THE FABRIC OF ERM

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FOR A COMPANY to get the most out of ERM, it needs to find the right weave of the four ERM perspectives to best suit itself.

IF ENTERPRISE RISK MANAGEMENT (ERM) is what it claims to be, then it is at its core the discipline of managing risk across an entire enterprise. But there are many different types of enterprises, from the pin-striped financial world to the tough, blue denim collars of manufacturing.

Banks believe they invented ERM, as the antidote to their out-of-control trading desks. Insurers see risk management as their birthright—but the underwriters and actuaries whose uneasy truce defines the sector have very different ideas of what risk management means. Long-lived firms in other business sectors are comfortable that their own approach to risk is all that is needed. Basel II/III, Solvency II and COSO/ISO31000 are the fundamentally inconsistent roadmaps to these divergent approaches. And to the enduring consternation of disciples of each of these styles of ERM, a number of firms flaunt the dictates of all three, yet continue to survive and sometimes thrive.

From this tangle, we can identify four distinct approaches to the management of enterprise-wide risk. These four ERM strategies can be called Diversification, Loss Controlling, Risk Trading and Risk Steering. We will consider each of these in turn, demonstrating that each represents a complete management system, with its own sensible way to accomplish different goals.

Are each of these strategies really ERM? Yes—in the sense that each can be used to manage risk across an entire enterprise. That proposition gives some practitioners pause. But recognizing that ERM is a fabric woven from four different threads can help every firm to weave them together in the manner that suits them best; there's no need to be constrained to the off-the-rack plaids and stripes that are the standard offerings.

DIVERSIFICATION

Many ERM practitioners see diversification as the non-strategy strategy. Those who follow a diversification approach may appear simply to be rejecting organized ERM. But diversification is part of the risk management strategy of many—perhaps most—firms, and it can absolutely be applied in an enterprise-wide fashion.

When concentrations of risk are monitored at an enterprise-wide level, this is Diversification-based ERM. To moderate its risk profile, the firm seeks to undertake a broad range of activities whose risks are unrelated, and to maintain an appropriate balance among these activities. The key limit applied is a concentration limit. The best practitioners of this approach constantly monitor their risks, staying alert for any change that would markedly increase the risk of one of their ventures and thereby skew the spread of risk.

The popular investment strategy of periodic rebalancing is at its core a diversification strategy. Buying and selling the losers and gainers is intended to keep the risk of the portfolio at a predetermined balance.

Diversification is also the fundamental idea behind insurance. It is the principle that enables insurers to assume risks from many individuals, whereas those individuals cannot bear the risk alone. Following the law of large numbers, diversification is best achieved with a very large pool of independent risks of similar size and risk characteristics. When insurance companies send a fraction of their biggest risks off to a reinsurer, they are motivated by the desire to maximize the benefits of diversification.

A very few insurance firms explicitly apply diversification at the strategic level, as a major theme of their ERM process. Modern conglomerates, on the other hand, have elevated this approach to become their driving principle.

LOSS CONTROLLING

Loss Controlling is a fundamental risk management activity that seeks to restrict exposure to potential losses or risks. Almost all businesses do this to some degree; the internal audit function and other ways of controlling operational risks typically fit this category.

In banks and insurance companies, the major Loss Controlling activities include risk underwriting and the establishment of exposure limits. Exposure limits for nonunderwriting risks, such as interest rate and equity exposures, can be enforced by using asset-liability matching and hedging. In nonfinancial firms, Loss Controlling adds a physical dimension. This is addressed by safety and industrial engineering programs—as well as by insuring physical property risks to set a limit on potential exposure. Supply chain and raw materials risks are managed by a variety of techniques, including but not limited to hedging. And in all types of firms, Loss Controlling strategies help to manage foreign exchange and liquidity risks.

Traditionally, each of these risks was managed in isolation. But Loss Controlling be-

comes an enterprise-wide approach when all the firm's risks are measured on some comparable basis. Then management can decide whether to retain or reduce exposure to certain risks based on a view of the firm as a whole.

The development, maintenance and interpretation of comprehensive risk models that can be used to evaluate all risks on the same basis are relatively new phenomena. Often, when such a model is first deployed, and management sees the company's actual risk profile, they realize that some risks are managed very tightly while others are essentially ignored. In the context of a Loss Controlling approach to ERM, risk models are most often used to conduct stress tests that help prepare the firm for the worst-case situation.

A STRONGER ERM FABRIC—WOVEN FROM ALL FOUR STRATEGIC STRANDS—SHOULD HELP FIRMS AVOID EMBARRASSING EXPOSURES IN THE FUTURE.

RISK TRADING

Modern ERM can be traced to the trading businesses of banks. Hard lessons from uncontrolled trading led to the development of improved management processes and standards. A major element in these systems is the valuation—in other words, pricing—of risks. Management of risk through Risk Trading activity can be applied on a transaction-by-transaction basis. But applying a consistent view of risk pricing across all risks leads to a Risk Trading form of ERM.

Many property and casualty insurance and reinsurance companies are pure Risk Trading firms. They focus on their combined ratio (the ratio of claims plus expenses to premiums). Health insurers often have the same Risk Trading focus. They consider premium inadequacy their main risk—and, in fact, many firms in these sectors have failed to maintain adequate premium levels over a period of years.

When these firms shift to an enterprise focus for their risk management programs, they start to think about using economic capital and a cost-of-capital approach to standardize their pricing risk margins. These firms may also establish risk limits that relate to the amount prices may deviate from the "standard" by-the-book rates.

Life insurers often use a Risk Trading ERM strategy if universal life or deferred fixed annuity products comprise a significant portion of their portfolio. For such products, there is a target interest rate margin and a regular discretionary process for setting the interest rates that are credited to their customers. These firms sought a comprehensive approach for managing interest rate risk when they began to vary the required margin between investments and liabilities based on the credit quality of the investments.

RISK STEERING

The activities most commonly described as ERM today are those that incorporate risk considerations into a comprehensive process for firm-wide risk capital budgeting and strategic resource allocation, with an eye to enhancing firm value. We call this Risk Steering ERM. At a macro level, information obtained from ERM systems can be used to optimize the company's risk portfolio. Proposals to grow or shrink parts of the business, and opportunities to offset or transfer different portions of the total risk position, can be viewed in terms of risk-adjusted return. Some firms employ this approach only for major ad hoc decisions on acquisitions or divestitures; others use it all of the time.

This top-down risk management process typically uses an economic capital model as its key reference point for risk, and the key limit applied is the amount of economic capital any one activity is allowed to consume. The planning cycle then will include a capital budgeting process that incorporates the capital requirements and expected return on capital associated with planned future business. Consideration of a business plan is evaluated as a potential allocation of capital to support that business activity, and financial results are measured on a risk-adjusted basis. This includes recognition of the economic capital necessary to support business risks—as well as the risk premium, loss reserves, and duration issues for multi-period risks such as credit risk or casualty insurance. A few firms that are using a Risk Steering ERM process have also created an incentive system tied to the risk-adjusted financial results.

Taken together, these activities can be seen as broadly similar to strategic asset allocation processes that allocate investments among classes to achieve the optimal return for choices along the efficient frontier. In fact, some insurers that use Risk Steering do employ the efficient frontier concept and plot their businesses on a risk versus reward graph using economic capital instead of standard deviation as the risk axis.

HYBRID APPROACHES

Firms that try to follow only one of these approaches to risk management will find their system lacking at one time or another. Banks found that their risk trading systems failed to prepare them for adverse situations that occurred much more frequently than their models had suggested, so they began to augment with some stress tests out of the loss controlling sphere. But without an understanding of the differences in perspective underlying these divergent risk management systems, many managers felt as though they had been asked to put socks on a fish.

Gaining an understanding of each of these risk management systems—and recognizing that each can be applied on an enterprise-wide level—offers practitioners better perspective on how the different strands can be woven together.

USING ALL FOUR SYSTEMS

The strongest ERM systems leverage the capabilities of all four approaches. Each strategy may come to the fore for a particular type of risk or a particular market environment.

For example, until someone develops a market for operational risks, those risks will be best managed using a loss controlling approach—leaving the price-focused trading approach to risks that are actually traded, and applying model-centric steering to risks that the firm can actually choose not to take.

At the strategic decision-making level, a view of the current risk environment may influence which of the four approaches takes center stage (see "The Many Stages of Risk" in the December '09/January '10 issue of *The Actuary*). This four-fold approach can be thought of in terms of a four-page risk dashboard, with one page for each of the four approaches to ERM. In this context, a major responsibility of the chief risk officer is to select the best order for these four pages at any point in time, based on the current and most likely emerging environment. (This is the process called Rational Adaptability in "The Full Spectrum of Risk Attitude" in the August/September 2010 issue of *The Actuary*.)

In the immediate aftermath of the 2008 financial crisis, some felt that the emperors of ERM had no clothes. We suggest instead that their ERM garments were not constructed from the best cloth. A stronger ERM fabric—woven from all four strategic strands—should help firms avoid embarrassing exposures in the future. A

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