Schweser Printable Answers - Session Corporate Finance: Financing and Control Issues

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Question 1 - #40173

Kathryn Rutherford recently joined the Board of Directors for Orvis Asset Management Company (Orvis) and will participate in its annual Board of Directors meeting. Rutherford is an Executive Vice President with Signature Bank, and knows Orvis' finances well, serving as a commercial lender to Orvis for the last five years. Besides Rutherford, OAMC's board consists of the following seven members:

- Dane Corser, CFO for Orvis who also serves on the board for Spencer Pharmaceuticals
- Tricia DeLucia, a granddaughter of Orvis' founder, Michael Orvis.
- Wendy Kepling, a former Executive Vice President with Orvis.
- Troy Montgomery, the retired CEO of Forner Capital Management, another asset management firm.
- Mike Shute, President of Spencer Pharmaceuticals
- Robert Stuart, an attorney with Bricker and Palmer, Orvis' outside counsel.
- Jason Winterfeld, Chairman and CEO of Orvis

Orvis is a publicly traded firm that specializes in managing equity portfolios for both institutional and individual clients. The firm's investment philosophy is to focus on companies with a history of not changing their dividend payments in order to achieve stable returns. The firm's marketing approach focuses on tax-exempt pension funds and endowments as well as individuals who depend on dividend payments to meet living expenses. Historically, Orvis has been a successful manager, but recently performance has declined relative to the firm's benchmark. The primary focus at this board meeting is defining the long-term strategic objectives for the company and making sure the assets of the company, specifically its proprietary investment process, are being used in the best interests of the firm's shareholders.

Winterfeld states that Item 1 on the Board's agenda is to discuss the impact of dividends on shareholder value. Kepling begins the discussion by questioning whether Orvis' investment process should focus on dividends at all. Kepling states, "According to work by Modigliani and Miller, dividends are irrelevant. If an investor holds a non-dividend paying stock, but wants the benefits of a dividend, all they have to do is sell a portion of the stock to get the cash flow they want. Whether the individual receives a cash dividend or sells a portion of their stock, the combination of the investment in the firm and the cash in hand is the same." Montgomery replies, "I disagree with the theory that dividends are irrelevant. According to work by Gordon and Lintner, dividend payments matter because they are less risky than capital gains. Since investors perceive dividends as being less risky, a firm that starts paying a dividend is likely to see an increase in their P/E ratio."

Kepling is also aware that Modigliani and Miller have done a great deal of work regarding capital structure theory. She asks Corser if Modigiani and Miller's theory on capital structure has any implications for the percentage of debt and equity that Orvis has in its capital structure. Corser replies with two statements:

(1) Since Orvis has to pay taxes on its earnings, according to Modigliani and Miller, the optimal capital structure would be 100% debt.

(2) If bankruptcy costs are included in Modigliani and Miller's capital structure theory, the value of a firm will be maximized when a firm's cost of debt is minimized.

Part 1)
Which of the following questions about board independence is **CORRECT**?

A) Shute qualifies as an independent director, but DeLucia does not.
B) Montgomery qualifies as an independent director, but Stuart does not.
C) Stuart qualifies as an independent director, but Kepling does not.
D) Kepling qualifies as an independent director, but Rutherford does not.

Your answer: A was incorrect. The correct answer was B) Montgomery qualifies as an independent director, but Stuart does not.

Montgomery may have prior ties to the asset management business, but there appears to be no prior relationship with Orvis. Stuart, as an attorney with Orvis' outside counsel, cannot be classified as independent due to his firm's relationship with Orvis.

Rutherford also has a business relationship with Orvis, so she cannot be classified as independent. DeLucia, as a family member, and Kepling as a former employee cannot be classified as independent. Also, due to interlocking directorships, Shute cannot be classified as an independent director (Corser serves on the board for Spencer Pharmaceuticals, where Shute is the President and Shute serves on the board for Orvis, where Corser is the CFO).

Part 2)
Jason Winterfeld is the Chairman of the Board of Directors at Orvis, as well as the firm's CEO. Which of the following *best describes*
Winterfeld's position according to corporate governance best practices? Having the CEO also serve as Chairman of the Board is:

A) not in the best interest of shareholders because the Chairman/CEO could influence the culture of the board room and diminish the role of independent board members.

B) is in the best interest of shareholders because the CEO has the knowledge and experience to provide information to the board about company strategy and operations.

C) is in the best interest of shareholders as long as the Chairman/CEO is not part of the compensation committee.

D) is not in the best interest of shareholders because only an independent Chairman insures the proper functioning of the Board.

Your answer: A was incorrect. The correct answer was A) not in the best interest of shareholders because the Chairman/CEO could influence the culture of the board room and diminish the role of independent board members.

Corporate governance experts believe that having a CEO also serve in the role of Chairman of the Board can negatively influence boardroom culture and diminish the role of independent board members. It is for this reason that corporate governance best practice supports having the Chairman and CEO as separate positions. Note that while the CEO does have the knowledge and experience to provide information to the board about company strategy and operations, if management is doing their job, it will provide the board with all necessary information, while it is the board's responsibility to see that they get the information. Having the CEO as a knowledge base is not a valid justification for the dual role.

Part 3)
Given that Orvis does not meet the global corporate governance best practice that 75 percent of directors are independent, which of the following would be the **best** recommendation for a more effective system of corporate governance?

A) Reduce the potential for conflicts of interest between principals and agents of the firm.

B) Ensure that all board members are adequately trained to perform board functions.

C) Create long-term strategic objectives for the company that are consistent with shareholders' best interests.

D) Determine board member responsibilities and how the board will be held accountable.

Your answer: A was incorrect. The correct answer was A) Reduce the potential for conflicts of interest between principals and agents of the firm.

Since one of the two primary objectives of corporate governance is to eliminate or reduce conflicts of interest in a firm, and Orvis obviously has many potential conflicts of interest on their board, reducing the potential conflicts of interest between principals and agents of the firm is the best answer. In a corporation, principal-agent relationships exist between shareholders and management, and directors and shareholders. A principal agent problem occurs when managers or directors (the agent) act in their own best interests rather than those of the owners of the firm (the shareholders/principals). The other answer choices are all good things, but do not get to the core principals of corporate governance which are reducing or eliminating conflicts of interest, and using company assets productively and in the best interests of shareholders.

Part 4)
Which of the following statements *best*
reflects Orvis' investment philosophy and marketing approach? Orvis' investment philosophy is:

A) not consistent with a stable dividend policy, and the marketing approach depends on the signaling effect.

B) consistent with a stable dividend policy, and the marketing approach depends on the clientele effect.

C) consistent with a stable dividend policy, and the marketing approach depends on the signaling effect.

D) not consistent with a stable dividend policy, and the marketing approach depends on the clientele effect.

Your answer: A was incorrect. The correct answer was D) not consistent with a stable dividend policy, and the marketing approach depends on the clientele effect.

Orvis' investment philosophy is to focus on companies with a history of not changing their dividend payments, which is NOT consistent with a stable dividend policy. A stable dividend policy aligns the company's dividend with the firm's long-term growth rate to achieve stability in the rate of increase for the dividend each year. If the company never changed their dividend payments, the value of the dividend would decline over time as a result of inflation. The marketing approach seems to depend on the clientele effect which refers to the varying preference for dividends among different groups of investors. Tax considerations, institutional investor requirements, and individual investor preferences to spend dividends only and not dip into principal are all rationales for the clientele effect.

Part 5)
With regard to their statements about dividend theories:

A) Kepling is correct; Montgomery is incorrect.

B) Kepling is correct; Montgomery is correct.

C) Kepling is incorrect; Montgomery is incorrect.

D) Kepling is incorrect; Montgomery is correct.

Your answer: A was incorrect. The correct answer was B) Kepling is correct; Montgomery is correct.

Kepling is correct. According to Modigliani and Miller's dividend irrelevance theory, a stock holder can effectively create their own dividend policy by buying or selling a firm's stock to get the combination of cash flow and ownership they want to receive. Note that Modigliani and Miller's theory only holds in a perfect world with no taxes or brokerage costs. Montgomery is also correct. According to Gordon and Lintner's "bird-in-the-hand theory," a dollar of dividends is less risky than a dollar of capital gains. Since dividends are less risky, a company that pays dividends will cause its cost of equity to decrease. Since the cost of equity declines, the required return for the investor will also decline, which will result in a higher P/E ratio.

Part 6)
With regard to Corser's statements about Modigliani and Miller's theory on capital structure, Kepling should:

A) disagree with Statement 1, but agree with Statement 2.

B) agree with both Statements 1 and 2.

C) disagree with both Statements 1 and 2.

D) agree with Statement 1, but disagree with Statement 2.

Your answer: A was incorrect. The correct answer was D) agree with Statement 1, but disagree with Statement 2.

Modgliani and Miller's work on capital structure theory concludes that in a world with no taxes and no bankruptcy costs, capital structure is irrelevant. However, in a subsequent study, they updated their work to include the effect of taxes. Since corporations can deduct interest payments when determining taxable income, the stockholders will benefit from the use of debt. According to their theory, the optimal capital structure in a world with taxes is 100% debt – Statement 1 is correct. However, if bankruptcy costs are factored into their results, debt is useful initially for its tax savings to lower the cost of capital, but only up to the point where it increases risk and the cost of debt and equity starts to rise. In a world with taxes and bankruptcy costs, the optimal capital structure is the one that minimizes the weighted average cost of overall capital - not simply the cost of debt.

Question 2 - #46523

Tad Bentley, CFA, is the chief financial officer (CFO) for Industrial Inc., a manufacturer and distributor of cleaning supplies designed for commercial applications. Industrial Inc.'s current target market spans the entire United States, and possesses a large percentage of the national market. Senior management has formulated a strategy for expansion into Europe and Asia in the near future. The success of the expansion plans lay in large part upon the firm's ability to raise additional capital in the marketplace to finance the expansion. According to the preliminary time schedule for expansion into Europe and Asia, funds would need to be made available to the firm within the next eighteen to twenty four months.

Bentley is in charge of the team that is evaluating all financing options available to Industrial Inc. to determine which method would minimize the firm's weighted average cost of capital (WACC) while providing a capital structure that will maximize firm value and that is attractive to outside investors. The firm is considering either issuing additional debt or issuing a secondary equity offering to finance the venture. The firm's target capital structure will be utilized to determine what the specific advantages and disadvantages associated with the different methods of raising capital.

Industrial currently has $450 million of shareholders' equity outstanding. The company also has $100 million of 10-year notes issued with 4 years remaining to maturity. Industrial Inc.'s current rating is Aa by Moody's and AA by Standard and Poor's (S&P). Bentley is aware that any financing strategy must be considered in light of the potential impact the decision could have upon the company's current rating.

Any new acquisition of capital will be carefully analyzed in relation to Industrial Inc.'s current capital structure as well. Bentley is familiar with the different theories of capital structure and intends to determine which one is most applicable to Industrial Inc.'s current situation. Industrial Inc. is publicly traded on the New York Stock Exchange, and several analysts at large brokerage firms provide research on the stock. Bentley wants to ensure that the company's approach to raising additional capital will be acceptable to analysts and investors alike.

Top management of Industrial, Bentley included, collectively own a twenty percent equity stake in the firm, through either direct purchase of the stock or the receipt of executive stock options. This group is placing pressure on Bentley to recommend a strategy that would not significantly dilute their ownership position. Bentley realizes that he must recommend a strategy that will most effectively utilize the company's assets and that will be in the best interest of all of the company's stakeholders.

Part 1)
Under a strict set of assumptions, Modigliani and Miller (MM) proposed a capital structure theory in 1958 in which Proposition I proves that:

A) the value of a firm is unaffected by its capital structure.

B) capital markets are perfectly competitive.

C) the cost of debt is lower than the cost of equity, so a firm should issue the maximum amount of debt before issuing equity.

D) investors have homogenous expectations with respect to a firm's cash flows.

Your answer: A was incorrect. The correct answer was A) the value of a firm is unaffected by its capital structure.

MM's underlying assumptions are that capital markets are perfectly competitive (no transaction costs) and that investors have homogenous expectations with respect to cash flows. Under these two "perfect world" assumptions, the value of a firm is unaffected by its capital structure because the value of a firm's assets will always be the same regardless of its debt to equity ratio.

Part 2)

Under MM's Proposition II of their capital structure theory, a firm that increases their use of debt will *most* likely have which of the following effects?

	Risk to equity holders	Cost of equity
A)	No change	No change
B)	Increases	No change
C)	Increases	Increases
D)	No change	Increases

Your answer: A was incorrect. The correct answer was C)
Increases Increases

As companies increase their use of debt, the overall level risk of default increases for the firm. Equity holders are paid after all debt is satisfied, so therefore their risk is increased, in turn causing the firm's cost of equity to rise as well.

Part 3)

Bentley anticipates that whatever method of financing choice is utilized, it will be interpreted by investors as a signal of the firm's strategy and overall economic health. In accordance with the pecking order theory, which of the following methods are least likely and most likely to send "signals" to investors?

	Least Likely	Most Likely
A)	External equity	Debt
B)	Debt	External equity
C)	External equity	Internally generated equity
D)	Internally generated equity	External equity

Your answer: A was incorrect. The correct answer was D)
Internally generated equity External equity

Internally generated equity is the method least visible to investors, while external equity is the most visible.

Part 4)
Which of the following statements regarding the role of debt ratings is *least* accurate?

A) Historically, the difference in yield between an AAA-rated bond and a BBB-rated bond has averaged 100 basis points.
B) Any rating Ba (from Moody's) or BB (from S&P) or higher is considered to be "investment grade".
C) The lower the debt rating, the higher the level of default risk for both shareholders and bondholders alike.
D) The lower the debt rating, the higher the return investors will demand on their capital.

Your answer: A was incorrect. The correct answer was B) Any rating Ba (from Moody's) or BB (from S&P) or higher is considered to be "investment grade".

Bonds must be rated at least Baa (Moody's) or BBB (S&P) to be considered investment grade.

Part 5)
As a result of Industrial expanding its operations into Europe and Asia, Bentley anticipates an increase in foreign investors in the firm. Which of the following statements regarding international differences in leverage is *least* accurate?

A) Companies in Japan and France tend to have more debt in their capital structure than firms in the U.S.
B) Companies operating in countries with weak legal systems tend to have greater agency costs.
C) Companies operating in countries that have active institutional investors tend to have less financial leverage than firms in countries with less of an institutional presence.
D) Companies in the U.S. tend to use shorter maturity debt than companies in Japan.

Your answer: A was incorrect. The correct answer was D) Companies in the U.S. tend to use shorter maturity debt than companies in Japan.

Companies in developed countries tend to use more debt with longer maturities than firms in emerging markets. Companies in the U.S. tend to use longer maturity debt than companies in Japan.

Part 6)
In any firm, managers who do not have a stake in the company do not bear the costs of taking on too much or

too little risk. The costs associated with the conflicts of interest between managers and owners are referred to as:

A) monitoring costs.
B) bonding costs.
C) agency costs of equity.
D) residual losses.

Your answer: A was incorrect. The correct answer was C) agency costs of equity.

Monitoring costs, bonding costs, and residual losses are components of the net agency cost of equity.

Question 3 - #40171

Grogan Medical Devices (GMD) is a leading manufacturer of cardiac treatment devices including defibrillators and pacemakers. At the beginning of 2005, GMD had 50 million shares outstanding at a price of $25 per share, giving GMD a market value of $1.25 billion dollars. However, over the last three months, problems have been discovered with a GMD defibrillator model, resulting in a massive product recall. As a result of the recall, and the potential impact on future sales, the price of GMD's stock dropped to its current level of $18 per share.

As a result of the drop in the price of the stock, two firms have expressed interest in acquiring GMD. Paulsgrove Corporation (Paulsgrove) is a large health care conglomerate with businesses in consumer products, pharmaceuticals, and cardiac treatment devices. The management team at Paulsgrove sees a merger with GMD as a means to combine its current defibrillator and pacemaker operations with those of GMD, creating the worldwide leader in those two product lines. Paulsgrove is planning to offer $1.3 billion in cash to acquire GMD. Paulsgrove's management has determined that if the deal with GMD does not go through, they will use the $1.3 billion either to repurchase shares or make a special dividend payment, but are uncertain of which would be the best option for shareholders. At a management meeting, Mary Ann Ingram, a financial analyst with Paulsgrove states, "Since we operate in a country with a double taxation system and the typical individual shareholder tax rate on dividends is 25 percent, the effective tax rate our shareholders would pay under the special dividend option would be 45%." John Kelley, another analyst with Paulsgrove replies, "That may be true, but a share repurchase would be the best option for the company as it would be less likely to cause us to violate our debt covenants that put restrictions on dividend payments." A third analyst, Med Habib states, "If we assume the tax treatment between the alternatives is the same, the decision is a moot point because the impact on shareholder wealth would be identical." The CEO ends the meeting by saying that they can resume the discussion if the merger with GMD does not go through, but for now, they should concentrate on making the merger happen.

Bailey Scientific (Bailey) is a specialty manufacturer of stents used to open clogged arteries during heart surgery. Bailey sees a merger with GMD as a natural extension of its existing heart treatment product line, and believes using its existing stent product specialists to also market defibrillators and pacemakers could result in significant cost savings. They also believe that there would be benefits from expanding the size of Bailey's operations. Bailey is planning to make a stock deal, exchanging 41 million shares for 100% ownership in GMD.

The table below provides data relevant to the financial status of Paulsgrove and Bailey, and the projected value of a deal with GMD.

	Paulsgrove Corp.	*Bailey Scientific*
Current stock price	$60	$32
Shares outstanding	125 million	150 million
Book value of firm	$8.2 billion	$3.5 billion
Corporate Tax Rate	36%	36%
Estimate of combined firm value if merger with GMD succeeds	$9.0 billion	$6.3 billion

Part 1)

What would be the *best*
description of the type of merger if GMD were to merge Paulsgrove or if GMD were to merge with Bailey respectively?

	Merger with Paulsgrove	Merger with Bailey
A)	Horizontal merger	Vertical merger
B)	Conglomerate merger	Horizontal merger
C)	Horizontal merger	Horizontal merger
D)	Conglomerate merger	Horizontal merger

Your answer: A was incorrect. The correct answer was C)
Horizontal merger Horizontal merger

Either a merger with Paulsgrove or a merger with Bailey would be described as a horizontal merger. In a horizontal merger, the two businesses operate in the same or similar industries. Even though Paulsgrove is already a conglomerate firm, the purpose of the merger would be to combine Paulsgrove's existing defibrillator and pacemaker business with that of GMD. A merger with Bailey would also be considered a horizontal merger as the two firms operate in similar industries. Note that the primary benefit for either Paulsgrove or Bailey is economies of scale, which is typically the strategy behind a pure horizontal merger. With a vertical merger, a firm moves up or down the supply chain (i.e., acquiring a firm that makes the equipment to make pacemakers, or buying a hospital to distribute the products). With a conglomerate merger, the businesses operate in separate industries.

Part 2)
Before either Paulsgrove or Bailey announce their plans to acquire GMD, the price of GMD's stock jumps to $21.50 per share on takeover speculation. Paulsgrove believes that the actual stand-alone value of GMD is equal to the pre-speculation price of $18 per share. If Paulsgrove's offer were accepted by GMD's shareholders, what would be the distribution of gains (losses) as a result of the merger for Paulsgrove and GMD shareholders, respectively?

	Paulsgrove Shareholders	GMD Shareholders
A)	$200 million	$400 million
B)	$25 million	$400 million
C)	$425 million	$225 million
D)	-$100 million	$225 million

Your answer: A was incorrect. The correct answer was B)
$25 million $400 million

The key here is calculating both the gain and cost of the merger using the appropriate values.

The total gain is calculated as the value of the combined firm minus the sum of the market values of the two firms separately.

Paulsgrove's market value is calculated as the product of shares outstanding and the share price = (125mm × $60) = $7.5 billion.

GMD's market value is calculated using the current post-speculation share price = (50mm × $21.50) = $1.075 billion.

Gain = 9.0 – (7.5 + 1.075) = 0.425, or $425 million

Cost = Cash price – value of target firm

Here, for the value of GMD, we use its actual value (pre-speculation) price = (50mm × $18.00) = $0.9 billion.

Cost = $1.3 – $0.9 = 0.4, or $400 million. The cost of the merger is what is received by GMD's shareholders, while the NPV of the merger (gain – cost), or $25 million is what is received by Paulsgrove shareholders.

Part 3)
Again, assume that before either Paulsgrove or Bailey announce their plans to acquire GMD, the price of

GMD's stock jumps to $21.50 per share on takeover speculation. Bailey believes that the actual stand-alone value of GMD is equal to the pre-speculation price of $18 per share. If Bailey's plan to acquire GMD were to go through, what would be the net present value (NPV) of the merger?

A) -$27.0 million.

B) $600 million.

C) $452 million.

D) $223 million.

Your answer: A was incorrect. The correct answer was A) -$27.0 million.

First, calculate the price per share after the merger. The combined firm would be worth $6.3 billion (given), and the total new shares would be (150 + 41) = 191. The share price after the merger would be ($6.3 billion / 191) = $32.98.

We can then calculate the cost of the merger as (41 million × $32.98) - (50 million × $18.00) = (1.352 billion – 0.9 billion) = $452 million

The total gain is calculated as the value of the combined firm minus the sum of the market values of the two firms separately.

Bailey's market value is calculated as the product of shares outstanding and the share price = (150mm × $32) = $4.8 billion.

GMD's market value is calculated using the current post-speculation share price = (50mm × $21.50) = $1.075 billion.

Gain = $6.3 – ($4.8 + 1.075) = 0.425, or $425 million

NPV = Gain – Cost = (425 – 452) = -$27 million

Part 4)
Paulsgrove has determined that if the deal with GMD does not go through, the $1.3 billion in cash that they would have used to purchase GMD may be used to repurchase shares of stock at the current price of $60 per share. If Paulsgrove makes a $1.3 billion share repurchase, which of the following is **CORRECT**? Paulsgrove's book value per share (BVPS) will:

A) decrease since the market price is less than the BVPS.

B) remain the same since shares are being repurchased at the current market price.

C) increase since the market price is less than the BVPS.

D) decrease since the market price is more than the BVPS.

Your answer: A was incorrect. The correct answer was C) increase since the market price is less than the BVPS.

If the market price is less than the original BVPS, the post-repurchase BVPS will increase. We can see this is true from the following calculation:

The BVPS for Paulsgrove is equal to ($8.2 billion / 125 million shares) = $65.60, which is greater than the current market price of $60.

If Paulsgrove uses the $1.3 billion to repurchase shares, its book value will fall to ($8.2 billion – 1.3 billion) = $6.9 billion.

Shares repurchased will be ($1.3 billion / $60) = 21,666,667. This will leave (125,000,000 – 21,666,667) = 103,333,333 shares outstanding.

The new BVPS after the repurchase will be ($6,900,000,000 / 103,333,333) = $66.77, which is an increase from the old BVPS of $65.60.

Part 5)
After listening to the comments from their analysts, Paulsgrove's management team should:

A) agree with both Ingram and Kelley, but disagree with Habib.

B) agree with Ingram and Habib, but disagree with Kelley.

C) disagree with both Ingram and Kelley, but agree with Habib.

D) disagree with Ingram, but agree with Kelley and Habib.

Your answer: A was incorrect. The correct answer was C) disagree with both Ingram and Kelley, but agree with Habib.

Ingram's statement is incorrect. The corporate tax rate for Paulsgrove is 36% and the individual tax rate is 25%. The effective tax rate is therefore 36% + [(1 – 0.36) × 25%] = 52%, not 45%.

Kelley's statement is incorrect. Both a cash dividend and a share repurchase would reduce equity, which would in turn increases the firm's debt to equity ratio. In either case, since the amount of the share repurchase or special dividend is the same, there is an equal likelihood of violating the debt covenants.

Habib's statement is correct. Since the share repurchase and the cash dividend are for equal dollar amounts ($1.3 billion), both result in the same amount of ending wealth for the shareholder, assuming there is no difference in tax treatment for the two alternatives.

Part 6)
Samuel Wendt and Brendan Richardson, analysts for Piland Capital Management, are analyzing the potential deal between Bailey and GMD. Wendt states, "One of the reasons Bailey's management stated for wanting to buy GMD is to create a bigger firm. Rarely is such a justification in the best interests of shareholders and is often a result of a principal-agent problem." Richardson replies, "If Bailey were making the acquisition for the sake of size only, that would be an example of the asset risk that comes with a poor corporate governance system."

With regard to their statements:

A) Wendt is incorrect; Richardson is incorrect.

B) Wendt is correct; Richardson is correct.

C) Wendt is correct; Richardson is incorrect.

D) Wendt is incorrect; Richardson is correct.

Your answer: A was incorrect. The correct answer was C) Wendt is correct; Richardson is incorrect.

Wendt's statement is correct. Using corporate funds to create a bigger firm for the sake of size only typically benefits management at the expense of shareholders. Creating a larger firm may increase the managers' job security, power, and compensation without benefiting shareholders. Such a conflict is an example of the principal-agent problem where management, who is supposed to be acting as an agent for shareholders (the principal), acts in their own best interests instead. Richardson is incorrect. Although making an acquisition for the sake of size only would be an example of the risks of poor corporate governance, it would be an example of strategic policy risk, not asset risk. Strategic policy risk refers to entering into transactions that may not be in the best interests of shareholders, but would benefit management. Asset risk refers to managers directly using corporate assets to give themselves perks (i.e., corporate jets) or excessive compensation.

Question 4 - #29287

JT Technology (JTT) is a firm in the semiconductor industry that designs, develops and manufactures mixed-signal integrated circuits used in computer servers, wireless telephones, and data storage applications. JTT is in the process of structuring a merger with Info Tech, Incorporated (ITI), a firm that makes analog circuits that are also used in a variety of computer-related and telecommunications devices.

Albert Davis, CFA, was assigned to gather relevant data and analyze the impact of a cash or stock purchase of Info Tech. Davis projects the post-merger combined market value of the equity in the two firms will be $162,000,000. Davis is now preparing a report to present to JT Technology's CEO that will emphasize several aspects of the proposed merger. Davis is proposing either a cash price of $32,000,000 or 500,000 shares of JT Technology stock. Relevant data for the two firms is summarized in Exhibit 1 below.

Exhibit 1: Current Data for JTT and ITI Merger

Current Information	*JT Technology*	*Info Tech, Inc.*

Number of outstanding shares	2,000,000	600,000
Stock price	$63.00	$50.00
Earnings per share	$1.80	$1.80
Price-to-earnings (P/E)	35	28
Weighted Average Cost of Capital (WACC)	13 percent	12 percent

Davis' report contains three main points that provide economic justification for the merger between JTT and ITI.

Point A: JTT will be able to automate the process of putting transistors on silicon wafers at ITI's plants in Malaysia and Singapore, resulting in the same productive capacity, but reduced labor costs.

Point B: The size of the combined firm will create economies of scale in the capital markets that will allow debt to be issued at lower yields.

Point C: JTT has over $40 million in cash on the balance sheet. A cash purchase of ITI would substantially reduce the large cash balance.

Davis' report also includes a discussion of the impact that a stock purchase of ITI will have on the combined firm's earnings per share (EPS). The report states: Projected earnings for the combined firm be equal to the sum of JTT's 2005E earnings, and ITI's 2005E earnings. However EPS for the combined firm should increase significantly.

The final portion of Davis' report is a table that shows the net present value of the merger under each alternative.

Method of Transaction	*Net Present Value (NPV)*
Cash payment	?
Stock payment	?

Once his report is complete, Davis submits his report to Prasad Jain, JTT's CFO. After reviewing the report, Davis and Jain have a discussion about the distribution of gains resulting from mergers. Davis states: "Empirical evidence indicates that, on average, acquirers gain approximately 2 percent as a result of a merger." Jain replies, "I would think that since the acquirer is often much larger than the target firm, that the benefits of the merger to the larger firm would be smaller because any gain to the acquirer would be spread over a larger asset base." Jain then thanks Davis for his report and goes back to analyzing JTT's profit and loss statement for the month.

Part 1)
In the report, Davis provides three points justifying the rationale for the merger. Which of the following regarding economic justification for the merger is **CORRECT**?

A) Points A and B support the conclusion that the merger makes economic sense, but point C does not.

B) Point A supports the conclusion that the merger makes economic sense, but points B and C do not.

C) Point B supports the conclusion that the merger makes economic sense, but points A and C do not.

D) Points A and C support the conclusion that the merger makes economic sense, but point B does not.

Your answer: A was incorrect. The correct answer was D) Points A and C support the conclusion that the merger makes economic sense, but point B does not.

There are a variety of reasons managers cite for mergers and acquisitions – some make economic sense and some do not. Economies of scale, producing the same (or greater amount) of a quantity of a good at a lower average cost per unit is one of the main economic reasons behind a merger. Point A tells us that JTT will be able to maintain productive capacity, but reduce labor costs, which will result in economies of scale – therefore point A makes sense.

Another reason that makes economic sense for a merger is reducing surplus cash, which can increase returns for the firm and eliminate the temptation of taking on negative net present value projects. In this case, reducing a large cash surplus makes sense, therefore, point C is correct.

Many managers cite lower cost debt as an economic rationale for a merger, but the fact is that the only reason that the combined firm can offer lower yields is because the debt is seen as a lower risk. As separate firms, one firm's assets could not pay off the other's debt; however this is not the case after a merger. What were previously two separate firms are now responsible for paying off the debt - no value is actually being created. Yields are only lower because risk is lower – there are no economies of scale in debt issuance. Point B does not make economic sense.

Part 2)
Which of the following is the *most likely*
explanation for the increase in earnings per share resulting from a stock merger?

A) Increased operational efficiency.

B) A bootstrap accounting effect.

C) Increased financial efficiency.

D) Synergistic gains.

Your answer: A was incorrect. The correct answer was B) A bootstrap accounting effect.

Under a bootstrap effect shares are exchanged in a merger where one firm has a higher P/E ratio than another firm. Even if no new earnings are created (no synergies or efficiencies exist) the earnings per share will increase. If we assume that the combined earnings following the merger is equal to the sum of the earnings for the two firms prior to the merger (as stated in Davis' report), then total earnings will be unchanged. However, after the merger there are fewer shares outstanding, because one firm had a higher P/E ratio prior to the merger. Thus, the numerator will remain unchanged and the denominator is decreased (the new total of shares outstanding is less than the sum of the individual shares, because a high P/E firm exchanges shares at a rate greater than one-for-one), giving the appearance of increased EPS. However, this is strictly an accounting effect. If total earnings are not increased, no value was created.

Part 3)
In the report, Davis shows which of the following as the net present value (NPV) of the merger using a cash payment?

A) $3,600,000.

B) $4,000,000.

C) $6,000,000.

D) $2,000,000.

Your answer: A was incorrect. The correct answer was B) $4,000,000.

NPV = gain - cost
The cost is calculated as the cash price less the value of the target.
Cost = $32,000,000 - $50 × 600,000 = $2,000,000
The gain is the value of the combined firm less the sum of the individual firms.
Gain = $162,000,000 - ($63 × 2,000,000 + $50 × 600,000) = $6,000,000
NPV = $6,000,000 - $2,000,000 = $4,000,000

Part 4)
What would Davis calculate as the NPV of the merger using a stock payment?

A) $4,000,000.

B) $6,000,000.

C) $3,600,000.

D) $2,000,000.

Your answer: A was incorrect. The correct answer was C) $3,600,000.

NPV = gain - cost
Cost is equal to the number of shares the target receives times the estimated price of the combined firm less the pre-merger value of the target firm.

Estimated stock price after the merger = $162,000,000 / (2,000,000 + 500,000) = $64.80
Cost = (500,000 × $64.80) - (600,000 × $50) = $32,400,000 - $30,000,000 = $2,400,000
The gain is the value of the combined firm less the sum of the individual firms.
Gain = $162,000,000 - ($63 × 2,000,000 + $50 × 600,000) = $6,000,000
NPV = $6,000,000 - $2,400,000 = $3,600,000

Part 5)

Upon hearing the details of the merger offer, ITI's management has decided to resist JTT's attempt to take over their firm. Jacklyn King, Vice President at ITI was asked to put together a memo suggesting various defensive strategies for ITI's management to pursue. King's memo outlined three takeover defense measures:

Option 1:
Implement a poison pill that would give current shareholders the right to purchase additional shares of stock at prices below ITI's current market value.

Option 2:
File a lawsuit against JTT to prevent the merger on the grounds that it would violate United States anti-trust laws.

Option 3:
Purchase additional assets for ITI's balance sheet that would expand its capabilities to manufacture mixed signal integrated circuits.

Regarding the defense measures in King's memo, which of the following is **CORRECT** regarding appropriate measures for ITI to fight JTT's takeover attempt?

A) Options 1, 2, and 3 are all appropriate takeover defense measures.
B) Options 2 and 3 are appropriate takeover defense measures, but option 1 is not.
C) Options 1 and 2 are appropriate takeover defense measures, but option 3 is not.
D) Option 1 is an appropriate takeover defense measure, but options 2 and 3 are not.

Your answer: A was incorrect. The correct answer was B) Options 2 and 3 are appropriate takeover defense measures, but option 1 is not.

A poison pill is a pre-offer defense measure that needs to be in place at ITI before an offer actually materializes. Therefore, Option 1 would NOT be an appropriate takeover defense measure in this circumstance. Options 2 and 3 are post-offer defenses and both could be appropriate under the circumstances. Option 2 describes a litigation defense that could be expensive and time-consuming for JTT to fight. Even if ITI does not win the law suit, litigation could still be effective because JTT may decide that the time and cost involved is too great for the potential reward. Option 3 describes an asset restructuring where ITI purchases assets that may be unattractive or cause anti-trust problems for JTT.

Part 6)
Regarding the discussion about the distribution of gains resulting from mergers:

A) Davis' statement is correct; Jain's statement is correct.
B) Davis' statement is incorrect; Jain's statement is incorrect.
C) Davis' statement is incorrect; Jain's statement is correct.
D) Davis' statement is incorrect; Jain's statement is incorrect.

Your answer: A was incorrect. The correct answer was C) Davis' statement is incorrect; Jain's statement is correct.

Empirical evidence indicates that, on average, targets gain approximately 16 percent at the announcement of a takeover bid, while bidders experience a negligible return. Overall the TOTAL gain pooling buyers and sellers together is approximately 2 percent. Davis' statement that acquirers on average gain 2 percent is incorrect. The size difference between two firms often plays a role in the distribution of gains from a merger. Since the target is often much smaller than the acquirer, even if the gains are split equally, the target will gain more on a percentage basis than the acquirer because its gains are spread over a smaller asset base compared to the larger asset base of the acquirer. Jain's statement is correct.

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