




Question #1 of 28

Question ID: 1457976

The cost of capital for preferred stock is estimated as:

- A) the preferred stock dividend divided by its par value. 
- B) the preferred stock dividend divided by its market price. 
- C) the after-tax preferred stock dividend divided by its market price. 

Explanation




The cost of preferred stock = D_{ps} / P .

(Module 33.1, LOS 33.d)

Question #2 of 28

Question ID: 1457978

The cost of preferred stock is *most* appropriately estimated as the preferred dividend divided by the preferred stock's:

- A) par value. 
- B) current market price. 
- C) estimated price in the next period. 

Explanation

The cost of preferred stock, k_{ps} , is D_{ps} / price .



(Module 33.1, LOS 33.d)

Question #3 of 28

Question ID: 1457964

A financial analyst is estimating the effect on the cost of capital for a company of a decrease in the marginal tax rate. The company is financed with debt and common equity. A decrease in the firm's marginal tax rate would:

- A) decrease the cost of capital because of a lower after-tax cost of debt and equity. 

- B)** increase the cost of capital because of a higher after-tax cost of debt and equity. 
- C)** increase the cost of capital because of a higher after-tax cost of debt. 

Explanation

The cost of debt capital is affected by the marginal tax rate because interest costs are tax-deductible. A lower marginal tax rate decreases the value to the firm of the tax deduction for interest and therefore increases the after-tax cost of debt capital. Cost of equity capital is not affected by the marginal tax rate.

(Module 33.1, LOS 33.b)

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Question ID: 1457977

A \$100 par, 8% preferred stock is currently selling for \$80. What is the cost of preferred equity?

- A)** 8.0%. 
- B)** 10.0%. 
- C)** 10.8%. 

Explanation




$$k_{ps} = \$8 / \$80 = 10\%$$

(Module 33.1, LOS 33.d)

Question #5 of 28

Question ID: 1482638

The after-tax cost of preferred stock is always:

- A)** higher than the cost of common shares. 
- B)** equal to the before-tax cost of preferred stock. 
- C)** less than the before-tax cost of preferred stock. 

Explanation

The after-tax cost of preferred stock is equal to the before-tax cost of preferred stock, because preferred stock dividends are not tax deductible. The cost of preferred shares is usually higher than the cost of debt, but less than the cost of common shares.

(Module 33.1, LOS 33.d)

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Question ID: 1457971

A company's outstanding 20-year, annual-pay 6% coupon bonds are selling for \$894. At a tax rate of 40%, the company's after-tax cost of debt capital is *closest* to:

A) 5.10%.



B) 4.2%.



C) 7.00%.



Explanation

Pretax cost of debt: $N = 20$; $FV = 1000$; $PV = -894$; $PMT = 60$; $CPT \rightarrow I/Y = 7\%$

After-tax cost of debt: $k_d = (7\%)(1 - 0.4) = 4.2\%$

(Module 33.1, LOS 33.c)

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Question ID: 1457962

When calculating the weighted average cost of capital (WACC) an adjustment is made for taxes because:

A) interest on debt is tax deductible.



B) dividends paid are taxable to the shareholder..



C) dividends paid are tax deductible.



Explanation

The cost of debt capital is adjusted for taxes because interest paid by the firm is typically tax deductible. The costs of equity and preferred stock are not adjusted for taxes because dividends are not deductible for corporate taxes. Taxes owed by shareholders do not affect a firm's cost of capital.

(Module 33.1, LOS 33.b)

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Question ID: 1457970

A company has \$5 million in debt outstanding with a coupon rate of 12%. Currently the YTM on these bonds is 14%. If the tax rate is 40%, what is the after tax cost of debt?

A) 5.6%.



B) 7.2%.



C) 8.4%.



Explanation

$$(0.14)(1 - 0.4) = 0.084$$

(Module 33.1, LOS 33.c)

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Question ID: 1457959

An analyst gathered the following data about a company:

| Capital Structure | Required Rate of Return |
|---------------------|-------------------------|
| 30% debt | 10% for debt |
| 20% preferred stock | 11% for preferred stock |
| 50% common stock | 18% for common stock |

Assuming a 40% tax rate, what is the minimum rate of return the company should require a project to generate?

A) 10.0%.



B) 14.2%.



C) 13.0%.



Explanation

A project will be profitable if its internal rate of return exceeds the company's weighted average cost of capital. For this company, $WACC = (0.3)(0.1)(1 - 0.4) + (0.2)(0.11) + (0.5)(0.18) = 0.13$.

(Module 33.1, LOS 33.a)

Question #10 of 28

Question ID: 1478217

An analyst gathered the following information for ABC Company, which has a target capital structure of 70% common equity and 30% debt:

Expected market return 9.00%

Risk-free rate 4.00%

Tax rate 40%

Beta 0.90

Bond yield-to-maturity 8.00%

ABC's weighted-average cost of capital is *closest to*:

A) 8.4%.



B) 6.9%.



C) 7.4%.



Explanation

The problem must be solved in two steps. First, calculate the cost of equity:

$$\begin{aligned} r_{CE} &= R_f + \beta(R_M - R_f) \\ &= 0.04 + 0.9(0.09 - 0.04) \\ &= 0.085 = 8.5\% \end{aligned}$$

Next, calculate the WACC.

$$\begin{aligned} WACC &= w_D r_D(1 - t) + w_P r_P + w_{CE} r_{CE} \\ &= (0.30)(0.08)(1 - 0.40) + 0 + (0.70)(0.085) \\ &= 0.0739 \text{ or } 7.39\% \end{aligned}$$

(Module 33.1, LOS 33.e)

Question #11 of 28

Question ID: 1457975

The Garden and Home Store recently issued preferred stock paying \$2 annual dividends. The price of its preferred stock is \$20. The after-tax cost of fixed-rate debt capital is 6% and the cost of common stock equity is 12%. The cost of preferred stock is *closest to*:

A) 10%.



B) 9%.



C) 11%.



Explanation

Preferred stock pays constant dividends into perpetuity. The price of preferred stock equals the present value of the preferred stock dividends: $\$20 = \$2 / k_{ps}$. Therefore, the cost of preferred stock capital equals $\$2 / \$20 = 0.10 = 10\%$.

(Module 33.1, LOS 33.d)

Question #12 of 28

Question ID: 1457966

Ferryville Radar Technologies has five-year, 7.5% notes outstanding that trade at a yield to maturity of 6.8%. The company's marginal tax rate is 35%. Ferryville plans to issue new five-year notes to finance an expansion. Ferryville's cost of debt capital is *closest* to:

A) 4.4%.



B) 2.4%.



C) 4.9%.



Explanation

Ferryville's cost of debt capital is $k_d(1 - t) = 6.8\% \times (1 - 0.35) = 4.42\%$. Note that the before-tax cost of debt is the yield to maturity on the company's outstanding notes, not their coupon rate. If the expected yield on new par debt were known, we would use that. Since it is not, the yield to maturity on existing debt is the best approximation.

(Module 33.1, LOS 33.c)

Question #13 of 28

Question ID: 1457956

A company is planning a \$50 million expansion. The expansion is to be financed by selling \$20 million in new debt and \$30 million in new common stock. The before-tax required return on debt is 9% and the required return for equity is 14%. If the company is in the 40% tax bracket, the weighted average cost of capital is *closest* to:

A) 10.6%.



B) 10.0%.



C) 9.0%.



Explanation

To determine the WACC, the company's cost of debt capital must reflect the tax deductibility of interest costs.




$$(0.4)(9\%)(1 - 0.40) + (0.6)(14\%) = 10.56\%$$

(Module 33.1, LOS 33.a)

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Question ID: 1457983

To finance a proposed project, Younghan Corporation would need to issue £25 million in common equity. Younghan would receive £23 million in net proceeds from the equity issuance. When analyzing the project, analysts at Younghan should:

- A) add the £2 million flotation cost to the project's initial cash outflow. 
- B) not consider the flotation cost because it is a sunk cost. 
- C) increase the cost of equity capital to account for the 8% flotation cost. 

Explanation




The recommended method is to treat flotation costs as a cash outflow at project initiation rather than as a component of the cost of equity.

(Module 33.2, LOS 33.g)

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Question ID: 1457982

The *most* accurate way to account for flotation costs when issuing new equity to finance a project is to:

- A) adjust cash flows in the computation of the project NPV by the dollar amount of the flotation costs. 
- B) increase the cost of equity capital by multiplying it by (1 + flotation cost). 
- C) increase the cost of equity capital by dividing it by (1 – flotation cost). 

Explanation

Adjusting the cost of equity for flotation costs is incorrect because doing so entails adjusting the present value of cash flows by a fixed percentage over the life of the project. In reality, flotation costs are a cash outflow that occurs at the initiation of a project. Therefore, the correct way to account for flotation costs is to adjust the cash flows in the computation of project NPV, not the cost of equity. The dollar amount of the flotation cost should be considered an additional cash outflow at initiation of the project.

(Module 33.2, LOS 33.g)

Question #16 of 28

Question ID: 1457961

Elenore Rice, CFA, is asked to determine the appropriate weighted average cost of capital for Samson Brick Company. Rice is provided with the following data:

- Debt outstanding, market value \$10 million
- Common stock outstanding, market value \$30 million
- Marginal tax rate 40%
- Cost of common equity 12%
- Cost of debt 8%

Samson has no preferred stock. Assuming Samson's ratios reflect the firm's target capital structure, Samson's weighted average cost of capital is *closest to*:

A) 10.2%.



B) 10.4%.



C) 9.8%.



Explanation

The capital structure ratios are:

- Debt to total capital = $\$10 / (\$10 + \$30) = 25\%$
- Equity to total capital = $\$30 / (\$10 + \$30) = 75\%$

The formula for the WACC (if no preferred stock) is:

$$\text{WACC} = w_d k_d (1 - t) + w_{ce} k_{ce}$$

where w_d is the percentage of operations financed by debt, w_{ce} is the percentage of operations financed by equity, t is the marginal tax rate, k_d is the before-tax cost of debt, and k_{ce} is the cost of common equity.




$$\text{WACC} = 0.25(0.08)(0.60) + 0.75(0.12) = 0.102 = 10.2\%.$$

(Module 33.1, LOS 33.a)

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Question ID: 1457957

Assume a firm uses a constant WACC to select investment projects rather than adjusting the projects for risk. If so, the firm will tend to:

- A) accept profitable, low-risk projects and reject unprofitable, high-risk projects. 
- B) accept profitable, low-risk projects and accept unprofitable, high-risk projects. 
- C) reject profitable, low-risk projects and accept unprofitable, high-risk projects. 

Explanation

The firm will reject profitable, low-risk projects because it will use a hurdle rate that is too high. The firm should lower the required rate of return for lower risk projects. The firm will accept unprofitable, high-risk projects because the hurdle rate of return used will be too low relative to the risk of the project. The firm should increase the required rate of return for high-risk projects.

(Module 33.1, LOS 33.a)

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Question ID: 1457958

Given the following information about a company's capital structure:

| Type of Capital | Percent of Capital Structure | Before-Tax Component Cost |
|-----------------|------------------------------|---------------------------|
| Debt | 40% | 7.5% |
| Preferred Stock | 5% | 11.0% |
| Common Stock | 55% | 15.0% |

If the company's tax rate is 40%, its weighted average cost of capital is *closest* to:

- A) 13.3%. 
- B) 7.1%. 
- C) 10.6%. 

Explanation

$$WACC = (W_d)[K_d(1 - t)] + (W_p)(K_p) + (W_{ce})(K_{ce})$$




$$WACC = 0.4(7.5\%)(1 - 0.4) + 0.05(11\%) + 0.55(15\%) = 10.6\%.$$

(Module 33.1, LOS 33.a)

Question #19 of 28

Question ID: 1457972

Which of the following is *least likely* to be useful to an analyst when estimating the cost of raising capital through the issuance of non-callable, nonconvertible preferred stock?

- A) The firm's corporate tax rate. 
- B) The stated par value of the preferred issue. 
- C) The preferred stock's dividend rate. 

Explanation

The corporate tax rate is not a relevant factor when calculating the cost of preferred stock.

The cost of preferred stock, k_{ps} is expressed as:

$$k_{ps} = D_{ps} / P$$

where:

D_{ps} = dividend per share = dividend rate \times stated par value




P = market price

(Module 33.1, LOS 33.d)

Question #20 of 28

Question ID: 1457967

Which of the following is *least likely* to be useful to an analyst who is estimating the pretax cost of a firm's fixed-rate debt?

- A) The coupon rate on the firm's existing debt. 
- B) The yield to maturity of the firm's existing debt. 
- C) Seniority and any special covenants of the firm's anticipated debt. 

Explanation

Ideally, an analyst would use the YTM of a firm's existing debt as the pretax cost of new debt. When a firm's debt is not publicly traded, however, a market YTM may not be available. In this case, an analyst may use the yield curve for debt with the same rating and maturity to estimate the market YTM. If the anticipated debt has unique characteristics that affect YTM, these characteristics should be accounted for when estimating the pretax cost of debt. The cost of debt is the market interest rate (YTM) on new (marginal) debt, not the coupon rate on the firm's existing debt. If you are provided with both coupon and YTM on the exam, you should use the YTM.

(Module 33.1, LOS 33.c)

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Question ID: 1457981

A publicly traded company has a beta of 1.2, a debt/equity ratio of 1.5, ROE of 8.1%, and a marginal tax rate of 40%. The unlevered beta for this company is *closest to*:

A) 1.071.



B) 0.632.



C) 0.832.



Explanation

The unlevered beta for this company is calculated as:

$$\beta_{\text{unlevered}} = 1.2 \left[\frac{1}{1 + (1 - 0.40)1.5} \right] = 0.6316 \approx 0.632$$

(Module 33.2, LOS 33.f)

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Question ID: 1462862

Which of the following is the *least appropriate* method for estimating a firm's before-tax cost of debt capital?

A) Use the market yield on bonds with a rating and maturity similar to the firm's existing debt.



B) Assume the firm's cost of debt capital is equal to the yield to maturity on its publicly traded debt.



C) Use the coupon rate on the firm's most recently issued debt.



Explanation

Current market yields, not the coupon rate, should be used to estimate the cost of debt capital. (Module 33.1, LOS 33.c)

Question #23 of 28

Question ID: 1457979

A firm has \$4 million in outstanding bonds that mature in four years, with a fixed rate of 7.5% (assume annual payments). The bonds trade at a price of 98 in the open market. The firm's marginal tax rate is 35%. Using the bond-yield plus method, what is the firm's cost of equity risk assuming an add-on of 4%?

A) 11.50%.



B) 13.34%.



C) 12.11%.



Explanation

If the bonds are trading at 98, the required yield is 8.11%, and the market value of the issue is \$3.92 million. To calculate this rate using a financial calculator (and figuring the rate assuming a \$100 face value for each bond), $N = 4$; $PMT = 7.5 = (0.075 \times 100)$; $FV = 100$; $PV = -98$; $CPT \rightarrow I/Y = 8.11$. By adding the equity risk factor of 4%, we compute the cost of equity as 12.11%.

(Module 33.1, LOS 33.e)

Question #24 of 28

Question ID: 1457968

DeSoto Corp. 8% coupon bonds have a yield to maturity of 7.5%. The firm's tax rate is 30%. The after-tax cost of debt is *closest* to:

A) 5.3%.



B) 5.6%.



C) 7.5%.



Explanation

$7.5 \times (1 - 0.3) = 5.25\%$.

(Module 33.1, LOS 33.c)

Question #25 of 28

Question ID: 1457963

Assume that a company has equal amounts of debt, common stock, and preferred stock. An increase in the corporate tax rate of a firm will cause its weighted average cost of capital (WACC) to:

- A) rise. 
- B) fall. 
- C) more information is needed. 

Explanation

Recall the WACC equation:

$$\text{WACC} = [w_d \times k_d \times (1 - t)] + (w_{ps} \times k_{ps}) + (w_{ce} \times k_s)$$

The increase in the corporate tax rate will result in a lower cost of debt, resulting in a lower WACC for the company.

(Module 33.1, LOS 33.b)

Question #26 of 28

Question ID: 1457960

A firm is planning a \$25 million expansion project. The project will be financed with \$10 million in debt and \$15 million in equity stock (equal to the company's current capital structure). The before-tax required return on debt is 10% and 15% for equity. If the company's tax rate is 35%, what cost of capital should the firm use to determine the project's net present value?

- A) 11.6%. 
- B) 9.6%. 
- C) 12.5%. 

Explanation

Weight of equity = \$15 million / (\$10 million + \$15 million) = 60%

Weight of debt = \$10 million / (\$10 million + \$15 million) = 40%

$\text{WACC} = 0.60(k_{CE}) + 0.40(\text{after-tax } k_D)$




$\text{WACC} = 0.60(0.15) + 0.40(0.10)(1 - 0.35) = 0.09 + 0.026 = 0.116$ or 11.6%

(Module 33.1, LOS 33.a)

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Question ID: 1457974

Which of the following statements is *most* accurate regarding a firm's cost of preferred shares? A firm's cost of preferred stock is:

- A) the market price of the preferred shares as a percentage of its issuance price. 
- B) approximately equal to the market price of the firm's debt as a percentage of the market price of its common shares. 
- C) the dividend yield on the firm's newly-issued preferred stock. 

Explanation

The newly-issued preferred shares of most companies generally sell at par. As such, the dividend yield on a firm's newly-issued preferred shares is the market's required rate of return. The yield on a BBB corporate bond reflects a pre-tax cost of debt. Both remaining choices make no sense.

(Module 33.1, LOS 33.d)

Question #28 of 28

Question ID: 1462861

A firm has one actively traded bond issue outstanding, with a 6% coupon and a yield to maturity of 5%. When estimating the firm's weighted average cost of capital (WACC), the appropriate after-tax cost of debt capital is:

- A) less than 5%. 
- B) equal to 6%. 
- C) between 5% and 6%. 

Explanation

Yield to maturity is an appropriate estimate of a firm's before-tax cost of capital. Its after-tax cost of capital may be estimated as $YTM \times (1 - \text{tax rate})$ and will be less than the before-tax cost of capital, as long as the firm faces a positive tax rate. (Module 33.1, LOS 33.c)