Economic growth scenarios and their impact on matching portfolios

NN Investment Partners takes a close look at the consequences of rising interest rates for institutional investors, with a particular focus on their matching portfolios.


ROBERT BERKHOUT ARJEN MONSTER

LDI specialists Integrated Client Solutions
NN Investment Partners

Rising interest rates are one of the structural trends that can quickly affect the economic outlook. Scenario analysis is a simple and intuitive way to analyse how portfolios can be improved taking such shorter-term trends into account. This publication offers recommendations as to how investors may benefit from incorporating this trend in their investment strategies.

Introduction

After years of steadily falling interest rates, institutional investors are confronted with the prospect of structurally higher interest rate levels. For many investors, this changing economic reality has triggered a discussion on how this new reality should be incorporated into their investment strategies.

The financial crisis of 2007 and the subsequent economic and monetary policies have had a dramatic impact on fixed income markets that needs no introduction. In the same period, tighter regulatory regimes drove many institutional investors to implement major changes in their investment strategies. The new regulations' explicit focus on market valuation of liabilities has led investors to adopt distinct policies for their return and matching portfolios.

Nowadays, it is common practice to combine bonds, interest rate and inflation swaps to build "matching portfolios" that mimic the economic value of a pension fund's or insurer's liabilities. Depending on the precise regulatory regime, funding levels and risk appetite, hedge ratios ranging from 30% to 100% are widely applied. These policies came into existence at a time when the single largest risk scenario amounted to ever-lower nominal and real rates. With the recent rise in interest rates, however, investors are now starting to question whether these investment strategies are still effective.

There are a number of options to improve the effectiveness of these strategies. They range from tools to improve the understanding of the portfolio and better portfolio management to revisiting the investment objectives, for example, keeping up with inflation.

- As it is uncertain whether and how a rising rates scenario will unfold, we feel that investors could make their portfolios more robust by using scenario analysis to account for opposing economic views. This article provides more details about how institutional investors can use this approach.
- Investors can apply a number of improvements at the matching portfolio level. Scenario analysis is a powerful tool to gauge how these improvements contribute to the investor's overall objectives. Potential improvements range from investing in less liquid investments such as alternative credit to adopting dynamic hedging strategies. Less liquid investments contribute to an additional return in scenarios in which matching portfolios are under continued pressure. Dynamic strategies are relevant if one is worried how a growth scenario may play out – with potentially prolonged periods of sideway movements as well.
- We argue that higher expectations for nominal rates as well as for consumer price inflation should lead to a more explicit focus on the matching portfolio's inflation.

This article delves into each of these solutions in more detail.

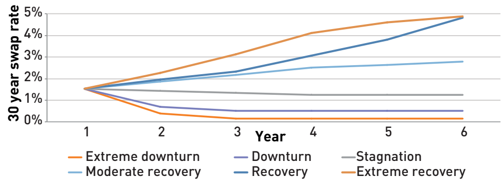
Scenario analysis

Throughout the last decade, interest rate risk has been substantial and the direction of change remains notoriously hard to predict. Still, the changed economic reality of potentially rising rates has turned the economic growth scenario into a possibility, which few investors deemed realistic even as recently as three years ago.

Obviously, the most benign economic growth scenario is one where global growth rises structurally outside the bandwidth that we have seen over the last years. Higher growth will lead to increased price inflation, which central banks will try to keep under control by boosting interest rates. While the unfolding of such an economic growth scenario now seems more likely than a few years ago, it is by no means certain whether and how it will materialize.

Investors should therefore continue to incorporate opposing views and scenarios as well, even when they seem less likely to occur. Rather than applying an involved long-term statistical analysis, it often makes sense to work with a limited number of medium term scenarios to analyse investment strategies. Figure 1 depicts the scenarios we feel are currently most relevant for a five-year period. The moderate recovery scenario represents our current thinking about the most likely path towards economic growth. Besides three growth scenarios with varying speeds of recovery, alternative scenarios with falling interest rates and inflation levels are included in our scenario analysis as well.

FIGURE 1: MEDIUM TERM 30-YEAR SWAP RATE SCENARIOS



Source: NN Investment Partners

Investors can improve the effectiveness of their strategies by stimulating the anticipated return in the most relevant scenarios at the cost of surrendering return in other scenarios. In this way, scenario analysis is also an effective risk management tool: keeping track of a wide range of scenario outcomes prevents maximum loss constraints from being breached if changes in the matching portfolios occur. In the following section, we examine what potential changes in the matching portfolio may look like.

The case for alternative credit

Interest rate risk hedging has become a common practice for defined benefit (DB) pension plans in mature markets such as the UK and the Netherlands. Interest rate risk hedging has recently become more common in other markets as well. Life insurers apply similar hedging programs as part of their strategy to manage solvency risks, especially since the introduction of market-value driven regulatory frameworks.

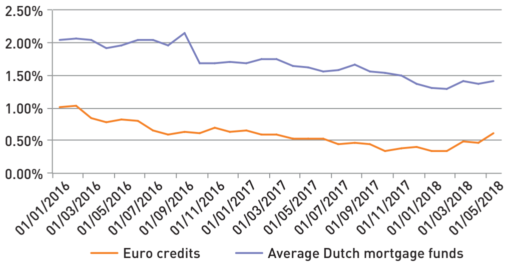
The precise discounting methodology is a key factor for investors who hedge the interest rate risk of their liabilities through a combination of government bonds and interest rate swaps. In this way, they construct matching portfolios that closely replicate the economic value of the liabilities, with tracking errors relative to the economic value of liabilities well within a 1% bandwidth. However, the low-rate environment has also fuelled a search for yield that has prompted pension funds, large insurers and other investors to consider other assets classes within their matching portfolios, such as credits, mortgages and other forms of alternative credit. As a result, matching portfolios offer an additional spread with a widened tracking error relative to liabilities.

We would not anticipate a reversal in allocation to these less traditional matching assets if interest rates continue to rise. Many investors continue to demand structurally higher returns, as funding levels are still relatively low. At the same time, relying on traditional swap overlays has led to liquidity management issues with the introduction of new central clearing regulation.

Less traditional matching assets such as alternative credit may have been impacted by the search for yield, but their spreads still appear relatively attractive, as shown for mortgages in Figure 2. Even though mortgages were not directly affected by the credit purchase program, the end of easy monetary policies might result in wider spreads for alternative credit as well. Regardless of this temporary price impact, however, the spreads continue to offer an attractive additional return. Alternatives to additional spread risk, such as increasing the balance sheet leverage, are often unattractive due to the tight capital requirements.

From a more strategic perspective, lower risk alternative credit investments such as infrastructure loans, corporate credits and export credit agency loans also offer an attractive matching alternative. The additional yield more than offsets the increased liquidity risk, which can easily be absorbed while managing the overall balance sheet's liquidity. Obviously, investing in alternative credit does imply additional matching risk, measured in terms of short-term volatility relative to liabilities. In the longer run, however, the case for alternative credit becomes stronger as assets and liabilities will move more in parallel.

FIGURE 2: DUTCH MORTGAGES SPREADS VERSUS CREDITS



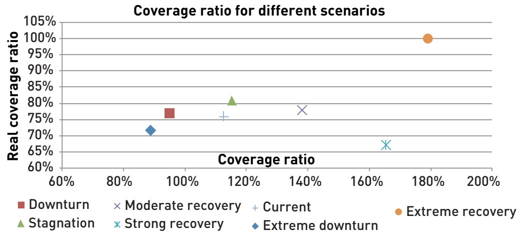
Source: Thomson Reuters Datastream, Achmea, NN Investment Partners

Benefits of adopting dynamic hedging strategies

Switching to higher-yielding investments such as loans and mortgages helps when tackling the funding problems. But the contribution of such investments to a potential funding level recovery pales in comparison to large positive shocks in interest rate or equity returns. The funding level of a typical pension plan that chooses to abandon interest rate hedging altogether will shoot up by 15-20% if rates increase by 1% over the entire curve.

It may therefore seem a straightforward strategy to recover from the problematic funding levels of the past by simply opening up interest rate risk and opt for substantially lower interest rate hedge ratios. In fact, regardless of one's view on the likelihood of continued economic growth, this strategy is often the outcome of the long-term statistical analysis that many funds apply to set their investment policy. Throughout the past decade of falling interest rates, most pension funds continued to assume interest rates would rise in expectation over a 10-to-15-year horizon. As a result, many asset-liability management studies pointed towards lower hedge ratios, even though the impact of unexpected further reductions in rate levels was really adverse.

FIGURE 3: FUNDING LEVEL EVOLUTION WITHIN DIFFERENT MEDIUM-TERM SCENARIOS



Source: NN Investment Partners

However, if the unexpected occurs and rates were to fall again, the recent gains in funding levels would be more than offset by the associated losses in funding. In addition, the regulatory framework in some countries simply does not allow pension funds to increase their risk at the current funding levels, which are still rather low. So how can investors escape this conundrum? The key to this problem lies within one's convictions about how the growth scenarios will unravel. Investors who can't bear the impact of falling rates simply do not have the buffers to digest another drop in funding levels. Other investors, however, may wonder what is more likely: steadily rising yields moving to a structurally higher level, backed by strong growth, or only slight increases, mixed with periods of falling rates as well?

Investors who want to insure themselves against a moderate growth scenario – with lots of up-and-down movement in interest rates – may want to consider varying their hedge ratios. Starting at a lower hedge ratio today, such a hedging policy implies that hedge ratios will be increased (let's say by 10% or 20%) if long term rates rise by, let us say, another 1%. This increase will be reversed if rates happen to drop back to today's levels.

Investors benefit from dynamic hedging policies as long as rates move within a certain corridor. If rates happen to structurally break out of the corridor, however, losses will be incurred relative to policies with lower, static hedge ratios. Scenario analysis helps setting the available risk budget for dynamic policies by defining the drawdown constraints in case alternative scenarios happen to occur.

Revisiting real and nominal hedging policies

With interest rates and inflation at the low levels we have experienced since the credit crisis, investors have been less concerned about their investments' capability to keep up with consumer price inflation. However, rates and funding levels have started to increase. In countries where liabilities are not explicitly linked to consumer price inflation, pension funds now need to consider whether keeping up with inflation has become more relevant to plan participants.

Figure 3 provides some input for this discussion. For the relevant scenarios it outlines the evolution of nominal and real, inflation-adjusted, funding levels, starting at a nominal funding level of 100% today. The real funding level is calculated using today's liabilities augmented with the break-even inflation rates.

It may seem counterintuitive that the strong recovery scenario is unattractive in terms of real funding level evolution: in the example, the real funding level drops by 10%. In both the moderate and strong recovery scenarios, we would intuitively expect nominal rate rises to be closely followed by rises in expected inflation. As a result, real interest rates are not expected to move significantly. For pension plans with a nominal interest rate hedging policy, stable real rates and a negative result of the nominal hedge policy imply that real funding levels will deteriorate. Hence, the long-term ability to compensate plan participants for future consumer price inflation may become weaker in stronger recovery scenarios, even though the longer-term economic outlook is solid.

Under the base-case scenario of economic growth, then, pension plans should consider increasing their focus on inflation. They have several options to manage inflation risks. Within the return portfolio, funds may increase their allocation to real assets. Within the matching portfolio, allocating to inflation-linked bonds or inflation swaps are potential options. Within illiquid investments, there has been some innovation in products with explicit links to inflation, even though supply is expected to remain limited. Investors considering an increase in their allocation to inflation-dependent investments also need to carefully look at basis risk and whether the inflation incorporated in their investments is sufficiently close to the inflation promised to the plan participants.

Conclusion

Institutional investors such as pension funds invest for the long run. As a result, they only revisit their investment strategies once every few years. At the same time, structural changes in the economic outlook that have occurred over a relatively short period of time should be incorporated in the short run to avoid ineffective portfolios. Scenario analysis is a simple and intuitive way to analyse how portfolios can be improved taking these shorter-term trends into account. The recent rise of interest rates is such a trend. This article has sought to provide a number of recommendations as to how investors may benefit from incorporating this trend in their investment strategies.

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