



Retirement Portfolio Planning: Designing Retirement Solutions to Meet Customer Objectives

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A Stochastic Projection Framework for Evaluating Retirement Products

In our two previous Insight reports, we presented an analytic framework for measuring and communicating risk and value across a range of different retirement income products.

In the first report, we used a financial planning case study to illustrate how this framework could be used to support advisers in assessing different retirement products or strategies, based on a particular customer's needs. This analysis highlighted that, in order to make well-informed decisions, customers need to be clear about their own retirement needs and preferences in relation to future income and death benefits. Furthermore, the analysis demonstrated a potentially valuable role for Third Way products in mitigating some of the key risks facing retirement customers.

In the second report, we applied this same analytic framework to a particular set of Third Way products currently available within the UK market. This analysis illustrated how these products offer very different payoffs compared with standard drawdown products. We also demonstrated that the different products produce different outcomes in relation to an individual customer's retirement objectives. This implies that a sensible analysis and comparison of the different products is only possible if the customer's retirement objectives are well defined.

Moving from Products to Customer Solutions

These first two reports demonstrated how the analytic framework can be applied to evaluate or compare individual products or strategies. This assumed that the customer would allocate all of their accumulated retirement wealth to a single retirement income product or strategy.

However, we know that customers seeking to accumulate assets over time have tended to allocate their savings to a range of different investment asset classes, in order to best match their risk and return requirements. Likewise, a retirement customer with a particular set of retirement objectives does not need to put all their eggs in one product basket.

For retirement customers, the key question is...

Are there advantages in allocating savings to different retirement products, in order to best match their requirements for income and death benefits?

...as we will see, for many customers, the answer is likely to be yes.

Case Study: Using the Analytic Framework to Design Retirement Portfolios Based on Customer Objectives

Let's consider our case study again. Mr Sprightly is a healthy 60 year-old male with a retirement fund of £1 million, an income target of £50,000, and a wish to leave cash to his children if he dies early in retirement. The challenge for Mr Sprightly and his advisor is to allocate his retirement fund to the different available products, such that he maximises the chance of meeting the following objectives:

- Mr Sprightly would like to ensure he has a very high chance (at least 90%) of meeting his target income of £50,000 pa. In the unlikely event that his retirement investments perform very poorly (i.e. he falls into the 10% downside 'tail'), he would like to minimise any further reduction in income below the £50,000 target.
- He would like to retain access to his capital in order to deal with short-term or unexpected demands. In particular, although he expects to live into old age, he would like to be able to bequeath any residual capital in his pension fund to his children when he dies.
- Mr Sprightly would like to benefit from investment growth, both in the form of increased retirement income and the capital or death benefits.

In the first of this series of Insight reports, we demonstrated an analytic framework that can be used to evaluate retirement products or strategies in relation to Mr Sprightly's objectives. Although this earlier report considered a series of generic individual product options, the same risk measures can be calculated for any combination of retirement products. This allows us to identify an 'optimal retirement portfolio' – i.e. the combination of products which best fits customer's specific retirement objectives.

For the purpose of illustration in this report, we have restricted these portfolio options to the following combination of products considered in the first report:

- Varying allocations to standard unsecured pension (USP) drawdown products and Third Way products
- Varying allocation to Third Way products and conventional fixed annuity products
- Varying allocation to conventional annuity products and standard USP drawdown products

Again, to simplify matters for illustration, we have assumed that all the USP drawdown and Third Way products are backed by an investment fund with a 70% equity allocation.

In practice, the combination of computing power and advanced numerical techniques allows us to calculate these risk measures for a very large number of 'candidate' retirement portfolios.

A summary of the results is shown in Exhibit 1 below. The default or 'single product' options are highlighted in orange. In addition, we have highlighted in green specific product combinations (ie. retirement portfolios) which appear to offer a better outcome in relation to Mr Sprightly's retirement objectives.

Exhibit 1

Comparison of Possible 'Multiple Product' Retirement Portfolios

<i>Third Way (%)</i>	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
<i>Pension Drawdown (%)</i>	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Probability Income > £50k pa	100%	100%	95%	90%	86%	83%	79%	77%	74%	72%	70%
Median Income (£ pa)	£62,586	£63,170	£63,912	£64,206	£64,065	£63,747	£63,933	£63,236	£63,564	£63,739	£63,700
Lower 95% Income (£ pa)	£55,000	£52,566	£50,032	£47,426	£44,757	£42,085	£39,502	£36,776	£33,844	£30,627	£27,665
Median Death Benefit (£)	£634,948	£646,487	£663,460	£677,313	£689,533	£704,618	£718,610	£730,009	£750,067	£759,790	£773,828
Lower 95% Death Benefit (£)	£0	£45,700	£85,731	£119,573	£145,284	£174,182	£207,140	£230,570	£259,825	£289,061	£315,452

<i>Fixed Annuity (%)</i>	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
<i>Third Way (%)</i>	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Probability Income > £50k pa	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Median Income (£ pa)	£74,000	£72,859	£71,717	£70,576	£69,434	£68,293	£67,152	£66,010	£64,869	£63,727	£62,586
Lower 95% Income (£ pa)	£74,000	£72,100	£70,200	£68,300	£66,400	£64,500	£62,600	£60,700	£58,800	£56,900	£55,000
Median Death Benefit (£)	£0	£63,495	£126,990	£190,485	£253,979	£317,474	£380,969	£444,464	£507,959	£571,454	£634,948
Lower 95% Death Benefit (£)	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0

<i>Fixed Annuity (%)</i>	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
<i>Pension Drawdown (%)</i>	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Probability Income > £50k pa	100%	100%	100%	100%	100%	96%	89%	84%	79%	74%	70%
Median Income (£ pa)	£74,000	£72,970	£71,940	£70,910	£69,880	£68,850	£67,820	£66,790	£65,760	£64,730	£63,700
Lower 95% Income (£ pa)	£74,000	£69,366	£64,733	£60,099	£55,466	£50,832	£46,199	£41,565	£36,932	£32,298	£27,665
Median Death Benefit (£)	£0	£77,383	£154,766	£232,148	£309,531	£386,914	£464,297	£541,680	£619,062	£696,445	£773,828
Lower 95% Death Benefit (£)	£0	£31,545	£63,090	£94,636	£126,181	£157,726	£189,271	£220,817	£252,362	£283,907	£315,452

It is clear from these results that a retirement portfolio which relies on a single product is unlikely to give Mr Sprightly the 'optimal' outcome in relation to his stated retirement objectives. The product combinations highlighted in green appear to offer him a better set of outcomes in relation to his specified retirement objectives:

- Including a 30% allocation to a standard unsecured pension drawdown product alongside the Third Way product has some clear benefits:
 - He retains a 90% probability of hitting his income target of £50,000 pa
 - The median income level increases from around £62,000 pa to £64,000 pa
 - There is an increased chance of being able to leave a significant death benefit:
 - The median death benefit value at age 75 increases from £635k to £677k
 - The lower 95th percentile death benefit increases from £0 to around £120k
- If Mr Sprightly would like to maximize the level of secure income, and is willing to sacrifice some death benefit, he could allocate 20% of his fund to a fixed annuity, leaving the remaining 80% in the Third Way product:
 - The median income increases from £62,000 pa to £65,000 pa
 - The lower 95% income level is now well above his £50,000 income target, at around £59,000 pa
 - The median death benefit at age 75 is now around £500k.
- Finally, a 40% Fixed Annuity / 60% Pension Drawdown allocation gives the highest median income level (£68k), but still delivers the income target with a probability close to 90%. However, this strategy gives a slightly higher risk of lower income if markets perform poorly, and a lower median death benefit (£464k compared to £677k in the Pension Drawdown / Living Benefit strategy described above).

This simplified example shows how the analytic framework for measuring and communicating risk in retirement income products can be extended to support financial advisors identify appropriate retirement portfolios, based on specific customer objectives.

This analysis presented here can be implemented in the form of a retirement portfolio planning tool which will help advisors construct retirement portfolio solutions based on their customers' own retirement planning objectives.

Exhibit 2 gives an example of a retirement portfolio planning application, based on the framework we have proposed here, to support financial advisors deliver more effective solutions for their retirement customers:

Exhibit 2
Retirement Portfolio Planner

Customer Details

Current Age: 55 years
Retirement Age: 60 years
Gender: Male Female

Risk Profile

Specify your risk preference in relation to the following retirement objectives:

Income: [Slider from Low to High]
Estate: [Slider from Low to High]

Existing Retirement Provision

Existing Secure (or DB) Retirement Income (£ p.a.): 16000
Existing Money Purchase (Personal/DC) Pension Plans: [click to add](#)
Current Personal Pension Saving for Investment (£): 250000

Retirement Funding Requirements

Target annual retirement income (£ p.a.): 25000
Does this income need to be inflation-proof?: Yes No
Target amount of death benefit for estate (£): 100000

Objectives for Retirement Portfolio

I wish to...

Max death benefit subject to 90% chance of meeting income target
 Max expected income subject to % chance of meeting death benefit
 Max expected income subject to % chance of meeting income target
 Max value or retirement wealth subject to % chance of meeting income target

Retirement Portfolio

Product	Total Product Allocation	Asset Allocation		
		Cash	Bond	Equity
Fixed Annuity	40			
Index-Linked Annuity				
Unit-Linked Annuity		0	60	40
Guaranteed Drawdown	40	0	30	70
Standard Drawdown	20	10	40	50

Retirement Income (Real Terms)

Age	65	75	85	95
Target	£25,000			
Probability	>95%	>95%	94%	92%
Median Income	32,000	31,500	31,250	31,100

Death Benefits

Age	65	75	85	95
Target	£100,000			
Probability	52%	31%	14%	<5%
Median Income	105,000	81,000	63,000	41,000

Robust Advice: The Importance of Clear Objectives...

Given the framework we have presented in these three Insight reports, it is clear that an important issue for advisors is being able to clearly define the customer's retirement objectives, with particular focus on the following:

- What level of income does the customer require their personal pension to generate throughout retirement?

E.g. "Given existing access to state pension and other defined benefits, I require my personal pension to generate an additional annual income of £25,000 pa."

- Does the customer require continued access to capital - for example to leave to dependents in the form of death benefits, if they die?

E.g. "Yes, I would like to be able to leave a reasonable residual sum to my children if I die early in retirement."

- If the customer would like any continued access to capital, they will need to leave their pension savings invested. This will mean that their future income level, and the future value of any death benefits, could fall.
 - How certain do they need to be that their stated income target will be achieved?
 - If they can afford to take some risk in relation to the income target, how far can they afford the income to fall before their retirement lifestyle will be significantly adversely affected?

E.g. "I want to be at least 90% sure of hitting my £25,000 income target. In the worst case, I cannot afford for my income to fall below £15,000 pa."

This information, applied in conjunction with a retirement planning tool such as that shown above, enables the advisor to construct a retirement portfolio solution which best fits the customer's specific retirement needs.

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