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Instructions for Workshop 4

Based on Lectures 5&6

Exercise W4-1:

UTech, Inc., is considering a new project that costs \$25 million. The project will generate after-tax (year-end) cash flows of \$7 million for five years. The firm has a debt-to-equity ratio of 0.75. It appears that the project has the same risk as that of the overall firm in which the cost of equity is 15 percent and the cost of debt is 9 percent. The corporate tax rate is 35 percent. Should UTech undertake the project?

Exercise W4-2:

Suppose NUV has a market capitalization of \$4.5 million and a total enterprise value of \$8 million. The firm's equity beta is 1.1 and its debt rating is BBB. Consider the following information regarding corporate bonds:

Rating	**AAA**	**AA**	**A**	**BBB**	**BB**	**B**	**CCC**
Avg Beta	0.05	0.05	0.05	0.10	0.17	0.26	0.31

Estimate NUV's unlevered asset beta.

Exercise W3-3:

MOTech expects to have a free cash flow of €8 million in the coming year, and this free cash flow is expected to grow at a rate of 3% per year thereafter. MOTech has an equity cost of capital of 13%, a debt cost of capital of 7%, and it is in the 35% corporate tax bracket. Suppose MOTech currently maintains a 0.5 debt to equity ratio, what is the current value of MOTech's interest tax shield?

Exercise W3-4:

Assume that TUD Corp.'s EBIT is not expected to grow in the future and that all earnings are paid out as dividends. TUD is currently an all-equity firm. It expects to generate earnings before interest and taxes of €6 million over the next year. Currently TUD has 5 million shares outstanding and its stock is trading for a price of €12.00 per share. TUD is considering borrowing €12 million at a rate of 6% and using the proceeds to repurchase shares at the current price of €12.00. How will the stock price of TUD change following the debt issuance and share repurchase?

Exercise W3-5:

Consider the following financial statement for Taco Inc. (all figures are in € millions):

Year	**2022**
Total sales	60,553
Cost of goods sold	45,565
Selling, general & admin expenses	11,688
Depreciation	1,265
EBIT	2,035
Interest expense	510
Earnings before tax	1,525
Taxes (35%)	533.75
Net income	991.25

Calculate the interest tax shield, the total cash flows to all investors, and the income that would be available to equity holders if Taco was unlevered for the year 2022.

Exercise W3-6:

PAX is a software company with a current share price of €10.00 and has 25 million shares outstanding. Suppose that PAX announces to lower its corporate taxes by borrowing €100 million and using the proceeds to repurchase shares. Next, suppose that PAX pays corporate taxes of 35% and that shareholders expect the change in debt to be permanent. Assume that capital markets are perfect except for the existence of corporate taxes and financial distress costs. If the price of PAX's stock rises to €10.85 per share following the announcement, what is the present value of PAX's financial distress costs?

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Exercise W3-7:

Tech Corp. has €300 million of excess cash. The firm has no debt and 500 million shares outstanding with a current market price of €20 per share. Tech's board is considering whether to pay out this cash as a one-time dividend or to use the cash to do a one-time share repurchase. As an investor, John owns 1,000 shares of Tech's stock and would prefer to receive a dividend payment. What could John do to ensure that he is in the same position regardless of the board's decision?