performance, have an important influence on the market yields that must be offered to issue debt.

The primary task in credit analysis is assessment of the probability of default. The task is complex, difficult, and to some extent, subjective. A few financial ratios can help predict financial distress with some accuracy. The most important indicators for this purpose are profitability, volatility of profits, and leverage. While there are a number of models that predict distress based on financial indicators, they cannot replace the in-depth forms of analysis discussed in this book.

The financial crisis of 2008 is an example of a major miscalculation of the probability of default for asset-backed securities due to the complex, not well understood nature of the financial instruments. Government legislation put in place after the financial crisis attempts to impose additional controls on ratings agencies who had significant conflict of interest and whose models did not fully understand the complex securities that they were being asked to rate given their historic background in rating corporate debt.

DISCUSSION QUESTIONS

1. Financial analysts typically measure financial leverage as the ratio of debt to equity. However, there is less agreement on how to measure debt, or even equity. How would you treat the following items in computing this ratio? Justify your answers.
   - Revolving credit agreement with bank
   - Cash and marketable securities
   - Operating leases
   - Unrecorded pension commitments
   - Deferred tax liabilities
   - Preferred stock
   - Convertible debt
2. U.S. public companies with "low" leverage have an interest-bearing net debt-to-equity ratio of 0 percent or less, firms with "medium" leverage have a ratio between 1 and 62 percent, and "high" leverage firms have a ratio of 63 percent or more. Given these data, how would you classify the following firms in terms of their optimal debt-to-equity ratio (high, medium, or low)?
   - a successful pharmaceutical company
   - an electric utility
   - a manufacturer of consumer durables
   - a commercial bank
   - a start-up software company
3. What are the critical performance dimensions for (a) a retailer and (b) a financial services company that should be considered in credit analysis? What ratios would you suggest looking at for each of these dimensions?
4. Why would a company pay to have its public debt rated by a major rating agency (such as Moody's or Standard and Poor's)? Why might a firm decide not to have its debt rated?
5. Some have argued that the market for original-issue junk bonds developed in the late 1970s as a result of a failure in the rating process. Proponents of this argument suggest that rating agencies rated companies too harshly at the low end of the rating scale, denying investment grade status to some deserving companies. What are proponents of this argument effectively assuming were the incentives of rating agencies? What economic forces could give rise to this incentive?

6. Many debt agreements require borrowers to obtain the permission of the lender before undertaking a major acquisition or asset sale. Why would the lender want to include this type of restriction?

7. Betty Li, the CFO of a company applying for a new loan, states, "I will never agree to a debt covenant that restricts my ability to pay dividends to my shareholders because it reduces shareholder wealth." Do you agree with this argument?

8. Cambridge Construction Company follows the percentage-of-completion method for reporting long-term contract revenues. The percentage-of-completion is based on the cost of materials shipped to the project site as a percentage of total expected material costs. Cambridge's major debt agreement includes restrictions on net worth, interest coverage, and minimum working capital requirements. A leading analyst claims that "the company is buying its way out of these covenants by spending cash and buying materials, even when they are not needed." Explain how this might be possible.

9. Can Cambridge improve its Z score by behaving as the analyst claims in Question 8? Is this change consistent with economic reality?

10. A banker asserts, "I avoid lending to companies with negative cash from operations because they are too risky." Is this a sensible lending policy?

11. A leading retailer finds itself in a financial bind. It does not have sufficient cash flow from operations to finance its growth, and it is close to violating the maximum debt-to-assets ratio allowed by its covenants. The Vice-President for Marketing suggests, "We can raise cash for our growth by selling the existing stores and leasing them back. This source of financing is cheap since it avoids violating either the debt-to-assets or interest-coverage ratios in our covenants." Do you agree with his analysis? Why or why not? As the firm's banker, how would you view this arrangement?

NOTES

1. The same is true of preferred dividends. However, when preferred stock is cumulative, any dividends missed must be paid later, when and if the firm returns to profitability.
2. Other relevant coverage ratios are discussed in Chapter 5.
3. R. Kaplan and G. Urwitz, "Statistical Models of Bond Ratings: A Methodological Inquiry," *Journal of Business* (April 1979): 231–61.
4. See R. Holthausen and R. Leftwich, "The Effect of Bond Rating Changes on Common Stock Prices," *Journal of Financial Economics* (September 1986): 57–90 and J. Hand, R. Holthausen, and R. Leftwich, "The Effect of Bond Rating Announcements on Bond and Stock Prices," *Journal of Finance* (June 1992): 733–52.
5. See E. Altman, "Financial Ratios, Discriminant Analysis, and the Prediction of Corporate Bankruptcy," *Journal of Finance* (September 1968): 589–609; E. Altman, *Corporate Financial Distress* (New York: John Wiley, 1993); W. Beaver, "Financial Ratios as Predictors of Distress," *Journal of Accounting Research*, Supplement (1966): 71–111; J. Ohlson, "Financial Ratios and the Probabilistic Prediction of Bankruptcy," *Journal of Accounting Research* (Spring 1980): 109–131; and M. Zmijewski, "Predicting Corporate Bankruptcy: An Empirical Comparison of the Extant Financial Distress Models" (working paper, SUNY at Buffalo, 1983).
6. Zmijewski, op. cit.
7. Altman, *Corporate Financial Distress*, op. cit.