Notes

1 Rahim Bah and Pascal Dumontier provide empirical evidence that R&D-intensive firms in Europe, Japan, and the United States have lower debt and pay out lower dividends than non-R&D firms. See Rahim Bah and Pascal Dumontier, "R&D Intensity and Corporate Financial Policy: Some International Evidence," *Journal of Business Finance and Accounting* 28 (June/July 2001): 671–692.

2 Some arguments that have been raised in other countries against universal banking are the following. First, because of their investment banking activities, universal banks may incur greater risks than other commercial banks and, consequently, jeopardize the stability of a country's financial system. Second, universal banks may become too powerful because of their size and hold back competition in the banking industry. Third, universal banks could potentially misuse inside information about clients that they obtained through their lending activities in securities trading. In the United States, these concerns led to ban on universal banking until 1999. For a discussion of the potential advantages and disadvantages of universal banking, see, for example, George J. Benston, "Universal Banking," *Journal of Economic Perspectives* (1994): 121–143.

3 See Sergei A. Davydenko and Julian R. Franks, "Do Bankruptcy Codes Matter? A Study of Defaults in France, Germany and the UK," Working Paper, University of Toronto and London Business School, 2005.

4 See Steven Ongena and David C. Smith, "What Determines the Number of Bank Relationships? Cross-Country Evidence," *Journal of Financial Intermediation* (2000): 26–56.

5 See Asli Demirgüç-Kunt and Vojislav Maksimovic, "Firms as Financial Intermediaries: Evidence from Trade Credit Data," Working Paper, World Bank and University of Maryland, 2001.

6 See Marie H.R. Bakker, Leonora Klapper, and Gregory F. Udell, "Financing Small and Medium-Sized Enterprises with Factoring: Global Growth and Its Potential in Eastern Europe," Working Paper, World Bank and Indiana University, 2004.

7 See Asli Demirgüç-Kunt and Vojislav Maksimovic, "Institutions, Financial Markets, and Firm Debt Maturity," *Journal of Financial Economics* 54 (1999): 295–336.

8 See Mariassunta Giannetti, "Do Better Institutions Mitigate Agency Problems? Evidence from Corporate Finance Choices," *Journal of Financial and Quantitative Analysis* 38 (2003): 185–212.

9 Sergei A. Davydenko and Julian R. Franks, op. cit.

10 The same is true of preference dividends. However, when preference shares are cumulative, any dividends missed must be paid later, when and if the firm returns to profitability.

11 Other relevant coverage ratios are discussed in Chapter 5.

12 Robert Kaplan and G. Urwitz, "Statistical Models of Bond Ratings: A Methodological Inquiry," *Journal of Business* (April 1979): 231–261.

13 See Robert Holthausen and Richard Leftwich, "The Effect of Bond Rating Changes on Common Stock Prices," *Journal of Financial Economics* (September 1986): 57–90; and John Hand, Robert Holthausen, and Richard Leftwich, "The Effect of Bond Rating Announcements on Bond and Stock Prices," *Journal of Finance* (June 1992): 733–752.

14 See *Corporate Financial Distress* by Edward Altman (New York: John Wiley, 1993).

15 See Edward Altman, "Financial Ratios, Discriminant Analysis, and the Prediction of Corporate Bankruptcy," *Journal of Finance* (September 1968): 589–609; Altman, *Corporate Financial Distress,* op. cit.; William Beaver, "Financial Ratios as Predictors of Distress," *Journal of Accounting Research,* Suppl. (1966): 71–111; James Ohlson, "Financial Ratios and the Probabilistic Prediction of Bankruptcy," *Journal of Accounting Research* (Spring 1980): 109–131; and Mark Zmijewski, "Predicting Corporate Bankruptcy: An Empirical Comparison of the Extant Financial Distress Models," Working Paper, SUNY at Buffalo, 1983.

16 Zmijewski, op. cit.

17 Altman, *Corporate Financial Distress,* op. cit.

18 For private firms, Altman, ibid., adjusts the public model by changing the numerator for the variable X_4 from the market value of equity to the book value. The revised model follows:

$$Z = 0.717(X_1) + 0.847(X_2) + 3.107(X_3) + 0.420(X_4) + 0.998(X_5)$$

where X_1 = net working capital/total assets
X_2 = retained earnings/total assets
X_3 = EBIT/total assets
X_4 = book value of equity/book value of total liabilities
X_5 = revenue/total assets

The model predicts bankruptcy when $Z < 1.20$. The range between 1.20 and 2.90 is labelled the "grey area."

19 See E. Altman and P. Narayanan, "An International Survey of Business Failure Classification Models," *Financial Markets, Institutions and Instruments* (May 1997): 1–57, for an extensive description of various non-US bankruptcy prediction models.

20 The Taffler model and tests of its predictive accuracy are described in R. Taffler, "The Assessment of Company Solvency and Performance Using a Statistical Model," *Accounting and Business Research* (1983): 295–307; and R. Taffler, "Empirical Models for the Monitoring of UK Corporations," *Journal of Banking and Finance* (1984): 199–227.

21 See, for example, E. Elton, M. Gruber, D. Agrawal, and D. Mann, "Explaining the Rate Spread on Corporate Bonds." *Journal of Finance* (2001): 247–277, P. Collin-Dufresne, R. Goldstein, and J. Spencer Martin, "The Determinants of Credit Spread Changes," *Journal of Finance* (2001): 2177–2207, and L. Chen, D. Lesmond, and J. Wei, "Corporate Yield Spreads and Bond Liquidity," *Journal of Finance* (2007): 119–149 for discussions of what factors explain corporate bond spreads.