Educational Material
ICAI Valuation Standard 301- Business Valuation

Valuation Standards Board ICAI
and
ICAI Registered Valuers Organisation
The Institute of Chartered Accountants of India
(Set up by an Act of Parliament)
New Delhi

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Foreword

As we all know that Valuation also forms a key part of audited financials which should provide transparency and comparability in relation to the value of companies and therefore impact share prices. This is important for the purpose of financial market stability and ultimately, a stable economy.

Business Valuation, the process of determining the true value of a business, differs for each and every assignment since every assignment and business is unique in its own way due to the various parameters existing on the date of valuation.

In order to have a uniform practices across the country and promote Make in India and concept of Aatma Nirbhar Bharat of Government of India under the able leadership of Prime Minister Sh. Narendra Modiji, the Institute of Chartered Accountants of India formulated and issued ICAI Valuation Standards 2018 which provide detailed guidance and are in conformity with the Laws and Regulations in India. One of the Standards is specifically on Business Valuation. This Standard contains additional requirements that valuer needs to consider while undertaking business / share valuation.

Considering the complexity and distinctiveness, it was felt that an Educational Material that elucidates in depth, various requirements under 'ICAI Valuation Standard 301: Business Valuation' along with practical aspects, Case studies may be brought out.

At this juncture, I compliment Valuation Standards Board of ICAI and ICAI Registered Valuers Organisation in taking this joint initiative and coming out with this 'Educational material on ICAI Valuation Standard 301: Business Valuation', to facilitate the valuers in understanding various aspects of business valuation and drive greater efficiency in valuation activities undertaken by them.

I extend my sincere appreciation to the entire Board of ICAI RVO and Valuation Standards Board of ICAI specially to CA. Pramod Jain, Chairman and CA. Dheeraj Kumar Khandelwal, Vice- Chairman of the Board for initiating this Educational Material.

I am of the firm belief that this Educational Material would be of great help for the stakeholders.

CA. Atul Kumar Gupta
President ICAI
Director ICAI RVO

Date: 4th February 2021
Place: New Delhi

Preface

Business Valuation focus has shifted from just the value of tangible assets to become more comprehensive. It also includes Earnings capability, Intangible assets, Innovative capabilities and Management capabilities which are now considered critical in the Valuation of any business. The inputs, risk factors and range of information which are used to calculate the final company Valuation based on their current circumstances has also evolved to become more robust and complete.

Business Valuation is an act or process of determining the value of a business enterprise or ownership interest therein which involves many assumptions and hence cannot be expected to provide a precise estimate of value. Valuation of business is a complex assignment which requires informed judgement and decision making.

The Institute of Chartered Accountants of India issued ICAI Valuation Standards 2018 and one of the standards is on Business Valuation. ICAI Valuation Standard -301 on Business Valuation describes the basic principles which govern the valuer's professional responsibilities and which shall be complied with whenever an engagement to estimate value is carried out. It also prescribes usage of multiple methods in valuation instead of single method for better judgement and greater comfort in finalizing the valuation

As part of its continuous attempt towards knowledge dissemination, the Valuation Standards Board of ICAI jointly with the ICAI Registered Valuers Organisation (ICAI RVO) has brought out this Educational Material on ICAI Valuation Standard- 301, Business Valuation. The purpose of this Educational Material is to provide guidance by way of illustrations and Frequently Asked Questions (FAQs) explaining the principles enunciated in the Standard.

This Educational Material contains summary of ICAI Valuation Standard- 301 discussing the key requirements of the Standard in brief, Case Studies, Illustrations and the Frequently Asked Questions (FAQs) covering the issues, which are expected to be encountered frequently while implementing this Standard. The text of ICAI Valuation Standard- 301 has been included as an Appendix to make this publication comprehensive.

We may bring to the kind attention of the readers that the views expressed in this publication are the views of the Valuation Standards Board and are not necessarily the views of the Council of the Institute. The purpose of this publication is to provide guidance for implementing this ICAI Valuation

Standard effectively by explaining the principles enunciated in the Standard with the help of examples. However, while applying Valuation Standards in a practical situation, reference should be made to the text of the Standard.

In this connection, we take this opportunity in thanking the President of ICAI CA. Atul Kumar Gupta and Vice President, CA. Nihar N. Jambusaria for their thought leadership and continued encouragement in bringing out the publication.

We would also like to convey our sincere thanks and gratitude towards the Board of ICAI RVO comprising of Shri Rajeev Kher, Chairman of the Board and other Directors, Shri Pawan Singh Tomar, Shri Ashok Haldia, Prof. Anil Saini, Shri Prafulla P. Chhajed and Shri Rakesh Sehgal for taking this joint initiative and to provide guidance on implementation of ICAI Valuation Standard 301- Business Valuation.

We also wish to place on record our appreciation to members of the Valuation Standards Board, Co-opted members and Special Invitees for their help and guidance in framing and bringing out this publication.

We, on behalf of the Valuation Standards Board, would like to put on record our appreciation to CA. T. V. Balasubramanian, CA. Parag Kulkarni, CA. Tarun Mahajan, CA. Janani Vijaykumar and CA. S. V. Mathangi for their contribution in developing this Educational Material.

We would like to thank CA. Sarika Singhal, Secretary, Valuation Standards Board and CEO Designate ICAI Registered Valuers Organisation, Ms. S. Rita, Deputy Secretary ICAI, Ms. Seema Jangid, CA Pragya Agrawal and CA. Vaishali Sharma for initiating this Educational material and for providing technical and administrative support in finalising the Educational Material.

We sincerely believe that this Educational Material will be of great help in understanding the requirements of ICAI Valuation Standard 301 and in implementation of the same.

CA. Pramod Jain
Chairman
Valuation Standards Board, ICAI

CA. Dheeraj Kumar Khandelwal
Vice-Chairman
Valuation Standards Board, ICAI

Date: 3rd February, 2021

Contents

Chapter-1

ICAI Valuation Standard 301 (Business Valuation) — Summary

[The purpose of this summary is to help the readers gain a broad understanding of the principal requirements of ICAI VS- 301 (or 'the Standard'). Reference should be made to the complete text of the Standard for a complete understanding of these requirements or in dealing with a practical situation.]

1. Background and Scope

The Standard prescribes guidance for business valuers who are performing business valuation or business ownership interests valuation engagements and describes the basic principles which govern the valuer's professional responsibilities and which shall be complied with whenever an engagement to estimate value is carried out.

ICAI VS 301 should be applied in valuation for business and business interest, except the following:

a. where any requirement of the Standard is inconsistent with the requirements prescribed; or

b. valuation procedures specified by any law, regulations, rules or directions of any government or regulatory authority, or Court order.

2. Business Valuation

Business Valuation is the act or process of determining the value of a business enterprise or ownership interest therein.

Business valuation is required for transactions including fund raising, mergers & acquisitions (M&A), sale of businesses, strategic business decisions like family or shareholders disputes, voluntary value assessment and also for regulatory compliance, tax and financial reporting. Valuations of business, business ownership interests may be performed for a wide variety of purposes including the following:

a. Valuation of financial transactions such as acquisitions, mergers, leveraged buyouts, initial public offerings, employee stock ownership plans and other share-based plans, partner and shareholder buy-ins or buy-outs, and stock redemptions;

b. valuation for dispute resolution and/ or litigation/pending litigation relating to matters such as marital dissolution, bankruptcy, contractual disputes, owner disputes, dissenting shareholder and minority ownership oppression cases, employment disputes, etc.;

c. Valuation for compliance oriented engagements, like financial reporting; and tax matters such as corporate reorganisations, purchase price allocations etc.

d. valuation for other purposes like the valuation for planning, internal use by the owners etc;

e. valuation under Insolvency and Bankruptcy Code.

3. Types of Business Values

When valuing a business or business ownership interest, a valuer may express either an exact number or a range of values. There could be different benchmarks at which the estimate of value of an entity could be expressed by the Valuer. For example:

a. Enterprise Value

b. Business Value

c. Equity Value

These are explained below:

a. Enterprise Value: Enterprise Value is the value attributable to the equity shareholders plus the value of debt and debt like items, minority interest, preference share less the amount of non-operating cash and cash equivalents. It can also be formulated as:

Enterprise value = Common equity at equity value + Debt at market value + Minority Interest at market value, if any - Short term and long-term investments - Associate company at market value, if any + Preference capital at book value - Cash and cash-equivalents.

Also,

Enterprise Value = Free Cash Flow to the Firm ("FCFF")/ Weighted Average Cost of Capital = (Earnings Before Interest and Tax * (1-tax rate) + Depreciation – Capital Expenditure – Increase in Non-Cash Working Capital)/ WACC

b. Business Value: Business value is the value of the business attributable to all its shareholders including equity shareholder, redeemable preference share, Cumulative preference shareholders etc.

c. Equity Value: Equity Value is the value of the business attributable to equity shareholders after all expenses, reinvestments and debt obligations have been met by the company.

Equity Value = Free Cash Flow to Equity ("FCFE")/ Cost of Equity

= (Net Income or Profit After Tax + Depreciation & Amortization – Capital Expenditure – Increase in Non-Cash Working Capital + Change in Debt)/ Cost of Equity

Equity value is calculated by multiplying price of a single share of stock with the number of equity shares outstanding whereas enterprise value is calculated after deducting cash, investments and adding debt from equity value.

The key difference between the Equity and Enterprise Value is that Equity value is the total value of all outstanding Equity stock of the company whereas enterprise value is the total worth of a company including the net debt.

4. When is Valuation required?

Valuation is required in any of following cases:

1. Strategic
    a. Pre-transaction valuation
    b. Swap ratios for merger
    c. Fairness Opinions for transactions
2. Restructuring
    a. Transfer of holding companies across jurisdictions
3. Regulatory/ Tax
    a. FEMA valuations

b. Tax valuations

4. Financial Reporting/Taxation Driven

a. Purchase Price allocation

b. Impairment testing

Above is not an exhaustive list.

5. Issues in Business Valuation.

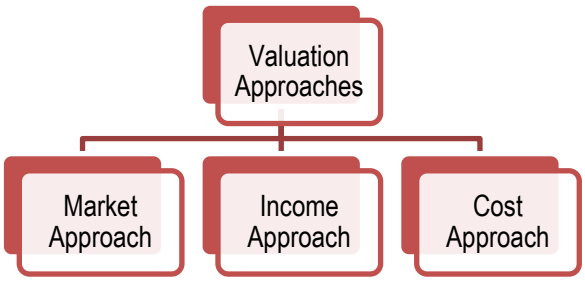
Typically while undertaking business valuation, some of the key issues which arise are as under:

- Issues in forecasting
- Selection of methods
- Difficulty in obtaining comparable multiples
- Thinly traded/ Dormant Scrip - Low Floating Stock, Unusual fluctuations in Market Price
- Loss making companies
- Start-up companies
- Valuation of e-commerce companies – Which is the appropriate method?
- Illiquidity discount & control premium
- Transaction Structure
- Procedural and Regulatory Issues
- Management Representations and the extent to which it could be relied upon

Some of these aspects have been discussed in detail in the appropriate place in this document.

6. Valuation Approaches and methodologies – Business/Enterprise Valuation

Globally Accepted Approaches to Value



Approaches and Methodologies

Approach	Income Approach	Market Approach	Cost Approach
Value Estimation	Income Approach considers the expected cash flows/ income the business is expected to generate and is considered most appropriate in case of a 'going concern'.	Estimates the fair value based on market multiples or transactions involving sale of comparable assets.	Fair value is based on summation of net assets in the balance sheet/ replacement cost – adjusted for amortisation/ obsolescence.
Methods	**Discounted Cash Flow ('DCF')/ Capitalization of Earnings**	**Comparable Market/ Transaction Multiples**	**Summation of individual piecemeal values of assets less value of liabilities in the balance sheet/ Replacement Cost**

Steps in selection of methods.

The key factors that a valuer needs to consider while selecting an approach are as under:

- nature of asset to be valued;
- availability of adequate inputs or information and its reliability;
- strengths and weakness of each valuation approach and method; and
- valuation approach/method considered by market participants.

Situation	Approach
Knowledge based companies	Income/Market
Manufacturing Companies	Income/ Market/ Cost
Brand Driven companies	Income/Market
Investment/Property companies	Cost/ Income
Company going for liquidation	Cost

7. Income Approach

The income approach involves looking at an entity's financial history or past financials trends to make projections about their future profits / cashflows. There are two methods typically used for valuing a company using the income approach:

The capitalization of net income / cash flow method is used to determine value by dividing the historical net income / cash flows of a business by its capitalization rate, a rate that reflects the riskiness of a business and its expected growth in the future. In this approach the upside is that it uses actual net income / cashflows from the company's past, however the downside is assuming the future will be representative of the past.

The discounted cash flow method arrives at a value by projecting the cash flows in the future and then discounting the cash flows back to the date of the valuation. The advantage of this approach is that the value considers the future cashflows, however the disadvantage is that it is often difficult to predict the future.

Discounted Cash Flow method has following advantages and limitations:

- Forward-looking and focuses on cash generation;
- Recognises time value of money;
- Allows operating strategy to be built into a model;
- Only as accurate as assumptions and projections used;
- Works best in producing a range of likely values\

7.1 DCF Methodology

Discounted Cash Flow Method has three broad steps; namely

i) Forecasting Cash Flow

ii) Discounting Factor derivation &

iii) Terminal Value Consideration

7.1.1 Forecast cash flows

a) Key factors to be considered while projecting cash flows

- For whom? (equity shareholders or firm) – FCFF vs. FCFE
- Real vs. nominal cash flows
- Currency used for projections
- Length of forecast period:
  - Theoretically, till company's growth reaches sustainable growth period
  - 3-5 year period common in practice
  - Longer periods suitable for finite life projects and / or early negative cash flow (infrastructure projects)
  - In cyclical industries, must ensure that the entire cycle is captured in the 'projection period'
  - Accuracy of the DCF is heavily dependent on the quality of forecasts.

b) Specific consideration to be kept in mind while estimating future cash flows in **accordance to IND AS-36**

- The Standard specifies that, "an entity shall base cash flow projections on reasonable and supportable assumptions that represent management's best estimate of the range of economic conditions that will exist over the remaining useful life of the asset. Greater weight shall be given to external evidence."
- Base cash flow projections utilized for the Value in Use, shall exclude any estimated future cash inflows or outflows expected to arise from future restructurings (to which an entity is not yet committed) or from improving or enhancing the asset's performance.

- Projections based on budgets/forecasts shall cover a maximum period of five years unless a longer period can be justified. Management may use cash flow projections longer than five years if it is confident that these projections are reliable and it can demonstrate its ability, based on past experience, to forecast cash flows accurately over that longer period.
- The Standard guides entities to estimate cash flow projections beyond the period covered by the most recent budgets/forecasts by extrapolating the projections based on the budgets/forecasts using a steady or declining growth rate for subsequent years unless an increasing rate can be justified. This growth rate shall not exceed the long- term average growth rate for the products, industries, or country or countries in which the entity operates, or for the market in which the asset is used, unless a higher rate can be justified.

Illustration 1

Management of Company ABC Limited has prepared historical financials as well as projections. The workings have been provided to you to perform an independent valuation. What should be the queries/thoughts for following:

1. Key observations based on your preliminary review before discussing the provided information with Management;
2. Additional data and clarifications you would request from the client;
3. Areas of the cash flow analysis that would require your special attention.

Answer

Key observations:

- Historical P&L is it correct? Historical performance vs. Projections – are there large variances?
- Does management have enough visibility to build a long-term forecast?
- Basis of projected revenue, operating expenses/margins
- How do the projected revenues and operating expense compare to the industry and to market participants?

Additional data and clarifications to be requested from the client:

- Details on underlying projected revenue and operating expenses
- Tax computation including treatment of historical losses
- Projected balance sheets to support forecasted working capital assumptions
- Supporting evidence for long term capital expenditure.

Areas of the cash flow analysis that you would focus upon:

- Detailed discussions with Management to understand the drivers of the cash flows
- How is the business expected to perform compared to historicals and current year to date performance
- Assessment of key business risk factors and their impact on the discount rate selected
- Revenue growth and EBITDA margins benchmarking with industry and competitors
- Cash flow scenario analysis

7.1.2 Discount Rate Derivation

We determine discount rate to measure the risk and return that investors expect from the business/entity.

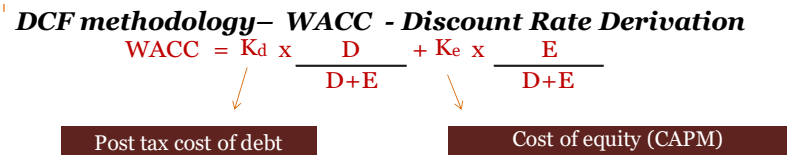
For calculating Equity Value using Free Cash Flow to Equity, we use Cost of Equity (COE) as discount rate while for calculating Enterprise Value using Free Cash Flow to Firm approach, Weighted Average Cost of Capital (WACC) is used to discount the future cash flows. Of course, to both the COE and WACC, suitable premiums or discounts may be adjusted to arrive at the discount rate based on the factors such as liquidity, control, size, specific risks etc.

The Cost of Equity ("COE") reflects the return expected by the equity shareholders, to compensate for the risk assumed through their investment in the business.

The Cost of Debt ("COD") is based on the current or expected borrowing rate for the company, which may be provided by the management of the company and is generally assumed to be the market rate.

The weighted average cost of capital ("WACC") is based on the

proportionate weights of each component of the source of capital, i.e., Weighted average of COE and COD wherein the ratio of Equity/Debt on total capital is the proportionate weights.



Kd = (Rf + DM) x (1-t)	Ke = Rf + (β x ERP) + Alpha
Where; kd - Cost of debt financing Rf - Risk-free rate of return DM - Debt margin T - Tax rate D - Debt E – Equity	Where; ke - Cost of equity financing Rf - Risk-free rate of return β - Beta ERP - Equity market risk premium Alpha – Company specific risk premium

Illustration 2

Particulars	31 March 2018
Risk free rate	7.4%
Market Risk-premium	7.0%
Unlevered beta (industry average)	0.73
Debt-Equity ratio	22%
Re-levered beta	0.89
Cost of debt (pre-tax)	10.8%
Tax rate	27.82%
Cost of debt (post-tax)	7.8%
Cost of Equity	13.6%
WACC(Post-Tax)- Rounded	**12.50%**

7.1.3 Terminal Value Consideration

The terminal value captures value beyond the explicit projection period into perpetuity and is consistent with a "going concern" premise. Caution has to be

applied when the ability of a business to generate cash flows into perpetuity is questionable.

The terminal value could account for a significant portion of total value especially for cases where subdued growth is expected over the explicit period. The cash flows utilized to determine the terminal value should reflect the "normalized" annual level of cash flows that the business expects to earn. i.e.. has depreciation, capex, working capital and tax been normalized? Long term growth assumptions have a profound impact on this computation.

a) Terminal Value Computation

Common models considered while computing terminal value:

- Gordon growth or constant growth model: Suitably applied in cases where the business has or is close to achieve a mature stage of growth by the end of the explicit period cash flows.
- Two Stage/Multi period growth model: Technically sound, but requires assumptions on growth post the discrete period.
- Exit multiple: A suitable market based multiple is applied to the appropriate normalized cash flows to arrive at the terminal value.

b) Gordon Growth Model

It is the most commonly used method for terminal value computation and its formula is as under

$$PV = Eo\ (1+g)/(k-g)$$

Where

Eo = Economic cash flows expected in the last year of the discrete period forecasts;

k = discount rate applicable to the forecasts;

g = long-term growth rate

Illustration 3

Terminal Value - Constant growth model	Amount Rs in Mn
Free cash flows for terminal year	107
Discount rate (k)	14.50%
Long term growth	4.00%
Value at the end of explicit period	1020
Present Value factor (say)	0.54
Terminal Value	555

Illustration 4

DCF Methodology

INR Million	Fiscal Year ending March 31,					Normalized Period
Particulars	**2018**	**2019**	**2020**	**2021**	**2022**	
Operating Revenue	**430**	**481**	**529**	**569**	**603**	**627**
Revenue growth	*15.0%*	*12.0%*	*10.0%*	*7 .5 %*	*6.0%*	*4.0%*
Operating EBITDA	**113**	**140**	**161**	**17 1**	**180**	**188**
EBITDA Margin	*26%*	*29%*	*30%*	*30%*	*30%*	*30%*
Tax Depreciation	11	11	12	14	15	19
EBIT	**103**	**129**	**149**	**157**	**165**	**169**
EBIT Margin	24%	27%	28%	28%	27%	27%
Tax	**35**	**44**	**51**	**53**	**56**	**57**
Tax as % of EBIT	*33.39 %*	*33.39 %*	*33.39 %*	*33.39 %*	*33.39 %*	*33.39%*
Operating Income (After Tax)	**68**	**85**	**98**	**104**	**109**	**111**
Plus: Depreciation	11	11	12	14	15	19

INR Million	Fiscal Year ending March 31,					Normalized Period
Particulars	**2018**	**2019**	**2020**	**2021**	**2022**	
Less : Capex	19	14	15	31	16	19
as % of Revenue	*4%*	*3%*	*3%*	*5%*	*3%*	*3%*
Less : Change in NWC	14	10	9	6	6	4
NWC	79	89	98	104	110	114
as % of Revenue	*18%*	*18%*	*18%*	*18%*	*18%*	*18%*
Free Cash Flows	**46**	**73**	**86**	**80**	**103**	**107**
Partial period factor	1.0	1.0	1.0	1.0	1.0	
Mid-year convention	0.5	1.5	2.5	3.5	4.5	
Present Value factor 14.5%	0.93	0.82	0.71	0.62	0.54	
PV of Free Cash Flows	**43**	**59**	**62**	**50**	**56**	

Terminal Value – Constant Growth Model	
Free cash flows for terminal year	107
Discount rate (k)	0.145
Growth at the end of explicit period	0.04
Value at the end of explicit period	1020
Present Value factor	0.54
Terminal Value	555
Sum of explicit period cash flows	270
Add: Terminal Value	555

Enterprise Value	824
Add: Surplus Assets	15
Less: Debt	50
100% Operating Equity	789

Capitalization of Earnings Method

It estimates value based on the expression for the value of a growing perpetuity and is essentially a stable growth (single stage) free cash flow mode. It is very occasionally seen in the valuation of private companies and is used most often for the valuation of annuity based/stable private companies. It is rarely used for the valuation of public companies, larger private companies, or in the context of acquisitions or financial reporting.

$$V_f = FCFF_1/(WACC - g_f)$$

where:

V_f = Value of the firm

$FCFF_1$ = Free cash flow to the firm for next twelve months

WACC = Weighted average cost of capital

g_f = Sustainable growth rate of free cash flow to the firm

Loose ends that matters in Income Approach

i) Garbage in garbage out! How realistic are your projections?
   - Is the business on track to achieve the projections?
   - What is the basis for growth in market share?
   - How do EBITDA margins compare with the industry?

ii) Terminal value assumptions:
   - Terminal growth assumptions
   - Sustainable profitability
   - Re-investment capital expenditure and working capital
   - Tax rate into perpetuity

iii) Factoring non-operating assets and liabilities in the valuation

iv) Value of synergies (in a transactional setting) which may need to be factored.

8. Market Approach

The Market approach is a relative valuation approach that estimates the value of a business by looking at the pricing of similar companies / transactions relative to a common set of variable(s). The following are the common methodologies for the market approach

a) Market Price Method

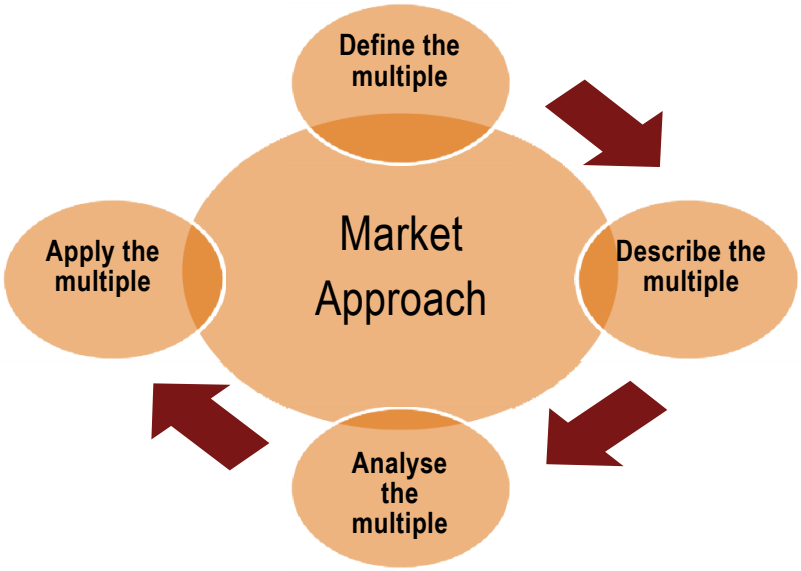
b) Comparable Companies Method (CCM)

c) Comparable Transaction Multiple (CTM)

Market Price method would apply when the business is itself having a market quote available for it. For instance, listed company shares could be valued by shareholders using the market price available from the listed markets itself.

In respect of cases where there is no direct market price quote available, comparable companies or transactions could be used instead.

Major steps in deriving a value using the CCM/CTM method:



Types of Market Multiples – based on guideline/comparable companies

Multiple is computed by dividing the price of the guideline company's stock as on the valuation date (Market Capitalization or Enterprise Value) by a relevant economic variable observed.

The most common Multiples used are

- EV/Revenue
- EV/EBITDA
- EV/EBIT
- P/E
- P/B

Examples of Industry Specific Multiples:

EV/operating beds – relevant in hospitals EV/MW – relevant in power generation EV/Room – relevant in hotels

Careful consideration must be given while selecting which type of multiple is most relevant given the nature of the valuation subject.

The merits and demerits of various multiples under Market/relative Valuation is as under

a) Enterprise Value/EBIDTA

- EBITDA is the closest proxy in the P&L for cash flow from operations
- It cannot be used in case of negative EBITDA
- It eliminates the impact of financial leverage like the EV to Sales multiples
- Impacted by accounting policies, except for depreciation policy

b) Price/Earnings

- It is widely used due to simplicity of computation and easy availability:
- One needs to be cautious
- There can be differences in accounting policies and hence unviable
- It cannot be used when earnings are negative
- Considerations
    a. Growth phase

b. Stock liquidity and trading volumes

c. Comparable time period

c) Price to Book Value

Book value of equity is:

Difference between book value of assets and book value of liabilities

It is a relatively intuitive measure of value which can be compared to the market price:

- Firms with negative earnings can be evaluated
- Cannot be used when book value itself is negative
- Book values, like earnings, are affected by accounting policies

Illustration 5

Subject Co.'s Particulars (INR Mn)	TTM March 2018
Revenue	57.2
Operating EBITDA	8.0
EBITDA margins	*13.9%*

	TTM MARCH 2018			
	EV/ Revenue		EV/EBIDTA	
	Low	High	Low	High
Selected Market Multiple Range	0.8x	0.9x	8.0x	10.0x
Selected TTM March 2018 Financial Metric	57	57	8	8
Enterprise Value	46	52	64	80
Less: Debt	11	11	11	11
Non-controlling minority equity value	35	41	53	69

9. Cost Approach

In this approach value of business is equivalent to the Value of underlying assets and liabilities appearing in the balance sheet of the Company

a) Value of an asset can be based on the cost to purchase or the cost to construct an asset of equal utility (Based on the concept of substitution) and that no one would pay more for an asset than it costs to replace it

b) This approach is applicable in the following situations:
   i) Businesses with no or limited on-going operations
   ii) Valuation of tangible and certain intangible assets

c) It is most applicable for following businesses: -
   i) A loss making Company
   ii) A Real – Estate (Land Stage Company)
   iii) A company making inadequate return on capital
   iv) Any company facing potential liquidation

d) It is least applicable for following entities:-
   i) A service industry company
   ii) A non-capital intensive business
   iii) A company with substantial Intangible Assets
   iv) A high growth company

10. Adjustments in Valuation

Control Premium	• The power to declare dividends • The right to name persons to the board of directors • The ability to set one's own compensation • The power to liquidate the business • The right to sell the business or its assets
Minority Interest Discount	• Minority interests are worth less than majority/control interests. • The minority shareholder, even with voting rights, is unable to effectively influence the affairs or fortunes of the business. • If the valuation methods employed yield a conclusion that reflects the benefits (and power) of control, an appropriate discount must be applied to the result before an opinion of minority interest value is formed. • Reciprocal of premium for control may be considered for benchmarking: Minority Discount = 1 – [1 / (1 + control premium)]
Lack of Marketability	• Stock is perceived to have a higher value the quicker it can be converted to cash

Now let us look at each of them in detail:

10.1 Control Premium and Discount for Lack of Control

Control Premium generally represents the amount paid by acquirer for the benefits it would derive by controlling the acquiree's assets and cash flows.

Control premium would usually be applied in cases where the Investor acquires ability to control operational decision making and/or financial decision making of the company. In converse situations, DLOC would be applied to derive value of minority shareholding from value of control stake.

But why would a buyer pay more for control?

Business owners consider a controlling interest to have greater value than a minority interest under the premise that the purchaser will be able to effect changes in the business structure and influence overall business policies. Empirical market data corroborates that control premiums observed in successful transactions vary greatly.

Amongst the plethora of factors affecting the magnitude of a given control premium select factors could include:

i) The nature of business opportunities which are currently not being effectively monetized,

ii) Perceived quality of existing management,

iii) The ability of the target company to integrate into the acquirer's business and the probability that management will be able to implement change/new initiatives and,

iv) Competitive landscape of the industry in which the target operates.

Determining an appropriate level of Control Premium and DLOC can be subjective process accordingly, the specific nature and characteristics of the asset and the facts and circumstances surrounding the valuation should be considered.

A valuer shall use his professional judgement while applying control premiums and DLOC, considering the factors such as amount/ extent of control in the asset to be valued, distribution of control of the remaining interest in the subject entity, statutory provision relating to protection of minority shareholders; the shareholder protection restrictions contained in the articles of incorporation, the bye-laws and/or the shareholders' agreement, blockage discount, etc.

10.2 Discount for Lack of Marketability (DLOM)

DLOM is based on the premise that an asset which is readily marketable commands a higher value than an asset which requires longer period / more efforts to be sold or an asset having restriction on its ability to sell.

An investor will always pay less for an illiquid asset when compared with a similar asset with higher liquidity. Liquidity means ability to buy or sell rapidly in large volumes without incurring significant cost and without affecting the price materially. One way of capturing the cost of illiquidity is by determining the difference between the transaction cost of less liquid assets as compared to more liquid assets.

Transaction costs are the costs to sell an asset or transfer a liability in the principal (or most advantageous) market for the asset that is directly attributable to the disposal of the asset or transfer of liability and which meet both the following criteria:

i) they result directly from and are essential to that transaction;

ii) they would not have been incurred by the entity, had the decision to sell the asset or transfer the liability not been made.

Hence, transaction cost consists of directly attributable costs like brokerage, commission, marketing cost, duties etc. but there are many indirect costs too like market impact cost. Market impact costs are incurred by extracting liquidity from the market in order to acquire or dispose of a large position of the asset. If an investor is buying/selling a large block of shares, the stock price will increase/decrease (all else remaining equal) due to change in the demand and supply economics. Market impact cost is of two types – temporary and permanent. The temporary component is transitory in nature and reflects the price concession needed to attract counterparties at the time of order execution. The permanent component reflects the information that is transmitted to the market by the buy/sell imbalance.

How much will be the market impact cost for a particular stock/security? The complex models can provide a probable estimate, but actual impact cost depends on market conditions at the time of execution.

Generally, restrictions on marketability that are only inherent in the asset to be valued shall be considered while valuing the asset. Marketability restrictions that are specific to a particular owner of the asset are not generally considered for discount adjustment.

Determining an appropriate level of DLOM can be a complex and subjective process. Accordingly, the specific nature and characteristics of the asset and the facts and circumstances surrounding the valuation should be considered.

a) Some of the various models which could be used for determining DLOM are as under:

i) Restricted stock and private placement studies

ii) Initial Public Offering studies

iii) Synthetic bid-ask spreads

iv) Protective put method of David Chaffe

v) Average strike put option of John Finnerty

b) A valuer shall use his professional judgement while applying DLOM and consider the relevant factors including but not limited to-

i) size and nature;

ii) time and costs associated with marketing or for making a public offer;

iii) restrictions on transferability;

iv) history of past transactions;

v) exit rights; or

vi) lack of or limitation to access to information.

10.3 Synergy

Synergies is a concept which indicates that the combining effect of two or more assets or group of assets and liabilities or two or more entities in terms of their value and benefits will be or is likely to be, greater than that of their individual values on a standalone basis. Synergy is a term that is most commonly used in the context of mergers and acquisitions.

Synergy results from incremental benefits that accrue to the acquirer on account of economies of scale or other post-acquisition factors, such as realisation of increased discretionary cash flow or reduced risk in attaining same when two businesses combine.

Synergies may arise in any of the visible components of FCF (operating profit after tax, non-cash deductions, Net working capital, or capital expenditure) or WACC.

i) Revenue synergies – arising from better pricing, cross-selling, marketing or selling similar products, gaining access to new markets or customer segments, sharing distribution channels, reduction or elimination of competition

ii) Cost synergies – Reduction of costs of employees, administrative or factory overheads, elimination of excess facilities, increase in purchasing power

iii) Financial synergies – tax strategies, debt capacity, cash flows with less than perfect correlation

Chapter-2

Business Valuation Process – Detailed study of Steps Involved

Steps in the process of Business Valuation

Business valuation is an estimate of a business or business ownership interest, arrived at by applying the valuation procedures appropriate for a valuation engagement and using professional judgment as to the value or range of values based on those procedures.

In performing a valuation assignment, a valuer shall perform following steps:

- Step 1- Engagement Letter and terms of engagement
- Step 2 - Define the valuation base and premise of the value
- Step 3 - Analyse the business to be valued and undertake accounting analysis and exercise due diligence
- Step 4- collect the necessary financial and non-financial information about business, both historical and projected
- Step 5- Identify the adjustments to the financial and non-financial information for the valuation
- Step 6- consider and apply appropriate valuation approaches and methods
- Step 7- Arrive at a Value or a Range of Values
- Step 8- Identify the Subsequent Events
- Step 9- Draft and Finalise Valuation Report

The steps are explained in detail hereunder:

1. Step 1: Engagement Letter and terms of engagement

There should be clarity of terms of the valuation engagement between the valuer and the client and in order to avoid misunderstanding the terms of the valuation assignment shall be documented in writing in an engagement letter. Any changes to the agreed upon terms of the engagement shall be again documented in writing.

The engagement letter shall at the minimum include:

- details of the client
- details of any other user/s of the valuation report apart from the client, if any
- details of the valuer
- purpose of the valuation
- identification of the subject matter of valuation
- valuation date
- basis and premise of valuation
- responsibilities of the client and the valuer
- confidentiality obligations of the client and the valuer
- Other than statutory requirements
- scope/ limitations
- fees
- details of third party expert, if any, and their scope of work, scope limitations, and responsibilities.

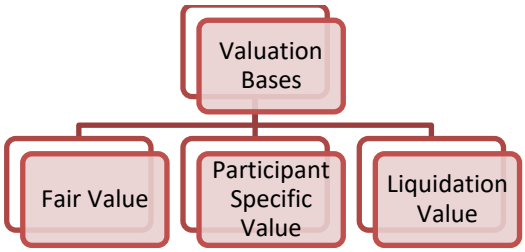
In case the valuer does not agree to any change in the terms of engagement and/or is not permitted to continue as per the original terms, he should withdraw from the engagement and should consider whether there is an obligation, contractual or otherwise, to report the circumstances necessitating the withdrawal to the client.

2. Step 2 - Define the Valuation base and premise of the value

ICAI Valuation Standard-102 (Valuation Bases) provides for the Valuation Base and Premise of Value.

2.1. Valuation Base

The Valuation base means the indication of the type of value being used in an engagement. The basis of value is closely related to the purpose of a given valuation exercise. Different valuation bases may lead to different conclusions of value. Therefore, it is important for the valuer to identify the bases of value pertinent to the engagement.



Before we embark onto understanding the types of valuation bases defined in the Valuation Standard 102, it is pertinent to note that there could be requirement for another specific valuation base to be applied as prescribed in a statute or regulations or in an agreement / arrangement between the parties.

In such cases, the valuer may require to choose a different valuation base and the fact shall be disclosed in the valuation report.

Types of Valuation Bases

a. Fair Value

Ind AS-113 on Fair Value Measurement defines 'Fair Value' as "The **price** that would be received to sell an asset or paid to transfer a liability in an **orderly transaction** between **market participants** at the **measurement date**."

Fair value is usually synonymous to fair market value except in certain circumstances where characteristics of an asset translate into a special asset value for the party(ies) involved.

Now let us understand these four highlighted features in detail

i) Price

Fair value assumes that

a. the price is negotiated in a free market

b. Fair value reflects characteristics of an asset which are available to market participants in general and do not consider advantages/ disadvantages which are available only to particular participant.

c. The price in the principal (or most advantageous) market is used to measure the fair value of the asset and it shall not be adjusted for transaction costs. To this end, a market in which the volume and level of activities is high, or one in which the realisation from an asset is maximum, is considered.

ii) Orderly Transactions

Orderly transaction is a transaction that assumes that there is sufficient period before the valuation date to allow for marketing activities that are usual and necessary for transactions involving such assets or liabilities and it is not a forced transaction. The length of exposure time will vary according to the type of asset and market conditions.

iii) Market participants

Market participants are willing buyers and willing sellers in the principal market for the asset or liability that have all of the following characteristics:

a. they are independent of each other, that is, they are not related parties;

b. they are knowledgeable, having a reasonable understanding about the asset or liability and the transaction using all available information, including information that might be obtained through due care that is usual and customary;

c. they are able to enter into a transaction for the asset or liability; and

d. they are willing to enter into a transaction for the asset or liability, i.e., they are motivated but not forced or otherwise compelled to do so.

iv) Valuation date

Valuation date is the specific date at which the valuer estimates the value of the underlying asset.

Valuation is time specific and can change with the passage of time due to changes in the condition of the asset to be valued and/ or market. Accordingly, valuation of an asset as at a particular date can be different from other date(s)

The valuation date is sometimes also referred to as measurement date.

Example: the value of share can vary significantly over a short time span of a few months, depending on factors such as financial performance and the overall robustness of the economy.

b. Participant Specific Value

"Participant specific value" is the estimated value of an asset or liability considering specific advantages or disadvantages of either of the owner or identified acquirer or identified participants.

Participant specific value may be measured for an existing owner or for an identified acquirer or for a transaction between two identified parties and consider factors which are specific to such party(ies) and which may not be applicable to market participants in general.

For example:

i) participant specific value for transfer of 2% stake by a minority shareholder to a shareholder holding 49% stake will consider aspects such as minority discount and control premium while valuing business or business interest.

ii) participant specific value for a potential acquirer in connection with acquisition of a manufacturing facility will consider aspects such as location specific advantage or synergies which may not be available to market participants in general.

The factors to be taken into consideration to determine the "Participants Specific Value" are as follows:-

- the respective economic needs and abilities of the parties to the transaction or event
- risk aversion or tolerance
- the motivation of the parties
- business strategies and business plans
- synergies and relationships
- strengths and weaknesses of the target business
- form of the organization of the target business
- estimates of future cash flows or earnings
- tax advantages
- synergy to other products
- other strategic advantages

Example of Considerations that are not available to market in general and hence are Participant specific consideration.

- **Synergy:** Fair value will consider synergies which are available to market participants in general, Participant Specific Value will consider

synergies which may be specifically available only to the concerned participant(s).

- **Acquirer specific considerations:** on account of other assets owned/ operated by such entity it has the ability to utilise an asset in an unique manner which is not there with market participants in general
- **Legal/ tax implications:** which are specific to a business or entity (e.g., implication of the Competition Act or an ability of an acquirer to utilise the available tax losses in an accelerated manner)

c. Liquidation Value

"Liquidation value is the amount that will be realised on sale of an asset or a group of assets when an actual/hypothetical termination of the business is contemplated/ assumed.

Liquidation value can be carried out under the premise of an orderly transaction with a typical marketing period or under the premise of forced transaction with a shortened marketing period. The valuer must disclose whether an orderly or forced transaction is assumed.

If the Entity/ Firm does not have the potential to revive itself and is not a going concern, then Liquidation value is to be used.

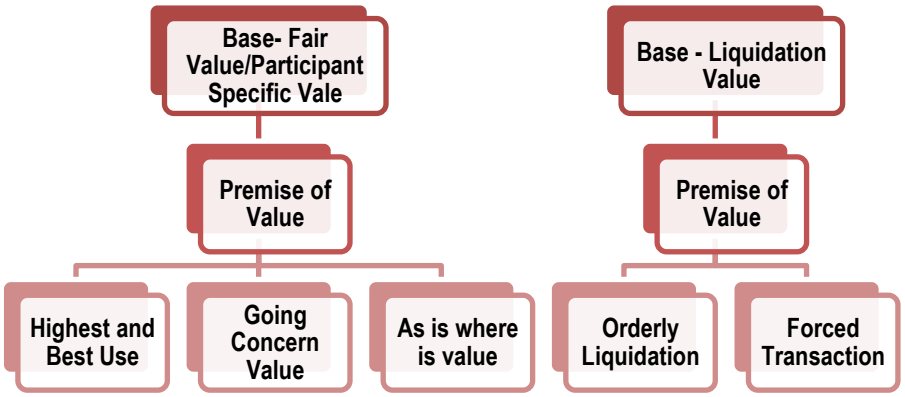
The liquidation value of a firm can be determined by aggregating the value that the assets of the firm would command if sold at market prices, net of transactions and legal costs. The value of equity can be obtained by subtracting the value of the outstanding debt from such asset value.

Value of equity = Liquidation value of assets – Outstanding debt

2.2. Premise of Value

ICAI Valuation Standard 101 (Definitions) defines Premise of value to be the conditions and circumstances how an asset is deployed. (Any reference to an asset, includes a liability).

ICAI Valuation Standard 102 identifies following five common premises in a valuation. A valuer may use one or more of these premises for the purposes of valuation depending on the circumstances.



Premise, in common parlance, refers to an assumption or a statement, based on which a study is undertaken. Valuation is not only asset-specific and may vary depending on the client, for whom the valuation is conducted.

a. Highest and Best Use

As per the premise, the highest-and-best value of an asset is the value when used by a market participant who puts the asset to its maximum use. However its existing use may or may not be the highest and best by the current owner. Example- To protect its competitive position, or for other reasons, an entity may intend not to use an acquired non-financial asset actively according to its highest and best use.

The current use of an asset is presumed to be at its highest and best, unless a market or other factor proves to the contrary. If the current use is not at its Highest and Best, the valuer shall also consider the cost of conversion required to put the asset from its current position to its highest and best use. IND AS 113 mandates that a fair value measurement of non-financial assets must assume the highest and best use of the assets by market participants, irrespective of its present actual use while also considering its physical, legal and financial feasibility.

i. **Physical Feasibility:** takes into account the physical characteristics of the asset that market participants would consider when pricing the asset. For E.g. - the location or size of a property.

ii. **Legal Feasibility:** takes into account any legal restrictions on the use of the asset that market participants would take into account when pricing the asset. For E.g. - the zoning regulations applicable to a property.

iii. **Financially Feasibility:** it takes into account whether a use of the asset generates adequate income or cash flows (taking into account the costs of converting the asset to that use) to produce an investment return that market participants would require from an investment in that asset put to that use.

b. Going concern

Going Concern Value is the value of an enterprise which is expected to continue its operations and not liquidated in the near future. The value apart from the tangible assets, also includes intangible assets such as Goodwill due to the trained workforce, the presence of an operational plant, necessary licenses, marketing systems, procedures in place, etc.

c. As-is-where-is

This represents the existing use of the asset. This may or may not be the Highest and Best Use of the asset. This may be used in a valuation for the purposes of Financial Reporting.

d. Orderly liquidation

An orderly liquidation refers to the realisable value of an asset in the event of a liquidation after allowing appropriate marketing efforts and a reasonable period of time to market the asset on an as-is, where-is basis. What is a reasonable period of time may vary depending on the asset type, market conditions, etc.

e. Forced Transaction

Sometimes, an owner of the asset may be under a compulsion to sell the asset within a limited period of time, as a result of which, he may not fetch its true value. Thus, it refers to a transaction in which the seller is forced to sell an asset without adequate marketing efforts or reasonable period of time to market the asset.

A marketing constraint is not a forced sale. Sale in an inactive market also cannot be construed as a forced transaction. The limitation should be on the time required for marketing the product and sell it at reasonable price. A typical example of a forced transaction would be an auction.

3. Step 3 - Analyse the business to be Valued and undertake accounting analysis and exercise due diligence

a. Analyses

The valuer is required to carry out relevant analyses and evaluations through discussions, inspections, survey, calculations and such other means as may be applicable and available to that effect.

In case the valuer relies on the information available in public domain, the valuer has to assess the credibility/reliability of such information taking into account, the purpose of valuation, and materiality vis-à-vis the valuation conclusion.

The analysis of the business to be valued shall assist the valuer in considering, evaluating, and applying the various valuation approaches and methods to the valuation engagement. The nature and extent of the information required to perform the analysis depends on the following:

- nature of the business to be valued
- scope and purpose of the valuation engagement
- the valuation date
- the intended use of the valuation
- the applicable ICAI Valuation Standard
- the applicable premise of value
- assumptions and limiting conditions
- applicable governmental regulations or regulations prescribed by other regulators or other professional standards;

b. Accounting Analysis by Valuer

When there are large potential distortions, accounting analysis can add considerable value. Accounting analysis is an important step in the process of business valuation and helps in removing any noise and bias introduced by the accounting rules and management decisions. Sound accounting analysis improves the reliability of conclusions from financial analysis.

There are six key aspects of accounting analysis.

- **Evaluation of accounting values** - The analyst should identify the key accounting policies and estimates that the firm uses to measure its

critical success factors and risk. As a result, it influences the company's profits or asset base, if overestimated/ underestimated, it will distort the financial position.

- **Flexibility –** The analysts evaluate the degree of flexibility available to managers in selecting accounting policies and estimates related to the firm's key success factors, given the accounting rules and conventions. The relevance of accounting data for understanding a company's business is severely impacted by the degree of flexibility available to managers in choosing accounting policies and estimates and how this flexibility is exercised by managers.
- **Accounting discretion –** The analysts assess and understand whether the managers have used their accounting discretion to give a realistic view of the affairs of the company or hide its true performance.
- **Understandability of financial statements -** The adequacy and quality of a firm's disclosures about its business activities and their economic consequences are assessed. This would enable the analyst to assess the quality of accounting and use its financial statements to understand the true business economics.
- **Identifying accounting policies and transactions -** The analyst should identify questionable accounting policies/ transactions needing further investigation with considerable variations from past years' figures, unusual transactions, changes in accounting treatment etc.
- **Removal of Distortions -** The analysts remove all distortions where the accounts do not reflect a true state of affairs and restate accounting numbers. The purpose is to remove any noise and bias introduced by the accounting rules and management decisions.

c. Due Diligence on Business Valuation

Due diligence depicts clear and transparent business facts based on robust and reliable statement, and valuation based on such statement is very effective. To enhance the value of the business, the management of the company may have overvalued the assets or there may be some hidden liabilities of the business. The objective of due diligence process is to look specifically for any such hidden liabilities or overvalued assets.

It is a very common and popular term in the corporate world in relation to corporate restructuring, merger & acquisition, joint venture, spinoffs,

amalgamations, etc. Due diligence is one of the key elements in all these types of transactions because of the fact that the transactions are being done between two unrelated parties, who don't have a deep understanding about the business which they are going to take over or merge with. The purpose of due diligence exercise is to assist the purchaser or the investor in finding out all the facts and figures about the business he is going to acquire or invest prior to completion of the transaction.

i) Few examples of hidden liabilities are as follows:

- The company may not disclose show cause notice which have not matured into demands, as contingent liabilities
- Letter of comfort given to banks and financial institutions, which are not disclosed in the financial statements of the company as they are not guarantees.
- Long pending sales tax/income tax assessment
- Future lease liabilities
- Environmental problems/third party claims
- Product and/or other liability claims, warranty liabilities, liquidity damages etc.
- Huge labour claims under negotiation

ii) Few examples of overvalued assets

- Uncollected and/ or uncollectible receivables
- Intangibles having no value
- Group company balances under reconciliation
- Litigated assets
- Investment carrying a very low rate of income
- Deferred revenue expenditures
- Obsolete, slow moving or non-moving stock valued above net realisable value
- Obsolete or under used plant and machinery
- Capitalisation of expenditure which is in the nature of revenue

Various types of due diligence that is followed as a discipline for businesses are as follows:

- **Commercial or operational due diligence:** It is generally performed by the concerned acquirer enterprise and involves an evaluation from a commercial, strategic or operational perspective. For example, whether the proposed merger would create operational synergies.
- **Financial due diligence:** It commences after a price has been agreed for the business. The principal objective of financial due diligence is usually to look behind the veil of initial information provided by the company and to assess the benefits and costs of the proposed acquisition/merger by inquiring into all relevant aspects of the past, present and future of the business to be acquired/merged with.
- **Tax due diligence:** This is conducted to ensure whether the company is adhering to the tax provisions, the tax benefits available for the target and the tax related implications of the proposed transaction or valuation on the tax positions of the target.
- **Information system due diligence:** This is to assess the accuracy and completeness of Information System of the company.
- **Legal due diligence:** It is to find out whether or not the company is complying with the legal provisions. For example, whether the company is filing annual returns or not, whether necessary board resolutions are being passed or not, whether the minute's book is being maintained and updated or not.

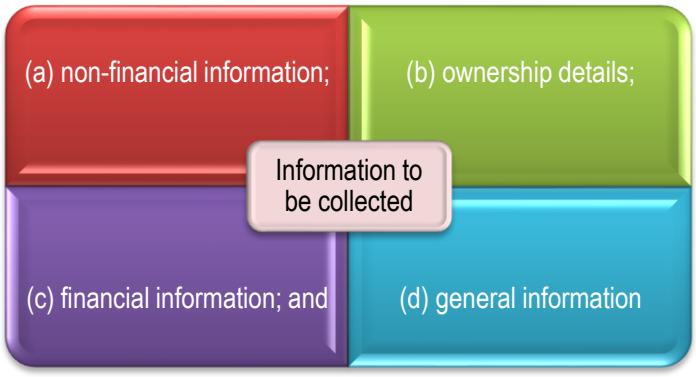
Typically, due diligence is a process which is undertaken in a transaction before the same is consummated. Based on the findings arising from the due diligence exercise, there may be a need for forensic accounting to be undertaken in respect of specific areas identified as a concern with regard to the financial position or performance of the target entity.

4. Step 4 - collect the necessary financial and non-financial information about business, both historical and projected

While analysing the business to be valued, the valuer shall gather, analyse and adjust the relevant information necessary to perform a valuation, appropriate to the nature or type of the engagement. The type, availability, and significance of such information may vary with the business to be valued. A valuer shall read and evaluate the information to determine the reasonableness of information.

The judgments made by the valuer during the course of assignment, including the sufficiency of the data made available to meet the purpose of the valuation, must be adequately supported.

(a) Information to be collected can be broadly categorized under following heads:



i) Non-Financial Information

A valuer shall obtain sufficient non-financial information to enable him to understand the underlying business, such as:

- nature, background, and history of the business
- facilities;
- organizational structure
- management team (which may include officers, directors, and key employees)
- products or services, or both
- capital markets providing relevant information; e.g., relevant public stock market information and relevant merger and acquisition information
- prior transactions involving the subject business, or involving interests in, the securities of, or intangible assets in the subject business
- economic environment
- geographical markets
- industry markets

- key customers and suppliers
- competition
- business risks
- future outlook for the business
- strategy and future plans
- governmental or regulatory environment
- legal status of the asset being valued

ii) Ownership Information

A valuer shall obtain ownership information regarding the asset to be valued to enable him to:

- determine the type of ownership interest being valued and ascertain whether that interest exhibits control characteristics
- analyse the different ownership interests of other owners and assess the potential effect on the value of the asset
- understand the classes of equity ownership interests and rights attached thereto
- understand other matters that may affect the value of the subject interest, such as:
  - ✓ for a business, business ownership interest: shareholder agreements, partnership agreements, operating agreements, voting trust agreements, buy-sell agreements, loan covenants, restrictions, and other contractual obligations or restrictions affecting the owners and the asset to be valued;
  - ✓ for an intangible asset: legal rights, licensing agreements, sublicense agreements, nondisclosure agreements, development rights, commercialization or exploitation rights, and other contractual obligations.

iii) Financial Information

A valuer shall obtain, where applicable and available, financial information on the underlying business such as:

- historical financial information (including annual and interim financial statements and key financial statement ratios and statistics) for an appropriate number of years

- prospective financial information (for example, budgets, forecasts, and projections) in the absence of which the valuer could consider information on future developments or course of the business
- comparative summaries of financial statements or information covering a relevant time period
- comparative common size financial statements for the subject entity for an appropriate number of years
- comparative common size industry financial information for a relevant time period
- income tax returns for an appropriate number of years
- information on compensation for owners including benefits and personal expenses
- information on previous valuations with the purpose and the reports
- ongoing litigations, disputes and evaluation thereof
- details of management's response to the inquiry regarding:
  - ✓ advantageous or disadvantageous contracts;
  - ✓ contingent or off-balance-sheet assets or liabilities;
  - ✓ surplus/ non-operating assets;
  - ✓ non- recurring and non-operating income and expenses.

A valuer shall read and evaluate the information to determine that it is reasonable for the purposes of the engagement.

iv) General Information

A valuer shall gather and analyse the relevant general information which may affect the business directly or indirectly and/or which are deemed relevant by the valuer.

(b) Management Representations

With respect to certain information a valuer may obtain management representation in course of valuation, based on his judgement. A written representation obtained from the management or those charged with governance becomes part of the evidence obtained by the valuer which forms a basis for his valuation report.

However, the existence of a management representation letter shall not preclude the valuer from exercising reasonable skill and care with respect to the information obtained regarding the valuation.

The valuer shall carry required procedures in the performance of his valuation assignment in respect of the information included in the management representation letter.

5. Step 5 - Identify the adjustments to the financial and non-financial information for the valuation

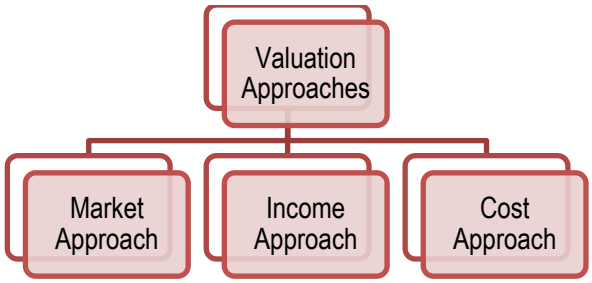
Adjustments to financial information are modifications to reported financial information which is relevant and significant to the valuation process. Adjustments may be appropriate for the following reasons, amongst others:

- to present financial data of the underlying and comparable companies on a consistent basis;
- to adjust revenues and expenses to levels that are reasonably representative of continuing operations;
- to adjust for non-operating/non-recurring assets and liabilities, and any revenues and expenses related to the non-operating items.

Adjustment shall be made to information available from the historical financial statements, if appropriate, to reflect the appropriate asset value, income, cash flows and/or benefit stream, as applicable, to be consistent with the valuation method(s) selected by the valuer.

6. Step 6 - consider and apply appropriate valuation approaches and methods

There are largely the following methods which are used in the process of Business Valuation:-



A. Approaches of Valuation

- Market approach – based on market evidence of what third parties have paid for comparable assets
- Income approach – based on the present value of future earnings from the asset
- Cost approach - based on the costs of developing or acquiring a new asset that is of similar use as the existing one

B. Factors considered in Selection of Correct Approach

Valuation though backed by research and analysis, involves significant amount of judgment, hence the valuer needs to select the most appropriate approach or method very responsibly as there is no single approach or method that is best suited in every situation.

(i) The valuation approaches and methods shall be selected in a manner which would **maximise the use of relevant observable inputs and minimise the use of unobservable** inputs. Some examples of same are as under:-

- **Observable Inputs –**
  - ✓ Price/Cost for similar or identical assets in active market
  - ✓ Actual Cash Flow Generated
- **Unobservable Inputs –**
  - ✓ Estimated Price/Cost for Unidentical assets
  - ✓ Projected Cash Flow Generated

(ii) **The key factors** that a valuer needs to consider while selecting an approach are as under:

- nature of asset to be valued;
- availability of adequate inputs or information and its reliability;
- strengths and weakness of each valuation approach and method; and
- valuation approach/method considered by market participants.

(iii) Another very important element in selection of appropriate valuation methods is the **purpose/ base of valuation.**

- If the valuation is for the purpose of liquidation, the valuer would use the Realizable Value of the Net Assets i.e., Cost Approach and not the Income approach as in this case, the company will not exist and going concern is questionable, hence predicting future cash-flows is not possible.
- In case of valuing a start-up, since it is more privately held and are illiquid as compared to investments in publicly traded companies hence there can be lack of adequate market comparables. Further in absence of another identical company, Market Approach might not be appropriate for reliable valuation in such case Income approach can be considered subject to the availability of adequate observable inputs like Actual Cash flows and projected growth.
- In some cases, the statutory requirements may drive the valuation approach wherein, the statute may have prescribed the valuation approach / method to be adopted or may have even spelt out the computation for the given specific requirement.

C. Methods that are more often preferred in certain conditions

Typically various methods are more often preferred in certain conditions:

a. Discounted Cash Flow Method

- Growth phase or new projects
- Cash flow projections are available and reliable
- Unique business model
- Long term outlook

b. Earnings Capitalisation Method

- Stable business
- Standard business model

c. Market Multiples Method

- Stable business
- Peer group companies available
- Short to medium term outlook
- Where revenue / cash flow streams not determinable

d. Cost Method

- Nascent stage projects with high capex involvement
- No significant intangibles are involved

6.1 Market Approach

In Market Approach business value is determined by comparing the subject, company or assets with its peers in the same industry of the same size and region. Most Valuations in stock markets are market based and it is based on the premise of efficient markets and supply & demand.

Market approach, also referred to as relative approach, is a valuation approach that uses prices and other relevant information generated by market transactions involving identical or comparable (i.e., similar) assets, liabilities or a group of assets and liabilities, such as a business. This is also known as relative valuation approach.

a. Market/ Relative Approach is almost pervasive

- Most valuations on Wall Street are relative valuations.
- Almost 85% of equity research reports are based upon a multiple and comparables.
- More than 50% of all acquisition valuations are based upon multiples.
- Rules of thumb based on multiples are not only common but are often the basis for final valuation judgments.
- While there are more discounted cashflow valuations in consulting and corporate finance, they are often relative valuations masquerading as discounted cash flow valuations.

Methodologies under Market Approach

6.1.1 Market Price Method

In Market Price method, a valuer considers the traded price observed over a reasonable period while valuing business/firm which are traded in the active market. A valuer also considers the market where the trading volume of asset is the highest when such asset is traded in more than one active market. Further the valuer should consider using weighted average or volume weighted average to reduce the impact of volatility or any one time event in the asset.

6.1.2 Comparable Companies Multiple (CCM) Method

Major steps in deriving a business value using the CCM method are as follows:

i) Identifying and selecting the market comparable

A valuer shall consider the factors in identifying the comparables :-

- Industry to which the asset belongs;
- Geographic area of operations;
- Similar line of business, or similar economic forces that affect the asset being valued;
- Other parameters such as size (for example - revenue, assets, etc.), stage of life-cycle of the asset, profitability, diversification, etc. This list is not an exhaustive list, there may be certain other factors which a valuer shall consider while identifying and selecting the market comparables.

ii) Computing Market Multiples

Multiples are a ratio of the enterprise value or equity value over different financial parameters like Revenue, Earnings before Interest, Tax, Depreciation and Amortisation ("EBITDA"), Profit after Tax ("PAT"), Earnings per Share ("EPS"), book value etc., with some being preferred over the others.

In some cases in addition to market multiple based on the financial metrics such multiples may also be considered by the valuer which are based on non-financial Metrics. For example,

- Enterprise Value (EV) / Tower in case of tower telecom companies,
- EV/Tonne in case of cement industry, etc.
- EV/Oil Barrel for Oil Companies

iii) Adjustments to the market multiple

The following are some of the differences between the business to be valued and market comparable that the valuer may consider while making adjustments to the market multiple:

- size of the asset;
- geographic location
- profitability;

- stage of life-cycle of the asset;
- diversification;
- historical and expected growth; or
- Management profile.

iv) Arriving at the value of asset to be valued

Finally apply the adjusted market multiple to the relevant parameter of the asset to be valued to arrive at the value of such asset; and adjust it (discount/ premium) to factor in for the specifics of the asset.

6.1.3 Comparable Transaction Multiple (CTM) Method

It is a variant of the Comparable Companies Multiple Method and uses transaction multiples in place of trading multiples. Transaction multiples, as the name suggests, are the multiples implied in the recent acquisitions/ disposals of comparable companies/business.

While identifying and selecting the comparable transaction, a valuer may consider the factors such as-

- transactions that have been consummated closer to the valuation date are generally more representative of the market conditions prevailing during that time.
- the selected comparable is an orderly transaction;
- availability of sufficient information on the transactions to enable the valuer to reasonably understand the market comparable and derive the transaction multiple;
- availability of information on transaction from reliable sources such as regulatory filings, industry magazines, Merger & Acquisition databases, etc.

6.2 Income Approach

Discounted Cash Flow Method

The Discounted Cash Flow ("DCF") method, an application of the Income Approach is arguably one of the most recognized tool to determine the value of a business.

a. When to use DCF Method?

DCF method can be used in following cases:

- Limited life projects
- Large initial investments and predictable cash flows
- Regulated business
- Start-up companies

b. Parameters of DCF

(i) Cash Flows:

- Projections
- FCF to Firm or FCF to Equity
- Horizon (Explicit) period

(ii) Discounting rate

- Cost of Equity
- Cost of Debt
- Debt Equity ratio

(iii) Terminal Value

- Growth rate for perpetuity
- Expected cash flow after Explicit Period
- Terminal Value(n) = Expected FCF(n+1) / (Discount Rate – Expected Growth Rate)
- Or as an alternative, exit multiple based terminal value

c. DCF- Steps to be carried out?

- Analyse the historical performance of the business
- Determine what you are valuing
- Develop financials projections (generally for 3-5 years)
- Calculate 'free cash flows' for the projection period – FCFF or FCFE
- Calculate the discount factor - WACC or Cost of Equity
- Discount free cash flows by the appropriate factor. Sum of the

discounted free cash flows during the projection period is termed as the 'primary value'

- Estimate the terminal growth rate and calculate the terminal value
- Add the primary and terminal values to arrive at the 'Enterprise' or 'Equity' value (depending upon whether FCFF or FCFE was used)
- Deduction of net debt from enterprise value results in equity value

Sample Discounted Cash Flow Valuations (without considering impact of financial structure and leverage)							
Particular	**Year**						**Terminal**
	1		**2**	**3**	**4**	**5**	
Revenue	xxx	xxx	xxx	xxx	xxx		
Total Cost	(xxx)	(xxx)	(xxx)	(xxx)	(xxx)		
Book Profit	xxx	xxx	xxx	xxx	xxx		
(+) Non-Cash Expense (e.g.: depreciation)	xxx	xxx	xxx	xxx	xxx		
Cash Profit	xxx	xxx	xxx	xxx	xxx		
(-) Non-Current Investments for business	(xxx)	(xxx)	(xxx)	(xxx)	(xxx)		
(+/-) Working Capital Changes	xxx	xxx	xxx	xxx	xxx		
Free Cash Flow	xxx	xxx	xxx	xxx	xxx		Xxx
Discount Rate	%	%	%	%	%		%
Present Value	**xxx**	**xxx**	**xxx**	**xxx**	**xxx**		**Xxx**
Sum of Present Value	xxx						
(+) Surplus Assets	xxx						
Enterprise Value/Equity Value	xxx						

Valuation utilizing the Discounted Cash Flows is thus based on following three factors majorly;-

- **Discount Rate**

- **Cash Flow Projections**
- **Terminal Value**

These have been discussed and explained in details in Educational Material for ICAI Valuation Standard 103 – Valuation Approaches and Methods.

6.3 Cost Approach

This approach tends to determine the business value on the basis of value of assets of the business. It is specifically useful for asset intensive firms, valuing holding companies as well as distressed entities that are not worth more than their overall net tangible value. The cost approach is based on the inherent assumption that the value of a business or investment can be determined based on the cost to rebuild or replace the business.

Procedure for Valuation of an entity Under Cost Approach

The steps necessary for valuation using Cost Approach /Underlying Asset basis are:

- Audit/Examine the Balance Sheet and Other Financial records
- Ascertainment of value of assets.
- Ascertainment of value of liabilities (including contingent liabilities).

Value of Equity Capital = (Value of Assets – Value of Liabilities)/No. of Equity Shares

a) Valuation of Assets

(i) Fixed Assets

- ✓ Estimate replacement or reproduction cost of Asset
- ✓ Estimate total economic life and effective age;
- ✓ Depreciate replacement/reproduction cost new over economic life to reflect obsolescence related to effective age; and
- ✓ Adjust for additional functional/economic obsolescence.

(ii) Investments

Shares and securities that are regularly traded in stock exchange may be valued on the basis of the prices quoted thereat. It must, however, be seen that there is regular trading in those scrips, as an isolated transaction may lead

to erroneous results. In cases of quoted shares with isolated transactions and unquoted shares, a secondary valuation may be necessary, if the amount is material. Such unquoted shares and infrequently traded shares may be valued using relative valuation methods or income approach methods of valuation.

(iii) Inventory

Depending on the purpose and need for valuation, it could be based on cost with due allowance/adjustment be made for any obsolete, unusable or unmarketable stocks held by the company or based on current market prices or net realisable value on sale of the such inventory.

(iv) Sundry Debtors

As debtors are reflected as money receivable, it could be valued considering the time value of recovery and after making appropriate allowance/adjustment credit risk (any bad debts and debts which are doubtful of recovery).

(v) Contingent Assets

If the company has made escalation claims, insurance claims or other similar claims, then the possibility of their recovery should be carefully made on a conservative basis, particularly having regard to the time frame in which they are likely to be recovered.

(vi) Development Expenses

These arise:

- in the case of a new company, when it is in the process of executing its project; and
- in the case of an old company, when there is an expansion of the existing production lines or diversification for entering into new business.

These should be reviewed and the costs that have been incurred for completing the project should be included.

(vii) Intangible assets

Intangible Assets of a company have also to be considered, no matter whether they are reflected in the books or not. Intangible assets generally consist of goodwill, patents, trade-marks, copyrights, etc. Their book value/net replacement cost/net realisable value/fair value, as the case may be, has to be considered. Goodwill is generally inseparable from business, and it can fetch a price only if the business is sold on a going concern basis.

b. Valuation of Liabilities

The amount of liabilities reflected in the books of companies may generally be accepted after proper scrutiny. Due consideration should, however, be given to contingent liabilities if any, necessary legal opinion should be sought for ascertaining the sustainability of claims or contingent liabilities.

Where liability for taxation has not been provided in the accounts, appropriate amount should be included in the liability. Similar adjustment may be required for proposed dividend.

In case the company has set aside any specific reserves to meet any future losses, it should be ascertained whether they are reserves or provisions. If there is a definite reason to regard them as provisions, they should either be included in liabilities or deducted from the related assets.

While valuing equity shares, the dues of preference shareholders have also to be reduced from the enterprise value to determine the value attributed to the equity share holders. These dues can be ascertained from the terms of issue. Where such shareholders also have a right to participate in the surplus, the applicable amounts of such surplus should be included as liabilities, together with the paid-up value of such preference shares.

7. Step 7 – Arrive at a Value or a Range of Values

a. Single or Multiple Approach in Valuation

The three approaches to valuation as discussed earlier are globally accepted valuation approaches and each one relies on different criteria for valuation and has their own advantages and short comings.

The Valuer may consider adopting a single approach or might also choose multiple approaches to arrive at a reliable conclusion.

Using more than one approach is specially recommended under scenarios when there are insufficient factual inputs for a single method to arrive at a reliable value.

In arriving at the value, the valuer shall:

- Assess the reliability of the results under the different approaches and assign weights to value indications reached on the basis of various methods.

- The selection of and reliance on appropriate methods and procedures depends on the judgment of the valuer and not on any prescribed formula. One or more approaches may not be relevant to a particular situation, and more than one method under an approach may be relevant.
- The valuer must use informed judgment when determining the relative weight to be accorded to indications of value reached on the basis of various methods, or whether an indication of value from a single method shall be conclusive. In any case, the valuer shall provide the rationale for the selection or weighting of the method or methods relied on in reaching the conclusion.
- In assessing the relative importance of indications of the value determined under each method, or whether an indication of value from a single method shall be the value, the valuer shall consider factors such as:
  - ✓ the applicable premise of value
  - ✓ the purpose and intended use of the valuation
  - ✓ whether the underlying business is an operating company, a real estate or investment holding company, or a company with substantial non-operating or excess assets
  - ✓ the quality and reliability of data underlying the value
  - ✓ such other factors that in the opinion of the valuer, are appropriate for consideration.

The values under different approaches adopted should not be at a significant variance from each other. If the initial workings are not meeting this criterion, the valuer should revisit his or her analysis before concluding.

Also, there could be specific requirements which may apply to a given purpose of the valuation.

For instance, as per *Circular No. LIST/COMP/02/2017-18* dated May 29, 2017 issued by BSE Limited and *Circular No. NSE/CML/2017/12* dated June 01, 2017 issued by National Stock Exchange of India Limited, following disclosure needs to be made by a valuer in the valuation report (in respect of any scheme of arrangement involving exchange ratio for shares):

Valuation Approaches	XYZ LTD		PQR LTD	
	Value per share	Weight	Value per share	Weight
Income Approach	X	A	Y	D
Market Approach	X	B	Y	E
Cost/Asset Approach	X	C	Y	F
Relative Value per Share		X		Y
Exchange Ratio				**XX**

RATIO:

x (xxx) equity shares of XYZ Ltd of INR 10 each fully paid up for every y (yyy) equity shares of PQR Ltd of INR 10 each fully paid up.

In case any of the approach mentioned in the table above is not used for arriving at the share exchange / entitlement ratio, detailed reasons for the same needs to be provided by the valuer in his report.

8. Step 8 : Identify the Subsequent Events

Subsequent Event is an event that occurs subsequent to the valuation date and could affect the value so arrived at by the Valuer. The valuation date is the specific date at which a valuer estimates the value of the asset. Hence, subsequent events are indicative of the conditions that were not known or knowable at the valuation date, including conditions that arose subsequent to the valuation date.

Generally, a valuer would consider only circumstances existing at the valuation date and events occurring up to the valuation date. However, events and circumstances occurring subsequent to the valuation date may be relevant to the valuation depending upon, inter alia, **the basis, premise and purpose of valuation.** Hence, the valuer should apply his professional judgement, to consider any of such circumstances / events which are relevant for the valuation. Such circumstances / events could be relating to, but not limited to, the business being valued, comparables and valuation parameters used.

In the event, such circumstances / events that are considered by the valuer should be explicitly disclosed in the valuation report.

Events subsequent to the valuation date should not be taken into consideration when valuing business interests, except when at least one of the following

conditions is true:

(a) The subsequent events were reasonably foreseeable as of the valuation date.

(b) The subsequent events are relevant to the valuation, and appropriate adjustments are made to take into account the differences between the facts and circumstances on the valuation date and the date of such subsequent events.

(c) The subsequent events are not used to arrive at the valuation, but only as a means to confirm the value already arrived at.

(d) Subsequent events may be evidence of value rather than as something that affects value.

9. Step 9 : Draft and Finalise Valuation Report and Documentation

a. Valuation Report

ICAI Valuation Standard 202: Valuation Report and documentation provides all the requirements in preparation of Valuation Report and provides guidance on the documentation to be maintained for the preparation of a valuation report. Relevant valuation documentation that meets the requirements of this Standard provides evidence of the valuer's basis for arriving at the value and that the valuation was planned and performed in accordance with the relevant ICAI Valuation Standards.

A valuer shall prepare the valuation report with due professional care and shall document matters which are important in providing evidence that the valuation assignment was carried out in accordance with the ICAI Valuation Standards and support his assessment or the valuation report submitted by him.

The form and content of the valuation report depends on the following:

i) nature of the engagement

ii) purpose of the valuation

A valuer shall at a minimum include the following in the valuation report:

i) background information of the business being valued

ii) Base and Premise of the valuation and appointing authority

iii) the identity of the valuer and any other experts involved in the valuation

iv) disclosure of the valuer's interest or conflict, if any

v) date of appointment, valuation date and date of the valuation report

vi) inspections and/or investigations undertaken

vii) nature and sources of the information used or relied upon

viii) Valuation approach adopted in carrying out valuation and valuation standards followed

ix) valuation methodology used

x) A valuer may use a combination of methods and approaches to arrive at the value

xi) restrictions on use of the valuation report, if any

xii) major factors that were taken into account during the valuation

xiii) conclusion

xiv) caveats, limitation and disclaimers to the extent they explain or elucidate the limitations faced by valuer, which shall not be for the purpose of limiting his responsibility for the valuation report. A valuer shall exercise reasonable restraint in using caveats while writing the valuation report

xv) Lastly the valuation report shall include the signature of valuer and the signature shall contain the name of the valuer vested with signing authority, entity name, individual and entity's registration number along with the date and place where the valuation report is signed.

A valuer shall appropriately disclose his interest/conflict of interest, if any, in the assets to be valued in the valuation report. In case where the relevant law prohibits the acceptance of an assignment by a valuer due to the existence of any interest in the asset valued, or any conflict of interest, the valuer shall not accept the valuation engagement

b. Documentation

The term documentation includes the record of valuation procedures performed, relevant evidence obtained, and conclusions that the valuer has reached.

A valuer shall maintain documentation which provides:

i) sufficient and appropriate record of the basis of the valuation report

ii) evidence that the valuation assignment was planned and performed in accordance with the ICAI Valuation Standards and applicable legal and regulatory requirements, as the case may be

The information received and relied upon, as well as analyses thereon differ for every valuation engagement, however, the following documents/ information/analyses shall, at the minimum, be documented:

- engagement or appointment letter which appoints the valuer to undertake the valuation
- tabulation of data obtained during the course of valuation
- workings undertaken to arrive at the value
- copies of relevant circulars, extracts of legal provisions
- the base/s, approach/es, and method/s, or a combination thereof, used to arrive at the value
- assumptions, a change in which, may materially affect the value
- a copy of the signed valuation report issued
- management/client representation letter or such communication received, if any.

Chapter-3

Equity/Business Valuation – Critical Business Analysis and Key Tools Used for same

1. Introduction

Equity valuation is analysis of an entity's business, business environment, business model, industry analysis & regulatory framework to estimate the worth or value of business. Each share is assumed to have an economic worth based on its present and future earning capacity. This is called its intrinsic value or fundamental value. It is pertinent at this point to clearly understand the concept of "value" and "price".

A value is an estimate of the value of a business or business ownership interests, arrived at by applying the valuation procedures appropriate for a valuation engagement and using professional judgment as to the value or range of values based on those procedures.

The term 'price' indicates the amount at which particular asset is bought or sold in an open market in a particular transaction.

The term 'value' indicates the worth of that asset in normal circumstances or the amount at which it should be exchanged. While the price may be understood as "the amount of money or other consideration asked for or given in exchange for something else". Thus price may or may not have relationship with the value of an underlying asset. The price is, an expost measure i.e., outcome of a transaction whereas the value may not necessarily require the existence of a transaction.

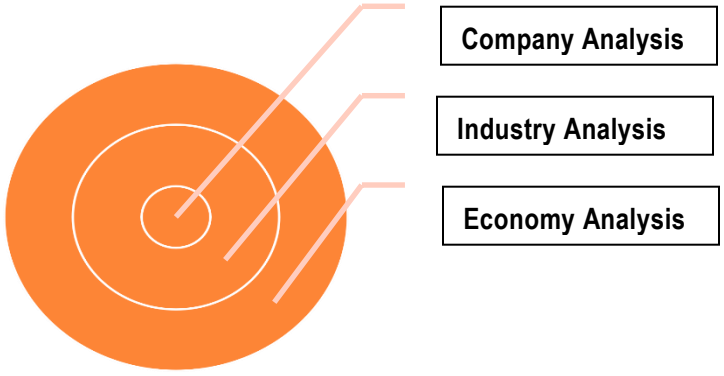
Value	Price
Not precisely measurable	Can be measured precisely
Not a static figure	Static figure defined by a given transaction
Measure of economic	Takes into consideration noneconomic factors
Question for thought: Does price of an asset define its value?	

2. Fundamental/ EIC Analysis – Economic, Industry & Company Analysis

An investor who would like to be rational and scientific in his investment activity has to evaluate a lot of information about the past performance and the expected future performance of companies, industries and the economy as a whole before taking the investment decision, such evaluation or analysis is called fundamental analysis. Hence Fundamental Analysis is a detailed analysis of the fundamental factors affecting the performance of companies.

The purpose of fundamental analysis is to evaluate the present and future earning capacity of a share based on the economy, industry and company fundamentals and thereby assess the intrinsic value of the share. The discerning investor can then compare the intrinsic value of the share with the prevailing market price to arrive at an investment decision. If the market price of the share is lower than its intrinsic value, the investor would decide to buy the share as it is under-priced, while on the contrary, when the market price of a share is higher than its intrinsic value, it is perceived to be overpriced.

Fundamental analysis thus provides an analytical framework for rational investment decision-making or for that matter in arriving at a professional approach to valuation. ′ This analytical framework is known as EIC framework, or economy-industry-company analysis.



This three-tier analysis means that the company performance depends not only on its own efforts, but also on the general industry and economic factors. A company belongs to an industry and the industry operates within an

economy, thus industry and economy factors affect the performance of a company.

a. Economic Analysis

In business, economic analysis allows to incorporate elements from the economic environment such as inflation, interest rates, exchange rates and GDP growth into the corporate planning. Every organization is an open system that impact and is impacted by the external context. This means that a proper assessment of economic variables facilitates the identification of opportunities and threats that could affect the company's performance.

Factors Studied under Economic Analysis

- GDP of the Country
- Level of Savings & Investments
- Inflation Rate
- Interest Rate
- Growth in Primary, Secondary and Tertiary Sectors
- Tax Structure
- Economic forecasts
- Infrastructural facilities
- Demographic Factors
- Climatic Conditions
- State of Economy
- Balance of Payments situation
- Government Budget
- Linkage to World Economy

b. Industry Analysis

There is certain level of market risk faced by every company and the valuation decline during recession in the economy, however the defensive kind of stock is affected less by the recession as compared to the cyclical category of stock. In the industry analysis, such industries are highlighted that can stand well in

front of adverse economic conditions. Thus, for valuation, it is a critical part of the analysis to understand the industry to which the company belongs.

Factors Studied under Industry Analysis

- Growth rate of Industry
- Type of industry – Growth, Cyclical etc
- Nature of competition
- Nature of product
- Subsidies, incentives, concessions
- Tax framework
- Import and export policies
- Financing norms
- State of technology
- Industrial policies
- Socio-demographic trends
- Government programs and projects
- Supply sector
- Industry life cycle
- SWOT analysis

c. Company Analysis

In company analysis different companies are considered and evaluated from the selected industry so that the comparative standing of the company can be identified. Additionally in company analysis, the financial ratios of the company are analyzed in order to ascertain the category of the entity. Ratios as in Dupont analysis, return on equity etc. can be analyzed to ascertain the potential company for making investment.

Factors Studied under Company Analysis

- Competitive advantage
- Financial stability & performance
- Growth Rate / Sales

- Market Share
- Financial leverage and borrowing capacity
- Previous track record
- Profits of the company
- Corporate image
- SWOT analysis
- Management
- Operating efficiency
- Future estimate of sales

3. Strategic Analysis

It is about looking at what is happening outside the organisation now and in the future. It asks two questions:

i) How might what's happening affect the organisation?

ii) What would be the organisation's response to likely changes?

It's called strategic because it's high level, about the longer term, and about the whole organisation. It's called analysis because it's about breaking something that's big and complex down into more manageable chunks.

In Strategic Analysis the focus is external because factors outside the organisation have a powerful influence on it. Organisations appreciate that they can learn to manage their response to those influences, rather than assume there is nothing they can do. It's part of the overarching process of strategic planning and involves both Internal as well as External components.

External	Internal
(i) Environmental analysis covering • Macro-economic picture • General Economic outlook • Industry trends (ii) Competitor's strategies	(i) Shape and fitness of the organisation (ii) Identify potential inhibitors that diminish organisational effectiveness (iii) Examples • Cultural changes that must take place

External	Internal
(iii) Situation analysis on key inputs (iv) Analysis of user industries/ consumer trends	• training requirements • insufficient resources

Strategic Analysis in the Three Schools are as under

Deliberate	Emergent	Adaptive
Analysis to position for the future.	Analysis to review patterns and learn from experience.	Analysis to see what opportunities are available.
SWOT analysis	Reflection of learnings	Environmental Scanning
Strategic Planning	Listening to many sources	Creating a responsive, adaptive culture
Environmental Scanning		
Scenario Planning		

Now let us look into some of the popular tools which are used in Business Analysis.

A Five Forces

Michael Porter said that "An industry's profit potential is largely determined by the intensity of competitive rivalry within that industry."

Using a framework rather than a formal statistical model, Porter identified the relevant variables and the questions that the user must answer in order to develop conclusions tailored to a particular industry and company. He identified following as the Five Forces:-

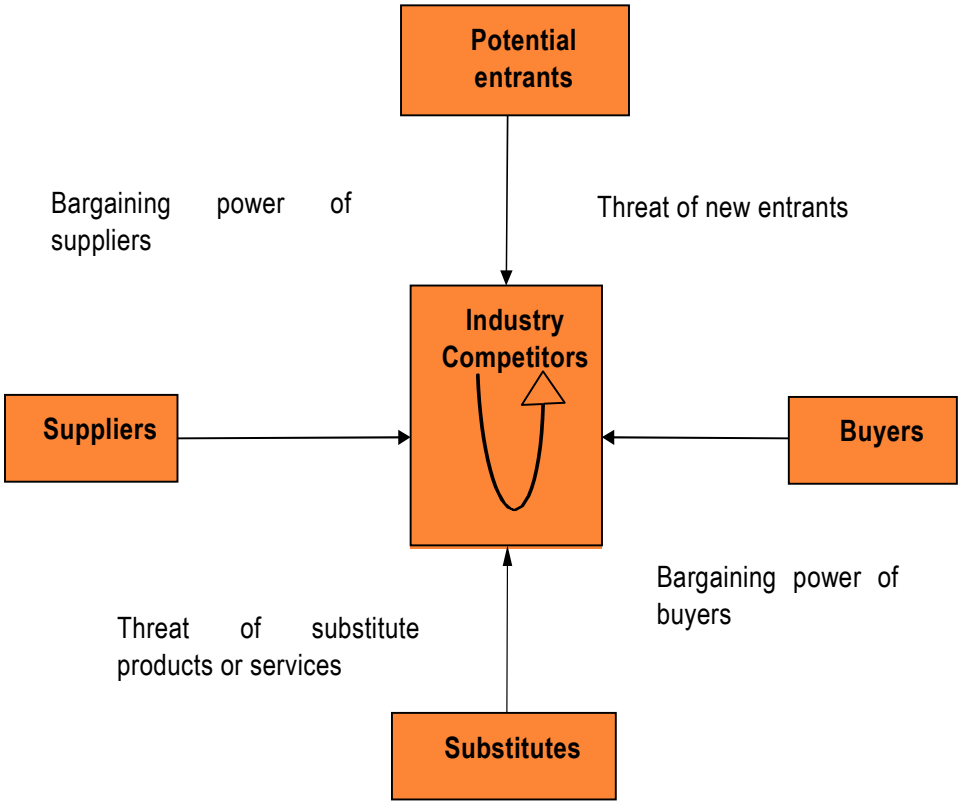
(i) Threat of Entry

(ii) Bargaining Power of Suppliers

(iii) Bargaining Power of Buyers

(iv) Development of Substitute Products or Services

(v) Rivalry among Competitors



Barriers to Entry	• Large capital requirements or the need to gain economies of scale quickly • Strong customer loyalty or strong brand preferences • Lack of adequate distribution channels or access to raw materials
Power of Suppliers high when…	• A small number of dominant, highly concentrated suppliers exists • Few good substitute raw materials or suppliers are available • The cost of switching raw materials or suppliers is high

Power of Buyers is high when…	• Customers are concentrated, large or buy in volume • The products being purchased are standard or undifferentiated making it easy to switch to other suppliers • Customers' purchases represent a major portion of the sellers' total revenue
Substitute products…competitive strength is high when	• The relative price of substitute products declines • Consumers' switching costs decline • Competitors plan to increase market penetration or production capacity
Rivalry amongst competitors… intensity increases when	• The number of competitors increases or they become equal in size • Demand for the industry's products declines or industry growth slows • Fixed costs or barriers to leaving the industry are high

Impact of the Five Forces

Impact of five forces can be categorised as under

(i) Industries with low barriers have low pricing power

(ii) Incumbents protected barriers to entry enjoy benign competitive environment and have greater pricing power.

(iii) Industry concentration is a sign that an industry may have pricing power

(iv) Tight capacity gives participants more pricing power as demand exceeds supply.

(v) Overcapacity leads to price cutting

Relevance to Valuation of Five Forces

- Telecom
  - How the licencing regime automatically creates a value once licence is acquired
- Microsoft

  - An example of the power of the supplier
- AMD was valued lower than Intel
  - Concentration of supplies to Apple
- Impact of Mobile Number Portability
  - How many of you might opt for change of service?
  - How many of you have not changed the service in the past only because of the mobile number?
- Valuation of BPO companies in the current scenario
  - Likely to be much lower, as clients would have a wider choice available in the market
- Coke and Pepsi
  - Classic case of business rivalry – the beverages are priced at a very competitive price with lower margins

B SWOT Analysis

SWOT analysis stands for

- Strengths – internal strengths on which to capitalize
- Weaknesses – Internal weaknesses that hinder sustainability or growth
- Opportunities – external opportunities on which to capitalize
- Threats – external threats to position or value in the marketplace

SWOT or TOWS Matrix

	STRENGTHS - S	**WEAKNESSES - W**
	List strengths	List weaknesses
OPPORTUNITIES - O	**SO STRATEGIES**	**WO STRATEGIES**
List opportunities	Use strengths to take advantage of opportunities	Overcome weaknesses by taking advantage of opportunities
THREATS - T	**ST STRATEGIES**	**WT STRATEGIES**
List threats	Use strengths to avoid threats	Minimize weaknesses and avoid threats

Matching Key External and Internal Factors to Formulate Alternative Strategies

Key Internal Factor		**Key External Factor**		**Resultant Strategy**
Excess working capacity (an internal strength)	+	20% annual growth in the industry (an external opportunity)	=	Acquire an identified target for market
Insufficient capacity (an internal weakness)	+	Exit of two major foreign competitors from the industry (an external opportunity	=	Buy competitors' facilities
Strong R & D expertise (an internal strength)	+	Decreasing numbers of young adults (an external threat)	=	Develop new products for older adults
Poor employee morale (an internal weakness)	+	Strong union activity (an external threat)	=	Develop a new employee-benefits package

Relevance to Valuation of SWOT analysis

- Case of one specific Tyre company
  - In the specific tyre industry, this is valued way above the largest player
  - His predominant strength in "off the road tyres" and due to which a significant export market

C PEST Analysis

Pest Analysis stands for:

- Political: local, national and international political developments – how will they affect the organisation and in what way/s?
- Economic: what are the main economic issues – both nationally and internationally – that might affect the organisation?
- Social: what are the developing social trends that may impact on how the organisation operates and what will they mean for future planning?
- Technological: changing technology can impact on competitive advantage very quickly!

Examples of PEST Analysis

- Growth of China and India as manufacturing centres over the past years.
- Concern over treatment of workers and the environment in less developed countries who may be suppliers.
- The future direction of the interest rate, consumer spending, etc.
- The changing age structure of the population.
- The popularity of 'fads' like the Atkins Diet.
- The move towards greater political regulation of business.
- The effect of more bureaucracy in the labour market.

Relevance to Valuation of PEST Analysis

- **Y2K and the dawn of Indian IT Industry**
  - It was the global Y2K problem that made international companies to look to India.

- There was a need to scale up and provide solutions and support fast
- This opportunity gave rise to the Indian IT industry which then had moved from there on into further strengths

- **The famous Horsewhip Story**
  - Texas based famous Horse Whip manufacturer of early 1900
  - Saw tremendous opportunity and bought over many ailing Horse Whip manufacturers across the country
  - Until, one day they found that the reason other companies have been failing is because of the invention of locomotives and reduction in horse carriages!
  - By then, it was too late…

D CORE Competencies

Core competencies are Real sources of advantage and are not based on businesses. Core competencies are collective learning in the organization, especially: how to coordinate diverse production skills by integrating multiple streams of technologies.

Identifiers of CORE Competencies

- Provide potential access to a wide variety of markets / products / services.
- Are difficult to imitate.
- Are driven by knowledge and learning.

EXAMPLES

i) Engines and Power Trains can be core competencies in Cars, motorcycles and generators business

ii) Optic, Imaging & Microprocessor controls are examples of core competencies in businesses dealing in Copiers, laser printers, cameras & Mobile Phones.

iii) Other kinds of Core Competencies

a. Systems Integration

b. Virtual reality

c. Bioengineering

d. Delighting the customer

Example 1 of Relevance to Valuation

In most valuations on the premise of going concern, the emphasis is on the future potential. This requires a thorough evaluation of the future potential in economic and financial terms. There may be no one right value, an example of same is as under:-

- Bell Atlantic offered $73/share for Air Touch communications- Dec 31, 1998
    - Bell's stock fell 5%
- Vodafone agreed to pay $97/share for the same AirTouch communications- Jan 15, 1999
    - Vodafone stock price increased 14% on the day deal was announced!

Reason: More valuable synergies for Vodafone as against Bell Atlantic in the acquisition!

Example 2 of Relevance in Valuation

The Novelis story

Novelis was World's largest producer of aluminium rolled products with 19% share; 30 plants all over the world; Networth of $322mio; debt of $2.3 Billion and a debt:equity ratio of 7.23:1

For Jan-Sep 06 on net sale of $7.4Billion it made a net loss of $170Mi. Birlas paid $3.6 Billion for 100% equity and this translates to Market cap /PBT (2007 guidance) of 36 against 17.81 applicable to Corus sale of cold rolled aluminium products to Aleris in Mar 06.

So why did Birlas pay so much? Firstly loss in Novelis was due to a price protection given to customers like Coke and Ford which was expected to be there till 2010 only. Secondly the deal catapults Birlas into Fortune 500 overnight.

Further Hindalco belonging to Birlas was only in Upstream business and Novelis helped them get into Downstream business which was 40% of global

aluminium consumed was rolled products where Hindalco did not have presence.

Novelis brought latest technology including latest fusion technology; which would have taken Hindalco 10 years to develop such technology. Natural hedge for Hindalco was given against fall in LME prices. Lastly, the deal gave them access to global plants and markets.

E GE/McKinsey Matrix

It is a Cross matrix analysis of:-

i) Industry Attractiveness

ii) Competitive Position

It carried out using various parameters as relevant to the business / industry

i) Competitive position determined by

- Market share,
- Technological know-how,
- Product quality
- Service network
- Price competitiveness
- Operating costs

ii) Industry Attractiveness determined by

- Market growth
- Market size
- Capital requirements
- Competitive intensity

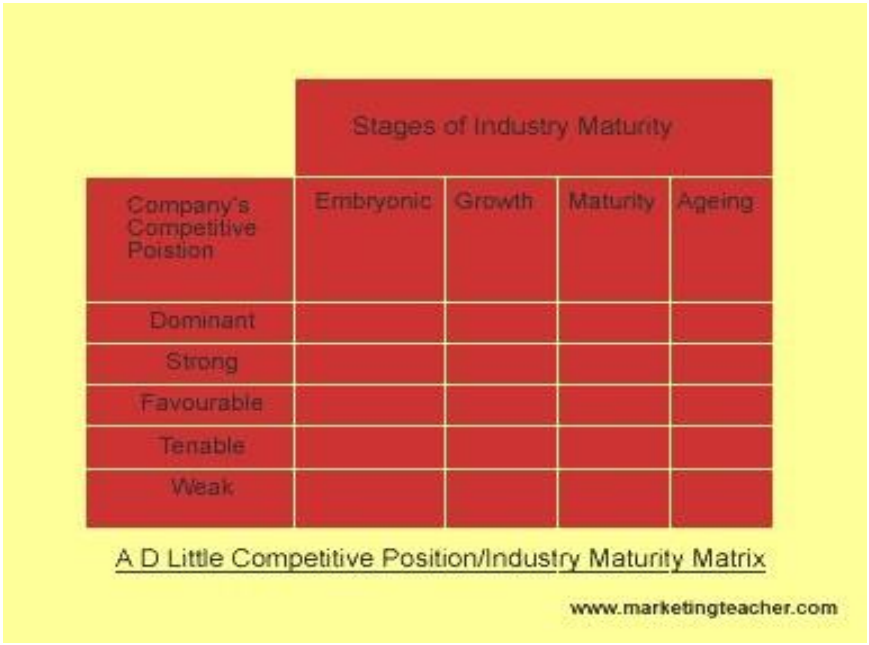
Competitive Position

Industry Attractiveness	Good	Medium	Poor
High	Winner	Winner	???????
Medium	Winner	Average Business	Loser
Low	Profit Producer	Loser	Loser

F ADL Matrix

Combination of the two dimensions (Industry Maturity and Competitive position) helps decision-making. Competitive position has five main categories:

- Dominant - Extraordinary position; Some form of monopoly position or customer lock-in e.g. Microsoft Windows being the dominant global operating system.
- Strong - Companies have a lot of freedom since position in an industry is comparatively powerful e.g. Apple's iPod products.
- Favourable - Companies with a favourable position tend to have competitive strengths in segments of a fragmented market place. No single global player controls all segments. Here product strengths and geographical advantages come into play.
- Tenable - Here companies may face erosion by stronger competitors that have a favourable, strong or competitive position. Difficult for them to compete since they lack sustainable competitive advantage.
- Weak - Companies in this undesirable space are in an unenviable position. Of course there are opportunities to change and improve, and therefore to take an organization to a more favourable, strong or even dominant position.


Stages of Industry Maturity
Company's Competitive Poistion
Embryonic
Growth
Maturity
Ageing
Dominant
Strong
Favourable
Tenable
Weak
A D Little Competitive Position/Industry Maturity Matrix
www.marketingteacher.com

Chapter-4

DCF Valuation – Practical Approach

SOME KEY ITEMS - HOW TO DEAL IN DCF

1. Contingent Liability

In determining equity value, after the free cash flow is determined in the DCF valuation, adjustment may have to be made towards contingent liability. Such adjustment becomes a difficult proposition in the context of the following:

- Most popular is to use a probability discount rule. The determination of the probability of a future event is necessarily speculative and uncertain.
- Indeed, consistent with that, courts abroad confronted with the challenge appear uniformly to punt on the issue and instead assume, with little or no analysis, either a 50% or 100% probability.

Other options for considering the same include:

- Evaluation of whether it is one contingency or many
- Applying hindsight, where later events have occurred
- Other comparable instances in the past

2. Tax Implications

Tax outflow in explicit period shall necessarily consider and factor:-

- Benefits of carry forward losses, if any
- Reduced rate of tax during tax holiday periods
- MAT implications
- Current tax to be considered as an outflow (and not adjusted for deferred tax)

Tax impact for terminal value computations

- Generally to be considered at the full applicable rate.

- PV of any significant carry forward loss, MAT or Tax holiday impact for periods post the explicit period may be present valued and adjusted separately.

3. Surplus Cash (Cash Not Used in Business)

Many a times, it is possible that the company may be having surplus cash or cash equivalents in the company. Cash and cash equivalents which is part of the business requirement is to be dealt with as part of the net working capital movement. However, any surplus cash and cash equivalent which is not required for the day-to-day operation of the business is to be separately added to the enterprise value arrived at using DCF valuation. Any interest income from deployment of such surplus cash should also be eliminated from the cash flow projections.

4. Negative Working Capital

Some businesses such as retail sales / petrol pumps / stock exchanges end up with negative working capital. In view of the cash cycle in the business operations, as the business grows, instead of needing to invest further monies into working capital, these businesses end up having more cash in hand. How can this be considered? as this by normal model would lead to significantly higher EV.

- One model perhaps is to ignore such cash inflow from working capital in the free cash flow computation
- Instead may consider interest income at a rate not exceeding the risk free rate or what is practically feasible to realise, if lower. Generally, interest income from cash surplus being re-invested is excluded from free cash flow computations
- The logic in the instant case is: Payment of the liability is a certainty Only benefit, which we can garner is the income generated from such surplus cash

5. Surplus Assets (Assets not used in business)

This refers to the assets of the company which are not actively held in the use for the business, for instance, there could be land held by the company which is not in the use of the business or there could be investments held by the company.

These are surplus assets and are not considered in the cash flow projections. Any income / expenditure related to the same are also not considered in the business cash flow projections. The fair value of these assets are added to the enterprise value arrived at using DCF valuation.

6. Investment in a Subsidiary – part of the business

Sometimes investment could be in subsidiaries which are actually part of the business structure. For instance, subsidiary in a foreign country to sell the products manufactured by the parent in such geography. In such cases, it is ideal to consider the business projections (cash flows) on a consolidated basis and not treat the subsidiary as a surplus asset.

Alternatively, each subsidiary could be valued separately using DCF and considered. Under such circumstance, dividend etc., from subsidiary should not be treated as cash inflow.

7. Share Application Money at the Valuation date

Present requirement of issue of shares within 60 days of receipt of application money need to be considered while determining the projected cash flow. Full facts of the share application money and the agreement / arrangement behind the same need to be understood to give the correct impact. Accordingly, it could be adjusted either as a debt on the date of the valuation and thus reduced from the enterprise value or it can also be adjusted in the number of shares for computing the equity value per share, as appropriate. The Valuation Report should consider this and clearly explain the same with appropriate rationale.

8. Preference Shares

The impact of Preference shares on Business valuation depends on the nature of the instrument and its convertibility and hence a valuer needs to understand and evaluate it each case:-

i) CCPS, convertible into fixed number of equity shares – It is ideal to adjust the same in the number of equity shares considered for the per equity share valuation.

ii) CCPS convertible into variable number of equity shares based on performance in future – It is ideal to adjust for the same in the number of equity shares considered for the per equity share valuation – taking

the assumption of conversion in sync with the projected performance considered

iii) OCPS – Ideal to value the OCPS using stock option models and consider the same accordingly for adjustment

iv) Redeemable PS – Treat as debt

Remember – These are only a point of view and there is no one solution which fits all scenarios

9. Short Term Debt/Bank Over Draft

Movement in Short Term Debt/Bank Over Draft is considered as part of working capital change and any balance debt at the end of explicit period is reduced from enterprise value at its present value. Interest on it shall also be reduced from free cashflow. Hence, following broad impact to be considered:

- Repayments / reduction is reduced from free cashflow
- This interest and debt is not considered in computing WACC
- Interest considered as cost/ outflow in FCFF
- Part repayments of short-term debt considered for cash flows

Though, what is stated above for short term debt is probably the more appropriate model, in India, as information is sometimes not available on this basis and all debts are aggregated. Further, even utilisation could be mixed up. This leads to a practical approach of considering short term debt also akin to long term debt in DCF computations, as an alternative.

10. Further Capital Infusion

Additional Capital Infusion is normally not considered, as the DCF valuation anyway considers the investment made – independent of the source of such funding in future. However, this need to be carefully considered as in some cases, the value being derived may be significantly connected to such infusion of capital in future and the resultant investment therefrom being enabled. The whole projection may have to be shrunk, if the future capital raise or fund infusion is not achieved.

PRE MONEY AND POST MONEY VALUATION – WHICH IS APPROPRIATE?

This is an area of greyness – especially many times one does not appreciate the difference between “value” and “price”. Mr. Damodaran in one of articles

states:

- A DCF valuation, done right, always yields a pre- money value for a business.
- The value of a business, after a capital infusion, will have to incorporate the cash that comes into the business, pushing up the post-money value.
- The "ownership value" on which the ownership proportion is negotiated will move towards the post- money value, when there is an active and competitive (venture) capital market, and towards the pre-money value, when there is not one.

11. Sectoral Variations in Cost of Capital

Following are the major determinants of Cost of Capital:-

- Inflation
- Country specific risk premium
- Government Rules – FDI / SLR etc.,
- Liquidity – The long term G-sec and Overnight rates
- Risk perception

Further Sectoral differences in Cost of Capital is determined by:-

- Restrictions in terms of FDI, debt investment by FII in the concerned sector
- Capital structure choices for each industry sector
- Government policies applicable to the sector
- Risk structure specific to the Company
- Risk perception of the investor

12. Impact of Inflation

Inflation is a general increase in prices leading to a general decline in the real value of money. In times of inflation, the fund providers will require a return made up of two elements:

(i) Real return for the use of their funds

(ii) Additional return to compensate for inflation

The overall required return is called the money or nominal rate of return. Real and nominal rate are linked by the formula:

(1+i) = (1+r) (1+h) or

(I+r) = (1+i)/(1+h)

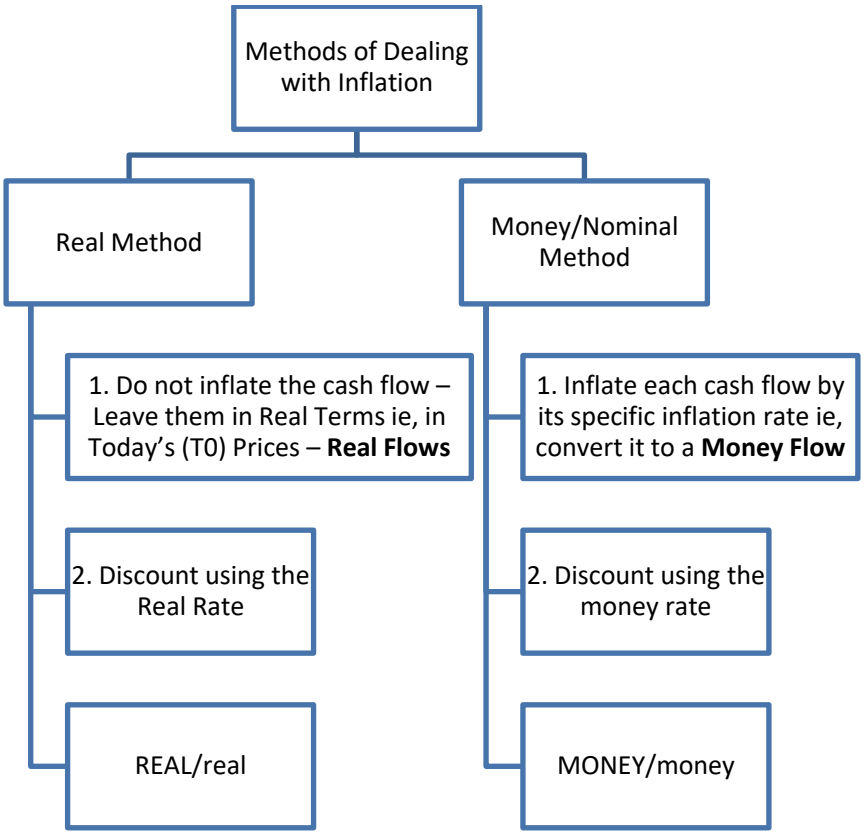
In which

r = real rate

i = money/nominal interest rate

h = general inflation rate

13. Methods of Dealing with Inflation



BE CONSISTENT

The Real Method can only be used if all cash flows are inflating at the general rate.

14. Discounts and Premium in Valuation

Typical Discounts and Premiums are as under:-

- Illiquidity Discount
- Control Premium
- Minority Discount
- Company Risk Discount
- Business Size Discount / Premium
- Synergy Premium
- Key person discount
- Trapped in Capital Gains discount
- Block sale discount / premium

15. Measuring Illiquidity Discount

Two methods have been presented by Mr. A. Damodaran and available in his website for measuring Illiquidity Discount.

i) Bid-Ask Spread Method

The model is based on extensive bid – ask spread analysis done in the United States. The underlying principle is the spread between bid and ask price in the market and is reflective of the level of illiquidity of the stocks which are listed.

This had been tested and a relationship established with the following parameters (based on observed data of bid – ask spreads).

- Revenue
- Net Earnings – whether positive or negative
- Ratio of cash and marketable securities in the firm value
- Trading volume / Value (which will be Zero in case of unlisted entities)

Inputs	Values for the company	Comments on the model
		This is the revenue of the firm which is being considered (in $
Revenues (B3)	10	Mio)
Positive or Negative Earnings (B4) =	1	Whether the earnings are positive or negative
Cash/Value (B5)	25%	The ratio of cash and marketable securities in the firm value
Trading Volume/ Value (B6)	0%	In case of private companies - this will be zero

Output

Illiquidity Discount =	12.09%
	= 0.145 - 0.0022*LN(B3) -0.015*B4 - 0.016*B5-0.11*B6

Note: This model is based on the bid-ask spread studies undertaken in the US earlier and reported by Mr.A.Damodaran in his note

Ideal to use this in the case of inactive stocks or stocks which do not have restrictions placed by way fo SHAs

Source: Model developed and published by Mr.A.Damodaran

ii) Size of the firm based model

It is based on research in the United States which established a relationship of the discount for illiquidity to the size of the firm. The relationship is based on the following parameters of

- Revenue size of the firm
- Whether the firm is making profits or losses
- Size of the block of shares which are the subject matter of the transaction

Inputs		Comments on the model
		As per Ashwath Damodaran's research this is the base discount rate for
Base Discount for firm with $ 10 million revenue (B2) =	25%	illiquidity for a firm with $10 Mio revenue
Revenues (B3) =	10	This is the revenue of the firm which is being considered
Size of block as % of stock outstanding (B4) =	100%	Stock % which is under consideration for the adjustment
Positive or Negative Earnings (B5) =	1	Whether the earnings are positive or negative

Output

Illiquidity Discount	25.00%
=0.25-((100-EXP(4.33+0.036*LN(10)-0.142*LN(B4*100)+0.174*1))/100-(100-EXP(4.33+0.036*LN(B3)-0.142*LN(B4*100)+0.174*B5))/100)	

Note: Benchmark of 25% base discount rate is on basis of various studies on restricted stocks undertaken and quoted in Mr.A.Damodaran's note on Liquidity

Ideal to use this in the case of PE or such Strategic investments which brings in limitations in free stock movement

Source: Model developed and published by Mr.A.Damodaran

16. Control Premium

Empirical data on Control Premium shows that the premium varies widely. However, conceptually, there is a clear understanding that control does provide for a premium in comparison to the valuation applicable for non-controlling stakes.

It can be said that the valuation ought to be impacted positively with increasing stake share in the entity whenever each threshold of additional rights are crossed, starting from insignificant holdings to when it crosses 10%, thereafter when it touches 26%, 51% and so on until it crosses 90% and then 100%.

17. Minority Discount

The minority discount relates to the lack of control that minority shareholders have over the operation and corporate policy of a given investment. The minority shareholders can generally neither direct the size or timing of dividends nor appoint management. A minority shareholder can also not veto the acquisition, sale or liquidation of assets. Minority discounts are therefore usually applied when valuing a non-controlling interest to discount the value for lack of control.

18. Key Person Discount

One person can make a a–lot–of difference! and impact valuation of a company immensely any such person are key persons.

Examples of same

i) The impact Jamie Dimon had on company's stock

When Jamie Dimon was fired as president of Citibank in Nov 1998 its stock sank by $11 billion! When he was named CEO of Banc One in late March 1999 thereafter its stock rose by $ 7 billion!

ii) Resignation of Steve Jobs as CEO of Apple Inc saw the price dropping immediately by 5% in Aug 2011.

19. Valuation Technique for DLOM Measurement

Approach	Measurement Rationale
Financial Modelling: put option method	A put option represents the value of a right to sell. It theoretically matches the DLOM concept of an inability to exercise a right to sell. This type of model measures DLOM by dividing the put option value by the current stock value. For e.g. Chaffe Model (1993), Longstaff model (1995) and Finnerty Model (2003)
Empirical Studies: Pre-IPO stock studies	The IPO stock price is compared with the stock price in a private transaction sometime prior to the IPO when the entity is not yet public. For Eg: Emory Studies and Valuation Advisors studies
Empirical Studies: Restricted Stock Studies	A publicly traded entity issues non-trading stocks directly to an investor in a private placement. Due to laws and regulations, these privately placed stocks cannot be freely traded in a public market for a period of time. Prices of the liquid stock and the restricted stocks are compared. For e.g. SEC Institutional Investors Studies, FMV Opinions Studies and Willamette Management Associate Studies
Court Cases Reference	No Universal consensus and depends on precedent cases in each jurisdiction

20. Valuation Technique for DLOC Measurement

Approach	Measurement Rationale
Empirical Studies: Acquisition premium studies	Premiums paid for acquisitions of listed entities compared with trading prices of the listed entities prior to the acquisition announcements are studied. For e.g. Mergerstat studies
Empirical Studies: NAV Discount Studies	If NAV listed entities can be reasonably estimated at transaction dates, the percentage of discount observed in minority interest transactions compared with the underlying NAV of the listed entities are studied.

Approach	Measurement Rationale
Empirical Studies: Voting and Non-Voting Stock studies	Studies comparing trading price of stocks with and without voting rights
Court Cases Reference	No Universal Consensus and depends on precedent case in each jurisdiction

Chapter-5

Valuation of Start-up Companies

1. Introduction

In August 2015, the Hon'ble Prime Minister, Shri Narendra Modi, announced the launch of the national flagship initiative – Start-up India, with a mandate to promote and encourage young entrepreneurs of our country. He envisioned the aim of the initiative to transform India into a Start-up nation, "a country of job creators instead of job seekers".

India has managed to retain its position as the 3rdlargest start-up ecosystem in the world with more experienced professionals taking the entrepreneurial route. It has also climbed three places in 2018 to position itself in the 57th rank in the Global Innovation Index from 60th position in the previous year. Besides this, India also holds the title for the highest Unicorn holder of 8 ventures right after the US and China (However, post Covid-19 Pandemic, few of the unicorns worldwide have are no more entitled to such status- 'Unicorn'). The Indian Unicorn list was expected to add 10 more businesses by the end of 2020, however, due to the prevailing conditions, we need to see how this will be met.

Further, the value of a newly formed business is often required for bringing in investments either by way of debt or equity funding. There are some peculiarities involved in valuation of a start-up business arising from the fact that there is no historical data available on the basis of which future projections can be drawn.

Valuation poses many challenges at this firm, since there is little useful information to go on. In the initial stage of business products are generally untested and do not have an established market. Operations of firm are at small level, no operating history and no comparable firms used to exist.

The value of this firm rests entirely on its future growth potential, which, in many cases is based on an untested idea and may not have been based on adequate sampling of consumer behaviour or anticipated consumer behaviour. The estimates of future growth are also often based upon assessments of the competence, drive, and self-belief of, at times, very highly qualified and intelligent managers and their capacity to convert a promising idea into commercial success.

2. Definition of Start up

An entity shall be considered as a Start-up:

i. Upto a period of ten years from the date of incorporation/ registration, if it is incorporated as a private limited company (as defined in the Companies Act, 2013) or registered as a partnership firm (registered under section 59 of the Partnership Act, 1932) or a limited liability partnership (under the Limited Liability Partnership Act, 2008) in India.

ii. Turnover of the entity for any of the financial years since incorporation/ registration has not exceeded one hundred crore rupees.

iii. Entity is working towards innovation, development or improvement of products or processes or services, or if it is a scalable business model with a high potential of employment generation or wealth creation.

Provided that an entity formed by splitting up or reconstruction of an existing business shall not be considered a 'Start-up'.

Explanation-

An entity shall cease to be a Start-up on completion of ten years from the date of its incorporation/ registration or if its turnover for any previous year exceeds one hundred crore rupees.

3. Requirements of Start-up Companies

- Incorporation/Registration Certificate
- Director details
- Proof of concept like pitch deck/website link/video (in case of a validation/ early traction/scaling stage start-up) respectively
- Patent and trademark details (Optional)
- PAN Number

4. What documents are not required?

- Letter of Recommendations
- Sanction Letters
- Udyog Aadhar
- MSME Certificate
- GST Certificate

5. Venture Capital Investors (VCs) and Valuation

Venture Capital Investors (VCs) often value newly born companies on a 'multiple' of proposed/ existing 'revenue/ EBITDA'. This approach is flawed in a sense that it applies constant multiples to all entities with differing characteristics but with similar Revenue/ EBITDA. We try to work around this defective valuation approach to help IBBI registered valuers follow a more scientific method. First we will read through typical approach that VCs follow.

Investors particularly venture capitalists (VCs) add value to start-ups in a lot of ways[1]:

a. **Stakeholder Management**: Investors manage the company board and leadership to facilitate smooth operations of the start-up. In addition, their functional experience and domain knowledge of working and investing with start-ups imparts vision and direction to the company.

b. **Raising Funds**: Investors are best guides for the start-up to raise subsequent rounds of funding on the basis of stage, maturity, sector focus etc. and aid in networking and connection for the founders to pitch their business to other investors.

c. **Recruiting Talent**: Sourcing high-quality and best-fit human capital is critical for start-ups, especially when it comes to recruiting senior executives to manage and drive business goals. VCs, with their extensive network can help bridge the talent gap by recruiting the right set of people at the right time.

d. **Marketing**: VCs assist with marketing strategy for your product/service.

e. **M&A Activity**: VCs have their eyes and ears open to merger and acquisition opportunities in the local entrepreneurial ecosystem to enable greater value addition to the business through inorganic growth.

f. **Organizational Restructuring**: As a young start-up matures to an established company, VCs help with the right organizational structuring -and introduce processes to increase capital efficiency, lower costs and scale efficiently.

[1] https://www.startupindia.gov.in/;
http://www.nrdcindia.com/NationalProjectDetail/3

6. Multiple Based Valuation

Newly Established Entity 'A' has marginal revenue and negative EBITDA. Recently, company received investment of 'Rs. 50 Lakhs' in 'Round A funding' at dilution of 10% equity stake (i.e. at post money valuation = Revenue of Rs. 50 Lakhs x Multiple of 9 + Equity Infusion of Rs. 50 Lakhs = Rs. 5 Crore). This investment was made on the basis of presumed multiple of 9 onto expected revenue of immediately next year *(often existing revenue is preferred over future revenue.)* of Rs.50 Lakhs. Following are key financial pointers of Entity A:

Particulars	Rs. In Lakhs
Sources of Finance	
Money invested by Promoters	100
% Share Holding by Promoters (Before VC investment)	100%
Cost Incurred and Capitalised in Year 0 (may be on account of development expenditure of technology product)	30
Operational Expenses of Year 1	60
Revenue	50
Loss for the Year	10
Cash Available at the end of Year 1 (i.e. before VC investment)	10 (i.e. 100 – 60 – 30)
Amount Invested in Round A	50
Shareholding Pattern	
i) By Promoters	90%
ii) By VC	10%
Cash Available immediately after VC funding	60 (i.e. 10 + 50)

On the face, above valuation appears acceptable. However, there are multiple flaws to this approach.

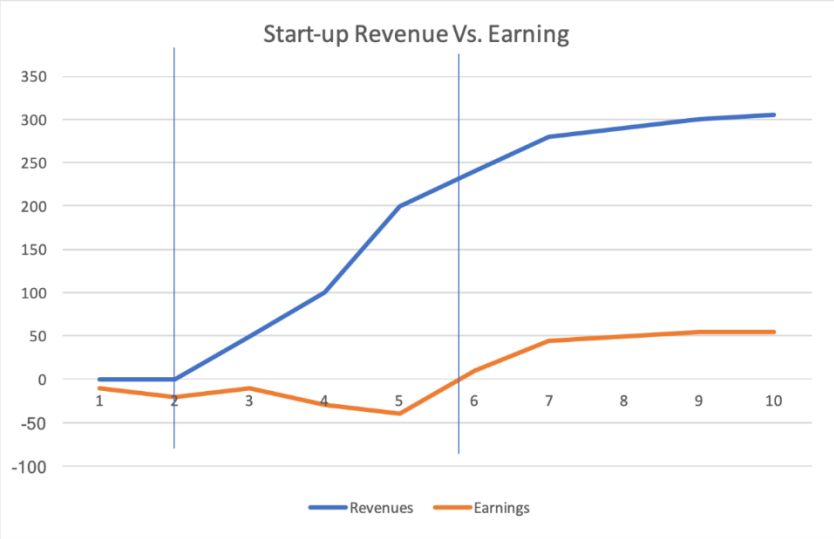
This approach completely ignores the fact that 'most of the start-ups' don't survive and this risk of failure is not at all built in the model above. Multiple of 9 quoted above is usually calculated on the basis of data of matured companies without alteration/ adjustment to make it specific to start-ups. We believe that legitimising 'multiple approach' without entity specific logical adjustments is abuse of valuation standard. Such approach not only offers flexibility but also offers different valuers to undersign 'similar values of broadly differing organisations' or to undersign 'widely differing values of similar organisations.'

7. Start-up life cycle

Following is a sample projection of Entity A:

(All Amounts in Rs. In Lakhs)

Year	Revenues	Cost	Earnings	Stage
1	0	-10	-10	Development Stage
2	0	-20	-20	
3	50	-60	-10	Revenue of 1st year on which VC investment of Rs. 50 Lakhs is received at Post Money Valuation of Rs. 5 Crore (using Revenue Multiple of 9)
4	100	-130	-30	Cash Available at the beginning of Year is Rs. 1 Crore (–) Cost of 3 years Rs. 90 Lakhs (+) VC Equity Infusion of Rs. 50 Lakhs = Rs. 60 Lakhs
5	200	-240	-40	Future Projections
6	240	-230	10	
7	280	-235	45	
8	290	-240	50	
9	300	-245	55	



Stage I	Stage II	Stage III
Development	Positive Revenue Negative Earnings	Positive Revenue Positive Earnings

Valuer needs to be cautious while certifying valuations of new entities as these entities don't have any history to rely on, they have marginal or no revenues along with negative earnings, growth is typically dependent on private equity infusion, and they carry loss of failure.

Observed probability of failure is quoted by comparing data on number of organisations that started in year 1994 as follows:

Year	Surviving Establishments	Survival Rate Since Birth	Years of Survival
1994	10,917	100.00%	1 Year
1995	8,582	78.61%	2 Years
1996	7,311	66.97%	3 Years
1997	6,403	58.65%	4 Years
1998	5,651	51.76%	5 Years
1999	4,992	45.73%	6 Years
2000	4,502	41.24%	7 Years

Year	Surviving Establishments	Survival Rate Since Birth	Years of Survival
2001	4,023	36.85%	8 Years
2002	3,610	33.07%	9 Years
2003	3,327	30.48%	10 Years
2004	3,062	28.05%	11 Years
2005	2,901	26.57%	12 Years
2006	2,727	24.98%	13 Years
2007	2,607	23.88%	14 Years
2008	2,490	22.81%	15 Years
2009	2,322	21.27%	16 Years
2010	2,202	20.17%	17 Years
2011	2,047	18.75%	18 Years
2012	1,925	17.63%	19 Years
2013	1,785	16.35%	20 Years
2014	1,713	15.69%	21 Years
2015	1,548	14.18%	22 Years
2016	1,477	13.53%	23 Years
2017	1,390	12.73%	24 Years
2018	1,321	12.10%	25 Years
2019	1,254	11.49%	26 Years

In the above sample, 10,917 entities, started in Year 1994, presenting sectors such as Construction, Mining, Manufacturing, Transportation, Information etc. are analysed until Year 2019. Out of 10,917 entities established in Year 1994, only 1,254 entities are transacting until Year 2019 representing Probability of Failure in 26 years to be 88.51% (i.e. 100% - 11.49%).

8. Growth Assets

While using celebrated Discounted Cash Flow Approach, little of the value of

Start-up companies is derived from 'existing assets'. Rather, most of the value is derived from 'growth assets'.

It is tough to confidently claim the monetisation of growth assets but with techniques such as rationing/ calibration, may help to control and put some reasonableness to estimations. Reinvestment out of future earnings drives growth. Hence, growth is a function of Return on Investment and Reinvestment Rate.

Typically, growth assets are created when Return on Capital is more than Cost of Capital. In early years, return on capital is negative and hence, difficult to predict growth assets until earnings turn positive. However, until such period growth can be facilitated through equity infusion (for e.g. Entity A received Rs.50 Lakhs as a Round A funding from VCs.)

9. Few More Flaws of Multiple Based Valuation

Given Equity Infusion of Rs.50 Lakhs in Year 4, cash available at the beginning of Year 4 would be Rs. 60 Lakhs. Despite this fact, projections quoted Cost of Rs.1.30 Crore in Year 4 – this is unrealistic and mathematically impossible. You can't spend Rs. 1.30 Crore out of Rs. 60 Lakhs available to you. Hence, projections are faulty and neither considers resource restrictions nor identifies potential growth possibilities.

10. Better Approach of Start-up Valuation

Step I – Estimation of Cash Flows

First of all, it is required to identify reinvestment required to achieve targeted revenue and profitability. This can be done by comparing capital available to us and cost estimated to be incurred. Difference between the later and former is additional capital/ reinvestment requirement.

Year	Capital Employed at the Beginning	Addition During the Year	Return on Capital Employed %	Earnings During the Year	Capital Employed at the End of Year		Cost for the Year	Required Reinvestment = Cost for the Year - Opening Capital
A	B	C = (-) I	D = E/A	E	F = B + C + E	G	H	I
1	100	-	-10.00%	(10)	90	(Given)	(10)	Reinv. Not Required

Year	Capital Employed at the Beginning	Addition During the Year	Return on Capital Employed %	Earnings During the Year	Capital Employed at the End of Year		Cost for the Year	Required Reinvestment = Cost for the Year - Opening Capital
2	90	-	-22.22%	(20)	70	(Given)	(20)	Reinv. Not Required
3	70	-	-14.29%	(10)	60	(Given)	(60)	Reinv. Not Required
4	60	70	-50.00%	(30)	100	Calculated	(130)	70
5	100	140	-40.00%	(40)	200	Calculated	(240)	140
6	200	30	5.00%	10	240	Calculated	(230)	30
7	240	-	18.75%	45	285	Estimated	(235)	Reinv. Not Required
8	285	-	17.54%	50	335	Estimated	(240)	Reinv. Not Required
9	335	-	16.42%	55	390	Estimated	(245)	Reinv. Not Required
10	390	-	14.10%	55	445	Estimated	(250)	Reinv. Not Required

In this Concept Paper 'how minutely you should analyse the cost structure' is a primary focus. Consequently, other aspects of the valuation procedure have not been elaborated. However, as a pointer it is stated that you must duly consider operational costs, tax benefits, and imputed cost related to owner (for e.g. 'Owner Music Composer' may not be drawing fair salary from his organisation but had he been employed by another company he would have earned a fair salary. Such additional salary to make operating costs more realistic and comparable, is required to be duly considered as imputed costs.)

Step II – Estimation of Discount Rates

Typically, start-ups may not raise debt funding on absence of collateral security. Hence, in this Concept paper, it is presumed that 'Equity' is the only source of financing. Cost of Equity is a combination of Equity Risk Premium, Entity Specific Beta, and Risk Free Rate of Return related to currency in which entity generates cash flow.

Though many perform levering and unlevering of beta to make beta more specific to entity, they often fail to further adjust it for absence of investor's diversification.

Cost of Equity = Risk Free Rate + Equity Risk Premium x Beta + Country Risk Premium

Equity Risk Premium = Market Rate of Return – Risk Free Rate

Risk Free Rate = *10 Year Government Bond Rate – Country Risk Premium

**instead of 10 years, you may choose to consider differently maturing bond, however, it is accepted practice to use 10 year bond rate which co-exists with cash flow estimation of 5 or 10 years.*

Step III - Calculation of Beta

You may observe 2 year beta of multiple listed entities across globe (need not restrict to particular region) from similar industry (i.e., industry of company under valuation). Calculate simple average of all 2 Year Betas and Unlever it using Average Debt and Average Market Capitalistion of companies above.

Levered Beta = Unlevered Beta x (1 + Average Debt/ Average Market Capitalisation)

Thus, Unlevered Beta = Simple Average of Regression Betas / (1 + Average Debt/ Average Market Capitalisation)

'Equity' has been assumed as the only source of funding, unlevered beta calculated above can be treated as entity specific beta before adjustment for diversification of investor.

Sole Owner of a start-up usually represents that individual who has put in all eggs into one basket i.e., his all/ substantial investments are represented by his start-up and hence he is least diversified. Similarly, early-stage VCs possess portfolio of investments that are less diversified. Hence, both sole owner and early-stage VCs are less diversified investors. Subsequent rounds' VC investors are comparatively better diversified but still less diversified than investors who invest in IPO/ Listing.

We can identify Correlation between entities in industry of a start up with the market (i.e., all listed entities). Total Beta (i.e., Beta along with market risk of less diversified investor) can be calculated as Levered Beta Calculated above divided by Correlation between Entities in Industry and the Entire Market.

Total Beta = Levered Beta/ Correlation (Industry of Start Up and Market)

Thus, revised Cost of Equity = Risk Free Rate + Total Beta (Equity Risk Premium) + Country Risk Premium.

Step IV - Applying Discount Rates

It can be observed that Entity A needs 3 rounds of funding for Year 4, Year 5, and Year 6 respectively. Assume 4th year investment is made by 'least diversified' VC investor, 5th Year investment is made by 'moderately diversified investor' and 6th Year investment is made by 'widely diversified investor', then Beta related to each of these investors shall be applied to identify cost of capital (i.e., cost of equity ke or weighted average cost of capital WACC) to calculate year specific discounting factor.

In calculating Intrinsic Value i.e., present value of future cash flows, discounting factors for 4th, 5th, and 6th year shall be representative of investor characteristics. This means, cost of equity for 4th year is calculated using Beta that is calculated as follows:

Total Beta = Levered Beta/ Correlation (Industry of Start Up and Market)

If Levered Beta is say 0.70 and Correlation between Industry of Start-up is say 0.80, then Adjusted Levered Beta = 0.70/0.80 = 0.88

	Least Diversified Investor	Moderately Diversified Investor	Widely Diversified Investor
Levered Beta	0.7	0.7	0.7
Correlation	0.8	0.9	1.00
Adjusted	0.88	0.78	0.70

You can observe that as start-up moves from least diversified investor to widely diversified investor, related beta (i.e., measure of systematic risk) reduces from 0.88 to 0.70.

If we presume, risk free rate to be 3%, country risk premium to be 6%, and equity risk premium to be 5%, cost of equity for 3 different investors will be calculated as follows:

	Least Diversified Investor	Moderately Diversified Investor	Widely Diversified Investor
Risk Free Rate	3%	3%	3%
Country Risk Premium	6%	6%	6%
Equity Risk Premium	5%	5%	5%
Beta	0.88	0.78	0.70
Cost of Equity	13.38%	12.89%	12.50%

On this basis, discounting factors will be calculated as follows:

Year	Discounting Rate	Discounting Factor	
1	13.38%	0.882028666	
2	13.38%	0.777974568	
3	13.38%	0.68619587	
4	13.38%	0.605244428	
5	12.89%	0.536141717	(i.e. 0.6052/(1+12.89%)
6	12.50%	0.476570416	(i.e. 0.5361/(1+12.50%)
7	12.50%	0.423618147	
8	12.50%	0.376549464	
9	12.50%	0.334710635	
10	12.50%	0.297520564	

Step V - Estimating Terminal Value

There are 3 possibilities –

1. Company will flourish and continue as a going concern in perpetuity (Scenario 1)
2. Company will flourish and continue as a going concern for a limited period (Scenario 2)
3. Company is a failure and goes into distress sale (Scenario 3)

Terminal Value in case of Scenario 1 is calculated as expected annual cash flow divided by Cost of Equity minus Growth Rate.

Terminal Value = Free Cash Flow of nth Year (1+ Growth rate after nth Year) / (*Cost of Equity – Growth rate after nth Year)

**As scenario presumed Equity as only source of financing, we use 'Cost of Equity' as a compounding/ discounting rate.*

Terminal Value in case of Scenario 2 is estimation of cash flows from nth year to end of limited period (say 5 years after nth year). It is better in such case to plot cash flows for all years including 5 years subsequent to n years.

Terminal Value in case of Scenario 3 is salvage value of assets at the end of expected life of start-up. If valuers can't reasonably estimate this value, they should presume it to be 'nil' in case of service-based start-ups where asset base is insignificant.

However, for those start-ups where significant asset base is represented by immovable property, it is suggested to appoint IBBI registered Valuer from such asset class to identify distress value of such immovable properties and consider such value into your valuation model. Valuers should avoid arbitrary assumptions such as '*distress value is presumed to be 35% of book value/ market value.'*

Step VI - Adjustment for Probability of Failure

Expected Value = Value as a Going Concern x (1- Probability of Failure) + Distress Sale x Probability of Failure

We have already referred to a table quoting survival rate. Such rate helps us identify probability of failure as follows. Say, we estimated cash flows for 5 years, then probability of surviving for 5 years (you observe this probability from table previously quoted) is 51.76%.

Thus, probability of failure = 1- 51.76% = 48.24%.

Expected Value of Start-up (Before Liquidity Discount) = Value as a Going Concern x (1- 48.24%. i.e. Probability of Failure) + Distress Sale x 48.24%. i.e., Probability of Failure.

11. Stage of Development of Product Development Companies

Start-up can be analysed per its stage of development.

Particulars	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
Revenue	No History	No History	No History	Some	Enhancing	Established History
Expenses	Limited	Significant	Significant	Significant	Established History	Established History
Profitability	Losses	Losses	Losses	Losses	Breakeven/ Profit	Established History
Management Team	Incomplete	Expanding	Complete	Complete	Complete	Complete
Product Development	Some	Some but not yet at Beta Testing	Beta Testing	Started Executing Orders	Continued Executing Orders	On-going
Financing Sources	Angels/ Early VCs	VCs	VCs/ Strategic Investors	Mezzanine Financing/ Bridge Loans/ Last round by VCs/ Strategic Investors	Strategic Investors/ IPO	Out of own Profits

You as a valuer are expected to write a commentary on each of the stage identification pointers and conclude the stage of the development of the entity under valuation. Such analysis often supports 'DCF based number you derived' to be a fair value. This exercise can also help valuer judge qualitative fairness of his valuation. For example, if valuer concludes an entity to be in Stage 2, then he needs to document a timeline expected by himself and the management of company to reach a stage 5 when breakeven can be achieved.

Traditionally, management has been undertaking a breakeven point at as early as 2nd year of establishment. Valuers should not accept such claim on the face of management representation letter unless it is logically tenable.

Valuers are suggested to frame their questions based on following representative points:

- Understand original business plan
- Has proof of concept been achieved?
- Has Beta Test been carried? What is the outcome?
- Whether company possesses related regulatory approvals for manufacturing (important in terms of pharma companies)?
- Who are key customers?
- How entity secures raw material, equipment, or work force?
- Has company started shipping orders?
- What is the profitability of company?

Apart from above, valuer is suggested to write a commentary on observations related to following:

- State of Industry & Economy – while valuer writes content under this chapter, he should not refer to study made by any institute unless he has bought that study/ research and possess legal right to reproduce the result in his valuation report.
- Management and BoD
- Marketplace & Major Competitors
- Barriers to Entry
- Competitive Forces
- Intangible Right/ Propriety Right in technology
- Human Resource
- Customer and Supplier/ Vendor characteristics
- Strategic Relationship with key customers/ suppliers
- Major Investors

12. Embedded Rights and Valuation Modelling

Funding can be achieved by issuance of various types of securities such as equity or debt. However, most investments in start-up are received in the form of 'Preferred Stock'.

Following are common mistakes made by valuers:

1. Treating preferred stock on fully dilutive basis i.e., assuming it to be equity
2. Treating preferred stock as a debt

Preferred stock carries a preferential right in liquidation. Thus, it definitely cannot be treated as equity even if it is fully convertible at the option of investor.

Following types of rights in various investments made by VCs, or strategic investors have been observed:

i. Cumulative Preference Dividends

ii. Non-Cumulative Preference Dividends

iii. Non-Participating Liquidation Preference

iv. Participating Liquidation Preference

v. Mandatory Redemption

vi. Conversion in Fixed Number of Equity Shares

vii. Conversion in Variable Number of Equity Shares

viii. Anti-Dilution Right

ix. Voting Rights

x. Protective Provisions

xi. Right to Board Composition

xii. Drag Along

xiii. Right to participate in future rounds

xiv. Right of First Refusal

xv. Right of Tag Along

Out of the various rights observed above, valuation model shall be customized for first 8 rights. Valuation model may not need specific adjustment to account for rights from 9 to 15. Customization to valuation model (for rights from point 1 to point 8) is a matter of professional expertise / advanced knowledge and is not dealt in this concept paper.

13. Measurements Specific to Internet Companies

Measurements	Valuer's Consideration
Number of Visitors/ Month	Visitors reflect a reach of the Internet Based Company. Companies can use 'google analytics tool' to identify: 1. No. of Visitors/ Month 2. No. of New Visitors/ Month 3. % of New Users 4. Bounce Rate 5. Length of Visitor Session Analysing above data can help valuer verify claims of the management related to commercial acceptance and stage of maturity of the company.
Customer Conversion Rate	Data from above matrix can be compared with actual number of orders received in a month/ week to verify customer conversion rate. With a descent history, customer conversion rate can be applied on to expected number of visitors over projected period (suggested not to be more than 3 years) to substantiate the projected revenue.
Average Revenue/ Order Average Revenue/ Customer	Once revenue is substantiated, valuer can verify current value of average revenue per order or per customer and projected values of such averages to check reasonability of projection.
Monthly Recurring Revenue	Product based companies may earn recurring monthly revenue (e.g., Microsoft earns recurring monthly revenue for Office 365 subscription). E-commerce companies such as Netflix use this matrix to estimate their fair values.
Customer Acquisition	Marketing cost is one of the significant cost of

Cost	internet based companies. Valuer is suggested to analyse historical data along with growing or declining pattern of number of customers to establish a judgement on future projections of the management. If current customer acquisition cost is more than revenue per customer, then valuer must understand and elaborate on expected growth in revenue vis-a-vis current and expected marketing cost.
Churn Rate	This means rate of customers entity lost to total number of customers. Valuer can tabulate current, new, and closing number of customers to identify number of lost customers. For example, if entity has 100 customers at the beginning of year 3, it adds 20 more customers during year 3, however, customers at the end of year 3 are 110, then churn rate is (100 + 20 – 110) / 100 = 10%. Historical identification of churn rate can help valuer establish stage of a life cycle of the company.
Burn Rate	It is a cash lost vis-à-vis cash balance. Burn rate = Total Cash Balance / Cash Expense during month. In the early stages of enterprise, valuer can use burn rate to identify 'time of survival' with existing cash and 'time of additional investment' to maintain current/ projected burn rate.

14. Lessons Learnt

The two most appropriate methods of valuing a start-up company are the income approach and the market comparable approach. Income approach, as noted, is sometimes limited because of the uncertainty of the future success of the company, much less its revenues, expenses, and cash flow. The market comparable approach, however, is also often limited because there are usually few truly comparable publicly traded companies for a new or very young company. It is preferable to use Income Approach assuming entity specific

cash flows can be estimated after due adjustments related to various entity specific risks.

15. Conclusion

It should be recognized that in terms of Fair Value, or as appraisers use the term, Fair Market Value, there is often a substantial difference between the enterprise value of a privately held company and one that is now publicly traded. So, while using comparable approach analyst should discount the Multiple of the publicly traded firm due to size, liquidity and other factors.

Chapter-6

Business Valuation under Mergers and Acquisitions

A merger is the combination of two companies into a single business entity. An example would be merger of Vodafone India with Idea Cellular Limited in 2018 to form a new merged entity of Vodafone Idea Limited. The merger was reported to be valued around $23 Billion and was pushed majorly to achieve Synergy benefits on Cost and network optimization, as survival for telecom giants individually was becoming difficult due to drastic price reduction post entry of Reliance Jio.

An acquisition is the purchase of one company/business by another company. The most recent example of one of the biggest acquisitions will be, Walmart Acquisition of Flipkart, wherein Walmart went ahead to acquire 77% stake in Flipkart for $16 Billion. This marked Walmart's entry into India Market against its global competitor Amazon.

Hence it can be seen that the purpose of mergers and acquisitions revolves around a company's growth/survival strategy i.e.. to increase market share and reduce competition or to enter a new sector or product line or even geography. Hence the ultimate objective of combining two or more companies through M&A deal is to increase shareholder value in business. This increase in shareholders' value takes place primarily on account of Synergy benefits achieved post the deal. Synergy results from incremental benefits that accrue to the acquirer on account of economies of scale or other post-acquisition factors, such as realisation of increased discretionary cash flow or reduced risk in attaining same when two businesses combine. Synergy can be categorized as under

(1) Revenue synergies - tend to play out in the product markets and are subject to the market forces beyond the control of the firm. Hence, it is the least predictable and reliable of the three. It involves majorly greater market share and reduction of competition

(2) Cost synergies- cost reduction strategies are under the control of the combined entity and hence, the most reliable. In addition, these are recurring in nature as are any economies of scale benefits.

(3) Under financial synergies, tax strategies are easier to understand and harder to realize considering the limitations imposed on carry forward losses and change in ownership. Similarly, debt capacity synergies are easier to understand in that they reduce the cost of borrowing or increase the ability to raise debt. However, quantifying this reduced cost of borrowing is not necessarily a synergy. If the individual firms are able to optimize their debt equity ratios on a stand-alone basis and achieve the same result, this is not a synergy. When the synergy is the result of better borrowing power due to a shift in the optimum debt capacity needed to lower WACC, this can be quantified as a synergy. Typically, this result is achieved through diversification or combining two entities with less than perfectly correlated cash flows to achieve a more stable total cash flow

Valuations in case of Mergers and Acquisitions

The decision to merge / demerge is not only based on the market study, competitor analysis, legal and procedural aspects, forecasting of synergies, etc., but also need to take into account valuation of businesses involved in merger / demerger. Valuation in mergers and acquisition is absolutely indispensable and rather most crucial activity. In any M&A transaction it is extremely critical to bring on table the valuation of financial aspects of all entities involved. Without the valuation it is absolutely impossible to determine how much of additional value creation will be done for shareholders through the M&A transaction. No matter how lucrative the strategic or business model of the deal may look but until valuation is carried out the basic question will remain unanswered i.e. “what amount are we willing to pay?”.

M&A valuation involves the use of different methods to analyse the financial profile of companies before they are merged and also that of the final merged company after the two companies are combined. The primary goal is to determine whether the Buyer’s earnings per share will increase or decrease as a result of the transaction.

- An increase in expected earnings is referred to as *accretion*, and this type of merger or acquisition is known as an ***accretive acquisition***.
- A decrease in expected earnings is called *dilution*; this type of merger or acquisition is known as a ***dilutive acquisition*.**

Ultimately, whether the transaction is accretive or dilutive is a function of the purchase price for the Target, as well as the number of shares issued for raising capital to finance the purchase.

Valuation under M&A transaction involves following key steps:-

1) Identifying the assumptions in the M&A Deal, e.g.: how it will be financed, DLOC/Control Premium, Synergy Analysis etc.

2) Deep Analysis and due-diligence study of the financials of all the companies involved in the deal.

3) Projection of income and net cash flow for all the companies involved in the deal on a standalone basis.

4) Projecting the income statement or net cash flow for the future merged company by merging their standalone income statements and adjusting same for following:

   Type of consideration offered (cash or stock) and the impact this will have on results

   Goodwill and other balance sheet adjustments

   Transaction costs

   Synergy impacts

   DLOM/DLOC/Control Premium

5) Analysis of accretion/dilution and balance sheet impact by determining the EPS before the deal and after the deal.

6) Finally Answering the basic Question i.e., optimum Purchase price for the deal

Approaches Used in Valuation of M&A deals

In case of Merger, a valuer needs to determine a 'share exchange /swap ratio' which would be based on the relative valuation of the transferor and transferee companies. Both the transferor & transferee companies are generally valued using same approaches and similar weightage is assigned to different methods used. However it can vary in case the companies are in different industries.

Out of the three approaches Cost Approach is hardly used in valuation of M&A deals and it is majorly the Relative/Market approach or Discounted Cash Flow method that comes into picture. Cash Approach is generally used in combination with other approaches or in case the company being acquired is a distressed company or company under liquidation.

Market Approach

The Market value approach is based on valuation basis Valuation multiples derived from comparison with a company's peers. For example, if the average price/earnings multiple for a group of similar companies is 20 times earnings, applying this multiple to the target company's earnings will yield a theoretical stock price. The various multiples that are used in the approach are as under

***Price multiples*:**

Price-to-earnings ratios (P/E ratio, P/EBIT ratio, and P/EBITDA ratio)

Price-to-sales ratio

Price-to-book ratio

Enterprise value multiples:

EV/EBITDA multiple

EV/Sales multiple

Considering the efficiency of public markets one might always think that valuation as per market approach will give good result, but in reality it is not so. One will frequently see stocks are either grossly undervalued or overvalued in the market as it doesn't look into the intrinsic valuation of company.

Comparable Transaction Values help us to value a target company in the context of other deals done in the industry. Applying multiples from recent and similar acquisitions that are comparable to the deal at hand gives an indication of how the company should be valued in the context of a deal. This approach uses the transaction multiples of comparables deals and applies those multiples to the target's operating metrics. For example, if the average multiple of sales for five comparable transactions is 1.5 times, the proposed target should probably also sell for a multiple of sales in this range. This is one of the most commonly used approaches in and M&A transaction especially for Start-up companies.

Discounted Cash Flow Method (DCF)

DCF Method is another commonly used method in valuing a merger and acquisition transaction. It helps in determining the intrinsic valuation of a business as it evaluates the projected cash flows of a target company using a discount rate that approximates the target's cost of financing. The cash flows for a defined projection period plus a terminal value approximating the cash

flows beyond the projection period for the company are discounted back to the present value, using a discount rate. As discussed earlier, in M&A firms are valued both on individual basis (based on their individual projected cash flow) & also for merged entity (based on the projected cash flow of merged entity) to determine the exchange ratio/swap ratio

Other Analyses

Contribution Analysis- This method compares the contribution of various financial factors like revenues, gross profits, operating profits, and earnings of each company that is a party to the transaction to the ultimate merged company. It benchmarks the contribution of each company that are part of the deal. For example, if a company contributes 60% of revenues, gross profits and earnings to the combined company yet its shareholders receive 40% of the ownership in the combined company, it may make sense to revisit the deal.

Legal & Regulatory Requirements

Further various laws under regulatory bodies also requires appointment of valuers in M&A deals and also prescribes the methodology to be used for e.g.: Companies Act 1956 & SEBI

The MCA notified the Companies ('Registered Valuer Rules') with effect from October 18, 2017, although the Companies Act 2013 does not provide any specific valuation methods/formulae to be followed, the Registered Valuer Rules require a Registered Valuer to conduct valuations in compliance with the valuation standards as notified by the Central Government. Until such notification, a Registered Valuer needs to carry out valuation as per:

a. internationally accepted valuation standards; or

b. valuation standards adopted by any Registered Valuers Organisation ('RVO').

In case of any scheme of arrangement involving a listed company, the draft scheme of arrangement needs to be approved by stock exchange(s) before the same is filed with the National Company Law Tribunal ('NCLT'). In this regard, SEBI, through its regulations and circulars has laid down various conditions for grant of approval, guidelines in respect of pricing and disclosure requirements for mergers / demergers involving listed companies.

As per *Circular No. LIST/COMP/02/2017-18* dated May 29, 2017 issued by BSE Limited and *Circular No. NSE/CML/2017/12* dated June 01, 2017 issued by National Stock Exchange of India Limited, following disclosure needs to be

made by a valuer in the valuation report:

Valuation Approaches	XYZ LTD		PQR LTD	
	Value per share	Weight	Value per share	Weight
Income Approach	X	A	Y	D
Market Approach	X	B	Y	E
Cost/Asset Approach	X	C	Y	F
Relative Value per Share		X		Y
Exchange Ratio				**XX**

RATIO:

x (xxx) equity shares of XYZ Ltd of INR 10 each fully paid up for every y (by) equity shares of PQR Ltd of INR 10 each fully paid up

The valuer In case any of the approach mentioned in the table above is not used for arriving at the share exchange / entitlement ratio, detailed reasons for the same needs to be provided by the valuer in his report.

Chapter-7

Frequently Asked Questions

Q1. What do you understand by the term "business valuation"?

A1. In common parlance, business valuation is about estimating the worth or value of the business. It is a process of arriving at the worth of a business given the information available, assumptions and limiting conditions as on the valuation date.

According to the definition in *The International Glossary of Business Valuation Terms*, business valuation is the act or process of determining the value of a business, business ownership interest, security, or intangible asset".

Q2. What are "off balance sheet" items?

A2. Off-balance sheet (OBS) items are assets or liabilities that do not appear on a company's balance sheet. Although not recorded on the balance sheet, they are still assets and liabilities of the company. Off-balance sheet items are typically those not owned by or are a direct obligation of the company. It is necessary for the valuer to value the off balance sheet items to arrive at a fair value of the business as a whole.

For example, when loans are securitized and sold off as investments, the secured debt is often kept off the bank's books. An operating lease is one of the most common off-balance items.

Q3. What are the factors that affect the valuation of a business?

A3. The factors that affect valuation of a business are as follows:

- **Value is specific in Point of time**

Value is determined at a specific point of time e.g. as on 31st March, 2019. Businesses always remain in the state of change as a result of various economic, political, geographical, or strategic factors like acquisitions or sale of business segments or changes in product lines, management, financing arrangements, market conditions, general and business-specific economic conditions, industry and competitive conditions and so on.

Hence, it would be difficult or even impossible at times to change the value with the change in each factor. So, valuation is done on a particular day and time or it can be said that the value is time specific.

- **Value principally depends on the ability of the business to generate discretionary cash flow**

Discretionary cash flow can be determined as cash flow from operations of the business less income taxes thereon, net trade working capital requirements, and capital investment requirements net of the related income tax shield (Discounted Cash flow technique). Hence, more the cash generation by the business, more will be the value of the business.

- **Value also depends greatly on the market forces**

The market rate of return is affected by the following market forces:

i) General economic conditions, particularly short and long term borrowing rates. Short term borrowing rates tend to influence activity level, whereas anticipated long-term borrowing rates tend to influence required rate of return;

ii) Quality and type of purchasers in the market and the motivations, level of risk awareness and investment philosophy of each. This in return affects the value of property/assets/business.

- **Principle of Risk and Return**

In valuation, the risk and return principle simply suggests that risks need to be adequately factored. In theory, risk can be factored in two ways – either in cash flows (Certainty equivalent method) or in the discount rate (Risk Adjusted Discount Rate method). The RADR method is widely used in practice. Simply, it can be concluded that more return is demanded for more risk and there should be a reasoned adjustment for the risk in the valuation.

- **Principle of Reasonableness and Reconciliation of Value**

In valuation, a large number of uncertainties are dealt with and these principles simply refer to reviewing the reasonableness of assumptions about uncertainties and reconciling the values obtained under different approaches. In fact, reconciliation exercise would help to correct some unrealistic assumptions. Valuation of a business involves taking significant responsibility.

This makes it crucial to check the valuation for –

i) inconsistency in judgments and assumptions

ii) conceptual flaws

iii) projection modelling and formula errors

A valuation without reasonable check and reconciliation exercise is not complete and would be difficult to defend.

A sound valuation will be based upon all the relevant facts, but the elements of common sense, informed judgment and reasonableness must enter into the process of weighing those facts and determining their aggregate influence.

- **Value is influenced by Underlying Net Tangible Assets.**

In general, the existence of higher underlying net tangible asset value [measured in terms of both value in use (i.e. going concern value) and liquidation value] support a higher value, all other things being equal.

- **Value is influenced by Liquidity**

As a general rule the greater the liquidity of a business interest, defined in terms of the number of prospective buyers and sellers, the greater will be the value of the business interest. All other things being equal, greater liquidity decreases risk, which in turn leads to higher value.

In an open market transaction, the seller typically maximizes proceeds by pursuing as many prospective purchasers as possible as opposed to notifying only one or a few possibly interested parties.

- **The Value of Minority Interest is less than the Value of a Controlling Interest**

In general, the value of a controlling interest in a business may have a greater value per share than does a minority-interest in the same business when each is viewed in isolation, subject to anything specially mentioned in shareholders' agreement or by any legislation.

Q4. What are the components to be kept in mind by the valuer before accepting any proposal for valuation of business?

A4. Before accepting any proposal for the valuation of business, the valuer must keep the following aspects in mind:-

- Purpose of engagement
- Profile and expectations of the client.
- Valuation Base
- Premise of value
- Information about Industry, Economy and Company.
- Application of discounts and premium.

Q5. What does 'Due Diligence' mean?

A5. It is a very common and popular term in the corporate world in relation to corporate restructuring, merger & acquisition, joint venture, spin-offs, amalgamations, etc. Due diligence is one of the key elements in all these types of transactions because of the fact that the transactions are being done between two unrelated parties, who don't have a deep understanding about the business which they are going to take over or merge with. The purpose of due diligence exercise is to assist the purchaser or the investor in finding out all the facts and figures about the business he is going to acquire or invest prior to completion of the transaction.

Q6. Explain the various types of due diligence that are followed as a discipline for businesses.

A6. Various types of due diligence that is followed as a discipline for businesses are as follows:

- **Commercial or operational due diligence:** It is generally performed by the concerned acquirer enterprise and involves an evaluation from a commercial, strategic or operational perspective. For example, whether the proposed merger would create operational synergies.
- **Financial due diligence:** It commences after a price has been agreed for the business. The principal objective of financial due diligence is usually to look behind the veil of initial information provided by the company and to assess the benefits and costs of the proposed acquisition/merger by inquiring into all relevant aspects of the past, present and future of the business to be acquired/merged with.

- **Tax due diligence:** This is conducted by the tax authorities or on their behalf by any professional to ensure whether the company is adhering to the tax provisions or not.
- **Information system due diligence:** This is to assess the accuracy and completeness of Information systems of the company.
- **Legal due diligence:** It is to find out whether or not the company is complying with the legal provisions. For example, whether the company is filing annual returns or not, whether necessary board resolutions are being passed or not, whether the minute's book is being maintained and updated or not.

Q7. What is the effect of due diligence on Valuation?

A7. Due diligence depicts clear and transparent business facts based on definite and a fool proof statement. To enhance the value of the business, the management of the company may have overvalued the assets or there may be some hidden liabilities of the business. The objective of due diligence process is to look specifically for any such hidden liabilities or overvalued assets.

Q8. Specify the areas that interest the Valuation Analyst during due diligence.

A8. Due diligence provides useful information to protect the interest of business. It needs a dynamic team of employees, integration of management philosophy, installation of an accounting system and creation of monthly financial reporting. For the purpose of due diligence, relevant areas of concern in business include:

- Intellectual property.
- Real and personal property
- Insurance coverage
- Employee benefits
- International transactions
- To ensure, that the claims, about the business are correct.
- Past business, financial performance accounts.

- Forecasted financial performance of the business.
- Valuation of property and other assets.
- Legal and tax compliance.
- Major customer contracts.
- Environmental deals.

Q9. Give a few examples of hidden liabilities.

A9. Few examples of hidden liabilities are as follows:

- The company may not show any show cause notice which have not matured into demands, as contingent liabilities
- Letter of comfort given to banks and financial institutions, which are not disclosed in the financial statements of the company as they are not guarantees.
- Long pending sales tax/income tax assessment
- Future lease liabilities
- Environmental problems/third party claims
- Product and/or other liability claims, warranty liabilities, liquidity damages etc.
- Huge labour claims under negotiation

Q10. Give a few examples of overvalued assets.

A10. Few Examples of Overvalues assets are as follows:

- Uncollected and/ or uncollectible receivables
- Intangibles having no value
- Group company balances under reconciliation
- Litigated assets
- Investment carrying a very low rate of income
- Deferred revenue expenditures
- Obsolete, slow moving or non-moving stock valued above net realisable value

- Obsolete or under used plant and machinery
- Capitalisation of expenditure which is in the nature of revenue

Q11. What are factors to be taken care of by the Valuer before accepting the engagement?

A11. Following factors must be identified before accepting the engagement of valuation:

- Subject and interest to be valued
- Scope of work
- Date of valuation
- Valuation Bases
- Purpose of valuation
- Premise of value
- Assumption, Limiting conditions and scope limitations
- Nature of Business
- Knowledge of the Industry
- Sources of information available
- Governing laws and Regulations

Q12. What are the requirements that a Valuer needs to follow to carry out a Valuation procedure?

A12. Valuer should keep a few things in mind before proceeding with the Valuation process, namely-

- False and misleading information must not be there.
- Valuer must exercise due professional care in the performance of services and obtain adequate documentation.
- Ethical rules and standards should be followed
- Valuer must maintain a high degree of integrity, knowledge and competency regarding valuation.
- Valuer shall exercise due diligence and exercise independent professional judgement.

- Disclosure must be there by a valuer regarding conflict of interest and duty.
- Valuer must maintain an adequate internal code of conduct for proper valuation.
- Consistency in services provided to client.
- Strict vigilance of funds and investments of corporate
- Considerations of cost benefit analysis
- Methods of valuation must be examined in depth for the test of appropriateness.
- Confidential information must not be disclosed to any other person unless it is required or permitted by Standard or Law.
- Transparency must be there in the valuation report.

Q13. How is a firm valued for buy/sell agreements?

A13. Valuation of a business in case of a buy and sell agreement is dependent on the terms mutually agreed between the parties and specified in the agreement. For the majority of these kinds of agreements, the first approach is an arbitrary formula and the other commits the parties to utilise a fair market value. Where the agreement refers to use fair market value, such a value is sought to be determined and arrived at by an independent party being an appraiser. There are however, troublesome situations when the buy and sell agreement does not refer to utilizing a professional valuation, but rather tries to accomplish the same result through application of some predetermined formula. A point worth noting is that there is no single formula or approach that is going to be fair to both sides of an agreement.

The two common formulas used are:

(i) Stock will be purchased at book value, based on the latest audited balance sheet.

(ii) Stock will be purchased at 'x' times EBITDA, based on the latest audited financial statement.

In both cases, the formula is applied to audited financial statements. This means that at a minimum the figures to be used for the purpose of valuation have been reviewed by an independent professional and the

statements were prepared in accordance with the generally accepted accounting practice.

At last, it can be said that valuation in case of buying and sell agreement should be done according to the formula or approach given in the agreement itself. If there is no formula given, discounted cash flow valuation is the best approach considering the facts given in the original agreement.

Q14. What are the specific Aspects to be considered in respect of Business Assets and Surplus Assets while using Discounted Cash Flow Method?

A14. Specific Aspects to be considered in respect of Business Assets and Surplus Assets while using DCF Method are as follows:

i) Business Assets

- DCF method is based on Cash Flows
- Income from Business Assets included in Cash Flows
- Value of Business Assets implicitly captured in Cash Flows
- Fair Value of Assets used for the purpose of business not relevant
- Disposals and acquisitions to be reflected in Cash Flows

ii) Surplus Assets

Surplus Assets refers to assets not actively used for the purpose of business. For instance, there could be land held by the company which is not in the use of the business

- Income from such assets not to be considered for Cash Flows
- Disposals and acquisitions not to be reflected in Cash Flows
- Fair value of such assets to be added to EV
- Fair value of such surplus assets may be determined through appropriate method

Q15. What are the specific Aspects to be considered in respect of trade investments and Non-trade investments while using Discounted Cash Flow Method?

A15. Specific aspects to be considered in respect of trade investments and Non-trade investments while using DCF Method are as follows:

Trade Investments

- Income from such investments to be considered for Cash Flows
- Disposals and acquisitions to be reflected in Cash Flows
- Generally, consolidated Cash Flows can be considered in case of subsidiary companies
- Alternatively, DCF value of subsidiary companies can be added to DCF value of parent company
- Cash flows of subsidiary companies not be considered in parent company

Non Trade Investments

- Income from such investments not to be considered for Cash Flows
- Disposals and acquisitions not to be reflected in Cash Flows
- Fair value of investments to be added to EV
- Fair value may be determined through appropriate method.

Chapter-8
Illustrations

Q1. The estimated betas for ABC Limited, XYZ Limited, and PQR Limited are 1.80, 1.50, and 0.80, respectively. The risk-free rate of return is 6.54 percent, and the equity risk premium is 8.49 percent. Calculate the required rates of return for these three stocks using the CAPM.

A1. Rates of return using the CAPM (R)

= **Risk-free rate of return(Rf)+ Beta(β)*Equity Risk Premium [E(Rm)-Rf]**

ABC Limited

R =Rf+β[E(Rm)-Rf],

=6.54%+1.80(8.49%)

=6.54%+15.28%

=21.82%.

XYZ Limited

R=Rf+β[E(Rm)-Rf]

=6.54%+1.50(8.49%)

=6.54%+12.74%

=19.28%.

PQR Limited

R=Rf+β[E(Rm)-Rf]

=6.54%+.80(8.49%)

=6.54%+6.79%

=13.33%.

Q2. An analyst wants to account for financial distress and market-capitalization as well as market risk in his cost of equity estimate for a particular traded company. Which of the following models is most appropriate for achieving that objective?

a. The capital asset pricing model (CAPM).

b. The Fama–French model.

c. A macroeconomic factor model.

A2. The Fama–French model incorporates market, size, and value risk factors. One possible interpretation of the value risk factor is that it relates to financial distress.

Q3. The following facts describe Sriram Manufacturing Company Limited's component costs of capital and capital structure. Based on the information given, calculate Sriram Manufacturing Company Limited's WACC.

Component Costs of Capital:

Cost of equity based on the CAPM: 15.84%

Pre-tax cost of debt: 12%

Tax rate: 25%

Target weight in capital structure: Equity 75, Debt 25

A3. Debt Equity weightage =25%:75%

Cost of equity =15.84%

Cost of debt =12%*(1-25%)= 9%

Weight * Cost =15.84%*75%+9%*25% =11.88%+2.25% =14.13%

WACC is 14.13%

Q4. The management of C Limited is considering the company's peer group, which of the following statements is not correct?

a. Comments from the management of the company about competitors are generally used when selecting the peer group.

b. The higher the proportion of revenue and operating profit of the

peer company derived from business activities similar to the subject company, the less meaningful the comparison.

c. Comparing the company's performance measures with those for a potential peer-group company is of limited value when the companies are exposed to different stages of the business cycle.

d. Companies in diversified businesses operating in different geographies are not considered as peers.

A4. B is correct because it is a false statement. Companies in similar businesses and scale of operations make meaningful peers.

Q5. When selecting companies for inclusion in a peer group, a company operating in three different business segments would:

a. be in only one peer group.

b. not be included in any peer group.

c. possibly be in more than one peer group.

A5. C is correct. The company could be in more than one peer group depending on the demand drivers for the business segments, although the multiple business segments may make it difficult to classify the company.

Q6. Jothi is evaluating the stocks of Pfizer Electric (PE) and Pfizer Pharma (PP). Jothi is testing the appropriateness of the dividend discount model (DDM) for valuing PE and PP and has compiled the following data for the two companies for from 2009 to 2016.

Year	EPS	DPS	Payout ratio	EPS	DPS	Payout ratio
2016	2.37	1.3	0.55	-69.2	1	-0.01
2015	2.19	1.18	0.54	-4.25	1	-0.24
2014	1.96	1.06	0.54	-19.25	2	-0.10
2013	1.81	0.97	0.54	4.19	2	0.48
2012	1.75	0.92	0.53	4.28	2	0.47
2011	1.71	0.88	0.51	2.6	2	0.77
2010	1.61	0.81	0.50	1.02	2	1.96
2009	1.47	0.72	0.49	5.93	2	0.34

Is Divided Discount model the right approach to value both the companies. Give your reasons.

A6. PE and PP have both declared dividends and have a track record that can be used to forecast the future dividends. On examining PE we find that the EPS has been steadily increasing over the years and correspondingly the Dividend per share has also increased. There is a linear relationship between EPS and DPS. The company has maintained the Dividend payout ratio over the years. Hence DDM can be used to value PE.

In PP the company has made negative EPS over some years but has continued to pay dividends. There is no discernible relationship between EPS and DPS. The company continuing to pay Dividend despite losses show that the company is not reinvesting back into business and is utilising the reserves to pay the dividend. This is not a positive sign for the growth and performance for the company and may not be long standing and stable. Hence DDM cannot be used to value PP.

Q7. During the period 1990–2015, earnings of the Nifty Bank Index companies have increased at an average rate of 7 percent per year, and the dividends paid have increased at an average rate of 5.3 percent per year. Assume the followings:

a. Dividends will continue to grow at the 1990–2015 rate.

b. The required return on the index is 8 percent.

c. Companies in the Nifty bank Index collectively paid 175 crores in dividends in 2015.

Estimate the aggregate value of the Nifty bank Index component companies at the beginning of 2016 using the Gordon growth model.

A7.

Increase in earnings from 1990-2015	=	7.00%
Increase in Dividend paid- (g)	=	5.30%
Required rate of return- (r)	=	8.00%
Dividend paid in 2015- (D1)	=	175
Estimated Value (V0)=D1/(r-g)	=	175*(1+.05)/(0.08-0.053)
	=	6825 crores

Applying the Gordon growth model, with the assumed dividend growth rate of 5.3%, results in an estimated value of Rs. 6825 crores for the Nifty Bank index.

Q8. Assuming Gordon (constant) growth model is appropriate to value the shares of Stable Steel Company Limited. The company had an EPS of Rs 3 in 2015. The retention ratio is 0.55. The company is expected to earn an ROE of 14 percent on its investments, and the required rate of return is 10 percent. All dividends are paid at the end of the year.

a. Calculate the company's sustainable growth rate.

b. Estimate the value of the company's stock at the beginning of 2016.

c. Calculate the present value of growth opportunities.

d. Determine the fraction of the company's value that comes from its growth opportunities.

A8. The calculations are given below:

i) retention ratio (b) = 0.55,

ii) the dividend pay-out ratio = 1 − b = 1 − 0.55 = 0.45.

iii) Sustainable growth rate (g)

g = b(ROE)

= 0.55(0.14)

= 0.077 or 7.70%

iv) Dividend per share paid by the company in 2015

D1 = (1 – b)*(EPS)

= 0.45*(3)

= Rs. 1.35

v) The estimated value at the beginning of 2016 is

V0 = D1/(r-g)

= 1.35*(1+0.077)/(0.10-0.077)

= 63.22

vi) If the company was a no-growth company, that is it paid out all its earnings and did not reinvest any, its earnings would stay the same. The value of such a company would be the value of a perpetuity, which is

D/r = E/r = 3/0.10 = Rs.30.00.

This amount is the no-growth value per share.

So, Present Value of Growth = 63.22 − 30 = 33.22.

vii) The fraction of the company's value that comes from its growth opportunities is 33.22/63.22 = 52.5%

Q9. Standard Company Limited has a trailing P/E of 9. As per Analysts prediction Standard's dividends will continue to grow at its recent rate of 4.5 percent per year perpetually. Given a current dividend and EPS of 0.8 per share and 2.00 per share, respectively, and a required rate of return on equity of 8 percent, determine whether Standard Company is undervalued, fairly valued, or overvalued. Justify your answer.

A9. The calculations are given below:

The payout ratio =DPS/EPS =0.80/ 2.00

= 0.40

= 1 − b,

where b is the earnings retention ratio, therefore P/E is as shown below:

P0/E0 =[(1-b)*(1+g)]/(r-g)

=[0.40*(1+0.045)]/(0.08-0.045)

=11.94

Therefore, the justified trailing P/E based on fundamentals is 11.94

Because the market-trailing P/E of 9 is less than 11.94,

Standard Company shares appear to be undervalued (i.e., selling at a lower than warranted P/E).

Q10. You are analysing the value of shares of Apollo Limited, a healthcare company, as of late June 2016. The share price is 10.20. The company's dividend per share for the fiscal year ending 30

June 2016 was 0.35. You expect the dividend to increase by 10 percent for the next three years and then increase by 8 percent per year forever. You estimate the required return on equity of Apollo Limited to be 11 %.

a. Estimate the value of Apollo using a two-stage dividend discount model.

b. Judge whether Apollo is undervalued, fairly valued, or overvalued.

A10. The calculations are given below:

a. Let r be the required rate of return. Also, let t = 0 indicate the middle of 2016. Because the dividend growth rate becomes constant from the middle of 2019 (t = 3), the value of the mature phase can be expressed as

DPS in 2017 =D1=Do*(1+g) =0.35*1.10 =Rs. 0.385

DPS in 2018 =D2=D1*(1+g) =0.385*(1.10) =Rs. 0.424

DPS in 2019 =D3=D2*(1+g) =0.424*(1.10) =Rs. 0.466

DPS in 2020 =D4=D3*(1+g) =0.466*(1.08) =Rs. 0.503

Value in 2019 =V3=D4/(r-g) =0.503/(0.11-0.08) =Rs. 16.77

Value in 2016 (V0) can be written as

V0 =[D1/(1+r)]+ [D2/(1+r)^2]+ [D3/(1+r)^3]+ [V3/(1+r)^3]

=[0.385/(1+0.11)]+[0.424/(1+0.11)^2]+[0.466/(1+0.11)^3]+ [16.77/((1+0.11)^3]

=Rs 13.294

b. Because Apollo's estimated value of 13.294 is more than the market price of 10.20, Apollo appears to be undervalued at the market price.

Q11. Indicate the effect on this period's FCFF and FCFE of a change in each of the items listed here. Assume Rs100 lakhs increase in each case and a 40 percent tax rate.

a. Net income.

b. Cash operating expenses.

c. Depreciation.

d. Interest expense.

e. EBIT.

f. Accounts receivable.

g. Accounts payable.

h. Property, plant, and equipment.

i. Cash dividends paid.

j. Proceeds from issuing new shares.

k. Common shares bought back.

A11. The calculations are given below:

For a Rs100 lakhs increase in	Change in FCFF in lakhs	Change in FCFE in lakhs
Net income	+100	+100
Cash operating expense	-60	-60
Depreciation	+40	+40
Interest expense	0	-60
EBIT	+60	+60
Accounts receivable	-100	-100
Accounts payable	+100	+100
PPE	-100	-100
Cash dividends	0	0
Proceeds from issue of shares	0	0
Shares bought back	0	0

Q12. Atlas Corpn has FCFF of 18 crores and FCFE of 13crores. Atlas's WACC is 11 percent, and its required rate of return for equity is 13 percent. FCFF is expected to grow forever at 7.5%, and FCFE is expected to grow forever at 8 percent. Company has debt outstanding of 15 crores.

What is the total value of Atlas's equity using the FCFF valuation approach? What is the total value of Proust's equity using the FCFE valuation approach?

A12. The calculations are given below:

The firm value is the present value of FCFF discounted at the WACC, or

Firm value = FCFF1/(WACC-g) = FCFF0*(1+g)/(WACC-g)

= 18*(1.075)/(0.11-0.075)

= Rs. 552.85 crores

The firm value using FCFE valuation is

Firm Value = FCFE1/(r-g)

= FCFE0(1+g)/(r-g)

= 13*(1+8%)/(13%-8%)

= 280 crores.

Q13. Paradigm Company is valued by using the FCFF and FCFE valuation approaches:

- **Paradigm has net income of 300 million,**
- **Depreciation of 100 million,**
- **Capital expenditures of 150 million,**
- **and an increase in working capital of 40 million.**
- **Paradigm will finance 40 percent of the increase in net fixed assets (capital expenditures less depreciation) and 40 percent of the increase in working capital with debt financing.**
- **Interest expenses are 150 million.**
- **The current market value of Paradigm's outstanding debt is 2000 million.**
- **FCFF is expected to grow at 6.0 percent, and FCFE is expected to grow at 7.0 percent.**
- **The tax rate is 30 percent.**

- **Paradigm is financed with 40 percent debt and 60 percent equity.**
- **The pre-tax cost of debt is 9 percent, and the before-tax cost of equity is 15 percent.**
- **Paradigm has 10 million outstanding shares.**

a. Using the FCFF valuation approach, estimate the total value of the firm, the total market value of equity, and the per-share value of equity.

b. Using the FCFE valuation approach, estimate the total market value of equity and the per-share value of equity. (q 7)

A13. The calculations are given below:

a. Total value of the firm, the total market value of equity, and the per-share value of equity using the FCFF method:

Free Cash Flow for Firm	=	Net Income + Non Cash Considerations + Interest*(1-Tax Rate)-Fixed Capital Investments – Working Capital Investments
	=	NI+NCC+Int*(1-Tax rate)-FCInv-WCinv
	=	300+100+150*(1-0.30)-150-40
	=	Rs. 315/-
The WACC	=	[Pre Tax Cost of Debt (1-Tax Rate)* weight of Debt] + [Cost of Equity*weight of equity]
WACC	=	9%*(1-0.30)*(0.40)+15%*(0.60)
	=	11.52%

The value of the firm:

Firm value	=	FCFF1/(WACC-g)
	=	FCFF0*(1+g)/(WACC-g)
	=	315*(1.06)/(0.1152-0.06)
	=	Rs. 6048.91/-

The total value of equity is the total firm value minus the value of debt, Equity = 6048.91 million − 2,000 million = 4,048.91 million.

Dividing by the number of shares gives the per share estimate of V0 = €4048.91million/10 million = 404.89 per share.

b. The free cash flow to equity is

Free Cash Flow for Firm = Net Income + Non Cash considerations – Working Capital Investments + Net Borrowing

= NI+NCC-FCInv-WCInv+Net borrowing

= 300+100-150-40+0.40*(150-100+40)

= Rs 246 million

Because the company is borrowing 40 percent of the increase in net capital expenditures (150 − 100) and working capital (40) net borrowing is equal to 0.40*(150-100+40).

The total value of equity is the FCFE discounted at the required rate of return of equity,

Equity value = FCFE1/(r-g)

= FCFE0*(1+g)/(r-g)

= 246*(1.07)/(0.15-0.07)

= 3290.25

The value per share is V0 = 3290.25 million/10 million = 329.02 per share.

Q14. An investor intends to use market multiple P/E and the method of comparables as a basis for purchasing shares of one of two peer-group companies in the business of manufacturing ATMs. Neither company has been profitable to date, nor is expected to have positive EPS over the next year. Data on the companies' prices, trailing EPS, and expected growth rates in sales (five-year compounded rates) are given in the following table:

Company	Price	Trailing EPS	P/e	Expected growth
Swift money	25	2.2	NM	45%
Ready cash	12	1.25	NM	40%

Unfortunately, because the earnings for both companies have been negative, their P/Es are not meaningful. On the basis of this information, address the following: Discuss how the investor might make a relative valuation in this case. State which share the investor would prefer.

A14. The investor can measure and then grade the two stocks by earnings yield (E/P). A lower E/P reflects a richer (higher) valuation irrespective of whether EPS is positive or negative, and a ranking from high to low E/P is useful. Neither business, however, has a history of profitability. When year-ahead EPS is expected to be positive, forward P/E is positive. Thus, the use of forward P/Es sometimes addresses the problem of trailing negative EPS. Forward P/E is not meaningful in this case, however, because next year's earnings are expected to be negative.

Swift money has an E/P of −0.088, and Ready cash has an E/P of −0.10. A higher earnings yield has an interpretation that is similar to that of a lower P/E, so Hand appears to be relatively undervalued. The difference in earnings yield cannot be explained by differences in sales growth forecasts. In fact, Swift money has a higher expected sales growth rate than Ready cash. Therefore, the analyst should recommend Swift money.

Q15. If an analyst uses the Nifty index as a comparison asset in valuing a share, which price multiple would cause concern about the impact of potential overvaluation of the equity index?

A15. The use of any price multiple for valuation has a similar concern. If the stock market is overvalued, an asset that appears to be fairly or even undervalued in relation to an equity index may also be overvalued.

Q16. IC Limited is a multinational distributor of semiconductor chips and related products to businesses. Its leading competitor around the world is Logic gate Electronics. IC Limited has a current market price of 10.00, 20 million shares outstanding, annual sales of 1

billion, and a 5 percent profit margin. Logic gate has a market price of 20.00, 30 million shares outstanding, annual sales of 1.6 billion, and a profit margin of 4.9 percent. Based on the information given, answer the following questions:

a. Which of the two companies has a more attractive valuation based on P/S?

b. Identify and explain one advantage of P/S over P/E as a valuation tool.

A16. The calculations are given below:

P/S = Price/Sales = (Price per share*No. Of shares Outstanding)/Annual Sales

a. IC Limited:

P/S = (Rs.10/share*20 million shares)/[(1 billion sales)]

= (10*20,000,000)/(1,000,000,000)

= 0.2

b. Logic Gate:

P/S = (Rs.20/share*30 million shares)/(1.6 billion sales)

= (20*30,000,000/(1,600,000,000)

= 0.375

IC Limited has a more attractive valuation than Logic Gate based on its lower P/S but comparable profit margin.

Advantage of P/S over P/E is that the decisions relating to accounting have a much greater impact on reported profits than they are likely to have on reported sales. Although companies are able to make a number of legitimate business and accounting decisions that affect earnings, their discretion over reported sales (revenue recognition) is limited. Another advantage is that sales are almost always positive, so using P/S eliminates issues that arise when EPS is zero or negative.

Q17. Top research has a client who has inquired about the valuation method best suited for comparing companies in an industry with the following characteristics: Principal competitors within the industry are located in the London, Paris, Korea, and Mexico. The

industry is currently operating at a cyclical low, with many companies reporting losses. Should Top research consider the following valuation ratios: P/E. P/B. EV/S.

A17. For companies in the industry described, EV/S would be superior to either of the other two ratios. Among other considerations, EV/S is: more useful than P/E in valuing companies with negative earnings; better than either P/E or P/B for comparing companies in different countries that are likely to use different accounting standards (a consequence of the multinational nature of the industry);

Less subject to manipulation than earnings (i.e., through aggressive accounting decisions by management, who may be more motivated to manage earnings when a company is in a cyclical low, rather than in a high, and thus likely to report losses).

Q18. Determine the relative valuation of two companies in the Defence industry, National Heavy Industries (NHI) and Ajantha Group (AG). EBITDA Comparisons (in Rs Millions except Per-Share and Share-Count Data).

	AG	NHI
PRICE PER SHARE	120	80
Shares outstanding	5	2
Debt	25	75
Cash	5	2
Net income	52	14
Net income from continuing operations	52	8
Interest expense	3	5
Depreciation	8	4
Tax	2	3

Using the information in the table, answer the following questions:

a. Calculate EV/EBIDTA for NHI and AG.

b. Which of the two companies is over-valued

A18. EBIDTA for AG = Earnings before Interest Depreciation Tax and Amortisation

EBIDTA for AG	= 52+8+3+2 =65
EBIDTA NIH	= 8+4+5+3 =20
Enterprise value	= Market value of equity+debt- cash
Enterprise value for AG	= 120*5+25-5 = 620
Enterprise value for NIH	= 80*2+75-2 = 233
P/EBIDTA for AG	= (120*5)/65 = 9.23
P/EBIDTA for NIH	= (80*2)/20 = 8.00
EV/ EBIDTA for AG	= 620/65 = 9.54
EV / EBIDTA for NIH	= 233/20 = 11.65

AG is undervalued. AG is relatively undervalued on the basis of EV/EBITDA.

EBITDA is a pre-interest flow; therefore, it is a flow to both debt and equity, and the EV/EBITDA multiple is more appropriate. P/EBITDA does not consider and reflect differences in the use of debt and its impact on business. Substantial differences in leverage exist in this case (NIH uses much more debt), so the preference for using EV/EBITDA rather than P/EBITDA is supported.

Q19. While valuing a company which is the least important factor when assessing the long-run economic and financial outlook of a company?

a) Prospects of the relevant industry

b) Expected changes in EPS.

c) Expected return on equity.

d) General economic condition

A19. General economic condition. While general economic condition is relevant while valuing a company to understand the market growth potential etc, compared to other factors it is less significant. Other factors have a more direct bearing on the valuation.

Q20. Which of the following does not indicate high quality of earnings for a non-investment company?

a) The firm has no extraordinary income.

b) Earnings are from financing activities.

c) Conservative accounting methods were used to calculate earnings.

d) Earnings are stable.

A20. Earnings from financing activities. The company is expected to deploy the resources available at its disposal in business activities to improve the earnings from business and grow the business.

Q21. Three companies in the Auto industry and find the following current ratios: Hatchback Limited = 1.2, Sports car Limited = 1.3, Sedan Limited = 0.8, and SUV Limited = 0.95. Which firm seems to be best able to pay its immediate liabilities?

A21. The current ratio measures the ability of the firm to pay its immediate liabilities and is determined by dividing current assets by current liabilities. In this case, Sedan's current ratio of 0.8 is significantly below other firms in its industry, which suggests Sedan's liquidity is the best of the four.

Q22. Which of the following indicators show that the market is overvalued?

a) high average price-to-book ratio.

b) high average dividend yield.

c) high average P/E ratio.

d) high average ratio of stock prices to corporate sales.

A22. High average price to book ratio, high average P/E ratio and High average Price to sales ratio indicate that the market is overvalued. Average dividends yield merely indicates the pay-out and does not indicate the price.

Q23. The quality and depth of a company's management is an important criterion in assessing a company's business value. What are the factors considered by a valuer to assess the quality and depth of a firm's management?

A23. Factors considered by a valuer to assess the quality and depth of a firm's management are as follows:

a) Management's performance record. Management receives a positive assessment if the firm has prospered under the current management.

b) Meet directly with management, conduct interviews and attend presentations by management.

c) Evaluate evidence of management's strategic planning and attempts to determine the ability of management to achieve its stated goals.

Q24. How is Applying Benchmarks to financial ratios different from comparing a firm's ratios to industry averages over time?

a) In benchmarking you compare your firm's performance to a previous "benchmarked" period and not industry averages.

b) It creates a benchmark of numerous industries for comparison purposes rather than a single industry due to wild fluctuations within specific industries.

c) It creates a benchmark that compares your firm to the best world-class competitors rather than an entire industry.

d) It creates a benchmark by taking an average of a portfolio of industries over a specific time period, usually 5 years, rather than a single industry in a single year due to wild fluctuations within specific industries over short periods of time.

A24. It creates a benchmark that compares your firm to the best world-class competitors rather than an entire industry.

Q25. For the purpose of common-size analysis every balance sheet item is divided by _____ and every income statement is divided by _____

a) its corresponding base year balance sheet item; its corresponding base year income statement item.

b) its corresponding base year income statement item; its corresponding base year balance sheet item.

c) net sales or revenues; total assets.

d) total assets; net sales or revenues

A25. Total Assets; Net sales or revenue

Q26. In conducting an index analysis every balance sheet item is divided by _____ and every income statement is divided by _____

a) its corresponding base year balance sheet item; its corresponding base year income statement item

b) its corresponding base year income statement item; its corresponding base year balance sheet item

c) net sales or revenues; total assets.

d) total assets; net sales or revenues

A26. Its corresponding base year balance sheet item; its corresponding base year income statement item

Q27. Match the Ratios on the right side to what they measure.

Activity	**Name of the ratio**
1. Measure a firm's ability to meet short-term obligations	a) Activity ratios
2. Relate the financial charges of a firm to its ability to service them	b) Liquidity ratio
3. Measure how effectively the firm is using its assets	c) Profitability ratio
4. Relate profits to sales and investment	d) Coverage ratio

A27.

1. Measure a firm's ability to meet short-term obligations – Liquidity ratios.
2. Relate the financial charges of a firm to its ability to service them – Coverage Ratios.
3. Measure how effectively the firm is using its assets – Activity ratios.
4. Relate profits to sales and investment – Profitability ratios.

Q28. Cream Donuts, a local Doughnut joint is compared with Dunkin' Donuts for the purpose of valuing a 7% interest in Cream Donuts, but the minority aspect is ignored for the purpose of this valuation. This analysis does consider the quality of donuts between the two companies as many local doughnut shops make awesome lip-smacking doughnuts.

Key points on business of Dunkin's:

- **Dunkin's has over 10,000 locations internationally**
- **Makes $20 billion in overall revenues,**
- **Serves over 1 million doughnuts a day,**
- **Has 40% of total revenues coming from digital ordering channels,**
- **Has a 20% U.S. Doughnut market share.**

What are the factors that will contribute to the discount?

A28. The following factors contribute to the discount factor of Cream Donuts compared to Dunkin Donuts.

- The quality of food in the local joint will be good they will have a very good local customer base and recurring sales. The Doughnut joint may offer a few other products. But the varieties and new innovative foods coming up every month of frequently will be very low.
- The owner and sales team will be restricted to the shop itself and may work within their locality but will not have a reach outside and hence they cannot grow outside their locality.
- While international brands can afford spending on all latest technology with ease like bring multiple modern payment gateways to food ordering platforms and extensively implement them across all their branches, the local joint cannot incur costs on technology. Technological upgrades for sales and delivery will be constrained.
- Technological implementations on production and quality will also be constrained for Cream Donuts compared to Dunkin Donuts.

- Cream Donuts will have passionate and talented owners, but they will not have a management team that will share and convert this experience across multiple units.
- With pure local recognition they may not have competitive edge outside their locality and may not be recognised or even known outside their locality.
- Capital crunch for expansion beyond locality.
- Many similar eat outs may open locally and compete with Cream Donuts.

Q29. Amongst Dividend Discount Model and Discounted Cash Flow Method, what is the model that a retail investor and institutional investor will use to value a company before investing in the same?

A29. A retail investor gets ownership of the asset. However, they do not have control over the assets. Hence, they are at the mercy of the dividend policy of the company and cannot predict their cash flows in any other manner. In this case, a discounted dividend approach may be more suitable as compared to other approaches.

Institutional investors have deep pockets and are capable of buying a stake which is large enough to get the management to change the dividend pay-out policy. In this case, the discounted dividend model may not be very applicable. Instead, what matters is the amount of free cash flow that can be generated by the company. Hence institutional investors tend to use discounted free cash flow models more often.

Q30. Discuss three types of stocks or investment situations for which a valuer could appropriately use P/B in valuation.

A30. Although the measurement of book value has a number of widely recognized shortcomings, P/B may still be applied fruitfully in several circumstances: The company is not expected to continue as a going concern.

When a company is likely to be liquidated (so ongoing earnings and cash flow are not relevant), the value of its assets less its liabilities is of utmost importance. The valuer must establish the fair value of these assets.

The company is composed mainly of liquid assets, which is the case for finance, investment, insurance, and banking institutions. The company's EPS is highly variable or negative.

Chapter-9
Case Studies

Case Study 1: Case study Based on Free Cash Flow to Firm & Free Cash Flow to Equity

Mr. Dev, a research analyst, has been hired to value RC Ltd., a company that is currently experiencing rapid growth and expansion. Dev is convinced that a value for the equity of RC Ltd. can be reliably obtained through the use of a three-stage FCFE model with declining growth in the second stage. He has determined that the current FCFE/share is Rs.1.00. He has prepared a forecast of expected growth rates in FCFE as follows:

Stage 1: 8% for years 1 through 3; Stage 2: 7.0% in year 4, 6.5% in year 5, 6.0% in year 6; Stage 3: 4.0% in year 7 and thereafter. Moreover, Dev has determined that the company has a beta of 1.6. The current risk-free rate is 3.0%, and the equity risk premium is 5.0%. Outstanding shares: 100 lakhs; Tax rate: 40.0% Interest expense: Rs.30,00,000.

1) What is the required Rate of Return?

2) What is the terminal value in year 6?

3) The per share value Dev should assign to RC Ltd is?

4) What is the Free Cash Flow to Firm or FCFF?

Solution:

1)

Discount Rate Derivation	
Risk free rate of return(Rf)	3%
Equity Risk Premium (ERP)	5%
Beta	1.6
Discount Rate= Rf+Beta*ERP	11.0%

2)

FCFE Computation									
Time Period --->	**Today**	**1**	**2**	**3**	**4**	**5**	**6**	**Normalized**	**Terminal Value**
FCFE per share	1	1.08	1.16	1.26	1.34	1.43	1.52	1.58	22.6
Annual growth		8%	8%	8%	7%	6.50%	6%	4%	=[1.583/(11%-4%)]

3)

FCFE Computation									
Time Period -->	Today	1	2	3	4	5	6	Normalized	Terminal Value
FCFE per share	1	1.08	1.17	1.26	1.35	1.44	1.52	1.58	22.61
Annual growth		8%	8%	8%	7%	6.50%	6%	4%	
Period (end period)		1	2	3	4	5	6	7	
PV Factors based on 11%	11.0%	0.9	0.8	0.7	0.7	0.6	0.5		0.5
PV of FCFE per share		1.0	0.9	0.9	0.9	0.9	0.8		12.1
Val per share (Discrete+ Terminal) (INR)		17.48							

4)

FCFF Computation	
FCFE (as given) per share	1
Interest Expense (INR)	30,00,000
Interest Expense per share	0.3
Post Tax Int. Expense/share	0.18
FCFF per share	1.18
FCFF (INR lakhs)	118

Case Study 2: Case Study Based on Market Approach

Company	Book Value of Equity2015 (INR Mn)	Sales 2015 (INR Mn)	Shares Outstanding 2015 (INR Mn)	Price (INR)
Drugs, Inc.	19,950	32,373	6,162	31.37
Apps Inc.	61,020	32,187	10,771	25.63
Peer Group	**Mean P/B**	**Median P/B**	**Mean P/S**	**Median P/S**
Medical – Drug	5.62	4.25	8.71	4.53
application Software	4.1	2.1	3.42	1.44

Drugs Inc belongs to the Medical - Drugs group and Apps Inc belongs to the Applications Software group.

Question 1: The current price - to - book and price - to - sales ratios for Drugs, Inc are closest to:

	P/B	P/S
A.	3.238	5.254
B.	3.238	5.971
C.	9.688	5.971

Solution

For Druga Inc

Book value per share = Book value of equity/ Number of shares outstanding

= 19950/ 6162 = 3.24

P/B = Market price per share/ Book value per share

= 31.37/ 3.238 = 9.69

Sales/ share = Sales/ Number of shares outstanding

= 32373/ 6162 = 5.25

P/S = Market price per share/ Sales per share

= 31.3/ 5.254 = 5.97

Answer C is correct

Question 2: The current price - to - book and price - to - sales ratios for Apps Inc are closest to:

	P/B	P/S
A.	4.524	8.578
B.	5.665	2.988
C.	4.524	2.988

Solution

For Apps Inc

Book value per share = Book value of equity/ Number of shares outstanding

= 61020/ 10771 = 5.67

P/B = Market price per share/ Book value per share

= 25.63/5.665 = 4.52

Sales/ share = Sales/ Number of shares outstanding

= 32187/ 10771 = 2.99

P/S = Market price per share/ Sales per share

= 25.63/ 2.99 = 8.58

Answer A is correct

Question 3:

Which of the following statements is most accurate, given the financial data on Drugs Inc, Apps, Inc and the two industries?

A. Both stocks are relatively overvalued.

B. Both stocks are relatively undervalued

C. One stock is relatively overvalued and the other is relatively undervalued

Solution: A

Both stocks are relatively overvalued. The P/B and P/S ratios for Drugs Inc are 9.69 and 5.971. The P/B ratio of Drugs Inc exceeds the mean P/B ratio for peer group (5.622) as well as the median P/B ratio (4.250) for the peer group. Therefore, by this measure, the stock would appear to be overvalued. The P/S ratio also exceeds the median P/S (4.530) for the peer group. Similar is the case for Apps, Inc.

Case Study 3: Cadbury India Limited Buyback

Back Ground

Cadbury India Ltd. was incorporated on 19th July 1948 under the name of Cadbury Fry (India) Pvt. Ltd. Cadbury India was a subsidiary of Cadbury Schweppes Overseas Limited which in turn was held by Cadbury Plc, UK. This was later taken over by Kraft Food Inc. Cadbury has a policy of operating globally only through wholly-owned subsidiaries however exceptions have had to be made only for compelling business reasons, foreign investment laws or foreign exchange restrictions. From 1948 to 1977 Cadbury India was a wholly-owned subsidiary of Cadbury Schweppes. In 1977, the policy of the Government then in power required Cadbury Schweppes to dilute its shareholding in Cadbury India from 100% to 60%. It was only then that Cadbury India ceased to be a wholly-owned subsidiary of Cadbury Schweppes.

Following economic liberalisation of 2002, FDI was allowed up to 100%. Thereafter, Cadbury Schweppes and another group company, i.e., Cadbury Mauritius Ltd. increased their collective holdings in Cadbury India to 90%, by making various open market offers, and public shareholding fell below 10%. Consequently, Cadbury India got de-listed from the stock exchanges. Over time, the shareholding of the Cadbury Group increased to about 97.58% through a series of open and buy back offers. The details of some of these are listed below.

Year of Buyback	Price per share	No. Of shares bought Back
2002-2006	500	14,15,271
2006	750	13,52,605
2007	815	11,53,374
2008	950	10,20,300
2009	1030	11,16,168

In 2009 only 2.4% of shares were held by public, CIL made an offer to these remaining minority shareholders at Rs. 1,340 per share, based on valuation reports from two reputed and independent valuers, Valuer 1 and Valuer 2. Against same petition was filed by the minority shareholders before Hon'ble

Mumbai High Court on the contention that Cadbury India Ltd has been under-valued and they are being suppressed due to minority shareholding.

Thereafter an order was passed by the Hon'ble High Court appointing M/s. Valuer 3 as independent valuers. This valuation was to be as on the appointed date and based on the unaudited balance sheet as on 31st July 2009, taking into account the same material as was provided to Valuer 1 and Valuer 2. Valuer 3 was permitted to call for additional information.

On the date of the petition the issued share capital of Cadbury India Ltd. stood at Rs. 31,06,95,530 divided into 3,10,69,553 equity shares of Rs. 10/- each and the subscribed share capital was Rs. 31,06,70,400 divided into 3,10,67,040 equity shares of Rs. 10 each. The audited accounts of the Company for the year ending 31st December 2008, showing the financial position of the company was as follows:

Particulars	Rs in Mn
Net worth(share Capital & Reserves)	4,644.0
Secured Loans	320.2
Unsecured Loans	96.8
Fixed Assets (incl CWIP & Adv)	7,552.5
Investments	29.2
Current Assets Loan & Advances	5,818.8
Current Liabilities & Provision	4,495.7
Net Current Assets	1,323.1
PBT 2008	2,018.9
PAT 2008	1,657.8

Valuer 3 submitted its valuation report on 20th May 2010 ("the first report") wherein it adopted the Comparable Companies Multiples ("CCM") method of valuation using Nestle, GSK & Britannia as the comparable companies, and returned a value of Rs. 1,743/- per fully paid up equity share.

CIL - valuation as per Comparable Companies' Multiples method (Rs. millions)						
	SALES			PAT		
Comparable Companies	**CAGR for period**	**CAGR of sales**	**Net Sales of comparables (Rs in Mn)**	**CAGR of PAT**	**PAT / Total income margin of comparables**	**P/E multiple $**
Cadbury India Limited	CY 1999 - CY 2008	xxx%	xxx	xxx%	xxx	
Nestle India Limited	CY 1999 - CY 2008	xxx%	xxx	xxx%	xxx	Xxx
GlaxoSmithKline Consumer Healthcare Ltd	CY 1999 - CY 2008	xxx%	xxx	xxx%	xxx	Yyy
Britannia Industries Ltd	FY 1999 - FY 2008	xxx%	xxx	xxx%	xxx	Zzz
Multiple considered for valuation analysis#						AAA
Amount of Consolidated PAT for the year ended March 31, 2009						
Equity Value						
Less: Amount paid on buyback of 1,116,168 equity shares from April 01, 2009 to September 30, 2009 at a price of ` 1,030 per equity share						
Equity value of CIL as at September 30, 2009 based on CCM method (Rs in million)						**Xxxxxx**

In this report following is worth noting

1) Valuer did not take into account any premium,

2) The PE multiple was arrived at considering factors like stock market trends, size and growth trends ofυ comparable companies vis-à-vis CIL, market share of CIL in the chocolate segment.

3) The selected PE multiple was higher than the then prevailing PE multiples of BSE Sensex and BSE FMCG Indexυ

4) Nestle and Britannia both had factories located in tax benefit zone in Uttarakhand

However, the minority shareholders opposed this report as well and produced their own valuation of Rs 2,500 per share and demanded that the valuation shall be done on DCF Method. This valuation of 2,500 was not based on any data or material pertaining to Cadbury India, but on the supposed market value of Nestle India Limited. The minority shareholders held that since on 19th January 2010, Nestle's shares were being traded at Rs. 2,542/- per share, Cadbury India's shares should be at least Rs. 2,500/-, for the two must be held to be "competitors". The court found the valuation approach completely untenable and further directed Valuation 3 to update its valuation report dated 20th May 2010 taking into account the valuation of the Company based on the Discounted Cash Flow ("DCF") method along with the CCM method.

Approach	Methodology	Used	Remarks
Market approach	Market Price method	No	• The shares of CIL were not listed on any stock exchange.
	Comparable Companies method	Yes	• This method was used considering that there were stocks of comparable companies like Nestle, GSK Consumer Healthcare and Britannia being traded on the Indian stock exchanges
	Comparable Transactions method	No	• Method not used due to lack of availability of credible and complete data about the transactions in public domain
Income approach	DCF method	Yes	• Initially, did not use this method as the financial projections were not provided. However, later with Court orders, CIL provided the same and the DCF method was used
Cost approach	Net Asset Value	No	• CIL's business being a B2C business with huge brand recall,

			the value lied in the business operations and not the underlying assets of the Company • Though there was value in the real estate owned by the company, however, all of these were being used for business operations.

Valuer 3 performed valuation basis both the methods giving equal weightage to both and came up with a valuation of Rs. 2,014.5 per share. The basic assumptions considered in same were as under

1) CAGR of sales for next 10 years considered at 18.3% as against 14.5% of last 10 years

2) Cost of Equity considered at 11% , wherein Rf = 7% and Rm = 15% ; Beta Considered based on betas of comparable companies @ 0.50

3) Debt/Equity Ratio = 0, hence WACC = Cost of Equity

4) Terminal Growth Rate considered @6% based on comparison between future projections with past performance, and with the projections of comparable companies.

5) Income Tax considered flat at 33.33% assuming that Tax regimes are liable to change at short notice. Hence in long run a flat tax rate in a projection might, in fact, provide a very realistic and fairer value than something that is presently at a lower marginal rate.

6) Equal Weightage Given to both CCM and DCF method to arrive at final valuation

Conclusion

The revised Valuation of Rs 2014 as well was challenged by the minority shareholders but The High Court, in a detailed judgment, agreed with Valuer's approach and dismissed all objections raised against the report.

"The court held that in order to decline sanction it must be shown that the valuation is ex-facie unreasonable. The mere existence of other possible methods of valuation would not be sufficient to deny sanction to such a

scheme. It was held that the assent of the court would be given if: (1) the scheme is not against the public interest; (2) the scheme is fair and just; and (3) the scheme does not unfairly discriminate against or prejudice a class of shareholders"

Hence it was held that the valuation of Rs. 2,014.50/- per fully paid up equity share arrived at by the Court-appointed valuer in its second (supplementary) report dated 29th July 2011 is accepted.

Case Study 4: Case study based on Discounted Cash Flow Methodology with tax benefits and MAT credit.

Introduction

On 20th Apr 2017 you have been asked by your Partner to undertake valuation of ABC India Pvt Ltd which is a non-listed company and has two units one in Bengaluru and the other in SEZ enjoying tax exemption till 31st March 21.

You have been asked to ascertain the value per share for the company on behalf of a potential buyer XYZ ltd. You have been asked to use DCF approach as they are convinced that value of ABC Ltd can be accurately ascertained using same as future projections for the purpose of valuation' can be correctly determined.

Due Diligence for ABC India Pvt Ltd. Historical Financials upto 31st Mar 2017 has been carried out by ALP Consultants Ltd. and hence you can put full reliance on same. The management of ABC India Pvt Ltd. will be sharing projected financial statements for next five years which needs to be critically analysed by you.

I. Assumptions

After management interviews and review of prospective financial information developed by the company following are the Basic information & assumptions and projected balance sheet & P&L

Particulars	Mar 31, 2017	Source
Risk Free rate % (Rf)	8.50%	10 Years Govt. Bond yield rate
Terminal Growth in final year	5.21%	
Growth rate	2%	Presumed
Interest Rate of Loan / Debt	8%	LIBOR + 3%
Annual capex from 2021-22 onwards (INR mn)	50.00	
Illiquidity discount	15%	Presumed
Tax Rates		
Normal Tax Rate - upto 2018	33.22%	

Normal Tax Rate - 2019 and onwards	30%	SEZ and Section 10A benefits have been
MAT - upto 2018	19.93%	considered in tax provisioning
MAT - 2019 and onwards	20.00%	
Total no. of Equity Shares	42,40,694	As per financials as on March 31, 2017
Average depreciation		
Services	24%	
Manufacturing	10%	

Balance Sheet as on Mar 31, 2017 along with 5 Years Projection					*Amount (in Mn Rs.)*	
Particulars	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
SOURCES OF FUNDS						
Share Capital						
Called up and Paid up	42.41	338.50	338.50	338.50	338.50	338.50
Reserves & Surplus						
Securities Premium	47.59	47.59	47.59	47.59	47.59	47.59
General Reserve						
P&L account:						
Opening balance	39.22	54.54	86.63	288.38	591.89	982.38
Profit / (loss) during the year	15.32	32.09	201.75	303.51	390.49	411.53
Closing balance	54.54	86.63	288.38	591.89	982.38	1,393.91
Funds belonging to Equity Shareholders	144.54	472.72	674.48	977.98	1,368.47	1,780.00
Deferred Tax Liability	-					
External Commercial Borrowings (ECB)	102.00	322.10	322.10	322.10	241.58	80.53
TOTAL	**246.54**	**794.82**	**996.58**	**1,300.08**	**1,610.04**	**1,860.53**

Balance Sheet as on Mar 31, 2017 along with 5 Years Projection					*Amount (in Mn Rs.)*	
Particulars	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
APPLICATION OF FUNDS						
Fixed Assets						
Gross Block (including additions)	133.48	612.60	639.20	639.20	639.20	639.20
Less : Accumulated Depreciation	37.20	23.95	73.57	123.20	172.82	222.44
Net Block	***96.28***	***588.65***	***565.63***	***516.00***	***466.38***	***416.76***
Capital WIP	64.09					
Deferred tax Asset	7.27					
Investments	-					
Current Assets :						
Current Assets (Excluding Cash & Bank)	96.34	258.04	388.49	763.51	1,066.30	1,356.78
Cash & Bank Balances	19.33	35.16	155.71	228.09	290.00	305.12
Total Current Assets	*115.67*	293.20	544.20	991.60	1,356.30	1,661.90
Less: Current Liabilities & Provisions	36.78	87.00	113.20	207.52	212.60	218.19
Net Current Assets	78.89	206.20	431.00	784.08	1,143.70	1,443.71
TOTAL	**246.54**	**794.85**	**996.63**	**1,300.08**	**1,610.08**	**1,860.47**

Projected Profit and Loss Account				**Amount (in Mn Rs.)**		
Particulars	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Income						
Sales and Income from services	299.54	544.85	2,412.90	3,534.50	4,493.82	4,728.13

Other Income	0.06	-	-	-	-	-
Gross Income	**299.61**	**544.85**	**2,412.90**	**3,534.50**	**4,493.82**	**4,728.13**
Operating Expenses						
Cost of sales	26.50	83.35	1,512.76	2,349.74	3,089.63	3,245.98
Personnel Cost	123.40	138.84	196.71	295.85	354.17	380.91
Operating and Administration expenses	119.07	257.82	435.77	519.50	596.84	633.46
Total Operating Expenses	**268.97**	**480.01**	**2,145.24**	**3,165.09**	**4,040.64**	**4,260.35**
EBTIDA	**30.63**	**64.84**	**267.66**	**369.41**	**453.17**	**467.78**
%	*10.22*	*11.90*	*11.09*	*10.45*	*10.08*	*9.89*
Depreciation & Amortisation						
Depreciation	12.06	23.95	49.62	49.62	49.62	49.62
PBIT	**18.58**	**40.89**	**218.04**	**319.79**	**403.55**	**418.15**
Interest Charges	1.80	8.77	16.28	16.28	13.06	6.62
PBT	**16.78**	**32.12**	**201.75**	**303.51**	**390.49**	**411.53**
%	*5.60*	*5.90*	*8.36*	*8.59*	*8.69*	*8.70*

II Computation of WACC and Discounting Factor

i) Calculating Rm - Market rate of Return based on BSE Sensex over almost 40 Years

Market Rate of Return Ascertainment		
BSE Sensex Values		
Particulars	**Date**	**Value**
Base value of the Sensex	01-Apr-79	100.00
Sensex Value	21-Apr-17	33,314.56
Number of years		38.64
Sensex multiple - Current over the Base year		333.15
Average Market Return		**16.22%**

We already have Rm and Rf now, hence for determining Cost of Equity we need Beta. For determining Beta we have used comparable multiple method under relative approach and considered average beta of all the comparable companies as beta for ABC India Pvt ltd.

Beta Ascertainment		
Beta of Comparable Companies		
S.No	**Company Name**	**Beta**
1	Competent Automobiles Co. Ltd.	0.94
2	Empire Industries Ltd.	1.05
3	Khaitan (India) Ltd.	0.68
4	Salora International Ltd.	1.18
5	B N R Udyog Ltd.	0.51
6	In House Productions Ltd.	0.82
7	Sparsh B P O Services Ltd.	0.75
8	Timex Group India Ltd.	1.44
9	Roto Pumps Ltd.	1.05
10	Cenlub Industries Ltd.	0.76
11	Polymechplast Machines Ltd	0.019
12	A B C Bearings Ltd.	0.69
	Average	**0.82**

Hence for ABC India Pvt Ltd. The weighted average cost of capital can be calculated as under

Calculation of Cost of Equity			
Cost of Equity:			
	Risk Free Return(Rf)	**Beta**	**Equity Risk Premium [Beta*(Rm-Rf)]**
	8.50%	0.82	6.36%
Cost of Equity		**14.86%**	
Cost of Debt:			
		Interest Rate	**Tax**
		8.00%	33.22%
Cost of Debt	**Interest*(1-t)**	**5.34%**	
	Debt	**Equity**	
	41.37%	***58.63%***	
Weighted Average Cost of Capital			***10.92%***
Add: Liquidity premium			15.00%
Adjusted Cost of Equity			**12.56%**

III Calculation of Tax payouts for both the units and tax benefits from Fixed assets post explicit period

Note for SEZ:

1. The average depreciation rate for the period of projections is taken to be 10%.
2. Additions are taken to qualify for full depreciation in the year of additions.

Note for BLR Unit:

3. The average depreciation rate for the period of projections is taken to be 24%.
4. Additions are taken to qualify for full depreciation in the year of additions.
5. Tax WDV of the assets as at March 31, 2017 (INR mn): 35.01

SEZ UNIT

Calculation of Tax Depreciation					*Amount (in Mn Rs.)*	
Particulars		**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Opening WDV		-	431.19	412.01	370.81	333.73
Additions		479.10	26.60	-	-	-
WDV before Depreciation		479.10	457.79	412.01	370.81	333.73
Less: IT Depreciation	10%	(47.91)	(45.78)	(41.20)	(37.08)	(33.37)
Closing WDV		**431.19**	**412.01**	**370.81**	**333.73**	**300.36**

SEZ Unit						
Computation of Profits before Tax						*Amount (in Mn Rs.)*
Particulars		**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
PBT		20.34	187.25	286.00	369.68	387.09
Add:						
Depreciation		11.85	37.52	37.52	37.52	37.52
Total Inflows (PBDT)		32.19	224.77	323.52	407.20	424.62
Less: IT Depreciation		47.91	45.78	41.20	37.08	33.37

PBT for Tax Purposes		(15.72)	178.99	282.32	370.12	391.24
Normal Tax	**0%/ 15%**	**-**	**-**	**-**	**-**	**58.69**

BLR Unit

Calculation of Tax Depreciation *Amount (in Rs.)*

Particulars		**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Opening WDV		35.01	26.61	20.22	15.37	11.68
Additions		-	-	-	-	-
		35.01	26.61	20.22	15.37	11.68
Less: IT Depreciation	24%	(8.40)	(6.39)	(4.85)	(3.69)	(2.80)
Closing WDV		**26.61**	**20.22**	**15.37**	**11.68**	**8.88**

BLR Unit

Computation of Tax Provision *Amount (in Mn Rs.)*

Particulars		**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
PBT		11.78	14.51	17.51	20.81	24.44
Add:						
Depreciation		12.10	12.10	12.10	12.10	12.10
Total Inflows (PBDT)		23.88	26.61	29.61	32.91	36.54
Less: IT Depreciation		8.40	6.39	4.85	3.69	2.80
PBT for Tax Purposes		15.48	20.22	24.76	29.22	33.74
Normal Tax	**33.22%/30%**	**5.14**	**6.07**	**7.43**	**8.77**	**10.12**

BLR UNIT																														
WDV as at 31.03.22	**8.88**																													
Particulars		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	28
Opening WDV		100.00	76.00	57.76	43.90	33.36	25.36	19.27	14.65	11.13	8.46	6.43	4.89	3.71	2.82	2.14	1.63	1.24	0.94	0.72	0.54	0.41	0.31	0.24	0.18	0.14	0.10	0.08	0.06	0.05
Depreciation	24%	24.00	18.24	13.86	10.54	8.01	6.09	4.62	3.51	2.67	2.03	1.54	1.17	0.89	0.68	0.51	0.39	0.30	0.23	0.17	0.13	0.10	0.08	0.06	0.04	0.03	0.03	0.02	0.01	0.01
Closing WDV		76.00	57.76	43.90	33.36	25.36	19.27	14.65	11.13	8.46	6.43	4.89	3.71	2.82	2.14	1.63	1.24	0.94	0.72	0.54	0.41	0.31	0.24	0.18	0.14	0.10	0.08	0.06	0.05	0.03
Tax Savings on Depreciation	30.00%	7.20	5.47	4.16	3.16	2.40	1.83	1.39	1.05	0.80	0.61	0.46	0.35	0.27	0.20	0.15	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00
Discounting Factor	12.56%	0.89	0.79	0.70	0.62	0.55	0.49	0.44	0.39	0.34	0.31	0.27	0.24	0.21	0.19	0.17	0.15	0.13	0.12	0.11	0.09	0.08	0.07	0.07	0.06	0.05	0.05	0.04	0.04	0.03
Present Value of Tax Savings		6.40	4.32	2.92	1.97	1.33	0.90	0.61	0.41	0.28	0.19	0.13	0.09	0.06	0.04	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total PV of Tax Benefit	**19.69**																													

SEZ UNIT																														
WDV as at 31.03.22	**300.36**																													
Particulars		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	28
Opening WDV		100.00	90.00	81.00	72.90	65.61	59.05	53.14	47.83	43.05	38.74	34.87	31.38	28.24	25.42	22.88	20.59	18.53	16.68	15.01	13.51	12.16	10.94	9.85	8.86	7.98	7.18	6.46	5.81	5.23
Depreciation	10%	10.00	9.00	8.10	7.29	6.56	5.90	5.31	4.78	4.30	3.87	3.49	3.14	2.82	2.54	2.29	2.06	1.85	1.67	1.50	1.35	1.22	1.09	0.98	0.89	0.80	0.72	0.65	0.58	0.52
Closing WDV		90.00	81.00	72.90	65.61	59.05	53.14	47.83	43.05	38.74	34.87	31.38	28.24	25.42	22.88	20.59	18.53	16.68	15.01	13.51	12.16	10.94	9.85	8.86	7.98	7.18	6.46	5.81	5.23	4.71
Tax Savings on Depreciation	30.00%	3.00	2.70	2.43	2.19	1.97	1.77	1.59	1.43	1.29	1.16	1.05	0.94	0.85	0.76	0.69	0.62	0.56	0.50	0.45	0.41	0.36	0.33	0.30	0.27	0.24	0.22	0.19	0.17	0.16
Discounting Factor	12.56%	0.89	0.79	0.70	0.62	0.55	0.49	0.44	0.39	0.34	0.31	0.27	0.24	0.21	0.19	0.17	0.15	0.13	0.12	0.11	0.09	0.08	0.07	0.07	0.06	0.05	0.05	0.04	0.04	0.03
Present Value of Tax Savings		2.67	2.13	1.70	1.36	1.09	0.87	0.70	0.56	0.45	0.36	0.28	0.23	0.18	0.15	0.12	0.09	0.07	0.06	0.05	0.04	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
Total PV of Tax	**13.28**																													

IV Income Tax under normal provisions vs MAT

After computing the Normal Tax the next step is to compare it with Minimum alternate Tax

Income-tax & MAT						
Computation of Normal Taxes						Amount (in Mn Rs.)
Particulars		**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
BLR Unit		5.14	6.07	7.43	8.77	10.12
SEZ Unit		-	-	-	-	58.69
Total Normal Tax		**5.14**	**6.07**	**7.43**	**8.77**	**68.81**
Computation of MAT & MAT Credit						*Amount (in Mn Rs.)*
Particulars		**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
Book Profits						
BLR Unit		11.78	14.51	17.51	20.81	24.44
SEZ Unit		20.34	187.25	286.00	369.68	387.09
Total Book Profits		***32.12***	***201.75***	***303.51***	***390.49***	***411.53***
MAT Payable (note)	***20.00%***	**6.42**	**40.35**	**60.70**	**78.10**	**82.31**
Tax Payable and MAT Credit						***Amount (in Mn Rs.)***
Particulars	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**	**Total**
Total Normal Tax	5.14	6.07	7.43	8.77	68.81	96.21
MAT	6.42	40.35	60.70	78.10	82.31	267.88
Actual Tax Outflow	***6.42***	***40.35***	***60.70***	***78.10***	***82.31***	***267.88***
MAT Credit Entitlement	**1.28**	**34.28**	**53.27**	**69.33**	**13.50**	**171.67**

V Present Value of Cash Flows during Explicit Period

The next input is to determine the present value of cash flows for equity shareholders using 16.86% discounting factor and cash flow as per projected financials.

Cash Flows to firm - Explicit Period					*Amount (in Mn Rs.)*
Particulars	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
PBT	32.12	201.75	303.51	390.49	411.53
Add: Interest	8.77	16.28	16.28	13.06	6.62
Add: Depreciation	23.95	49.62	49.62	49.62	49.62
Total Inflows	64.84	267.66	369.41	453.17	467.78
Less: Outflows					
Incremental Working Capital	111.48	104.25	280.70	297.71	284.89
Capital Expenditure	415.03	26.60	-	-	-
Tax on interest	1.75	3.26	3.26	2.61	1.32
Tax Provision	6.42	40.35	60.70	78.10	82.31
Total Outflows	534.68	174.46	344.66	378.42	368.52
Free Cash Flows	(469.84)	93.20	24.76	74.75	99.26
Discount rate	12.56%	12.56%	12.56%	12.56%	12.56%
Discounting factor	0.89	0.79	0.70	0.62	0.55
Discounted Cash Flows	**(417.40)**	**73.56**	**17.36**	**46.56**	**54.93**

VI Computation of Terminal Value for ABC India Pvt. Ltd.

Perpetuity Value		*Amount (in Mn Rs.)*
Particulars	**Amount**	**Amount**
PBDIT of 2021-22		467.78
Adjustments		
Less: Tax	30.00%	(123.46)
Terminal capex		(50.00)
Incremental Working Capital		(109.27)
Net Cash Flow for Perpetuity		***185.04***
Growth Rate		2.00%
perpetuity value		**1,786.84**
Discounting Factor		0.55
Present Value of Perpetuity		**988.79**

VII Discounted Cash Flow Value

After computing all the necessary inputs the final step is to compute the value per share as required by XYZ Ltd.

Discounted Cash Flow Value		
Value per Share		*Amount (in Mn Rs.)*
Particulars	**Amount**	**Amount**
NPV of Explicit Period		(224.99)
Present Value of Perpetuity		988.79
Enterprise Value		**763.80**
Add/(Less): Adjustments		
Contingent Liability		-
MAT Credit at the end of 2021-22	171.67	
Discounting Factor	0.55	95.00

ECB outstanding at the end of 2016-17		(102.00)
Total Value attributable to the Current Equity Shareholders of the company		**756.80**
No. of Equity Shares (note)		42,40,694
Value per Equity Share		**178.46**

Conclusion

Hence it is suggested that XYZ ltd shall consider purchasing ABC India Pvt Ltd. for not more than Rs 178.46/share.

Chapter-10

Detailed Case Study of an automobile company to recommend 'buy or not to buy decision' with Monte Carlo Simulation

This detailed case study of Automobile Company is a scenario based case study wherein Valuer is appointed to recommend 'buy or not-to-buy decision'. Case study explains analysis of historical financial statements, and uses compounded average growth rates to develop prospective financial information. The valuation under DCF is further stress tested on 2 (two) critical inputs - Revenue & Cost as a % of Revenue. Finally, Monte Carlo Simulation is applied to identify confidence level and conclude the decision.

Introduction

You are a Manager in M/s. Valuer Associates and your partner has designated you to perform a valuation of a Peace Auto Pvt. Ltd. (Hence forth to be called as Peace), leading Indian automobile manufacturer for potential strategic Investor – Bull Investor Ltd. Due diligence of the Peace is carried by L.A.W. Lawyers & Associates and have identified no material mis-statements which are significant for considerations under Equity Valuation Exercise. Hence, you can place full reliance on historical financial statements and critically analyse prospective financial information developed by the management. Bull Investor Ltd. and Peace have principally agreed to acquire Controlling stake in the company priced at Rs. 183.70 per share. You are expected to analyse the value proposition to Bull Investor Ltd. You have been requested to use Income Approach and market participant assumptions in deriving the fair value of equity share without assuming any synergy/ acquisition benefits. You have also been asked not to apply discount for lack of marketability as few more strategic buyers are bidding for the complete acquisition and hence investor - Bull Investor Ltd. - believes that the active market for such purchase is available. As the existing investor of Peace Ltd. is looking for exit for personal reason, Bull Investor Ltd. believes that it may not be required to pay controlling premium and hence, for a limited purpose assessment, has requested you to ignore both Controlling Premium and Discount for Lack of Marketability.

About Investee Company

Peace Auto Pvt. Ltd. (Peace) is an automobile company. It offers the world a wide and diverse portfolio of cars, sports utility vehicles, trucks, buses and defence vehicles. Equipped with strong fundamentals, future-ready products, operational excellence, innovation and technological expertise – the company is prepared to navigate the liquidity challenges post FY 2020.

In FY20, challenges facing the automotive industry were aplenty, much before the outbreak of the coronavirus pandemic. A slowing domestic economy, muted demand across other geographies, regulatory transitions (emissions, safety and axle load), pricing pressures and geo-political conflicts put its resilience to test. However, anchored to its core purpose of providing innovative mobility solutions, the company has leveraged its strategic strengths to become more lean, agile and operationally fit amidst the intensifying storm.

Company prioritised its capital expenditures towards immediately value-accretive projects, reduced working capital and curtailed overhead costs. Its new launches and strong pipeline reflect the choices it is making to consolidate its core capabilities by streamlining products, architectures and new-age technologies. Company is exploring strategic alliances to ensure steady access to capital, deleverage its balance sheet and step up its play as a leading automobile manufacturer.

No matter how perfect the storm is and the magnitude of its impact, Peace Auto Pvt. Ltd. is confident of emerging stronger on the other side. Company aims to achieve this by keeping its costs low and ecosystem viable.

Assumptions

After management interviews and review of prospective financial information developed by the company, you have noted that the company's entire sale is a domestic sale and hence, cash flows are solely in Indian Rupees. Capital composition of the company is moderately geared. The Debt Equity Ratio is 2.134 & Debt to total Capital Ratio is 0.681. Peace has issued various bonds (debt instruments) in last 5 years and average cost of debt is 6.5% vis-a-vis comparable market bond cost of 6.75%. Company specific 6.5% cost of debt can be an acceptable cost of debt level for the valuation. Company has only one class of equity shares. Preferred stock is never issued by the company. Peace has average tax cost of 25.17% and management assumes no material changes in tax laws of the country.

ASSUMPTIONS	
Tax Rate (5 Year Average)	**25.17%**
Risk-Free Rate of Return (Rf)(1)	5.89%
S&P BSE Sensex Market Return (Rm) - Yearly for Last 10 Years	**10.2%**
Peace Auto Pvt. Ltd. D/(D+P+E)	68.1%
Peace Auto Pvt. Ltd. D/E	213.4%
Peace Auto Pvt. Ltd. P/E	0.0%
Choice for Cost of Debt	Company Specific Cost of Debt
Peace Auto Pvt. Ltd. Cost of Debt (Rd) - Average of Last 5 Issued Bonds	**6.5%**
Comparable Corporate Yield Curve Rate	**6.75%**
Peace Auto Pvt. Ltd. Cost of Preferred (Rp)	**0.0%**

10 year Indian Government Bond Yield Curve as at Valuation Date was 5.89%.

Calculation of Levered Beta

Beta is a measure of systematic risk. It captures the volatility in stock prices of the company vis-à-vis volatility in the market. Peace Auto Pvt. Ltd. is unlisted entity. Hence, you identified 6 comparable listed entities in order to derive levered beta of Peace.

Identified Listed Comparable Companies are as follows:

1. Maruti Suzuki India Limited
2. Mahindra & Mahindra Limited
3. Hero MotoCorp Limited
4. Bajaj Auto Limited
5. BAIC Motor Corporation Limited
6. TVS Motor Company Limited

Management of Peace Auto Pvt. Ltd. and your partner – both have agreed to use above companies as comparable companies and a representative of the auto industry in India for calculating entity specific beta.

Consequently, the average industry unlevered beta can be identified by assuming above 6 companies' sample as a representative of Auto Industry of Peace Auto Ltd. Consequently, unlevered beta is calculated as below:

The unlevered beta of the industry is calculated as follows.

BETA CALCULATION

Ticker	Name	5Yr Avg Tax Rate	Levered Beta	Total Debt	Mkt. Val. Equity	Pref Equity	Debt/ Equity	Pref/ Equity	Unlevered Beta
NSEI:MARUTI	Maruti Suzuki India Limited	26.2%	1.065	2,108.0	23,10,791.6	0.0	0.1%	0.0%	1.064
NSEI:M&M	Mahindra & Mahindra Limited	49.6%	1.100	8,25,670.1	7,74,092.2	0.0	106.7%	0.0%	0.716
BSE:500182	Hero MotoCorp Limited	27.8%	0.794	4,532.5	6,21,147.4	0.0	0.7%	0.0%	0.790
NSEI:BAJAJ-AUTO	Bajaj Auto Limited	27.1%	0.885	0.0	9,96,594.5	0.0	0.0%	0.0%	0.885
SEHK:1958	BAIC Motor Corporation Limited	29.9%	1.462	2,86,837.7	2,16,570.0	0.0	132.4%	0.0%	0.758
BSE:532343	TVS Motor Company Limited	27.1%	0.886	1,15,914.5	2,30,678.5	0.0	50.2%	0.0%	0.649
Average			**1.032**						**0.810**

Peace Auto Ltd.' Debt Equity Ratio is 2.134. Hence, Levered Beta of the company can be calculated as follows:

Average Unlevered Beta for Comps	0.810
Peace Auto Ltd. D/E	213.4%
Peace Auto Ltd. P/E	0.0%
Tax Rate (5 Year Average)	25.17%
Peace Auto Ltd. Levered Beta	**2.104**

Calculation of ke, kd, & WACC

Discount Rate is the return expected by a market participant from a particular investment and shall reflect not only the time value of money but also the risk inherent in the asset being valued as well as the risk inherent in achieving the future cash flows. You have adopted FCFF approach. Hence, WACC is to be used as a discounting rate.

Cost of Equity is calculated using Capital Asset Pricing Model. Contracted bond yield is assumed to be a cost of debt. Book values are used as weights in calculating weighted average cost of capital.

WACC	
Market Risk Premium (Rm - Rf)	4.4%
Multiplied by: Bottom-Up Beta	2.104
Adjusted Market Risk Premium	9.2%
Add: Risk-Free Rate of Return (Rf)(1)	5.9%
Add: Size Premium	0.0%
Cost of Equity	**15.1%**
Multiplied by: E/(D+P+E)	31.9%
Cost of Equity Portion	4.8%
Peace Auto Ltd. Cost of Debt (Rd) - Average of Last 5 Issued Bonds	6.5%
Tax Rate (5 Year Average)	25.17%
After-Tax Cost of Debt	**4.9%**
Multiplied by: D/(D+P+E)	68.1%
Cost of Debt Portion	3.3%
Peace Auto Ltd. Cost of Preferred (Rp)	**0.0%**
Multiplied by: P/(D+P+E)	0.0%
Cost of Preferred Portion	0.0%
WACC	**8.1%**

Pre-tax cash flows need to be discounted by pre-tax discount rate and post-tax cash flows to be discounted by post-tax discount rate. Consequently, in composition of WACC, cost of debt needs to be netted with tax rate. Further adjustment to discount is not necessary as all company specific risks are captured in management developed prospective financial information.

WACC Sensitivity

Sensitivity towards Pre-tax Cost of Debt

WACC SENSITIVITY ANALYSIS

D/(D+P+E)	Pre-Tax Cost of Debt								
	5.00%	5.50%	6.00%	6.50%	7.00%	7.50%	8.00%	8.50%	9.00%
35.0%	11.1%	11.2%	11.4%	11.5%	11.6%	11.7%	11.9%	12.0%	12.1%
40.0%	10.5%	10.7%	10.8%	11.0%	11.1%	11.3%	11.4%	11.6%	11.7%
45.0%	10.0%	10.1%	10.3%	10.5%	10.6%	10.8%	11.0%	11.1%	11.3%
50.0%	9.4%	9.6%	9.8%	10.0%	10.1%	10.3%	10.5%	10.7%	10.9%
55.0%	8.8%	9.0%	9.2%	9.4%	9.7%	9.9%	10.1%	10.3%	10.5%
60.0%	8.3%	8.5%	8.7%	8.9%	9.2%	9.4%	9.6%	9.8%	10.1%
65.0%	7.7%	7.9%	8.2%	8.4%	8.7%	8.9%	9.2%	9.4%	9.6%

Sensitivity towards Cost of Equity

WACC SENSITIVITY ANALYSIS

E/(D+P+E)	Cost of Equity								
	2.00%	2.75%	3.50%	4.25%	5.00%	5.75%	6.50%	7.25%	8.00%
35.0%	4.0%	4.3%	4.6%	4.8%	5.1%	5.3%	5.6%	5.9%	6.1%
40.0%	4.1%	4.4%	4.7%	5.0%	5.3%	5.6%	5.9%	6.2%	6.5%
45.0%	4.2%	4.6%	4.9%	5.2%	5.6%	5.9%	6.3%	6.6%	6.9%
50.0%	4.3%	4.7%	5.1%	5.5%	5.8%	6.2%	6.6%	7.0%	7.3%
55.0%	4.4%	4.8%	5.3%	5.7%	6.1%	6.5%	6.9%	7.3%	7.7%
60.0%	4.5%	5.0%	5.4%	5.9%	6.3%	6.8%	7.2%	7.7%	8.1%
65.0%	4.6%	5.1%	5.6%	6.1%	6.6%	7.1%	7.6%	8.0%	8.5%

Historical Analysis

2020 will be remembered for the COVID-19 pandemic, which has devastated lives and disrupted livelihoods. However, Peace was fortunate to quickly respond to challenging times. The company has reacted quickly and decisively to the pandemic, with an accelerated focus on improving cashflow and strengthening liquidity to pave the way for long-term EBIT margin improvement. The company has been innovating relentlessly to create exciting and inherently diverse products with a compelling market proposition. Through collaboration and continuous investment into R&D, Peace is leading the transition to connected, seamless and integrated mobility. Peace is now preparing for a post-virus future in which private vehicles could play a far greater role than previously imagined. It has charted a path towards long-term sustainable growth, with a lean cost base, disciplined capital allocation, a highly skilled workforce and world-class R&D. Following is the analysis of historical financial statements of the company.

		2016	2017	2018	2019	2020
Total Revenue	*Sourced From Annual Report*	27,05,112.6	28,75,614.0	29,21,087.5	30,25,597.8	30,87,612.0
Annual Growth			*6.3%*	*1.6%*	*3.6%*	*2.0%*
Cost of Revenue	*Sourced From Annual Report*	14,76,602.1	15,75,836.5	16,00,756.0	16,58,027.6	16,92,011.4
Margin		*54.6%*	*54.8%*	*54.8%*	*54.8%*	*54.8%*
EBITDA	*Sourced From Annual Report*	2,74,818.5	2,81,810.2	3,06,714.2	3,08,611.0	3,08,761.2
Annual Growth			*2.5%*	*8.8%*	*0.6%*	*0.0%*
Margin		*10.2%*	*9.8%*	*10.5%*	*10.2%*	*10.0%*
Less: Depreciation and Amortization	*Sourced From Annual Report*	81,423.0	92,091.3	1,27,734.7	1,26,291.7	1,18,133.2
% of Capital Expenditure		*51.0%*	*57.3%*	*64.3%*	*72.5%*	*82.5%*
EBIT		1,93,395.5	1,89,718.9	1,78,979.5	1,82,319.2	1,90,628.0
Annual Growth			*(1.9%)*	*(5.7%)*	*1.9%*	*4.6%*
Margin		*7.1%*	*6.6%*	*6.1%*	*6.0%*	*6.2%*
Less: Income Taxes		(48,677.6)	(47,752.2)	(45,049.1)	(45,889.8)	(47,981.1)
Unlevered Net Income		1,44,717.9	1,41,966.6	1,33,930.3	1,36,429.5	1,42,647.0
Plus: Depreciation and Amortization		81,423.0	92,091.3	1,27,734.7	1,26,291.7	1,18,133.2
Less: Capital Expenditure	*Sourced From Annual Report*	(1,59,537.9)	(1,60,717.8)	(1,98,654.3)	(1,74,195.5)	(1,43,191.7)
Margin		*(5.9%)*	*(5.6%)*	*(6.8%)*	*(5.8%)*	*(4.6%)*
Less: Additions to Intangibles	*Sourced From Annual Report*	(1,52,064.7)	(61,765.0)	(23,946.0)	(43,943.0)	(35,025.0)
Less: Increase in Working Capital		(7,718.2)	29,094.9	(1,77,795.5)	43,299.5	1,38,478.8
Margin		*(0.3%)*	*1.0%*	*(6.1%)*	*1.4%*	*4.5%*
Unlevered Free Cash Flow		-93,179.9	40,670.0	-1,38,730.7	87,882.2	2,21,042.2
Annual Growth			*(143.6%)*	*(441.1%)*	*(163.3%)*	*151.5%*

Working Capital Assessment

	2015	2016	2017	2018	2019	2020
Total Revenue	27,05,112.6	28,75,614.0	29,21,087.5	30,25,597.8	30,87,612.0	31,91,909.4
Cost of Revenue	14,76,602.1	15,75,836.5	16,00,756.0	16,58,027.6	16,92,011.4	17,49,166.3
Accounts Receivable	2,25,913.2	2,53,519.1	2,52,352.6	2,72,043.3	2,58,547.8	2,71,249.0
Receivable Days	*30.5*	*32.2*	*31.5*	*32.8*	*30.6*	*31.0*
Inventory	2,92,723.4	3,26,370.4	3,50,853.1	4,21,376.3	3,90,137.3	3,74,568.8
Inventory Days	*72.4*	*75.6*	*80.0*	*92.8*	*84.2*	*78.2*
Other Current Assets	36,777.4	27,875.4	49,971.5	1,79,738.9	1,70,845.8	1,01,729.1
Margin	*1.4%*	*1.0%*	*1.7%*	*5.9%*	*5.5%*	*3.2%*
Total Non-Cash Current Assets	5,55,414.0	6,07,764.9	6,53,177.2	8,73,158.5	8,19,530.9	7,47,546.9
Accounts Payable	4,74,072.8	5,13,364.4	5,46,983.3	5,70,384.1	5,45,135.3	6,06,268.8
Payable Days	*117.2*	*118.9*	*124.7*	*125.6*	*117.6*	*126.5*
Accrued Liabilities	33,147.6	36,900.9	38,014.1	45,233.0	62,068.6	52,408.3
Margin	*1.2%*	*1.3%*	*1.3%*	*1.5%*	*2.0%*	*1.6%*
Other Current Liabilities	3,01,903.1	3,03,490.9	3,43,266.0	3,54,832.1	3,52,917.2	3,67,938.8
Margin	*11.2%*	*10.6%*	*11.8%*	*11.7%*	*11.4%*	*11.5%*
Total Non-Debt Current Liabilties	8,09,123.5	8,53,756.2	9,28,263.4	9,70,449.2	9,60,121.1	10,26,615.9
Net Working Capital / (Defecit)	(2,53,709.5)	(2,45,991.3)	(2,75,086.2)	(97,290.7)	(1,40,590.2)	(2,79,069.0)
(Increase) / Decrease in Working Capital		**(7,718.2)**	**29,094.9**	**(1,77,795.5)**	**43,299.5**	**1,38,478.8**

Management Developed Prospective Financial Statements

Performance in immediate 5 (five) years can be assumed to be reasonable basis for developing prospective financial information. Consequently, average growth rates and margins have been used to build the estimations as follows.

	2021E	2022E	2023E	2024E	2025E	CAGR 2021-2025
Total Revenue	31,91,909.4	32,99,729.8	34,11,192.4	35,26,420.1	36,45,540.1	*3.4%*
Annual Growth	*3.4%*	*3.4%*	*3.4%*	*3.4%*	*3.4%*	
Cost of Revenue	17,49,166.3	18,08,251.9	18,69,333.4	19,32,478.2	19,97,756.0	
Margin	*54.8%*	*54.8%*	*54.8%*	*54.8%*	*54.8%*	
EBITDA	3,19,190.9	3,29,973.0	3,41,119.2	3,52,642.0	3,64,554.0	*3.4%*
Annual Growth	*3.4%*	*3.4%*	*3.4%*	*3.4%*	*3.4%*	
Margin	*10.0%*	*10.0%*	*10.0%*	*10.0%*	*10.0%*	
Less: Depreciation and Amortization	1,57,468.5	1,69,412.7	1,81,984.2	1,95,211.8	2,09,125.3	*7.4%*
% of Capital Expenditure	*86.0%*	*89.5%*	*93.0%*	*96.5%*	*100.0%*	
EBIT	1,61,722.5	1,60,560.3	1,59,135.0	1,57,430.3	1,55,428.8	*(1.0%)*
Annual Growth	*(15.2%)*	*(0.7%)*	*(0.9%)*	*(1.1%)*	*(1.3%)*	
Margin	*5.1%*	*4.9%*	*4.7%*	*4.5%*	*4.3%*	
Less: Income Taxes	(40,705.5)	(40,413.0)	(40,054.3)	(39,625.2)	(39,121.4)	
Unlevered Net Income	1,21,016.9	1,20,147.2	1,19,080.7	1,17,805.1	1,16,307.3	*(1.0%)*
Plus: Depreciation and Amortization	1,57,468.5	1,69,412.7	1,81,984.2	1,95,211.8	2,09,125.3	
Less: Capital Expenditure	(1,83,102.9)	(1,89,288.0)	(1,95,682.0)	(2,02,292.0)	(2,09,125.3)	*3.4%*
Margin	*(5.7%)*	*(5.7%)*	*(5.7%)*	*(5.7%)*	*(5.7%)*	
Less: Additions to Intangibles	(34,304.7)	(34,304.7)	(34,304.7)	(34,304.7)	(34,304.7)	
Less: Increase in Working Capital	(45,587.1)	7,886.9	8,153.3	8,428.7	8,713.4	
Margin	*(1.4%)*	*0.2%*	*0.2%*	*0.2%*	*0.2%*	
Unlevered Free Cash Flow	15,490.8	73,854.2	79,231.6	84,848.9	90,716.1	*55.6%*
Annual Growth	*(93.0%)*	*376.8%*	*7.3%*	*7.1%*	*6.9%*	
Discount Factor - End-of-Period Convention	0.25	1.25	2.25	3.25	4.25	
PV of Yearly Cash Flows	3,746.7	66,991.6	66,460.9	65,816.8	65,072.5	

	2021E	2022E	2023E	2024E	2025E	
Total Revenue	31,91,909.4	32,99,729.8	34,11,192.4	35,26,420.1	36,45,540.1	
Cost of Revenue	17,49,166.3	18,08,251.9	18,69,333.4	19,32,478.2	19,97,756.0	
Accounts Receivable	2,74,874.6	2,84,159.7	2,93,758.4	3,03,681.4	3,13,939.5	
Receivable Days	*31.4*	*31.4*	*31.4*	*31.4*	*31.4*	Management believes the level at average of last 5 years
Inventory	3,85,805.1	3,98,837.3	4,12,309.7	4,26,237.3	4,40,635.3	
Inventory Days	*80.5*	*80.5*	*80.5*	*80.5*	*80.5*	Management believes the level at average of last 5 years
Other Current Assets	99,484.4	1,02,844.9	1,06,318.9	1,09,910.3	1,13,623.0	
Margin	*3.12%*	*3.12%*	*3.12%*	*3.12%*	*3.12%*	Management believes the level at average of last 5 years
Total Non-Cash Current Assets	7,60,164.1	7,85,841.9	8,12,387.1	8,39,829.0	8,68,197.8	
Accounts Payable	5,83,443.8	6,03,152.1	6,23,526.2	6,44,588.5	6,66,362.2	
Payable Days	*121.7*	*121.7*	*121.7*	*121.7*	*121.7*	Management believes the level at average of last 5 years
Accrued Liabilities	47,650.6	49,260.2	50,924.2	52,644.4	54,422.7	
Margin	*1.49%*	*1.49%*	*1.49%*	*1.49%*	*1.49%*	Management believes the level at average of last 5 years
Other Current Liabilities	3,62,551.6	3,74,798.3	3,87,458.7	4,00,546.8	4,14,077.0	
Margin	*11.36%*	*11.36%*	*11.36%*	*11.36%*	*11.36%*	Management believes the level at average of last 5 years
Total Non-Debt Current Liabilties	9,93,646.0	10,27,210.7	10,61,909.1	10,97,779.7	11,34,861.9	
Net Working Capital / (Defecit)	(2,33,481.9)	(2,41,368.8)	(2,49,522.0)	(2,57,950.7)	(2,66,664.1)	
(Increase) / Decrease in Working Capital	**(45,587.1)**	**7,886.9**	**8,153.3**	**8,428.7**	**8,713.4**	

The management has assumed accrual basis of accounting in developing the projections. Management is not anticipating significant change from the historical performance to be reflected in the estimations.

You have performed ratio analysis and trend analysis of the historical financial statements and found prospective information in line with such trends. Interviews with the management have revealed that such projections are achievable. You have also referred to few independent research reports on the auto industry and the growth rate in cash flows assumed by the management is found to be within acceptable range.

Future projections of 5 years can be assumed to be a reflection of one entire business cycle and can be assumed to be sufficient explicit forecast period.

Key DCF Assumptions

DCF Assumptions	
Weighted Average Cost of Capital	8.14%
Terminal EBITDA Multiple	5.5x
Implied Perp. Growth Rate of Unlevered Free Cash Flow(2)	3.7%
Tax Rate	25.17%

Fair Value

Terminal Value can be calculated using various methods such as Gordon's Growth Model, Variable Growth model, Exit Multiple, and Salvage or Liquidation Value. In a given case, Bull Investor Ltd. has specifically asked you to use Exit Multiple of 5.5 onto EBITDA level of FY 2025 as a basis for calculation of terminal value. The estimation of terminal value under this method involves application of a market-evidence based capitalisation factor or market multiple.

However, you believe that terminal value can significantly influence the fair value of equity share and hence, decided to perform sensitivity analysis on EBITDA Multiple Input.

Present Value of Equity at 31st December 2020		
		% of TEV
PV of 2021 Free Cash Flow Stub	3,746.7	0.2%
PV of 2022-2025 Free Cash Flows	2,64,341.7	15.5%
PV of Terminal Value	14,38,262.0	84.3%
Enterprise Value	17,06,350.4	100.0%
Less:		
Total Debt	(12,92,710.2)	
Preferred Stock	0.0	
Minority Interest	(8,135.6)	
Plus:		
Cash and Equivalents	4,48,325.6	
Equity Value	8,53,830.2	
Shares Outstanding	4,000.0	
Fair Value i.e. Implied Per Share Value	213.46	
Current Price at which Buy Price is available to Investor	183.70	
Premium/(Discount) to Current Price	*16.2%*	

Fair Value Sensitivity Analysis

EBITDA Exit Multiple Sensitivity to Equity Value per share

Equity Value per Share				
EBITDA Exit Multiple				
3.5x	**4.5x**	**5.5x**	**6.5x**	**7.5x**
105.06	175.83	246.60	317.37	388.14
93.62	161.63	229.63	297.64	365.65
82.71	148.08	213.46	278.83	344.21
72.29	135.16	198.03	260.90	323.77
62.35	122.83	183.32	243.80	304.28

EBITDA Exit Multiple Sensitivity to Enterprise Value

Present Value of Enterprise Value				
EBITDA Exit Multiple				
3.5x	**4.5x**	**5.5x**	**6.5x**	**7.5x**
12,72,779.2	15,55,856.0	18,38,932.8	21,22,009.5	24,05,086.3
12,27,002.0	14,99,027.3	17,71,052.7	20,43,078.1	23,15,103.5
11,83,346.0	14,44,848.2	17,06,350.4	19,67,852.5	22,29,354.7
11,41,693.7	13,93,171.1	16,44,648.4	18,96,125.8	21,47,603.2
11,01,934.9	13,43,858.0	15,85,781.1	18,27,704.2	20,69,627.3

EBITDA Exit Multiple Sensitivity to Premium/ (Discount) on Buy Price available to Investor.

Premium/(Discount) to Current Price per Share				
EBITDA Exit Multiple				
3.5x	**4.5x**	**5.5x**	**6.5x**	**7.5x**
(42.8%)	(4.3%)	34.2%	72.8%	111.3%
(49.0%)	(12.0%)	25.0%	62.0%	99.0%
(55.0%)	(19.4%)	16.2%	51.8%	87.4%
(60.6%)	(26.4%)	7.8%	42.0%	76.2%
(66.1%)	(33.1%)	(0.2%)	32.7%	65.6%

Interim Conclusion

Peace Auto Pvt. Ltd. has achieved operational excellence, benchmark performance, continuous innovation and improvement in automotive manufacturing processes which laid the foundation of its growth. In keeping with the changing customer preferences and evolving regulatory environment, Peace has delivered products that are world class and are technologically advanced. Its research, design and engineering centres collaborate with expert bodies globally in the process of developing future-ready products. Implied Fair Value is Rs.213.46 per share. Potential transaction price of Rs. 183.70 reflects discount of Rs.16.20. Hence, for Bull Investor Ltd. it is a good value proposition to acquire controlling stake at bid price of Rs. 183.70 per share.

Investor's Take on Uncertainty

Bull Investment Ltd. believes that expected transaction price of Rs. 183.70 is a good deal in one of the scenario assumed by the management (and reflected in its developed prospective financial statements). The outcome post acquisition is subject to two critical inputs – Revenue, which is often driven by purchasing power, fiscal budgets, changing demands etc., and Cost as a % of Revenue. Bull Investment Ltd. is happy with your sensitivity analysis for EBITDA multiple input, but has requested you to carry stress testing and identification of confidence level by further studying these two critical inputs. It believes that in a best possible scenario, revenue can be 10% up from current level of projections but can be at 80% level in worst case scenario. Similarly, cost as a % of sale can be less by 5% from current margin % in a best case scenario but could be 10% higher than current margin % in a worst case scenario.

Monte Carlo Simulation

Consequently, you have carried a Monte Carlo Simulation by stress testing two inputs – Revenue and Cost as a % of Revenue as below:

Year	2021	2022	2023	2024	2025	
Revenue	30,85,512.39	31,89,738.83	32,97,485.97	34,08,872.74	35,24,022.07	
Best Case Scenario	35,11,100.30	36,29,702.81	37,52,311.63	38,79,062.08	40,10,094.08	*10% up from Probable Scenario*
Probable Scenario	31,91,909.37	32,99,729.83	34,11,192.39	35,26,420.07	36,45,540.07	
Worst Case Scenario	25,53,527.49	26,39,783.86	27,28,953.91	28,21,136.06	29,16,432.06	*20% down from Probable Scenario*
Cost of Revenue %	55.71%	55.71%	55.71%	55.71%	55.71%	
Best Case Scenario	52.06%	52.06%	52.06%	52.06%	52.06%	*5% less than Probable Scenario*
Probable Scenario	54.80%	54.80%	54.80%	54.80%	54.80%	
Worst Case Scenario	60.28%	60.28%	60.28%	60.28%	60.28%	*10% up from Probable Scenario*

You have decided to carry 3 simulations –

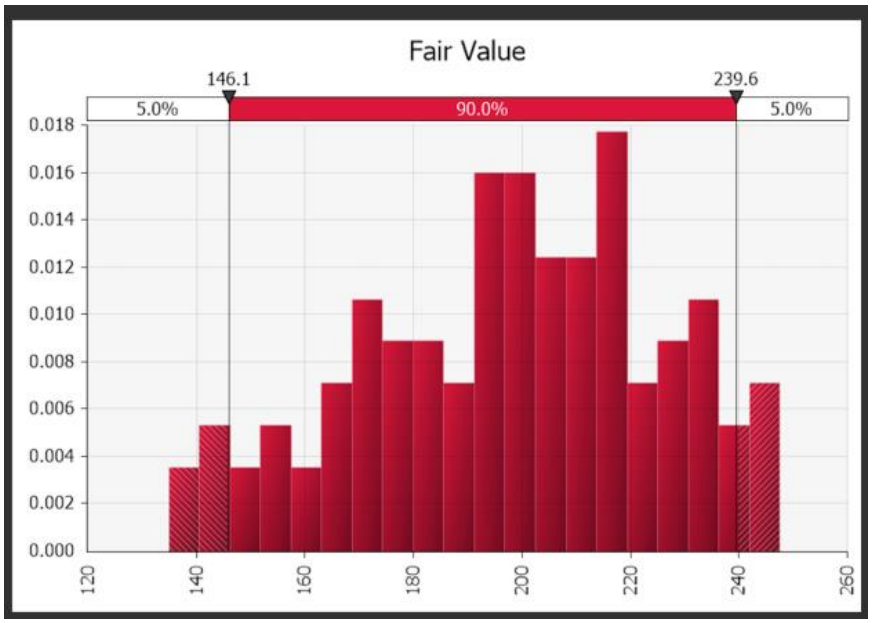
Simulation 1 – 100 iterations,

Simulation 2 – 1000 iterations, and

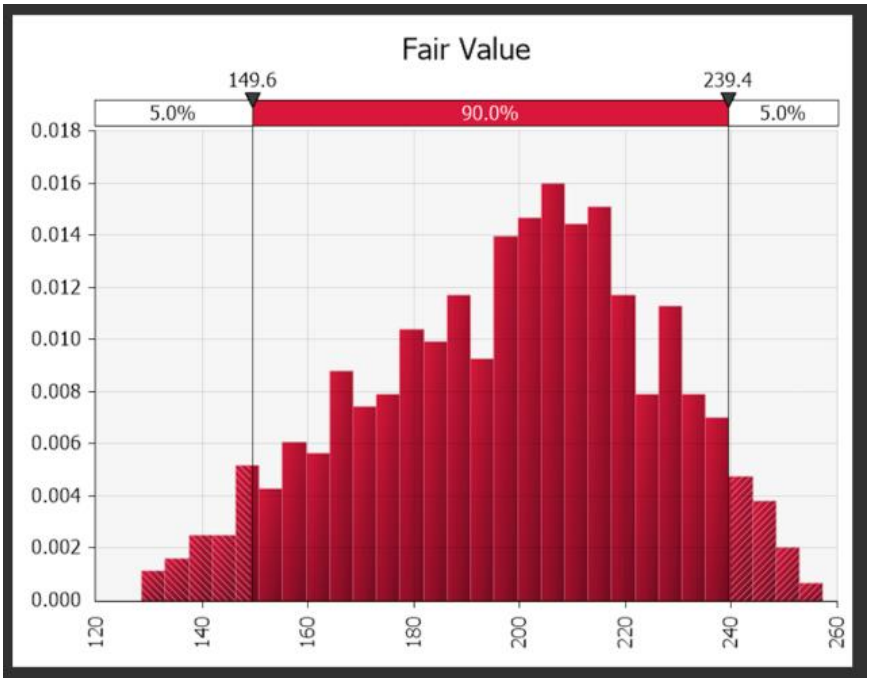
Simulation 3 – 10,000 iterations

After carrying the first simulation, you calculated average fair value of equity share at Rs. 198.14. In a best-case scenario, equity share has a simulated fair value of Rs. 249.87. In a worst-case scenario, equity share has a simulated

fair value of Rs. 136.23. The mode for fair value of equity share under 100 iterations is Rs. 195.70 (i.e., the value which appears most). The median fair value per equity share is Rs. 200.91. Standard deviation in fair value is of Rs. 27.13. Stress testing has thrown following results for 90% confidence level.



Similarly, in Simulation 2 – 1000 iterations, you concluded fair value per equity share of Rs.198.10. In a best-case scenario, equity share has a simulated fair value of Rs.257.30. In a worst-case scenario, equity share has a simulated fair value of Rs. 128.58. The mode for fair value of equity share under 1000 iterations is Rs. 220.10 (i.e., the value which appears most). The median fair value per equity share is Rs. 200.96. Standard deviation in fair value is of Rs. 27.16. Stress testing has thrown following results for 90% confidence level.



Finally, you have carried 10,000 iterations and calculated average fair value per equity share of Rs. 198.11.. In a best-case scenario, equity share has a simulated fair value of Rs.263.57. In a worst-case scenario, equity share has a simulated fair value of Rs. 120.53. The mode for fair value of equity share under 10,000 iterations is Rs. 212.44 (i.e., the value which appears most). The median fair value per equity share is Rs. 200.71. Standard deviation in fair value is of Rs. 27.09.

The summary of 3 simulations is as follows:

Monte Carlo Simulation Outcomes	Mean	Median	Mode	Minimum	Maximum	Std. Dev.
Fair Value after 100 Iterations	198.14	200.91	195.70	136.23	249.87	27.13
Fair Value after 1000 Iterations	198.10	200.96	220.10	128.58	257.30	27.16
Fair Value after 10000 Iterations	198.11	200.71	212.44	120.53	263.57	27.09

You have prepared a detail summary for Simulation 3 – iterations under 10,000 scenarios as under. It concludes your stress testing assessment for two critical inputs – Revenue & Cost as a % of Revenue.

Statistics Upon 10,000 Iterations

Years	31st December 2020	2021	2022	2023	2024	2025	2021	2022	2023	2024	2025
Particulars	**Fair Value of Equity Share**	**Revenue**	**Revenue**	**Revenue**	**Revenue**	**Revenue**	**Cost as a % of Revenue**	**Cost as a % of Revenue**	**Cost as a % of Revenue**	**Cost as a % of Revenue**	**Cost as a % of Revenue**
Statistics											
Minimum	120.53	25,57,688	26,47,037	27,35,806	28,26,491	29,23,108	52.08%	52.10%	52.11%	52.09%	52.09%
Maximum	263.57	35,06,116	36,24,015	37,47,399	38,73,089	40,04,100	60.26%	60.22%	60.24%	60.24%	60.24%
Mean	198.11	30,85,512	31,89,739	32,97,486	34,08,873	35,24,022	55.71%	55.71%	55.71%	55.71%	55.71%
Mode	212.44	31,91,108	32,98,902	34,10,337	35,25,537	36,44,628	54.81%	54.85%	54.81%	54.81%	54.81%
Median	200.71	31,06,354	32,11,258	33,19,776	34,31,877	35,47,819	55.53%	55.53%	55.53%	55.53%	55.53%
Std. Deviation	27.09	1,99,059	2,05,785	2,12,735	2,19,922	2,27,351	1.71%	1.71%	1.71%	1.71%	1.71%
Skewness	-29.13%	-30.55%	-30.55%	-30.55%	-30.55%	-30.55%	30.55%	30.55%	30.55%	30.55%	30.55%
Kurtosis	2.44	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40
Percentiles											
1%	135.86	26,31,539	27,20,459	28,12,362	29,07,116	30,05,446	52.53%	52.53%	52.53%	52.53%	52.53%
3%	142.58	26,77,109	27,67,358	28,61,066	29,57,681	30,57,558	52.81%	52.81%	52.81%	52.81%	52.81%
5%	149.78	27,28,256	28,20,428	29,15,782	30,14,175	31,15,957	53.12%	53.12%	53.12%	53.12%	53.12%
10%	159.60	28,00,725	28,95,264	29,93,139	30,94,254	31,98,715	53.56%	53.56%	53.56%	53.56%	53.56%
20%	173.81	29,03,125	30,01,236	31,02,616	32,07,423	33,15,754	54.18%	54.18%	54.18%	54.18%	54.18%
25%	179.09	29,44,445	30,43,853	31,46,737	32,52,982	33,62,832	54.43%	54.43%	54.43%	54.43%	54.43%
30%	183.93	29,81,739	30,82,481	31,86,611	32,94,196	34,05,526	54.66%	54.66%	54.66%	54.66%	54.66%
35%	188.66	30,16,045	31,17,937	32,23,254	33,32,092	34,44,647	54.87%	54.87%	54.87%	54.87%	54.87%
40%	192.87	30,47,997	31,50,954	32,57,378	33,67,411	34,81,133	55.08%	55.08%	55.08%	55.08%	55.08%
45%	197.00	30,77,980	31,81,972	32,89,425	34,00,583	35,15,445	55.30%	55.30%	55.30%	55.30%	55.30%
50%	200.71	31,06,354	32,11,258	33,19,776	34,31,877	35,47,819	55.53%	55.53%	55.53%	55.53%	55.53%
55%	204.24	31,33,347	32,39,208	33,48,608	34,61,686	35,78,657	55.78%	55.78%	55.78%	55.78%	55.78%
60%	207.92	31,59,138	32,65,827	33,76,129	34,90,219	36,08,093	56.03%	56.03%	56.03%	56.04%	56.03%
65%	211.38	31,83,848	32,91,389	34,02,570	35,17,504	36,36,332	56.31%	56.31%	56.31%	56.31%	56.31%
70%	214.66	32,08,278	33,16,625	34,28,653	35,44,481	36,64,236	56.60%	56.60%	56.60%	56.60%	56.60%
75%	218.25	32,34,636	33,43,896	34,56,886	35,73,623	36,94,342	56.92%	56.92%	56.92%	56.92%	56.92%
80%	222.20	32,63,836	33,74,079	34,88,063	36,05,868	37,27,694	57.28%	57.28%	57.28%	57.28%	57.28%
90%	232.26	33,36,267	34,48,932	35,65,440	36,85,822	38,10,382	58.16%	58.16%	58.16%	58.16%	58.16%
95%	239.66	33,87,437	35,01,886	36,20,133	37,42,353	38,68,813	58.78%	58.78%	58.78%	58.78%	58.78%
98%	244.65	34,23,525	35,39,246	36,58,796	37,82,331	39,10,159	59.22%	59.22%	59.22%	59.22%	59.22%
99%	249.22	34,55,653	35,72,458	36,92,986	38,17,974	39,46,880	59.61%	59.61%	59.61%	59.61%	59.61%

Note – Valuers are expected to use Monte Carlo Simulations to handle valuations in uncertain times such as pandemic, wars, or catastrophe.

Final Conclusion

You have concluded that interim fair value calculation of Rs. 213.46 per share is very close (within acceptable range of 90% level) to mean fair values under Monte Carlo Simulation for all 3 (three) simulations. Considering the uncertainty around revenue and Cost as a % of Revenue, the mean fair value of Rs. 198.11 can be best estimate under 10,000 iterations. Potential offer price of Rs. 183.70 is still lower than the mean value under Monte Carlo Simulation i.e., at a discount of 7.27%. Hence, it is recommended to 'buy' the stake in Peace Auto Pvt. Ltd.

APPENDIX "A"

ICAI Valuation Standard- 301

Business Valuation

*(The ICAI Valuation Standard includes paragraphs set in **bold** type and plain type, which have equal authority. Paragraphs in bold type indicate the main principles. (This ICAI Valuation Standard should be read in the context of Framework for the Preparation of Valuation Report in accordance with ICAI Valuation Standards)*

Objective

1. This Standard provides guidance for business *valuers* who are performing business valuation or business ownership interests valuation engagements.

2. The objective of this Standard is to establish uniform concepts, principles, practices and procedures for *valuers* performing valuation services.

3. Valuations of businesses, business ownership interests may be performed for a wide variety of purposes including the following:

   (a) valuation of financial transactions such as acquisitions, mergers, leveraged buyouts, initial public offerings, employee stock ownership plans and other share-based plans, partner and shareholder buy-ins or buy-outs, and stock redemptions;

   (b) valuation for dispute resolution and/ or litigation/pending litigation relating to matters such as marital dissolution, bankruptcy, contractual disputes, owner disputes, dissenting shareholder and minority ownership oppression cases, employment disputes, etc;

   (c) valuation for compliance oriented engagements, for example:

      (i) financial reporting; and

      (ii) tax matters such as corporate reorganisations, ; purchase price allocations etc.

   (d) valuation for other purposes like the valuation for planning, internal use by the owners etc;

   (e) valuation under Insolvency and Bankruptcy Code.

4. This Standard provides a broad framework of generally accepted principles, theories and procedures.

5. **The principles enunciated in this Standard shall be applied in conjunction with the principles prescribed and contained in the *Framework for the Preparation of Valuation Report in accordance with ICAI Valuation Standards*.**

Scope

6. A *valuer* shall follow all applicable requirements of this Standard in the valuation of a business.

7. This Standard describes the basic principles which govern the *valuer's* professional responsibilities and which shall be complied with whenever an engagement to estimate value is carried out.

8. A *valuer* shall not apply this Standard, where any requirement of this Standard is inconsistent with

   (a) the requirements prescribed under; or

   (b) valuation procedures specified by

   any law, regulations, rules or directions of any government or regulatory authority, or Court order.

   In such cases, the *valuer* shall follow the requirements prescribed by any law, regulations, rules or directions of any government or regulatory authority, or Court order.

Significant Elements

9. **Business Valuation is the act or process of determining the value of a business enterprise or ownership interest therein.**

10. A *valuer* shall apply valuation approaches and valuation methods, as described in ICAI Valuation Standard 103 *Valuation Approaches and Methods*, and also use his professional judgment which is an essential component of estimating value.

11. When valuing a business or business ownership interest, a *valuer* may express either an exact number or a range of values. There could be different benchmarks at which the estimate of value of an entity could be expressed by the *Valuer*. For example:

    (a) Enterprise Value: Enterprise Value is the value attributable to the equity shareholders plus the value of debt and debt like items, minority interest, preference share less the amount of non-operating cash and cash equivalents.

    (b) Business Value: Business value is the value of the business attributable to all its shareholders

(c) Equity Value: Equity Value is the value of the business attributable to equity shareholders

Valuation Methodology

12. In performing a valuation assignment, a *valuer* shall:

(a) define the premise of the value;

(b) analyse the asset to be valued and collect the necessary information;

(c) identify the adjustments to the financial and non-financial information for the valuation;

(d) consider and apply appropriate valuation approaches and methods;

(e) arrive at a value or a range of values; and

(f) identify the subsequent events, if any

Premise of the value

13. **Premise of the value refers to the conditions and circumstances how an asset is deployed.**

14. The premise shall always reflect the facts and circumstances underlying each valuation engagement.

15. Determining the business value depends upon the situation in which the business is valued, i.e., the events likely to happen to the business as contemplated at the valuation date.

16. Premises of value are explained in detail in ICAI Valuation Standard 102 *Valuation Bases.*

Analysis of asset to be valued

17. The analysis of the asset to be valued shall assist the *valuer* in considering, evaluating, and applying the various valuation approaches and methods to the valuation engagement.

18. The nature and extent of the information required to perform the analysis shall depend on the following:

(a) nature of the asset to be valued;

(b) scope and purpose of the valuation engagement;

(c) the valuation date;

(d) the intended use of the valuation;

(e) the applicable ICAI Valuation Standard*;*

(f) the applicable premise of value;

(g) assumptions and limiting conditions; and

(h) applicable governmental regulations or regulations prescribed by other regulators or other professional standards;

19. In analysing the asset to be valued, the *valuer* shall gather, analyse and adjust the relevant information necessary to perform a valuation, appropriate to the nature or type of the engagement. Such information shall include:

(a) non-financial information;

(b) ownership details;

(c) financial information; and

(d) general information.

The detailed guidance in this respect is laid down in ICAI Valuation Standard 201 *Scope of Work, Analyses and Evaluation.*

20. A *valuer* shall read and evaluate the information to determine the reasonableness of information.

21. Even though the above mentioned procedure is presented in a manner that suggests a sequential valuation process, valuations involve an ongoing process of gathering, updating, and analysing information. Accordingly, the sequence of the requirements and guidance in this Standard may be implemented differently at the option of the *valuer*.

22. If the historical financial statements of the business to be valued are not considered to be reflective of its future business performance, the *valuer* should understand the rationale for the same and document the same.

23. The conditions, rights and obligations of ownership right are usually mentioned in the legal document such as articles of association, bye-laws, shareholders agreement, partnership agreements, etc. of the

asset to be valued. These documents may consider certain restrictions or give certain benefits for ownership rights for certain groups of stakeholders. A *valuer* shall consider and incorporate the same in the valuation of the ownership interest of the business.

24. The type, availability, and significance of such information may vary with the asset to be valued.

Adjustment to information from financial statements

25. Adjustment shall be made to information available from the historical financial statements, if appropriate, to reflect the appropriate asset value, income, cash flows and/or benefit stream, as applicable, to be consistent with the valuation method(s) selected by the *valuer*.\

26. Financial information adjusted to be analysed include those of the underlying company and any entities used as comparable entities to the extent available in public domain.

27. Adjustments to financial information are modifications to reported financial information which is relevant and significant to the valuation process. Adjustments may be appropriate for the following reasons, amongst others:

    (a) to present financial data of the underlying and comparable companies on a consistent basis;

    (b) to adjust revenues and expenses to levels that are reasonably representative of continuing operations;

    (c) to adjust for non-operating/non-recurring assets and liabilities, and any revenues and expenses related to the non-operating items.

28. Adjustments to the financial information are made for the sole purpose of assisting the *valuer* in reaching a value.

Valuation Approaches and Methods

29. Generally, the following three main valuation approaches are adopted to perform the business valuation in correlation with the valuation approaches and methodologies prescribed under ICAI Valuation Standard 103 *Valuation Approaches and Methods* :

    (a) Market approach;

(b) Income approach; and

(c) Cost approach.

30. A *valuer* shall select and apply appropriate valuation approaches, methods and procedures to the extent relevant for the engagement.

31. The requirements of this Standard shall be followed consistently in addition to the requirements as contained in ICAI Valuation Standard 103 while selecting and applying the valuation approach.

Market approach

32. **Market approach is a valuation approach that uses prices and other relevant information generated by market transactions involving identical or comparable (i.e., similar) assets, liabilities or a group of assets and liabilities, such as a business**

33. The following are the common methodologies for the market approach:

(a) Market Price Method;

(b) Comparable Companies Multiple Method; and

(c) Comparable Transaction Multiple Method.

Income approach

34. **Income approach is the valuation approach that converts maintainable or future amounts (e.g., cash flows or income and expenses) to a single current (i.e. discounted or capitalised) amount. The fair value measurement is determined on the basis of the value indicated by current market expectations about those future amounts.**

35. The most commonly used income approach is Discounted Cash Flow (DCF) Method.

Cost approach

36. **Cost approach is a valuation approach that reflects the amount that would be required currently to replace the service capacity of an asset (often referred to as current replacement cost).**

37. The following are the commonly used valuation methods under the cost approach:

(a) Replacement Cost Method; and

(b) Reproduction Cost Method.

Value under liquidation

38. **Liquidation value is the amount that will be realised on sale of an asset or a group of assets when an actual/hypothetical termination of the business is contemplated/assumed.**

39. The value under liquidation would be relevant in case the basis of valuation is liquidation value

40. In the event of valuation of ownership interest under the premise of liquidation, it may be relevant to consider the realisable values of assets of the entity after considering transaction costs.

41. Liabilities could be considered at their settlement values.

Rule of Thumb or Benchmark Value

42. **Rule of thumb or benchmark indicator is used as a reasonable check against the values determined by the use of other valuation approaches in a valuation engagement.**

43. Rule of thumb may provide insight into the value of a business or business ownership interest. Some of the examples of rule of thumb or benchmark valuation would be value based on transaction multiples for capacity or turnover.

44. It shall not be used as the only method to determine the value of the asset to be valued.

45. Value indications derived from the use of rules of thumb method shall not be given substantial weight unless they are supported by other valuation methods and it can be established that knowledgeable buyers and sellers place substantial reliance on them.

46. A *valuer* shall set forth in the report the rationale and support for the valuation methods used.

Treatment of non-operating assets and inter-company investments

47. Apart from operating assets, entities hold non-operating assets. Such assets should be valued based on their realisable values net of costs and outgoes and added to the value arrived under the various approaches to derive the value for ownership interest.

48. Inter-company adjustments or substantial cross holdings between companies in the business valuations should be considered at fair value.

Consideration of Capital Structure of the business

49. A business is usually financed by a combination of investments such as equity interests, debt (including redeemable preference shares) and quasi equity instruments. Certain engagements may require the valuer to allocate the enterprise value of the business into (a) value allocable to equity and (b) value allocable to debt. In deriving the above allocation, the valuer should give due consideration to the capital structure of the business including the terms of instruments used to finance the business. The value allocable to equity interests is usually the residuary value after reducing the debt from enterprise value.

Value

50. **Value is an estimate of a business or business ownership interest, arrived at by applying the valuation procedures appropriate for a valuation engagement and using professional judgment as to the value or range of values based on those procedures**.

51. The value shall be based upon the applicable bases of value, the purpose and intended use of the valuation, and all relevant information available as of the valuation date in carrying out the value for the valuation engagement and on value indications resulting from one or more valuation methods performed under the valuation process.

52. In arriving at the value, the *valuer* shall:

    (a) assess the reliability of the results under the different approaches and assign weights to value indications reached on the basis of various methods;

    (b) the selection of and reliance on appropriate methods and procedures depends on the judgment of the *valuer* and not on any prescribed formula. One or more approaches may not be relevant to a particular situation, and more than one method under an approach may be relevant;

    (c) the *valuer* must use informed judgment when determining the relative weight to be accorded to indications of value reached on the basis of various methods, or whether an indication of value

from a single method shall be conclusive. In any case, the *valuer* shall provide the rationale for the selection or weighting of the method or methods relied on in reaching the conclusion;

(d) in assessing the relative importance of indications of the value determined under each method, or whether an indication of value from a single method shall be the value, the *valuer* shall consider factors such as:

(i) the applicable premise of value;

(ii) the purpose and intended use of the valuation;

(iii) whether the underlying business is an operating company, a real estate or investment holding company, or a company with substantial non-operating or excess assets;

(iv) the quality and reliability of data underlying the value;

(v) such other factors that in the opinion of the *valuer*, are appropriate for consideration.

Effective Date

53. ICAI Valuation Standard 301 *Business Valuation,* shall be applied for the valuation reports issued on or after 1st July, 2018.