Getting pensions into shape

How can we satisfy changing risk appetites?

Abstract

Defined benefit (DB) plans have lost some appetite for risk. While an aging population provides a good reason to de-risk these days, other reasons for doing so might be worrisome. To avoid repeating past mistakes, DB plans need a better framework and process for making risk decisions.

De-risking can take many forms – from changing plan designs that reduce risks arising from liabilities, to buy-outs which transfer risks to others. This paper takes liabilities as given, and outlines a framework and related processes for determining "risk appetites" that help DB plans make informed choices about the types and amounts of risk to consume. In doing so, we challenge whether de-risking makes sense today and consider how else DB plans can get into better shape financially, with an emphasis on defining and managing risk appetites.

Background

An aging population has provided a good reason to de-risk. As the ratio of working-to-retired members falls, plans should now have less appetite for risk because fewer contributors are available to bear the pain from funding shortfalls[1]. Other reasons given for de-risking, however, are more worrisome and highlight deficiencies in processes which persist today and which might cause problems in the future. In the 1990s, for example, shortcomings in risk practices went largely unnoticed, masked by strong equity market performance. Yet better risk management would have yielded higher returns on fixed income portfolios as well, and prevented many plans from falling into the deficit positions that they are in today.

A catalyst for de-risking is evolving accounting standards, which is a concern. While changes that make the risks from liabilities more transparent should be welcomed, the reaction to these accounting changes (less risk taking) might not be. In part, some de-risking reactions imply that fiduciaries were unaware of the funding risks arising from the liabilities, or they simply chose to ignore them. Either way, lack of risk transparency in the past did not hedge the true risk that existed, in the same way that evolved accounting standards today do not create new risk by simply making them more transparent. A second catalyst for de-risking is the recent financial crisis and the "perfect pension storm" that preceded, which was characterized by falling stocks and falling interest rates (bad for liabilities). The response to these extreme events might be an overreaction to recent pain, and an indication that certain risks need to be better understood.

Risk gaps

While many factors have contributed to the poor state of DB funding today, gaps in risk management practices certainly played a role. A comparison of current practices against various risk principles would reveal material gaps in risk governance, risk management and risk measurement at many plans today. The risk framework and related processes described in this paper address the gaps that contributed to the current pension crisis, and help answer the question of whether to de-risk or not today. These features include:

- **Risk framework** to define risk parameters explicitly (e.g., risk appetite)
- **Risk budgets** to calibrate appetites for key risks identified in the framework
- **Risk reporting** to monitor compliance with risk budgets and
- **Risk policies** to institutionalize the framework, budgets and reporting.

Risk framework

DB plans need a risk framework to define risk parameters explicitly (e.g., risk appetite). Such a framework would include the concepts, principles and beliefs to support effective and efficient policies and strategies. More specifically, the framework would achieve the following goals[2].

- Align risk appetite with objectives
- Identify and manage multiple risks across the portfolio
- Enhance and optimize the control environment
- Reduce the frequency and severity of surprises and losses
- Enhance the rigor of the fund's risk-response decisions
- Proactively seize on opportunities presented
- Improve the effectiveness of the fund's risk capital deployment

The foundation of the framework is the Minimum Risk Portfolio (MRP) or benchmark for measuring performance in relation to the primary goal, and the risk of not being successful. The MRP aligns the interests of those who own pension capital with those who manage it by differentiating between primary and secondary goals.

Funding problems today reflect, to a significant extent, a failure to define appropriate MRPs. Funds which focus on the returns on assets only, without relating them to a liability benchmark, have not identified an appropriate MRP. In an asset-only paradigm, cash looks less risky than long bonds despite providing a worse match relative to long-term liabilities.

While funds generally measure performance relative to benchmarks and possibly peers (fine for managing secondary and tertiary risks), some funds have adopted a less conventional approach by measuring and managing primarily against a liability benchmark. These less conventional funds are likely better off today as a result, because they likely had longer duration bonds when interest rates were higher, but falling. Today, these funds are better positioned to answer the de-risking question, and many might decide that the time has come to increase risk in certain areas (e.g., shorter duration relative to liabilities). Sadly, the DB industry is living proof that Keynes was right when he said "worldly wisdom teaches that it is better for reputation to fail conventionally than to succeed unconventionally"[3].

Other framework elements include risk targets and limits. Targets represent the risks to be consumed in a quest to meet return or value added quotas, while limits set the boundaries for risk appetite by quantifying how much risk is too much and too little. The next section describes a process for setting these targets and limits. Other Framework elements relate returns and risks, and reflect various risk principles and beliefs.

Risk budgets

DB plans need to calibrate their appetite for key risks identified in the framework. In other words, they need risk budgets with explicit targets for risk consumption that would meet the primary goal (better funding), as well as any secondary goal (beating benchmarks). DB plans also need limits that set boundaries for risk taking and reflect risk tolerances.

This budgeting process reflects a belief that risk is a "good" (resource), rather than a "bad", and that budgets are a practical way to allocate risk resources so that risk consumption is both effective (aligned with goals) and efficient (not wasted). This budgeting process obeys basic laws of economics. Simply put, there is an appetite for risk which should lead to an explicit demand for, and consumption of, risk.

Articulating risk appetites, however, is not easy and the first challenge is that many people do not speak the language of risk very well. Language barriers are best overcome by getting immersed in the local culture, and learning to speak VaR (value at risk) is no different. We should begin by reporting key risks in relation to limits and targets which can be reverse-engineered from existing policies and strategies. These "implied" limits and targets might not be known but they nevertheless exist, and they can be inferred using reasonable assumptions and generally accepted risk principles. For example, we can imply limits by quantifying the impact on risk that would arise from changing the asset mix "at the extremes" (e.g., maximum permitted equity, minimum bonds, and vice versa). These estimates of "implied" risk appetites can be fine-tuned with other such assumptions. By discussing risk levels in relation to these implied parameters, DB plans will become more conversant in risk, allowing them to articulate "true" risk appetites, and making any needed portfolio changes that would increase risk-adjusted returns.

Another suggestion for developing explicit risk appetites is to start with the secondary (active) risk. There are two reasons for doing so. First, the "math" for active risk is easier because the impact of correlations across asset classes and managers is small, while correlations are an important consideration for passive returns that impact the primary (funding) risk. Second, it is better to work out the kinks in virtually any new processes before applying them to mission-critical items (funding risk management).

The process for setting limits for active risk is fairly mechanical. For example, the lower active risk limit reflect the incremental costs from active management, while the risk target must reflect the value added goal. Both parameters need to reflect the presumed skill in adding value, as well as the breadth of opportunities to do so. When setting the upper limit for active risk, however, the impact of active management on the primary (funding) risk should be considered. In other words, the upper limit for active risk should not be set in isolation. By integrating the management of both types of risk, many funds might decide that the upper limit for active risk can be set higher than otherwise, given the size of the funding risk arising from the policy portfolio alone.

After applying this budgeting process for the active program, the time comes to tackle a bigger problem: setting an explicit appetite for the primary (funding) risk. Success here involves addressing issues related to pension governance, management incentives and behaviors that follow – a discussion of which is beyond the scope of this paper. The starting point, however, is to debate the implications of the risk limits and targets reverse-engineered from the permitted asset mix range and other such assumptions, as discussed above. To start, fiduciaries need to answer these questions:

- Do we understand what the implied risk limits and targets are telling us?
- Are we surprised with the size of these parameters?
- Are we comfortable with these implicit parameters, and prepared to approve them explicitly in policies today?
- If not, what must we do before we can:
  - develop explicit parameters which differ from the implicit ones presented for discussion? and
  - approve explicit parameters in policies, so the fund can comply with key principles and leading practices?

In the end, explicit risk appetites should strike the right balance between benefits and pain.

Risk reporting

After implying risk targets and limits and reflecting them in risk budgets, DB plans need better risk reporting to monitor compliance with risk budgets. Risk "thermometers" that show risk targets (green zone) as well as upper and lower risk limits (red and blue) are practical gauges on a risk dashboard that help Boards discharge their oversight duties in this area.

Other reports would provide the transparency to monitor risk concentrations, for example. Over time, a goal should be to replace (or de-emphasize) asset mix reports, which show the portfolio breakdown by market value (reliable, but less relevant), with decompositions of market value at risk (more relevant). Other reports would meet key principles and leading practices (stress tests, scenario analyses and risk-adjusted returns to name a few).

Reports should also reduce the emphasis on what happened (past returns, with a large "noise" component), to make room for more relevant information (expected returns and risk). Comparisons against peers should also be reduced or eliminated (unrelated to the mission and less comparable).

Risk policies

Finally, DB plans need risk policies to institutionalize the framework, budgets and reporting. These policies should be reviewed periodically and updated to reflect changing risk appetites over time.

Conclusion

Some DB plans have been using a less conventional framework for setting pension goals, and a less conventional process to manage the risk of meeting those goals. In doing so, they enjoyed a free lunch (less risk and higher returns) by maintaining a comparatively long duration at a time when interest rates were falling.

With changes in pension accounting rules that make interest rate risks more transparent, these less conventional strategies are becoming more commonplace, and look less "innovative" than before. With many plans following suit, de-risking portfolios by lengthening portfolio duration might prove to be a costly way of implementing a lower risk appetite given today's lower interest rates.

DB plans should consider adopting a better risk framework, developing explicit budgets for risk, reporting risks more frequently and setting policies for acceptable levels of risk. By doing so, they are less likely to repeat past mistakes. As Keynes warned us, however, this is easier said than done.

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1 This ratio fell from 10:1 in 1970 to 1.5:1 in 2010 for the $108 billion Ontario Teachers' Pension Plan (2010 annual report, for example).

2 "Driving business performance with enterprise risk management," pg. 2, IBM Business Analytics white paper, 2011.

3 Keynes, John Maynard, (1936) The General Theory of Employment, Interest and Money, London: Macmillan (reprinted 2007); Chapter 12, Section 5

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