4Point Learning Systems Inc.

Corporate Finance

Webinar

1. Maple Ltd. currently has 10 million common shares outstanding. Maple has just paid a dividend of $0.25 per share and investment analysts have informed you that the dividends are expected to grow by 7% annually for the foreseeable future. The analysts have also informed you that the shares are expected to be selling at a price of $4.50 in 1 year's time, the beta on the Maple shares is 1.10, the market price of risk is 6%, and the risk-free rate of return is 4%.

   Hint - The $4.50 does not include the dividend that will be paid in one year's time. The sum of these amounts must be brought back to time now.

   What is the current market price for a Maple common share?
   a) $4.07
   b) $4.29
   c) $4.31
   d) $4.47
   e) None of the above

2. At the most recent Treasury bill auction, 182-day Treasury bills (T-bills) with a face value of $100 were selling for $95.60. At this price, what is the yield offered by the T-bills?
   a) 2.3%
   b) 4.6%
   c) 9.4%
   d) 19.7%
   e) None of the above

3. Ferny Inc. currently has 60 million common shares outstanding with a current market price of $13 per share. The shares just paid a dividend of $1.50 per share and investment analysts expect the dividends to grow at an average annual rate of 2% for the foreseeable future. What is the cost of Ferny's common shares if flotation costs on new common shares are expected to be 3% after-tax, Ferny's tax rate is 30%, and Ferny intends to finance its growth from retained earnings?
   a) 11.77%
   b) 13.54%
   c) 13.77%
   d) 14.13%
   e) None of the above

4. Your company currently purchases its inventory on credit with trade terms of 3/15, net 60. What is the cost of the missed discount if the company decides to delay payment until day 60?
   a) 3.00%
   b) 3.09%
   c) 20.36%
   d) 28.03%
   e) None of the above

5. Trail Inc. currently has 5 million preferred shares outstanding. The shares have a par value of $22.50 per share and their current price is $25 per share. Trail's tax rate is 40% and flotation costs on a new issue of preferred shares are 5% before tax. What per-share dividend are the preferred shares paying if the component cost of the preferred shares in a weighted average cost of capital calculation is 8.25%?
   Hint - The after tax costs of flotation must be subtracted from the share price to obtain the net proceeds.
   a) $1.80
   b) $1.96
   c) $2.00
   d) $2.06
   e) None of the above

6. Suppose you purchase goods on terms of 2/10, net 50. Taking compounding into account, what annual rate of interest is implied by the cash discount? (Assume a year has 365 days.)
   a) 2%
   b) 20%
   c) 102%
   d) 18%
   e) 120%

7. The historical returns data for the past three years for Company A's stock is -6.0%, 15%, 15% and that of the market portfolio is 10%, 10% and 16%. Calculate the expected return for the stocks and the market portfolio.
   a) R_A=8% R_M= 12%
   b) R_A= 12% R_M=8%
   c) R_A=10% R_M=15%
   d) R_A=15% R_M=10%
   e) None of the above

8. Great Lakes Co. is currently paying a dividend of $2.20 per share. The dividends are expected to grow at 25% per year for the next four years and then grow 5% per year thereafter. Calculate the expected dividend in year 6.
   a) $5.37
   b) $2.95
   c) $5.92
   d) $8.39
   e) $10.42

9. The NetTech Co. has just paid a dividend of $1 per share. The dividends are expected to grow at 20% per year for the next three years and at the rate of 5% per year thereafter. If the required rate of return on the stock is 15% the annual percentage rate of return (APR), what is the current value of the stock?
   a) $18.14
   b) $15.20
   c) $12.51
   d) $10.29
   e) $11.86

Additional in Session Question 1
Capital Budgeting differential approach, income taxes.

A specialized automobile parts manufacturer is considering the acquisition of a new machine. The new machine is far more efficient than the present machine. It would cost $87,600, would cut annual cash operating costs from $72,000 to $48,000, and would have a terminal disposal price of $16,800 at the end of its useful life of three years. The applicable income tax rate is 30%. The after-tax required rate of return is 14%.

The current machine has been used for one year. It will have no useful economic life (other than for the residual value) after three more years. It cost $105,600 when acquired, has a current disposal price of $39,200, and has a residual disposal price of $7,200.

These machines qualify for a capital cost allowance rate of 20%, declining balance.

REQUIRED
Using the net present value method, show whether the new machine should be purchased.

Additional in Session Question 2
Equipment replacement, income taxes.

Microvac is considering the purchase of a new, more efficient pump on January 1, 2012 (four years later). The new pump costs $807,500. The pump qualifies for a capital cost allowance rate of 25%, declining balance. The new pump is expected to have a terminal disposal price of $96,000 at the end of four years. At current rates of production, the new pump's greater efficiency will result in annual cash savings of $175,000.

On January 1, 2008, Microvac bought a vacuum pump for $480,000. This pump will be fully amortized for accounting purposes by December 31, 2011, but it can still be used for another four years. It has a current disposal price of $72,600. If it is used for another four years, the pump's residual disposal price will be zero.

Microvac is able to sell all the testing instruments for microcircuits it produces. These instruments sell for $4,480 each. Microvac incurs cash operating costs of $3,220 to manufacture these instruments. Because of the increased speed of the new pump, output is expected to increase by 30 units in 2012, 50 units in 2013 and 2014, and 70 units in 2015. Over and above the annual cash savings at current production levels, Microvac's cash manufacturing costs will decrease by $180 per unit on all **additional units produced**.

Microvac is subject to a 40% tax rate. Microvac's after-tax required rate of return is 16%.

REQUIRED

1. Determine whether Microvac should purchase the new pump by calculating the net present value at January 1, 2012, of the estimated after-tax cash flows that would result from the acquisition.

2. Describe the nonfinancial and qualitative factors that Microvac should consider before making the pump replacement decision.

EVA 1

Consider the following data for the two geographical divisions of the Potomac Electric Company that operate as profit centres:

	Atlantic Division	Pacific Division
Total assets	$1,000,000	$5,000,000
Current liabilities	250,000	1,500,000
Operating income	200,000	750,000

Required

1. Calculate the return on investment (ROI) using operating income as the measure of income and using total assets as the measure of investment.
2. Potomac Electric has used residual income as a measure of management success, the variable it wants a manager to maximize. Using this criterion, what is the residual income for each division using operating income and total assets if the required rate of return on investment is 12%?
3. Potomac Electric has two sources of funds: long-term debt with a market value of $3,500,000 and an interest rate of 10%, and equity capital with a market value of $3,500,000 at a cost of equity of 14%. Potomac's income tax rate is 40%. Potomac applies the same weighted-average cost of capital to both divisions, since each division faces similar risks. Calculate the economic value added. Which of the measures calculated in requirements l, 2, and 3 would you recommend Potomac Electric use? Why? Explain briefly.

EVA 2

The Burlingame Transport Company operates two divisions, a Truck Rental Division that rents to individuals, and a Transportation Division that transports goods from one city to another. Results reported for the last year are as follows:

	Truck Rental Division	Transportation Division
Total assets	$650,000	$950,000
Current liabilities	120,000	200,000
Operating income before tax	75,000	160,000

Required

1. l. Calculate the residual income for each division using operating income before tax and investment equal to total assets minus current liabilities. The required rate of return on investments is 12 %.
2. The company has two sources of funds: long-term debt with a market value of $900,000 at an interest rate of 10% and equity capital with a market value of $600,000 at a cost of equity of 15%. Burlingame's income tax rate is 40%. Burlingame applies the same weighted-average cost of capital to both divisions, since each division faces similar risks. Calculate the economic value added (EVA©) for each division.