Commentary

July 2016

SEI New ways. New answers.®

Risk Management: Governance, Culture and Technology

- Risk management plays an assertive role from the new strategy proposal stage through its ongoing monitoring.
- SEI's structure reflects the fact that separating risk oversight from portfolio management improves objectivity.
- Our multi-asset risk model maps securities to a set of risk factors that helps explain variability of returns.

Our introductory paper, *Risk Management: The Intelligent Pursuit of Risk,* provided a glimpse of the qualifying framework used by the risk management team in SEI's Investment Management Unit (IMU):

- Are risk factors consistent with the fund or strategy's mandate?
- Is their presence intentional?
- Do they represent excessive exposures?

These questions provide a clear basis for measuring risk, which is a result of the assertive role that risk management plays throughout the entire investment management cycle — from the proposal of a new investment strategy to the ongoing monitoring of SEI's funds and portfolio strategies.

IMU risk management's process draws on three key strengths: governance, culture and technology.

Governance

The IMU's structure reflects the fact that separating risk oversight from portfolio management improves objectivity. As an independent team, the head of risk management serves as a member of the Investment Strategy Oversight (ISO) Committee, which includes the head of the IMU, as well as the heads of portfolio management, manager research, portfolio strategies and operations.

ISO is charged with guiding and approving new strategies, along with the guidelines that determine risk policies such as tracking error and leverage limits. The decisions made at this stage have a direct impact on how we answer the three questions that form our risk measurement framework.

When predetermined threshold limits are exceeded, risk management reports the status change to ISO. As changes in the portfolio can be driven by a number of factors, including market movements, decisions by underlying investment managers, changes in benchmark indexes, and others, each requires an event-specific evaluation and reaction.

Accordingly, ISO consults with the portfolio manager to review and evaluate the underlying factors that drove the change. The committee has ultimate responsibility to review and approve the portfolio manager's recommendations on the best way to adjust the portfolio so that the risk budget moves back into alignment. This process may involve several rounds of discussion in order to reach an outcome that achieves both the portfolio's investment goals and its risk objectives.

Culture

A shared understanding between the risk management team and portfolio managers regarding risk sources, risk budgets and risk metrics helps cultivate a sense of joint responsibility.

Those agreed-upon risk guidelines determine how risk management evaluates the strategies, and also provide parameters to the portfolio managers that, in effect, enable them to serve as proactive risk managers themselves.

Frequent interaction between risk management and portfolio management, as well as the transparency of working with a shared risk model, enables them to serve effectively as complements. Picture a distribution curve representing a range of potential investment outcomes. A portfolio manager seeks to move the entire curve to the right; that is, to increase instances of positive investment performance. The risk manager seeks to manage the left tail, or reduce instances of deeply negative performance. They work together to improve the investment experience.

Exhibit 1: Working Together

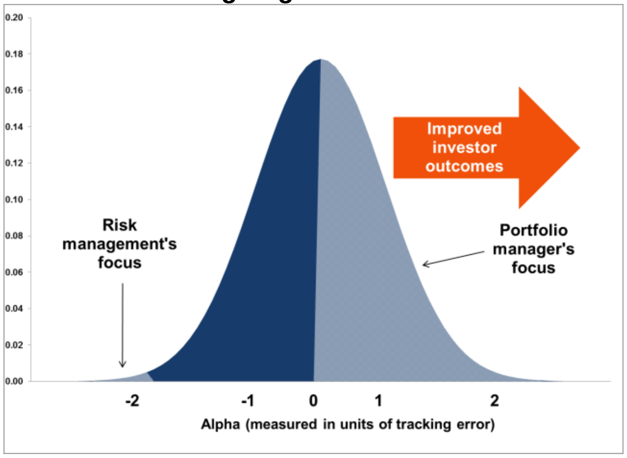

Exhibit 2: Common Risk Factors

Equity Factors	Fixed Income Factors
Market risk	Yield curve (by country)
Country	Credit spreads (by country, industry)
Industry	Foreign exchange
Style factors	Inflation
Fundamental factors	

Alternatives Factors		
Hedge Funds	**Real Estate**	**Private Equity**
Equity market risk	Property type	Deal type
Equity sectors	Leverage	Size
Country	Geography	Stage
Yield curve		Vintage
Credit		Concentration
Commodities		Geography
Currency		
Style		

Technology

Our risk model — a multi-asset platform that provides a consistent view of risk across equities, fixed-income and alternatives — serves as a shared resource that enables our monitoring and measurement efforts.

This platform maps each security to a set of risk factors based on daily information generated by our accounting system. These economic and market variables help explain the variability of a security's return. For example, government bond returns can typically be explained by interest rate movements, while corporate bond returns are more likely to be explained by both rates and credit spreads.

Factors are often associated with or more prominent in one asset class than others, but they can transcend traditional asset class boundaries. Consider that financial stocks, mortgage-backed securities and bank loans belong to separate asset classes, but share common risk factors.

We aggregate the information derived from our factor analysis to determine the contributions to risk from a given factor, at the fund or portfolio level, and from each investment manager. The latter carries a high degree of importance in a manager-of-managers context. Just as each fund is assigned an overall risk budget, our portfolio managers seek to ensure the managers within their funds adhere to manager-specific risk budgets. This process prevents a single manager from dominating the portfolio's risk allowance.

Risk Management: Monitoring and Measurement

Our series on SEI's approach to risk management will continue with a paper detailing how we employ our risk modeling technology to monitor and measure risk — at the security, manager, fund and portfolio levels. We also plan to address the following, in terms of their contributions to risk management, over the coming months:

- Investment manager research and due diligence
- Asset allocation and constructing portfolios
- Balancing risk for goals-based investing