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PRACTICE EXERCISES LECTURE 6

Q1. **Which type of asset is more likely to be liquidated for close to its full market value in the event of financial distress:**

a. **An office building or a brand name?**

b. **Product inventory or raw materials?**

c. **Patent rights or engineering "know-how"?**

Q2. **Gladstone Corporation is about to launch a new product. Depending on the success of the new product, Gladstone may have one of four values next year: \$147 million, \$136 million, \$91 million, or \$82 million. These outcomes are all equally likely, and this risk is diversifiable. Suppose the risk-free interest rate is 5% and that, in the event of default, 26% of the value of Gladstone's assets will be lost to bankruptcy costs. (Ignore all other market imperfections, such as taxes.)**

a. **What is the initial value of Gladstone's equity without leverage?**

Now suppose Gladstone has zero-coupon debt with a \$100 million face value due next year.

b. **What is the current value of Gladstone's debt?**

c. **What is the current value of Gladstone's equity with leverage?**

d. **What is Gladstone's total value with leverage?**

e. **What is the present value of Gladstone's financial distress costs?**

Q3. **Your firm is considering issuing one-year debt, and has come up with the following estimates of the value of the interest tax shield and the probability of distress for different levels of debt:**

	Debt Level (\$ million)						
	0	40	50	60	70	80	90
PV (interest tax shield, \$ million)	0	0.76	0.95	1.14	1.33	1.52	1.71
Probability of Financial Distress	0%	0%	1%	2%	7%	16%	31%

Suppose the firm has a beta of zero, so that the appropriate discount rate for financial distress costs is the risk-free rate of 5%. Which level of debt above is optimal if, in the event of distress, the firm will have distress costs equal to \$5 million?

Q4. **EJH Company has a market capitalization of \$1.3 billion and 10 million shares outstanding. It plans to distribute \$120 million through an open market repurchase. Assuming perfect capital markets:**

a. **What will the price per share of EJH be right before the repurchase?**

b. **How many shares will be repurchased?**

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Q5. **Natsam Corporation has $150 million of excess cash. The firm has no debt and 250 million shares outstanding with a current market price of $11 per share. Natsam's board has decided to pay out this cash as a one-time dividend. Assuming a perfect capital market , what is the ex-dividend price of a share after the one-time dividend payout?**

Q6. **Clovix Corporation has $43 million in cash, 11 million shares outstanding, and a current share price of $25. Clovix is considering two alternatives: (1) to use the $43 million to pay an immediate special dividend of $3.91 per share, or (2) to retain and invest it at the risk-free rate of 10% and use the $4.30 million in interest earned to increase its regular annual dividend of $0.39 per share. Assume perfect capital markets.**

a. **Suppose Clovix pays the special dividend (alternative 1). How can a shareholder who would prefer an increase in the regular annual dividend create it on her own?**

b. **Suppose Clovix increases its regular dividend (alternative 2). How can a shareholder who would prefer the special dividend create it on her own?**

Q7. **Suppose that all capital gains are taxed at a 24% rate, and that the dividend tax rate is 38%. Arbuckle Corp. is currently trading for $32 and is about to pay a $4 special dividend.**

a. **Absent any other trading frictions or news, what will its share price be just after the dividend is paid?**

Suppose Arbuckle made a surprise announcement that it would do a share repurchase rather than pay a special dividend.

b. **What net tax savings per share for an investor would result from this decision?**

c. **What would happen to Arbuckle's stock price upon the announcement of this change?**