FIFTH EDITION

THE #1 BESTSELLING GUIDE TO
CORPORATE VALUATION

VALUATION

UNIVERSITY EDITION

Measuring *and* Managing *the* Value *of* Companies



TIM KOLLER • MARC GOEDHART • DAVID WESSELS

McKINSEY & COMPANY

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About the Authors

The authors are all current or former consultants of McKinsey & Company's corporate finance practice. Collectively they have more than 50 years of experience in consulting and financial education.

McKinsey & Company is a management-consulting firm that helps leading corporations and organizations make distinctive, lasting, and substantial improvements in their performance. Over the past seven decades, the firm's primary objective has remained constant: to serve as an organization's most trusted external advisor on critical issues facing senior management. With consultants deployed from over 80 offices in more than 40 countries, McKinsey advises companies on strategic, operational, organizational, financial, and technological issues. The firm has extensive experience in all major industry sectors and primary functional areas, as well as in-depth expertise in high-priority areas for today's business leaders.

Tim Koller is a partner in McKinsey's New York office. He leads the firm's Corporate Performance Center and is a member of the leadership group of the firm's global corporate finance practice. In his 25 years in consulting Tim has served clients globally on corporate strategy and capital markets, mergers and acquisitions (M&A) transactions, and value-based management. He leads the firm's research activities in valuation and capital markets. He was formerly with Stern Stewart & Company and with Mobil Corporation. He received his MBA from the University of Chicago.

Marc Goedhart is a senior expert in McKinsey's Amsterdam office and leads the firm's Corporate Performance Center in Europe. Over the past 15 years, Marc has served clients across Europe on portfolio restructuring, capital markets,

and M&A transactions. He taught finance as an assistant professor at Erasmus University in Rotterdam, where he also earned a PhD in finance.

David Wessels is an adjunct professor of finance at the Wharton School of the University of Pennsylvania. Named by *BusinessWeek* as one of America's top business school instructors, he teaches courses on corporate valuation and private equity at the MBA and executive MBA levels. David is also a director in Wharton's executive education group, serving on the executive development faculties of several Fortune 500 companies. A former consultant with McKinsey, he received his PhD from the University of California at Los Angeles.

yielded higher returns than other similarly rated securities. In other words, the yield on an AA-rated CDO was higher than an AA-rated corporate bond. But if these CDOs were rated the same as corporate bonds, why did they have higher yields? The answer, which we know from hindsight, is that they were riskier—and the market knew they were riskier, even if the rating agencies didn't. The market saw through the illusion.

RISK AND VALUE CREATION

A company's future cash flows are unknown and therefore risky, so to complete our discussion of value creation, we need to explain how risk affects value. Risk enters into valuation both through the company's cost of capital, which is the price of risk, and in the uncertainty surrounding future cash flows. Managers and investors need to pay particularly close attention to cash flow risks.

Price of Risk

The cost of capital is the price charged by investors for bearing the risk that the company's future cash flows may differ from what they anticipate when they make the investment. The cost of capital to a company equals the minimum return that investors expect to earn from investing in the company. That is why the terms *expected return to investors* and *cost of capital* are essentially the same. The cost of capital is also called the discount rate, because you discount future cash flows at this rate when calculating the present value of an investment, to reflect what you will have to pay investors.

The average cost of equity capital, or the price investors charged for their risk, in late 2009 for a large nonfinancial company was about 9 percent, and most large companies' costs of equity capital fell in the range of 8 to 10 percent. That range can seem narrow, given that it encompasses companies with predictable cash flows like Campbell Soup and highly volatile companies like Google. The range is small because investors purposely avoid putting all their eggs in one basket.

Stock market investors, especially institutional investors, typically have hundreds of different stocks in their portfolios; even the most concentrated investors have at least 50. As a result, their exposure to any single company is limited. Exhibit 2.9 shows what happens to the total risk of a portfolio of stocks as more shares are added to the portfolio. The total risk declines because companies' cash flows are not correlated. Some will increase when others decline.

One of the key insights of academic finance that has stood the test of time concerns the effect of diversification on the cost of capital. If diversification reduces risk to investors and it is not costly to diversify, then investors will not demand a return for any risks they take that they can easily eliminate through diversification. They require compensation only for risks they cannot diversify.