Measures of Leverage & Dividends and Share Repurchase

Test ID: 7696476

Question #1 of 67

Question ID: 414840

Which of the following is a key determinant of operating leverage?

- ✗ **A) The competitive nature of the business.**
- ✗ **B)** Level and cost of debt.
- ✓ **C)** The tradeoff between fixed and variable costs.

Explanation

Operating leverage can be defined as the trade off between variable and fixed costs.

Question #2 of 67

Question ID: 414846

Jayco, Inc., sells blue ink for $4.00 a bottle. The ink's variable cost per bottle is $2.00. Ink has fixed cost of $10,000. What is Jayco's breakeven point in units?

- ✗ **A) 2,500.**
- ✗ **B)** 6,000.
- ✓ **C)** 5,000.

Explanation

Q_{BE} = [FC] / (P - V)

Q_{BE} = [10,000] / (4.00 - 2.00) = 5,000

Question #3 of 67

Question ID: 414829

Stromburg Corporation's sales are $75,000,000. Fixed costs, including research and development, are $40,000,000, while variable costs amount to 30% of sales. Stromburg plans an expansion which will generate additional fixed costs of $15,000,000, decrease variable costs to 25% of sales, and permit sales to increase to $100,000,000. What is Stromburg's degree of operating leverage at the new projected sales level?

- ✗ **A) 3.50.**
- ✗ **B)** 4.20.
- ✓ **C)** 3.75.

Explanation

Sales = $100,000,000

VC of 25% of sales = 25,000,000

FC of 40,000,000 + 15,000,000 = 55,000,000

DOL= [100,000,000 - 25,000,000] / [100,000,000 - 25,000,000 - 55,000,000] = 3.75

Question #4 of 67

Question ID: 434343

A company's use of financial leverage:

- ✗ **A) increases default risk and decreases potential return on equity.**
- ✗ **B)** decreases default risk and decreases potential return on equity.
- ✓ **C)** increases default risk and increases potential return on equity.

Explanation

Issuing debt introduces default risk. The interest expense associated with using debt represents a fixed cost that reduces net income. However, compared to financing entirely with equity, the lower net income is spread over a smaller base of shareholders' equity. This financing structure increases the potential return on equity.

Question #5 of 67

Question ID: 414841

Which of the following statements regarding the impact of financial leverage on a company's net income and return on equity (ROE) is *most* accurate?

- ✓ **A) Using financial leverage increases the volatility of ROE for a level of volatility in operating income.**
- ✗ **B)** If a firm has a positive operating profit margin, using financial leverage will always increase ROE.
- ✗ **C)** Increasing financial leverage increases both risk and potential return of existing bondholders.

Explanation

If a firm is financed with 100% equity, there is a direct relationship between changes in the firm's ROE and changes in operating income. Adding financial leverage (debt) to the firm's capital structure will cause ROE to become much more volatile and ROE will change more rapidly for a given change in operating income. The increased volatility in ROE reflects an increase in both risk and potential return for equity holders. Note that financial leverage results in increased default risk, but since existing bond holders are compensated by coupon interest and return of principal, their potential return is unchanged. Although financial leverage will generally increase ROE if a firm has a positive operating margin (EBIT/Sales), if the operating margin were small, the added interest expense could turn the firm's net profit margin negative, which would in turn make ROE negative.

Question #6 of 67

Question ID: 434349

Sinclair Construction Company's Board of Directors is considering repurchasing $30,000,000 worth of common stock. Sinclair assumes that the stock can be repurchased at the market price of $50 per share. After much discussion Sinclair decides to borrow $30 million that it will use to repurchase shares. Sinclair's Chief Executive Officer (CEO) has compiled the following information regarding the repurchase of the firm's common stock:

- Share price at the time of buyback = $50
- Shares outstanding before buyback = 30,600,000
- EPS before buyback = $3.33
- Earnings yield = $3.33 / $50 = 6.7%
- After-tax cost of borrowing = 8.0%

- Planned buyback = 600,000 shares

Based on the information above, Sinclair's earnings per share (EPS) after the repurchase of its common stock will be *closest* to:

✓ **A) $3.32.**

✗ **B)** $3.23.

✗ **C)** $3.18.

Explanation

Total earnings = $3.33 × 30,600,000 = $101,898,000

$$\text{EPS after buyback} = \frac{\text{total earnings - after-tax cost of funds}}{\text{shares outstanding after buyback}}$$

$$= \frac{\$101{,}898{,}000 - (600{,}000 \text{ shares} \times \$50 \times 0.08)}{(30{,}600{,}000 - 600{,}000) \text{ shares}}$$

$$= \frac{\$101{,}898{,}000 - \$2{,}400{,}000}{30{,}000{,}000 \text{ shares}}$$

$$= \frac{\$99{,}498{,}000}{30{,}000{,}000 \text{ shares}}$$

$$= \$3.32$$

Since the 8.0% after-tax cost of borrowing is greater than the 6.7% earnings yield (E/P) of the shares, the share repurchase reduces Sinclair's EPS.

Question #7 of 67

Question ID: 414860

Jim Davis and Thurgood Owen, two equity analysts at Ferguson Capital Management, were reviewing the financial statements of Peregrine Foodstuffs Ltd. Davis and Owen noticed that Peregrine has been repurchasing its common shares in the market over the past three years. Owen thought this was an important issue to look into in greater detail. Upon completion of his review, Owen made the following two statements:

Statement 1: Peregrine has bought back shares in the open market during its repurchase program. This method of repurchase gave the company the flexibility to choose the timing of the transaction.

Statement 2: Peregrine plans to buy back shares by making tender offers during the coming year. By making tender offers, the company will be able to repurchase shares at a discount to the prevailing market price.

With respect to Owen's statements:

✗ **A) both are correct.**

✗ **B)** both are incorrect.

✓ **C)** only one is correct.

Explanation

Buying in the open market gives the company the flexibility to choose the timing of the transaction. Thus, Statement 1 is correct. A second way is to buy a fixed number of shares at a fixed price. A company may repurchase stock by making a tender offer to repurchase a specific number of shares at a price that is at a *premium* to the current market price. They would not be willing to tender their shares for less than the prevailing market price, so Statement 2 is incorrect.

Question #8 of 67

Question ID: 434340

The additional risk a firm's common shareholders must bear when a firm uses fixed cost financing is *best* described as:

✓ **A) financial risk.**

✗ **B)** operating risk.

✗ **C)** business risk.

Explanation

When a company finances its operations with fixed cost financing (debt), it takes on fixed expenses in the form of interest payments. The greater the proportion of debt in a firm's capital structure, the greater the firm's financial risk.

Business risk refers to the risk associated with a firm's operating income. Operating risk refers to the additional uncertainty about operating earnings caused by fixed operating costs.

Question #9 of 67

Question ID: 414850

Paying a cash dividend is *most likely* to result in:

✗ **A) an increase in liquidity ratios.**

✓ **B)** an increase in financial leverage ratios.

✗ **C)** the same impact on liquidity and leverage ratios as a stock dividend.

Explanation

A cash dividend will increase leverage ratios such as debt-to-equity and debt-to-assets, reflecting a decrease in the denominator. A cash dividend should decrease liquidity ratios such as the current ratio and cash ratio, due to the decrease in cash in the numerator. Unlike a cash dividend, a stock dividend or a stock split has no impact on liquidity or financial leverage ratios.

Question #10 of 67

Question ID: 414847

Yangtze Delta High Technology produces multimedia-enabled wireless phones. The factory incurs rent, depreciation, salary, and other fixed costs totaling RMB 10 million per year. Also, the company incurs annual interest of RMB 3 million on debt. Each phone sold by Yangtze Delta sells for RMB 200. The variable cost per phone is RMB 150. Yangtze Delta's operating breakeven quantity of sales is *closest to*:

✗ **A) 65,000.**

✓ **B)** 200,000.

✗ **C)** 260,000.

Explanation

The operating breakeven point is the quantity of product sold at which operating income is zero (revenue equals operating cost).

F = Fixed operating cost = RMB 10,000,000

P = Price per unit = RMB 200

V = Variable cost per unit = RMB 150

Operating breakeven quantity = F / (P − V) = 10,000,000 / (200 − 150) = 200,000.

Question #11 of 67

Question ID: 414868

The share price of Winnipeg Auto Unlimited is $5 per share. There are 50 million shares outstanding, and Winnipeg has a book value of $900 million. What is the book value per share (BVPS) after the share repurchase of $10 million?

- ✓ **A) $18.54.**
- ✗ **B)** $21.24.
- ✗ **C)** $14.76.

Explanation

The share buyback is $10 million / $5 per share = 2,000,000 shares.
Remaining shares: 50 million − 2 million = 48 million shares.

Winnipeg Auto Unlimited's current BVPS = $900 million / 50 million = $18.
Book value after repurchase: $900 million − $10 million = $890 million.
BVPS = $890 million / 48.0 million = $18.54.
BVPS increased by $0.54.

Book value per share (BVPS) increased because the share price is less than the original BVPS. If the share prices were more than the original BVPS, then the BVPS after the repurchase would have decreased.

Question #12 of 67

Question ID: 414854

What is the earliest day on which an investor can currently purchase Amex, Inc., if the investor wants to avoid receiving a dividend and thereby avoid paying tax on the distribution, if the date of record is Thursday, October 31?

- ✗ **A) Monday, October 28.**
- ✗ **B)** Thursday, October 24.
- ✓ **C)** Tuesday, October 29.

Explanation

The ex-dividend date is now two business days prior to the date of record. Counting back two business days identifies Tuesday, October 29 as the date when the shares can be purchased without the dividend.

Question #13 of 67

Question ID: 414856

Shareholders selling shares between the ex-dividend date and date of record:

- ✗ **A) forfeit the dividend, with the proceeds staying with the company.**
- ✓ **B)** receive the dividend.
- ✗ **C)** forfeit the dividend, with the proceeds going to the buyer.

Explanation

The date of record is the date on which the shareholders of record are designated to receive the dividend. The ex-dividend date is the cut-off date for receiving the dividend. Shares sold after the ex-dividend date are sold without claim to the dividend, even if they are sold prior to the date of record. The dividend would be paid to the holder as of the close of trading on the day prior to the ex-dividend date.

Question #14 of 67

Question ID: 414843

Jayco, Inc. has a division that makes red ink for the accounting industry. The unit has fixed costs of $10,000 per month, and is expected to sell 40,000 bottles of ink per month. If the variable cost per bottle is $2.00 what price must the division charge in order to breakeven?

- ✗ **A)** **$2.75.**
- ✓ **B)** $2.25.
- ✗ **C)** $2.50.

Explanation

40,000 = $10,000/(P - $2)
40,000P - $80,000 = $10,000
P = $90,000/40,000 = $2.25.

Question #15 of 67

Question ID: 414866

The share price of Solar Automotive Industries is $50 per share. It has a book value of $500 million and 50 million shares outstanding. What is the book value per share (BVPS) after a share repurchase of $10 million?

- ✗ **A)** **$10.00.**
- ✗ **B)** $10.12
- ✓ **C)** $9.84.

Explanation

The share buyback is $10 million / $50 per share = 200,000 shares.
Remaining shares: 50 million − 200,000 = 49.8 million shares.

Solar Automotive Industries' current BVPS = $500 million / 50 million = $10.
Book value after repurchase: $500 million − $10 million = $490 million.
BVPS = $490 million / 49.8 million = $9.84.
BVPS decreased by $0.16.

Book value per share (BVPS) decreased because the share price is greater than the original BVPS. If the share prices were less than the original BVPS, then the BVPS after the repurchase would have increased.

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Question ID: 414835

Jayco, Inc. sells 10,000 units at a price of $5 per unit. Jayco's fixed costs are $8,000, interest expense is $2,000, variable costs are $3 per unit, and earnings before interest and taxes (EBIT) is $12,000. What is Jayco's degree of financial leverage (DFL) and total leverage (DTL)?

	DFL	DTL
✓ **A)**	**1.20**	**2.00**
✗ **B)**	1.33	2.00
✗ **C)**	1.33	1.75

Explanation

DOL = [Q(P − V)] / [Q(P − V) − F] = [10,000(5 − 3)] / [10,000(5 − 3) − 8,000] = 1.67

DFL = EBIT / (EBIT − I) = 12,000 / (12,000 − 2,000) = 1.2

DTL = DOL × DFL = 1.67 × 1.2 = 2.0

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Question ID: 434348

Francis Investment Inc's Board of Directors is considering repurchasing $30,000,000 worth of common stock. Francis assumes that the stock can be repurchased at the market price of $50 per share. After much discussion Francis decides to borrow $30 million that it will use to repurchase shares. Francis' Chief Financial Officer (CFO) has compiled the following information regarding the repurchase of the firm's common stock:

- Share price at the time of buyback = $50
- Shares outstanding before buyback = 30,600,000
- EPS before buyback = $3.33
- Earnings yield = $3.33 / $50 = 6.7%
- After-tax cost of borrowing = 4%
- Planned buyback = 600,000 shares

Based on the information above, after the repurchase of its common stock, Francis' EPS will be *closest* to:

✓ **A) $3.36.**

✗ **B)** $3.39.

✗ **C)** $3.41.

Explanation

Total earnings = $3.33 × 30,600,000 = $101,898,000

$$\text{EPS after buyback} = \frac{\text{total earnings - after-tax cost of funds}}{\text{shares outstanding after buyback}}$$

$$= \frac{\$101,898,000 - (600,000 \text{ shares} \times \$50 \times 0.04)}{(30,600,000 - 600,000) \text{ shares}}$$

$$= \frac{\$101,898,000 - \$1,200,000}{30,000,000 \text{ shares}}$$

$$= \frac{\$100,698,000}{30,000,000 \text{ shares}}$$

$$= \$3.36$$

Since the after-tax cost of borrowing of 4% is less than the 6.7% earnings yield (E/P) of the shares, the share repurchase will increase Francis's EPS.

Question #18 of 67

Question ID: 434351

A share repurchase has what effect on shareholder wealth compared to a cash dividend of the same amount, if the tax treatment of the two alternatives is the same?

✓ **A)** **Same effect.**

✗ **B)** Less effect.

✗ **C)** Greater effect.

Explanation

Assuming the tax treatment of the two alternatives is the same, a share repurchase has the same impact on shareholder wealth as a cash dividend payment of an equal amount. Because shares are repurchased using a company's own cash, a share repurchase can be considered an alternative to a cash dividend as a way of distributing earnings to shareholders.

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Question ID: 414852

Stock splits:

✗ **A)** **increase firm value.**

✓ **B)** do not in and of themselves affect firm value.

✗ **C)** are less common than stock dividends.

Explanation

Stock splits divide up each existing share into multiple shares. The price of each share will drop correspondingly to the number of shares created, so there is no change in the owner's wealth. Empirical research has shown that in the absence of a dividend yield increase, the stock price falls to the stock split ratio of the original price (i.e., to 25% of the original price in a 4-for-1 stock split). This makes sense, given that the investor's percentage ownership of the company has not changed.

Question #20 of 67

Question ID: 434342

FCO, Inc. (FCO) is comparing EBIT forecasts to help determine the impact its capital structure has on net income.

	Expected EBIT	EBIT + 10%
EBIT	$80,000	$88,000
Interest expense	15,000	15,000
EBT	65,000	73,000
Taxes	26,000	29,200
Net income	39,000	43,800
Liabilities	200,000	
Shareholder equity	250,000	
Return on equity	15.60%	

FCO's degree of financial leverage is *closest* to:

✓ **A) 1.25.**

✗ **B)** 0.60.

✗ **C)** 0.80.

Explanation

The degree of financial leverage (DFL) is interpreted as the ratio of the percentage change in net income to the percentage change in EBIT. FCO can compare two EBIT forecasts to determine how net income is being driven by financial leverage.

$$DFL = \frac{(NI_1 - NI_0)/NI_0}{(EBIT_1 - EBIT_0)/EBIT_0}$$

$$DFL = \frac{(43{,}800 - 39{,}000)/39{,}000}{(88{,}000 - 80{,}000)/80{,}000} = \frac{0.123}{0.100} = 1.23$$

Question #21 of 67

Question ID: 414862

Laura's Chocolates, Inc. (LC), is a maker of nut-based toffees. LC is considering a share repurchase and prefers the "tender offer" method. Which of the following is also known as a "tender offer"?

✓ **A) Buying a fixed number of shares at a fixed price.**

✗ **B)** Repurchasing by direct negotiation.

✗ **C)** Buying in the open market.

Explanation

A tender offer refers to buying a fixed number of shares at a fixed price (usually at a premium to the current market price).

Question #22 of 67

Question ID: 414821

The two major types of risk affecting a firm are:

✗ **A) financial risk and cash flow risk.**

✗ **B)** business risk and collection risk.

✓ **C)** business risk and financial risk.

Explanation

Business risk is the uncertainty regarding the operating income of a company. Financial risk refers to the uncertainty caused by the fixed cost associated with borrowed money.

Question #23 of 67

Question ID: 414855

The cut-off date for receiving the dividend is known as the:

✗ **A) holder of record date.**

✗ **B)** date of payment.

✓ **C)** ex-dividend date.

Explanation

The cut-off date for receiving the dividend is known as the ex-dividend date. The holder of record date is the date on which the shareholders of record are designated. The date the checks are mailed out is known as the date of payment.

Question #24 of 67

Question ID: 414849

Steven's Bakery produces snack cakes and bread. Listed below are the operating costs for the snack cakes division and the bread division.

	Snack cakes	Bread
Price per package	$2.00	$2.50
Variable cost per package	$1.00	$1.30
Fixed operating costs	$25,000	$30,000
Fixed financing costs	$10,000	$10,000

Compared to the snack cakes division, the operating breakeven quantity for the bread division is:

✗ **A) less.**

✓ **B)** the same.

✗ **C)** greater.

Explanation

The operating breakeven quantity for the snack cakes division is $25,000/($2.00 − $1.00) = 25,000.
The operating breakeven quantity for the bread division is $30,000/($2.50 − $1.30) = 25,000.

Question #25 of 67

Question ID: 414824

As financial leverage increases, what will be the impact on the expected rate of return and financial risk?

- ✗ **A)** **Both will fall.**
- ✗ **B)** One will rise while the other falls.
- ✓ **C)** Both will rise.

Explanation

A higher breakeven point resulting from increased interest costs associated with debt financing increases the risk of the company. Since the risk is tied to firm financing, it is referred to as financial risk. Given the positive risk-return relationship, the expected return of the company's common stock also rises.

Question #26 of 67

Question ID: 434341

The combination of operating risk and sales risk is known as:

- ✗ **A)** **financial risk.**
- ✗ **B)** gearing risk.
- ✓ **C)** business risk.

Explanation

Business risk is the combination of sales risk and operating risk. Business risk refers to the risk associated with a firm's operating income and is the result of uncertainty about a firm's revenues and the expenditures necessary to produce those revenues.

Sales risk is the uncertainty about the firm's sales. Operating risk refers to the additional uncertainty about operating earnings caused by fixed operating costs. The greater the proportion of fixed costs to variable costs, the greater a firm's operating risk.

Financial risk refers to the additional risk that the firm's common stockholders must bear when a firm uses fixed cost (debt) financing. Gearing is a British term that refers to leverage.

Question #27 of 67

Question ID: 434339

Which of the following sources of financing is *least likely* to increase a firm's financial risk?

- ✗ **A)** **Operating leases.**
- ✓ **B)** Common equity.
- ✗ **C)** Fixed-rate debt.

Explanation

Financial risk, in the context of a firm's financing of its operations, results from taking on fixed financial obligations such as debt or operating leases. Common equity financing does not involve fixed obligations.

Question #28 of 67

Question ID: 434350

Pearl City Breweries has 8 million shares outstanding that are currently trading at $34 per share. The company is choosing whether to distribute $22 million as dividends or to use the same amount to repurchase its shares. Ignoring tax effects, what will be the amount of total wealth from owning one share of Pearl City Breweries under each of these alternatives?

	Cash dividend	Share repurchase
✓ **A)**	**$34.00**	**$34.00**
✗ **B)**	$31.25	$34.00
✗ **C)**	$31.25	$37.00

Explanation

If the company pays a cash dividend, the dividend per share will be $22 million/8 million = $2.75. The value of its shares will be:

$$\frac{8{,}000{,}000(\$34) - \$22{,}000{,}000}{8{,}000{,}000} = \frac{\$250{,}000{,}000}{8{,}000{,}000} = \$31.25$$

So the total wealth from owning one share will be $31.25 + $2.75 = $34.00.

If the company repurchases shares, it can buy $22 million/$34 = 647,058 shares. The value of one share would then be:

$$\frac{8{,}000{,}000(\$34) - \$22{,}000{,}000}{8{,}000{,}000 - 647{,}058} = \frac{\$250{,}000{,}000}{7{,}352{,}942} = \$34.00$$

If you remember that both a cash dividend and a share repurchase for cash leave shareholder wealth unchanged, this question does not require calculations of the amounts.

Question #29 of 67

Question ID: 414828

The following information reflects the projected operating results for Opstalan, a catalog printer.

- Sales of $5.0 million.
- Variable Costs at 40% of sales.
- Fixed Costs of $1.0 million.
- Debt interest payments on $1.5 million issued with an annual 7.0% coupon (current yield is 8.0%).
- Tax Rate of 0.0%.

Opstalan's degree of total leverage (DTL) is *closest* to:

✗ **A)** **1.41.**

✗ **B)** 2.58.

✓ **C)** 1.59.

Explanation

First, calculate the operating results:

Opstalan Annual Operating Results	
Sales	$5,000,000
Variable Costs[1]	2,000,000
	3,000,000
Fixed Costs	1,000,000

EBIT	2,000,000
Interest Expense[2]	105,000
	1,895,000

[1]Variable costs = 0.40 × 5,000,000

[2]Interest Expense = 0.07 × 1,500,000

Second, calculate DOL = (Sales − Variable Costs) / (Sales − Variable Costs − Fixed Costs) = 3,000,000 / 2,000,000 = 1.50

Third, calculate DFL = EBIT / (EBIT − I) = 2,000,000 / 1,895,000 = 1.06.

Finally, calculate DTL = DOL × DFL = 1.50 × 1.06 = 1.59.

Question #30 of 67

Question ID: 414836

Which of the following *best* describes a firm with low operating leverage? A large change in:

- ✗ **A)** **sales result in a small change in net income.**
- ✗ **B)** earnings before interest and taxes result in a small change in net income.
- ✓ **C)** the number of units a firm produces and sells result in a similar change in the firm's earnings before interest and taxes.

Explanation

Operating leverage is the result of a greater proportion of fixed costs compared to variable costs in a firm's capital structure and is characterized by the sensitivity in operating income (earnings before interest and taxes) to change in sales. A firm that has equal changes in sales and operating income would have low operating leverage (the least it can be is one). Note that the relationship between operating income and net income is impacted by the degree of financial leverage, and the relationship between sales and net income is impacted by the degree of total leverage.

Question #31 of 67

Question ID: 434345

The purchaser of a stock will receive the next dividend if the order is filled before the:

- ✗ **A)** **payment date.**
- ✗ **B)** holder-of-record date.
- ✓ **C)** ex-dividend date.

Explanation

The ex-dividend date is the cutoff date for receiving the dividend and occurs two business days before the holder-of-record date. This is because settlement of stock trades occurs three days after the trade is executed (T+3). An investor who buys a share on or after the ex-dividend date will not receive the dividend.

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Question ID: 414848

Nelson, Inc. has fixed financing costs of $3 million, fixed operating costs of $5 million, and variable costs of $2.00 per unit. If the price of Nelson's product is $4.00, Nelson's operating breakeven quantity of sales is:

✗ **A)** **4.0 million units.**

✗ **B)** 1.0 million units.

✓ **C)** 2.5 million units.

Explanation

Operating breakeven quantity = fixed operating costs / (price - variable cost per unit) = $5 million / ($4.00 - $2.00) = 2,500,000 units.

Question #33 of 67

Question ID: 414822

The uncertainty in return on assets due to the nature of a firm's operations is known as:

✗ **A)** **tax efficiency.**

✗ **B)** financial leverage.

✓ **C)** business risk.

Explanation

Business risk is a function of the firm's revenue and expenses, resulting in operating income, or earnings before interest and taxes (EBIT). The main factors affecting business risk are demand variability, sales price variability, input price variability, ability to adjust output prices, and operating leverage. Tax efficiency is tied to mutual fund investing, while financial leverage requires the existence of debt.

Question #34 of 67

Question ID: 414827

Which of the following statements about leverage is *most* accurate?

✓ **A)** **If the company has no debt outstanding, then its degree of total leverage equals its degree of operating leverage.**

✗ **B)** An increase in fixed costs (holding sales and variable costs constant) will reduce the company's degree of operating leverage.

✗ **C)** A decrease in interest expense will increase the company's degree of total leverage.

Explanation

If debt = 0 then DFL = 1 because DFL = EBIT/(EBIT - I)

If debt = 0 then I = 0 and DFL = EBIT/(EBIT - 0) = EBIT/EBIT = 1

DTL = (DOL)(DFL)

If DFL = 1 then DTL = (DOL)(1) which complies to DTL = DOL

A decrease in interest expense will decrease DFL, which will decrease DTL. An increase in fixed costs will increase the company's DOL.

Question #35 of 67

Question ID: 414853

Financial managers utilize stock splits and stock dividends because they perceive that:

- ✓ **A)** **an optimal trading range exists.**
- ✗ **B)** brokerage fees paid by shareholders will be reduced.
- ✗ **C)** investors will double the share price if there is a 20% stock dividend.

Explanation

Although there is little empirical evidence to support the contention, there is nevertheless a widespread belief in financial circles that an optimal price range exists for stocks. "Optimal" means that if the price is within this range, the price/earnings ratio, price/sales and other relevant ratios will be maximized. Hence, the value of the firm will be maximized.

Question #36 of 67

Question ID: 414857

Which of the following shows the key dividend dates in their proper sequence?

- ✗ **A)** **Ex-dividend date, holder-of-record date, declaration date, payment date.**
- ✓ **B)** Declaration date, ex-dividend date, holder-of-record date, payment date.
- ✗ **C)** Declaration date, holder-of-record date, ex-dividend date, payment date.

Explanation

The board of directors announce the amount of the dividend, the holder-of-record date, and payment date. The ex-dividend date is two business days prior to the holder-of-record date, giving the firm time to identify the rightful owner of the dividends.

Question #37 of 67

Question ID: 414872

Ignoring tax consequences, given a choice between a cash dividend and a share repurchase of the same amount, a rational investor would:

- ✓ **A)** **be indifferent between a cash dividend and a share repurchase.**
- ✗ **B)** prefer a cash dividend to a share repurchase.
- ✗ **C)** prefer a share repurchase to a cash dividend.

Explanation

Both a cash dividend and a share repurchase for the same amount of cash leave shareholder wealth unchanged if we ignore taxes. The value of a cash dividend per share plus the post-dividend price per share equals the price per share after a share repurchase of the same amount.

Question #38 of 67

Question ID: 414842

Wanton's San Y'isidro Co. manufactures custom door knobs for international clients. Average Revenue is $35 per unit, variable costs are $15 per unit, and total costs are $200,000. If sales are 10,000 units, what is the firm's breakeven sales quantity?

✗ **A) 3,000 units.**

✓ **B)** 2,500 units.

✗ **C)** 1,750 units.

Explanation

For this problem you need 2 equations.

Break-even quantity = Fixed Costs / (Price - Variable cost)

Q = FC / (P - V)

Fixed Costs = Total Costs - Variable Costs

FC = TC - VC = 200,000 - 150,000 = 50,000

Q = 50,000 / (35 - 15) = 2,500

Question #39 of 67

Question ID: 414825

If a 10% increase in sales causes EPS to increase from $1.00 to $1.50, and if the firm uses no debt, then what is its degree of operating leverage?

✓ **A) 5.0.**

✗ **B)** 4.2.

✗ **C)** 4.7.

Explanation

Upon first glance, it appears there is not enough information to complete the problem. However when one realizes DTL = (DOL)(DFL) it is possible to complete this problem.

DTL = %ΔEPS/%ΔSales = 5

DFL = EBIT/(EBIT-I) = 1.

(DOL)(1) =5

DOL= 5.

Question #40 of 67

Question ID: 414861

Which of the following is *least likely* a method by which firms repurchase their shares?

✗ **A) Direct negotiation.**

✓ **B)** Exercise a call provision.

✗ **C)** Tender offer.

Explanation

Call provisions are not relevant to common stock and are not considered a repurchase in any case. There are three repurchase methods. The first is to buy in the open market. A company may repurchase stock by making a *tender offer* to repurchase a specific number of shares at a price that is usually at a premium to the current market price. The third way is to repurchase by direct negotiation. Companies may negotiate directly with a large shareholder to buy back a block of shares, usually at a premium to the market price.

Question #41 of 67

Question ID: 414833

All else equal, which of the following statements about operating leverage is *least* accurate?

- ✗ **A)** **Operating leverage reflects the tradeoff between variable costs and fixed costs.**
- ✗ **B)** Firms with high operating leverage experience greater variance in operating income.
- ✓ **C)** Lower operating leverage generally results in a higher expected rate of return.

Explanation

Operating leverage is the trade off between fixed and variable costs. Higher operating leverage typically is indicative of a firm with higher levels of risk (greater income variance). Given the positive risk/return relationship, higher operating leverage firms are expected to have a higher rate of return. And, lower operating leverage firms are expected to have a lower rate of return.

Question #42 of 67

Question ID: 414823

During a period of expansion in the economy, compared to firms with lower operating expense levels, earnings growth for firms with high operating leverage will be:

- ✓ **A)** **higher.**
- ✗ **B)** unaffected.
- ✗ **C)** lower.

Explanation

If a high percentage of a firm's total costs are fixed, the firm is said to have high operating leverage. High operating leverage, other things held constant, means that a relatively small change in sales will result in a large change in operating income. Therefore, during an expansionary phase in the economy a highly leveraged firm will have higher earnings growth than a lesser leveraged firm. The opposite will happen during an economic contraction.

Question #43 of 67

Question ID: 414851

A periodic payment to shareholders in the form of additional shares of stock instead of cash is a:

- ✗ **A)** **dividend reinvestment plan**
- ✗ **B)** stock repurchase
- ✓ **C)** stock dividend

Explanation

Stock dividends are dividends paid out in new shares of stock instead of cash. Unlike stock dividends, dividend reinvestment plans are at the discretion of individual shareholders. In the case of stock repurchases, the company is buying back shares so the number of shares in the investment public's hands is declining.

Question #44 of 67

Question ID: 414816

Which of the following statements about business risk and financial risk is *least* accurate?

✗ **A) Business risk is the riskiness of the company's assets if it uses no debt.**

✓ **B)** The greater a company's business risk, the higher its optimal debt ratio.

✗ **C)** Factors that affect business risk are demand, sales price, and input price variability.

Explanation

The greater a company's business risk, the *lower* its optimal debt ratio.

Question #45 of 67

Question ID: 485790

Given the following information on the annual operating results for ArtFrames, a producer of quality metal picture frames:

- Sales of $3,500,000.
- Variable costs at 45% of sales.
- Fixed costs of $1,050,000.
- Debt interest payments on $750,000 issued at par with an annual 9.0% coupon; market yield is currently 7.0%.

ArtFrames's degree of operating leverage (DOL) and degree of financial leverage (DFL) are *closest to*:

	DOL	DFL
✓ **A)**	**2.20**	**1.08**
✗ **B)**	2.20	1.50
✗ **C)**	3.00	1.50

Explanation

DOL = (sales - variable costs) / (sales - variable costs - fixed costs)
Variable costs = $3,500,000 × 45% = $1,575,000
Fixed costs = $1,050,000
DOL = ($3,500,000 - $1,575,000) / ($3,500,000 - $1,575,000 - $1,050,000) = 2.20

DFL = EBIT / (EBIT - interest)
Interest = $750,000 × 9% = $67,500
EBIT = sales - variable costs - fixed costs = $3,500,000 - $1,575,000 - $1,050,000 = $875,000
DFL = $875,000 / ($875,000 - $67,500) = 1.08

Question #46 of 67

Question ID: 414869

The current stock price of Westkirk is $50.00 per share. Book value of equity is $200 million and 10 million shares are outstanding. If Westkirk repurchases $25 million of their stock, the change in book value per share after the repurchase is *closest* to a(n):

✓ **A) decrease of $1.60.**

✗ **B)** decrease of $2.50.

✗ **C)** increase of $1.10.

Explanation

Book value per share before the repurchase = $200 million / 10 million shares = $20.00 per share.
Shares repurchased = $25 million / $50.00 = 500,000 shares.
Remaining shares = 10 million - 500,000 = 9.5 million shares.

After the repurchase, book value = $200 million - $25 million = $175 million.
Book value per share after the repurchase = $175 million / 9.5 million shares = $18.42.

Difference = $18.42 - $20.00 = -$1.58 per share.

Question #47 of 67

Question ID: 414819

Hughes Continental is assessing its business risk. Which of the following factors would *least likely* be considered in the analysis?

✗ **A) Input price variability.**

✗ **B)** Unit sales levels.

✓ **C)** Debt-equity ratio.

Explanation

The main factors affecting business risk are demand variability, sales price variability, input price variability, ability to adjust output prices, and operating leverage. Debt levels affect financial risk, not business (operating) risk.

Question #48 of 67

Question ID: 414818

Which of the following factors is *least likely* to affect business risk?

✗ **A) Demand variability.**

✗ **B)** Operating leverage.

✓ **C)** Interest rate variability.

Explanation

Business risk can be defined as the uncertainty inherent in a firm's return on assets (ROA). While changes in interest rates may impact the demand or input prices, there is a more direct impact on business risk with the other three choices.

Question #49 of 67

Question ID: 487760

Armsware Industries' board is debating whether to issue a cash dividend or a stock dividend. Director Jones states, "We should issue a cash dividend because our liquidity ratios will improve and the credit rating agencies will love it." Director Beane states, "A stock dividend will improve our leverage ratios by increasing contributed capital, which is what the rating agencies are looking for." Are the statements by Jones and Beane accurate?

	Jones	Beane
✓ **A)**	**No**	**No**

✗ **B)** Yes No

✗ **C)** Yes Yes

Explanation

Neither statement is accurate. Cash dividends will decrease both assets and equity, causing liquidity ratios to decline (assets fall, while liabilities stay the same). Stock dividends do not affect the firm's leverage ratios. Total equity remains unchanged because a stock dividend neither raises capital nor distributes earnings to shareholders.

Question #50 of 67

Question ID: 414832

A firm expects to produce 200,000 units of flour that can be sold for $3.00 per bag. The variable costs per unit are $2.00, the fixed costs are $75,000, and interest expense is $25,000. The degree of operating leverage (DOL) and the degree of total leverage (DTL) is *closest* to:

	DOL	DTL
✗ **A)**	**1.3**	**1.3**
✓ **B)**	1.6	2.0
✗ **C)**	1.6	1.3

Explanation

DOL = Q(P - V) / [Q(P - V) - F]
DOL = 200,000 (3 - 2) / [200,000(3 - 2) - 75,000] = 1.6

DTL = [Q(P - V) / Q(P - V) - F - I]
DTL = 200,000 (3 - 2) / [200,000 (3 - 2) - 75,000 - 25,000] = 2

Question #51 of 67

Question ID: 436851

Which of the following statements about a stock repurchase is *least* accurate?

✗ **A) Management can distribute cash to shareholders at a favorable after-tax rate.**

✗ **B)** A stock repurchase occurs when a large block of stock is removed from the marketplace.

✓ **C)** Disgruntled stockholders are forced to sell their shares, improving management's position.

Explanation

A repurchase gives stockholders a choice. They can sell or not sell. Stock repurchase is also more tax-efficient as only those shareholders that choose to sell their shares would potentially have a tax liability.

Question #52 of 67

Question ID: 414839

Financial leverage magnifies:

✗ **A)** **taxes.**

✓ **B)** earnings per share variability.

✗ **C)** operating income variability.

Explanation

Financial leverage results in the existence of required interest payments and, hence, increased earnings per share variability. Higher debt ratios, given a fixed asset base, result in a greater earnings per share variability. Operating income is based on the products and assets of the firm and not on the firm's financing and, hence, has no impact on financial leverage. Greater financial leverage is likely to reduce taxes due to the tax deductibility of interest payments.

Question #53 of 67

Question ID: 434347

Pants R Us Inc.'s Board of Directors is considering repurchasing $30,000,000 worth of common stock. Pants R Us assumes that the stock can be repurchased at the market price of $50 per share. After much discussion Pants R Us decides to borrow $30 million that it will use to repurchase shares. Pants R Us' Chief Investment Officer (CIO) has compiled the following information regarding the repurchase of the firm's common stock:

- Share price at the time of buyback = $50
- Shares outstanding before buyback = 30,600,000
- EPS before buyback = $3.33
- Earnings yield = $3.33 / $50 = 6.7%
- After-tax cost of borrowing = 6.7%
- Planned buyback = 600,000 shares

Based on the information above, what will be Pants R Us' earnings per share (EPS) after the repurchase of its common stock?

✗ **A)** **$3.28.**

✓ **B)** $3.33.

✗ **C)** $3.40.

Explanation

Total earnings = $3.33 × 30,600,000 = $101,898,000

$$\text{EPS after buyback} = \frac{\text{total earnings - after-tax cost of funds}}{\text{shares outstanding after buyback}}$$

$$= \frac{\$101,898,000 - (600,000 \text{ shares} \times \$50 \times 0.067)}{(30,600,000 - 600,000) \text{ shares}}$$

$$= \frac{\$101,898,000 - \$2,010,000}{30,000,000 \text{ shares}}$$

$$= \frac{\$99,888,000}{30,000,000 \text{ shares}}$$

$$= \$3.33$$

Since the after-tax cost of borrowing of 6.7%% is equal to the 6.7% earnings yield (E/P) of the shares, the share repurchase has no effect on Pants R Us' EPS.

Question #54 of 67

Question ID: 414831

Which of the following statements regarding leverage is *most* accurate?

✓ **A)** **A firm with low operating leverage has a small proportion of its total costs in fixed costs.**

✗ **B)** High levels of financial leverage increase business risk while high levels of operating leverage will decrease business risk.

✗ **C)** A firm with high business risk is more likely to increase its use of financial leverage than a firm with low business risk.

Explanation

A firm with high operating leverage has a high percentage of its total costs in fixed costs.

Question #55 of 67

Question ID: 414817

Variability in a firm's operating income is *most closely* related to its:

✗ **A)** **internal risk.**

✗ **B)** financial risk.

✓ **C)** business risk.

Explanation

Business risk is the uncertainty regarding the operating income of a company. Financial risk refers to the uncertainty caused by the fixed cost associated with borrowed money.

Question #56 of 67

Question ID: 414870

What is the impact on shareholder wealth of a share repurchase versus cash dividend of equal amount when the tax treatment of the two alternatives is the same?

✗ **A)** **A share repurchase will sometimes lead to higher total shareholder wealth than a cash dividend of an equal amount.**

✓ **B)** A share repurchase is equivalent to a cash dividend of an equal amount, so total shareholder wealth will be the same.

✗ **C)** A share repurchase will always lead to higher total shareholder wealth than a cash dividend of an equal amount.

Explanation

Assuming that the tax treatment of a share repurchase and a cash dividend of equal amount is the same, a share repurchase is equivalent to a cash dividend payment, and shareholder wealth will be the same.

Question #57 of 67

Question ID: 414858

Which justification for repurchasing stock is the *least* valid?

✗ **A) A cash dividend increase, in response to short-term excess cash flows, may confuse investors.**

✓ **B)** Shareholders prefer capital gains to cash dividends.

✗ **C)** Repurchases offer shareholders more choices than cash dividends.

Explanation

Some shareholders prefer capital gains, while others prefer dividends. Repurchases offer shareholders the choice of tendering or not tendering their stock, while cash dividends represent a payment they cannot refuse. Raising dividends is often seen as a positive signal, but an increase funded by short-term cash flows may not be sustainable, forcing the company to reduce the dividend later.

Question #58 of 67

Question ID: 485789

Myron Jackson is a private equity fund manager specializing in distressed companies. His investment philosophy is based on the principle that capital structure problems can be fixed, but industry characteristics dictate business models. Jackson would *most likely* be interested in distressed firms with which of the following characteristics?

✓ **A) High financial risk and low operating risk.**

✗ **B)** High operating risk and high financial risk.

✗ **C)** High operating risk and low financial risk.

Explanation

Financial risk refers to the capital structure, while operating risk refers to the operating cost structure. A firm's capital structure is well within the control of management as to how much debt to assume. In contrast, a firm's operating cost structure is usually driven by industry characteristics. This distressed firm's specialist would be looking for firms with capital structure problems that can be solved with an increase in equity capital and a reduction in debt financing. Changing the operating characteristics of the industry is far more challenging.

Question #59 of 67

Question ID: 434344

Which type of cash dividend is *most likely* to be declared by a cyclical firm during good times?

✓ **A) Special dividend.**

✗ **B)** Stock dividend.

✗ **C)** Liquidating dividend.

Explanation

Special dividends are used when favorable circumstances allow the firm to make a one-time cash payment to shareholders, in addition to any regular dividends the firm pays. Many cyclical firms (e.g., automakers) will use a special dividend to share profits with shareholders when times are good but maintain the flexibility to conserve cash when profits are down. Other names for special dividends include extra dividends and irregular dividends.

Liquidating dividends occur when a company ceases to operate and distributes any equity proceeds to shareholders. Stock dividends are paid out in shares of stock rather than cash and are similar to stock splits.

Question #60 of 67

Question ID: 414845

Annual fixed costs at King Mattress amount to $325,000. The variable cost of raw materials and labor is $120 for the typical mattress. Sales prices for mattresses average $160. How many units must King Mattress sell to break even?

✗ **A)** **2,708.**

✓ **B)** 8,125.

✗ **C)** 40.

Explanation

$Q_{Breakeven}$ = Fixed Cost / (Price - Variable Cost)
$Q_{Breakeven}$ = $325,000 / (160 - 120) = 8,125

Question #61 of 67

Question ID: 414844

Annah Korotkin is the sole proprietor of CoverMeUp, a business that designs and sews outdoor clothing for dogs. Each year, she rents a booth at the regional Pet Expo and sells only blankets. Korotkin views the Expo as primarily a marketing tool and is happy to breakeven (that is, cover her booth rental). For the last 3 years, she has sold exactly enough blankets to cover the $750 booth rental fee. This year, she decided to make all blankets for the Expo out of high-tech waterproof/breathable material that is more expensive to produce, but that she believes she can sell for a higher profit margin. Information on the two types of blankets is as follows:

Per Unit	*Last Year's (Basic) Blanket*	*This Year's (New) Blanket*
Sales Price	$25	$40
Variable Cost	$20	$33

Assuming that Korotkin remains most interested in covering the booth cost (which has increased to $840), how many more or fewer blankets (new style) does she need to sell to cover the booth cost? To cover this year's booth costs, Korotkin needs to sell:

✗ **A)** **42 fewer blankets than last year.**

✗ **B)** 42 more blankets than last year.

✓ **C)** 30 fewer blankets than last year.

Explanation

To obtain this result, we need to calculate Last Year's Breakeven Quantity, This Year's Breakeven Quantity, and calculate the difference.

Step 1: Determine Last Year's (Basic Blanket) breakeven quantity:

Q_{BE} = (Fixed Costs) / (Sales Price per unit − Variable Cost per unit) = 750 / (25 − 20) = 150

Step 2: Determine This Year's (New Blanket) breakeven quantity:

Q_{BE} = (Fixed Costs) / (Sales Price per unit - Variable Cost per unit) = 840 / (40 − 33) = 120

Step 3: Determine Change in Units:

DQ = $Q_{This\ Year}$ - $Q_{Last\ Year}$ = 120 − 150 = −30. Korotkin needs to sell 30 *fewer* blankets.

Question #62 of 67

Question ID: 414830

Given the following information on the annual operating results for ArtFrames, a producer of quality metal picture frames, what is the degree of operating leverage (DOL) and the degree of financial leverage (DFL)?

- Sales of $3.5 million
- Variable Costs at 45% of sales
- Fixed Costs of $1.05 million
- Debt interest payments on $750,000 issued at par with an annual 9.0% coupon (current yield is 7.0%)

Which of the following choices is *closest* to the correct answer? ArtFrame's DOL and DFL are:

		DOL	DFL
✗	**A)**	**3.00**	**1.50**
✗	**B)**	2.20	1.50
✓	**C)**	2.20	1.08

Explanation

The calculations are as follows:

First, calculate the operating results:

ArtFrames Annual Operating Results	
Sales	$3,500,000
Variable Costs[1]	1,575,000
	1,925,000
Fixed Costs	1,050,000
Earnings before interest and taxes (EBIT)	875,000
Interest Expense[2]	67,500
	807,500
[1]Variable costs = 0.45 × 3,500,000	
[2]Interest Expense = 0.09 × 750,000	

Second, calculate DOL:

> DOL = (Sales - Variable Costs) / (Sales - Variable Costs - Fixed Costs)
> = (3,500,000 - 1,575,000) / (3,500,000 - 1,575,000 - 1,050,000) = 2.20

Third, calculate DFL:

> DFL = EBIT / (EBIT - I) = 875,000 / 807,500 = 1.08

Question #63 of 67

Question ID: 414815

All else equal, a firm's business risk is higher when:

✓ **A) fixed costs are the highest portion of its expense.**

✗ **B)** the firm has low operating leverage.

✗ **C)** variable costs are the highest portion of its expense.

Explanation

The higher the percentage of a firm's costs that are fixed, the higher the operating leverage, and the greater the firm's business risk and the more susceptible it is to business cycle fluctuations.

Question #64 of 67

Question ID: 414834

An analyst has gathered the following expenditure information for three different firms, each of which has a sales level of $4 million.

Costs for firms under consideration (in millions)			
	Firm A	*Firm B*	*Firm C*
Variable Costs	$2.00	$2.60	$2.40
Fixed Costs	$1.00	$1.30	$1.40
Interest Expense	$0.20	$0.00	$0.20

Which firm has the *highest* degree of operating leverage (DOL)?

✓ **A) Firm B.**

✗ **B)** Firm A.

✗ **C)** Firm C.

Explanation

The DOL for the three companies is as follows:

DOL = (Total Revenue - Total Variable Costs) / (TR − TVC − Total Fixed Costs)

Firm A: ($4.00 − $2.00) / ($4.00 − $2.00 − $1.00) = 2
Firm B: ($4.00 − $2.60) / ($4.00 − $2.60 − $1.30) = 14
Firm C: ($4.00 − $2.40) / ($4.00 − $2.40 − $1.40) = 8

(*Note: Interest expense does not affect operating leverage.*)

Question #65 of 67

Question ID: 434346

A company is most likely to use a Dutch auction when repurchasing shares:

✓ **A) with a tender offer.**

✗ **B)** in the open market.

✗ **C)** by direct negotiation.

Explanation

In a tender offer, the company may either select a price or use a Dutch auction to determine the lowest price at which it can repurchase the number of shares desired.

Question #66 of 67

Question ID: 414838

Additional debt should be used in the firm's capital structure if it increases:

- ✗ **A)** **firm earnings.**
- ✗ **B)** earnings per share.
- ✓ **C)** the value of the firm.

Explanation

The key to finding the optimal capital structure is identifying the level of debt that will maximize firm value. Earnings and earnings per share are not critical in and of themselves when assessing firm value, because they do not consider risk.

Question #67 of 67

Question ID: 414867

The share prices of Solar Automotive Industries and Winnipeg Auto Unlimited are both $50 per share, and each company has 50 million shares outstanding. On September 30, both companies announced a $10 million stock buyback. Solar has a book value of $500 million, while Winnipeg has a book value of $900 million. How much did the book value per share (BVPS) of each company increase or decrease after the share repurchase?

	Solar Automotive Industries	Winnipeg Auto Unlimited
✓ **A)**	**Decrease by $0.16**	**Decrease by $0.13**
✗ **B)**	Increase by $0.13	Increase by $0.16
✗ **C)**	Decrease by $0.13	Decrease by $0.13

Explanation

The share buyback for each company is $10 million / $50 per share = 200,000 shares.
Remaining shares for each company = 50 million − 200,000 = 49.8 million shares.

For Solar Automotive Industries:
Solar Automotive Industries' current BVPS = $500 million / 50 million = $10.
The market price per share of $50 is greater than the BVPS of $10.
Book value after repurchase = $500 million - $10 million = $490 million
BVPS = $490 million / 49.8 million = $9.84
BVPS decreased by $0.16

For Winnipeg Auto Unlimited:
Winnipeg Auto Unlimited's current BVPS = $900 million / 50 million = $18.
The market price per share of $50 is greater than the BVPS of $18.
Book value after repurchase = $900 million - $10 million = $890 million
BVPS = $890 million / 49.8 million = $17.87
BVPS decreased by $0.13.

In the case of both Solar Automotive Industries and Winnipeg Auto Unlimited, book value per share (BVPS) decreased because the share price is greater than the original BVPS. If the share prices were less than the original BVPS, then the BVPS after the repurchase for each firm would have increased.