

## Sample Question Paper 1

### PART 1

#### Multiple Choice Questions (1 mark each)

(Tick the right option)

Attempt any 50 questions of the following 60 questions

1. A real estate developer is interested in acquiring a vast tract of land for township project. There is a strip of land adjoining the proposed land that he is acquiring and is interested in acquiring the same so that there is all round development of his project. The real estate developer approaches you as a valuation expert for determining the Fair Market Value (FMV). In determining so, what factors would you take into account in determining the FMV of the land value?
  - a. Fair market value will include only that relating to the vast tract of land.
  - b. Fair market value of the strip of land will be the guiding and posting factor in total land value because of the reason that without which the vast tract of land will not command that much FMV.
  - c. FMV will be that value based on the transaction price.
  - d. FMV of the strip of land will not be taken into consideration as it is a unique situation, wherein there is interest of only one buyer i.e. (real estate developer).

Ans: (d)

2. In determination of 'value' which of the following is/are key element?
  - a. Preciseness with a static figure
  - b. Fundamentals are the key
  - c. Value is 'should be price'.
  - d. Both (b) & (c)

Ans: (d)

3. When you state that the market is strong, under the Efficient Market Hypothesis, it means
- a. Market includes only that information which is 'public'
  - b. Market includes only that information which is 'private'
  - c. Market includes all information 'public and private'
  - d. Market is strong as compared to weak and semi strong market.

Ans: (c)

4. The distinctive and distinguishable factor between Fair Market Value (FMV) and Fair Value (FV) is:
- a. FMV is all about fairness
  - b. Fair Value is about fairness and equity
  - c. 'Fairness' is common to FMV and FV
  - d. None of the above.

Ans: (b)

5. Which of the following option is appropriate in expression of the following statement of 'standard' of value?
- a. The going concern value of ABC Bank is rupees 5000 crores
  - b. The Fair Market Value of ABC Bank as a going concern is rupees 5000 crores
  - c. There is no difference between the above two statements as difference is only a minor semantic difference.
  - d. Going concern value is not a misnomer and a standard of value.

Ans: (b)

6. In determining the amount of fair value, the 'parties' which are at arms' length transaction are classified as:
- a. Willing
  - b. Knowledgeable
  - c. Both (a) & (b)
  - d. None

Ans: (c)

7. When using the guideline public company method, at what point in time are the prices of the public companies stock considered?
- 30 days average
  - as on valuation date
  - 6 months average
  - 3 years average

Ans: (b)

8. Red Label Ltd acquires Green Label Ltd in a business combination as they are in similar line of business. Red Label has on its balance-sheet an investment in equity of Blue Label which is a publicly traded company listed at both BSE and NSE. The details are as follows:

Exchange	Price	Transaction costs	Net
BSE	20	3	17
NSE	19	1	8

What is the 'fair value' of Blue Label?

- 20 if the principal market is BSE
- 19 if the principal market is NSE
- 19 if neither BSE/NSE is the principal market
- All the above are correct.

Ans: (d)

9. Which of the 'synergy' is excluded in determining fair value?
- Fair level
  - Market level
  - Specific level
  - None of the above

Ans: (c)

10. Valuation is an concept based on

- a. Economics aligned to legal
- b. Accounting aligned to finance
- c. Science aligned to art
- d. One's mind set

Ans: (a)

11. In case of Employee Stock Option Plan (ESOP), measurement and disclosure of the employee share-based payment plans is done in accordance with the accepted methods of Indian GAPP. In this connection which of the following method of 'value' is best recommended by you, i.e.,

- a. Most Indian corporate use only Intrinsic value
- b. Corporate also use Fair value, but complex
- c. Both (a) & (b)
- d. None of the above methods are used.

Ans: (c)

12. In measuring value, which of the following 'approach', would you use?

- a. Cost
- b. Market
- c. Income
- d. All the above

Ans: (d)

13. The mathematical comparison between the discount rate and the capitalization rate is illustrated with what type of following equation?

- a. Discount rate = risk-free returns + risk premium  
Capitalization rate = discount rate – annual growth rate
- b. Discount rate = risk-free returns - risk premium  
Capitalization rate = discount rate – annual growth rate
- c. Discount rate = risk-free returns + risk premium  
Capitalization rate = discount rate + annual growth rate
- d. All the above equations are correct.

Ans: (a)

14. Which of the following equation better represents value of intangible asset?

- a. Intangible asset value = amortizable identified asset value – non-amortizable identified asset value + goodwill
- b. Intangible asset value = amortizable identified asset value + non-amortizable identified asset value + goodwill
- c. Intangible asset value = amortizable identified asset value – non-amortizable identified asset value - goodwill
- d. None of the above

Ans: (a)

15. The criteria for defining intangible assets is/are:

- a. Immateriality
- b. Inseparability
- c. Both the above
- d. None of the above

Ans: (c)

16. When you copy a formula that uses \_\_\_\_ reference, Excel automatically adjusts the references in the formula to refer to the cells relative to the location of the formula.

- a. Absolute
- b. Relative
- c. Absolute and relative
- d. Absolute or relative

Ans: (b)

17. Which of the following are useful factor(s) in Excel modeling?

- a. Transpose
- b. VLOOKUP
- c. IF
- d. All the above

Ans: (d)

18. While valuing real estate under direct capitalization method, which of the following formulae represents the value?

- a.  $\text{Rental income} \div \text{cap rate}$
- b.  $\text{Net Operating Income} \div \text{cap rate}$
- c. Either of the above
- d. None of the above

Ans: (c)

19. Which of the following is a suitable method for valuation of knowledge based companies?

- a. Knowledge
- b. Earnings
- c. Market
- d. (b) & (c)

Ans: (d)

20. Which of the following assumption is correct by using Black-Scholes Model?

- a. Volatility will remain the same throughout the life of the option
- b. Risk-free rate will remain the same throughout the life of the option
- c. Stock price will remain the same throughout the life of the option
- d. None of the above is right

Ans: (a)

21. The purpose of valuation, applicable standard of value or other circumstances indicates to differences between the

- a. Base value
- b. Value of subject interest
- c. Either (a) or (b)
- d. Both (a) & (b)

Ans: (d)

22. Other things equal, the price of a stock call option is positively correlated with the following factors except

- a. the exercise price.
- b. the time to expiration.
- c. the stock volatility.
- d. the stock price

Ans: (a)

23. The overall (weighted average) cost of capital is composed of

- a. the cost of common equity and the cost of debt
- b. the cost of common equity and the cost of preferred stock
- c. the cost of preferred stock and the cost of debt
- d. the cost of common equity, the cost of preferred stock and the cost of debt

Ans: (d)

24. Which of the following statements relating to the regulation of valuation of public company is correct?

- a. The prices of the stocks should be on or near the valuation date.
- b. The financial statement data of the public companies must match the date of the stock prices.
- c. Only audited statements of the public companies should be used.
- d. Only un-audited statements of the public companies should be used.

Ans: (a)

25. Which of the following date is appropriate relating to valuation?

- a. The date the report is signed
- b. The date the analysis is finished
- c. The effective date of the valuation
- d. The date the report is sent to the client

Ans: (c)

26. The adjusted present value (APV) is best described as being

- a. equal to the discounted value of all cash flows after the discount rate is adjusted upward for additional risk
- b. equal to the discounted value of operating cash flows plus the present value of any tax shield benefits less any flotation costs
- c. equal to the discounted value of operating cash flows plus the present value of any tax shield benefits
- d. equal to the discounted value of operating cash flows less any flotation costs

Ans: (c)



27. Which of the following statement is true?

- a. All valuation approaches must be considered
- b. All valuation approaches must be applied
- c. All valuation methods must be applied
- d. Indications of value should be averaged

Ans: (a)

28. Which of the following best represents the status of a stressed company?

- a. Not necessarily a Sick company within the meaning of the SICA.
- b. Not necessarily based on a test of erosion of net worth.
- c. A company heavily strapped for cash and unable to meet its debts on the due date.
- d. All of the above

Ans: (d)

29. Which of the following formulae is used to determine Beta of an asset?

- a. Co-variance of market portfolio ÷ Variance of asset portfolio
- b. Variance of market folio ÷ co-variance of asset portfolio
- c. Co-variance of asset with market portfolio ÷ variance of market portfolio
- d. Variance of market portfolio ÷ variance of asset portfolio

Ans: (c)

30. As a general rule, weights used in computing cost of capital should be based on \_\_\_\_\_

- a. Book values as they are not volatile
- b. Market values as they are forward looking
- c. Any of the above values
- d. Both may be considered as appropriate.

Ans: (b)

31. The distinction between an American Option and European Option is that

- a. Under American option can be exercised at any time while European option right can be exercised on a specific date.
- b. Under American option can be exercised only on a specific date while European option right can be exercised on any date
- c. Under both options right can be exercised only at a specific date
- d. Under both options right can be exercised on any date.

Ans: (a)

32. The major distinction between futures and options arises from the phrase

- a. With obligation
- b. Without obligation
- c. With or without obligation as the case may be
- d. Call and put

Ans: (a)

33. There are 3 call options on Nifty one-month available today at a strike price of 4560, 4570 and 4580. Tomorrow the investor can place an order to trade in a 1 month call option at a share price of

- a. 4550 and 4590
- b. 4560 and 4580
- c. Any price
- d. On reference price by stock exchange

Ans: (a)

34. In India, individuals stock options and index option are of the type

- a. American and European
- b. European and American
- c. American or European as the case may be
- d. No type as such

Ans: (a)

35. A flat yield curve in an economy indicates that

- a. The economy is going to have booming conditions future.
- b. The economy is going to recessionary conditions in future.
- c. The economy will remain stable in future.
- d. Nothing can be concluded by studying the yield curve.

Ans: (b)

36. Which of the following refers to the phase of M&A?

- a. Strategy
- b. Negotiation/Investigation
- c. Finalization/Integration
- d. All the above

Ans: (d)

37. Which of the following principle of valuation would be more appropriate in respect of M & A

- a. Principle of Integration
- b. Principle of future Benefits
- c. Principle of substitution
- d. All the above

Ans: (d)

38. Yield-to-Maturity on a bond has increased from 8% to 9%. Then, the duration of the bond will

- b. Increase
- c. Decrease
- d. Remain unchanged
- e. Nothing can be concluded from the given information.

Ans: (b)

39. The key sources of value (earning an excess return) for a company can be attributed primarily to \_\_\_\_\_

- a. Competitive advantage and access to capital
- b. Quality management and industry attractiveness
- c. Access to capitals and quality management
- d. Industry attractiveness and competitive advantage

Ans: (d)

40. How economic value is added (EVA) calculated?

- a. It is the difference between the market value of the firm and the book value of equity
- b. It is the firms net operating profit after tax (NOPAT) less cost of capital charge
- c. It is the net income of the firm less a cost that equals the weighted average cost of capital multiplied by the book value of liabilities and equities
- d. None of the above

Ans: (b)

41. Which of the following statement concerning the asset approach is true?

- a. The asset approach is more commonly applied in valuing operating companies that sell products and/or services.
- b. The asset approach is more commonly used in valuations for financial reporting purposes.
- c. The book value of real estate is usually pretty close to fair market value.
- d. When valuing a business, valuing intangible assets in an operating company is common and provides increased accuracy for the valuation conclusion.

Ans: (b)

42. Which of the following return is calculated under Capital Asset Pricing Model (CAPM)

- a. Average normal return
- b. Cumulative normal return
- c. Average abnormal and cumulative abnormal return
- d. None of the above

Ans: (c)

43. You have 500 shares of a blue-chip company. After extensive research, you are convinced that the share is in an overall uptrend mood and wish to make income out of the situation and position. In these circumstances, which of the following options you would consider?

- a. Selling CALL options
- b. Buying CALL options
- c. Selling PUT options
- d. Buying PUT options

Ans: (a)

44. If beta equals 1, then

- a. The total return for the security moves in the same direction as the market but with greater magnitude.
- b. The total return for the security moves in the same direction as the market but with lesser magnitude.
- c. The total returns for the security moves in tandem with the total return of the market.
- d. The total return for the security moves in the opposite direction from the total return of the market.

Ans: (d)

45. Junk bonds are also known as

- a. Low yield bonds
- b. Yankee bonds
- c. Investment grade bonds
- d. High yield bonds

Ans: (b)

46. Buying in a cheaper market and selling higher in another market is known as

- a. Hedging
- b. Speculation
- c. Arbitrage
- d. Gambling

Ans: (c)

47. Which of the following is an approach to value?

- a. Discounted cash flow
- b. Capitalized cash flow
- c. Excess cash flow
- d. Income

Ans: (d)

48. The open interest on any option contract decreases when

- a. Two new traders enter into contract
- b. Two existing traders square off their open position.
- c. One existing trader squares off his position with a new trader
- d. None of these.

Ans: (b)

49 . Which of the following statement is true concerning real estate and equipment appraisal?

- a. Market value equals fair market value in real estate appraisal.
- b. The income approach is often used in real estate but not equipment appraisal.
- c. The cost approach is the most common approach in real estate appraisal.
- d. None of the above

Ans: (b)

50. What is meant by using proxy firms with the CAPM model?

- a. a proxy firm is one that uses the capital-asset pricing (CAPM) model as its primary evaluation tool in determining project selection or rejection
- b. a proxy firm is one that uses the weighted average cost of capital (WACC) as its primary evaluation tool in determining project selection or rejection
- c. a proxy firm is a privately held firm in the same industry as the firm
- d. a proxy firm is a publicly traded firm, which may entirely engaged in a business that is nearly identical to the project, used to estimate the beta for a project

Ans: (d)

In answering the following questions, support your statement with brief reasoning:

51. Value and Price are different.

- a. True
- b. False

Ans: TRUE : Value is an economic concept and an estimate of the likely price at a given time, where as price is the amount of money or other consideration asked for or given in exchange of something.

52. The Efficiency Market Hypothesis (EMH) suggests that markets are always efficient.

- a. True
- b. False

Ans: FALSE: Markets can be weak form or semi-strong or strong form. It acts rationally using all relevant information leaving no opportunity for guess.

53. Fair Market Value is all about fairness.

- a. True
- b. False

Ans: FALSE. FMV is not about fairness, but rather what a willing buyer would pay a willing seller at a specific date based on best educated guess and judgment using all of the knowledge available on that date.



54. In valuation, the definition of 'risk' is different and broader.

- a. True
- b. False

Ans: TRUE. It refers to the likelihood that we will receive a return on an investment that is different from the return we expected to make.

55. A firm that invests in undervalued stocks is accepting + NPV's.

- a. True
- b. False

Ans: TRUE. Because the return it will make on these equity investments will exceed the cost of equity on these investments. Similarly, a firm that invests in under priced corporate bonds will also earn excess returns and positive NPV's.

56. The word 'synergy' in valuation is both a negative and positive outcome.

- a. True
- a. False

Ans: FALSE. Synergy is the additional value that is generated and shows higher expected cash flows.

57. A home buyer is interested in buying a 3 bed-room apartment in a popular locality in the suburbs of Hyderabad. He wants to know the value/price of the apartment. As a valuer, you would suggest intrinsic value.

- a. True
- b. False

Ans: FALSE. The valuation approach to be adopted is relative valuation. In other words to determine what to pay for a house, we look at what similar houses in the neighbourhood sold for rather than doing an intrinsic valuation.

58. When we calculate the risk-free rate, it is assumed that risk is free and there is no rate for it.

- a. True
- b. False

Ans: FALSE. For an investment to be risk-free it means to have an actual return be equal to the expected return. The expected returns on risky investments are then measured relative to the risk-free rate, with the risk creating an expected risk premium that is added on to the risk-free rate.

59. When markets are more uncertain, just like in the recent past, the analysis that we use to gauge the market and its movements will be based on scenario analysis.

- a. True
- b. False

Ans: FALSE. In scenario analysis, we estimate cash flows under different scenarios, ranging from optimistic to pessimistic situations. Unlike scenario analysis, where we look at the values under discrete scenarios, simulations allow more flexibility in how to deal with uncertainty.

60. Assume that you are in a group of people and moderating as a valuer. You would convince them by explaining that valuation is beyond art and science.

- a. True
- a. False

Ans: TRUE. It is a matter of professional judgment, services rendered with integrity, independence and confidence.

## PART 2

Attempt any 5 questions out of the following 8 questions.

Each question carries 10 marks.

1. List out documentation requirements of a valuation assignment.  
Answer

Documentation is the principal record of information obtained and analyzed, procedures performed, valuation approaches and methods considered and used, and the conclusion of value. The quantity, type, and content of documentation are matters of the valuation analyst's professional judgment. Documentation may include:

- Information gathered and analyzed to obtain an understanding of matters that may affect the value of the subject interest
- Assumptions and limiting conditions
- Any restriction or limitation on the scope of the valuation analyst's work or the data available for analysis
- Basis for using any valuation assumption during the valuation engagement
- Valuation approaches and methods considered
- Valuation approaches and methods used including the rationale and support for their use
- If applicable, information relating to subsequent events considered by the valuation analyst
- For any rule of thumb used in the valuation, source(s) of data used, and how the rule of thumb was applied
- Other documentation considered relevant to the engagement by the valuation analyst

The valuation analyst should retain the documentation for a period of time sufficient to meet the needs of applicable legal, regulatory, or other professional requirements for records retention.

2. You have been assigned the task of valuing equity of a certain private and closely held businesses. You are faced with the problem as the owner has the bulk of shares with him and he cares more about total risk rather than just market risk. Since using a market beta will understate the risk, you are contemplating solutions to the situation. How would you as a valuer approach this problem and provide solutions? (Briefly outline the steps).

Answer

Implicit in the use of beta as a measure of risk is the assumption that the marginal investor in equity is a well-diversified investor. While this is a defensible assumption when analyzing publicly traded firms, it becomes much more difficult to sustain for private firms. The owner of a private firm generally has the bulk of his or her wealth invested in the business. Consequently, he or she cares about the total risk in the business rather than past market risk. Thus, for a private business, the cost of equity estimated using a market beta will understate the risk. There are three solutions to the problem:

- ➔ Assume that the business is run with the near-term objective of sale to a large publicly traded firm. In such a case, it is reasonable to use the market beta and cost of equity that come from it.
- ➔ Add a premium to the cost of equity to reflect the higher risk created by the owner's inability to diversify. This may help explain the high returns that some venture capitalists demand on their equity investments in fledgling businesses.
- ➔ Adjust the beta to reflect the total risk rather than market risk. This adjustment is a relatively simple one, since the R-squared of the regression measures the proportion of the risk that is market risk. Dividing the market beta by the square root of the R-squared (thus obtaining the correlation co-efficient) yields a total beta. For example, a private firm with a bottom-up beta of 0.82 and an average bottom-up R-squared of about 16%, the total beta can be computed as follows:

$$\text{Total beta} = \text{market beta} \div \sqrt{\text{R-squared}} = 0.82 \div \sqrt{.16} = 2.05$$

Using this total beta would yield a much higher and more realistic estimate of the cost of equity.

$$\text{Cost of Equity} = 4\% \div 2.05 \text{ (4.84\%)} = 13.92\%$$

Thus private businesses will generally have much higher costs of equity than their publicly traded counterparts with diversified investors.

3. Is ( $\beta$ ) 'beta' a good proxy for risk and is correlated with the expected returns?

Answer

The Capital Asset Pricing Model (CAPM) suggests that betas and return are positively correlated, though other measures of risk such as variance continue to explain the differences in actual returns. This discrepancy is mainly attributed to the limitations in the testing techniques. While the initial tests of Asset Pricing Model (APM) suggests that they might provide more promise in terms of explaining the differences in returns, a distinction has to be drawn between the use of these modes to explain differences in past returns and their use to predict expected returns in future. The competitors to the CPM clearly do a much better job at explaining past returns since they do not constrain themselves to one factor as the CAPM does. This extension to multiple factors does become more of a problem when we try to project expected returns into the future since the betas and premiums and betas are

themselves volatile, the estimation error may eliminate the benefits that could be gained by moving from the CAPM to more complex models.

Ultimately, the survival of the CAPM as the default model for risk in real world applications is a testament to both its intuitive appeal and the failure of more complex models to deliver significant improvement in terms of estimating expected returns. It could be argued that a judicious use of CAPM, without an overreliance on historical data, is still the most effective way of dealing with risk in valuations.

4. (a) Why do we often value the firm rather than its equity? Will the values for equity obtained from the firm valuation approach be consistent with the values obtained from equity valuation approaches?
- (b) A firm has rupees 166.67 millions in earnings before interest and taxes and a tax rate of 40%. Assume that the firm has equity with a market value of rupees 600 million, a cost of equity of 13.87%, debt of rupees 400 million and a pretax cost of debt of 7%. Calculate the cost of capital and value of the firm.

Answer

- (a) The firm valuation model unlike the dividend discount model or Future Cash Flow Earning (FCFE) model values firm rather than equity. The value of equity however can be extracted from the value of the firm by subtracting the market value of outstanding debt. Since this model can be viewed as an alternative way of valuing equity, two questions arise:  
Why value the firm than equity?

Will the values for equity obtained from the firm valuation be consistent with the values obtained from the equity valuation approaches?

The advantage of using the firm valuation approach is that cash flows relating to debt do not have to be considered explicitly, since the FCFE is a pre-debt cash flow, whereas they have to be taken into account in estimating FCFE. In cases, where leverage is expected to change significantly over time, this is a significant saving, since estimating new debt issues and debt repayments when leverage is changing can become increasingly messy the further into the future you go. The firm valuation approach does, however, require information about debt ratios and interest rates to estimate the weighted average cost of capital. In theory the value for equity obtained from the firm valuation and equity valuation approaches should be the same if you make consistent assumption about financial leverage. Getting them to converge in practice is much more difficult.

$$(b) \text{ Cost of capital} = (13.87\%) \{600/1,000\} + (7\%) (1 - 0.4) \{400/1,000\} = 10\%$$

$$\text{Value of the firm} = \text{EBIT} (1-t)/\text{cost of capital} = 166.67 (1-0.4)/0.10 + 1,000 \text{ million rupees.}$$

$$\text{Value of equity} = \text{value of firm} - \text{value of debt} = 1,000 - 400 = 600 \text{ million.}$$

$$\text{Net income} = (\text{EBIT} - \text{pretax cost of debt} \times \text{debt}) (1 - t)$$

$$(166.67 - 0.07 \times 400) (1 - 0.4) = 83.202 \text{ rupees million.}$$

$$\text{Value of equity} = \text{net income}/\text{cost of equity} = 83.202/0.1387 = 600 \text{ rupees million}$$

The above works on 3 simple assumptions:

1. The values for debt and equity used to compute the cost of capital were equal to the values that were obtained in the valuation.
2. To get from operating to net income, all we do is to subtract interest expenses and taxes'
3. The interest expenses are equal to the pretax cost of debt multiplied by the market value of debt.

If there is expected growth, the potential for inconsistency multiplies. We have to ensure that we borrow enough money to fund new investments to keep debt ratio at a level consistent with what we are assuming when we compute the cost of capital.

5. Bring out the connection or correlation between the Economic Value Added (RVA), Net Present Value (NPV) and Discounted Cash Flow valuation methodologies.

Answer

One of the foundations of investment analysis in traditional corporate finance is the net present value (NPV) rule. The NPV of a project which reflects the PV of expected cash flows on a project, netted against any investment needs, is a measure of surplus value created by the project. Thus investing in projects with positive net present value will reduce value. Economic value added is a simple expansion of NPV rule. The NPV of the project is the present value of the economic value added by that project over its life.

The connection between NPV and EVA allows us to link the value of a firm to the economic value added by that firm.

Firm value = value of assets in place = value of expected future growth.

Substituting Eva version of NPV in to the equation, we get

Firm value = capital invested + EVA assets in place + EVA of future projects.

Thus the value of a firm can be written as the sum of three components: capital invested in assets in place, the PV of EVA by these assets and the expected PV of the economic value that will be added by future investments.

6. What are the different approaches that you would employ while valuation of a 'brand name' and what are the issues that would come across in such valuation?

Answer

Historical approach:

- Determine the amortizable life for the brand name expenditures based on how long the benefits from expenditure will accrue.
- Collect the data on brand name expenditures each year going back historically for the amortizable life of the brand name. if we choose 20 years as the amortizable life, expenditure for the said period have to be collected.
- Write off a portion of the brand name expenditure from each year expenditures in the subsequent years.

DCF approach: in this we try to isolate the effect of brand name on the cash flows of the firm. That is easier said than done because the effects of brand name are felt through a firm and it is also difficult to separate brand name effects from other factors that also affect the cash flows, such as the firm's reputation for quality or service and market power.

Relative valuation model: in this we try to extract the value of a brand name by looking at the market prices of companies with and without brand name. the first relative valuation approach draws from the generic firm computation as used with the DCF valuation.

Brand name value = brand name – generic margin x brand name

Issues in brand valuation:

Single vs. multiple brands: there are some companies that have one brand name and affix to all of their products.

Single product vs. multiple product lines: The brand name of a firm that sells products in different business lines is much more difficult to value than the brand name of a firm that has products in only one product area,

Other competitive advantage: Brand name is easiest to value when only a firm has competitive possessed advantage. It gets much more difficult and complicated when companies have multiple competitive advantages, since what we estimate to be brand name value may really be a consolidated value for all competitive advantages.

## 7. What are the determinants of option value?

Answer

The value of an option is determined by six variables relating to the underlying assets and financial services:

- **Current value:** Options are assets that derive value from an underlying asset. Consequently, changes in the value of the underlying asset affect the value of the option on that asset. Since calls provide the right to buy the underlying asset at a fixed price, an increase in the value of an asset will increase the value of the calls. Puts, by contrast, become less valuable as the value of the asset increases.
- **Variance in value of underlying asset:** The buyer of an option acquires the right to buy (call) or sell (put) the underlying asset at a fixed price. The higher the variance in the value of the underlying asset, the greater will be the value of the option. This is true for both calls and puts. While it may seem counterintuitive that an increase in a risk measure (variance) should increase value, options are different from other securities since buyers of options can never lose more than the price they pay for them, in fact, they have the potential to earn significant returns from large price movements.
- **Dividends paid on underlying asset:** The value of the underlying asset can be expected to decrease if dividend payments are made on the asset during the life of the option. Consequently, the value of a call on the asset is a decreasing function of the size of expected dividend payments, and the value of a put is an increasing function of expected dividend payments. There is a more intuitive way of thinking about dividend payments for call options. It is a cost of delaying exercise on in the money options. To see why, consider an option on a traded stock. Once a call option is in the money (i.e. the holder of the option will make a gross payoff by exercising the option), exercising the call option will provide the holder with the stock and entitle him or her to the dividends on the stock in subsequent periods. Failing to exercise the option will mean that these dividends are forgone.
- **Strike price of option:** A key characteristic used to describe an option is the strike price. In the case of calls, where the holder acquires the right to buy at a fixed price, the value of the call will decline as the strike price increases. In the case of puts, where the holder has the right to sell at a fixed price, the value will increase as the strike price increases.
- **Time to expiration on option:** Both calls and puts become less valuable as the time to expiration decreases. This is because the shorter time to expiration provides less time for the value of the underlying asset to move, decreasing the value of both types of options. Additionally, in the case of a call, where the buyer has to pay a fixed price at expiration, the present value of this fixed price increases as the life of the option decreases, decreasing the value of the call.

Summary of variables Affecting Call and Put Prices:

Factor	Call value	Put Value
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Increase in underlying assets value	Increases	Decreases
Increase in strike price	Decreases	Increases
Increase in variance of underlying asset	Increases	Increases
Increase in time to expiration	Increases	Increases
Increase in interest rates	Increases	Decreases
Increase in dividends paid	Decreases	Increases

- Risk less interest rate corresponding to life of option: Since the buyer of an option pays the price of the option up front, an opportunity cost is involved. This cost will depend on the level of interest rates and the time to expiration on the option. The riskless interest rate also enters into the valuation of options when the present value of the exercise price is calculated, since the exercise price does not have to be paid or received until expiration of the option. Increases in the interest rate will increase the value of calls and reduce the value of puts.

8. What are the steps that would advocate to better valuations?

Ans:

Ten steps to better valuation:

- Minimize bias in the valuation process: The problem with most valuations is the bias that permeates the process. Analysts who bring strong prior views about a company's standing as under or overvalued or have their compensation tied to the valuation results are likely to generate valuations reflecting their biases. Improving valuation models will do little to improve the process under these circumstances.
- Use Parsimonious models: While technology and the availability of data have made more complex valuation models more feasible, there is much to be said in favor of simpler models that require fewer inputs.
- Respect the basic law of economics: The most egregious mistakes in valuation arise when analysts ignore the basic laws of economics. For instance, while there is absolutely no ways to justify the assumption that the firm can grow at a rate higher than the economy forever, many analysts continue to make that assumption.
- Match cash flows to discount rates: The key to good valuations is to ensure that you don't mismatch cash flows and discount rates. Using the cost of equity to discount Cash flows to the firm, a nominal rate to discount real cash flows, or a dollar discount rate on peso cash flows will always yield incorrect estimates of value.
- Preserve internal consistency: When valuing companies ,we make assumptions about growth, risk, and cash flows and it is imperative that we preserve internal consistency when making these assumptions. Assuming that a company will grow in the long term with no reinvestment and low risk may yield a high value, but is it feasible? High growth rates generally require substantial reinvestment and a willingness to be exposed to risk, and making these assumptions may yield a lower but a more defensible estimate of value.
- Keep macroeconomic views out of valuations: While all of us have views on the economy, interest rates, and exchange rates that we are eager to share with the rest of the world, the valuation of a firm is not the right forum for expressing these views. Building into a valuation the belief that interest rates will rise over the next 10 years will

generate a lower value for every firm that is valued, but it views about the firm and how much to macroeconomic judgments.

- Avoid valuation garnishing: As we have noted all through this book, analysts are liberal about attaching premiums and discounts to estimated value for factors ranging from control to illiquidity. Part three is dedicated to the proposition ranging from control to illiquidity. Part three is dedicated to the proposition that while control, illiquidity and intangibles all affect value, it is our job when valuing companies to incorporate these elements into the value rather than adding 20 percent to value (for control of intangibles) or deducting 20 percent (for illiquidity)
- Remember that no two firms are identical: Much of relative valuation is built on the premise that we can find firms that look just like the firm that we are valuing. In reality, no two firms are exactly alike and the notion of a comparable firm is subjective. In other words, no matter how hard we try to make relative value judgments, the differences across firms will color our analysis.
- Tell a story but look at the data: While it is human nature to tell a story to justify why a company is trading or should be trading at a particular value, story telling by itself can become a dangerous exercise of justifying our prior biases about companies. We have an obligation to look at the data not only to see if the story being told makes sense but to flesh out the details.
- Beware of the purists: With every valuation approach, there are purists demanding complete and total acceptance of their preferred methods. Valuation does not lend itself easily to absolute rules and it goes without saying that blindly following a model or equation will almost always lead to disaster. A combination of pragmatism, common sense and a willingness to adapt valuation rules characterizes the best analysis.