Risk Management is the Cornerstone of Investing

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Editor’s Note: This article has been adapted for Investments & Wealth Monitor from “Risk Management is the Cornerstone of Investing,” available at http://www.russell.com/institutional/research_commentary/risk_management_cornerstone.asp.

Poor governance is the root cause of failures in pension risk management. Most fiduciaries place too much emphasis on return and don’t spend the time it takes to understand and manage the risks in their funds. Fiduciaries need to adopt better risk management processes and consider the impact of human behavior on investment decision-making. However, this requires an entirely different approach to risk management and governance. We’re not talking about structural tweaks; we’re talking about the hard work of building a better risk management framework and culture.

Many funds have failed to realize that risk is the cornerstone of investing and instead have focused too heavily on expected return. Overconfidence and the illusion of control have blinded fiduciaries to the fact that returns are largely unpredictable and outside their control. It is far more difficult to estimate trends than to determine an appropriate level of risk. Fiduciaries have forgotten that returns trend over time, vary with time, and are subject to statistical noise. Today we must realize that the “new normal” is truly uncertain. Part of the uncertainty is because we’re in a low-return environment and interest rates, which are close to zero, are likely to rise.

The Complexity of Risk

One of the best ways to visualize risk is to think of it as a three-dimensional matrix, like a Rubik’s Cube (figure 1). Envisioning risk this way demonstrates its complexity, multidimensionality, and interdependency. Consider that market risk and investors’ risk tolerances change with time, and you start to understand the extent of the predicament. The dimensions of each of the 125 equity risk boxes in figure 1 are not constant or vary over time, and each can explode in size at any time. So trying to solve the risk riddle with a simple, two-dimensional (mean/variance) optimization tool designed for normal markets is suboptimal and failure-prone. Making incremental changes to outmoded models will not suffice.

Therefore, using triangulation that incorporates various diagnostics and making tradeoffs among multiple estimates of risk may prove more fruitful than attempting to achieve a precise estimate of risk-adjusted return. Determining the level of risk is somewhat manageable, but accurately forecasting return is not. Given the complexity of risk, perhaps it is better to be almost right about achieving a somewhat manageable objective (such as a given level of risk) than to be precisely wrong about a totally uncontrollable variable (such as a forecast of risk-adjusted return). This, however, takes a complete reorientation of the fiduciary thought process.

Rethinking Risk Management

Despite the abundance of research on risk management, pension plan managers have largely ignored the findings. As plan sponsors face uncertainties related to a new normal for the financial markets, now is the time to focus on a...
better, more-robust approach to managing risk.

**Putting Risk in the Proper Context**

Clearly defining time horizon, goal setting, and risk tolerance is important. These areas, unique to each investor, must be fully explored and clarified. Don’t underestimate the time it takes to do this right, because the evaluation of each of these variables may affect your future response to risk.

**Time horizon** is easiest to define. Any risk management solution must incorporate a long-term strategic asset allocation time frame of 10 to 20 years, an intermediate time frame of five to 10 years, and a short-term time frame of less than five years, including crisis periods. The latter is particularly important to ensure that a fund can weather a potential market calamity to attain the expected long-run benefits. This requires having alternate ways to evaluate risk, which generally include techniques such as stress testing and scenario analysis. Rebonato (2007, 245–249) suggests always framing the issue by asking three simple but pertinent questions:

1. “Can I survive the worst plausible outcome?” (Are the downside results considered unacceptable by the system of assessing performance?)
2. “What is my breakeven?” (How badly do things have to go to yield a return no better than the riskless one?)
3. “How much do I gain in the best plausible scenario?” (After understanding the risks, what could be gained?)

**Goal setting** is more of a challenge. Because most investors have competing investment objectives, goals must be prioritized, with the primary objective kept solidly in mind at all stages of decision-making. We might have to back up further—to the plan design—and ask: “What is the mission of the fund in regard to the overall organization and our human resources policy?” and “Can we afford it?” For example, consider a manufacturing company with easily replaceable, unskilled labor requirements and high employee turnover. The company managers may decide that a pension plan is not important in hiring and retaining workers and therefore might favor a low-cost 401(k) plan or group registered retirement savings plan. Now consider a management consulting firm with services defined by the sophistication and professionalism of its employees. To attract and retain the best and brightest associates and to differentiate itself within the industry, the firm may decide that a rich cost-of-living-adjusted defined benefit plan is a competitive advantage. In other words, an organization that can see the big picture is more likely to arrive at the appropriate design.

**Risk tolerance** is even more difficult to discern. Fiduciaries need to address the following three components of risk tolerance as well as how they interact:

1. Risk psychology, which is a psychological trait like intelligence, personality, or aptitude
2. Risk capacity, which is how much risk the organization can afford to take in its pension fund
3. Perceived risk, which is a subjective judgment such as the feeling that investing in stocks in a bull market is not as risky as investing in stocks in a bear market

While designing a portfolio, the client and consultant may discover gaps among required risk (the risk inherent in the return required to achieve the goals), risk capacity (the maximum affordable risk), and risk psychology (the preferred risk-return tradeoff). Exploring these relationships is usually a powerful educational experience for the client. This diagnostic “gap analysis” should be led by the consultant, whose role is to suggest alternatives, illustrate outcomes, and make recommendations—but not to make decisions. Gap analysis usually includes a combination of the following:

- Increasing resources (returns) by earning more and/or spending less
- Contributing more via employer and/or employee contributions
- Delaying, reducing, discarding, and prioritizing goals
- Determining the appropriate level and preference for risk, so that it is enough to achieve long-term goals but avoid panic and downturn selling (Black 2009)

An examination of risk capacity also should lead to a discussion of the plan sponsor’s financial health, the nature of the organization (corporation or government entity), and the potential impact of the pension fund liabilities/contributions on the organization’s financials. Over the past decade, poor investment returns (decreasing assets) and declining interest rates (increasing liabilities) have devastated the funded status of many sponsors and forced them to try to find ways to make contributions when they can ill afford to do so. Again, discussions between the consultant and client on this issue are critical.

To illustrate, let’s review two polar extremes. On one hand, a countercyclical consumer staples firm, such as a brewery, may find its profits increase during economic downturns, when consumers feel less wealthy and opt to drink beer instead of more-expensive wine and spirits. Consequently, the firm can well-afford increased pension contributions when the economy is weak. On the other hand, consider a discretionary consumer products company, such as a restaurant chain, whose profits are adversely sensitive to the economy. All else being equal, the former should be able to afford a more-risky asset allocation in the long term because it probably will endure less stress in a short-term crisis.

The assumption of all else being equal rarely holds in real life. The magnitude of the pension liability on the sponsoring organization must be considered, too. Are pension liabilities...
and potential contributions minimal in relation to the corporate financials, as might be the case at a growing technology company with a small, young workforce? Or are they extremely large, such as we would expect at a mature car manufacturer? Each corporation’s capacity to absorb the pension downside may differ considerably. Given the well-publicized challenges of managing a pension fund, corporate managers may wish to understand their exposures compared to competitors’ and broader peer groups. After all, in any competitive environment, it behooves us to understand how we might gain an edge on our rivals, and the pension area is no exception. As the old joke goes, the hunter may not have to out-run the bear if he can run faster than his hunting buddies.

Weighing the Alternatives

Once investment risk is seen in the context of the firm and its nuances have been thoroughly considered, the merits of various alternatives can be appraised. Two broad options spring to mind. The sponsor can either “de-risk” the pension fund through pension buyouts, plan redesign, or risk mitigation including immunization, though most find this de-risk approach too costly. The sponsor also can seek to better comprehend and manage the risks.

Two fundamentally different schools of thought address how those that decide not to de-risk should manage risk:

1. The first approach, espoused by The Black Swan author Nassim Nicholas Taleb and others, holds that the market is unpredictable and any attempts to outsmart it are largely futile. In short, you shouldn’t bet what you can’t afford to lose because the market may indeed be irrational, but it is always “right.” The idea is to take no more risk than you are comfortable with and deem necessary to meet your objective. Subscribers to this philosophy should explore more deterministic investment strategies including liability-driven investing (LDI),2 liability-responsive asset allocation (LRAA),3 and buying cost-effective insurance such as options to hedge some risk.

2. Those who espouse the second approach, many of them investment managers, also believe the market is uncertain, but they also think that through better research and understanding they can determine when the market is cheap and rich. By weighing the probabilities and placing small, calculated bets (i.e., buying some risky assets) to increase exposure when the market is cheap and reduce exposure when the market is rich, value can be added. Informed judgment is more nimble with better risk intelligence, can avoid critical mistakes, and should lead to superior outcomes. More-dynamic investment strategies, such as enhanced asset allocation (EAA)4 and strategic tilting,5 might be appropriate here.

Both of these schools of thought—conservative vs. informed judgment—and their corresponding investment strategies—deterministic vs. dynamic—agree on one overriding fact: Markets are uncertain. However, neither strategy professes to eliminate risk; rather, both are aimed at assessing and possibly containing it. Of course, effective risk management requires much more than simply figuring out which camp you are in and then picking an investment strategy. Fiduciaries need a framework for proactively managing the risks in their funds on an ongoing basis.

Establishing the Right Framework

Common sense dictates that fiduciaries pursue a fund-wide approach to risk management, an all-encompassing process that incorporates both quantitative and qualitative risks. Curwood (2007a) concludes that a fund-wide investment risk framework that includes desirable attributes and risk management elements is a necessity for most plan sponsors.

An ideal risk management framework has the following nine desirable attributes:

1. It has a fund-wide scope that encompasses all investment (quantifiable) and process (qualitative) risks.

2. It demonstrates that return and risk are interwoven.

3. It identifies and describes a general hierarchy of risks.

4. It allows for variations across funds in the importance of specific risks and/or risk tolerance.

5. It enables an assessment of risk using both quantitative tools and common sense.

6. It is “owned” by the governing fiduciaries.

7. It is clearly articulated and understandable to all fiduciaries.

8. It is practical and proactive in dealing with risk.

9. Its results can be reviewed and evaluated.

Attributes 1–5 are risk considerations; attributes 6–9 are organizational considerations.

An ideal risk management framework has the following six elements:

1. It identifies and defines all the sources of risk within a fund. (We have focused on defined benefit pension plans in the risk matrix in table 1, which lays out 57 risks. However, through minor modification, the matrix easily can be applied to an endowment fund by incorporating preservation of capital and spending/payout policy, or to a defined contribution plan by incorporating communication, advice, and record-keeping risk factors.)

2. It reflects an understanding of the nature of the risks within your total investment context; it allows for the development of possible risk causes and scenarios.

3. It measures the potential magnitude and impact of those risks on your
pension fund; separates minor, more acceptable risks from major risks; and provides information to assist in the evaluation and treatment of risks. 4. It assesses how and whether those risks have been addressed or mitigated by past actions, and it provides a prioritized list of risks that require further action. 5. It calls for management of the largest unaddressed risks and utilizes a hierarchical approach to sequentially deal with the remainder. Such risk treatment involves identifying the potential range of options and preparing and implementing risk treatment plans, and it demands documentation of the process and rationale.

### TABLE 1: GENERAL HIERARCHY OF GOVERNING FIDUCIARY CONCERNS

<table>
<thead>
<tr>
<th>Decision/Risk</th>
<th>Fiduciary</th>
<th>Asset/Liability</th>
<th>Structural</th>
<th>Implementation</th>
<th>Operational</th>
</tr>
</thead>
</table>
| Governance             | 1. Legislative  
  2. Political  
  3. Decision-making  
  4. Imprudent delegation  
  5. Publicity  
  19. Research  
  20. Initial due diligence | 29. Procedural control | 51. Resources  
  52. Systems/technology |
| Objective setting      | 7. Policy | | | | |
| Asset allocation       | 8. Socially responsible investing  
  9. Actuarial/funding | 11. Mismatch  
  12. Assumptions  
  13. Asset mix/classes  
  14. Model  
  15. Downside  
  31. Leverage | |
| Asset class strategy   | 17. Regret | | 22. Active/passive  
  23. Currency  
  24. Benchmark  
  25. Derivatives | 32. Hedging  
  33. Tactical asset allocation  
  34. Timing  
  35. Credit | |
| Manager/portfolio structure | | 26. Style  
  27. Sector  
  28. Country | | | |
| Manager research & selection | | | 36. Manager  
  37. Holdings concentration  
  38. Tracking error  
  39. Counterparty | | |
| Custody/execution      | | | 40. Residual  
  41. Call | 53. Liquidity | 54. Custodial  
  55. Securities lending  
  56. Valuation |
| Performance/process evaluation | | | | 50. Ongoing due diligence | 57. Guideline breach |

Legend

<table>
<thead>
<tr>
<th>Impact Level</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Impact</td>
<td>Blue</td>
</tr>
<tr>
<td>High Risk</td>
<td>Green</td>
</tr>
<tr>
<td>Moderate Risk</td>
<td>Yellow</td>
</tr>
<tr>
<td>Low Risk</td>
<td>Brown</td>
</tr>
</tbody>
</table>
There are no shortcuts to changing a culture. Effective risk management requires collaborative and cohesive governance, which fosters top-down oversight, bottom-up involvement for risk-taking, and coordinated monitoring of the process.

6. Through continuous utilization of the hierarchy, it provides a review of the risks and adds new risks as they are identified. It monitors the delegated risks to the desired outcomes and sets up a procedure for monitoring risk and evaluating the effectiveness of your risk treatment plan. Such ongoing review is essential to ensure the relevancy of your approach.

Combining these six elements with the nine desirable attributes yields a fund-wide investment risk management framework that is practical and understandable for fiduciaries. But this alone won’t get plan sponsors where they need to be. An entirely different approach to governance also is needed.

Rethinking Governance

Good risk management policies and effective governance are intricately intertwined. “Deficiencies in risk management and distorted incentive systems point to deficient board oversight,” the Organisation for Economic Co-operation and Development (OECD) (2009, 17) stated, adding, “Risk policy is a clear duty of the board in any organization.” The Group of Twenty (G-20) finance ministers and Central Bank governors recently stated: “Failures in corporate governance must be addressed because they allowed the financial crisis to develop. . . . [G]ood governance, overseen by responsible shareholders, addresses management of risks in a way that underpins prudential supervision and regulation” (Harrison 2009, 13).

The belief that managing risk is an essential part of good governance is reinforced by pension regulators such as the Canadian Authority of Pension Supervisory Authorities (CAPSA). One of CAPSA’s guiding principles states, “The plan administrator should provide for the establishment of an internal control framework, commensurate with the plan’s circumstance, which addresses the pension plan’s risks” (CAPSA 2004). In addition, CAPSA’s self-assessment questionnaire asks:

- Have you identified the pension plan’s risks?
- Do you have a process to manage these risks?

What is important to understand is that CAPSA and other regulators are not offering a precise prescription for how fiduciaries should manage risk. Instead, they are asking big-picture questions in an effort to motivate fiduciaries to think about risk from a broader perspective.

Adopting an Enterprise Risk Management Culture

Figure 2 outlines three modern depictions of a robust risk management process, all of which provide a more-holistic, enterprise-wide view of risk. Makomaski (2009) states that, in the modern context, “Enterprise risk management is a structured and disciplined approach that supports the alignment of strategy, processes, people, technology, and knowledge with the purpose of evaluating and managing the uncertainties an organization faces as it creates value.” As such, it has the following characteristics:

- It includes all risks, not just financial risks.
- It integrates into the management process and becomes every manager’s responsibility.
- It addresses both the hard and soft sides of risk management.

Fiduciaries must understand the complexities of risk and, to be effective, dramatically change the way they think and act. This means adopting an enterprise risk management culture, embracing appropriate behaviors and attitudes, and developing and rewarding competencies. All the fiduciaries must also agree on their risk management beliefs. There are no shortcuts to changing a culture. Effective risk management requires collaborative and cohesive governance, which fosters top-down oversight, bottom-up involvement for risk-taking, and coordinated monitoring of the process. In short, we must have effective communication around risk issues.

In a risk-aware culture, communication is frequent and inclusive, resulting in multiple views of risk for increased transparency. So we must look beyond the normative, use multiple scenarios, and stress-test our assumptions. We must consider capital adequacy and liquidity in the event of systemic shock or unexpected volatility. We must strike the right balance between the quantitative and the qualitative, to establish risk-adjusted performance measures to influence behavior and strategy. Risk management should be a dynamic, forward-looking, and comprehensive process; however, it is just evolving. Nonetheless, the Risk and Insurance Management Society recently endorsed this approach in its Enterprise Risk Management Report, which stated that “organizations seeking better performance need to broaden and deepen their programs to mature in the competency drivers that support front-line risk ownership, linkage and governance oversight . . . to build a culture of risk-adjusted decision making throughout an organization” (Coffin 2009, 7).
Asset Managers Need to Modernize Risk Management Processes Across Four Fronts

1. Insight and strategy
   - What are the major risks to future performance, including contingent exposures?
   - What is the firm’s desired risk profile? Are business decisions made with a clear view of their impact on the risk profile?
   - Which risks should be owned? Which should be transferred or mitigated? Is risk capacity aligned with strategy?

2. Governance, organization, and processes
   - Are the structures, systems, controls, and infrastructure in place to manage risk and comply with regulatory requirements?
   - How robust is governance model?

3. Culture
   - Does the firm’s culture reinforce risk management principles?
   - What formal and informal mechanisms support the right mindset and behaviors?

4. Measurements and reporting
   - Are risk factors effectively identified, measured, and monitored as well as the correlations between them?
   - Do reports highlight key risks?
   - Are risk systems, reports, models, and stress testing adequate for the sophistication of assets being managed?

ERM frameworks help organizations:
- Demonstrate proactive understanding and management of risk
- Advance Management and Board-level understanding of existing business risks and results and emerging risks and future prospects
- Improve organizational health
- Enhance corporate governance
- Streamline existing risk processes
- Improve business decision-making
- Support financial reporting
- Gain competitive advantage
  - Anticipate and effectively respond to risk
  - Improve the risk-reward ratio
  - Better allocate resources

Figure 2A Driving Value through Enterprise Risk Management

Source: Foley & Lardner LLP (2009)

Figure 2B The Key to Successful Enterprise Risk Management Practices Depends on The Behavioural Attributes of the Organization at All Levels

Source: Risk and Insurance Management Society (RIMS), Image copyright 2007 by the Risk and Insurance Management Society, Inc. All rights reserved.

Figure 2C Asset Managers Need to Modernize Risk Management Processes Across Four Fronts

Martin (2009, 14), speaking as chief risk officer of the Commonfund, summed it up nicely when he noted that “the key elements that drive the effective and proactive management of risk for any organization fall into two dimensions: 1. Action—all staff members are able to act with confidence if they are supported by: • Accurate, timely data. • Information flow that gets the right analysis to the right person at the right time. • Decision rights that clarify decision-making authority while eliminating unnecessary steps or inefficient processes. • An ability to execute that focuses on minimizing errors and providing feedback on actions taken. 2. Discipline—a quality control mechanism that seeks a higher level of consistency and predictability . . . during periods of acute uncertainty.”

The bottom line is that good fund governance is critical to acquiring and retaining the necessary skill sets to decide, implement, and oversee the appropriate investment policies. It is grounded in a deep understanding of markets and requires both expertise and education in managing risk. The human element therefore permeates all aspects of effective governance and risk management.

Addressing the Human Element
Human beings are emotional and inconsistent, and investment decision-makers—alone or in groups—therefore may fall victim to human frailty. Even our moods can momentarily affect our behavior, so it must be remembered that our investment decisions generally extend far beyond the moment. Sophisticated investment managers, academics, and strategists such as Bill Gross, Warren Buffett, Keith Ambachtsheer, and Don Ezra are regularly discussing behavioral impediments. When we fail to listen to both investment theory and practice, we do so at our peril. Therefore, wherever possible, we must rethink the consequences of our actions and not let our feelings rule our investment decisions. It’s vital to put sound practices in place to protect us from our emotions.

Zweig (2007) provides a number of folksy but proven ways to make our brains work for us instead of against us. At the top of the list is “Control the controllable,” which speaks to our central premise: Risk management, and not expected return, is the cornerstone of investing. Similarly, Mottola and Utkus (2009) outline several recommendations for realizing a group’s full potential. Their research hints at several basic and easy-to-implement tactics that committees should consider, including inviting a devil’s advocate into the discussion of key issues. These sugge-
tions are just the tip of the iceberg. The main point is that discipline, prudence, and adherence to basic guidelines, rooted in the fundamental research of decision-making, can reduce behavioral problems and leverage the full power of individuals and groups.

Conclusion

Poor governance in the pension industry has led to the mismanagement of risk and resulted in painful consequences for plan sponsors. Yet the need for better governance is not a new or revolutionary concept. Numerous strategists have conducted ample research on this topic over the past 20 years, documenting the need for change in fund and fiduciary behavior (figure 3; see also Curwood 2007b). Nevertheless, evolution and progress have been slow—some might say glacier-like.

Better governance starts with the understanding that risk management is indeed the cornerstone of investing: Investment management must begin with risk considerations and not with simply pursuing returns. Failing to grasp this, most plans have focused on optimizing (uncertain) returns rather than managing the level of acceptable risk. Beyond misdiagnosing the fundamental problem, investors have narrowly interpreted the solution set, underestimated the complexity of risk, and fallen prey to behavioral biases. As a result, they have spent too little time and effort on managing risk. Most of their time has been spent in routine administration and control instead of in education, training, and strategy assessment around risk management. This has led to a dearth of resources for addressing risk management and a widespread inability to focus and delegate.

Risk management cannot be summed up in a number, nor is it an exercise in compliance and box-ticking. It involves a well-defined process and intangibles such as human behavior and organizational culture. Hubbard (2009, 241) made this point nicely in *The Failure of Risk Management: Why It’s Broken and How to Fix It*:

“[If you were to implement better methods for measuring risks, then you would have much better guidance for managing risks. To achieve an improvement, however, your organization has to have a way to deal with barriers that are not part of the quantitative methods themselves. You need to break organizational silos, have good quality procedures, and incentivize good analysis and good decisions. The behavioral aspects can be especially challenging. This is because good governance is required to overcome bad behavior, but unconscious bad behavior causes fiduciaries to take the easy way out and not focus on governance. This devious loop is analogous to what many of us have encountered when constructing a complex Excel spreadsheet and the infamous error message “Circuitous Reference” appears. You must either go back through countless data entries, many interconnected by complex formulae, to solve the loop, or scrap the spreadsheet entirely and start over. Neither alternative is easy, but you can’t proceed until you correct the error. And no matter which route you choose, you must always keep the error itself in your mind, to solve it or avoid it. That is the key to fixing the Excel spreadsheet issue—and it also may be the key to fixing the governance-behavior loop. If plan sponsors are to progress in solving this Catch 22 and, by doing so, enable a better risk management process, they must be consciously aware of their emotions and harness them through a better governance process. In other words, they must be consciously aware of the unconscious. Now we know the true challenge of risk management. Is it any wonder that mega funds such as the Caisse in Canada and CalPERS in the United States have recently instituted massive governance/risk management initiatives, established positions of chief risk officer, and beefed up their risk management capabilities by adding more than 20 new hires in the area? The question that remains is how mid-sized funds lacking economies of scale will compete, and whether they can create a competitive advantage.”

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Endnotes

1 Please remember that all investments carry some level of risk. Although steps can be taken to help reduce risk, it cannot be completely removed.
2 LDI, or liability-driven investment, is a set of strategies designed to reduce risk by managing the volatility in the gap between liabilities and assets by better matching expected cashflows (Donald 2007).
3 LRAA, or liability-responsive asset allocation, adjusts asset allocation based on changes in a defined benefit plan’s funded status, to reduce risk as the goal of full funding narrows or is achieved. (Gannon and Collie 2009).
EAA, or enhanced asset allocation, employs intentional deviations from strategic asset allocation, based upon a modeling infrastructure, to take advantage of extreme market movements that are poised to mean-revert (Fox and Ristuban 2009).

Strategic tilting aims to deviate from the long-term strategic asset allocation to improve portfolio performance, only when markets are at some unsustainable extreme (Pease and Warren 2008).


**References**


