

Pension Funds and Risk Management

by Peter Koenig

When I joined the financial industry fifteen years ago, a senior asset manager introduced me into business principles by saying: "At the end of the day, clients are not interested in risk evaluations, but only in returns". Twelve years later, another colleague at another asset management firm commented on investors' reactions to the market downturn by stating that "clients simply don't like downside volatility". While we certainly can acknowledge some truth behind the simplicity of the first statement, and the elegant marketing language of the second, is it really so that the evaluation and management of risk comes only secondary after the generation of returns?

Let us start this investigation with an example: Once you have decided on the features and equipment of a new car you want to buy, and you have agreed on those with your dealer respectively the car manufacturer, what do you expect to get? Would you accept that the car comes in black while you ordered it white? Or, would you expect your car to be delivered with three wheels instead the usual four? On the other hand, if your car turns out to consume some 10% more gas (or less) than stated in the prospectus, you will probably have to accept this deviation from the basic specification. And, you may even have agreed on some other quality deviations in advance when making the decision on brand and manufacturer, which you had compared with the characteristics of other brands or models. This decision would then reflect that these deviations are of lesser importance to you, and should also show in the price of the car. In other words, there are principles and features that are generally accepted as important and necessary qualities that should be controlled, while we are aware that some deviations are natural outcomes of production processes.

Step 1: Identifying the pension deal

Having appropriate control over the production process is exactly what is behind the so-called 'Prudent Expert' approach to pension fund management, and translates in financial language into having proper risk management in place. This task can be divided into three major areas: governance, strategic risk management, and operations. In one of the best publications on the topic, Keith Ambachtsheer and Don Ezra¹ describe as the very first step to identify "What is the Pension Deal?". To answer that question requires an investigation into the structure of benefits and contributions, and the possible distributions of deficits and surpluses over employer, pension fund and plan participants. In a more technical view, these structures are partially determined by the relevant legislation and by taxation and accounting rules, which all must be respected in any case. On the other hand, these structures will impact the present and future welfare situation of the employees, and at the same time the financial situation of the employer company.

To answer this question is thus a rather complex matter and will involve business or even higher politics. Not to deal with it, though, bears the risk of making all subsequent steps to structure the pension fund a meaningless effort, comparable to steering a ship without a compass, which many people would consider quite risky. It is also possible that the description of the ideal pension deal is not unambiguous, but rather offers two or more different versions. And indeed, often do companies run different types of pension arrangements, like one for employer contributions and another one for deferred compensation. This can be taken up in the next step of strategic risk management. The key method here is Asset/Liability-Management, which in essence is a simulation procedure for all important variables and factors driving the pension fund.

Step 2: Strategic Risk Management and ALM

Let us assume that one outcome of the pension deal question is a target for the fund, where a certain benefit level shall be achieved at minimum costs, respectively by the highest possible returns on the investments. ALM will help to translate this target into risk management language, and analyze the integrated development of assets and liabilities. Dividing one by the other yields a key figure for the evaluation of the pension fund, the funding ratio, and let

¹ Ambachtsheer, Keith, Ezra, Don: Pension Fund Excellence, Wiley Frontiers in Finance, New York 1998

us assume that a funding ratio below 75% is considered equivalent to a car with three wheels instead of four (two short remarks here: First, while accounting standards may not help to add the missing wheel to the car, they need to be taken into account when evaluating the funding ratio, and for good reasons. Second, good risk managers are not greedy; for them, given the pension deal, a five-wheel car has the same quality as the three-wheel outcome). Expected future developments of capital markets and assets will then be combined with future developments of employee populations and liabilities, and outcomes may show, for instance, that the return target implied will result in a positive probability that the funding ratio of the fund falls below the minimum target. If this is considered significant, the next step is to adjust the portfolio to a lower return/risk level, or, to redesign the overall target function for the fund.

In the whole process, risk managers always take into account that their assumptions may be wrong. Therefore, working with different and possibly extreme scenarios on future developments should be a part of the ALM-exercise. One advantage of scenario-building in ALM over traditional stress-testing is the integrated view: A drop in interest rates, for instance, may lead to a positive performance of the fixed income investments, but also to an increase in discounted liabilities, and a simulation of portfolio developments only may thus be misleading. As a second purpose, while everyone tends to agree on the average or median strategy proposal offered by an ALM-study, extreme results provide insights into sensitivities, and also help to determine trigger points, which can then be used to signal to the management that something in the production process is going the wrong way.

Step 3: Providing resources for operations

The outcome of the ALM-analysis comprises a final assessment of the target function for the pension fund, the expected development of liabilities and assets respectively its funding ratio, and cash-flows in terms of contributions and payouts. All these key variables should then be controlled for risk as induced by their actual developments versus expectations. For some funds like small company-financed book reserve systems, risks may stem from a change in liabilities and resulting pressures on company liquidity. For the majority of pension funds, though, the volatility of the investment portfolio will be the major source of risk.

The first version of the investment portfolio will be risk-neutral relative to liabilities. In practice, this may not quite be the case, given the additional assumptions and derivations as described above. The risks embedded in these deviations then need to be controlled. In addition, the fund may wish to take some active risk relative to the liability-benchmark portfolio, to enhance returns respectively to lower costs. In case of outsourcing to external portfolio managers, the selection of managers may also be outsourced to consultants. But the ongoing control of these managers will at last remain as fiduciary responsibility with the pension fund, and thus must be staffed with adequate personnel internally. In case of internal portfolio management, the pension fund has to provide staffing comparable to a similar setup in a portfolio management company, to achieve alpha but also to have controls and proper risk management systems in place.

Independent of the outsourcing question and of different levels of operational efficiency, it can be assumed that a pension fund with ambitious targets will need substantial staffing, while only with risk-minimizing strategies the operational resources can be kept rather lean. In a last circle conclusion back to step one, and as one of the first principles of risk management, the size of a fund and its economics will thus have to determine its targets.

Prudence is process

While it may be possible to control a high percentage of the risks embedded in a car manufacturing process, this percentage will likely be lower in pension fund management. The long-term nature of the liabilities, and the high volatility of capital markets and their 'noisy' character can be made responsible for the riskiness of the business. To search for the best capital markets forecast or for the highest performing asset manager may thus be misleading and potentially disastrous from a risk management perspective. Before putting the assembly line at top speed, the manager has to make sure to have all hands ready and all quality controls running, inside the factory but also with his outsourcing partners. Only if adequate risk management tools are in place at a pension fund, can the quest for returns begin. The Prudent Expert rule does therefore not expect the pension fund manager to identify the highest return investment in the first place. Some may be better at this than others, but these

capabilities do not make them experts, or prudent. Prudence requires, however, that every manager or fiduciary makes sure that the production process does not run out of control.

This control can simply be secured by following only a few principles in process design, along the lines described above: To run a pension fund without having conducted an ALM study can be called 'benign neglect' at best. Or, to manage an investment portfolio internally without staff and operations comparable to the standards applied in the investment management industry, would be in contradiction to operational risk management principles. Qualification of pension fund managers is thus key, and, in combination with discipline, is what makes experts prudent. Supervision in many countries can be assumed to put more emphasis on these standards in the future, than on investment restrictions and volatility numbers. Or on return numbers, for that matter.

Outlook: Competing by risk management

While the principles described above are naturally important for the beneficiaries of a pension fund, competition between pension funds has been and still is quite restricted. People have the freedom to choose between different cars, but often not between different pension funds and their risk management qualities. The recent quest for portability of pension claims and capital is apt to change that. It will transform quality in risk management from a technical subject into a business subject for pension funds themselves. And, even if we all like high returns, at the end of the day, pension fund managers shall like risk management.