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The importance of growth assets for living annuity investors

This article is the third in our series¹ on how to manage a living annuity to provide an inflation-proof income over a period of 30 years.

We examine how best to construct living annuity portfolios, looking at the size and composition of the equity component required to deliver a 30-year inflation proof income.

From our research, using index return data going back to 1900,² we make three conclusions:

1. A living annuity portfolio should consist of 25-40% in equities for low starting incomes in the range of 2.5-3.5%.
2. As initial income levels increase from these low levels, annuities require increased exposure to equities – as high as 75% – once initial income drawdown levels reach 5%.
3. A living annuity requires a consistent 20-35% exposure to offshore equities, irrespective of the size of the initial income drawdown levels.

Beating inflation requires exposure to equities

Even though the principle of “beating inflation requires exposure to equities” is widely accepted by all investment professionals, it is easy to overlook this principle in situations where an investment portfolio is required to produce an income. We often find that portfolios set up to produce inflation-matching incomes end up with the bulk of their assets being exposed to fixed income instruments only.

Over the years we have asked advisors to vote for the most popular investment portfolio they would use for living annuity clients. Until recently, the standard response was to choose a portfolio with a maximum of 40% exposure to equities for all annuity clients. For many advisors this portfolio represented the ideal combination of risk and return, striking a balance between achieving inflation beating growth over the long term and managing short-term portfolio volatility (and the associated investor anxiety).

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1. Managing retirement income.

2. See the Appendix for more detail on the investment and product model used.

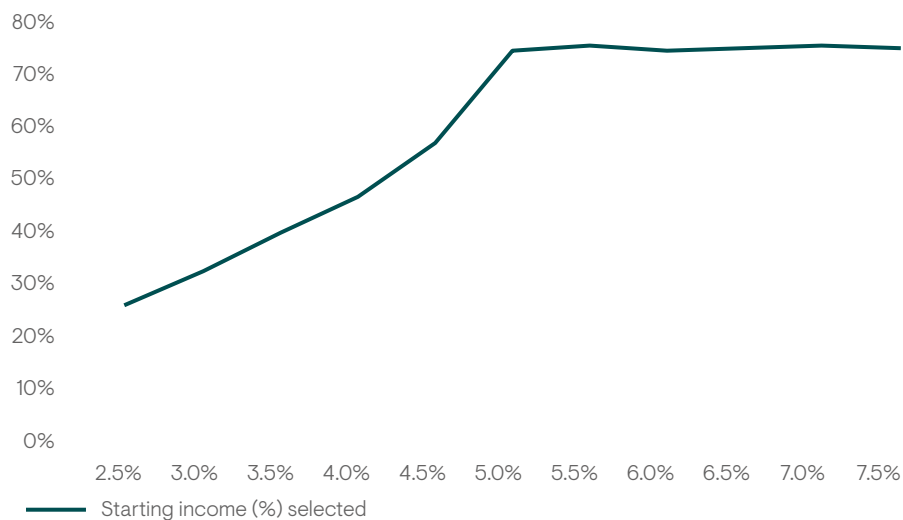
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We decided to test this maxim about the 40% equity portfolio. Using our annuity model, we optimised asset allocations for 30-year term annuities with a range of starting incomes from as low as 3% to as high as 7.5%. We tasked the optimiser engine to:

- Project failure rates for annuities with a 30-year lifespan based on their ability to produce an inflation-protected income
- Optimise the asset allocation for different starting incomes to minimise annuity failures
- Keep the investment portfolio inside the Regulation 28 limits for equities, i.e. the portfolio cannot have more than 75% in equities

The following chart summarises the results:

Figure 1: Minimum equity exposure required to minimise failure risk of annuity



Source: Ninety One.

The results clarify important points regarding equity exposure for annuities:

- Annuities need a meaningful exposure to equities – even annuities with starting incomes as low as 2.5% require at least a 25% equity exposure to succeed.
- Portfolios with zero equity exposure don't get the job done. Using the last 118 years' actual investment returns, a living annuity with a starting income of 2.5% and a portfolio that has an exposure of 20% to the money market and 80% to South African bonds, has a failure rate of almost 60%.
- As the starting income on an annuity increases, the minimum equity exposure required rises.
- Our default annuity portfolio of 40% equities is only optimal for starting incomes up to 3.5%. As your starting income requirement reaches 4%, the minimum equity exposure is already at 50%. And at a 5% starting income, your equity exposure should be over 70%.

For many investors and advisors these results contain some surprises. Many people have expressed astonishment at how quickly an annuity portfolio's equity exposure needs to rise as the starting income levels increase.

Our default annuity portfolio of 40% equities is only optimal for starting incomes up to 3.5%.

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Figure 2 highlights how sensitive annuities are once starting incomes go over 4%. The chart illustrates the failure rates of annuities where the maximum equity exposures are capped at 40% (as opposed to 75% in our examples above).

Figure 2: Failure rates of annuities with a maximum of 40% equity exposure



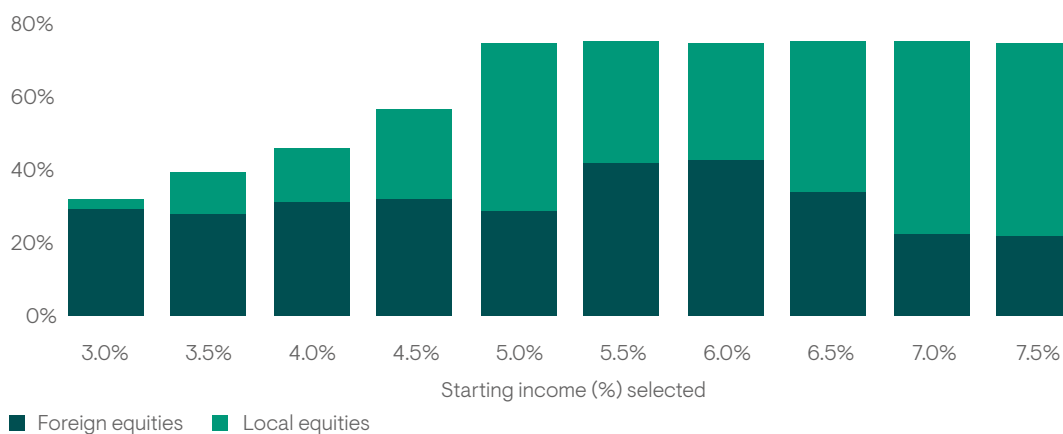
Source: Ninety One.

The results in Figure 2 clearly show how dangerous it is to use a 40% equity portfolio for a 4.5% or 5% starting income annuity.

All retirement income portfolios require offshore equity exposure

A second interesting observation from our modelling has been the extent to which our asset allocation optimiser model includes offshore equity for all annuity portfolios, irrespective of the level of their starting incomes. The following chart highlights the split between South African equities and offshore equities within the optimised annuity:

Figure 3: Portfolio inclusion of domestic and offshore equities



Source: Ninety One.

The model proposes an offshore equity exposure in the region of 20-40% of the total portfolio across all starting incomes. Even for low starting incomes of 3%, the model suggests an offshore equity holding of around 25% of the total portfolio.

For many people this result will appear odd at first – why should an investment tasked with delivering income in South African rand be required to hold at least 25% in offshore equities? Does the additional currency volatility not negate the benefits of the offshore equity returns? And why does the model allocate mostly to offshore equities for lower initial incomes, but increases the allocation to domestic equities as income levels go over 6%? These are all valid questions.

The answer to these questions lies in the unique diversification benefits of offshore equities when combined with a South African portfolio of bonds and equities:

- Offshore equities have the advantage of a lower correlation with South African bonds.
- But domestic equities have a higher real return than offshore equities.

What we see in Figure 3 is the interplay between real return and portfolio volatility. In our first article on the challenges of living annuities, we showed how annuities are sensitive to portfolio volatility.¹

Therefore, our optimiser model adds offshore equities at lower incomes because they simultaneously:

- Increase the real return potential of the portfolio, and
- Improve the risk profile of the overall investment portfolio.

However, as incomes increase, the stronger real return from domestic equities becomes more important than the lower volatility of the offshore equities, and the model starts allocating more and more to domestic equities.

Conclusion

Our investigation into optimised living annuity investment portfolios highlights a number of key principles:

- Living annuities require meaningful equity exposures to enable the annuity's income levels to keep pace with inflation.
- Fixed income portfolios are unable, on their own, to produce the returns required to keep pace with inflation.
- Because annuities are sensitive to portfolio volatility, the diversification benefits of offshore equities are particularly beneficial to annuity portfolios.

In the next installment in our series we will look at how an active investment portfolio that focuses on real return as well as the overall volatility, can significantly improve outcomes for annuity investors.

Even for low starting incomes of 3%, the model suggests an offshore equity holding of around 25% of the total portfolio.

Appendix: Outline of the living annuity research model

A living annuity that provides an inflation-adjusting income over a 30-year period represents a complicated series of cash flows that can behave rather unexpectedly in response to extreme market movements. This complexity makes it difficult to predict the impact of various portfolio management strategies or income withdrawal strategies on the longevity of the annuity.

Therefore, to investigate questions like sustainable drawdown rates and optimal investment portfolios for living annuities, you need to construct a living annuity model. The model that we constructed at Ninety One has the following key assumption sets:

- Investment returns are sourced from the DMS³ index series for the major South African and international asset classes going back to January 1900.
- The model uses 30-year rolling investment periods, simulating the experience of someone retiring randomly in any month over the past 118 years.
- The model assumes the asset manager can deliver index performance after fund manager fees.
- The model further assumes a 1% p.a. additional charge to cover product administration and financial advisor fees.

The model allows us to measure the extent to which a particular income or investment strategy would have succeeded or failed. We define success over a 30-year period as:

- The annuity never hits the 17.5% maximum annual income limit.
- The annuity's income in real terms never falls below 70% of the starting real income level.

The model measures, for every income or investment strategy, exactly what proportion of the randomly retiring pensioners since January 1900 would have experienced a failed living annuity. This enables us to calculate the failure probability of virtually any annuity income or investment strategy.

3. Dimson-Marsh-Staunton dataset – 2017.

Important information

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