|  |
| --- |
| Mudvayne, Inc., is trying to determine its cost of debt. The firm has a debt issue outstanding with 20 years to maturity that is quoted at 107 percent of face value. The issue makes semiannual payments and has an embedded cost of 9 percent annually. |

|  |
| --- |
| What is the company’s pretax cost of debt? **(Do not round intermediate calculation and round your answer to 2 decimal places. (e.g., 32.16))** |

|  |  |
| --- | --- |
| Cost of debt | % |

|  |
| --- |
| If the tax rate is 35 percent, what is the aftertax cost of debt? **(Do not round intermediate calculations and round your answer to 2 decimal places. (e.g., 32.16))** |

|  |  |
| --- | --- |
| Cost of debt | % |

|  |
| --- |
| The Zombie Corporation’s common stock has a beta of 1.6. If the risk-free rate is 5.6 percent and the expected return on the market is 10 percent, what is the company’s cost of equity capital? **(Round your answer to 2 decimal places. (e.g., 32.16))** |

|  |  |
| --- | --- |
| Cost of equity capital | % |

|  |
| --- |
| Scanlin, Inc., is considering a project that will result in initial aftertax cash savings of $1.78 million at the end of the first year, and these savings will grow at a rate of 2 percent per year indefinitely. The firm has a target debt–equity ratio of 0.80, a cost of equity of 11.8 percent, and an aftertax cost of debt of 4.6 percent. The cost-saving proposal is somewhat riskier than the usual project the firm undertakes; management uses the subjective approach and applies an adjustment factor of 3 percent to the cost of capital for such risky projects. |

|  |
| --- |
| What is the maximum initial cost the company would be willing to pay for the project? **(Enter your answer in dollars, not millions of dollars, i.e. 1,234,567. Do not round intermediate calculations and round your final answer to the nearest whole dollar amount.)** |

|  |  |
| --- | --- |
| Maximum cost | $ |
| Erna Corp. has 4 million shares of common stock outstanding. The current share price is $76, and the book value per share is $5. Erna Corp. also has two bond issues outstanding. The first bond issue has a face value of $90 million, has a coupon of 5 percent, and sells for 94 percent of par. The second issue has a face value of $70 million, has a coupon of 6 percent, and sells for 104 percent of par. The first issue matures in 20 years, the second in 3 years. | | |

|  |  |
| --- | --- |
| **a.** | What are Erna’s capital structure weights on a book value basis? **(Round your answer to 4 decimal places. (e.g., 32.1616))** |

|  |  |
| --- | --- |
| Equity/Value |  |
| Debt/Value |  |

|  |  |
| --- | --- |
| **b.** | What are Erna’s capital structure weights on a market value basis?**(Round your answer to 4 decimal places. (e.g., 32.1616))** |

|  |  |
| --- | --- |
| Equity/Value |  |
| Debt/Value |  |

|  |  |
| --- | --- |
| **c.** | Which are more relevant, the book or market value weights? |
|  |  |
|  | |  |  | | --- | --- | |  | Market value | |  | Book value | |
| Mullineaux Corporation has a target capital structure of 45 percent common stock, 15 percent preferred stock, and 40 percent debt. Its cost of equity is 14 percent, the cost of preferred stock is 5 percent, and the pretax cost of debt is 7 percent. The relevant tax rate is 40 percent. | |

|  |  |
| --- | --- |
| **a.** | What is Mullineaux’s WACC? **(Round your answer to 2 decimal places. (e.g., 32.16))** |

|  |  |
| --- | --- |
| WACC | % |

|  |  |
| --- | --- |
| **b.** | What is the aftertax cost of debt? **(Round your answer to 2 decimal places. (e.g., 32.16))** |

|  |  |
| --- | --- |
| Cost of debt | % |

|  |
| --- |
| Pendergast, Inc., has no debt outstanding and a total market value of $180,000. Earnings before interest and taxes, EBIT, are projected to be $25,000 if economic conditions are normal. If there is strong expansion in the economy, then EBIT will be 10 percent higher. If there is a recession, then EBIT will be 20 percent lower. Pendergast is considering a $60,000 debt issue with an interest rate of 5 percent. The proceeds will be used to repurchase shares of stock. There are currently 6,000 shares outstanding. Ignore taxes for this problem. |

|  |  |
| --- | --- |
| **a-1** | Calculate earnings per share (EPS) under each of the three economic scenarios before any debt is issued. **(Round your answers to 2 decimal places. (e.g., 32.16))** |

|  |  |
| --- | --- |
|  | EPS |
| Recession | $ |
| Normal | $ |
| Expansion | $ |
|  | |

|  |  |
| --- | --- |
| **a-2** | Calculate the percentage changes in EPS when the economy expands or enters a recession.**(Negative amounts should be indicated by a minus sign.)** |

|  |  |
| --- | --- |
| Percentage changes in EPS | |
| Recession | % |
| Expansion | % |
|  | |

|  |  |
| --- | --- |
| **b-1** | Assume that the company goes through with recapitalization. Calculate earnings per share (EPS) under each of the three economic scenarios assuming the company goes through with recapitalization.**(Leave no cells blank - be certain to enter "0" wherever required. Round your answers to 2 decimal places. (e.g., 32.16))** |

|  |  |
| --- | --- |
|  | EPS |
| Recession | $ |
| Normal | $ |
| Expansion | $ |
|  | |

|  |  |
| --- | --- |
| **b-2** | Given the recapitalization, calculate the percentage changes in EPS when the economy expands or enters a recession. **(Negative amounts should be indicated by a minus sign. Round your answers to 2 decimal places. (e.g., 32.16))** |

|  |  |
| --- | --- |
| Percentage changes in EPS | |
| Recession | % |
| Expansion | % |
|  | |

|  |
| --- |
| Rise Against Corporation is comparing two different capital structures: an all-equity plan (Plan I) and a levered plan (Plan II). Under Plan I, the company would have 205,000 shares of stock outstanding. Under Plan II, there would be 155,000 shares of stock outstanding and $2.30 million in debt outstanding. The interest rate on the debt is 6 percent, and there are no taxes. |

|  |  |
| --- | --- |
| **a.** | If EBIT is $250,000, what is the EPS for each plan? **(Round your answers to 2 decimal places.(e.g., 32.16))** |

|  |  |
| --- | --- |
|  | EPS |
| Plan I | $ |
| Plan II | $ |
|  | |

|  |  |
| --- | --- |
| **b.** | If EBIT is $500,000, what is the EPS for each plan? **(Round your answers to 2 decimal places.(e.g., 32.16))** |

|  |  |
| --- | --- |
|  | EPS |
| Plan I | $ |
| Plan II | $ |
|  | |

|  |  |
| --- | --- |
| **c.** | What is the break-even EBIT? **(Do not round intermediate calculations. Enter your answer in dollars, not millions of dollars, i.e. 1,234,567.)** |

|  |  |
| --- | --- |
| Break-even EBIT | $ |

|  |
| --- |
| Chandeliers Corp. has no debt but can borrow at 8.1 percent. The firm’s WACC is currently 9.9 percent, and the tax rate is 35 percent. |

|  |  |
| --- | --- |
| **a.** | What is the company’s cost of equity? **(Round your answer to 2 decimal places. (e.g., 32.16))** |

|  |  |
| --- | --- |
| Cost of equity | % |

|  |  |
| --- | --- |
| **b.** | If the firm converts to 25 percent debt, what will its cost of equity be? **(Round your answer to 2 decimal places. (e.g., 32.16))** |

|  |  |
| --- | --- |
| Cost of equity | % |

|  |  |
| --- | --- |
| **c.** | If the firm converts to 50 percent debt, what will its cost of equity be?**(Round your answer to 2decimal places. (e.g., 32.16))** |

|  |  |
| --- | --- |
| Cost of equity | % |

|  |  |
| --- | --- |
| **d-1** | If the firm converts to 25 percent debt, what is the company’s WACC?**(Round your answer to 2 decimal places. (e.g., 32.16))** |

|  |  |
| --- | --- |
| WACC | % |

|  |  |
| --- | --- |
| **d-2** | If the firm converts to 50 percent debt, what is the company’s WACC?**(Round your answer to 2 decimal places. (e.g., 32.16))** |

|  |  |
| --- | --- |
| WACC | % |

|  |
| --- |
| ABC Co. and XYZ Co. are identical firms in all respects except for their capital structure. ABC is all equity financed with $575,000 in stock. XYZ uses both stock and perpetual debt; its stock is worth $287,500 and the interest rate on its debt is 8.5 percent. Both firms expect EBIT to be $64,000. Ignore taxes. |

|  |  |
| --- | --- |
| **a.** | Rico owns $34,500 worth of XYZ’s stock. What rate of return is he expecting? **(Round your answer to 2 decimal places. (e.g., 32.16))** |

|  |  |
| --- | --- |
| Rate of return | % |

|  |  |
| --- | --- |
| **b.** | Suppose Rico invests in ABC Co and uses homemade leverage. Calculate his total cash flow and rate of return. **(Round your percentage answer to 2 decimal places. (e.g., 32.16))** |

|  |  |
| --- | --- |
|  |  |
| Total cash flow | $ |
| Rate of return | % |
|  | |

|  |  |
| --- | --- |
| **c.** | What is the cost of equity for ABC and XYZ? **(Round your answers to 2 decimal places. (e.g., 32.16))** |

|  |  |
| --- | --- |
|  | Cost of equity |
| ABC | % |
| XYZ | % |
|  | |

|  |  |
| --- | --- |
| **d.** | What is the WACC for ABC and XYZ? **(Round your answers to 2 decimal places. (e.g., 32.16))** |

|  |  |
| --- | --- |
|  | WACC |
| ABC | % |
| XYZ | % |
|  | |

|  |
| --- |
| Pendergast, Inc., has no debt outstanding and a total market value of $240,000. Earnings before interest and taxes, EBIT, are projected to be $28,000 if economic conditions are normal. If there is strong expansion in the economy, then EBIT will be 12 percent higher. If there is a recession, then EBIT will be 25 percent lower. Pendergast is considering a $140,000 debt issue with an interest rate of 6 percent. The proceeds will be used to repurchase shares of stock. There are currently 12,000 shares outstanding. Ignore taxes for questions a and b. Assume the company has a market-to-book ratio of 1.0. |

|  |  |
| --- | --- |
| **a-1** | Calculate return on equity (ROE) under each of the three economic scenarios before any debt is issued. **(Round your answers to 2 decimal places. (e.g., 32.16))** |

|  |  |
| --- | --- |
|  | ROE |
| Recession | % |
| Normal | % |
| Expansion | % |
|  | |

|  |  |
| --- | --- |
| **a-2** | Calculate the percentage changes in ROE when the economy expands or enters a recession.**(Negative amounts should be indicated by a minus sign.)** |

|  |  |
| --- | --- |
|  | % change in ROE |
| Recession | % |
| Expansion | % |
|  | |

|  |
| --- |
| Assume the firm goes through with the proposed recapitalization. |

|  |  |
| --- | --- |
| **b-1** | Calculate the return on equity (ROE) under each of the three economic scenarios. **(Round your answers to 2 decimal places. (e.g., 32.16))** |

|  |  |
| --- | --- |
|  | ROE |
| Recession | % |
| Normal | % |
| Expansion | % |
|  | |

|  |  |
| --- | --- |
| **b-2** | Calculate the percentage changes in ROE when the economy expands or enters a recession.**(Negative amounts should be indicated by a minus sign. Round your answers to 2 decimal places. (e.g., 32.16))** |

|  |  |
| --- | --- |
|  | % change in ROE |
| Recession | % |
| Expansion | % |
|  | |

|  |
| --- |
| Assume the firm has a tax rate of 35 percent. |

|  |  |
| --- | --- |
| **c-1** | Calculate return on equity (ROE) under each of the three economic scenarios before any debt is issued. **(Round your answers to 2 decimal places. (e.g., 32.16))** |

|  |  |
| --- | --- |
|  | ROE |
| Recession | % |
| Normal | % |
| Expansion | % |
|  | |

|  |  |
| --- | --- |
| **c-2** | Calculate the percentage changes in ROE when the economy expands or enters a recession.**(Negative amounts should be indicated by a minus sign.)** |

|  |  |
| --- | --- |
|  | % change in ROE |
| Recession | % |
| Expansion | % |
|  | |

|  |  |
| --- | --- |
| **c-3** | Calculate the return on equity (ROE) under each of the three economic scenarios assuming the firm goes through with the recapitalization. **(Round your answers to 2 decimal places. (e.g., 32.16))** |

|  |  |
| --- | --- |
|  | ROE |
| Recession | % |
| Normal | % |
| Expansion | % |
|  | |

|  |  |
| --- | --- |
| **c-4** | Given the recapitalization, calculate the percentage changes in ROE when the economy expands or enters a recession. **(Negative amounts should be indicated by a minus sign. Round your answers to 2 decimal places. (e.g., 32.16))** |

|  |  |
| --- | --- |
|  | % change in ROE |
| Recession | % |
| Expansion | % |
|  | |