

## PART II

# Corporate Uses of the Products

AS DISCUSSED EARLIER, Merton Miller described the social role of derivative markets as that of “a gigantic insurance company” whose aim is to bring about “efficient risk-sharing” throughout the economy. In “Rethinking Risk Management” (chapter 5), René Stulz presents a theory of corporate risk management that uses Miller’s idea of comparative advantage in risk-bearing to go beyond the “variance-minimization” model that dominates most academic discussions. Stulz argues that the primary goal of risk management is not to dampen swings in corporate cash flows or value but, rather, to provide protection against the possibility of costly lower-tail outcomes—situations that would cause financial distress or make a company unable to carry out its investment strategy. By reducing the odds of financial trouble, risk management has the power to change not only the optimal capital structure of the firm but its optimal ownership structure as well. Besides increasing corporate debt capacity, the reduction of downside risk also facilitates larger equity stakes for managers by shielding their investments from “uncontrollables.”

The chapter’s most significant departure from the standard theory, however, is in Stulz’s suggestion that some companies may have a comparative advantage in bearing certain financial market risks—an advantage that could derive from information acquired through normal business activities. Although such specialized market information may lead some companies to take speculative positions in commodities or currencies, it is more likely to encourage “selective” hedging, a practice in which the risk manager’s “view” of future price movements influences the percentage of the exposure that is hedged. But if such view-taking becomes an accepted part of a company’s risk management program, managers’ “bets” should be evaluated on a risk-adjusted basis and relative to the market. As Stulz notes in closing, “If risk managers want to behave like money managers, they should be evaluated like money managers.”

In “An Analysis of Trading Profits: How Trading Rooms Really Make Money” (chapter 6), Albèric Braas and Charles Bralver of Oliver, Wyman & Co. attempt to correct some popular misconceptions about the profitability of bank trading operations. Based on their consulting work with more than 40 large trading operations, Braas and Bralver conclude that, for most trading rooms, speculative “positioning” is not a reliable source of profits. The primary source of profit is dealings with customers. Stable profits can also be expected from inter-dealer trade, but only from traders who work for large institutions with heavy order flows and who adopt a “jobber” style of trading. These findings could have major implications for financial institutions, natural resource firms, and, indeed, any corporation that aims to derive a significant portion of its value from trading activities.

In “Theory of Risk Capital in Financial Firms” (chapter 7), Nobel laureate Robert Merton and André Perold present a concept of risk capital that can be used to guide the capital structure, performance measurement, and strategic planning decisions of commercial and investment banks, insurance companies, and other firms engaged in principal financial activities. In the wake of the new Bank for International Settlements capital guidelines, not only banks, but also most financial institutions have been forced to revisit the issue of capital adequacy. The concept of risk capital presented in these pages differs significantly, however, from “both regulatory capital, which attempts to measure risk capital according to a particular accounting standard, and from cash capital, which represents the up-front cash required to execute a transaction.” After illustrating their concept of risk capital with a series of examples, Merton and Perold demonstrate its application to a number of challenging problems faced by financial firms—specifically, allocating the costs of risk capital to individual businesses or projects in performance measurement and accounting for the benefits of internal diversification among business units in strategic planning.

In “Value at Risk: Uses and Abuses” (chapter 8), Christopher Culp, Merton Miller, and Andrea Neves use a number of derivatives disasters to illustrate some pitfalls in using the popular risk measurement technique called “value at risk” (VaR). VaR is a method of measuring the financial risk of an asset, portfolio, or exposure over some specified period of time. By facilitating the consistent measurement of risk across different assets and activities, VaR is said to enable companies to monitor, report, and control their risks in a manner that relates risk control to targeted and actual economic exposures.

Nevertheless, as Culp et al. argue, reliance on VaR can result in serious problems when used improperly, and would-be users are urged to heed the following three pieces of advice:

1. VaR is a tool for firms engaged in *total value* risk management. Companies concerned with the volatility of a *flow of funds*, rather than with the value

of a stock of assets and liabilities over a specific time horizon, often are better off eschewing VaR altogether in favor of a measure of cash flow volatility.

2. VaR should be applied very carefully to companies that practice “selective” risk management—those firms that choose to take certain risks as a part of their primary business. When VaR is reported in such situations without estimates of the corresponding expected profits, the information conveyed by the VaR estimate can be extremely misleading.
3. As a number of derivatives disasters of the 1990s are used to illustrate, no form of risk measurement—including VaR—is a substitute for good management. Risk management as a process encompasses much more than just risk measurement. Indeed, risk measurement (whether using VaR or some of the alternatives proposed in this chapter) is pointless without a well-developed organizational infrastructure and information technology system capable of supporting the complex and dynamic process of risk taking and risk control.

In “Allocating Shareholder Capital to Pension Plans” (chapter 9), Robert Merton discusses the corporate challenge of providing retirement income to employees while limiting the costs and risks of defined-benefit (DB) pension plans to the companies. Although the pension shortfalls have been the focus of attention, Merton argues that the more serious concern is the risk stemming from the mismatch between pension assets and pension liabilities—that is, the funding of debt-like liabilities with equity-heavy asset portfolios. Without offering specific solutions, Merton presents a framework for analyzing the problem from a strategic perspective that can be used in formulating a company’s pension policy. In particular, he recommends that companies take an integrated perspective that views pension assets and liabilities as parts of the corporate balance sheet, and the pension asset allocation decision as a critical aspect of a corporate-wide enterprise risk management program. One possible solution is a partial or complete immunization accomplished by substituting bonds for stocks, in which case management must take pains to communicate its new policy to the rating agencies and investors. A different solution is to convert DB plans to defined-contribution (DC) plans. But for companies taking that step, Merton counsels that political realities make it likely that DC plans without *some* corporate oversight or responsibility for results will not be a viable long-term solution.

In “The Uses and Abuses of Finite Risk Reinsurance” (chapter 10) Christopher Culp and J. B. Heaton provide a general overview of finite risk solutions and products, describing their main features and their legitimate role in

helping (mainly) industrial companies manage timing, funding, and insurance risks. Finite risk solutions generally take the form of structured insurance products that are designed to help companies manage risks often regarded as exotic or “tail” risks, such as environmental or asbestos liability. Although such products are underwritten by insurance or reinsurance companies, they typically involve limited risk transfer (hence the name “finite risk”) while providing the insured companies with a means of pre-funding their expected losses, or what is often called “pre-loss” financing. Given the limited risk transfer, companies could choose to self-insure such risks by establishing a reserve for future losses. But, as Culp and Heaton argue, finite risk provides a more credible and transparent alternative—one that reassures investors both by capping the liability and eliminating the possibility for manipulation of reserves that often takes place under self-insurance.

The authors also warn companies against potential abuses of finite risk products and offers guidance on how to avoid the pitfalls. The abuses of finite risk products usually concern the degree to which transactions are accounted for, disclosed, and represented to investors as achieving “significant risk transfer” when there is little or no such transfer. In the authors’ words, “Users of finite should regularly ask themselves. Does this transaction help my financial statements more clearly represent the true economic income and risks of the business? If not, then consider not doing the deal.”

In the final chapter in Part II, entitled “Does Risk Management Add Value? A Survey of the Evidence” (chapter 11), Charles Smithson and Betty Simkins provide an overview of almost 30 years of broad-based, stock-market-oriented academic studies that address one or more of the following questions:

- Are corporate financial price risks—that is, interest rate, exchange rate, and commodity price risks—reflected in stock price movements?
- Is volatility in corporate earnings and cash flows related in a systematic way to corporate market values?
- Is the corporate use of derivatives associated with reduced risk and higher market values?

The answer to the first question, at least in the case of financial institutions and interest rate risk, is a definite “yes”; all studies with this focus find that the stock returns of financial firms are clearly sensitive to interest rate changes. The stock returns of industrial companies exhibit no pronounced interest rate exposure (at least as a group), but industrial firms with significant cross-border revenues and costs show considerable sensitivity to exchange rates (although such sensitivity actually appears to be reduced by the size and geographical diversity of the largest multinationals). What’s more, the corporate use of derivatives to hedge interest rate and currency exposures appears to be

associated with lower sensitivity of stock returns to interest rate and foreign exchange (FX) changes.

But does the resulting reduction in price sensitivity affect value—and, if so, how? Consistent with a widely cited theory that risk management increases value by limiting the corporate “underinvestment problem,” a number of studies show a correlation between lower cash flow volatility and higher corporate investment and market values. Smithson and Simkins also cite a small but growing group of studies that show a strong positive association between derivatives use and stock price performance (typically measured using price-to-book ratios). But, as they concede, one cannot conclude from such studies that derivatives use is a significant *cause* of such higher values.

Perhaps the nearest the research comes to establishing causality are two case studies described in chapter 14 of this book. One case studies companies that hedge FX exposures, and another case studies airlines’ hedging of fuel costs. They both show that, in industries where hedging with derivatives is common, companies that hedge outperform those that don’t.

