



The economic crisis has left its mark on pension funds. The double blow of the share market slump and the fall in long-term interest rates has severely strained their funding ratios, i.e. the ratio of their assets to their liabilities. Many have dipped below the 105% minimum prescribed by the Dutch Central Bank, DNB. By improving the constructions of their portfolios, pension funds can obtain greater control over their funding ratios, says Zanders consultant Sjoerd Blijlevens.

Improved portfolio construction gives pension funds greater control

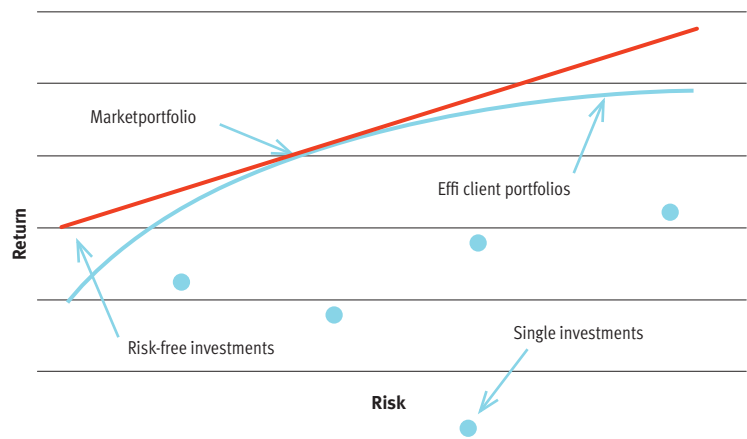
Getting a firmer grip on funding ratios

A low funding ratio can have far-reaching consequences. Many pension funds have decided to shelve index-linking for the time being and in some cases there has even been talk of reducing members' entitlements.

These developments have prompted a public debate on the policy conducted by pension funds. Numerous pension funds have placed their investments (and investment policy) in the hands of asset managers, so it is instructive to examine how this process is arranged.

Small and medium-sized pension funds tend to opt for investing pension money in a mixed fund of an asset manager. This is a fund that in turn invests in a wide array of other funds. The objective is to obtain a diversified portfolio for a pension fund that lacks the size to do so with its own (customized) portfolio. Asset managers typically have several mixed funds that vary in the degree of risk. The most risky mixed funds will invest a large proportion of capital in equities, while the least risky will invest mainly in liquid assets and government bonds. The client, i.e. the pension fund, decides which fund best matches its liabilities.

Subject to certain restrictions the asset managers are then allowed to deviate from the model portfolio used by the mixed fund. For example, they may choose to invest between 40% and 60% in equities instead of a fixed allocation of 50%. By adopting this approach the asset manager can endeavour to generate a higher return than the model portfolio would produce. This is called 'outperformance'. The investments within the mixed fund are selected by piecing together a portfolio that is as efficient as possible. This means pursuing the highest possible expected return within the investment restrictions imposed by the fund.



the long-term liabilities. The investment mix thus obtained will be far more in keeping with the liabilities of the pension fund. It is even possible to factor in the probability of under-funding as a minimization criterion instead of an optimization of the return.

Tip 2 Set risk limits for active policy

After compiling a pension fund's portfolio, the asset manager has latitude to deviate from the model portfolio by conducting an active investment policy. The latitude is typically defined as a maximum percentage of underweighting or overweighting of investments relative to the model portfolio. The risk run by taking a certain position plays no role in this restriction, while it might,

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By adjusting the process described above in two respects, a pension fund can obtain greater control over its funding ratio.

Tip 1 Include the liabilities

The mixed fund's portfolio is usually optimized by means of Markowitz optimization. Subject to the restrictions of the mixed fund, the available investments are used to compile a market portfolio that has the highest expected return per unit of risk. (See the market portfolio in the illustration.) It is commonplace to factor into the optimization only the possible investments and not the liabilities of the pension fund (asset-only optimization). At most a liability is incorporated that is typical of an average pension fund. By definition this results in a sub-optimum portfolio for the pension fund. If the asset manager immediately factors in actual liabilities when compiling the investments for the pension fund, it will result in a different (market) portfolio. The risks embodied in the liabilities will influence the risk/return ratio at the level of the total portfolio. This makes it likely that the portfolio set up specifically for a pension fund will have a far longer duration than the portfolio resulting from an asset-only optimization. In this way the investments form a natural hedge for

for example, be more risky to overweight equities by 5% than government bonds by 10%.

If asset managers are able to quantify their active policy in risk terms, it will allow a pension fund to take a far more conscious decision about the acceptable degree of risk. This has direct consequences for the extra risk run over the funding ratio. This risk can be quantified by calculating the active policy's Value at Risk, or by determining how much the return on the portfolio varies from the model portfolio under certain stress tests.

For their funding ratios the pension funds remain greatly dependent on developments in the share markets and interest rate markets. But pension funds can strengthen their grip on their funding ratio by better gearing the portfolio to their liabilities in tandem with allowing asset managers to conduct an active investment policy within risk limits. <



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