used to support retirement planning have often led to a single product solution which should 'succeed' under broadly typical investment market conditions, but which can dramatically undermine long-term retirement wealth when investment market conditions fall outside the norm. In terms of retirement investment planning, there appear to have been at least two such periods in the last 10-15 years, and since the typical customer might hope to live through at least 20 years of retirement, investors should be setting out on their retirement journey prepared for rougher conditions.

In this short note, we attempt to illustrate how conventional retirement solutions can be susceptible to even moderate amounts of market stress. We will consider how these different retirement products can be used as building blocks within a retirement portfolio to meet a client's retirement planning needs, and significantly increase the sustainability of this plan.

We will start by describing a generic retirement planning framework for a typical retirement customer.

## The retirement planning framework

Let's assume we have an investor, Mr Green, approaching retirement at age 65, having built up a portfolio of personal retirement savings, which make up a substantial component of his total retirement wealth. While the size of the retirement pot is not too important, the key points are to identify the retirement planning goals and the available retirement product options.

**Retirement goals** – these will fall into the two main areas of income and bequest (capital).

In terms of **income**, most retirement customers will have certain ongoing financial liabilities and some minimum level of expenditure that needs to be sustained. After taking account of state pension and any defined benefit income, the retirement customer can identify the minimum amount of income which needs to be generated from personal retirement savings – we'll call this the Minimum Income Floor. Investors will look for a high degree of confidence of achieving this Minimum Income Floor. For this simple generic example, we will assume that the Minimum Income Floor is specified as a fixed nominal amount. However, we appreciate that this could vary with age, and could be specified in real terms.

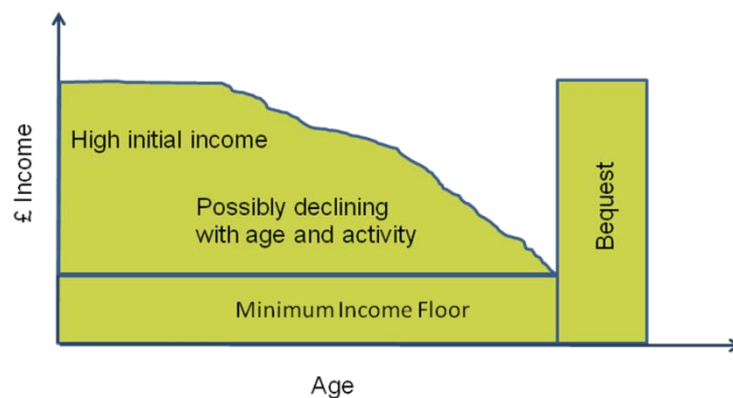
On top of this will be a target or discretionary income level, which would be sufficient to live comfortably and around which investors may be prepared to take on some degree of risk. Typically, the level of income required may diminish over the course of his retirement as the retiree becomes less active.

While Mr Green now lives on his own, he has two children. Retirement investors may also be looking to leave some form of bequest to dependents, particularly so if they happen to die in the earlier years of retirement. Retaining an investment fund might also allow a degree of additional access to capital to fund one-off expenses (e.g. health-care costs).

Exhibit 1 provides a simple illustration of these typical requirements.

### Exhibit 1

Example Income/Death benefit requirements in retirement



**Retirement options** – we'll restrict this example to a very simple two product world – understanding that this approach can easily be scaled to other products. Mr Green's options in such a world might be as follows:

**Fixed Lifetime Annuity** This would provide Mr Green with a guaranteed income for life but (index linked or flexible annuities aside) provide no access to income upside or a residual fund. Given prevailing annuity rates, it may also be that cashing in the whole of his fund would provide Mr Green with an income that exceeds his required income level.

**Income Drawdown** Under this option Mr Green will get to choose the initial income level (subject to legislative limits) and will retain some income upside and access to capital. Mr Green will also have to select an asset allocation for the underlying investment fund. In this example, we will assume this is a simple allocation to equities and bonds.

## Evaluating retirement planning options

We can use the following metrics to assess how well any particular retirement plan stacks up against the retirement goals described above:

### **Retirement Income Sustainability, RIS (%)**

This is the probability that the chosen retirement plan will generate the specified Minimum Income Floor throughout retirement (i.e. for life). High values of 80%-100% represent a good chance that Mr Green will be able to sustain his minimum required income. Lower values indicate a higher risk that the income may be reduced at some stage – either because GAD limits cap the income or because there are insufficient funds later in retirement to secure an income at that level.

### **Bequest Value, EBV (%)**

The median size of Mr Green's residual fund at a particular age as a percentage of the initial fund. The larger the Bequest Value, the more Mr Green's dependents might receive should he die at or before the specified age. Given many retirement customers will annuitize residual funds at or before age 75, we've measure the bequest value at that age. It is possible to measure this value at any age (e.g. using average life expectancy or a mortality table).

## Single product solutions

Exhibit 2, below, shows Mr Green's RIS and Bequest values for a range of Income Drawdown options, based on different initial income levels:

The three coloured lines represent different Income Drawdown strategies.

- Blue line: initial income = 100% of the current annuity rate (high initial income)
- Red line: initial income = 90% of the current annuity rate (moderate initial income)
- Green line: initial income = 75% of the current annuity rate (lower income)

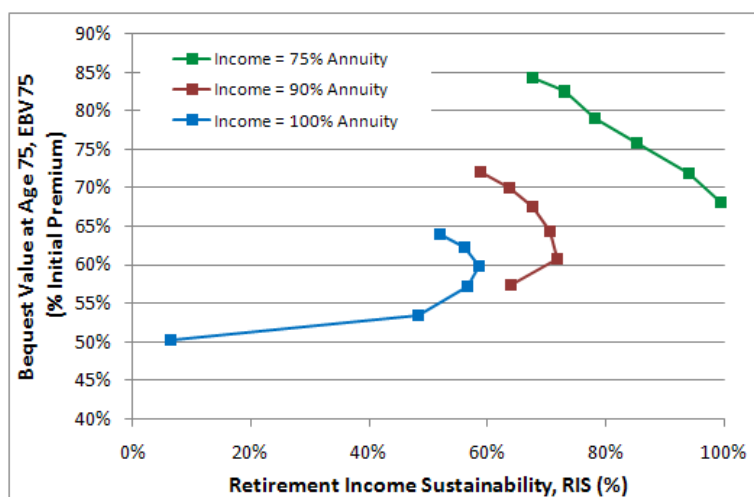
Whilst the above chart shows three different income levels, we have assumed that in each case Mr Green's Minimum Income Floor is equal to 75% of the initial lifetime annuity amount.

Furthermore, the six points on each of these lines represent different levels of equity exposure – from 0% to 100%, in 20% increments.

Although we've not included it in Exhibit 2, the Lifetime Annuity has a Retirement Income Sustainability of 100%, but no Bequest Value.

### Exhibit 2

Retirement Income Sustainability v Expected Bequest Value for single product options: drawdown and fixed annuity



For the *Income Drawdown* options, we can see that the initial income level has a significant impact on the Retirement Income Sustainability and Bequest values.

Critical to Mr Green’s retirement plans – and the subject of this note – is Retirement Income Sustainability: the chance of being able to sustain Minimum Income Floor throughout retirement. In practice, most retirement customers will look for high RIS values of 80%-90% or above.

This analysis is summarised in Table1 and suggests the only options for achieving that level of retirement sustainability are to buy a Lifetime Annuity, or reduce the initial income level under Income Drawdown to 75% of the annuity. For most retirement customers seeking to generate income from their retirement savings, neither of these options will seem appealing.

Table 1

Initial Income Level	Low	Moderate	High
Retirement Income Sustainability, RIS (%)	70% - 100%	55% - 75%	0% - 60%
Bequest Value, EBV 75 (%Initial Fund)	70% - 85%	55% - 75%	50% - 65%

*Adjusting the asset allocation under Income Drawdown does not seem to provide the answer – moving from a 100% Equity portfolio to a fund with a significant exposure to Cash and Bonds does not make retirement plans with Moderate to High income levels acceptably sustainable.*

The obvious question is how to increase the (initial) income level and maintain some Bequest value, while maintaining a reasonable level of Sustainability (i.e. RIS >= 80%)?

**Product Allocation: Building a sustainable retirement portfolio...**

To achieve this we want to access the region to the right of the red line in Exhibit 2 (without reducing the initial income level). One way to do this is via a retirement portfolio made up of a combination of annuity and drawdown.

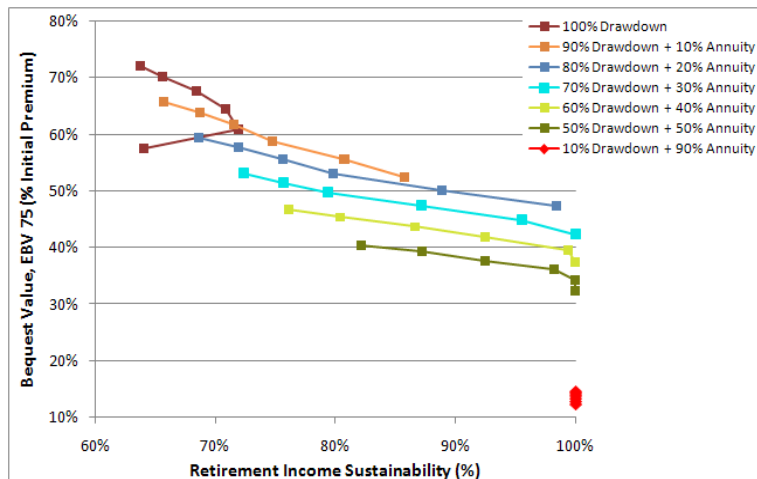
This poses a number of questions for the retirement planner:

- How much Lifetime Annuity and how much Income Drawdown?
- What investment risk to take within Income Drawdown?
- Do some combinations work better than others?
- Is there an optimal solution?

Exhibit 3, below, illustrates a series of *retirement portfolios* with various combinations of Lifetime Annuity and Income Drawdown. In this case, the initial income level within the Income Drawdown is set such that the total income equals 90% of the current annuity rate (i.e. the 'Moderate' income level in Table 1).

Exhibit 3

Retirement outcomes for retirement portfolios: drawdown plus fixed annuity for Moderate income



Immediately, we can see that we do not have to give up all the Bequest value to achieve the required level of income sustainability. By combining Lifetime Annuity with Income Drawdown, we can achieve higher initial income levels (i.e. at least 90% of the current annuity rate), acceptable levels of retirement sustainability (i.e. RISC > 80%), and also maintain a substantial Bequest value.

The information in Exhibit 3 allows us to answer the above questions

Given the specified target income level and Minimum Income Floor, the appropriate allocation to products (in this case, Lifetime Annuity and Drawdown) and assets will depend on the client's required level of Retirement Income Sustainability, and their willingness to trade-off sustainability for a higher Bequest value.

Exhibit 3 shows that, for a given income target, there is a clear trade-off between Bequest Value and Income Sustainability – the options span from the top left to the bottom right of the chart. Investors can increase sustainability by annuitizing a larger proportion of their fund, or reducing their equity exposure, but in both cases, the Bequest Value will be reduced.

As a specific case, on the right of Exhibit 3, the red points show the result of using annuity to secure the target income and investing the balance in drawdown (with varying equity exposure). While on the face of it this might seem like a simple 'safe' approach, there appear to be better alternatives. A similar level of income sustainability can be achieved using a higher proportion of drawdown with a conservative investment strategy, generating a significantly higher Bequest value.

This example highlights that for many retirement investors, asset allocation alone will not be sufficient to ensure income sustainability – product allocation will be required to manage risk effectively. In this case, if Mr Green is looking for sustainability of 90%, at least 20% of the portfolio will need to be annuitized.

### So what? A historic example

Let us suppose that Mr Green had been faced with this retirement decision 10 years ago and with the same basic retirement planning goals outlined in the generic framework described above.

- How would some of the planning options considered above have worked out in relation to Mr Green's retirement goals?
- How (much) would a well-designed retirement portfolio have helped?

We'll consider outcomes based on some different options for Mr Green taken at retirement:

- 1) Use all the fund to buy a Lifetime Annuity (we'll assume current rates)
- 2) Put all the fund in Income Drawdown, with income level set to 90% of the annuity rate; based on various asset allocations to FTSE tracking equity funds (20% Equity, 40% Equity, 60% Equity, 100% Equity)
- 3) A Retirement Portfolio, where the overall income drawn is 90% the current annuity rate, but where the plan consists of a combination of Lifetime Annuity; and Income Drawdown:
  - 50% Income Drawdown (20% Equity exposure)
  - 50% Lifetime Annuity.

Now let us run the clock forward 10 years to today – Mr Green is now 75 and is considering what has happened to his retirement plan. In particular, he is concerned with the size of his residual fund and potential income prospects for the future. Mr Green is now considering annuitizing his remaining funds to secure a lifetime income. Recall Mr Green needs to generate a minimum income of at least 75% of the original annuity amount he could have bought at age 65 – his **Minimum Income Floor**. The outcomes are shown in Table 2, below.

In the second column we show the amount of any residual capital at age 75 after Mr Green has secured a lifetime income equal to his Minimum Income Floor. Note that for the first two options, Mr Green would have been left with insufficient funds to secure that level of income. With the portfolio approach, after securing a lifetime income of 75% of the original annuity amount, Mr Green would have been left with about 27% of his original fund.

Alternatively, perhaps Mr Green is now less concerned with leaving a bequest. In the final column we've calculated Lifetime Income that Mr Green could buy now with all the remaining funds, as a proportion of the annuity that he could have purchased 10 years ago.

**Table 2**

Retirement outcomes for selected retirement options based on 10Y FTSE 100 returns

Retirement Option	Residual Fund at Age 75 (% of Initial Capital)	Max. Income at Age 75 (% of Annuity at Age 65)
100% Drawdown (100% Equity)	0%	27%
100% Drawdown (60% Equity)	0%	59%
100% Drawdown (40% Equity)	1%	77%
100% Drawdown (20% Equity)	14%	96%
Portfolio: 50% Annuity/50% Drawdown (20% Equity)	20%	104%
100% Annuity	0%	100%

Over Mr Green's 10 years of retirement, FTSE equity returns have been volatile; although the index after 10 years was at much the same level as when Mr Green retired, there were significant losses over the first few years of Mr Green's retirement.

Such a poor sequence of returns has put considerable strain on all the Income Drawdown options. The 100% equity fund has fared very badly: at 75, there is only enough left in Mr Greens fund to purchase an income of around 30% of the original annuity rate - that is a reduction of around 60% of his target income and less than half his Minimum Income Floor! The Cautious Income Drawdown options (40% and 20% Equity) only just allowed Mr Green to maintain his required income level, but at age 75 he will be left with almost no bequest

All the single product retirement planning options would have put Mr Green in significant difficulties by age 75 – at a time when he will have very limited capacity to re-order his finances!

The portfolio approach, was selected as it provided a high sustainability (over 90%) but with a reasonable chance of generating a material Bequest value. The residual fund is high enough to secure an income of some 105% of the original annuity rate – an increase of 15% over the original target income level and 30% higher than the Minimum Income Floor. Mr Green now has the option of using this additional fund value to secure a higher level of lifetime income, or to continue to leave aside a bequest.

Looking back over the last 10 years, a Retirement Portfolio combination of Lifetime Annuity plus Income Drawdown would have delivered a significantly better outcome for Mr Green than any of the single product options.

While this case study represents a fairly simplistic view of the world, we believe the shape of Mr Green's retirement goals represent those of many retirement customers. This example has shown that a retirement plan limited to simple product options can be significantly improved by using analytic tools which help investors and retirement planners identify suitable retirement portfolios. The increasing range of product options available provides an opportunity to create tailored retirement solutions that reflect individuals' particular goals and attitudes to investment risk.

## **Conclusions**

The intention of this paper is not to highlight the benefits of particular products or retirement strategies, but to illustrate a framework which can help investors and advisors build sustainable retirement plans which meet their retirement planning goals.

The analysis has shown that for many customers, using combinations of products can provide better retirement planning outcomes than a single product approach.

From a planning perspective, the key is to identify retirement goals and suitable metrics against which to measure risk and success.

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