



Dynamic risk management

What is dynamic risk management?

Dynamic risk management broadly encompasses a process which allows an investor to adjust the risk profile of their portfolio based on defined metrics. Dynamic processes are well suited to institutional investors where success or failure of the investment strategy can be clearly described, for example an insurance fund needing to manage its solvency position, or a pension fund needing to manage its funding position while taking account of exposure to the sponsoring employer.

A dynamic risk management process therefore allows risk taking when the funding position lies within certain boundaries (where it is accepted that it is desirable to take risk). However, as or when the financial position changes (and risk taking becomes less attractive), the dynamic process would gradually lower the risk profile of the investment strategy (switching out of risky assets into liability-matching assets) to prevent the funding position deteriorating, either to lock in the gains or prevent unmanageable losses occurring.

What forms can it take?

Dynamic risk management processes can occur in many different forms. A 'one-way switching' process is one where simple rules are set to sell risky assets but, once sold, there is no process to reinvest in the risky assets if market conditions or the funding position reverses.

A 'two-way switching' process would allow switching decisions to be reversed.

A direct alternative to managing a switching strategy is to purchase an over-the-counter (OTC) option strategy (through an investment bank). Under this arrangement, the bank will guarantee the pay-off in all scenarios (to provide the protection) and, in return for a premium, the fund is able to transfer the risk (and governance overhead) of managing the strategy to the bank.

The final form is dynamic replication. This is effectively a more sophisticated form of a two-way switching process where a fund attempts to reproduce the pay-off that would be expected from an option strategy by trading futures (highly liquid instruments), possibly very frequently (daily, at times).

Where are funds now?

A typical decision-making process for many funds revolves around regular investment committee meetings. The sequence of steps would be for committee members to receive papers before the meeting. These would be discussed at the meeting and decisions taken (which could include leaving assets undisturbed). If changes are to be made, actions would be allocated for completion within a given time frame. Therefore, it is probably true to say that most institutional funds run a dynamic investment strategy to some degree and, over longer time frames (one to three years), it is possible to effect quite radical changes to an investment strategy.

What are the limitations of this approach?

For most investment committees the decision making is usually focused on 'where we are now', and consequently many committees struggle to respond in the situations where the funding position deteriorates very rapidly, especially when the new



circumstances require a completely different mindset or thought process.

In situations where the financial standing improves rapidly, there may be behavioural biases that make it difficult to effect a significant change in strategy. For example, committees may become over-confident, believing that a trend has further to run, or failing to fully appreciate good luck versus skill. It does not take much difference of view between committee members to make rapid decision making impossible. De-risking in these situations (if, for example, the fund's financial objectives can be met with a low risk strategy) may not be an easy decision, as some committee members may argue that the improved standing of the fund can now support greater risk taking.


In the reverse situation (where the financial standing of the fund has significantly weakened), there may be equally strong behavioural biases that make it difficult to effect a significant change in strategy. For example, taking a decision to sell an asset which has performed poorly can be hard. It might mean accepting that mistakes have been made in the past. It may mean incurring high transaction costs, or having to revisit other decisions, such as increasing contributions or cutting expenditure. A fairly natural reaction to this at a time of stress is to avoid or delay hard decisions.

What are the issues investment committees have to deal with to implement a dynamic risk management strategy?

Perhaps the first step for any committee to overcome is to recognise its limitations in taking rapid, informed decisions in real time as an extreme scenario unfolds. Once this is recognised, some hard thinking is needed by the committee members to consider how they would like their fund to respond in different scenarios.

One question to resolve is where are the points ('strikes') around which risk needs to be managed. For an insurance fund subject to solvency requirements, the strikes may be well defined, but for a pension fund with a reasonably strong sponsor covenant, it may be less obvious where the strikes should be set. Should the strategy work on both the upside and downside, or just protect the downside, and at what point should the strategy take effect (or should the strategy always be operating in the background)?

To have a dynamic replication process operating all the time may introduce higher costs, but equally it is likely that some de-risking will be needed far away from the strikes to provide protection from a strong downward trend.



The size of the fund can also have a bearing on how rapidly changes can be made to the strategy, and this needs to be reflected in the design.

An external manager may be attractive as this gives the committee the ability to change the strategy and the day-to-day costs of employing the manager may be more acceptable.

On the other hand a derivative strategy may require the committee to 'sell the upside', or pay a premium to obtain downside protection. The terms of such contracts can often appear expensive and difficult to change, but provide more certainty in terms of the implementation.

Summary

Dynamic risk management strategies can take many forms. To be successful, investment committee members will need to reach agreement on some difficult questions. However, the process of putting a strategy in place is likely to be a good discipline which should ultimately help to improve the governance and decision making of the investment committee.