Chapter 17
Capital Structure: Limits to the Use of Debt

Multiple Choice Questions

1. The explicit costs, such as the legal expenses, associated with corporate default are classified as _____ costs.
A. flotation
B. beta conversion
C. direct bankruptcy
D. indirect bankruptcy
E. unlevered

2. The costs of avoiding a bankruptcy filing by a financially distressed firm are classified as _____ costs.
A. flotation
B. direct bankruptcy
C. indirect bankruptcy
D. financial solvency
E. capital structure

3. The explicit and implicit costs associated with corporate default are referred to as the _____ costs of a firm.
A. flotation
B. default beta
C. direct bankruptcy
D. indirect bankruptcy
E. financial distress

4. Indirect costs of financial distress:
A. effectively limit the amount of equity a firm issues.
B. serve as an incentive to increase the financial leverage of a firm.
C. include direct costs such as legal and accounting fees.
D. tend to increase as the debt-equity ratio decreases.
E. include the costs incurred by a firm as it tries to avoid seeking bankruptcy protection.

5. The legal proceeding for liquidating or reorganizing a firm operating in default is called a:
A. tender offer.
B. bankruptcy.
C. merger.
D. takeover.
E. proxy fight.

6. The value of a firm is maximized when the:
A. cost of equity is maximized.
B. tax rate is zero.
C. levered cost of capital is maximized.
D. weighted average cost of capital is minimized.
E. debt-equity ratio is minimized.

7. The optimal capital structure has been achieved when the:
A. debt-equity ratio is equal to 1.
B. weight of equity is equal to the weight of debt.
C. cost of equity is maximized given a pre-tax cost of debt.
D. debt-equity ratio is such that the cost of debt exceeds the cost of equity.
E. debt-equity ratio selected results in the lowest possible weighed average cost of capital.

8. In a world with taxes and financial distress, when a firm is operating with the optimal capital structure:
I. the debt-equity ratio will also be optimal.
II. the weighted average cost of capital will be at its minimal point.
III. the required return on assets will be at its maximum point.
IV. the increased benefit from additional debt is equal to the increased bankruptcy costs of that debt.
A. I and IV only
B. II and III only
C. I and II only
D. II, III, and IV only
E. I, II, and IV only

9. The optimal capital structure will tend to include more debt for firms with:
A. the highest depreciation deductions.
B. the lowest marginal tax rate.
C. substantial tax shields from other sources.
D. lower probability of financial distress.
E. less taxable income.

10. The optimal capital structure of a firm _____ the marketed claims and _____ the nonmarketed claims against the cash flows of the firm.
A. minimizes; minimizes
B. minimizes; maximizes
C. maximizes; minimizes
D. maximizes; maximizes
E. equates; (leave blank)

11. The optimal capital structure:
A. will be the same for all firms in the same industry.
B. will remain constant over time unless the firm makes an acquisition.
C. of a firm will vary over time as taxes and market conditions change.
D. places more emphasis on the operations of a firm rather than the financing of a firm.
E. is unaffected by changes in the financial markets.

12. The basic lesson of MM theory is that the value of a firm is dependent upon the:
A. capital structure of the firm.
B. total cash flows of the firm.
C. percentage of a firm to which the bondholders have a claim.
D. tax claim placed on the firm by the government.
E. size of the stockholders claims on the firm.

13. Corporations in the U.S. tend to:
A. minimize taxes.
B. underutilize debt.
C. rely less on equity financing than they should.
D. have extremely high debt-equity ratios.
E. rely more heavily on bonds than stocks as the major source of financing.

14. In general, the capital structures used by U.S. firms:
A. tend to overweigh debt in relation to equity.
B. are easily explained in terms of earnings volatility.
C. are easily explained by analyzing the types of assets owned by the various firms.
D. tend to be those which maximize the use of the firm's available tax shelters.
E. vary significantly across industries.

15. The MM theory with taxes implies that firms should issue maximum debt. In practice, this is not true because:
A. debt is more risky than equity.
B. bankruptcy is a disadvantage to debt.
C. firms will incur large agency costs of short term debt by issuing long term debt.
D. Both A and B.
E. Both B and C.

16. Although the use of debt provides tax benefits to the firm, debt also puts pressure on the firm to:
A. meet interest and principal payments which, if not met, can put the company into financial distress.
B. make dividend payments which if not met can put the company into financial distress.
C. meet both interest and dividend payments which when met increase the firm cash flow.
D. meet increased tax payments thereby increasing firm value.
E. None of the above.

17. Given realistic estimates of the probability and cost of bankruptcy, the future costs of a possible bankruptcy are borne by:
A. all investors in the firm.
B. debtholders only because if default occurs interest and principal payments are not made.
C. shareholders because debtholders will pay less for the debt providing less cash for the shareholders.
D. management because if the firm defaults they will lose their jobs.
E. None of the above.

18. Conflicts of interest between stockholders and bondholders are known as:
A. trustee costs.
B. financial distress costs.
C. dealer costs.
D. agency costs.
E. underwriting costs.

19. One of the indirect costs of bankruptcy is the incentive for managers to take large risks. When following this strategy:
A. the firm will rank all projects and take the project which results in the highest expected value of the firm.
B. bondholders expropriate value from stockholders by selecting high risk projects.
C. stockholders expropriate value from bondholders by selecting high risk projects.
D. the firm will always take the low risk project.
E. Both A and B.

20. One of the indirect costs to bankruptcy is the incentive toward underinvestment. Following this strategy may result in:
A. the firm always choosing projects with the positive NPVs.
B. the firm turning down positive NPV projects that it would clearly accept in an all equity firm.
C. stockholders contributing the full amount of the investment, but both stockholders and bondholders sharing in the benefits of the project.
D. Both A and C.
E. Both B and C.

21. Which of the following is true?
A. A firm with low anticipated profit will likely take on a high level of debt.
B. A successful firm will probably take on zero debt.
C. Rational firms raise debt levels when profits are expected to decline.
D. Rational investors are likely to infer a higher firm value from a zero debt level.
E. Investors will generally view an increase in debt as a positive sign for the firm's value.

22. Studies have found that firms with high proportions of intangible assets are likely to use _____ debt compared with firms with low proportions of intangible assets.
A. more
B. the same amount of
C. less
D. either more or the same amount of
E. any amount of debt

23. What three factors are important to consider in determining a target debt to equity ratio?
A. Taxes, asset types, and pecking order and financial slack
B. Asset types, uncertainty of operating income, and pecking order and financial slack
C. Taxes, financial slack and pecking order, and uncertainty of operating income
D. Taxes, asset types, and uncertainty of operating income
E. None of the above.

24. An exchange may offer:
A. allow customers a 30 day money-back guarantee on the firm's product.
B. allow customers a 90 day warranty on the firm's product from defects.
C. allow bondholders to exchange some debt for stock.
D. allow stockholders to exchange some of their stock for debt.
E. Both C and D.

25. Which of the following is not empirically true when formulating capital structure policy?
A. Some firms use no debt.
B. Most corporations have low debt-asset ratios.
C. There are no differences in the capital-structure of different industries.
D. Debt levels across industries vary widely.
E. Debt ratios in most countries are considerably less than 100%.

26. When shareholders pursue selfish strategies such as taking large risks or paying excessive dividends, these will result in:
A. no action by debtholders since these are equity holder concerns.
B. positive agency costs, as bondholders impose various restrictions and covenants which will diminish firm value.
C. investments of the same risk class that the firm is in.
D. undertaking scale enhancing projects.
E. lower agency costs, as shareholders have more control over the firm's assets.

27. Indirect costs of bankruptcy are born principally by:
A. bondholders.
B. stockholders.
C. managers.
D. the federal government.
E. the firm's suppliers.

28. The value of a firm in financial distress is diminished if the firm:
A. is declared bankrupt and proceeds to be liquidated.
B. is declared insolvent and undergoes financial reorganization.
C. is a partnership.
D. Both A and C.
E. Both A and B.

29. Covenants restricting the use of leasing and additional borrowings primarily protect:
A. the equityholders from added risk of default.
B. the debtholders from the added risk of dilution of their claims.
C. the debtholders from the transfer of assets.
D. the management from having to pay agency costs.
E. None of the above.

30. If a firm issues debt but writes protective and restrictive covenants into the loan contract, then the firm's debt may be issued at a _____ interest rate compared with otherwise similar debt.
A. significantly higher
B. slightly higher
C. equal
D. lower
E. Either A or B

31. When graphing firm value against debt levels, the debt level that maximizes the value of the firm is the level where:
A. the increase in the present value of distress costs from an additional dollar of debt is greater than the increase in the present value of the debt tax shield.
B. the increase in the present value of distress costs from an additional dollar of debt is equal to the increase in the present value of the debt tax shield.
C. the increase in the present value of distress costs from an additional dollar of debt is less than the increase of the present value of the debt tax shield.
D. distress costs as well as debt tax shields are zero.
E. distress costs as well as debt tax shields are maximized.

32. When firms issue more debt, the tax shield on debt _____, the agency costs on debt (i.e., costs of financial distress) _____, and the agency costs on equity _____.
A. increases; increase; increase
B. decreases; decrease; decrease
C. increases; increase; decrease
D. decreases; decrease; increase
E. increases; decrease; decrease

33. The free cash flow hypothesis states:
A. that firms with greater free cash flow will pay more in dividends reducing the risk of financial distress.
B. that firms with greater free cash flow should issue new equity to force managers to minimize wasting resources and to work harder.
C. that issuing debt requires interest and principal payments reducing the potential of management to waste resources.
D. Both A and C.
E. Both B and C.

34. Issuing debt instead of new equity in a closely held firm more likely:
A. causes the owner-manager to work less hard and shirk their duties as they have less capital at risk.
B. causes the owner-manager to consume more perquisites because the cost is passed to the debtholders.
C. causes both more shirking and perquisite consumption since the government provides a tax shield on debt.
D. causes agency costs to fall as owner-managers do not need to worry about other shareholders.
E. causes the owner-manager to reduce shirking and perquisite consumption as the excess cash flow must be used to meet debt payments.

35. The pecking order states how financing should be raised. In order to avoid asymmetric information problems and misinterpretation of whether management is sending a signal on security overvaluation, the firm's first rule is to:
A. finance with internally generated funds.
B. always issue debt then the market won't know when management thinks the security is overvalued.
C. issue new equity first.
D. issue debt first.
E. None of the above.

36. Growth opportunities _____ the _____ of debt financing.
A. increase; advantage
B. decrease; advantage
C. decrease; disadvantage
D. Both A and C
E. None of the above

37. Which of the following industries would tend to have the highest leverage?
A. Drugs
B. Computer
C. Paper
D. Electronics
E. Biological products

38. The introduction of personal taxes may reveal a disadvantage to the use of debt if the:
A. personal tax rate on the distribution of income to stockholders is less than the personal tax rate on interest income.
B. personal tax rate on the distribution of income to stockholders is greater than the personal tax rate on interest income.
C. personal tax rate on the distribution of income to stockholders is equal to the personal tax rate on interest income.
D. personal tax rate on interest income is zero.
E. None of the above.

39. In Miller's model, when the quantity [(1 - Tc)(1 - Ts) = (1 - Tb)], then:
A. the firm should hold no debt.
B. the value of the levered firm is greater than the value of the unlevered firm.
C. the tax shield on debt is exactly offset by higher personal taxes paid on interest income.
D. the tax shield on debt is exactly offset by higher levels of dividends.
E. the tax shield on debt is exactly offset by higher capital gains.

40. In a Miller equilibrium, what type of investments do high tax bracket investors tend to hold?
A. Bonds
B. Stocks
C. Debentures
D. Both stocks and bonds.
E. Neither stocks nor bonds.

41. The TrunkLine Company will earn $60 in one year if it does well. The debtholders are promised payments of $35 in one year if the firm does well. If the firm does poorly, expected earnings in one year will be $30 and the repayment will be $20 because of the dead weight cost of bankruptcy. The probability of the firm performing poorly or well is 50%. If bondholders are fully aware of these costs what will they pay for the debt? The interest rate on the bonds is 10%.
A. $25.00
B. $27.50
C. $29.55
D. $32.50
E. $35.00

42. The TrunkLine Company debtholders are promised payments of $35 if the firm does well, but will receive only $20 if the firm does poorly. Bondholders are willing to pay $25. The promised return to the bondholders is approximately:
A. 2.9%
B. 16.9%
C. 27.3%
D. 40.0%
E. 100%

43. An investment is available that pays a tax-free 6%. The corporate tax rate is 30%. Ignoring risk, what is the pre-tax return on taxable bonds?
A. 4.20%
B. 6.00%
C. 7.67%
D. 8.57%
E. None of the above.

44. Your firm has a debt-equity ratio of .60. Your cost of equity is 11% and your after-tax cost of debt is 7%. What will your cost of equity be if the target capital structure becomes a 50/50 mix of debt and equity?
A. 9.50%
B. 10.50%
C. 11.00%
D. 11.25%
E. 12.00%

45. The Aggie Company has EBIT of $50,000 and market value debt of $100,000 outstanding with a 9% coupon rate. The cost of equity for an all equity firm would be 14%. Aggie has a 35% corporate tax rate. Investors face a 20% tax rate on debt receipts and a 15% rate on equity. Determine the value of Aggie.
A. $120,000
B. $162,948
C. $258,537
D. $263,080
E. $332,143

46. Given the following information, leverage will add how much value to the unlevered firm per dollar of debt?
Corporate tax rate: 34%
Personal tax rate on income from bonds: 30%
Personal tax rate on income from stocks: 30%
A. $-0.050
B. $0.006
C. $0.246
D. $0.340
E. $0.660

47. Given the following information, leverage will add how much value to the unlevered firm per dollar of debt?
Corporate tax rate: 34%
Personal tax rate on income from bonds: 20%
Personal tax rate on income from stocks: 0%
A. $0.175
B. $0.472
C. $0.528
D. $0.825
E. None of the above

48. Given the following information, leverage will add how much value to the unlevered firm per dollar of debt?
Corporate tax rate: 34%
Personal tax rate on income from bonds: 50%
Personal tax rate on income from stocks: 10%
A. $-0.050
B. $-0.188
C. $0.188
D. $0.633
E. None of the above

49. Given the following information, leverage will add how much value to the unlevered firm per dollar of debt?
Corporate tax rate: 34%
Personal tax rate on income from bonds: 10%
Personal tax rate on income from stocks: 50%
A. $-0.050
B. $-0.188
C. $0.367
D. $0.633
E. None of the above

50. The Aggie Company has EBIT of $70,000 and market value debt of $100,000 outstanding with a 9% coupon rate. The cost of equity for an all equity firm would be 14%. Aggie has a 35% corporate tax rate. Investors face a 20% tax rate on debt receipts and a 15% rate on equity. Determine the value of Aggie.
A. $120,000
B. $162,948
C. $258,537
D. $263,080
E. $355,938

51. Suppose a Miller equilibrium exists with a corporate tax rate of 30% and a personal tax rate on income from bonds of 35%. What is the personal tax rate on income from stocks?
A. 0.0%
B. 7.1%
C. 10.05%
D. 45.5%
E. None of the above

52. Given the following information, leverage will add how much value to the unlevered firm per dollar of debt?
Corporate tax rate: 40%
Personal tax rate on income from bonds: 20%
Personal tax rate on income from stocks: 30%
A. $-0.475
B. $0.475
C. $0.525
D. $0.633
E. None of the above

53. Given the following information, leverage will add how much value to the unlevered firm per dollar of debt?
Corporate tax rate: 34%
Personal tax rate on income from bonds: 20%
Personal tax rate on income from stocks: 50%
A. $-0.050
B. $-0.188
C. $0.367
D. $0.588
E. None of the above

54. Given the following information, leverage will add how much value to the unlevered firm per dollar of debt?
Corporate tax rate: 34%
Personal tax rate on income from bonds: 20%
Personal tax rate on income from stocks: 30%
A. $-0.050
B. $0.006
C. $0.246
D. $0.340
E. $0.423

55. Given the following information, leverage will add how much value to the unlevered firm per dollar of debt?
Corporate tax rate: 30%
Personal tax rate on income from bonds: 20%
Personal tax rate on income from stocks: 0%
A. $0.125
B. $0.472
C. $0.528
D. $0.825
E. None of the above

56. Holly Berry Incorporated will earn $40 in one year if it does well. The debtholders are promised payments of $25 in one year if the firm does well. If the firm does poorly, expected earnings in one year will be $20 and the repayment will be $15 because of the dead weight cost of bankruptcy. The probability of the firm performing poorly or well is 50%. If bondholders are fully aware of these costs what will they pay for the debt? The interest rate on the bonds is 8%.
A. $18.52
B. $30.00
C. $32.55
D. $35.75
E. $37.04

57. Holly Berry Incorporated debtholders are promised payments of $25 if the firm does well, but will receive only $20 if the firm does poorly. Bondholders are willing to pay $15. The promised return to the bondholders is approximately:
A. 5.65%
B. 45.65%
C. 50.00%
D. 66.67%
E. 100.00%

58. An investment is available that pays a tax-free 7%. The corporate tax rate is 40%. Ignoring risk, what is the pre-tax return on taxable bonds?
A. 4.20%
B. 7.00%
C. 7.47%
D. 11.67%
E. None of the above

Essay Questions

59. What are the advantages of a prepackaged bankruptcy for a firm? What are the disadvantages?

60. Is there an easily identifiable debt-equity ratio that will maximize the value of a firm? Why or why not?

61. Describe some of the sources of business risk and financial risk. Do financial decision makers have the ability to "trade off" one type of risk for the other?

62. The Do-All-Right Marketing Research firm has promised payments to its bondholders that total $100. The company believes that there is a 85% chance that the cash flow will be sufficient to meet these claims. However, there is a 15% chance that cash flows will fall short, in which case total earnings are expected to be $65. If the bonds sell in the market for $84, what is an estimate of the bankruptcy costs for Do-All-Right? Assume a cost of debt of 10%.

63. Establishing a capital structure for a firm is not simple. Although financial theory guides the process, there is no simple formula. List and explain four main items that one should consider in determining the capital structure.

Wigdor Manufacturing is currently all equity financed, has an EBIT of $2 million, and is in the 34% tax bracket. Louis, the company's founder, is the lone shareholder.

64. If the firm were to convert $4 million of equity into debt at a cost of 10%, what would be the total cash flow to Louis if he holds all the debt? Compare this to Louis' total cash flow if the firm remains unlevered.

65. Assume that all earnings are paid out as dividends. Now consider the fact that Louis must pay personal tax on the firm's cash flow. Louis pays taxes on interest at a rate of 33%, but pays taxes on dividends at a rate of 28%. Calculate the total cash flow to Louis after he pays personal taxes.

66. Consider an economy in which there are three groups of investors and no others.

Group	Marginal tax rate on bonds	Personal wealth ($ millions)
Plumbers	60%	2,500
Doctors	50%	700
Lawyers	40%	100

There are no personal taxes on income from stocks. An investment is available that pays a tax-free 4%. The corporate tax rate is 50%. Total corporate income before earnings and taxes (EBIT) is $224 million forever. What is the maximum debt-to-equity ratio for the economy as a whole?

67. The All-Mine Corporation is deciding whether to invest in a new project. The project would have to be financed by equity, the cost is $2,000 and will return $2,500 or 25% in one year. The discount rate for both bonds and stock is 15% and the tax rate is zero. The predicted cash flows are $4,500 in a good economy, $3,000 in an average economy and $1,000 in a poor economy. Each economic outcome is equally likely and the promised debt repayment is $3,000. Should the company take the project? What is the value of firm and its components before and after the project addition?

68. Define and describe the direct and indirect costs of bankruptcy. Give three examples of each.

69. What is the pecking order theory and what are the implications that arise from this theory?

Chapter 17 Capital Structure: Limits to the Use of Debt Answer Key

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C. direct bankruptcy
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E. unlevered

Difficulty level: Easy
Topic: DIRECT BANKRUPTCY COSTS
Type: DEFINITIONS

2. The costs of avoiding a bankruptcy filing by a financially distressed firm are classified as _____ costs.
A. flotation
B. direct bankruptcy
C. indirect bankruptcy
D. financial solvency
E. capital structure

Difficulty level: Easy
Topic: INDIRECT BANKRUPTCY COSTS
Type: DEFINITIONS

3. The explicit and implicit costs associated with corporate default are referred to as the _____ costs of a firm.
A. flotation
B. default beta
C. direct bankruptcy
D. indirect bankruptcy
E. financial distress

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Topic: FINANCIAL DISTRESS COSTS
Type: DEFINITIONS

4. Indirect costs of financial distress:
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B. serve as an incentive to increase the financial leverage of a firm.
C. include direct costs such as legal and accounting fees.
D. tend to increase as the debt-equity ratio decreases.
E. include the costs incurred by a firm as it tries to avoid seeking bankruptcy protection.

Difficulty level: Easy
Topic: FINANCIAL DISTRESS COSTS
Type: DEFINITIONS

5. The legal proceeding for liquidating or reorganizing a firm operating in default is called a:
A. tender offer.
B. bankruptcy.
C. merger.
D. takeover.
E. proxy fight.

Difficulty level: Easy
Topic: BANKRUPTCY
Type: DEFINITIONS

6. The value of a firm is maximized when the:
A. cost of equity is maximized.
B. tax rate is zero.
C. levered cost of capital is maximized.
D. weighted average cost of capital is minimized.
E. debt-equity ratio is minimized.

Difficulty level: Easy
Topic: CAPITAL STRUCTURE
Type: DEFINITIONS

7. The optimal capital structure has been achieved when the:
A. debt-equity ratio is equal to 1.
B. weight of equity is equal to the weight of debt.
C. cost of equity is maximized given a pre-tax cost of debt.
D. debt-equity ratio is such that the cost of debt exceeds the cost of equity.
E. debt-equity ratio selected results in the lowest possible weighed average cost of capital.

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8. In a world with taxes and financial distress, when a firm is operating with the optimal capital structure:
I. the debt-equity ratio will also be optimal.
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III. the required return on assets will be at its maximum point.
IV. the increased benefit from additional debt is equal to the increased bankruptcy costs of that debt.
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B. II and III only
C. I and II only
D. II, III, and IV only
E. I, II, and IV only

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Topic: OPTIMAL CAPITAL STRUCTURE
Type: CONCEPTS

9. The optimal capital structure will tend to include more debt for firms with:
A. the highest depreciation deductions.
B. the lowest marginal tax rate.
C. substantial tax shields from other sources.
D. lower probability of financial distress.
E. less taxable income.

Difficulty level: Medium
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10. The optimal capital structure of a firm _____ the marketed claims and _____ the nonmarketed claims against the cash flows of the firm.
A. minimizes; minimizes
B. minimizes; maximizes
C. maximizes; minimizes
D. maximizes; maximizes
E. equates; (leave blank)

Difficulty level: Medium
Topic: OPTIMAL CAPITAL STRUCTURE
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11. The optimal capital structure:
A. will be the same for all firms in the same industry.
B. will remain constant over time unless the firm makes an acquisition.
C. of a firm will vary over time as taxes and market conditions change.
D. places more emphasis on the operations of a firm rather than the financing of a firm.
E. is unaffected by changes in the financial markets.

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Topic: OPTIMAL CAPITAL STRUCTURE
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12. The basic lesson of MM theory is that the value of a firm is dependent upon the:
A. capital structure of the firm.
B. total cash flows of the firm.
C. percentage of a firm to which the bondholders have a claim.
D. tax claim placed on the firm by the government.
E. size of the stockholders claims on the firm.

Difficulty level: Medium
Topic: M&M THEORY
Type: CONCEPTS

13. Corporations in the U.S. tend to:
A. minimize taxes.
B. underutilize debt.
C. rely less on equity financing than they should.
D. have extremely high debt-equity ratios.
E. rely more heavily on bonds than stocks as the major source of financing.

Difficulty level: Easy
Topic: OBSERVED CAPITAL STRUCTURES
Type: CONCEPTS

14. In general, the capital structures used by U.S. firms:
A. tend to overweigh debt in relation to equity.
B. are easily explained in terms of earnings volatility.
C. are easily explained by analyzing the types of assets owned by the various firms.
D. tend to be those which maximize the use of the firm's available tax shelters.
E. vary significantly across industries.

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15. The MM theory with taxes implies that firms should issue maximum debt. In practice, this is not true because:
A. debt is more risky than equity.
B. bankruptcy is a disadvantage to debt.
C. firms will incur large agency costs of short term debt by issuing long term debt.
D. Both A and B.
E. Both B and C.

Difficulty level: Medium
Topic: OPTIMAL CAPITAL STRUCTURE
Type: CONCEPTS

16. Although the use of debt provides tax benefits to the firm, debt also puts pressure on the firm to:
A. meet interest and principal payments which, if not met, can put the company into financial distress.
B. make dividend payments which if not met can put the company into financial distress.
C. meet both interest and dividend payments which when met increase the firm cash flow.
D. meet increased tax payments thereby increasing firm value.
E. None of the above.

Difficulty level: Medium
Topic: DEBT IN CAPITAL STRUCTURE
Type: CONCEPTS

17. Given realistic estimates of the probability and cost of bankruptcy, the future costs of a possible bankruptcy are borne by:
A. all investors in the firm.
B. debtholders only because if default occurs interest and principal payments are not made.
C. shareholders because debtholders will pay less for the debt providing less cash for the shareholders.
D. management because if the firm defaults they will lose their jobs.
E. None of the above.

Difficulty level: Medium
Topic: COST OF BANKRUPTCY
Type: CONCEPTS

18. Conflicts of interest between stockholders and bondholders are known as:
A. trustee costs.
B. financial distress costs.
C. dealer costs.
D. agency costs.
E. underwriting costs.

Difficulty level: Easy
Topic: AGENCY COSTS
Type: CONCEPTS

19. One of the indirect costs of bankruptcy is the incentive for managers to take large risks. When following this strategy:
A. the firm will rank all projects and take the project which results in the highest expected value of the firm.
B. bondholders expropriate value from stockholders by selecting high risk projects.
C. stockholders expropriate value from bondholders by selecting high risk projects.
D. the firm will always take the low risk project.
E. Both A and B.

Difficulty level: Medium
Topic: INDIRECT COSTS OF FINANCIAL DISTRESS
Type: CONCEPTS

20. One of the indirect costs to bankruptcy is the incentive toward underinvestment. Following this strategy may result in:
A. the firm always choosing projects with the positive NPVs.
B. the firm turning down positive NPV projects that it would clearly accept in an all equity firm.
C. stockholders contributing the full amount of the investment, but both stockholders and bondholders sharing in the benefits of the project.
D. Both A and C.
E. Both B and C.

Difficulty level: Medium
Topic: INDIRECT COSTS OF FINANCIAL DISTRESS
Type: CONCEPTS

21. Which of the following is true?
A. A firm with low anticipated profit will likely take on a high level of debt.
B. A successful firm will probably take on zero debt.
C. Rational firms raise debt levels when profits are expected to decline.
D. Rational investors are likely to infer a higher firm value from a zero debt level.
E. Investors will generally view an increase in debt as a positive sign for the firm's value.

Difficulty level: Medium
Topic: SIGNALING
Type: CONCEPTS

22. Studies have found that firms with high proportions of intangible assets are likely to use _____ debt compared with firms with low proportions of intangible assets.
A. more
B. the same amount of
C. less
D. either more or the same amount of
E. any amount of debt

Difficulty level: Medium
Topic: INTANGIBLES AND DEBT
Type: CONCEPTS

23. What three factors are important to consider in determining a target debt to equity ratio?
A. Taxes, asset types, and pecking order and financial slack
B. Asset types, uncertainty of operating income, and pecking order and financial slack
C. Taxes, financial slack and pecking order, and uncertainty of operating income
D. Taxes, asset types, and uncertainty of operating income
E. None of the above.

Difficulty level: Medium
Topic: TARGET CAPITAL STRUCTURE
Type: CONCEPTS

24. An exchange may offer:
A. allow customers a 30 day money-back guarantee on the firm's product.
B. allow customers a 90 day warranty on the firm's product from defects.
C. allow bondholders to exchange some debt for stock.
D. allow stockholders to exchange some of their stock for debt.
E. Both C and D.

Difficulty level: Medium
Topic: EXCHANGE OFFER
Type: CONCEPTS

25. Which of the following is not empirically true when formulating capital structure policy?
A. Some firms use no debt.
B. Most corporations have low debt-asset ratios.
C. There are no differences in the capital-structure of different industries.
D. Debt levels across industries vary widely.
E. Debt ratios in most countries are considerably less than 100%.

Difficulty level: Medium
Topic: CAPITAL STRUCTURE IN PRACTICE
Type: CONCEPTS

26. When shareholders pursue selfish strategies such as taking large risks or paying excessive dividends, these will result in:
A. no action by debtholders since these are equity holder concerns.
B. positive agency costs, as bondholders impose various restrictions and covenants which will diminish firm value.
C. investments of the same risk class that the firm is in.
D. undertaking scale enhancing projects.
E. lower agency costs, as shareholders have more control over the firm's assets.

Difficulty level: Medium
Topic: AGENCY COSTS
Type: CONCEPTS

27. Indirect costs of bankruptcy are born principally by:
A. bondholders.
B. stockholders.
C. managers.
D. the federal government.
E. the firm's suppliers.

Difficulty level: Easy
Topic: INDIRECT BANKRUPTCY COSTS
Type: CONCEPTS

28. The value of a firm in financial distress is diminished if the firm:
A. is declared bankrupt and proceeds to be liquidated.
B. is declared insolvent and undergoes financial reorganization.
C. is a partnership.
D. Both A and C.
E. Both A and B.

Difficulty level: Medium
Topic: FIRM VALUE WITH FINANCIAL DISTRESS
Type: CONCEPTS

29. Covenants restricting the use of leasing and additional borrowings primarily protect:
A. the equityholders from added risk of default.
B. the debtholders from the added risk of dilution of their claims.
C. the debtholders from the transfer of assets.
D. the management from having to pay agency costs.
E. None of the above.

Difficulty level: Medium
Topic: LOAN COVENANTS
Type: CONCEPTS

30. If a firm issues debt but writes protective and restrictive covenants into the loan contract, then the firm's debt may be issued at a _____ interest rate compared with otherwise similar debt.
A. significantly higher
B. slightly higher
C. equal
D. lower
E. Either A or B

Difficulty level: Medium
Topic: LOAN COVENANTS
Type: CONCEPTS

31. When graphing firm value against debt levels, the debt level that maximizes the value of the firm is the level where:
A. the increase in the present value of distress costs from an additional dollar of debt is greater than the increase in the present value of the debt tax shield.
B. the increase in the present value of distress costs from an additional dollar of debt is equal to the increase in the present value of the debt tax shield.
C. the increase in the present value of distress costs from an additional dollar of debt is less than the increase of the present value of the debt tax shield.
D. distress costs as well as debt tax shields are zero.
E. distress costs as well as debt tax shields are maximized.

Difficulty level: Medium
Topic: OPTIMAL CAPITAL STRUCTURE
Type: CONCEPTS

32. When firms issue more debt, the tax shield on debt _____, the agency costs on debt (i.e., costs of financial distress) _____, and the agency costs on equity _____.
A. increases; increase; increase
B. decreases; decrease; decrease
C. increases; increase; decrease
D. decreases; decrease; increase
E. increases; decrease; decrease

Difficulty level: Medium
Topic: TAX SHIELDS AND AGENCY COSTS
Type: CONCEPTS

33. The free cash flow hypothesis states:
A. that firms with greater free cash flow will pay more in dividends reducing the risk of financial distress.
B. that firms with greater free cash flow should issue new equity to force managers to minimize wasting resources and to work harder.
C. that issuing debt requires interest and principal payments reducing the potential of management to waste resources.
D. Both A and C.
E. Both B and C.

Difficulty level: Medium
Topic: FREE CASH FLOW
Type: CONCEPTS

34. Issuing debt instead of new equity in a closely held firm more likely:
A. causes the owner-manager to work less hard and shirk their duties as they have less capital at risk.
B. causes the owner-manager to consume more perquisites because the cost is passed to the debtholders.
C. causes both more shirking and perquisite consumption since the government provides a tax shield on debt.
D. causes agency costs to fall as owner-managers do not need to worry about other shareholders.
E. causes the owner-manager to reduce shirking and perquisite consumption as the excess cash flow must be used to meet debt payments.

Difficulty level: Medium
Topic: ISSUANCE OF DEBT
Type: CONCEPTS

35. The pecking order states how financing should be raised. In order to avoid asymmetric information problems and misinterpretation of whether management is sending a signal on security overvaluation, the firm's first rule is to:
A. finance with internally generated funds.
B. always issue debt then the market won't know when management thinks the security is overvalued.
C. issue new equity first.
D. issue debt first.
E. None of the above.

Difficulty level: Medium
Topic: PECKING ORDER
Type: CONCEPTS

36. Growth opportunities _____ the _____ of debt financing.
A. increase; advantage
B. decrease; advantage
C. decrease; disadvantage
D. Both A and C
E. None of the above

Difficulty level: Medium
Topic: GROWTH OPPORTUNITIES
Type: CONCEPTS

37. Which of the following industries would tend to have the highest leverage?
A. Drugs
B. Computer
C. Paper
D. Electronics
E. Biological products

Difficulty level: Easy
Topic: LEVERAGE IN PRACTICE
Type: CONCEPTS

38. The introduction of personal taxes may reveal a disadvantage to the use of debt if the:
A. personal tax rate on the distribution of income to stockholders is less than the personal tax rate on interest income.
B. personal tax rate on the distribution of income to stockholders is greater than the personal tax rate on interest income.
C. personal tax rate on the distribution of income to stockholders is equal to the personal tax rate on interest income.
D. personal tax rate on interest income is zero.
E. None of the above.

Difficulty level: Medium
Topic: PERSONAL TAXES
Type: CONCEPTS

39. In Miller's model, when the quantity [(1 - Tc)(1 - Ts) = (1 - Tb)], then:
A. the firm should hold no debt.
B. the value of the levered firm is greater than the value of the unlevered firm.
C. the tax shield on debt is exactly offset by higher personal taxes paid on interest income.
D. the tax shield on debt is exactly offset by higher levels of dividends.
E. the tax shield on debt is exactly offset by higher capital gains.

Difficulty level: Medium
Topic: PERSONAL TAXES
Type: CONCEPTS

40. In a Miller equilibrium, what type of investments do high tax bracket investors tend to hold?
A. Bonds
B. Stocks
C. Debentures
D. Both stocks and bonds.
E. Neither stocks nor bonds.

Difficulty level: Medium
Topic: PERSONAL TAXES
Type: CONCEPTS

41. The TrunkLine Company will earn $60 in one year if it does well. The debtholders are promised payments of $35 in one year if the firm does well. If the firm does poorly, expected earnings in one year will be $30 and the repayment will be $20 because of the dead weight cost of bankruptcy. The probability of the firm performing poorly or well is 50%. If bondholders are fully aware of these costs what will they pay for the debt? The interest rate on the bonds is 10%.
A. $25.00
B. $27.50
C. $29.55
D. $32.50
E. $35.00

[0.5($35) + 0.5 ($20)]/1.1 = $27.5/1.1 = $25

Difficulty level: Medium
Topic: VALUE OF DEBT
Type: PROBLEMS

42. The TrunkLine Company debtholders are promised payments of $35 if the firm does well, but will receive only $20 if the firm does poorly. Bondholders are willing to pay $25. The promised return to the bondholders is approximately:
A. 2.9%
B. 16.9%
C. 27.3%
D. 40.0%
E. 100%

($35/$25) -1 = .40 = 40%

Difficulty level: Medium
Topic: RETURN TO BOND HOLDERS
Type: PROBLEMS

43. An investment is available that pays a tax-free 6%. The corporate tax rate is 30%. Ignoring risk, what is the pre-tax return on taxable bonds?
A. 4.20%
B. 6.00%
C. 7.67%
D. 8.57%
E. None of the above.

Rb = .06/(1 - .3) = .06/.7 = .0857 = 8.57%

Difficulty level: Medium
Topic: PRE-TAX RETURN ON BONDS
Type: PROBLEMS

44. Your firm has a debt-equity ratio of .60. Your cost of equity is 11% and your after-tax cost of debt is 7%. What will your cost of equity be if the target capital structure becomes a 50/50 mix of debt and equity?
A. 9.50%
B. 10.50%
C. 11.00%
D. 11.25%
E. 12.00%

WACC = [(1.0 ÷ 1.6) × .11] + [(.6 ÷ 1.6) × .07] = .095; .095 = .5R_E + (.5 × .07); R_E = .12 = 12%

Difficulty level: Challenge
Topic: WEIGHTED AVERAGE COST OF CAPITAL
Type: PROBLEMS

45. The Aggie Company has EBIT of $50,000 and market value debt of $100,000 outstanding with a 9% coupon rate. The cost of equity for an all equity firm would be 14%. Aggie has a 35% corporate tax rate. Investors face a 20% tax rate on debt receipts and a 15% rate on equity. Determine the value of Aggie.
A. $120,000
B. $162,948
C. $258,537
D. $263,080
E. $332,143

Unlevered firm = [$50,000 (.65)]/ .14 = $232,142.86
Miller leverage tax shield value = [1 - ((1 - Tc)(1 - Ts)/(1 - Tb))]B = [1 - ((1 - .35)(1 - .15)/1 - .20))]*$100,000 = $30,937.50
Total Value = $232,142.86 + $30,937.50 = $263,080.36

Difficulty level: Challenge
Topic: FIRM VALUE WITH TAXES
Type: PROBLEMS

46. Given the following information, leverage will add how much value to the unlevered firm per dollar of debt?
Corporate tax rate: 34%
Personal tax rate on income from bonds: 30%
Personal tax rate on income from stocks: 30%
A. $-0.050
B. $0.006
C. $0.246
D. $0.340
E. $0.660

[1 - ((1 - Tc)(1 - Ts)/(1 - Tb))]B = [1 - ((.66)(.7)/.7)]B = .34B; $0.34

Difficulty level: Challenge
Topic: ADDED VALUE OF LEVERAGE WITH TAXES
Type: PROBLEMS

47. Given the following information, leverage will add how much value to the unlevered firm per dollar of debt?
Corporate tax rate: 34%
Personal tax rate on income from bonds: 20%
Personal tax rate on income from stocks: 0%
A. $0.175
B. $0.472
C. $0.528
D. $0.825
E. None of the above

[1 - ((1 - Tc)(1 - Ts)/(1 - Tb))]B = [1 - ((.66)(1)/(1 - .2))]B = .175B ; $0.175

Difficulty level: Challenge
Topic: ADDED VALUE OF LEVERAGE WITH TAXES
Type: PROBLEMS

48. Given the following information, leverage will add how much value to the unlevered firm per dollar of debt?
Corporate tax rate: 34%
Personal tax rate on income from bonds: 50%
Personal tax rate on income from stocks: 10%
A. $-0.050
B. $-0.188
C. $0.188
D. $0.633
E. None of the above

[1 - ((1 - .34)(1 - .1))/(1 - .5)] = 1 - (.66*.9)/.5 = 1 - 1.188 = -.188

Difficulty level: Challenge
Topic: ADDED VALUE OF LEVERAGE WITH TAXES
Type: PROBLEMS

49. Given the following information, leverage will add how much value to the unlevered firm per dollar of debt?
Corporate tax rate: 34%
Personal tax rate on income from bonds: 10%
Personal tax rate on income from stocks: 50%
A. $-0.050
B. $-0.188
C. $0.367
D. $0.633
E. None of the above

[1 - ((1 - .34)(1 - .5))/(1 - .1)] = 1 - (.33/.9) = 1 - .3667 = .6333

Difficulty level: Challenge
Topic: ADDED VALUE OF LEVERAGE WITH TAXES
Type: PROBLEMS

50. The Aggie Company has EBIT of $70,000 and market value debt of $100,000 outstanding with a 9% coupon rate. The cost of equity for an all equity firm would be 14%. Aggie has a 35% corporate tax rate. Investors face a 20% tax rate on debt receipts and a 15% rate on equity. Determine the value of Aggie.
A. $120,000
B. $162,948
C. $258,537
D. $263,080
E. $355,938

Unlevered firm = [$70,000 (.65)]/ .14 = $325,000
Miller leverage tax shield value = $100,000 [1 - {(1 - .35)(1 - .15)}/(1 - .2)] = $30,937.50
Total Value = $325,000 + $30,937.50 = $355,937.50

Difficulty level: Medium
Topic: VALUE OF LEVERED FIRM
Type: PROBLEMS

51. Suppose a Miller equilibrium exists with a corporate tax rate of 30% and a personal tax rate on income from bonds of 35%. What is the personal tax rate on income from stocks?
A. 0.0%
B. 7.1%
C. 10.05%
D. 45.5%
E. None of the above

$0 = \{1 - ((1 - .3)(1 - T_s))/(1 - .35)] = T_s = .071 = 7.1\%$

Difficulty level: Medium
Topic: PERSONAL TAXES
Type: PROBLEMS

52. Given the following information, leverage will add how much value to the unlevered firm per dollar of debt?
Corporate tax rate: 40%
Personal tax rate on income from bonds: 20%
Personal tax rate on income from stocks: 30%
A. $-0.475
B. $0.475
C. $0.525
D. $0.633
E. None of the above

$[1 - ((1 - .40)(1 - .3))/(1 - .2)] = 1 - .525 = \$0.475$

Difficulty level: Challenge
Topic: ADDED VALUE OF LEVERAGE WITH TAXES
Type: PROBLEMS

53. Given the following information, leverage will add how much value to the unlevered firm per dollar of debt?
Corporate tax rate: 34%
Personal tax rate on income from bonds: 20%
Personal tax rate on income from stocks: 50%
A. $-0.050
B. $-0.188
C. $0.367
D. $0.588
E. None of the above

[1 - ((1 - .34)(1 - .5))/(1 - .2)] = 1 - .4125 = $0.5875

Difficulty level: Challenge
Topic: ADDED VALUE OF LEVERAGE WITH TAXES
Type: PROBLEMS

54. Given the following information, leverage will add how much value to the unlevered firm per dollar of debt?
Corporate tax rate: 34%
Personal tax rate on income from bonds: 20%
Personal tax rate on income from stocks: 30%
A. $-0.050
B. $0.006
C. $0.246
D. $0.340
E. $0.423

$[1 - ((1 - T_c)(1 - T_s)/(1 - T_b))]B = [1 - ((.66)(.7)/.8)]B = \$0.4225$

Difficulty level: Challenge
Topic: ADDED VALUE OF LEVERAGE WITH TAXES
Type: PROBLEMS

55. Given the following information, leverage will add how much value to the unlevered firm per dollar of debt?
Corporate tax rate: 30%
Personal tax rate on income from bonds: 20%
Personal tax rate on income from stocks: 0%
A. $0.125
B. $0.472
C. $0.528
D. $0.825
E. None of the above

$[1 - ((1 - T_c)(1 - T_s)/(1 - T_b))]B = [1 - ((.70)(1)/(1 - .2)]B = .125B$; $0.125

Difficulty level: Challenge
Topic: ADDED VALUE OF LEVERAGE WITH TAXES
Type: PROBLEMS

56. Holly Berry Incorporated will earn $40 in one year if it does well. The debtholders are promised payments of $25 in one year if the firm does well. If the firm does poorly, expected earnings in one year will be $20 and the repayment will be $15 because of the dead weight cost of bankruptcy. The probability of the firm performing poorly or well is 50%. If bondholders are fully aware of these costs what will they pay for the debt? The interest rate on the bonds is 8%.
A. $18.52
B. $30.00
C. $32.55
D. $35.75
E. $37.04

[0.5($25) + 0.5 ($15)]/1.08 = $18.52

Difficulty level: Medium
Topic: VALUE OF DEBT
Type: PROBLEMS

57. Holly Berry Incorporated debtholders are promised payments of $25 if the firm does well, but will receive only $20 if the firm does poorly. Bondholders are willing to pay $15. The promised return to the bondholders is approximately:
A. 5.65%
B. 45.65%
C. 50.00%
D. 66.67%
E. 100.00%

($25/$15) -1 = .6667 = 66.67%

Difficulty level: Medium
Topic: RETURN TO BOND HOLDERS
Type: PROBLEMS

58. An investment is available that pays a tax-free 7%. The corporate tax rate is 40%. Ignoring risk, what is the pre-tax return on taxable bonds?
A. 4.20%
B. 7.00%
C. 7.47%
D. 11.67%
E. None of the above

Rb = .07/(1 - .4) = .07/.6 = .1167 = 11.67%

Difficulty level: Medium
Topic: PRE-TAX RETURN ON BONDS
Type: PROBLEMS

Essay Questions

59. What are the advantages of a prepackaged bankruptcy for a firm? What are the disadvantages?

A prepack allows a firm to minimize its stay in bankruptcy court and should allow the firm to minimize its bankruptcy costs as well. In either case, management is freed up to spend time on more productive tasks such as operating the firm. The negative side of a prepack is a little more difficult to discern. Astute students will recognize that prepacks take time to negotiate, that is, they may save time during bankruptcy, but they are likely to take more time up front than a straight bankruptcy filing. Furthermore, it is also likely that the firm must give creditors a better deal in order to get them to sign on to the bankruptcy agreement. Should this be the case, the firm may actually get better terms from its creditors by going through with a full bankruptcy process.

Topic: PREPACKAGED BANKRUPTCY
Type: ESSAYS

60. Is there an easily identifiable debt-equity ratio that will maximize the value of a firm? Why or why not?

Students should explain that in a world with taxes, transaction costs, and financial distress costs, there are both benefits and costs to higher debt loads, and there is no way to target exactly what the ideal capital structure should be.

Topic: CAPITAL STRUCTURE THEORY
Type: ESSAYS

61. Describe some of the sources of business risk and financial risk. Do financial decision makers have the ability to "trade off" one type of risk for the other?

Students should intuitively recognize that some of the observed variations in capital structures across industries reflect the differences in the nature of the industries themselves i.e., business risk. Similarly, intuition would suggest that firms with large capital requirements and stable cash flows (e.g., electric utilities) are more likely to be willing to raise funds via large amounts of borrowing. Alternatively, firms with lower tangible asset needs and highly uncertain cash flows (e.g., small software companies) are more likely to employ equity.

Topic: BUSINESS AND FINANCIAL RISK
Type: ESSAYS

62. The Do-All-Right Marketing Research firm has promised payments to its bondholders that total $100. The company believes that there is a 85% chance that the cash flow will be sufficient to meet these claims. However, there is a 15% chance that cash flows will fall short, in which case total earnings are expected to be $65. If the bonds sell in the market for $84, what is an estimate of the bankruptcy costs for Do-All-Right? Assume a cost of debt of 10%.

*The expected amount bondholders receive if cash flows fall short under bankruptcy is: $84 = [($100 * .85) + (X * .15)]/1.1; X = $49.34*
*Without bankruptcy costs, the bonds would sell for: [(100 * .85) + ($65 * .15)]/1.1 = $86.14*
Therefore, estimated bankruptcy costs must be $65.00 - $49.34 = $15.66.Impact on price is (.15(15.66))/1.1 = $2.14

Topic: BANKRUPTCY COSTS
Type: ESSAYS

63. Establishing a capital structure for a firm is not simple. Although financial theory guides the process, there is no simple formula. List and explain four main items that one should consider in determining the capital structure.

Some points to consider are:
o *Taxes--tax shield to debt if TC > TB*
o *Type of Assets--tangible assets based firms have lower costs of financial distress*
o *Uncertainty of operating income--firms in higher risk classes have greater probability of experiencing financial distress*
Pecking order and Financial slack--External financing is more expensive. Financial slack allows for shortfall coverage

Topic: CAPITAL STRUCTURE CONSIDERATIONS
Type: ESSAYS

Wigdor Manufacturing is currently all equity financed, has an EBIT of $2 million, and is in the 34% tax bracket. Louis, the company's founder, is the lone shareholder.

64. If the firm were to convert $4 million of equity into debt at a cost of 10%, what would be the total cash flow to Louis if he holds all the debt? Compare this to Louis' total cash flow if the firm remains unlevered.

	Unlevered	*Levered*
EBIT	***$2,000,000***	***$2,000,000***
Interest	***-0-***	***400,000***
EBT	***$2,000,000***	***$1,600,000***
Taxes	***$ 680,000***	***$ 544,000***
EAT	***$1,320,000***	***$1,056,000***
Add back interest	***-0-***	***400,000***
Total cash flow	***$1,320,000***	***$1,456,000***

Topic: TOTAL CASH FLOW FOR THE UNLEVERED FIRM
Type: ESSAYS

65. Assume that all earnings are paid out as dividends. Now consider the fact that Louis must pay personal tax on the firm's cash flow. Louis pays taxes on interest at a rate of 33%, but pays taxes on dividends at a rate of 28%. Calculate the total cash flow to Louis after he pays personal taxes.

	Unlevered	*Levered*
Dividends	*$1,320,000*	*$1,056,000*
Tax on Dividends	*$ 369,600*	*295,680*
Cash Flow From Dividends	*$ 950,400*	*760,320*
Interest	*-0-*	*$ 400,000*
Tax on Interest	*-0-*	*132,000*
Cash Flow from Interest	*-0-*	*268,000*
Total Cash Flow	*$ 950,400*	*$1,028,320*

Debt still is preferable.

Topic: TOTAL CASH FLOW AFTER PERSONAL TAXES
Type: ESSAYS

66. Consider an economy in which there are three groups of investors and no others.

Group	Marginal tax rate on bonds	Personal wealth ($ millions)
Plumbers	60%	2,500
Doctors	50%	700
Lawyers	40%	100

There are no personal taxes on income from stocks. An investment is available that pays a tax-free 4%. The corporate tax rate is 50%. Total corporate income before earnings and taxes (EBIT) is $224 million forever. What is the maximum debt-to-equity ratio for the economy as a whole?

The interest rate on debt = .04/(1 - .5) = .08
*Total corporate value = [224 - (800 * .08)] [1 - .5]/04 = $2,000*
Note - Doctors are indifferent about holding debt, so they will hold debt.
Maximum debt to equity ratio = $800/$2,000 = .40 = 40%

Topic: CAPITAL STRUCTURE
Type: ESSAYS

67. The All-Mine Corporation is deciding whether to invest in a new project. The project would have to be financed by equity, the cost is $2,000 and will return $2,500 or 25% in one year. The discount rate for both bonds and stock is 15% and the tax rate is zero. The predicted cash flows are $4,500 in a good economy, $3,000 in an average economy and $1,000 in a poor economy. Each economic outcome is equally likely and the promised debt repayment is $3,000. Should the company take the project? What is the value of firm and its components before and after the project addition?

Determine cash flows before the project.

	Good	*Average*	*Poor*
Firm CF	***$4,500***	***$3,000***	***$1,000***
Debt Claim	***$3,000***	***$3,000***	***$1,000***
Equity Claim	***$1,500***	***$0***	***$0***

B = (($3,000 + $3,000 + $1,000)/3)/1.15 = $2,333.33/1.15 = $2,028.99
S = (($1,500 + $0 + $0)/3)/1.15 = $500/1.15 = $434.78

Determine value with project.

	Good	*Average*	*Poor*
Firm CF	***$7,000***	***$5,500***	***$3,500***
Debt Claim	***$3,000***	***$3,000***	***$3,000***
Equity Claim	***$4,000***	***$1,500***	***$500***

B = (($3,000 + $3,000 + $3,000)/3)/1.15 = $3,000/1.15 = $2,608.70
S = (($4,000 + $2,500 + $500)/3)/1.15 = $2,333.33/1.15 = $2,028.99

Do not accept as NPV goes mostly to bondholders not equity. Equity net change in value = ($2,028.99 - $434.78) - $2,000 = $-405.79

Topic: FIRM VALUE
Type: ESSAYS

68. Define and describe the direct and indirect costs of bankruptcy. Give three examples of each.

Direct Costs
- Legal and Administrative Costs
- Accounting and other related fees
- These costs are easily measurable and studies have shown the direct costs of bankruptcy to be about 3% of the market value of the firm.

Indirect Costs
- These costs are harder to measure and studies estimate they may range in the vicinity of 20% of firm value. Some of the costs are highlighted below.
- Loss of Business and Customers
- Loss of Reputation
- Cost of lost supplies and other agents

Topic: DIRECT AND INDIRECT COST OF BANKRUPTCY
Type: ESSAYS

69. What is the pecking order theory and what are the implications that arise from this theory?

The company will first use internal financing, which includes retained earnings, and then issue safe securities. The company will issue debt before equity.

Implications
1. There is no target amount of leverage
2. Profitable firms use less debt
3. Companies like financial slack

Topic: PECKING ORDER THEORY
Type: ESSAYS