Corporate Finance

HW 4

Due on Dec, 23rd, 2024

1 Kolby Corp. is comparing two different capital structures. Plan I would result in 1,500 shares of stock and $20,000 in debt. Plan II would result in 1,100 shares of stock and $30,000 in debt. The interest rate on debt is 10 percent.

A Ignoring taxes, compare both of these plans to an all-equity plan assuming that EBIT will be $12,000. The all-equity plan would result in 2,300 shares of stock outstanding. Which of the three plans has the highest EPS? The lowest?

B In part (A) what are the break-even levels of EBIT for each plan as compared to that for an all-equity plan? Is one higher than the other?

C Assuming that the corporate tax rate is 40 percent, are the break-even levels of EBIT different from before? Why or why not?

2 Star, Inc., a prominent consumer products firm, is debating whether or not to convert its all-equity capital structure to one that is 40 percent debt. Currently there are 5,000 shares outstanding and the price per share is $65. EBIT is expected to remain at $37,500 per year forever. The interest rate on new debt is 8 percent, and there are no taxes.

A Ms. Brown, a shareholder of the firm, owns 100 shares of stock. What is her cash flow under the current capital structure, assuming the firm has a dividend payout rate of 100 percent.

B What will Ms. Brown's cash flow be under the proposed capital structure of the firm? Assume that she keeps all 100 of her shares.

C Suppose Star does convert, but Ms. Brown prefers the current all-equity capital structure. Show how she could unlever her shares of stock to recreate the original capital structure.

3 R&D Inc. is an all-equity firm, with projected cash flows of $30 million, expected to continue in perpetuity. All net cash flows are paid out as dividends. The beta of the firm is 0.5, the current risk-free rate is 5%, and the expected return on the market is 10%. There are 10 million shares outstanding. The corporate tax rate is 50%.

A What is the current value of R&D?

The firm is evaluating a project that costs $10 million and generates a cash flow that will grow at 6% per year in perpetuity. The project will be undertaken at t=1, and will generate its first after tax cash flow of $4 million at t=2. The project is unlike R&D's current line of business. Its line of business is comparable to another firm, G&S Inc. G&S Inc. has an equity beta of 2.5 and a debt-to-equity ratio of 2, assuming that the beta of debt is zero. R&D will finance the project by issuing new stock.

B What will be the new value of the firm when the project is accepted?

4 Longhorn, Inc., has produced rodeo supplies for over 20 years. The company currently has a debt-equity ratio of 50 percent and the tax rate is 21 percent. The required return on the firm's levered equity is 14 percent. The company is planning to expand its production capacity. The equipment to be purchased is expected to generate the following unlevered cash flows:

Year	Cash Flow
0	-$14,800,000
1	5,500,000
2	9,000,000
3	8,700,000

The company has arranged a debt issue of $8.7 million to partially finance the expansion. Under the loan, the company would pay interest of 7 percent at the end of each year on the outstanding balance at the beginning of the year. The company also would make year-end principal payments of $2.9 million per year, completely retiring the issue by the end of the third year. Using the adjusted present value method, should the company proceed with the expansion?

5 Bluegrass Mint Company has a debt-equity ratio of 0.35. The required return on the company's unlevered equity is 13.1 percent and the pretax cost of the firm's debt is 6.4

percent. Sales revenue for the company is expected to remain stable indefinitely at last year's level of $19.3 million. Variable costs amount to 60 percent of sales. The tax rate is 21 percent and the company distributes all its earnings as dividends at the end of each year.

A If the company were financed entirely by equity, how much would it be worth?
B Use the weighted average cost of capital method to calculate the value of the company. What is the value of the company's equity? What is the value of the company's debt?
C Use the flow to equity method to calculate the value of the company's equity.