Enterprise Risk Management: Theory and Practice

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By measuring and managing risks consistently and systematically, and by giving its business managers the information and incentives to optimize the risk return trade off, a company will be better placed to implement its strategy. **Managing risks holistically within a coordinated and strategic framework is called enterprise risk management (ERM).**

At the macro level, ERM creates value by enabling senior management to quantify and manage the risk return trade off that faces the entire firm. ERM helps the firm to maintain access to the capital markets and other resources needed to implement the firm's strategy. ERM reduces the probability of a large cash shortfall that will in turn lead to value destroying cut backs in investments.

What kind of risks should the company hold and what kind of risks should the company get rid of? **Companies should be guided by the principle of comparative advantage in risk taking**. A company without any special ability in forecasting market variables has no comparative advantage in bearing the risk associated with such variables. On the other hand, the firm will certainly have a comparative advantage in holding and managing information intensive, firm specific business risks. Firms are in business to take strategic and business risks. By reducing non-core risk exposures, firms can take more strategic business risk and take greater advantage of the opportunities in their core business.

At a micro level, ERM becomes a way of life for people at all levels of the organization. When making any investment decision, employees have to evaluate the risk return trade off. If a project increases the firm's total risk it should be able to provide an adequate risk adjusted return on capital. Based on the risks taken, capital can be imputed to the different projects. The project managers will have to earn adequate returns on this capital. In short, ERM introduces a culture of ownership and accountability. This is important because with the scope of risk management expanding to include operating and reputational risks, decisions have to be delegated to the line managers who are closest to the risks and are in the best position to understand how to deal with these risks.

By reducing risk, a company can reduce the amount of equity capital needed to support its operating risks. So, risk management can be seen as a substitute for equity capital.

When risk management is not effective and the firm does not have an adequate equity buffer, a sharp drop in cash flows is possible, leading to financial distress. **ERM can be used to limit the probability of financial distress to an acceptable value**. A company with many valuable growth opportunities should keep a lot of equity to ensure that no investment opportunity is forgone. In contrast, a mature firm with limited growth opportunities may be better off making aggressive use of debt, lowering the cost of capital and returning excess capital to shareholders.

Credit ratings are often used as the primary indicator of financial risk. A firm can determine an optimal or target rating based on its risk appetite and the cost of reducing the probability of financial distress.

With this target rating defined, the firm can define the quantity of capital needed. For a given amount of capital, the firm can alter its risk through hedging and project selection. Alternatively, for a given amount of total risk, the company can increase capital to achieve its target rating. Top management should decentralize the risk capital trade off with the help of a capital allocation and performance evaluation system that incentivizes managers to make investment and operating decisions that optimize this trade off.

The first step in operationalizing ERM is to identify the risks. Having identified the major risks, a consistent way must be found to measure the firm's exposure to these risks. Good information systems are needed to provide comparable, updated information across the company. Common risks across the businesses must be aggregated and managed effectively.

Credit ratings have their limitations because they are based on backward looking accounting ratios. Economic value based measures must complement the accounting ratios. A focus on cash flows implies a focus on economic value. But such an approach while reducing the probability of default, might lead to more volatile accounting earnings. For example, a company that uses derivatives to hedge an economic exposure but fails to qualify for hedge accounting may see the volatility of firm value reducing but the volatility of accounting earnings going up.

For each of the risk categories, VaR is calculated separately and then aggregated. The individual distributions and the correlations must be carefully understood. Suppose the main risk categories are market, credit and operational. Market risk has a normal distribution. Credit and operational risk have asymmetric distributions. While aggregating risks, the correlations need to be estimated. In general, because the risks will not be perfectly correlated, there will be some diversification across the risk categories. Firm wide VaR will be less than the sum of market risk, credit risk and operational risk VaRs.

The main problem with VaR is that it measures expected loss but is not a useful measure when it comes to the tails of the distribution. Conditional VaR is the expected loss, if VaR is exceeded. Setting the company's capital based on conditional VaR would however lead to an excessively conservative capital structure. But even if a firm does not use conditional VaR, it must still have a broader understanding of the distribution of firm value than what is provided by a VaR estimate.

A firm that practices ERM may have an amount of capital that substantially exceeds its regulatory requirements because it maximizes shareholder value by doing so. In this case, the regulatory requirements are not binding. But if regulatory capital exceeds the economic capital, the situation would be different.

One outcome of effective ERM is a better estimate of expected firm value and better understanding of unexpected losses. In a company, where risk is well understood and managed, resources will be more easily available for investing in projects as investors will trust such a company.

ERM cannot eliminate risk. What it can do is to reduce the probability of negative outcomes to an acceptable level. One of the challenges facing ERM is that some of the most troubling risks that companies face, especially reputational and strategic risks are also the most difficult to quantify.