Introduction

The theory of corporate risk management has changed a lot in the past 25 years. And so has corporate practice, mainly in ways predicted by the theory.

In the 1980s and well into the 1990s, most large companies had a "risk manager" whose main job was to oversee the firm's insurance purchases. At the same time, financially savvy corporate treasurers, with little or no input from risk managers, began using newfangled securities called "derivatives" to hedge the firm's interest rate and currency exposures. In many of these companies, especially those where the treasury was encouraged to view itself as a profit center, the treasurers followed a practice known as "selective hedging." In practice, selective hedging meant leaving exposures unhedged (or, in some cases, maybe even enlarging them) when so directed by the treasurer's "view" of future prices. The main purpose of such hedging was to pad or smooth the corporate profit and loss statement, with the idea that shareholders place a premium on earnings stability, no matter how achieved.

But in the last 10 years, the scope and mission of corporate risk management have expanded well beyond insurance and opportunistic hedging to include all kinds of corporate operating and strategic risks. And, as oversight and control of these once compartmentalized activities has become more centralized, the corporate risk manager has given way to the "chief risk officer," a senior management function increasingly overseen by the board of directors. In many companies the mission of corporate risk management, once concerned mainly with smoothing out bumps in the earnings trajectory, has become protection of the firm's "franchise value"—that is, protection of all the firm's major sources of future earnings power. As Bob Anderson, executive director of the Committee of Chief Risk Officers, notes in the roundtable discussion that ends this book, corporate risk management is no longer "just a series of isolated transactions; it's a strategic activity . . . [that] encompasses everything from

operating changes to financial hedging to the buying and selling of plants or new businesses—anything that affects the level and variability of cash flows going forward. When viewed in this light, risk management is clearly a senior management responsibility, one that requires input from and coordination of the company at all operating levels."

Chief among the factors driving this transformation of corporate risk management are increases in the scale and variety of uncertainties facing today's companies, everything from fluctuating commodity prices to threats of re-regulation and terrorist attacks. But, in addition to the increase in uncertainty and risk, another force for change in corporate practice has been developments in finance theory that came along earlier.

For decades after publication of the Modigliani–Miller Theorem (M&M) "irrelevance propositions" in the late 1950s and early 1960s, finance professors taught their students that neither a company's capital structure nor its dividend policy should affect its value. Both were viewed as nothing more than different ways of "repackaging" the firm's future earnings stream for investors (and it was this expected stream of operating earnings, together with the investments necessary to sustain it, that was seen as the main engine of value). Much the same was held to be true of corporate efforts to manage major risks. A company's stockholders, just by holding diversified portfolios, were said to "diversify away" any effects of currency, interest rate, or commodity price risks on the firm's cost of capital and value.

But starting in the late 1970s, finance scholars began to come up with explanations for how risk management—and changes in the right-hand side of the balance sheet in general—can increase corporate values. Although the tax benefits of substituting debt for equity, and stock repurchases for dividend payments, were well understood by corporate practitioners as well as theorists, the smoothing effect of corporate hedging on taxable earnings was shown to offer another means of lowering the firm's expected tax liability. But, as academics like Cliff Smith, David Mayers, and René Stulz argued in papers in the early 1980s, a potentially more important source of value is the use of risk management to help ensure a company's ability and willingness to fund its investment opportunities and carry out its strategic plan. In theory, value-maximizing managers are supposed to undertake all projects expected to earn more than the cost of capital. But in practice, a sharp downturn in earnings or cash flow, and the high cost of arranging new funding in such circumstances, could cause managers to cut back on promising investments. By limiting the probability of such a downturn, a risk management strategy can "protect" management from making short-sighted cutbacks in investment to avoid financial distress or meet a near-term earnings target.

Besides encouraging managers to carry out a company's strategic investments, risk management can also play a role in persuading outsiders to provide

financing for such investments on advantageous terms. What's more, as Cliff Smith argues (in another roundtable in this book), "it's not only the firm's bondholders and creditors who appreciate risk management; reducing the probability of financial trouble also helps reassure the firm's other corporate 'stakeholders'—groups such as employees, suppliers, and regulators, who are generally willing to provide the firm with better terms (or more slack) when the possibility of Chapter 11 seems remote."

And there's another important stakeholder group—namely, management itself—that is likely to benefit significantly from enterprise risk management (ERM). In theory at least, the more predictable corporate earnings and cash flow stream that results from ERM should make managers more confident about their own future employment income; and with the reduction of uncertainty, they should be willing to work for less. What's more, *good* managers should be encouraged by the fact that their performance bonuses can now be tied to measures that, because they are now insulated from random fluctuations in commodity or currency prices, do a better job of reflecting managerial skill and effort. But, as Smith also suggests, the resulting reduction of uncertainty may be a mixed blessing for less competent managers:

> In the good old days before derivatives, whenever things turned out badly, the people in the hot seat could blame poor performance on things that weren't their fault. They could say that a jump in interest rates reduced the profitability of their book of loans, or that a plunge in oil prices was responsible for their drop in revenue. But thanks to the development of derivatives, we now have a set of markets that allow us to isolate those things that are outside the executive's control and take them off the table. As a result, we're left with a clearer picture of the true operating performance of a particular enterprise. So, in one sense, it makes the manager more comfortable by not being held responsible for events that he or she can't control. But from the corporate board's perspective, if things turn out badly, there are fewer places for managers to hide.

To sum up, then, enterprise-wide or strategic risk management has significant potential to add value by strengthening managers' incentives to invest for the long term and by reducing uncertainty for key corporate stakeholders, including creditors, managers, and employees. But having determined *when* and *why* to manage risks, companies then face the question of which risks to shed and which to keep?

The answer provided in these pages is fairly simple—one that draws on a very old principle of economics. At least since Adam Smith's demonstration of the gains from "division of labour" in the first chapter of *The Wealth of*

Nations, economists have been professing allegiance to the concepts of specialization and comparative advantage. As applied to corporate risk management, the basic idea is that companies should retain only those risks they have a comparative advantage in bearing and attempt to transfer all "non-core" risks to other firms (or investors) in a better position to bear them. For example, if interest rate risk poses a significant threat to a company's future ability to carry out its strategic plan, *and* if that risk can be shifted to a third party (presumably, a financial institution) at a relatively low cost, then that risk should be transferred. By contrast, although auto companies might like to hedge against declining gross domestic product and economy-wide car sales, and oil companies might wish to limit their exploration risk, they are unlikely to find takers at a reasonable price. And, as discussed in a case study called "Corporate Insurance Strategy: The Case of British Petroleum," though a company like BP might consider laying off their largest property-and-casualty and product-liability risks on insurers or re-insurers, the company's size and expertise makes it the natural bearer (and hence the self-insurer) of those risks.

This book consists of 18 chapters previously published as articles in the *Journal of Applied Corporate Finance,* which discuss the development and use of risk management products. Divided into three parts, the text offer an introduction to risk management tools along with considerable discussion of the theory of value at risk (VaR) value management and practical applications of the theory. Case studies of Merck, British Petroleum, and Nationwide Insurance focus on currency risk management, the uses of corporate insurance, and the implementation of enterprise risk management. The book ends with two roundtable discussions in which small groups of academics and practitioners explore the motives, aims, and methods of corporate risk management programs.

The dominant theme in these discussions—and the main focus of this book—is the use of risk management to support business strategies and increase corporate values. This is not, of course, to deny that the principal tools of risk management—derivatives such as forwards, futures, swaps, and options—have been and will continue to be used in ways that end up destroying value. The aim of this book is to give corporate practitioners a clear sense of when and how the use of such instruments is likely to be value-adding—that is, functioning as an enabler rather than a subverter of a company's primary business activities.