CHAPTER 12

CONCEPT REVIEW QUESTIONS

1. What is a recapitalization? Why is this considered a pure capital structure change?

Recapitalization is an alteration of a company's capital structure to change the relative mix of debt and equity financing, leaving total capitalization unchanged.

2. What is the fundamental principle of financial leverage? How does it pertain to the reasons why managers may choose to substitute debt for equity in their firm's capital structure?

The fundamental principle of financial leverage states that substituting long-term debt for equity in a company's capital structure increases both the level of expected returns to shareholders—measured by earnings per share or ROE—and the risk (dispersion) of those expected returns. When a firm uses financial leverage, it increases the beta of the company's stock since this concentrates the risk that attaches to the firm's assets on the shareholders, and does so in a linear fashion.

3. Explain how *Propositions I* and *II* are different and how they are similar.

Propositions I and II both support the conclusion that capital structure doesn't matter. Proposition I states that firm value stays the same at every level of capital structure. Proposition II supports I by allowing a new cost of equity to be calculated as debt is added to the capital structure. Using this cost of equity to discount cash flows to equity holders, and using the cost of debt to discount cash flows (interest) to debt holders provides a firm value identical to the no-leverage firm value. Proposition II states that as firms switch from equity, which has a relatively high required return, to debt, which has a relatively low required return, the required return on equity increases just enough to offset the cost savings of switching from equity to debt. The cost of capital does not change as capital structure changes. Intuitively this makes sense as long as changes in capital structure do not result in changes in the firm's investment projects.

4. What is the difference between levered and unlevered equity? What effect does substituting debt for equity have on the required return on (levered) equity?

Levered equity means equity in a company that also uses debt financing. Unlevered equity is equity financing for an all-equity firm. If you thought that Intel should be more levered, you could buy shares in Intel partially using your own cash and borrow the amount of money representing the amount of leverage you believe Intel should have for the percentage of the company that you own to buy additional shares in Intel. You will have used leverage to create a riskier portfolio than owning Intel alone.

5. What effect does incorporating corporate income taxation have on the M&M capital structure irrelevance hypothesis? Why?

In the no tax case, shareholders and bondholders share in the value of the firm. In the tax case, the government takes a slide of the firm in the form of taxes. The more debt, the more interest expense, the less the taxable income and the less taxes. In other words, the government's share of the firm is lower when the firm carries more debt. However, the M&M's tax case yields an equally unrealistic result – that firm's would want to have 100% debt in the capital structure. No firm could be all debt, so there must be other reasons to explain this. The existence of personal tax is one explanation.

6. In 2003 the United States passed a law that, in effect, reduced the likely taxes that a US investor would pay on dividends received. What effect do you expect this act to have had on corporate incentive to use debt?

Reducing the corporate tax rate decreases the value of the tax shield of debt, giving companies less incentive to reduce taxable income by taking on more debt.

7. What are the important direct and indirect costs of bankruptcy? Which of these, do you think, are the most important for discouraging maximum debt use by corporate managers?

Direct costs of bankruptcy are out-of-pocket cash expenses directly related to bankruptcy filing and administration. Empirical research indicates that direct costs are much too small, relative to the pre-bankruptcy market value of large firms, to truly discourage the use of debt financing. Indirect bankruptcy costs are economic losses that result from bankruptcy but are not cash outlays spent on the process itself. Indirect bankruptcy costs are inherently difficult to measure but empirical research clearly suggests they are significant—significant enough, in many cases, to lessen the incentive for corporate managers to employ financial leverage.

8. Suppose an individual borrows from a bank to buy a new car. Later on, the borrower realizes that in a few months, he will have to default on this loan and the bank will repossess the car. What kind of underinvestment problem could occur here?

The car owner has no incentive to invest in preventive maintenance if he/she expects the bank to repossess the car soon – no oil and filter changes, new tires, high-grade gasoline, etc. The owner has no incentive to spend any money on the car, other than low-grade gasoline as needed.

9. Suppose a commercial bank experiences losses on some of its loans. As a result, it approaches bankruptcy. What kinds of asset-substitution problems may arise?

This problem did occur with savings and loans during the real estate crisis in the late 1980s. Banks, needing to increase their returns partially because of losses on loans, had the incentive to invest in even riskier loans – loans that had a low probability of payoff, but a high payoff if they did succeed. Bank regulators could try to control these problems through more frequent checks of the quality of the commercial bank's loan portfolio or setting standards for loans that creditors must meet before the loans could be made. Regulators can also impose risk-based capital requirements, meaning that bank must have more equity on its balance sheet if it chooses to make riskier loans.

10. Think of the gaudy corporate perks given to managers, such as a plush office, a company jet, or luxury box seats at professional sporting events. How can managers justify these as value-maximizing corporate expenditures that benefit the shareholders?

Managers could justify perks on the grounds that the perks make them more productive. For example, the CEO's time is very valuable. It might be better spent on a private company jet than standing on long security lines at public airports, waiting for commercial flights. A plush office might impress potential customers and make them more likely to do business with the firm. Sports arena luxury boxes may be used to attract and retain key clients who provide more in new business than the cost of the box

11. In most countries, firms in high-tech industries are almost all intangible asset-rich rather than fixed asset-rich. What effect do you think the continued growth of these industries will have on average leverage ratios in the future?

High tech companies are young, risky and high growth. These are the types of companies that will finance with more equity and less debt. Lenders are unwilling to risk large amounts of capital to an industry where there is nothing tangible to repossess in case of financial distress. With a more high tech and service oriented global economy, debt financing would be expected to decrease.

12. What happens to stock prices when corporate managers announce leverage-increasing transactions such as debt-for-equity exchange offers?

What happens to stock prices, in response to leverage-decreasing announcements? How do you interpret these findings? Shareholders consider leverage-increasing events to be "good news" and leverage-decreasing events to be "bad news." Stock prices rise when a company announces leverage-increasing events such as debt-for-equity exchange offers, debt-financed share repurchase programs, and debt-financed cash tender offers to acquire control of another company. On the other hand, leverage-decreasing events such as equity-for-debt exchange offers, new stock offerings, and acquisition offers, involving payment with a firm's own shares, generally yield share price declines.