Series-4

Valuation : Professionals' Insight

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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First Edition	:	June, 2020
Committee/Department	:	Valuation Standards Board
E-mail	:	valuationstandards@icai.in
Price	:	₹ 250/-
ISBN No	:	978-81-8441-
Published by	:	The Publication Department on behalf of the Institute of Chartered Accountants of India, ICAI Bhawan, Post Box No. 7100, Indraprastha Marg, New Delhi - 110 002.

Message

The entire world is going through a very critical phase, which has substantially increased the degree of uncertainty in valuation. In the circumstances, it would be advisable for a valuer to adopt more approaches to determine the reasonable range of value of an asset/entity instead of concluding the fair value under a singular approach. For all uncertainties in valuation, whether adjusted or not, the valuer should make appropriate disclosures in valuation report, with quantifications wherever possible. Also, while doing valuation under such crisis or immediately post crisis situations, the analysis of the future outlook, choice from scenarios of recovery and adequate detailing of the same in the report are very vital.

This crisis has impacted the World and made us realize one thing that learning through any channel and also knowledge enhancement both are important. At this challenging time, it is very important to empower the stakeholders to keep them updated on topics of contemporary relevance.

I am extremely happy that in continuing with the joint endeavour of knowledge dissemination and to acquaint them with the subject, the Valuation Standards Board of ICAI and ICAI Registered Valuers Organisation (ICAI RVO) are bringing out this Fourth Series of publication on 'Valuation: Professionals' Insight' to give a thoughtful insight of the practices followed by other valuers and professionals.

I would like to put on record my appreciation to the Institute of Chartered Accountants of India for all the joint initiatives with ICAI RVO. My thanks to the Valuation Standards Board (VSB) of ICAI under the Chairmanship of CA. Pramod Jain and Vice Chairmanship of CA. Dheeraj Khandelwal and to the members of the Board of ICAI RVO, Shri I. Y. R Krishna Rao, Shri Ashok Haldia for this joint initiative. I convey my heartfelt thanks to CA. Atul Kumar Gupta, President ICAI, CA. Prafulla P. Chhajed, Past President ICAI and Shri Rakesh Sehgal - the Directors of ICAI RVO, for their support in this initiative.

I would like to thank CA. Sarika Singhal, CEO Designate ICAI RVO, and Secretary Valuation Standards Board who is involved in giving shape to the publication.

I sincerely believe that this publication will be of immense use to the valuer members and others stakeholders.

Justice Anil R. Dave (Retd.)
Chairman,
ICAI Registered Valuers Organisation

Date: 27-06-2020

Place: New Delhi

Foreword

Valuing a company is hardly a precise science and can vary depending on the type of business and the reasons for which valuation process is being done. A variety of valuation techniques are employed in practice, and there is no uniform method that clearly dominates others. In fact, since each and every technique involves different advantages and disadvantages, considering several methods simultaneously would be the right approach of valuation.

The current Global pandemic is having a deep impact on the economy and will continue to pose significant problems for the valuation of assets, business and equities in the short to medium term. Due to the increasing uncertainty in the valuation owing to pandemic, a valuer may consider using multiple approaches and methods to arrive at a value.

The ICAI Valuation Standards 2018 recognise three broad approaches to business valuation, namely, the Income Approach, the Asset Approach and the Cost Approach. ICAI Valuation Standards encourage the use of multiple method/approaches for valuation in such instances to produce a reliable indication of value. Moreover, confidence in accuracy and reliability of single method is subjective. It is believed that usage of multiple methods gives better judgement and greater comfort on outcome as all aspects (Income/Multiples, etc) can be analysed while finalising the valuation.

At this juncture, I compliment the efforts of Valuation Standards Board of ICAI and ICAI Registered Valuers Organisation in taking this joint initiative of bringing out this fourth Series of the publication titled- 'Valuation: Professionals' Insight' containing various Articles from valuation professionals including the impact of global crisis on Valuation.

I extend my appreciation to the entire Valuation Standards Board and especially to CA. Pramod Jain, Chairman and CA. Dheeraj Khandelwal, Vice-Chairman, Valuation Standards Board for bringing out this publication in the form of Series for the benefit of members and other stakeholders.

I am sure that the articles and concepts incorporated in the publication are going to be useful for both, beginners and experienced in the field of Valuation.

CA. Atul Kumar Gupta
President ICAI
Director ICAI RVO

Date: 27-06-2020
Place: New Delhi

Preface

Due to the global crisis, the stock markets are dealing with huge volatility on daily basis. Most investors, financial institutions, corporates, etc. are dealing with concerns around the valuation of business in such turbulence times where businesses of all sizes have been affected in numerous ways. This demonstrates the potential value impact of an uncertain market on businesses. COVID 19 is an unprecedented crisis and there are various challenges currently being faced by the whole World. Valuations would also be impacted due to COVID and accordingly, some literature may be required to understand the impact. This publication is an attempt to provide the same.

As part of its continuous attempt towards knowledge dissemination and enrichment, the Valuation Standards Board jointly with ICAI Registered Valuers Organisation has brought out the fourth Series of the publication titled "Valuation: Professionals' Insights" covering the articles on the impact of global crisis and consideration for valuers and some practical insights on valuation. This publication is a compilation of diverse valuation topics authored by leaders in the profession. Its purpose is to advance knowledge and understanding of the professional practices.

This publication like the other three series, is a compilation of articles on varied valuation topics written by experts in this field. The objective of the publication is to make available the knowledge of the valuers of the professional practices followed by them in the field of valuation.

We may mention that the views expressed in this publication are the views of the authors and are not the views of the Institute.

We would like to thank CA. Atul Kumar. Gupta, President ICAI and Director ICAI RVO and CA. Nihar Niranjan Jambusaria, Vice President ICAI, for their continued support in all the endeavours of the Board.

Our gratitude towards the Board of ICAI RVO comprising of Hon'ble Mr. Justice Anil R. Dave (Retd.), Chairman of the Board and other Directors, Shri I.Y.R Krishna Rao, Shri Ashok Haldia, CA. Prafulla P. Chhajed, Past President, ICAI and Shri Rakesh Sehgal for joining in the constant endeavours of the Board.

We sincerely appreciate the 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 would also like to thank the Group members CA. Adesh Jain, CA. Ashish Agarwal, CA. Akhil Mittal, CA. Rajesh Saluja, CA. Rajiv Singh and CA. Sushil Agarwal for providing their valuable inputs.

We would also like to thank CA. T V Balasubramanian, CA. Parag Kulkarni, CA. Rajan Wadhawan, Shri Shankar Bhargava, CA. Vaidyanathan R, CA. Dilip B. Desai, CA. Mihir Gada, CA. Dipam Patel, CA. Pattabhi Ram, CA. Yogesh Sundaram, CA Chinmaya AM, CA Akhila Chakrala, CA Surya Prakash, CA. Pranav Goyal, CA. Ajay Milhotra, CA. Samir Shah, CA. Neha Ghelani, CA. Sanjay H. Shah, CA. Vineet Rathi, CA. Gandharv Jain, CA. Manas Dash, CA. Rajeev Bhargav, CA. Joy Kumar Jain, CA. Sachin Shirol, CA. Hitendra Ranka, CA. Shilpang Karia, CA. Krunal Manojbhai Sheth, CA. Chandrasekaran Ramadurai, CA. Piyush Agrawal, CA Aparna Khatri, CA. Sandeep Jain and CA Vardhman Doongar, for contributing articles.

We sincerely appreciate CA. Sarika Singhal, Secretary Valuation Standards Board, Ms. S. Rita, Deputy Secretary ICAI, Ms. Seema Jangid, ICAI and CA Deepa Agrawal, ICAI for providing the technical and administrative support.

We are sure that this fourth Series of the publication would be warmly received by the members and they would find it immensely useful in improving quality of their valuation assignment.

CA. Pramod Jain
Chairman
Valuation Standards Board, ICAI

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

Date: 25-06-2020

Place: New Delhi

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Chapter 1

Registered Valuer and Meaning of 'Interest'

INTEREST' IN THE ASSET TO BE VALUED

Section 247 (2) (d) of the Companies Act, 2013 restricts valuers from undertaking a valuation engagement of any asset in which he/she has a direct or indirect interest, or becomes so interested at any time during a period of three years prior to his appointment or three years after the valuation of assets was conducted by him/her.

In this, there are two areas which require clarity, namely (a) what constitutes "interest" and (b) how to determine whether the valuer will become interested in future when accepting an engagement. This Chapter aims to deal with these two aspects with an intent to share pragmatic interpretations thereof.

I. What would constitute 'Interest'?

The Companies Act, 2013 and the rules made thereunder prescribe certain restrictions on the valuer who is to undertake a valuation engagement. Such ethical restrictions include the following:

- Make an impartial, true and fair valuation of any assets which may be required to be valued [Sec.247 (2) (a)]
- Exercise due diligence while performing the functions as valuer [Sec.247 (2) (b)]
- Not undertake valuation of any assets in which he/she has a direct or indirect interest or becomes so interested at any time during a period of three years prior to his appointment as valuer or three years after the valuation of assets was conducted by him/her [Sec.247 (2) (d)].

Further, the model code of conduct prescribed as part of the rules,[1] expect the valuer to adhere to the following :

- Integrity and Fairness

[1] Rule 7(g) and Rule 12 (2) (d) of The Companies (Registered Valuers and Valuation) Rules, 2017

- Professional Competence and Due Care
- Independence and Disclosure of Interest
- Confidentiality
- Maintain proper written records
- Avoidance of gifts and hospitality

The Section and the Rules under the said legislation, have not however, defined what the term "interested" would mean and encompass, for the purpose of this Section and, this condition as a restriction on the valuer.

In the absence of any specific definition in the concerned Section, when one looks at the Companies Act, 2013 for any definition of the term "interested" in the Act in any other place, one comes across Section 184 which deals with disclosure of interest by a director. Though this section does not specifically define what is interest, it requires that the disclosure is made, of all companies in which the director is a director, or is holding by himself/herself, or along with other directors more than 2 per cent of the shareholding, or is a promoter, manager or CEO of such entity.

This clearly brings out the interest in the context of Section 184 to be related to a clear financial interest in the said entity as it does not relate to any other kind of relationship, for instance even being a material vendor or customer to such other entity. Thus, clearly, professional relationships with the other entities are not expected to be covered in the term "interested".

Also, looking at the Explanation to Section 185 (2) (b), which states *"to any other person in whom director is interested"* means the directors themselves, their relatives or entities where such directors or their relatives are considered to have financial interest. Again, this section does not extend interest to cover professional relationships.

Cambridge Dictionary defines "interested" as "having a connection"; relating to a person or group who has a connection with a particular situation, event, business, etc.

In the context of the Companies Act, 2013, then the question that begs attention is what type of connection is expected to be covered in this context.

It is also pertinent to note Para 19 of the Model Code of Conduct prescribed as part of the rules, extract of which is given hereunder:

"19. In any fairness opinion or independent expert opinion submitted by a valuer, if there has been a prior engagement in an unconnected transaction, the valuer shall declare the association with the company during the last five years."

The above clearly reflects that the valuer could undertake a valuation on an asset wherein he was engaged to undertake a valuation engagement earlier on the same asset for a different transaction in the past. The requirement is only to disclose such association. Thus, "interest" as defined in section 247 (2) (d) cannot be interpreted to cover all types of professional relationships. When even a valuation engagement in the past is not covered, it cannot extend to other professional relationships.

However, this needs to be understood in the context of the requisites to meet with other ethical stipulations, especially that of independence.

The prerequisite pertaining to Independence of the valuer would squarely be hit, in case of he/she being the present auditor of the entity in whose balance sheet such asset subjected to valuation would be part of. This leads to a self-review threat as an auditor and also an independence threat as a valuer.

However, if there had been past professional relationships or if there are future professional relationships, so long as these are not of a nature to compromise on the independence of the valuer, it should not be impacted by the requirements of "interest" as prescribed in section 247 (2) (d).

Having seen the above, what could have been the intent of the given provision of the valuer not having had interest – either directly or indirectly. Essentially, it deals with scenarios where the valuer, his relatives, his professional entity or any other entity which he owns or controls has had financial interest / stake in the said asset which is the subject matter of the proposed valuation, then the valuer should not be involved in it. A period of three years has been prescribed to provide for a period in which any such financial relationship is expected to become remote and hence not of a consequence post such period.

Again, it is important to take cognizance that the requirements of Section 247 (2) (d) should not be seen in isolation, but should be considered along with the various requirements spelt out in the Model Code of Conduct under the rules prescribed. All the ethical requirements from the valuer should be viewed in a holistic manner to have an appropriate appreciation of the requirements.

Let us look at some specific examples to understand this in more detail.

Scenario 1 – Where the Valuer had been a 36% shareholder of the company until 2 years back when he/she sold his stake to others and now the company is being valued for a potential sale by the present owners to a PE fund.

It is presumable that the valuer would have made some representations to the buyers in terms of the company's future and potential, when he sold his stake two years back. Such portrayal of the future is likely to have an impinging effect in the valuer's mind and irrespective of the changed scenario, could form a bias in his views in the present valuation. There could be a bias towards presenting valuations which would support the picture portrayed two years back by the valuer.

This would be squarely covered under the requirements of Section 247 (2) (d) and the valuer would be barred from accepting this engagement.

Scenario 2 – Where the Valuer had been a partner of the audit firm of the company until a year back when on rotation the audit firm has been changed.

During the period when the valuer was a partner of the company's audit firm, the said audit firm had a professional relationship and the requirement from such relationship was to provide an opinion on the financials of the company.

This professional responsibility does not create any "interest" or even "self-interest" post the vacation of such position and Section 247 (2) (d) requirements would not apply in this case.

Scenario 3 – Where the Valuer is a partner of the audit firm of the company in the current year when the valuation engagement is coming up. However, the valuer is not involved with the audit in any manner, which is handled by other partners and other team members.

Even in this scenario, there is no interest threat arising from the requirements of Section 247 (2) (d).

However, this scenario needs to be seen with the requirements of the ethical standards prescribed in the model code of conduct which talks about independence.

If the company is a material audit client for the firm, the valuation engagement may be biased with the need to keep the firm's relationship and

continuance as a client at the forefront in undertaking the engagement of valuation.

Further, there could be "self-interest" in tilting towards a bias in favour of a valuation which would support the view taken as the auditor in terms of going concern of the company etc.,

This would clearly get hit by the requirements of "Independence and declaration of interests" as specified in the Model Code of Conduct.

Also, the various regulatory and ethical requirements placed on the auditor also need to be evaluated, which needless to state, prohibits such engagement being undertaken by the auditor of the company.

Scenario 4 – Where the Valuer is a partner of a firm which provides some management services to the company's holding company such as internal control reviews.

Again, there is no direct or indirect interest in the company, in the normal course, which would impact the valuer unless the retention of this client was materially significant to the valuer's overall revenue.

Where the professional fee paid by the client group, for the services rendered by the firm in which the valuer is a partner, is materially significant, then that could create a threat to his/her independence and he/she may give room for bias towards the requirements of the client in the valuation engagement considering his/her financial dependence on the very same client group.

The above examples have been presented to give a comprehensive view of the interpretation of the requirements of Section 247 (2) (d) and the other ethical requirements related thereto, in accepting a valuation engagement.

With that explained, it would also be important to understand the second leg of this Chapter, which aims to give clarity as to the interpretation of the term "interest", in view of future engagements.

II. How to determine at the time of engagement whether the valuer would have "interest" in the next three years?

Section 247 (2) (d) *inter-alia* states that the valuer should not engage in any valuation engagement of an asset, in which such valuer, directly or indirectly

becomes interested any time within *three years* after such valuation engagement.

Even the Notes on Clauses to the Amendment Bill which brought about this modification, fails to provide clarity and only states that the valuer shall not undertake valuation of any asset in which he/she has direct or indirect interest three years before appointment as valuer or three years after valuation of assets.

Now, this raises the question as to how a valuer can foresee as to whether he/she will become interested in an asset which he/she performs valuation upon in the future?

Hence the pressing question that has to be answered is: *'How to interpret this requirement in application?'*

It is also interesting to note the lacuna in the Act and the Rules thereunder, which have not prescribed, what should be the action to be pursued in case of a possibility of a financial interest arising in respect of an asset which was the subject matter of valuation, post such valuation within 3 years thereof.

In other places in the Companies Act, 2013, wherein there is a condition linked to a future period, the Act clearly defines what is not to be done in such future period instead of providing what should not be done at the present if such a condition were to arise in future.

Accordingly, ideally, these requirements of Section 247 (2) (d) should be interpreted to mean that the valuer shall not acquire any direct or indirect interest in the subject matter of the valuation for a period of 3 years of such valuation. This seems to be the most appropriate and logical interpretation of this requirement.

At this juncture it is pertinent to look at the application of this principle in respect of various scenarios.

The first and obvious application of this requirement would be in the case of any known likelihood of financial interest in the entity which is the subject matter of the valuation, at a later date, for the valuer. Where such information exists and the valuer is cognizant of such a likelihood, he should ideally avoid such valuation engagement.

Secondly, where he/she is the auditor of a company which is seeking to acquire stake in the entity, which is the subject matter of the valuation, as the

same would lead to an impinging effect on his/her independence / lead to self-review threat when he/she has to rely on such valuation for the accounting / going concern requirement / impairment etc., as an auditor, it is appropriate if he/she does not accept the engagement for such valuation. However, this interpretation is derived from the perspective of the model code of conduct ethical requirements and the ethical requirements placed on the auditor and does not directly stem from the definition of "interest" under Section 247 (2) (d).

Thirdly, if upon having effected a valuation engagement, the valuer comes upon a position of acquiring a financial interest in the said asset which was a subject matter of valuation within three years, then the valuer should, going by the requirements of section 247 (2) (d), not participate in such acquisition of financial interest.

Fourthly, if the valuer of an entity is appointed as the auditor, post such event, within a period of three years, then it may not directly fall within the definition of 'interest' as per Section 247 92) (d). However, considering the requirements of ethical standards applicable to the auditor, he needs to evaluate the impact of any self-review threat arising from the said valuation engagement to his audit and accordingly determine the acceptance of the engagement as an auditor. It is elementary, that the valuer is far from being able to refuse the valuation engagement, as it would have been already performed and the report shared.

Fifthly, if the registered valuer who performed the valuation engagement is appointed to provide some management services or secretarial services, so long as it is determined by the professional that in accordance with the ethical standards, the remuneration from the client would not be considered as material to be an impediment to his independence, then the same would not be impacted by the requirements of Section 247 (2) (d) and could be undertaken by the professional.

SUMMARY

Having looked into the requirements of Section 247 (2) (d) and more particularly into the two areas therein which have not been explained in the Act or Rules thereunder, and which require significant amount of clarity, the above analysis presents a reasonable framework for interpretation in practical scenarios by professional valuers who have to deal with such scenarios in due course.

Chapter 2

Nuances of Market Approach

The importance of valuations to its users continues to increase and with it come a quest for greater objectivity, transparency and accuracy. Corporates, investors, private equity players, lenders routinely rely on valuations for various purposes such as transactions, regulatory filings, impairment testing, financial reporting, security coverage, etc.

There are three globally accepted valuation approaches –Income approach, Market approach, and Cost approach. The three approaches depend on different criteria for valuation and have their own advantages and short comings. Income approach factors the future cash generating potential of the asset/business. While the cost approach ascertains value of an asset based on the amount realizable from sale or amount required to replace the asset – for an operating business/company, this is usually based on the net assets on the balance sheet.

The Income and Market approaches would be more relevant for determining the fair value of most stable and profitable businesses (as well as cash generating assets). In particular, the market approach gauges value based on comparisons with comparable publicly traded companies and assets and transactions in the specified industry. In this sense the market approach, unlike the discounted cash flow method, is based on the concept of 'relative' valuation utilising multiples of various operating metrics (such as revenue, EBITDA, EBIT, other relevant proxies of cash flow).

Unlike a discounted cash flow valuation, which can be described as a search for intrinsic value, greater reliance is placed on the market while utilizing a relative valuation. This can be especially useful in reducing subjectivity while performing a valuation. Fair Value measurement as per Ind AS 113 prescribes a hierarchy of inputs which lays greater emphasis on Level 1 and 2 inputs i.e. unadjusted quoted prices for identical assets/liabilities in active markets or quoted prices for similar items in active markets. As such, one of the strengths of this approach is its reliance on observable market data.

In private equity and venture capital circles, there is a strong preference for market based valuations. The International Private Equity and Venture Capital Valuation Board Guidelines state, "In assessing whether a methodology is appropriate, the values should be biased towards those methodologies that draw

heavily on market based measures of risk and return. Fair value estimates based entirely on observable market data should be of greater reliability than those based on assumptions."[2]

Even in accounting standards (IFRS and US GAAP), greater reliance is placed on market based measures of value.

There are four essential steps involved in deconstructing multiples under the market approach:

- Defining the multiple: Selecting guideline companies and peer groups, guideline transactions, etc. and defining the multiple for consistency to ensure that that they are estimated uniformly
- Describing the multiple: Scaling market prices to a common variable(s) (i.e., selecting and calculating multiples, like EV/revenue, EV/EBITDA, PE, etc). Multiples have skewed distributions and averages are seldom good indicators of typical multiples. Hence, it is important to check for bias, if the multiple cannot be estimated.
- Analysing the multiple: It is critical to understand the fundamentals that drive each multiple, and the nature of the relationship between the multiple and each variable. This involves analysing the differences across guideline companies when applying multiples (i.e., adjusting multiples for differing profiles of growth, risk, etc.).
- Applying the multiple: Applying concluded multiples to subject financial metrics (for instance, normalised EBITDA or PAT) to derive valuation. Consideration should be given to whether the financial metric is a reliable estimate of "normalised" future earnings.
- Some multiples that are conventionally applied are highlighted in the table[3] below:

Sector	Multiple used	Rationale
Cyclical manufacturing	PE	Often with normalised earnings
Growth firms	PEG ratio	Big differences in growth rates
Young growth firms with losses	Revenue multiple	Limited choices

[2] IPE&VC guidelines
[3] Source: Prof. Aswath Damodaran

Infrastructure	EV/EBITDA	Early losses and significant depreciation and amortisation and interest costs
Financial services	Price and book equity or Price to tangible book	Marked to market
Retailing	Revenue multiple	Margins equalise sooner or later

The application of Market approach can often involve subjectivity - selection/weightage of chosen multiples (revenue vs EBITDA/ PAT multiples, listed company multiples vs transaction multiples), selection of comparable companies or methodology in computation (for e.g. whether to rely on current market capitalization or an average over 3 or 6 months) etc. Moreover, no two companies are identical and application of premia/discounts to reflect differences (in size, operating performance, client concentration etc.) also involve subjective assessments.

Accordingly, given the same set of data, at any given point in time, the probability of two valuation professionals assigning different values to any asset/ business is probable. It is possible that there may be a paucity of listed companies or transactions in companies that are closely comparable to the company being valued. Even in such cases, it is generally possible to use market multiples of a broader industry set to do broad rationalizations.

Application of Market Multiples especially during times of uncertainty becomes challenging as valuation practitioners are faced with questions like:

- Are current market multiples reflective of value of the subject company over the long run?
- Are subject company parameters such as revenue, cash flows, earnings "normalized" enough to be able to reliably apply the market approach?
- Is there an inherent mismatch between the subject company's financial metrics to which a multiple is being applied versus guideline company multiples?
- Has the impact of uncertainty been factored? Is there a "double count" associated with risk factors?

As a best practice, valuation professionals should adopt secondary approaches to corroborate the findings of the primary approach. The values under the 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. If required the Valuer may need to re-consider the subjective assumptions in the Market approach such as the selection of comparable companies, weightages applied to different multiples, normalization of the financial metric to which the multiple is applied and discounts/premia; and analyze whether any changes needs to be made in the light of the divergence in values.

A Valuer should look at the valuation from multiple angles and ensure that the results under different methods converge and thus are defendable and robust.

Chapter 3

Approaching Subsequent Events to Valuation Date

INTRODUCTION

It is considered that valuation is both an art and a science. But in reality, valuation is more of an art than a science. Other than pure science like mathematics, most sciences including medical science are considered more of an art than science. No one knows why the same medicine administered by two paramedics/doctors to two same or similar patients, produces results of varying differentiation. The art brings in significant professional judgments including experiences in identification and flawless execution of the (critical) tasks on hand. Valuation, as a profession, is no different, where professional judgments in dealing with unorthodox situations or scenarios are called upon often. One such scenario is 'Events Subsequent to Valuation Date', which this Chapter explores in detail.

CONCEPT OF MATERIALITY IN FINANCIAL REPORTING

The concept of materiality is an accepted norm in Financial Reporting as not all information or development need to be (logically) taken into consideration (in presentation, disclosure, recognition and measurement by the companies or forming an opinion by the auditors), because of feasibility and practicability reasons. Materiality is a crucial and pervasive concept in financial statements' presentation/reporting and also in Auditing. International Financial Reporting Standards (IFRS) defines it as 'Information is material if omitting it or misstating it could influence decisions that users make on the basis of financial information about a specific reporting entity'. Among others, companies identify their primary users, typically, investors (existing/ potential), lenders, creditors, local laws/regulations and so on before deciding on the materiality.

CONCEPT OF MATERIALITY IN VALUATIONS

As per International Valuation Standards 2020 (IVS) issued by the International Valuation Standards Council, materiality refers to 'Aspects of a valuation (including inputs, assumptions, special assumptions, and methods and approaches applied) are considered to be significant/material if their *application and/or impact* on the valuation could reasonably be expected to influence *the economic or other decisions of users* of the valuation'.

As per the Valuation Standards issued by Institute of Chartered Accountants of India (ICAI), materiality should be understood based on 'the underlying information in valuation report if *its omission or misstatement could influence the economic decisions* taken by the intended-users on the basis of the valuation report'.

Hence, every valuer valuing the asset/liability has to exercise professional judgement on what's materiality based on the following key criterions:

- **Omission or Misstatement**

The valuer needs to necessarily put himself in the shoes of the intended (at least, the primary) users of his report on his professional judgement whether the underlying information if omitted or misstated would be influencing the economic or other decisions (of the users).

For example, under the Insolvency and Bankruptcy Code 2016 ('Code'), two (separate valuation) reports are required enabling the Committee of Creditors (CoC) to validate or take forward the Resolution Plans submitted by Resolution Applicant during Corporate Insolvency Resolution Process (CIRP). Hence, valuation done under CIRP are critical inputs to CoC (primary users) to understand the fair and liquidation value of the assets of the company helping them access the alternate available to the solution provided in the Resolution Plan(s) by the Resolution Applicant(s).

- **Application or Impact**

International Valuation Standard, for example, provides for certain non-exhaustive examples to be considered in determining the 'Development Profits' in the context of 'Estimating the Market Value of Development Property', as under :

(a) unforeseen complications that increase the construction costs,

(b) potential for contract delays caused by adverse weather or other matters outside the developer's control,

(c) delays in obtaining statutory consents,

(d) supplier failures,

(e) entitlement risk and changes in entitlements over the development period,

(f) regulatory changes, and

(g) delays in finding a buyer or lessee for the completed project.

Hence, a valuer has to take into account the impact of the information in determining the materiality of the underlying data/information.

- **Economic or Other Decision**

The final and most important test of materiality lies in the fact as to how it would influence users of the report in terms of their actions/decisions. This completely falls under the purview of the professional judgement of the valuer as no rules can be established on how the users of the report would use for decision making purposes, decide or interpret his report. Among others, the purpose of valuation as well as intended or actual users need to be kept in mind by the valuer, all the times.

EVENTS SUBSEQUENT TO VALUATION DATE

Every valuation assignment has a scope referencing a date on which the assets need to be valued. For example, in case of merger of companies under Sections 232 to 234 of Companies Act 2013, read along with Companies (Compromises, Arrangements and Amalgamations) Rules, 2016, the Scheme of Arrangement and Amalgamation ('Scheme') shall clearly indicate an 'appointed date' from which the merger shall be effective. Normally, the date of valuation references the appointed date (in the Scheme).

Usually, the value of the asset is determined as on the date of valuation, as agreed in the commercial contract between the valuer and the person engaging the valuer or as per applicable laws (corporate or otherwise). For example, valuation of a company under CIRP by the Registered Valuer needs to be done as on insolvency commencement date as required by

Insolvency and Bankruptcy Board Of India (Insolvency Resolution Process For Corporate Persons) Regulations, 2016 ('CIRP Regulations').

But, there may arise many unorthodox situations, like destruction of major component in the equipment of the production process or non-operating plant, due to fire, after inspection of the site by the valuer (in this case, valuer of class 'Plant and Machinery') whose mandate was to provide a valuation certificate to quantify the new-plant set-up for capitalisation purposes in the books of accounts or fair or market value of the non-operating plant respectively.

The Valuation Standards of ICAI define a subsequent event as '*an event that occurs subsequent to the valuation date that could affect the value*'. Only those events (after the valuation date) which in the opinion of the valuer affect the value (of the asset being valued) qualify as subsequent event. In this regard, it is important to understand that all events after the valuation date may not necessarily affect the value of the asset nor it is feasible/desirable/practicable to consider all events. The valuer shall use his professional judgement of *materiality* to identify events which qualify as subsequent event.

TREATMENT OF EVENTS SUBSEQUENT TO REPORTING DATE IN FINANCIAL REPORTING

Valuation and accounting are fundamentally two different professions or practice. Objectives, approaches or methodology differs. Nevertheless, it would be beneficial to understand how events subsequent to reporting date/period are treated in financial reporting.

The Indian Accounting Standard (Ind AS) 10 'Events after the Reporting Period' issued by the Central Government under Sec 133 of the Companies Act 2013 classifies subsequent events (to reporting period/date) under the following categories:

- Those that provide evidence of conditions that existed at the end of the reporting period: Eg., the bankruptcy of a customer that occurs after the reporting period (but before approval of financial statements) requires adjustments in the books of accounts; these are referred *adjusting events after the reporting period.*
- Those that are indicative of conditions that arose after the reporting period: An example of a non-adjusting event after the reporting period

> is a decline in the market value of investments between the end of the reporting period and the date when the financial statements are approved for issue. The decline in market value does not normally relate to the condition of the investments at the end of the reporting period, but reflects circumstances that have arisen subsequently. Therefore, an entity does not adjust the amounts recognised in its financial statements for the investments; these are referred to *non-adjusting events after the reporting period.*

For example, abnormally large changes after the reporting period in asset prices or foreign exchange rates would require

- disclosure of the nature of the event; and
- an estimate of its financial effect, or a statement that such an estimate cannot be made.

It should be noted that the Standard does not mandate adjusting the abnormal changes to asset prices or foreign exchange rates in in the books of the company for the reporting period.

TREATMENT OF EVENTS SUBSEQUENT TO VALUATION DATE

Paragraphs 36 to 39 of the Valuation Standards issued by ICAI detail the 'subsequent events' and how to handle the same in valuation as under:

> *"36. The valuation date is the specific date at which a valuer estimates the value of the asset.*
>
> *37. An event that occurs subsequent to the valuation date could affect the value; such an occurrence is referred to as a subsequent event.*
>
> *38. 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."*

Para 36 is self-explanatory. Para 37 emphasises that only those events affecting value needs to be qualified as subsequent date. Para 38 indicates clearly that subsequent events are indicative conditions which may exists or not-exists, known or unknowable as on the valuation date. In other words, if the subsequent event, say announcing a plan to discontinue a major product line or announcing, or commencing the implementation of, a major

restructuring exercise need not necessarily be known as on the valuation date.

> *"39. 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 its professional judgement, to consider any such circumstances / events which are relevant for the valuation. Such circumstances / events could be relating to, but not limited to, the asset being valued, comparables and valuation parameters used. In the event such circumstances / events are considered by the valuer the same should be explicitly disclosed in the valuation report."*

The Standard starts with the point of view that only circumstances existing as on the valuation date needs to be considered for valuation, the exception being the subsequent events relating to a non-exhaustive list of assets being valued, comparables and valuation parameters impacting the *basis, premise and purpose of valuation.* In short, it leaves to the professional judgment of the valuer to consider such subsequent event as relevant for valuation.

Let's analyse Paragraph 39 of the Standard in detail with some examples.

(a) Subsequent Event - Premise of Value

'Premise of value or assumed use' refers to the conditions and circumstances how an asset is deployed.

Let's us consider that A Pvt Ltd and B Pvt Ltd intend to get merged with appointed date as per the scheme being 1st Jan 2020. The Boards of Directors of both companies appoint a Registered Valuer of class 'Securities or Financial Assets' on 15th March 2020 and his valuation report is required to be submitted by mid April 2020 to be considered in the Board's next meeting planned/scheduled around 3rd or 4th week of Apr 2020. The agreed basis of valuation being 'Fair Value' and premise of value being 'Going Concern Value' as per the contractual agreement between the valuer and the companies. The companies have expressed their inability to provide financial projections for a future number of years as they were unable to agree on the numbers of the other company. The valuer has, planned, among others usage of multiples method, captialisation method and book value method to

arrive at the fair swap ratio to be recommended to the Board of both the companies.

Let's assume that there was a flood on 30th Mar 2020 and significant portion of the operating capacity of its major plant (say 80% of the overall production capacity) of B Pvt Ltd gets affected. Any reasonable estimate indicates a significant time / money to bring back the plant to its operating capacity and further challenges including raising of funds, loss of market for its products, customer relationship challenges, new competition gaining strength, disruption of its supply chain, among others.

This is an example of subsequent event as it affects the value of the asset (as per para 37), the asset being the fair value of B Pvt Ltd or its equity share(s).

The valuer has, as per the scope of his engagement terms, agreed to value the company on the premise of value being 'Going Concern'. Further, he is convinced based on the available evidence that B Pvt Ltd is still a going concern say, his discussion with the members of the Board that they are confident of its solvency and its ability to pay its debts and had outlined a strong plan of action including fund raising, legal steps taken for claiming insurance and so on.

However, the valuer still has to revisit the agreed premise of valuation, since this subsequent event affects the value of the asset, as the destruction to the plant has been on a large scale and consequently does affect its market share, customer servicing ability, cash flow challenges and time required to stabilise its operations. He needs to seriously look at changing the premise of value from 'Going Concern' to 'As Is Where Is Value' to reflect the impact/application of the subsequent event in the value of the asset being valued.

The valuation Standard, states, 'as-is-where-is basis will consider the existing use of the asset which may or may not be its highest and best use'.

The valuer is said to have exercised his professional judgment by not adopting 'Going Concern Value' though the insolvency or its inability to pay its debt by B Pvt Ltd is NOT evidenced but does valuation due to occurrence of a subsequent event and use 'As Is Where Is Value' in determining the Fair Swap Ratio to be part of the Scheme.

(b) Subsequent Event necessitating - Basis of Value:

'Basis of valuation' means the indication of the type of value being used in a valuation assignment. IVS identifies a number of non-exhaustive basis of value like market value, market rent, equitable value, investment value/worth, synergistic value and liquidation value.

Let's us take an example where Z Retail Ltd, a family-owned Delhi based company which operates in the geography of Punjab and National Capital Region retailing groceries, beauty products, garments, kitchenware, home appliances and so on. It has about 29 small stores and into business of retailing for about a decade.

Z Retail Ltd has reached out to a private equity firm for dilution of stakes for raising funds for their capital and operational expenses. They hired Mr. A, a registered valuer, to help them in valuing the business. The registered valuer started his assignment with market value as the basis of value and 'highest and best use' as assumed use of the asset to be valued.

Meanwhile X Hypermarkets Pvt Ltd reached out to Z Retail Ltd for possible participation in ownership (equity participation through cash or non-cash consideration) as the former feels the latter a good fit in addressing the gaps in their market portfolio. Both, X Hypermarkets and Z Retail agreed to hire Mr. B, a registered valuer to value their respective business so as to suggest an indicate equity swap ratio.

The valuation assignments of Mr. A and Mr. B are fundamentally different though the asset being valued as well as the premise of the asset are the same (i.e., highest and best use). Mr. B has to necessarily understand that this is a potential deal between two specific, identified parties considering the respective advantages or disadvantages that each will gain from the transaction. In contrast, 'market value' requires any advantages or disadvantages that would not be available to, or incurred by, market participants generally to be disregarded.

Mr. B is said to have exercised his professional judgment in choosing the basis of value either as 'equitable value' or 'synergistic value' over 'market value'. It should be noted that if the synergies are only available to one specific buyer then synergistic value will differ from market value, as the synergistic value will reflect particular attributes of an asset that are only of value to a specific purchaser.

(c) Subsequent Event - Purpose of Valuation

Professional judgement by the valuer for a subsequent event is normally called in case of scenarios where the asset to be valued and the actual date of valuation (say inspection of the property or valuation report date) have significant time gaps. This is more or less a likely scenario where the registered valuer to be appointed by the (Interim) Resolution Professional for companies under CIRP does have a time gap. For e.g; the CIRP Regulations require the RVs to be appointed within 47 days of insolvency commencement date.

The CIRP Regulations requires RVs to value the assets, for both, fair as well as liquidation value as on insolvency commencement date. A significant or material subsequent event can really be tricky or challenging for the valuer to arrive at the indicated value as required by the Regulations. Say, what if a company's significant land bank is part of a compulsory acquisition process by a State Government, a material subsequent event. Will the valuer ignore such a Government Order as it is an event subsequent to the date of valuation and provide for fair and liquidation value? Or will it be accepted to consider the GO and value the land accordingly thus raising the question of contradiction of the regulations itself?

The purpose of valuation involving the code, for companies under CIRP is for the CoC to evaluate the resolution plans along with the valuation reports of its assets, among others.

The RP/IRP as the case may be, is required by Regulation 36 of CIRP Regulations to prepare and submit the memorandum information ('MI') to each member of the CoC. Sub Regulation (2) of the said Regulation details the aspects to be considered in the MI. Such MI is also required to be shared with the resolution applicant(s) as per sub regulation 4 of the said regulation.

(Erstwhile) Regulation 36 (2) (j) required the RP/IRP to provide for 'liquidation value' in MI. It should be noted that the requirement for fair value of the assets by the valuer was inserted by Notification No. IBBI/2017-18/GN/REG024, dated 6th February, 2018 (w.e.f. 06-02-2018). Further, Regulation 36 (2) (j) was omitted by Notification No. IBBI/2017-18/GN/REG022, dated 31st December, 2017 (w.e.f. 31-12-2017).

In other words, the CIRP Regulations initially

- required the valuer to arrive at the liquidation value of the assets being valued as on insolvency commencement date
- required the IRP/RP to share the liquidation value of the assets to the resolution applicant(s)

The current law, as far as the valuation under CIRP is concerned:

- requires the valuer to arrive at both fair as well as liquidation value of the assets being valued as on insolvency commencement date
- prohibits the IRP/RP from sharing the fair as well as liquidation value of the assets with resolution applicant(s)

Understanding this change in the law is extremely important to further the objectives of the Code, especially companies under it. As CoC takes forward the entire CIRP as per its commercial wisdom, evaluation of the resolution applicant's plan including the financial part of the plan is important. Among other evaluation criteria to evaluate the resolution plan, understanding of the fair and liquidation value of the assets being valued and comparing the same with proposed plan is a critical input for the CoC to take forward the CIRP process. In other words, the possible reason why the value (fair or liquidation) is mandatorily NOT to be part of the MI shared with the resolution applicant is to ensure that the same is not used by the resolution applicant(s) as a critical input in their plans or in the proposed resolution financial package (say, just have some amount over the liquidation value as their bid).

Now coming back to our example, the subsequent event of the land being acquired compulsorily after insolvency commencement date, the valuer is well within his rights of using the professional judgement to give effect to such mandatory acquisition as part of his valuation. Else, in the scenario, of not considering the impairment in the asset, the purpose of the valuation report (under the Code) as explained earlier, that it is for the usage by the CoC for considering the resolution plans i.e., commercial wisdom, will stand defeated as the (impaired) assets may significantly differ when liquidated or sold, and further, the resolution applicant(s) would also have knowledge of the impairment and would have factored in the same in their plans.

Hence, it is very important to understand the purpose of valuation in considering the scenarios' arising out of subsequent events.

Disclosure

Paragraph 39 ends with '*In the event such circumstances / events are considered by the valuer the same should be explicitly disclosed in the valuation report'.* An important obligation is cast on the valuer to explicitly disclose the subsequent event in his valuation report. This means the valuer's report should clearly describe the event and its nature, its impact and why it has been considered as subsequent event.

ARE THERE EXCEPTIONS NOT TO CONSIDER A SUBSEQUENT EVENT?

The fact that the Standards call upon the valuer to exercise his/her professional judgment means that no comprehensive rule can be prescribed to suit all requirements. However, clear scope of work comes as an exception to the treatment of subsequent event.

Often, a land and building valuer is required to submit a report on the valuation of an immovable property as per Income -tax Act for calculating the capital gains tax, pertaining to base year. The cost of inflation (CII) references the financial year 2001-02 as base year. So, for a capital asset purchased before 1st April 2001, taxpayers can take higher of actual cost or FMV as on 1st April 2001 as the purchase price and avail the benefit of indexation. When the indexation benefit is applied to "cost of acquisition" (purchase price) of the capital asset, it becomes "indexed cost of acquisition". To benefit the taxpayers, cost inflation index benefit is applied to the long-term capital assets, due to which purchase cost increases, resulting in lesser profits and lesser taxes, as the law desires. The purpose of valuation is to determine the value of the capital asset as on 1st Apr 2001 and any subsequent event after 1st Apr 2001 is immaterial in these cases.

SUMMARY

Treatment of 'subsequent event' falls under the parlance of professional judgment of the valuer. Critical inputs which influences the professional judgement of the valuer includes basis of value, premises of value and purpose of valuation. It is to be noted that subsequent events could be relating to, but not limited to, the asset being valued, comparables and valuation parameters used. Appropriate explicit disclosure by the valuer in his report would provide the users the required clarity.

Chapter 4
COVID-19 and Valuation

BACKGROUND

1. Pandemic

The novel Coronavirus ("COVID-19"), is an infectious disease caused by a newly discovered coronavirus and this outbreak has been declared as a pandemic by WHO (World Health Organization). COVID-19, which is spreading exponentially throughout the globe, causing widespread illness and deaths, is expected to worsen the Global economy including the Indian economy in the fiscal year 2021. The pandemic is said to be a threat bigger in scale than the global financial crisis of 2008, as it not only affects economic activities and jeopardizes financial stability, but also brings with it enormous human suffering.

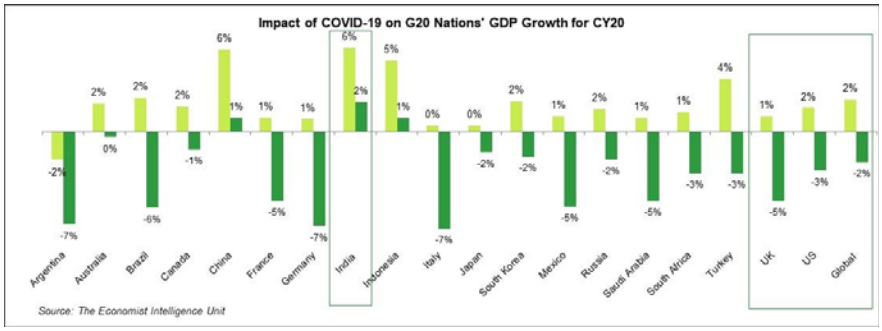
2. Impact on Global GDP and India GDP

Impact of COVID-19 to India is as bad as it could be with a staggering slowdown which neither anyone anticipated nor anyone can correctly estimate. The Fitch Ratings had earlier projected India's GDP growth for 2020-21 at 5.1% which is now slashed to a staggering 30-year low of 2%, on account of this pandemic. We are still in the early stage of COVID-19 period vis-à-vis China, USA and other European countries, but the market is learning and emulating from other world markets and is therefore anticipating the worst. COVID-19 may impact India's economic growth "severely", as the Coronavirus lockdown is causing significant disruption across multiple sectors. As lockdowns are also imposed in other global manufacturing hubs, the extent of impairment to global supply chain and global growth is likely to further increase.

The below table shows the GDP forecast for G-20 nations before and after the outbreak of COVID-19 as estimated by the Economist Intelligence Unit for 2020. The growth rate of emerging as well as developed markets has been reduced very sharply owing to the disturbance caused by lockdowns and other restrictions. The global economy has already entered into recession due to the widespread COVID-19. The severity of the COVID-19 pandemic on India's economy (as well as global economy) will inter-alia, depend on its attack and fatality rates, its duration and the behavior as well as preparedness of the

household and firms and is also depended on the capacity and preparedness of the country's health care systems.

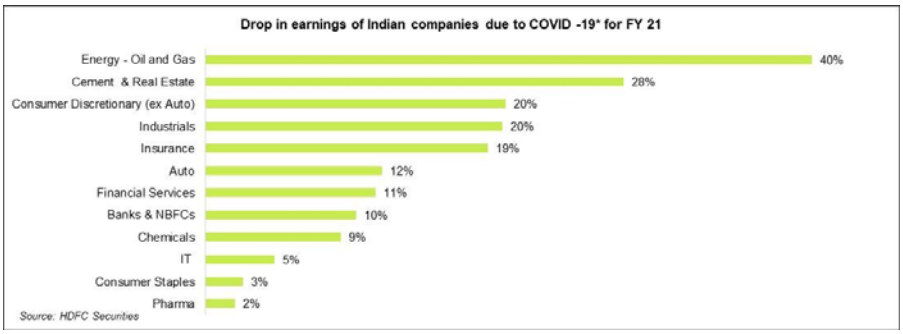
Chart 2.1: Impact of COVID-19 on G20 Nation's GDP Growth Rate for CY2020



3. Financial Loss to Various Industries

Economic disruptions can particularly result in certain industries like infrastructure, hospitality, labour intensive manufacturing businesses, etc. as people or workers may be asked to stay at home, or may choose to do so to take care for sick relatives or because of fear of being exposed themselves. There may be disruptions to transportation, trade, and major utilities like aviation, exposing some financially vulnerable enterprises to the risk of bankruptcy. Moreover, demand could contract sharply, with consumer spending falling (directly affecting sectors like automobiles, white goods manufacturers, retail malls, etc.) and investments being put on hold. Financial repercussions could further exacerbate the economic impact. If two-way trade flows are not restricted, imports in some countries like India may rise on account of higher need for medical goods and services, although this may be offset by sharply lower domestic demand and production. Low-income countries like India could see deterioration in their trade balance owing to high health-related imports, but if financed through external grants this would not increase its debt burden.

Chart 3.1: Sector Wise Drop in Earnings for Indian Companies for FY 21



4. Recovery Depended on Many Factors

However, once the pandemic / crisis is over, the economic activity is likely to recover relatively quickly. Both consumption and average hours worked might even overshoot the pre-pandemic level temporarily. The pace of recovery would largely depend on inter-alia, the business and consumer confidence, the speed of resumption of international trade, and the recovery of asset values. The recovery of an economy like India is also dependent on its effective capacity to treat victims in a timely manner, purchase and distribute drugs and vaccines (once available) and provide for health security measures.

Chart 4.1: India's GDP Growth Cycles for Last 30 Years

5. Valuation Uncertainty on account of COVID-19

The graph above depicts the growth trajectory of Indian GDP since 1991. India being liberalized and global economy cannot remain insulated from the global crises. The global disasters of Asian payment crisis in 1997, Dotcom Bubble in 2001, global financial crisis of 2008-09 had affected India's GDP growth rate. However, historically, India has shown strong recovery post such crises and is

expected to continue the same trend in future. Considering the above, there is no doubt, that COVID-19 pandemic has created an enormous amount of uncertainty around the world and has resulted in significant market volatility. This has resulted in a huge challenge for the valuers who would be conducting valuations as on the current date of crisis for various transactions and various reporting requirements including the financial reporting for various companies as at the financial year ended 31 March 2020.

B. VALUATION AND VALUATION UNCERTAINTY

6. Valuation

Valuation is an estimate of the most probable range of possible outcomes based on the assumptions made in the valuation process. In the process of estimating the valuation of an asset, the valuer is required to apply various approaches/methods including market approach and income approach.

7. Valuation Uncertainty

Valuation uncertainty is the possibility that the estimated value may differ from the price that could be obtained in a transfer of the same asset or liability taking place at the same time under the same terms and within the same market environment.

8. Valuation Uncertainty vs Uncertainty Risk

Valuation uncertainty should be distinguished from uncertainty risk. The possibility that the estimated value may differ from the price in an actual transaction deemed to be taking place simultaneously means that the value may be higher or lower than the price. An owner of the asset is exposed to a risk of loss (uncertainty risk) and also to a benefit of a gain if the price is higher than the estimated value.

9. Categories of Valuation Uncertainty

As per guidance provided under International Valuation Standards Council (IVSC), the valuation uncertainty can be caused by various factors that can be broadly divided into the following categories:

(a) Market disruption,

(b) Input availability,

(c) Choice of method or model.

Let us evaluate the above uncertainties on account of COVID-19 crisis.

10. Market Disruption

Valuation uncertainty can arise when a market is disrupted at the valuation date by current events, for example through panic buying or selling, or a loss of liquidity due to unwillingness of market participants to trade. The events causing market disruption may be macroeconomic such as the financial crisis during 2008-09 or the recent COVID-19 crisis that we are experiencing currently. If the valuation date coincides with economic crisis (like it will be for most of the impairment / fair valuation for financial reporting as at 31 March 2020), the valuer would be faced with the problem of significant valuation uncertainty because the only inputs and metrics available for the valuer are likely to be before the current crisis and therefore may have limited relevance to the situation as at the valuation date. The impact of this crisis may easily be identifiable, however, the same may not be quantifiable since the attitude of market participants and its effect on prices will not be clearly known during the short period post the crisis once the market has stabilized. Because of this, uncertainty caused by the market disruptions is rarely quantifiable.

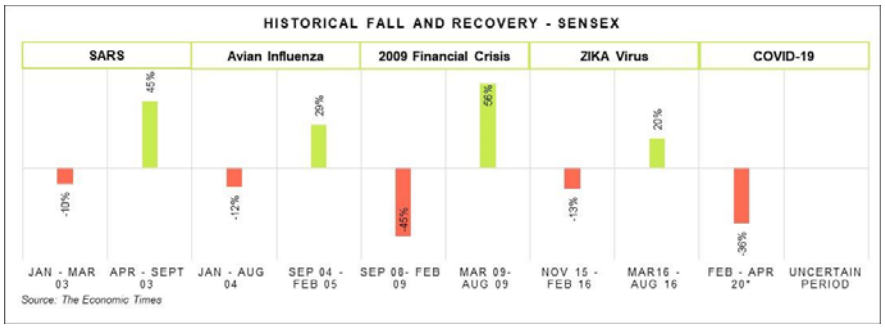
It is important to understand the difference between market uncertainty and market risk. Market risk is the risk that an asset may lose value over time due to changes in market conditions that occur after the valuation date. For example: price of a traded blue chip stock listed on a recognized stock exchange, there could be risk of price fluctuating on a daily basis. However, this cannot be termed as market uncertainty as the stock would be trading on high frequency with adequate volumes which is likely to keep the price of the stock in a given range of value. Accordingly, the market uncertainty is an event that cannot be quantified because the uncertainty arises from the inability to observe the impact of the event on prices.

Reaction in Indian Financial Markets

As estimated by S&P Global, the world is bracing for a global recession. The pandemic of novel corona-virus is impacting economies of mammoth countries which are expected to grow at significantly lower than their previous forecasts. However, such recession or stock markets crash was not unheard of, crisis such as the SARS, Avian influenza, 2008 fall, Brexit, etc. did affect the markets negatively. Even at home in India, the markets were not averse to such global

changes. Tabulated below are some of the steep fall in SENSEX during previous such large scale crisis, along with the rise which followed:

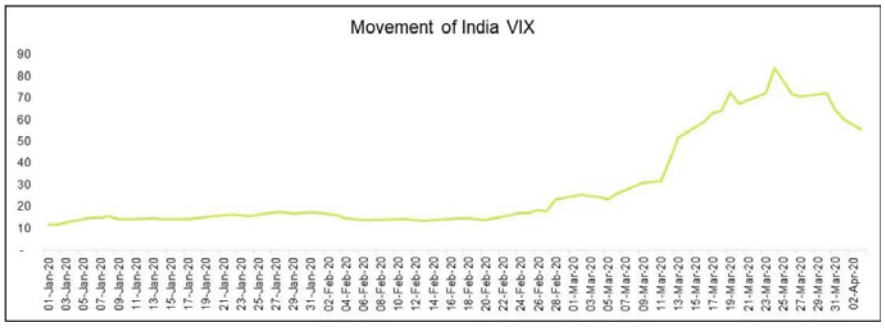
Chart 10.1: Historical Fall and Recovery of BSE SENSEX



In the current context, it is also important to analyze the India VIX. India VIX indicates the investor's perception of the market's volatility in the near term i.e. it depicts the expected market volatility over the next 30 calendar days. Higher the India VIX values, higher the expected volatility and vice-versa. Volatility implies the variation in price of a financial instrument. Thus when the markets are highly volatile, market tends to move steeply up or down and during this time volatility index tends to rise.

Volatility index declines when the markets become less volatile. Volatility indices are sometimes also referred to as the Fear Gauge because as the volatility index rises, one should become careful as the markets can move steeply into any direction. Investors use volatility indices to gauge the market volatility and make their investment decisions.

Chart 10.2: Current Movement of India VIX



Regular market dips and jumps can be fairly easy to understand, but the fluctuations that we are experiencing due to COVID-19 are unprecedented. The

reason is clear and the economic impact of this disease on countries is evident from a quick sweep through the global indices. Take India for instance, the Sensex lost nearly 3,900 points in a day on 23 March 2020, amidst the uncertainty surrounding the spread of COVID-19. However, when the Finance Minister of the country addressed the nation on 24 March 2020, the markets immediately rallied. This was further accelerated by the Prime Minister's call to action and state authorities' vigilant Plan of Action. Following this, the Sensex continued to rise for two consecutive days and ended on 28,535 points on 25 March 2020. So what changed in the two-days to change the market sentiments? Well, it's simple, the public confidence or uncertainty in the minds of the business owners and investors. Instant and strong actions taken by the government can lead to change in perception of the investors.

Chart 10.3: Historical Movement of BSE SENSEX

In relation to COVID-19, the above chart is only to provide illustrative example to explain the likely recovery pattern. The important question that all business leaders are asking viz. the depth of disruption, length of disruption and likely shape of recovery. There are number of uncertain factors which are likely to determine the above answers like time taken to implement social distancing, number of cases, fatality ratios, unemployment, quick-starting of public and private investment, etc.

Conclusion on Market Disruption

- Valuer needs to ascertain the quantum of impact the COVID-19 event is likely to cause the Target / Industry under consideration and assess whether any adjustment is required.
- Valuers should not apply only pre-crisis criteria to their valuations as this approach is based on the potentially erroneous assumption that values will return to the pre-crisis levels as there is no way of predicting that this assumption is in fact correct.

- A larger period may be considered in order to determine the maintainable earnings and maintainable level of multiples in order to avoid the current disruption.
- Revenue and earnings metrics must be evaluated in the context of market participant perspectives. Generally, market participants focus on maintainable earnings or maintainable revenue. Therefore, one-time impacts would be excluded from the metric to which the multiple is applied. Notwithstanding the previous point, expected adverse performance in 2020 and beyond, if deemed one-time, would still impact cash balances and would be reflected as a deduction from enterprise value in estimating fair value.
- Relevant disclosure needs to be provided in the valuation report to address this uncertainty.

11. Input availability

Input uncertainty arises where there are number of equally reasonable or feasible inputs or assumptions that can be used from the degree of veracity that can be attached to the date inputs used in the valuation and their impact on the outcome.

Examples of input uncertainty include:

a.	**Composite Market Data Inputs:**	Where the input is taken from consensus data or a composite of market data, there will normally be a range between which the market value can fluctuate.
b.	**Historical data Inputs:**	Where inputs are based on historical data, the assumptions or methods used to adjust the data to market conditions at the valuation date can be a source of input uncertainty.
c.	**Estimated or Extrapolated Inputs:**	Where the inputs are estimated or extrapolated from directly observable prices, uncertainty can result from the adjustments made for differences in the assets or the transaction, particularly where there is little or objective evidence for the adjustments.

In some situations the effect of input uncertainty may be bettered by the use of statistical sampling techniques to analyze and weight the range of available data before it is applied in the valuation model. However, the input uncertainty can also arise on account of factors like reduced liquidity in the market or reduced market activity to form a reliable opinion based on empirical support for the valuation.

Conclusion on Input Uncertainty

- In the current context of COVID-19, the valuer would be faced with the uncertain data points in relation to the financial projections for the future period.
- Valuer should consider combination of modifying projections and historical results, to the extent possible, combined with adjusting factors such as multiples and discount rate to reflect increased risk and uncertainty is required.
- New forecasts and outlooks should be well documented, especially in a situation where the subject company's prospects may seem to diverge from prices in public markets for similar industry in which the company operates.
- Valuer needs to assess the quantum of cash flows to be impacted (depending on the industry to which it belongs), duration of affected period of disruption (many public data sources are expecting a period of 6-18 months of disruption) and frequency of similar impacts (In the past 30 years, we have come across at least one significant crisis every ten years).

12. Choice of method or model

For many asset types, more than one method or model may be commonly used to estimate value. However, those methods or models may not always produce the same outcome and therefore the selection of the most appropriate method may itself be a source of valuation uncertainty. Hence, where more than one valuation approach or method is used, the resulting indications of value should be analyzed and reconciled to reach a valuation conclusion. However, this is a heuristic process which will enable the valuer to understand the reasons why the methods produce different results. It may not lead to a mathematical reconciliation of results arrived under different methods and the valuer will need to justify which method should be given more weightage in arriving at the

valuation conclusion. Where there is no clear reason to prefer one method over another but each approach/method produces different result, the uncertainty in relation to the choice of method or model takes place.

On account of COVID-19 crisis, the prices of various companies have fallen dramatically on account of the uncertainty involved in relation to the future or lack of marketability or some other reason. However, the underlying data points for financial projections or the fundamental growth factors of the company may have not undergone significant changes except for estimated 6-18 months from today. In such situation, it is important to select a correct valuation method or provide appropriate weights to different valuation methods as per the valuer's professional judgment.

Cost Approach	In case of Property, Plant and Equipment and intangible assets including Goodwill, Companies must assess whether the impact of COVID-19 triggers an impairment assessment and, if as a result of that, whether an asset impairment has occurred or not
	In case of Inventory, Companies must assess whether inventory is held at the appropriate carrying value. Any change in carrying value on account of COVID-19 must be appropriately adjusted
	Companies must assess the expected credit losses that will be incurred as a result of the impact of COVID-19 on their customers and recognize credit loss provisions for increases in expected non-recoverability of receivables.
Market Approach	As at March 31, 2020 market multiples have moved significantly over the quarter and significant uncertainty exists with respect to company performance and achieving projections.
	A valuer should also take into account that the recent transaction multiples may or may not consider the current market environment and therefore may or may not need adjustment depending on the individual facts and circumstances
Income Approach	Updated projections after considering the impact of COVID-19 with appropriate value drivers should be used

	by a valuer. The impact on an individual company's results and outlook may be positive or negative
	If updated protections are not available, value drivers may need to be adjusted to account for increased risk and uncertainty.
	Appropriate care should be taken to ensure that the impact of uncertainty is not double counted

The above causes of valuation uncertainty cannot be considered in isolation. For example, market disruption may affect the availability of relevant data which, in turn, may create uncertainty as to the most appropriate method or model to use. The interdependence between these causes of uncertainty is therefore likely to exist and should be considered during the valuation process.

C WAY FORWARD

13. Thorough understanding of the business to valued

As stated earlier, valuation is not a fact, but it is an estimate of the most probable range of possible outcomes based on the assumptions made in the valuation process. To make the valuation process more reliable, generally observable inputs should be given significant weightage so as to reduce chance of valuation being flawed. Further due to breakdown of COVID-19 outbreak, the reliability of observable inputs like multiples of comparable companies may themselves be flawed and give a deceitful view of the true worth of the underlying business, which may have not changed fundamentally. Accordingly, thorough understanding of the business along with best possible estimates should be used while concluding a valuation.

14. Disclosure Guidance

As per International Valuation Standards Council (IVSC), in the current climate more than one approach should be used as the economic and political climate is such that "there are insufficient factual or observable inputs for a single method to produce a reliable conclusion." Further, if the valuation uncertainty is deemed to be material, it is always more prudent to provide a clear and accurate description of any material uncertainty. This indicates that a qualitative description should always be provided for all valuations for whatever purpose where any identified uncertainty meets the materiality criteria.

15. Additional Procedures

Following are some of the procedures a valuer should comply during such uncertain times:

Valuer should ensure that the data provided by the management are updated on account of COVID-19 events.

- With this increase in uncertainty, it is appropriate to consider if the implied discount rates ("alphas") or implied market multiples / relative market capitalization changes ("deltas" / discounts or premiums from comparable companies) have changed for the subject company relative to the market data.
- Facts and circumstances applicable to the specific portfolio company, its industry, geography, liquidity, size, etc. will drive the judgment required to estimate the additional company specific risk premium required. The magnitude of the company specific risk premium will be related, up or down, to the reliability and achievability of forecasts.
- If the valuer is unable to perform certain procedures relating to collecting information or analysis on account of physical non-movement related to valuation work (example: site visit, meeting or verification of original document, etc.), then the same needs to be disclosed in the valuation report.

16. Conclusion

Covid-19, in a matter of a few weeks, has turned everything we viewed as normal on its head. The valuations area is no different. We are in the midst of an unprecedented global health crisis that may have impact on every facet of India's society and economy. It is also a period of very high uncertainty, both in terms of the short term impact on various businesses and the long-term impact on the macro environment of the Indian economy.

At such times, the valuer should ensure highest professional standards of prudence, skepticism, independence and documentation to ensure the global, country specific and sector specific imbalance created on account of this pandemic is well taken care in the valuation analysis.

The most important job of the preparer of the valuation report is to ensure his report is reliable and neutral.

Hence, though on account of current COVID-19 crisis, the report would be subject to many uncertainties, but such uncertainties should not be dealt with any bias that leads to understatement nor overstatement of assets to be valued.

Chapter 5

Implication and Redressal of the Global Pandemic on Valuation

BACKGROUND

We have observed significant volatility in global public equity markets both upstream and downstream. The Novel Coronavirus disease 2019 (COVID-19), declared by the World Health Organization as a 'Global Pandemic' is causing heightened uncertainty in both local and global market conditions. This pandemic has battered the stock market and many industries are put to an uncertain future as global economies are facing huge turbulence. As stock markets are dealing with huge daily volatility and most listed companies are witnessing a significant downfall in their stocks, most investors, financial institutions, corporations etc. are dealing with concerns around the valuation of business in such turbulence times where businesses of all sizes have been affected in numerous ways. This demonstrates the potential value impact of an uncertain market on businesses. During times of market uncertainty some industries are less affected while some are heavily affected, for example pharmaceuticals, life sciences and consumer goods are not impacted or could be able to recover faster from global crisis like COVID-19 whereas real estate, media and entertainment, hotels and tourism, oil and gas, textiles etc. may take time to recover.

While valuation will certainly be trickier and more judgmental in times of market uncertainty, the valuation methodologies that we have always applied will likely remain appropriate However, what will need thoughtful revision will be the input of information into the valuation and how we can adjust market inputs if we feel that there is a need due to excessive market volatility. This note will emphasis on that, it remains possible to arrive at a view on value, albeit one with scenarios and a range.

DEFINITION AND WHAT 'FAIR VALUE' MEANS IN TIMES OF DISRUPTIVE GLOBAL MARKETS?

The definition of "fair value" does not change even in uncertain times. Fair value does not imply a fire sale or a distressed value. Fair value is 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 valuation date. A deep dive into fair value definition implies that it is the amount that a market participant would pay or receive, in an orderly transaction, taking into account current market conditions and all relevant known and knowable information pertaining to the asset being valued at the measurement date.

While the market reaction, government actions and individuals' behaviour are changing rapidly with the current health threat, the framework for determining fair value remains consistent. One would need a close look at determining the fair value in such market uncertainty as businesses are impacted globally with disrupted supply chains, travel, production and consumption, threat to operations and financial markets.

VALUATION APPROACH AND METHODOLOGY

When valuing a business there are three main valuation methods used by industry practitioners as tabulated below:

Approach	Income Approach	Market Approach	Asset Approach
Popular Methods	Discounted Cash Flow ('DCF') Approach	Comparable Companies Approach	Net Asset Value – Book Value
			Net Asset Value – Replacement/ Reproduction Cost Approach
		Comparable Transaction Approach	
		Market Price (if the equity shares of a company are listed)	

Areas which require special attention of valuers in times of market uncertainty are cited below with reference to the approach and methodology:

A. Income Approach

Income approach indicates the value of a business enterprise/ equity shares based on the discounted value of the cash flows that the business can be expected to generate in the future. Discounted cash flow ('DCF') method values a business based upon the available cash flow a prudent investor

would expect the subject business to generate over a given period of time.

The DCF method is used to determine the present value of a business on a going concern assumption and recognizes the time value of money by discounting the free cash flows by the weighted average cost of capital ('WACC'), which is considered at an appropriate discount factor for the explicit forecast period. The terminal value of the business at the end of the horizon period is estimated, discounted to its present value equivalent and added to the present value of the available cash flow to estimate the value of the business.

However, in times of a global crisis the valuation of business prepared using Income-based approach are likely to be impacted. These are summarized in the ensuing paragraphs.

(i) Potential revision in cash flow projections

All projected cash flows require the use of estimates and judgment. The direct and indirect impacts of the pandemic will in all probabilities, place sensitive emphasis on estimates and judgments for almost all valuations. Estimating the crisis impact on value will depend on consideration of all available information as of the applicable valuation date.

At present, the extent of the COVID-19 outbreak and by when it will be brought under control remains unknown. But it is certain that businesses worldwide will need to consider the impact of reduced economic activities and lockdowns on their financial health and stability.

There are certain factors which should be considered by an entity preparing the projections and for a valuer assigning a value on such businesses.

Critical factors to be considered by an entity

The companies preparing their cash flows projections should assess particularly post pandemic factors such as:

- Changes in consumer behaviour
- Economic and financial announcements and directions, including ministerial directions issued to government owned corporations that impact revenue and cost structures;
- Fee relief
- Refunds

- Subsidies to customers
- Changes to asset maintenance programs
- Revised cashflow forecasts due to changes in capital work programs and priorities etc.

Critical factors to be considered by a valuer

The valuer needs to consider facts and circumstances that should include, but not be limited to:

- An entity's ability to continue as a going concern
- Sector and industry in which the entity operates in, and what are its specific lines of businesses
- Whether the provider of projections has considered the implications of global crisis in the projections
- Geographical locations of an entity
- Period for operational disruption
- How concentrated or diversified is the vendor/supplier pool, and which vendors/suppliers may be in distress
- Cash management and modification in working capital estimates
- Capital expenditure deferment or potential acceleration
- Entities compliance with debt covenants etc.

(ii) Adjustments to future cash flows and earnings:

There could be a need to make an adjustment to key assumptions supporting the forward-looking cash flow model as it is likely that the future cash flows of the business are affected by a global crisis.

In a normal scenario, for valuing a privately-owned business in the absence of detailed forecast cash flows, reference could be made to the historical and near-term earnings of the subject business.

In the current environment, however, reference to historical results for valuation purposes is likely to result in a not reliable valuation, as it is now almost certain that historical earnings will not be an appropriate indicator of the likely future earnings of businesses, particularly in the short-term future. Therefore, significant importance may be placed on budgets for businesses

post adjusted to the pandemic impact. As this approach assumes that the medium to long term earnings will be similar to those in the budget year, this assumption is unlikely to hold good for business that will quickly recover from the economic impact of the pandemic.

(iii) *Scenarios Analysis*

In times of global crisis, a scenario analysis could be significant. In scenario analysis we estimate expected cash flows and asset value under various scenarios, with the intent of getting a better sense of the effect of risk on value especially when there are potentially favourable and unfavourable events that could impact the valuation.

Given the high uncertainty prevailing in the market, it may be appropriate to develop scenario-wise projections which could be a useful way of understanding the range of potential outcomes for a business and its attached risks. For example, the near-term cash flows may be affected, but long-term cash flow expectations may remain unaffected. Therefore, it may be appropriate to build scenarios like business as usual, business with short/medium term disruption and business with a broader and longer economic downturn.

(iv) *Required rate of return*

The required rate of return is one of the key drivers of the income-based approach. The required return applicable to most business valuations is the weighted average cost of capital ('WACC'). The WACC represents the weighted after-tax costs or required rates of returns for debt and equity holders for their relative contribution to the total capital of the business.

The value of a business is assessed as being equal to the present value of its expected future cash flows. In determining the present value, those future cash flows are discounted using an appropriate risk-adjusted discount rate which is typically calculated using the capital asset pricing model ('CAPM').

Conceptually, the yield on the long-dated government bonds is considered for the risk-free rate in assessing an appropriate cost of equity under the CAPM framework. A valuer should carefully determine the discount rate during such global crisis. Although risk free rates have declined, this is offset by an increase in equity risk premiums and other inputs like betas, tight market conditions and other risk measures.

This will need to be carefully examined in the current market crisis as it could be difficult to accept the proposition that investing in assets and equities

carries same risk in a global crisis than in the period leading up to the emergence of the impact of COVID-19. The volatility in world equity markets in global crisis would indicate that the risk of investing has increased, not decreased. There can be many stable businesses that may not have got impacted as well in the global crisis. Care should be taken that there is no 'double whammy' meaning if the projections have already considered the impact of the crisis, then there may not be a need to apply an additional uncertainty risk premium while computing cost of equity.

(v) Liquidity or marketability discounts to WACC

Depending on purpose, liquidity or marketability discounts can be added to the discount rates while undertaking valuation of unlisted equities on occasions where it is deemed that entities investments would take a longer period to sell or attract a willing buyer. Given the levels of uncertainty and volatility in global crisis in the global markets it may be reasonable to assume that a potential asset buyer would be hesitant to pay a full price to acquire an asset or that asset would take a longer time to be disposed of. Therefore, while we are valuing unlisted equities using a DCF analysis, we may, have to consider an incremental value or discount rate adjustment for illiquidity to reflect the above. Alternatively, discount for lack of marketability can be applied on valuations as computed.

(vi) Cost of debt/gearing

A valuer may consider on a case-to-case basis whether the actual, current debt cost should be applied or not in order to estimate an appropriate cost of debt. The consideration may be based on factors such as whether a company is funded for short-term or long-term, the necessity of future (re)financing etc. The same principle holds for the appropriate target debt/equity ratio which may get impacted either way depending on the nature of the business.

(vii) Tax consideration

Companies would also need to consider tax implications of the market factors and business decisions related to COVID-19, as they can impact cash flows. The government can announce different taxation policies (both direct and indirect) resulting in different tax assumptions required in valuation as compared to current or historically observed taxation norms.

(viii) Entities ability to continue as a going concern

Another vital factor to be considered is, the entities' ability to continue as a going concern post the global crisis scenario. A valuer could assess the high levels of debt and / or limited debt servicing capability and other parameters such as profitability and cash burn rates etc. Whilst on such assessment the valuer may appropriately consider certain businesses / segments within the entity as not a going concern and may value those segments and businesses by using another valuation approach.

B. Market Approach

Under market approach, a business is usually valued considering the market price ('market price approach'), if the equity shares of a company are listed, or by estimating its market price on a comparison with other companies whose equity is traded on the stock exchanges ('comparable companies approach'). Investors are expected to pay for the earnings potential of the entity and earnings value is expected to converge towards the market value. The market approach may also consider the prices implied by reported transactions / deals of comparable companies ('comparable transaction approach').

Under this method, value of the equity shares of a company is arrived at by using multiples derived from valuations of comparable companies, as manifest through stock market valuations of listed companies. This valuation is based on the principle that market valuations, taking place between informed buyers and informed sellers, incorporate all factors relevant to valuation.

However, in times of a global crisis the valuation of assets prepared using market-based valuation models are also likely to be impacted.

With the current global crisis and market volatility, there may be some impacts when determining fair value with reference to market prices. While market prices may seem to be subject to high volatility it must still be used at reporting date by considering a longer period of market capitalization.

A valuer must take utmost care for no "double dip" effect while using comparable company multiples. For example, if the performance metrics have taken into account lower expected performance, an appropriate multiple should be applied rather than a multiple derived from listed companies whose results have not yet included a lower expected performance.

The selection of metrics base on last twelve months (LTM) or next twelve months (NTM) should be based on market participant expectations and the availability of applicable multiples.

In a market-based approach reference would typically be made to the multiples implicit in historical transactions involving similar businesses in similar industries known as transaction multiples, However, in most cases, transactions that took place in a pre-Covid-19 environment would be at different multiples than those implicit multiples in the current environment. The valuer needs to assess the impact of global crisis on the future earnings and then arrive at appropriate valuation multiple.

VALUATION UNCERTAINTY AND MARKET RISK ARE INDEPENDENT OF EACH OTHER

Valuation uncertainty should not be confused as market risk. Market risk would be the exposure that the owner of an asset has to potential future gains or losses. This risk could be caused by various factors affecting either the asset itself or the market in which it trades.

On the other hand, valuation uncertainty can arise when markets are disruptive as on the valuation date by existing or recent events such as market disruption in 2009 financial crisis, unexpected change in any law or a natural disaster or even the current Global pandemic caused due to Covid-19 etc. Another example for valuation uncertainty could be an existence of an illiquid market or uniqueness of the asset itself where there is a lack of relevant market data and one may have to extrapolate inputs from directly observable prices for similar assets or could needs to rely on unobservable inputs.

In case of valuation uncertainty, the valuer may consider measuring the uncertainty by using sensitivity analysis and scenarios to arrive at a range to the valuation. The valuer then may give different weightages or choose the most likely scenario as representing the most appropriate valuation in the given circumstances.

CONCLUSION

The current Global pandemic is having a deep impact on the economy and will continue to pose significant problems for the valuation of assets, business and equities in the short to medium term. The inputs to approaches to valuation would require a careful re-consideration by the valuer.

Valuers will have to determine if the quality of financial information available to them is fit for the purpose and what adjustments, if any, should be made to earnings and cash flow forecasts, earnings multiples or discount rates. These issues would need to be assessed on a case on case basis and it is unlikely that a same approach can be applied across business in all industries.

Chapter 6

Consideration of Macro Economic Factors in Valuation, Especially Consideration of the Impact of Covid-19 on Valuation Engagements

BACKGROUND

Various factors affect valuation! There are multiple bases of classifying the various factors that affect valuation. In this Chapter, we shall discuss the consideration of macro-economic factors in valuation, which are catching importance considering the ongoing situation amidst the COVID-19 pandemic.

COVID-19 is caused by the coronavirus known as SARS-CoV-2. There have been multiple viral infections which spread in the past such as the epidemic of SARS which affected 26 countries and resulted in more than 8000 cases in 2003; the MERS reported in 27 countries since 2012. Even though there have been multiple viral infections in the past, none have garnered the attention or have disrupted at the scale at which the COVID-19 pandemic has caused.

There is guidance that is available in the Valuation Standards issued by the Institute of Chartered Accountants of India ("ICAI VS"), which have been adopted by the ICAI Registered Valuers Organisation. The same is also presented and discussed here.

ECONOMIC FACTORS THAT AFFECT VALUATION

On the economic basis of classifying the factors that affect valuation, macro-economic and micro economic factors can be identified as a base of classifying the factors. As you would be aware, macro-economics is concerned with the effects on the entire economy or is large scale, whereas micro economics is concerned with the effects on an entity/region or is small scale.

Before classifying COVID-19 as a macro-economic factor affecting valuation, it is important to understand what a macro-economic factor is. A macro-economic factor is a characteristic, trend or condition that comes from or applies to a broad aspect of an economy rather than a certain population. Accordingly, certain macro-economic factors that are considered by economists include gross domestic product (GDP), inflation, demand and disposable income, unemployment rate, etc. Hence, it is important to understand that in the economic terms, COVID-19 would not be classified as a macro-economic factor, but it would be an event that affects all macro-economic factors.

THE COVID-19 PANDEMIC

Before getting into discussing the consideration of such events into valuation carried out by valuers, it is also important to understand the situation caused by the COVID-19 pandemic.

- COVID-19 is an infectious disease caused by a newly discovered coronavirus (2019-nCoV).
- Coronaviruses are a large family of viruses that usually cause mild to moderate upper-respiratory tract illnesses, like the common cold, in people.
- COVID-19 is the first pandemic caused by a coronavirus.
- As of 4 April 2020, a total of over 1 million cases have been confirmed as per the information available on https://www.who.int/emergencies/diseases/novel-coronavirus-2019.
- It is a communicable disease.
- To date, there is no specific medicine recommended to prevent or treat the new coronavirus (2019-nCoV).
- COVID-19 has affected over 200 countries and territories across the world.

The scale of the impact of the COVID-19 pandemic on the economy is uncertain. There have been epidemics and even pandemics in history, and the negative effects of these on the financial economy have been long and devastating. International Monetary Fund (IMF) Managing Director mentioned "We're now in recession, it is way worse than the global financial crisis (of

2007-08)" which only shows why the concern around COVID-19 is necessary.

WHAT MACROECONOMIC FACTORS WOULD COVID-19 PANDEMIC AFFECT?

The first thing to note here is that highlighting the impact in hindsight is obvious and has certain analysis; whereas, assuming the impact which is yet in the future is challenging and often not correct. It is based on various assumptions, which are influenced by the bias of the analyst who is factoring the impact of COVID-19 into the analysis to determine the macro economic factors that COVID-19 pandemic would affect.

Relatively, most persons might arrive at a converged view on the macro economic factors that COVID-19 pandemic would affect. The divergent views would be on the level of impact that COVID-19 pandemic would have on these factors. In my view, there would be a significant impact of COVID-19 pandemic on all the macro economic factors and that the impact would be severe, elongated, and far-reaching. Economic outputs including GDP, unemployment rates, and inflation, all are going to be impacted by the COVID-19 pandemic; by how much and for how long is something that only time will tell!

WHY COVID-19 REQUIRES CONSIDERATION?

Negative growth in earnings inevitable

There is little doubt that the financial year 2020-21 will be a financial year with negative growth for businesses. It is also arguable that the dip in demand may be permanent and not temporary, to say that the demand during the COVID-19 lockdown will be lost forever and may not add to the normal consumption of the following quarters, which appears to be a more plausible view. The key understanding that a valuer needs to obtain is as to how much of a drop in revenues businesses will see this year, and how this will translate into net cash flow positions. Barring a few industries like online content streaming, cloud-based services, and certain utilities, most of the businesses will be negatively impacted by the COVID-19 lockdown.

Whether this is the ‘big collapse’?

Now and then, certain economic disruptions make us believe that the reaction of the financial markets suggest that it is the next ‘big collapse’.

Historically, financial markets have reacted negatively (and may be sometimes out of proportion) for events like Brexit, trade wars, acts of war/terrorism and sometimes by events like the Greek default. Every time, the same question lingers as to whether this is the 'big collapse'? With the UN Secretary-General having warned that *the world faces the most challenging crisis since World War II, confronting a pandemic threatening people in every country, one that will bring a recession "that probably has no parallel in the recent past."* In such a situation, it is imperative for the valuer to consider the long-time effects of the possible 'big collapse'.

Going concern assumption

Survival has become a central question. Businesses in the hospitality industry, travel industry, and other socially interactive businesses have been the worst hit. A live case is being shared – It was reported that immediately following the social distancing guidelines in the State of Massachusetts in the United States of America, the Webber Restaurant Group, with revenue of over USD 40 million over the past 12 months, noticed an extraordinary fall of over 30% in its revenue in the second week of March, 2020. Following the close-down of restaurants for in-dining services on March 15, 2020, the Webber Restaurant Group had no choice but to lay-off/furlough 700 of its total 800 employees, in a time of unprecedented crisis. The Co-Owner of the Webber Restaurant Group remained unsure as to when and how many of the laid-off/furloughed employees could be reabsorbed in the business. The magnitude of the shock to corporate bottom lines and the speed with which it has happened has put companies at risk, leaving debt-burdened and young companies exposed to default and distress.

Though generally, the premise of value adopted for conducting the valuation analysis is that of going concern value, valuers will have to evaluate the same considering the impact that it may have on the business being valued.

Change in the economy post COVID-19

While some of the largest businesses may get help from governments to make it through this crisis, especially considering the consequential unemployment crisis, their smaller and lower-profile peers may have to shut down or let themselves be acquired. The post-COVID-19 economy is sure to be different from the pre-COVID-19 era. Such major crises historically, have

created changes in the business environment, regulations and business models that not only reshape the economy but also set new rules for competitive businesses, setting the stage for new winners and losers.

Thus, the historic performance of any business in the pre-COVID-19 economy may not act as a very definitive forerunner for future performance. The impact would also have to be considered for analysing as to whether the competition that presently exists would be able to survive the COVID-19 crisis or would it succumb its market share to the business being valued by the valuer, or *vice versa.*

CONSIDERATIONS FOR A VALUER

A valuer would be placed in a challenging position to value companies in these testing times. With many businesses considering the impact of COVID-19, and assessing their cash flows during this existential crisis, raising capital would be one mode which shall have to be explored by many businesses. Capital might be in the form of debt, depending on the financial stability of the entity and the possibility of the entity to obtain debt finance from lenders. For equity financing, it would be a challenge on the valuer for properly assessing the scenario and opining on the value of the business, especially considering the regulatory requirements for the same.

The divergence between intrinsic value and market-driven value

Intrinsic value will be a function of the magnitude of the expected cash flows on an asset over its lifetime and the uncertainty about receiving those cash flows. Relative valuation uses the 'comparable' assets of an asset to derive an estimated value; this is done by taking a common variable like earnings, cash flows, book value or sales. Where both the methods are likely to be dependent on the market factors, relative valuation methods such as the market price method or the comparable companies multiple method are prone to be more influenced by market-driven forces, which at the current time are working extremely different and are significantly volatile. At such times, the markets may be extremely volatile, and the market value of the asset might be significantly different from the intrinsic value of the asset. The gap might be widened in the wake of the collapse of the markets in reaction to the disruption caused by COVID-19 pandemic. A valuer may face a situation where the intrinsic value might be higher than the market-driven value, and hence, appropriate professional judgment would be required to

select and apply the appropriate methods of valuation. Paragraph 13 of ICAI VS 103 – Valuation Approaches and Methods provides the following guidance:

'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. The price information gathered from an active market is generally considered to be a strong indicator of value.'

A valuer would have to exercise professional judgment as to whether available inputs are good enough for considering them as observable inputs (developed using market data) or are unobservable inputs (developed using the best information available), and accordingly select the relevant valuation approaches and methods.

What historic period to consider?

One peculiar challenge faced by valuers would be that the historic performance of the indices is no indication or guarantee for future performance, especially in these times where COVID-19 pandemic impact on the economy is unprecedented and cannot be forecasted with certainty. Paragraph 20 of the ICAI VS 103 – Valuation Approaches and Methods provides guidance as under :

'A valuer shall use average price of the asset over a reasonable period. 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.'

The volume weighted average price of a scrip over the last six months may not be a correct indicator of the way forward; even a trailing three-month volume weighted average price may not be the correct indicator for the way forward. With these uncertain times, even a trailing one-month volume weighted average price may not hold good one week into the future.

The choice of a reasonable period would have to be exercised with proper care and consideration, and the valuer should appropriately document the basis for selection of the period taken for the valuation if the valuer selects and applies the said method.

Uncertainty in projections

For determining the intrinsic value of an asset using the discounted cash flow (DCF) method, *future cash flows expected to be generated by an asset* are discounted over its life using an appropriate discount rate to arrive at the

present value. As explained with basis earlier, these are extremely uncertain times. A valuer is posed with a significant challenge in relying on the assumptions made by the business owners for putting their case in the financial model which has been developed based on assumptions made by the business owners. At present, even an experienced valuer or an economist may not be able to correctly predict the impact of COVID-19 on the global economy. In such a situation, the valuer would have to be careful in accepting the financial forecasts made by the business owner. Paragraph 44 of ICAI VS 201 – Scope of Work, Analyses and Evaluation provides guidance as under:

'A valuer shall obtain sufficient appropriate data, information, explanations and perform appropriate analyses based on his professional judgment to enable him to draw reasonable conclusions on which to base his opinions or findings.'

A valuer would have to apply his/her professional judgment while analysing the financial information provided to him/her including prospective financial information (for example, budgets, forecasts, and projections).

Double counting of risk factors

A common mistake made by valuers is to double count risk factors. Considering the risks posed by the COVID-19 pandemic, there are multiple inputs which are impacted. The prospective financial information (for example, budgets, forecasts, and projections) may already have factored in the risks posed by the COVID-19 pandemic. This would have already considered the negative impact of the COVID-19 pandemic on the earnings forecast of the business being valued.

Investors are wary of investing in businesses in these times of uncertainty. Accordingly, the return expected by the investors is higher than usual, and the same is factored into the valuation analysis by adjusting the discount rate appropriately, in the DCF method. Hence, if the projections' statement has already factored in the possible effect of the COVID-19 pandemic on the business being valued, not more than the normative risk premium for the business should be adjusted to the discount rate applied for the valuation analysis, specifically on account of COVID-19 effect.

Assessing industry-specific impact

It is not uncommon that certain industries will be impacted more than others. It is also not surprising that certain industries may benefit during and on the other side of the COVID-19 crisis. It is important to evaluate the impact on certain businesses, especially those which have an indirect impact depending on the industry in which it operates. For example, entities operating in specialties or areas which are prone to be the first cut on the budget of spending of businesses might face the indirect impact of COVID-19 crisis as businesses strive to survive and cut their spending budgets. For businesses which have a direct negative impact arising out of the COVID-19 crisis, the valuer shall have to analyse whether the estimation/assumptions are justified in the present circumstances and shall have to apply professional judgment.

Historically, crises have reshaped businesses and the valuer may have to apply professional judgment in considering the specific impact of the COVID-19 crisis on the businesses which may have a positive impact arising out of the COVID-19 impact.

Assessing the impact subsequent to the valuation date

The valuation date is the specific date at which a valuer estimates the value of the asset. This fact is generally disclosed in the valuation report too. Paragraph 36 to 39 of ICAI VS 201 – Scope of Work, Analyses and Evaluation provides the following guidance:

'*An event that occurs subsequent to the valuation date could affect the value; such an occurrence is referred to as a subsequent event.*

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 its 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 asset being valued, comparables and valuation parameters

used. In the event such circumstances/events are considered by the valuer the same should be explicitly disclosed in the valuation report.'

Accordingly, a valuer may consider evaluating the impact of the subsequent events if found relevant for the value of the business on the valuation date, if in the opinion of the valuer, the subsequent events are relevant to the valuation.

CONCLUSION

The assessment and the actual impact of the COVID-19 is a dynamic phenomenon. The thoughts shared in this Chapter are factually relevant at the time of writing this Chapter, and though, in-principle the same shall apply through all times, the factual relevance of the impact assessment on valuations shall have to be looked into afresh at the time of carrying out valuation analysis. The dynamism of the valuation field makes it so interesting and challenging, and that is what we as valuers love.

Chapter 7

The Impact of COVID-19 on Valuation

This COVID-19 pandemic has been completely unprecedented globally with its impact leading to a complete lockdown in more than a 100 countries with more than 1.5 lakh people dying because of the virus and more than 2 million people being already infected by this deadly virus. The worst hit countries include the mighty superpowers like USA, UK, Germany, Italy and China who in spite of having world class infrastructure and health care facilities could not control the rapid spread of this deadly virus.

Therefore for valuation professionals around the world, it would be a real challenge to carry out the valuations during these times wherein the entire world is under complete lockdown. So the primary question that would come to my mind while doing valuations in this period would be – What will be the Impact of COVID-19 on the business valuations of the Company? How I am I going to quantify and make the adjustments in my valuation assumptions while I am ascertaining the Fair Value of a particular business or a particular instrument?

As all valuation professionals across the world say that "*Valuation is an Art*" and that as a Valuer your job is to ascertain the **Value** and not the price. The price can change and be determined by anyone but the Value is something that remains constant on a particular date and should only be determined by an expert.

In this chapter, some of the areas have been shared which as a Valuer we need to analyse and make suitable adjustments taking into account the impact of COVID-19. As the role of a Valuer is to ascertain the Fair Value of any business, we must understand the meaning of the term Fair Value before we try to calculate the same for any business.

As per Para 6.13 of ICAI Valuation Standards, **Fair Value** is defined *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 valuation date.*

Therefore the key components of Fair Value are as follows:-

1. Willing Buyer and a Willing Seller (Market Participants)

2. Orderly transaction
3. Valuation Date

The Fair value signifies the price that would be received in an orderly transaction with an appropriate period. It is based on what is identified and identifiable at the valuation date. The Fair Value shall never be equal to Forced or Fire Sale Price. It always reflects a market participants view i.e. there always has to be a willing buyer and a willing seller. The Fair Value shall always focus on sustainable earnings and income. It shall always factor in the impact of additional risk, uncertainty, unpredictability, probability of a recession both short term or long term and specifically the impact of COVID-19 if we look at the valuations in the current scenario.

As a Valuer one must evaluate what will the Buyers be willing to pay and that the orderly transaction is not forced at all. Now let us take the example of Metal Industry to understand the above points. The Metal Industry before the COVID Impact was operational and substantial and in the current scenario due to COVID-19 the BSE Metal Index has declined by more than 45% if we compare the stock prices from February 2020 to March 2020. The table below shows the steep decline in S&P BSE Metal Index during the month of March post the COVID-19 impact.

Source: https://www.moneycontrol.com/indian-indices/bse-metals-21.html

Now let us analyze the Metals and Minerals Industry. We all know that due to the complete lockdown the demand for minerals and natural resources like Steel, Coal and Aluminium has literally crashed because of there being a virtually zero demand post lockdown. As there is significant drop in demand for these metals it has led to a significant drop in the market capitalizations for all these major metal companies and lead to drastic decline from around Rs 10,000 in February 2020 to as low as Rs 5,400 in March 2020 indicating a

drop of more than 45%, but that does not mean that while valuing an unlisted company in the metal industry, whose valuation date is March 31, 2020 that we are going to make an adjustment of 45% in the Fair Value. We need to clearly understand that no willing seller would like to take a 45% discount on his business just because of the impact of this pandemic as the slump in demand would be temporary and post the relaxation of lockdown things will try to get back to normal and the demand will steadily increase.

There will definitely be an adjustment but we should not get confused between market price and fair value. The Fair Value is not a Fair Sale Price. For this very reason, the price of comparable companies while computing fair values cannot be considered as at March 31, 2020. To calculate the value of unlisted companies, the fair value should be based on a usual or a normal event.

The valuation professionals around the world are finding it very difficult to value businesses if the Valuation date is Post February 2020. As per my view, all valuation assignments whose valuation date is post February 2020 must contain a detailed note on COVID-19. Every Valuer must make adjustments due to this pandemic which can be either short term or long term depending upon the Industry.

While applying the Income approach the most significant adjustments would have to be made to the **projected cash flow assumptions**. While making the adjustment of COVID-19, some industries have reduced by 45% over the market cap and some would have reduced by 10%-20%.

Further, we would also need to make Geography specific adjustments. If the Company is buying its major raw material from Italy, how much adjustment as a Valuer one needs to make in the cash flows viz a viz a Company that is buying all its raw material locally; so all these **geographical considerations** need to be looked into with much greater detail and with a microscopic lens.

The next important aspect to consider is the **Time to recovery.** We need to assess will there be a V shaped recovery or a U shaped recovery?

In a recent interview, Apple CEO told US President that he expects the economy to take a V-shaped when it bounces back from the pandemic. A V-shaped curve is a more positive outlook on economy's recovery, indicating that it would take a sharp upturn after bottoming out. However, most experts have casted doubts on a V shaped recovery as economies across the world struggle to contain the virus and the unemployment.

We need to understand that each industry shall have a different recovery to this pandemic. If we look at the Aviation Industry and Tourism Industry, the pandemic shall have a much greater impact as compared to the FMCG industry. In the aviation industry the cash flows will continue to remain severely impacted for at least one year and even more till there is no vaccinations available as people are going to completely restrict their air travel during these times. Whereas if we look at the FMCG Industry there has been a sudden surge in the demand during this pandemic as people were stocking up most FMCG items due to a fear of a complete lockdown. So instead of a negative cash flow there would be incremental cash flows in the FMCG Industry during or before the lockdown period. Therefore, we need to analyze each industry differently as this pandemic will have a different impact on every industry and cash flows may not always be negative.

While applying Market Approach we need to look whether the current multiples affect the long-term fair value, maintainable revenue and EBIDTA assumptions. While comparing transactions we need to look at whether these recent transactions that have happened post February 2020 are actually comparable or not. As a valuer we need to divide our cash flows into the following components and analyze each of the sub factors in detail.

1. **Income** – We need to understand will there be a short term or a long term impact on the revenues of the Company due to this pandemic. We also need to evaluate factors like customer demand, their trust and their behaviour on the particular company and the industry as a whole.

2. **Cost –** We need to understand the interruptions in the supply chain, whether the cost of raw materials increase or decrease, how will the Company look for alternative sources of procurement post the lockdown ends, how will the Company account for labour shortages during and after these unprecedented times.

3. **Working Capital –** Due to this COVID, the Working Capital days will increase significantly, much more time will be required to receive the money from the debtors, much more funds will be required to restart those factories specially where the cost of restarting the entire production process is much higher.

4. **Leverage and Liquidity Position –** This pandemic shall have a severe impact on the leverage and liquidity position of the Company.

We need to assess will the Company be able to survive this lockdown. In China alone more than 2 lakh companies filed for bankruptcy once the lockdown restrictions were lifted.

Therefore we need to prepare our projections after detailed discussions with the management and consider the short term impact and take the long term view.

Now coming to the most critical part in the valuations, that is the **Cost of Capital**. The three critical components of Cost of Capital are as follows:-

1. Risk free Rate (Rf)

This can be computed from historical 10 year Bond Yield Rate of the specific country on which the Company is based for whom you are doing the valuations. In India we expect a decline in the Risk Free Rate as RBI would try to increase liquidity and there would be heavy shift of investors from equity markets to safer bonds and fixed deposits during these unprecedented times.

2. Return on Market (Rm)

Most of the valuers make this mistake of calculating Return on Market based on a historical approach on the basis of historical data for the various stock indexes. Due to extreme volatility as discussed above wherein some industries showing a more than 45% decline in their market capitalization, a historical approach will end up in calculation of a wrong Rm which will severely impact your valuations.

Therefore, it is advisable to use a forward looking approach rather than a historical approach while calculating the Rm. Mr. Aswath Damodaran , who is regarded as the father of valuations has reduced India's increased Equity Risk Premium from 7.08% to 9.49% and globally also has computed ERP with the assumption of 30% earnings drop in 2020 + 75% recovery in 2025 + Lower % returned in Cash Flows (Source: http://pages.stern.nyu.edu/~adamodar/). However, one needs to analyse each industry differently while computing the Rm.

3. Company specific Risk premium

Every valuer shall take into account, the additional risk premium to the cost of equity for COVID-19 other than the internal factors of the Company. The COVID Risk premium would be very subjective and

would vary from Industry to Industry and would depend upon a lot of internal factors of the Company viz. Company's past performance, competitors, Risks, illiquidity etc.

Therefore, it is very important to estimate the right kind of cost of capital and not look at the traditional methods, because in these times of global crisis, its very subjective so as to arrive at the value of the company.

Conclusion

As a valuer one needs to look at where stock markets are currently and how much will they decline. We need to check the levels of Volatility Index, check for surge in credit spreads, analyse the discount rates, look at business and consumer confidence and also check for levels of unemployment in that sector and economy.

In addition to this, one also needs to be aware of the government policies if there are any for the revival of the economy while making your projections. We should also look at the changes in repo rate and reverse repo rate done by the RBI and look at the changing regulations each day and how is that going to impact our valuations.

Therefore, we all valuation professionals need to make a cautious call as to what shall be the correct VALUE of the business and should look beyond the numbers whenever we do our valuations as it would significantly impact our quality of the deliverable in these pandemic times.

Chapter 8

Global Economic Crisis – Considerations for Valuers

BACKGROUND

It is common for any economy or market to undergo cycles of upturn and downturn. Apart from these cycles, economy can be significantly impacted in crisis situation, where the economy experiences unprecedented downturn caused by certain devastating factors. Such economic crisis can be micro economic or macro-economic. Most quoted examples for macro-economic crisis are 1930's great depression and 2008's global economic crisis, wherein almost all the countries and sectors were impacted adversely. In micro-economic crisis, only a particular country or region or market sector would be impacted. However, without timely corrective measures, micro economic crisis may turn to impact economy at large, taking shape of macro-economic crisis. The economic paradigm shift, on account of fleeting spread of pandemic COVID-19 is an example for the same. Starting with micro-economic impact, the pandemic is leading to fatal downfall of global economies.

In case of global economic crisis, the stock markets across the world would tumble, altering the return expectations of the investors. As the crisis persists, valuations of the companies would plummet, assets would be devalued, and new investments would be halted across the globe.

Crisis recovery generally marks a new beginning for the economy with consumption trend shift and emergence of new sectors or business models. Whereas, existing businesses would be tested for sustainability in changed market and operational conditions. Considering the same, post-crisis investments would face slack. With altered risk appetite, investor focus would shift to business's ability to break even along with being scalable, new markets would be assessed for more and more sustainable business models and valuations would be rigid as in buyer's market.

As per ICAI Valuation Standards 2018, fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants as on valuation date. Whereas, orderly

transaction is a transaction that assumes exposure to the market for a period before the valuation date to allow for marketing activities that are usual and customary for transactions involving such assets or liabilities and it is not a forced transaction. In a crisis or post-crisis situation, determining whether a transaction is an orderly transaction and assessing freewill of market participants itself would be a challenge for the valuer where extent of impact of crisis and longevity of such impact are not known. When the markets are facing an uncertain future, when the historical inputs would render worthless and when there are limited to no comparable evidences, valuation of any asset/business would become widely subjective.

Earlier mentioned factors call for specific attention of Valuer in assessment of inputs and assumptions while valuing any asset/business in crisis or post-crisis situations. In addition to this, valuers are also required to make additional disclosures in report with respect to valuation uncertainty, subjectivity and reliability of assumptions to enable informed decision of the users.

Internationally accepted methodologies for valuation broadly address the need for corrections on account of cyclical movements of economy. However, there are no specific methodologies or guidelines available for valuation adjustments/corrections in case of an economic crisis.

This note deliberates on specific considerations that Valuer may consider while arriving at best estimate valuations under Cost, Market and Income approaches of Valuation, along with fair reporting concerns amidst any global crisis.

COST APPROACH

Cost approach is a valuation technique that reflects the amount that would be required to replace the current service capacity of net assets of an asset (often referred to as current replacement cost).

Two most commonly used valuation methods under the cost approach are:

- **Replacement cost method**, also known as 'Depreciated Replacement Cost Method' involving valuing an asset based on the cost that a market participant shall have to incur to recreate an asset with substantially the same utility (comparable utility) as that of the asset to be valued, adjusted for obsolescence.

- **Reproduction cost method** involves valuing an asset based on the cost that a market participant shall have to incur to recreate a replica of the asset to be valued, adjusted for obsolescence.

Under the replacement cost method or the reproduction cost method, the estimated cost of creating an asset is required to be adjusted for depreciation on account of obsolescence in the asset to be valued.

The following are common types of obsolescence:

(a) Physical obsolescence represents the loss in value on account of decreased usefulness of the asset as the useful life expires.

(b) Functional (technological) obsolescence represents the loss in value on account of new technological developments whereby the asset to be valued becomes inefficient due to availability of more efficient replacement assets.

(c) Economic (external) obsolescence represents the loss in value on account of decreased usefulness of the asset caused by external economic factors such as change in environmental or other regulations, excess supply, high interest rates, etc.

Specific considerations during crisis situation for Valuation under Cost Approach

Valuers widely resort to considering historical cost benchmarks for determination of recreation costs, due to non-availability or non-reliability of latest comparable inputs on cost. While ascertaining costs that a market participant shall have to incur to recreate an asset or replica of the asset, the valuer should duly adjust the historical cost benchmarks with market and economic corrections on account of crisis.

Market corrections can include revised inputs with respect to availability of resources, demand for such resources and validity of the processes in changed technological/technical scenarios. In some cases, revision in demand for the asset itself would alter the demand of the resources, thereby impacting the cost of recreation.

During crisis situation reproduction cost for some assets could be comparatively higher because of various strains in the systems for recreating the asset; in such situations, this approach should duly be sanitized with the

other approaches in terms of its demand to justify such higher costs and thereby higher value.

Economic corrections can include change in value of money on account of inflation or deflation, which would have direct impact on the costs to be incurred for recreation.

In a crisis or post-crisis situation, it might not be possible for a valuer to obtain information pertaining to live benchmarks of recreation costs. Any information so obtained also would be subjective, considering that market and economy would not be stabilized. However, the valuer may consider historical cost inputs with earlier mentioned corrections for replacement or reproduction cost method. Another consideration for valuer shall be to assess the longevity of such market corrections or economic corrections and adjust the valuation inputs accordingly, i.e. only long-term and irreversible corrections are to be factored in valuation, whereas short-term corrections can be addressed by way of disclosure in the report.

To a certain extent, market and economic corrections specified would be also factored in functional (technological) obsolescence and economic (external) obsolescence whereas the additional consideration in ascertaining functional (technological) obsolescence would be to assess the utility of the asset itself from changed market perspective.

For example, machinery for automobile assembling would be priced high in a general economic scenario where there is wide and growing demand for automobiles, free civilian movement, free market for oil, abundant availability of resources and favourable consumer/industry credit terms. In a crisis scenario, assuming instability in oil markets, restrictions imposed on civilian movement, long-term consumption shift with essentials prioritized and innovation of sustainable automobile technology to adapt new markets, demand for existing automobiles and manufacturing machinery would necessarily come down thereby reducing the price. Impact of all these factors should be suitably considered in historical cost corrections or obsolescence adjustments.

One of the instances where cost approach is widely adopted is when income approach and/or market approach cannot be used, i.e., where there is lack of reliable information/inputs for income approach and/or market approach.

Though cost approach may seem to be more feasible to be adopted for valuation in crisis situation, the valuer should also appreciate the fact that

cost approach is based on potentially erroneous assumption that yield or value in use of the asset would be similar to replacement/reproduction costs. Whereas in a crisis situation it is challenging to assess correctness of this assumption, unless value determined under cost approach is benchmarked with value determined under Market or Income approaches.

MARKET APPROACH

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.

The following are the commonly used methodologies under market approach:

Market price method: Under this method, the valuer shall consider the traded price observed over a reasonable period while valuing assets which are traded in the active market.

Comparable companies multiple method: Also known as guideline public company method, it involves valuing an asset based on market multiples derived from prices of market comparable traded on active market.

Comparable transactions multiple method: Also known as 'guideline transaction method', it involves valuing an asset based on transaction multiples derived from prices paid in transactions of asset to be valued/ market comparable (comparable transactions).

The market multiples and transaction multiples are generally computed on the basis of trading prices of market comparables in an active market and financial metrics (such as EBITDA, PAT, sales or net book value etc) or non-financial metrics (such as volume of sales/user base, etc).

Specific considerations during crisis situation for valuation under market approach

Market Prices

While considering active market prices of traded asset or market multiples of comparable traded asset, the valuer should ensure that volatility and long-term/permanent correction in such market prices are duly adjusted.

Historical average of market prices would no more be relevant for consideration for valuation in a crisis/post-crisis scenario, since it would be erroneous to assume that pre-crisis stability in market prices would be achieved, unless the impact of crisis on the market is expected to be temporary and reversible. During the crisis, bearish investors may resort to extensive sell whereas bullish/value investors may adopt buying in staggered intervals to average the portfolio. Hence, the market during this period would undergo severe disruptions making volatility adjustments a challenging task. Though it is general presumption that market prices of stock reflect investor sentiments on real-time basis, it is not true for the reasons specified earlier. Further, demand or consumption shifts would appropriately reflect in prices of the stock only in post-crisis stability period.

Valuers in this case should critically assess the business model sustainability and financial capabilities of the companies, whose market prices of stock are being analysed for valuation under market approach. Further, in case traded prices of the asset/comparable asset for a reasonable demand adjusted period or reliable inputs for volatility adjustments are not available, valuer should abstain from considering market price or comparable companies method.

Transaction Multiples

For determination of transaction multiples, existence of transactions closer to valuation date and such transactions being orderly transaction is a prerequisite. However, in a crisis situation, investment activity would be slacked making identification of transactions closer to valuation date close to impossible. Similar to traded market prices, demand or consumption shifts would appropriately reflect only in transactions undertaken in post-crisis stability period.

Further, in a crisis situation, investment transaction would be undertaken mostly in a buyer's market scenario, i.e. most companies would resort to distress sale or procurement of costlier funding to sustain, cutting down the valuation significantly. Hence, transactions undertaken in crisis situation cannot be considered as orderly transactions for determining transaction multiples, unless freewill of buyer in specific and reasonable market exposure is established. However, if reduction in valuation due to changed market scenario is expected to be permanent/long-term, multiples of transactions reflecting such reduced valuation can be adopted.

Also, the valuer should ensure that historical financial/non-financial metrics of the asset/entity being valued using comparable companies multiple or comparable transactions multiple method are duly adjusted for changes in operational scenario. It would be erroneous to assume that an asset/ a company can generate same volume of sales or achieve same profitability margins as in historical period with changes in demand, availability and cost of resources.

In alternate cases, considering financial inputs pertaining to post-crisis period, where immediate operational performance may be hampered for non-permanent factors, would adversely impact the valuation even though other metrics of valuation are stable. Hence, to balance the impact of changes in economic and operational scenario, the valuer may adopt a combination of multiples instead of singular multiple for valuation under market approach, i.e. EBITDA multiple/PAT multiple along with asset multiple or any non-financial metric multiple. Further, the valuer may consider using average of valuation using pre-crisis and post-crisis metrics and multiples.

The valuer should consider revising discount for lack of marketability assumptions considering widened sentimental gap between investment in traded and non-traded stocks in changed market scenario.

Considering the factors specified earlier, market approach would derive best estimate value of an asset/ company given reliable information/inputs, including for valuation adjustments, is available. Any subjectivity in such inputs should be flagged in the valuation report.

INCOME APPROACH

As per ICAI Valuation Standards, 2018, income approach is a 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.

Most commonly adopted valuation method under income approach for valuation of a business/ income generating asset is discounted free cash flow ("DCF") methodology.

The DCF method values the asset by discounting the cash flows expected to be generated by the asset for the explicit forecast period and also the perpetuity value (or terminal value) in case of assets with indefinite life.

The following are important inputs for the DCF method:

(a) *Projected Cash flows:* Cash flows expected to be generated by the asset or entity,

(b) *Discount rate:* Rate of 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

(c) *Terminal value:* Terminal value represents the present value at the end of explicit forecast period of all subsequent cash flows to the end of the life of the asset or into perpetuity if the asset has an indefinite life.

Specific considerations during crisis situation for Valuation under Income Approach

Financial Projections

The valuer should always critically and constructively analyse the financial projections prepared by the management and its underlying assumptions to assess the reasonableness of the estimated future cash flows. In doing so, the valuer has to assess whether changed operational conditions, including revised sales demand position and cost estimates, have been appropriately factored in the projected cash flows.

The valuer should appreciate that cash flows adjusted for risk and changed operational cash flows do not necessarily mean that valuation should be built on pessimistic estimates. Projections might be built based on estimate that operational conditions are expected to better and asset/ entity would continue to earn increased cash flows, however it should be ensured that such increased cash flow expectations are backed with appropriate evidences of demand and cost trends. The valuer may consider comparable or industry average post-crisis estimated growth rates, industry analyses for estimate cost and demand trends for such purposes.

Discount Rate

Discount rate adopted in income approach represents return expectations of investors and cost of procurement of funds. Discount rate should reflect the riskiness of the projected cash flows. Such risk shall include both market-wide non-diversifiable risk, addressed through market rate of return (risk free rate plus market risk premium) and firm specific-diversifiable risk, addressed through additional risk premium (alpha).

In determination of market rate of return, the valuer should appropriately consider changed economic scenario, including revised inflation rates, long-term interest rates and economy growth rates. Here again, only permanent corrections in market inputs should be factored in valuation and non-permanent corrections can be addressed by way of disclosure in the report.

In general practice, historical average of interest rate and market return inputs would be considered to adjust the volatility. Pre-crisis historical inputs including discount rates and market indices during crisis situation would be highly volatile and hence cannot be adopted for determining discount rates. Further, revised investor sentiments would be reflected only in post-crisis stable market indices. However, if the market inputs for a longer historical period covering at least two to three recession or crisis periods are available, the valuer may consider the same for determining discount rates. Instead, the valuer may consider adopting forward-looking approach for determination of discount rate, instead of historical approach, subject to availability of reliable inputs.

In the determination of additional risk premium, the valuer should ensure that firm specific risks and risks attached to projected cash flows are appropriately considered. However, valuers often find it difficult to obtain reliable comparable benchmarks to determine additional risk premium in a scientific manner. In such cases and specifically in a crisis situation, the valuer may consider return /IRR expectations for the post-crisis investments as benchmark for determining the discount rate under survey method.

In determining the discount rate, the valuer should appreciate that risk factors to be considered in valuation are different from factors leading to uncertainty of value being incorrect. While risk factors are to be appropriately quantified and adjusted, uncertainty in valuation either on account of information limitations or otherwise, should be duly disclosed in the report either quantified or unquantified.

Going concern

Another important consideration for a valuer adopting DCF method would be to assess the validity of going concern assumption. If the asset/entity is not expected to generate cash flows for indefinite period, the valuer should determine terminal value using liquidation or exit multiple method instead of growth model. Further, when asset/entity is not expected to have going concern, length of explicit period for projected cashflows should be in line with useful life of the assets/expected period of cash flow sustenance of the entity.

Probabilities

If there are multiple scenarios for cash flow capability of the asset/entity, the valuer can adjust probabilities and outcomes of such scenarios through option pricing model (binomial mode) for arriving at fair value, if such probabilities can be reliably quantified. In case probabilities cannot be quantified reliably or scenarios cannot be summarised for various factors impacting valuation, the valuer can disclose the impact of such scenarios on valuation in the report through sensitivity analyses.

VALUERS' JUDGEMENT ON PERIOD AND DEPTH OF CRISIS AND POST CRISIS RECOVERY

It is very important for the valuer to take the judgement call on the period of crisis and the period of recovery post the crisis. Crisis could be on account of reasons such as the COVID-19 pandemic, the impact of which could be much different and deeper than the other economic crisis such as recessions, dot.com bust, etc. Therefore, the valuer should analyse what is the crisis/post crisis period and respective impact with a comparative to the earlier mentioned scenarios and also with a comparative to the events and situations which lead to much deeper impact on the economies such as World War II. Then, the financial projections should be analysed to ensure if the same are in line with the judgement of the valuer about the post crisis recovery and other aspects. In case the financial projections are not in line with the valuer's judgement, then, apart from disclosing the same in the report a suitable increment in the discount rate can be considered.

Scenarios of future possibility

During any crisis the future possibility could be bucketed in the following three scenarios:

- The crisis is short term, say a few months and the recovery could be expected in a span of a couple of years or a little more.
- The crisis is much broader, which could go on for a few quarters or a year and the recovery period could range between 3 to 6 years or slightly more.
- The crisis is much deeper, where there is no sight as to when it will end and what is the period of recovery.

In the first and second scenarios suitable adjustments in the future projections, comparable and valuation inputs should be made with a diligent

and elaborate analysis of the period of crisis and period. However, in the third scenario, the valuer cannot make any clear estimation of the future as this could lead to demolition of many foundations of the economy/ nations or sectors or all the foundations. In such situations, apart from doing all the steps mentioned earlier, the valuer shall also disclaim in the report about the depth of the situation and the possible worst case scenarios about the global economy, regional economy and the sector in specific.

Sectoral Analysis

Apart from the above, for valuation during the crisis, sectoral analysis of the impact of the crisis is very vital.

Some sectors could be worst affected, in general premium and luxury segments would be the worst hit in the COVID-19 kind of situations and even restaurants could take a lot of hit because of the over hygiene consciousness etc.

Some sectors would be affected in line with the general economic impact.

Some rare sectors could advance in such situations, for instance in COVID-19 kind of situations healthcare, companies dealing with essential productions, many online delivery (including e-healthcare, e-spirituality, e-cooking and many more), would be in great demand.

The valuer should be conscious about the appropriateness of the projections relevant to their sectoral outlook and also the valuation inputs and assumptions should be accordingly considered.

CONCLUSION

In crisis situations, given that there could be a certain degree of uncertainty in valuation under all the approaches of valuation, the valuer may consider adopting one or more approaches to determine the reasonable range of value of the asset/ entity in a post crisis situation instead of concluding the fair value under a singular approach. For all uncertainties in valuation, whether adjusted or not, the valuer should make appropriate disclosures in valuation report, with quantifications wherever possible. Also, while doing valuation under such crisis or immediately post crisis situations, the analysis of the future outlook, choice from scenarios of recovery and adequate detailing of the same in the report are very vital.

Chapter 9

Valuation in Uncertain Times (Global Crisis): A Perspective

INTRODUCTION

There is no disagreement that the current global crisis (pandemic) will cause the global economy to go into a recession, since commerce is effectively shut down for at least a few weeks – with demand, supply and liquidity shocks abound.

In such a precarious situation, we would have to assess how best to value businesses and assets, and valuation can be based on fundamentals (intrinsic valuation: DCF), compare its pricing to how similar assets are priced (relative valuation: multiples), base it on cost of individual assets in its books (asset based) or price it as an option (contingent claim valuation: as an augmentation), thereby helping to determine fair value.

Fair value of an asset will be the guiding force providing the basis, and is defined under IND-AS 113 and IFRS 13 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 valuation (measurement) date".*

In other words, fair value it's an exit price and is market based, and not entity based. For fair value one would have to determine the asset/liability (its unit of account), for non-financial assets (its highest and best use), the principal/most advantageous market for the assets and the valuation techniques (fair value hierarchy).The approaches under fair value measurement are market (market multiples, matrix pricing), cost based (for non-financial assets, current replacement cost and obsolescence) and income (converts future amounts to present value: present value techniques, option pricing).

VALUATION METHODOLOGY

Intrinsic Valuation: The value of an asset is a function of its expected cash flows, growth and risk. In discounted cash flow valuation, for instance, the expected cash flows discounted back at a risk adjusted discount rate yields a

risk-adjusted value. In conventional valuation, the expected cash flows are unbiased estimates of what the asset will generate each period and the risk adjustment is for non-diversifiable market risk (with equity) and for default risk (with debt).

Relative Valuation: Relative valuation involves valuing assets/shares using multiples (P/E, price to book (P/B), EV/EBITDA) and factoring in one or more for desirable fundamentals (growth, risk, ROE).

Asset Based Valuation: We value a business by valuing its individual assets. These individual assets can be tangible or intangible, especially in liquidation value, fair value of assets for reporting or sum of the parts value (business made up of individual businesses or assets where parts may be greater than the sum)

Contingent Claim Valuation: This is an option valuation (meaning: it's a derivative security, i.e. there's an underlying asset, a contingent pay-off, limited life and carries exclusivity). All option pricing models are built on two principles: replication (where a portfolio of the underlying asset and a risk-free investment is created to have the same cash flows as the option) and arbitrage (the replicating portfolio and the option have to trade at the same price). This requires: ability to trade the option, the underlying asset and the risk-free asset in any quantity and at no cost. Option valuation is in addition to the other methods of valuation and not a substitution, and can be a useful tool in times of uncertainty.

UNCERTAINTY AND VALUATION

Debt and Profitability

It looks like debt concerns rose to the top of the worry heap. Companies with the least debt highest profitability with lower net debt ratios would better in asset valuations. At least for the moment, the profitability effect is being drowned by the debt effect, since there is *little discernible relationship between operating profit margins and market markdown*, debt to capital, debt to EBITDA, revenue predictability and interest coverage ratio. Debt would mean fixed and determinable commitments. Default leads to loss of control.

Especially with erstwhile classification of leases as operating costs (IND-AS 116 effect) this could affect the ROCE, even though under normal circumstances this would have led to an improvement in EBITDA, under current circumstances though with lower EBITDA value and lower EBITDA margins the effects on the bottom line would be far from desirable.

THE ECONOMY

There is no disagreement that the virus will cause the economy to go into a deep recession and play havoc with fundamentals in the short term, since commerce is effectively shut down for at least a few weeks (months?) . During that period, economic indicators such as utilization of savings and measures of economic activity will hit low levels, but that should come as no surprise, given how large and broad based the shock has been. There are two questions, though, where there can be disagreement – when will the global economy come back from the shut-down, and whether there will be a permanent change created by this crisis in terms of consumer and investor behavior and economic structure.

There are some who believe there will be a return to business as usual for most parts of the global economy while there are many more who feel that economies will take time to recover from shocks of this magnitude. Whatever be the case, we have to prepare for how best to value – *fundamentals versus disruption*.

INVESTMENT VALUATION STRATEGIES

Optimistic

Views on the economy, both in terms of how quickly it will come back from this shock and how much change you see in economic structure, will determine the investment valuation. If you believe that recovery will be quicker and with less structural change, then the strategies could be:

Value intact

This strategy, will have the ingredients that will allow them to survive, perhaps stronger, in the post-virus economy. These ingredients will be low net debt ratios (Net Debt to EBITDA less than one) and pre-virus operating margins that were solid enough to take the hit from the crisis. *Market cap* would be a guiding factor for listed companies and *total risk* in case of unlisted and private companies.

Distressed Equity as an Option

Focus could be on the one with high net debt and fixed costs and as options, with some already out-of-the-money. The payoff from this strategy comes to the companies that make it back to life, with equity values increasing by enough to cover one's losses.

PESSIMISTIC

If one is pessimistic both in terms of its length and strength, and believe that the recovery will restructure the economy and how companies operate in many businesses, there could be two strategies:

Price is Paramount: Companies that are best positioned to survive a long downturn, can be large market cap firms with low debt ratios and high cash balances, that had high growth and profit margins in the pre-virus economy. Index firms could possibly be a good bet.

*Managing change***:** Behavioral and economic structure changes on account of the virus would affect individual companies to different degrees. The crisis for instance can make people more comfortable with delivery services for a wider range of goods and online interaction.

CAPTURING RISK-RETURN FOR VALUATION: A PERSPECTIVE

Return: Implied equity risk premium, based on the market as a whole, helps us with estimating the expected returns that investors would like to have (expect for the risks assumed), as depicted in the table below.

Year/ Earnings	**1**		**2**		**3**		**4**		**5**	**5**
Index level	*Cash flows for Index*									
1426.19 =	73.12	+	76.97	+	81.03	+	85.30	+	89.8	89.8 (1.0176)
	$(1+r)$		$(1+r)^2$		$(1+r)^3$		$(1+r)^4$		$(1+r)^5$	$(r-0.0176)(1+r)^5$

The table reflects earnings for equity and is a way of estimating expected returns by the market and helps us to decipher what the current equity risk premium is (being denoted by "r" in the table above, r = risk free rate + implied equity risk premium = 7.54%, then solving for r; g = 0.0176). This method is akin to calculating a *YTM* that is used for bonds/debentures. This is *forward looking and dynamic* and changes every day, factoring in *changing risk-return expectations*. This r, is nothing but the Expected return = CAPM = Risk free rate+β (Market risk premium-Risk free rate).

In times like the one we are currently in, it's likely that market risk premiums will go up and so will the equity risk premiums, largely on account of higher risk perceived by the investors (that is to say Beta will increase, i.e. relative risk of stock/asset versus the market as a whole).

There will, however, be stocks of companies that will be found more favourable which the market perceives to be in businesses to be less discretionary in nature, and with perhaps low fixed costs with low debt levels, which in turn will lower the relative measure of risk in turn lowering the equity risk premium.

The implied premium approach is based on the fundamental premise that the expected return on the market portfolio is built into the current market valuations. This is conceptually a superior approach, as it is forward looking, unlike the historical approaches.

The simplest way to compute the *implied premium* is by applying the Gordon Growth Dividend Discount model. The *Gordon Growth model states*:

$V = D_0 *(1+g)/(Re-g)$

Where: V = Total market capitalisation of the index; D_0 = Dividends for current period; g = Expected growth rate in dividends; Re= Expected return on equity Or *Re = Dividend yield *(1+ g) + g*

*V = FCFE / Re-g; FCFE (free cash flow to equity) = net income – RR * g *net income + D/C* RR*g* net income = net income *(1- RR*g(1-D/C))*

Where RR = reinvestment ratio; g = growth rate in net income; D/C = debt to capital ratio

FCFE = PAT (net income) + Depreciation – Change in Working Capital - Capital Expenditure + (New Debt – Debt Repayments)

FCFF = FCFE + Interest (1-tax rate) + Principal Repayments – New Debt + Preferred Dividends

Value of Firm = FCFF (1+g) / WACC-g; Value of Equity = FCFE (1+g) / Re-g

t = tax rate; WACC = Weighted average cost of capital

***Risk*:** In finance, risk is measured through volatility, variance and standard deviation. The volatility can be assessed and measured through changes in stock prices as they are readily and regularly available. Another option for measuring the risk is the volatility in earnings both operating and net.

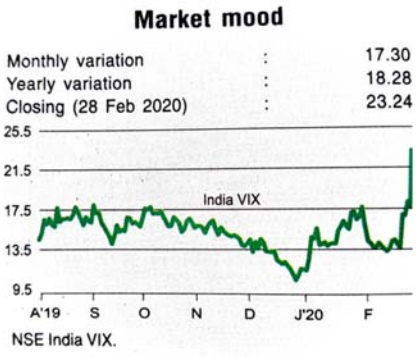
This risk forms an integral part of cost of equity. The cost of equity in these volatile and uncertain times, will naturally have wild swings as *risks on*

earnings on account of *global shut-downs* of economy and supply chains have devastating effect on margins and profitability. One does not know what its ultimate impact will be or how long lasting its adverse impact will be.

In addition, these risks would be multiplied if the levels of debt are high on account of anticipation of growth, both working capital requirements and investment in capital expenditure. So, while there are fixed commitments, the sales and EBITDA are not assured, this may lead to lower net income and lower EPS and lower free cash flows to firm (FCFF). The *lowering of margins will also adversely impact the ROIC, leading to lower growth and lower valuations*.

The table below, as an application of methodology, shows that at 30,000 index level and with CAGR at 12% CFI, and expected returns at 18.6% *before* the current crisis, would lead to a *current* expectation of return at 24.07% *on account of* crisis, on account of the *risk perceptions (beta as relative measure of risk and market premium of shares over bonds)* inherent in the current uncertain and challenging conditions that prevail.

Year	**1**	**2**	**3**	**4**	**5**	**5**
Index level	*Cashflows to Index*					
30000 =	3600.00 +	7632.00 +	12147.84 +	17205.58 +	22870.25 +	22870.25 (1.05)
	(1+r)	$(1+r)^2$	$(1+r)^3$	$(1+r)^4$	$(1+r)^5$	$(r-0.05)(1+r)^5$



NSE India VIX.

The NSE India VIX graph on the left reflects the spike in volatility in a month by more than 71% (13.5 to 23.2), i.e. from Feb-2020 to 3rd week of Mar-2020. The monthly volatility of 17.3 being nearly the same as yearly volatility at 18.28

This volatility will have its rippling effect on the *equity risk premium* leading to its increase, which in turn is pulling down the share valuations, and the equity index.

GROWTH, PROFITABILITY AND REINVESTMENT IN UNCERTAIN TIMES

Growth

Growth is a function of how much a business reinvests and how well it reinvests. Reinvestment would be the capital expenditure and the working capital requirements that a business needs to sustain the momentum. The qualitative aspects of reinvestment can be judged from the return on capital employed or return on invested capital (ROCE or ROIC). As long as the return on invested capital is more than the cost of capital, the business will continue to grow. ROIC informs us as to how well the cash has been invested, while Reinvestment shows how much plough back is required in a given business.

Growth = ROIC x Reinvestment.

Profitability and Reinvestment:

Companies in the current uncertain times, may *sweat the existing assets* thereby making them more efficient which in turn would lead to increase (incremental/differential) the sales-to-capital ratio. This means increase in EBITDA and operating margins, which means increased ROIC, free cash flows leading to increase in *intrinsic value* for the company, with cost of capital remaining constant, and at best reducing on account of lower perception of risk on account of efficiency of operations.

CONCLUSION AND PREPARATION FOR UNCERTAIN TIMES

In the foregoing discussion, we see that valuation has different approaches and methodology and that fair value can have different meanings keeping in mind the uncertain times we have recently experienced. Fair value is the driver that benchmarks the price consideration or offer.

Value enhancement can be critical in times of uncertainty. Companies can look to increase sales, margins, cash flows, and grow by becoming more efficient, *de-bottlenecking leading to higher sales-to-capital (capital turnover)*. Efficiency would bring about *lower costs and higher margins; with efficiency would come lower reinvestment requirement and higher free cash flows*. Products can be made more appealing (better terms), costs can be made

less fixed in nature (by outsourcing, introducing variable pay) and a tight lid on debt can go a long way in reducing the risk perception. Optimum D/E will go a long way in enhancing value perception, as high fixed debt repayment commitments, can lead to a loss of control in case of default. Businesses would have to look at and would be better off as a consequence of matching, i.e. using long term sources for long term assets and to fund assets in rupees with rupee capital (and not with some other currency debt), thereby lowering its risk. With risk perception reduced, the *implied equity risk premium* should mean a lower WACC and a likely higher valuation. In the short-term this of course, will depend on GDP growth being constructed under predictive modeling for different scenarios namely 3%, 4.6% or 5.7% (meaning how quick the recovery is); however, in the longer term (after 12-18 months) the fundamentals are expected to be intact, and assets to be so appraised would make abundant sense.

GLOSSARY

DCF: Discounted cash flow; **PE**: Price equity ratio; **EBITDA**: Earnings before interest taxes depreciation amortization; **EV:** Enterprise value; **ROE**: Return on equity; **YTM:** Yield to maturity; **WACC**: Weighted average cost of capital; **FCFF** = Free cash flow to firm; **FCFE** = Free cash flow to equity; **CAPM** = Capital asset pricing method; **IND-AS** = Indian Accounting Standards (equivalent to IFRS); **CFI** = Cash flows to Index (stock); **β (Beta)** = Relative Measure of Risk

SOURCES

Damodaran on Valuation; McKinsey: Valuation-Measuring and Managing Value of Companies; Prasanna Chandra: Corporate Valuation; Money Control; Capital Market

Chapter 10

Qualitative Aspects in Equity Valuation

The exercise of equity valuation usually focuses attention on quantitative factors. Most of the effort, in equity valuation, goes into development of valuation model leading to a range of other calculations to estimate - Beta, equity risk premium, discounted cash flows and so on. Qualitative factors, find relatively lesser importance in a valuation exercise.

The biggest challenge, that comes, with intent of applying qualitative factors, is the difficulty to create standards for their measurement and application on valuation model. Resultantly valuers, try to avoid considering the qualitative factors due to the absence of scientifically measuring parameters. Considering these factors may add subjectivity in the valuation report, enhancing the challenge for valuers to put forth an explanation. The flip side entails, non-consideration of these factors by the valuers and drawing the model as a mechanical exercise.

The qualitative factors not finding direct application in the valuation report, do not imply their irrelevance. They are also important and indirectly influence the valuation exercise. These qualitative factors should be considered before a valuation exercise is undertaken. Following is an attempt to explain some of the important qualitative factors, which influence the valuation exercise:

BUSINESS MODEL

To begin with, the pivotal point revolves around the understanding of the business model of the company. This helps in reflecting on the nature of core business, process of revenue generation, value addition and the long term view of the business model.

Then comes the study of history of the company on parameters of tenure spent in the activity of core business area vis-a-vis the sustenance of revenue and margin generation over a period of time. A reflective study of the market share curve can also provide useful insights. In some cases like a startup venture, there, may not be any past history available. However, the study of business model is helpful in valuation. A case in point could be

Facebook, that was not generating any revenue initially, but it had a good number of users and there was a potential to earn revenues by providing a platform to marketers to advertise. Therefore even though there was no past history of earning revenues, there was a business model which justified valuations. Now we can value Facebook with more confidence but it would be incorrect to say that it had no value when it had no history of earning revenues.

INDUSTRY ANALYSIS

The business doesn't work in isolation from the macro industry and market conditions. The valuer can't restrict his view at the company level but need to dive deeper into the industry and market conditions. Generally all companies try to grab a higher share in the market and compete with each other in the same industry. Hence they are affected by the industry trends and competition in their industry. An analysis of the industry gives important insights to the valuer for analysis of the company. Generally the company is identified with a particular industry as per the products or services of the company. Some industries are highly competitive, where companies struggle to earn profits, whereas some industries allow companies to earn good profits.

Industry analysis may involve analysis of various factors like industry size, trends and growth potential, level of existing competition and innovation. For example, if the \company is not doing enough innovation as compared to the peers in Industry, then sooner or later more efficient competitors will put it out of the business. Porter's five forces model can provide a useful starting point for industry analysis, which involves the study of five forces i.e. threat of new entrants, bargaining power of suppliers, bargaining power of buyers, threat of substitutes, intensity of rivalry amongst competitors. This analysis also helps the valuer in examining the market share stability of the industry over a period of time.

Competitors' analysis is an important part of industry analysis. It is important to look at the strengths and weaknesses of the competitors and how the company is positioned in those areas. Competitors' analysis involves identifying not only the competitive advantage over competitors, but also a lack of it and its effect on company valuation. Competitive advantage is a term coined by Michael Porter who defined it as company's unique ability that can't be emulated by other companies easily. Competitive advantage helps the company to generate more profits, more revenues or efficient systems

and processes. Competitive advantage may be the first mover advantage, being pioneer in industry, number of users etc.

Industry analysis helps a valuer in evaluating the risk in meeting the management predictions about the future and probability of success of the company. Industry analysis also helps in better understanding the company and its business and is very important in valuation process.

COMPANY STRATEGY

A company's strategy is an important ingredient to determine its future. The success or failure of the company largely depends on its strategy. It is not uncommon to find companies which deploy resources on large scale without a clear decision on the strategy. Although strategy is not the only factor determining a company's success or failure often companies fail only because of lack of a clear strategy. An evaluation of company's strategy can provide an assurance of the future of the enterprise.

Usually, all companies will follow one of the three strategies. They either try to be:

- Cost leaders i.e. to provide the products or services at the most competitive price. For example: Wal-Mart
- Innovators i.e. providers of superior quality products and constantly developing new and better products. An example of this would be Apple, Google
- Niche service providers i.e. providers of products and services for a very specific group of customers, whose needs are well understood by them i.e. Harley Davidson motorcycles

Each of these strategies requires an altogether different approach. However there are instances where a strategy may consist of more than one of these combinations. For example cost effectiveness is one of the core strategies of IKEA, and the same is achieved by innovation in products and the processes.

The valuer need to be aware of the strategy of the company, their investments towards building the capabilities required to service this strategy and also the developments that the competitors are making in this regard.

QUALITY OF MANAGEMENT & KEY EMPLOYEES

The success of a business largely depends on the quality of management.

Even the company having sufficient resources, having good strategy and part of growing industry may not succeed without an efficient management. It is the management of the company which insulates the company from the vagaries of a challenging business environment.

Generally the information about the background and experience of management team is available on the website of the company. Further information can be obtained by discussion with management and key team members. The performance of the company in the past and the performance of the management in their previous ventures give insights about the quality of management.

The business value also depends on the key employees who are at a decision making level. There is a permanent risk involved, with these key employees as their longevity is not certain in the organization. Thus factors like terms of employment and succession planning could be important aspects to be considered.

CUSTOMERS AND GEOGRAPHIC EXPOSURE

The businesses deal through various definitions of customers ranging from-big or small customers, intermediary or end customer, trading or producing customers, and niche or blanket customers. The customer base may be steady or transient. These customers could comprise of various Geographies. Thus a defined customer base on the above said parameters forms the nucleus of the strategy of a company.

A study of the customers of the company provides useful insights about the various aspects of business of company like level of risk in business and growth potential. Changes in customer's psychographic traits should be considered in business valuation but are like other qualitative factors these are difficult to predict and quantify. Psychographic traits are influenced by customers' activities, attitudes, personalities, values, religious beliefs, political leanings, lifestyle choices and more.

Different companies in the same Industry may focus on entirely different set of customers. For example where two companies involved in tyre manufacturing – one may be focusing on the vehicle manufacturers as its customers while the other may be focusing on the vehicle user for giving a product to replace the worn out tyres. Both the companies may belong to the same industry and same product types but their risk profile, product margins, growth potential and hence valuation may be very different.

Geographic exposure of the company also affects the Company in various aspects and hence affects the valuation. Some companies only focus on rural areas, whereas some companies focus on urban areas only. Some companies are restricted to a particular geography, whereas others operate in a wider geography and even beyond the boundaries of countries. Depending on the Geographic exposure of the company, the industry size relevant for the company can be identified. For example a product has a USD 100 Billion market in the whole country, but one company only has presence in one part of the country with 80% market share. There is another company which is present all over the country with 20% market share, now both the companies may be having similar turnover, but their growth rate can be quite different.

The Geographic segment reporting in the company financials may provide some insights about the geographic penetration of the business of the company.

CORPORATE GOVERNANCE & QUALITY OF FINANCIAL STATEMENTS

Businesses with good corporate governance enjoy more trust from all business participants and have better future, whereas, business with poor corporate governance eventually tend to fail. Hence checking the level of corporate governance may provide good information to the valuer.

It is a known fact that the investors always prefer to invest in companies with good corporate governance and are willing to pay premium for companies with good corporate governance practices.

The valuer may try to find out the level of compliance in the company, transparency in its practices, alignment of company rules with the strategy, whether practices are intended to serve all stakeholders. The answer to these questions may give the insights as to whether the company is following good corporate governance or not.

There is a misconception that the corporate governance is a concept applicable for big companies and even so more for listed companies. Whereas, good corporate governance is being practiced by even small companies to avail the valuation benefits in their progression of growth.

However big companies disclose their corporate governance practices in their Annual Report and getting the information is easier than the smaller companies.

QUALITY OF FINANCIAL STATEMENTS

The financial statements of the companies are subject to the compliance of applicable Accounting Standards, which attempt to standardize the process so that there is only one way to account for the transactions. However accounting can be highly subjective and different company's accounts may not be comparable due to the selection of different accounting policies and level of disclosures.

Sometimes the companies deviate in compliance of Accounting Standards. The financial statements don't provide full information. In some cases the companies may comply with the reporting requirements but still the financial statements may not really provide the required information for analysis.

Companies may delay the recognition of expenses, capitalize the revenue expenditure, and make wrong accounting estimates like useful life of assets, impairment loss etc., and change policies related to depreciation to influence profits. Hence not just review of accounts, but evaluating the quality of financial statements provides good insights to the valuer.

DISRUPTIVE TECHNOLOGIES

Many companies derive their valuation because of the innovation and disruptive technologies. Recently we have experienced that there are many companies which have achieved significant valuations in a matter of few years. The conventional companies took decades to reach to the level which these companies could achieve in 2-3 years. Also many established companies could not survive the wave of disruptive technologies. Today we are witnessing technological innovation like never before and companies are introducing technologies which not only shape the company but shape the industry.

At the same time, there are Industries where the use of disruptive technologies are more prevalent. Hence if the company being valued belongs to the industry, where disruptive technologies drive the engines of growth, and the subject company is not at par with similar benchmarks then it would be fair to assume that it may not sustain in the longer run.

REGULATIONS

Every business needs to be compliant with the regulations to function. Hence evaluation of regulatory environment is an important aspect of business

valuation. No company can be free of regulations, however some business are subject to more stringent regulations. Hence while evaluating a business, a valuer needs to see the regulatory factors as well.

Taking an example of a company, in multi-level marketing business showing impressive growth in the past, justifying the high projections in reference to the past history. At the same time a study of the regulatory provisions for the business pose a Trojan Horse kind of a challenge and upset all the projections in one strike. The fact that company is non-compliant overnight makes the valuation upside down as the business may shut down any time. A business which is fundamentally non-compliant has no future.

Sometimes the lack of regulation in a particular sector also becomes relevant for the valuation. For example if a new type of business is born, there may be no regulation covering that business, but eventually the Government will think about the need of regulation and definitely start regulating the business. Once the regulations are in place, the business may have to adjust its business model and practices. Sometimes this adjustment affects the level of growth in the business, increase the risk and sometimes, it becomes very difficult or even impossible to continue the business. For example there was uncertainty on the regulation for e-commerce business before the government came up with guidelines. Even today there are uncertainties on the regulation for e-pharmacies selling online medicines. In a nutshell absence of regulation is not good for business.

CONCLUSION

There is no denying the fact that qualitative factors are considered by buyers and sellers in actual deals. However the valuers generally face the following challenges in the review of qualitative aspects in valuation:

- Analysis of qualitative factors requires much more efforts from the valuer.
- The client generally does not appreciate many enquiries into qualitative aspects, reason being that this exhaustive process defies the omnipresent urgency of submissions by the client.
- It may not be feasible for the valuer to get deeper into qualitative aspects in assignment for valuation of smaller companies as the input output ratio would be highly skewed towards impertinent outcomes.

- Since qualitative factors are not tangible in nature it requires a special ability to put through application and explanations. A tight regulatory regime further forces the valuer to use the widely understood vocabulary of numbers crunching.

At this juncture it can be said with certainty that, qualitative factors are equally important in the equity valuation exercise. If we keep valuation confined to number crunching, then, we don't need a crystal ball to predict that artificial intelligence can easily replace the need of a human intelligence for doing valuation. We need humans to look into the qualitative factors and hence we certainly need human intelligence for valuing business.

Chapter 11

Qualitative Aspects for Valuation

Valuations normally are looked upon as a mathematical exercise because of the general belief that it is being done by using quantitative data (like income statement, balance sheet, cash flows, etc) from the Annual Reports. Think about preparing a financial model of a company and applying valuation tools like discounted cash flow, net asset value comparable transactions, relative valuation tools like PE, EV/EBITDA, etc, to value the company. However, there are other "not-so-tangible" factors that also impact the valuation of the business. But certain non-quantitative factors have equal influence on the valuation directly or indirectly. These are -

(a) History and nature of the business

(b) Economic outlook of the Country and that of the specific industry in particular

(c) Book value of the subject company's stock and the financial condition of the business

(d) Earning capacity of the company

(e) Dividend-paying capacity of the company

(f) Whether or not the firm has goodwill or other intangible value like sales of the stock and size of the block of stock to be valued

(g) Market price of publicly traded stocks of corporations engaged in similar industries or lines of business

Certain companies are higher/ better valued though the quantitative factors are equal to its peers and hence it is necessary to focus on factors other than quantitative factors, which are qualitative.

Qualitative factors in valuation are the different factors in the valuation of the business or the investment which are not possible to quantify directly but are equally important as the quantitative factors and includes the factors such as quality of management, competitive advantage, corporate governance, etc. Qualitative factors are the factors in business valuation that are almost impossible to quantify for business. Or we can say that these are the factors

in business valuation that can't be directly quantified. But they are equally, if not more, important than quantitative factors in valuation. At the same time, no company can ignore these less tangible factors because they really matter in valuing a company.

Numbers are not the only thing that matters when one thinks about evaluating a business. There are other factors as well that the valuer may sometime fail to undertake. A different perspective will provide different value with better judgement.

The financial success of investments based on report as of the valuation date is dependent upon conditions within the economy and financial/capital markets. A valuer tempers the use of historical financial statistics on the basis of anticipated general economic conditions. An analysis of these factors as of the valuation date is therefore incorporated into this valuation analysis. Certain items in the following discussion have been extracted from the cited sources and/or substantially paraphrased based upon them. In conjunction with the preparation of opinion of fair market value, the valuer will have to review and analyze the economic conditions as of the date of valuation.

Let us take each qualitative factor and understand how valuation will be affected in each scenario.

UNDERSTANDING COMPANY'S CORE BUSINESS

As a valuer / investment advisor, the first concern should be – "How a business makes money?" Yes, according to a recent definition of business, money-making may not be the sole ingredient of a good business. But as a valuer / investment advisor, one should value a company by peeping through their revenue model and find out whether it will really work in the long run.

One has to look at the business model of a company from the point of view of risk and find how they make money and how is the acceptability in the minds of the consumers. For instance one can assess how FMCG companies like HUL, Nestle or finance companies like Bajaj Finance make money.

Similarly, before plunging into valuation, the valuer ought to know the business model of a company. Do one's own due diligence. Find out its history, revenue generation model, how it got started, how long they are in the market, what is the revenue and profit margin they have been maintaining as of now. Then go for business valuation. Information on the

public listed companies are available from their Annual Report wherein the Vision and Mission statement describe the source of revenue, which gives substantial insights about the future growth and thus add value.

QUALITY OF MANAGEMENT

The second factor is the quality of management in the company. If the management is motivated enough to steer the company toward its summit, the company would be a gigantic force and it would always find a way even amidst the greatest economic turndowns. So before one values a company, having a check on the management quality is of utmost importance. Having the greatest business model will not serve the purpose unless the management quality of the company is at par. So what would one do to value?

Every company, nowadays, has a website where they mention their business operating "teams". Go through that page, to find out who are the promoters of the company and who are the professionals, filter out their background on different levels and find out what experiences they have in a similar industry. For e.g. recently the new CEO at a Beverage company suddenly brought a spike in the value of the company.

This will give one a brief overview of the company. But that is not all. One needs to dig deep and see for one-self what the management is really up to.

- **History of performance:** Results don't lie. And when a company brings in astounding results that means there is a hand behind the management. Now go through the performance histories of top executives in the last decade and one will get a reasonable idea about whether it is prudent to invest in the company based on its valuation.
- **Management Discussion & Analysis (MD&A):** Every public company needs to produce an annual report. Look at the annual report. In the general section, one will find something like MD&A. In that section, one will get all the ideas about what worked for the company and what didn't. Which division fetched the maximum output in the last year? And one will also be able to have a glance at the financial statements of the company. Such information is necessary for getting better insights into the valuation exercise.

Look for insider's information: If one is valuing a company, one needs to make a "one plus one equals three". What synergy works for a company? A

company may be doing outstandingly because of someone's effort. For his/her effort, the company is compensating him/her in a reasonable way. Look for stocks. How many stocks are given to a top executive and why? Why he/she has been given the stocks? What performances he/she has had in the past?

VALUE CHAIN BEGINS CUSTOMER -CENTRIC

Companies having customers as a priority in its value chain followed by channels , offering, inputs , raw material and assets/core competencies leads the sector, as per various analytical report. Customer focused organisation/company tends to be more proactive to the changing preference and thus becomes a leader.

There are two basic things one needs to check out if one wants to penetrate the actual picture of the company.

First, one should find out about the customers of the company. Does the company have a few big customers or many small customers? Does the company serve only businesses or end customers as well? Does their focus revolve around niche market or do they cover all segments of customers? To understand a company, getting answers to the above questions is important. Because then one will understand where the company stands as per the customers' mind-map.

Second, one should find out the geographical exposure of the company. Does the company operate in certain territories only? If yes, why? Do the companies cover only urban or rural areas? What is their sales-break-down as per each territory? Where they sell more and why? Asking one-self these questions and searching for answers will help one know the company well and make wiser choices at the end of the day. In the Annual Report, companies provide Geographical information. Revenue break up geography wise or the rest of the world shall thereby diversify geographical risk.

Valuation of such companies is generally higher than others in similar sector and hence such a company's financial metrics are considered as base for comparables before applying any discounts.

UNIQUE BUSINESS DESIGN: A PROFIT ZONE

Profit centric business designs create value for shareholders. While valuing a company in quantitative terms and judge the company based on figures, one

also needs to find out what's the competitive advantage of the company. What is its success MOATS. What specific economic activity leads to high profit (not average profit), not cyclically inflated profits, no short-term profits. Unique business designs give a competitive advantage which is a term coined by Michael Porter. He says there are few factors that are important for a company to have, to be called a competitive advantage. Valuing this gives certain distinct advantages of one company over others when compared–

- The competitive advantage of a company is a unique ability that can't be emulated by other companies easily though in same sector with same advantages. The MOATS make them distinct.
- Competitive advantage helps the company to produce more profits, more revenue, efficient systems, and processes.
- Competitive advantage helps all the activities of the company get aligned with the organizational strategy.
- Competitive advantage helps a company receive benefits usually for five-to-ten years.

For example, if a company sells online, its logistics can be its competitive advantage which can help them reach their customers superfast and deliver goods and products faster than their competitors. As a valuer, one needs to think through the competitive advantage or lack of it before valuing it. Because competitive advantage or lack of it is their sole ingredient of producing astounding or mediocre results, thus, a difference through different discounting rates.

CORPORATE GOVERNANCE AND BOARD GOVERNANCE

In simple terms, corporate governance is the holy grail of a sustainable business. If corporate governance of a business is not in order, the whole business will crumble sooner or later. So, checking out the corporate governance of a company is of utmost importance as an investor. Board governance is equally important to give an edge over others and can reflect in valuation.

The valuer needs to see three things –

- Are the rules of the company aligned with the company's mission and vision?

- Are the companies serving each and every stakeholder well?
- Are they legally compliant with the government's policies?

If the answer to the above three questions is "yes", usually, the company is pretty good at corporate governance. As per the SEBI norms, each listed company has to take from its Auditors a Corporate Governance Certificate. Better corporate governance and providing proper disclosure gives an edge over others in valuation.

ECONOMY AND INDUSTRY GROWTH TRENDS

While undertaking a valuation exercise it is appropriate for a valuer to undertake his own due-diligence for its industry sector. Detailed data gathering will help the trends and pattern of performance in the past and growth trajectory. This will help in judging the accuracy level of the projections. Quantitative factors may help one get an idea about the qualitative factors. Look at different trends, analyses, experts' forecasts, and suggestions. But make sure that as an individual valuer you decide on the basis of one's own thinking and one's knowledge of the data. Once one knows the trends, he/she can have definite idea about predicting the future trends of the company.

Analyzing the national economy is an important step in performing a valuation because it helps to identify any risk that the economy may have in relation to the company.

Consumer Spending: Reports on consumer spending activity were mixed. Sales of appliances, electronics, and lawn and garden goods continued to be strong. Retailers reported that inventories for most goods were in line with their planned levels. Auto dealers reported heavier floor traffic and increases in light vehicle sales. One large auto group noted that service activity was also up and that used car prices strengthened.

Manufacturing: The manufacturing sector generally remained strong, although activity varied by industry segment. According to most automakers, orders for light vehicles remained strong nationwide. Inventories were generally in good shape, although they were reportedly lean for select models. Despite these conditions, the pricing environment remained soft, with an increase in incentive spending noted by some analysts. Producers of agricultural and heavy construction equipment reported further softening in output in recent weeks, and most planned to reduce inventories further next

year, although not as aggressively as this year. Reports expected domestic demand would be relatively soft in the coming year, while foreign demand was expected to pick up.

Banking and Finance: Lending activity continued to be mixed. Business lending remained robust, and most bankers suggested that growth was steady. A few reports indicated that the overall asset quality on commercial loans might have deteriorated slightly, since intense competition for customers led some lenders to relax standards slightly. Some bankers appeared to be less optimistic about the near-term commercial lending outlook than they had been in recent months. Household loan demand softened further, according to most lenders, as new mortgage and refinancing activity continued to be slow. Reports noted that asset quality on consumer loans improved as existing bank and store credit- card balances were paid down, delinquencies slowed, and personal bankruptcies decreased. A report from one large money center bank attributed this improvement to a lagged effect from strong refinancing activity earlier in the year, and as a result, did not expect the improvement to endure. None of the bankers contacted noted any unusual borrowing by businesses that would indicate an inventory buildup, nor was there any noticeable increase in the demand for cash by consumers. All these factors have tremendous impact on the valuation of banks, NBFC or MFI's.

COMPETITIVE ANALYSIS

If one wants to know the right value of a company, look at their competitors and do an analysis. Look at their strengths and compare them with the company one wants to value. Look at their weaknesses and see how the company one can target in doing business in those areas.

Porter's Five Forces Analysis understanding is equally a good key in providing better guidance to valuation Factors.

Industry Competition

The domestic automotive industry is highly competitive with many independent domestic and international suppliers competing on price, quality, and service. The valuation of automotive sectors would consider this aspect.

Threat of Substitute Products

The threat of substitute products is low, but existing products compete primarily on price, not on innovation.

Threat of New Entrants

Based on industry data foreign companies have been entering the Indian market, increasing competition for existing market share. As the Rupee weakens against the rest of the world currencies, pricing from foreign suppliers becomes even more difficult/expensive. Just- in-time manufacturing requiring that supplier facilities have close proximity to manufacturing facilities will somewhat limit this international competition for certain products.

Bargaining Power of Suppliers

Bargaining power of suppliers is low because of the competitive alternatives available to buyers.

Bargaining Power of Buyers

Bargaining power of buyers is very high because the smaller parts manufacturing companies are part of a chain serving very large auto manufacturers with multiple alternative sourcing options.

Doing competitive analysis will not only help better value judgement, but it will help in making more comfortable judgement on the valuation considering the adjusted multiple comparable. The industrial analysis can't be done by taking competition into account. Only comparison with similar companies can give one an overview of how a company is doing in the same industry.

ADAPTING NEW TECHNOLOGIES TO ITS ADVANTAGE

With the evolution of new technologies and having a business design getting adapted to it with substantial cost-benefit advantage it makes the company different from others. Technologies can shape or break a company. Look for disruptive technologies that have shaped the industry altogether. And then see whether the company being evaluated is using those technologies.. In this age of continuous advancement of technologies, only disruptive ones make ruckus of the industry. And before valuing any company, look for the technological state of the industry first. For e.g. one disruptive technology for Facebook is Oculus. Oculus virtual reality technology and content platform power products allow people to enter a completely immersive and interactive environment to play games, consume content, and connect with others.

MARKET SHARE

The company doesn't need to have a major share in the market especially when it has been in the market just for some time. But what we need to look at as investors is whether it has the potential to grow or not. One can use Boston Consulting Group (BCG) Matrix or any other strategic tool to find out where this company belongs to and then evaluate it on the basis of that. As a valuer or guide to investor, it is important to know that the company can grow in the near future. If a company has reached its saturation point and there is limited or no growth (rather a downward slope along the way), investing in it wouldn't be a great idea.

APPLICABLE GOVERNMENT AND STATUTORY REGULATIONS

No company can be free of regulations and when one attempts to evaluate a business, one need to see the regulatory factors as well. For example, in pharmaceutical industries, the FDA (Food and Drug Administration) has direct regulations. According to FDA, before any drug comes into the market, it has to go through a series of clinical trials before they reach the end customers. However, not all industries have the same regulatory constraints. As an evaluator, one needs to see whether the company is following all the regulatory practices or not. The idea is to find out the regulatory factors that can have a direct impact on the bottom line (think net profit) of the company and ultimately the value. To discover this, one should really dig deep, read all the financial statements of the company and also go through the annual report.

Chapter 12
Valuation Process: Key Aspects

Valuation is a comprehensive process involving many aspects. Keeping in mind the Valuation Standards laid down by Institute of Chartered Accountants of India (ICAI), crucial steps involved in this process have been summarised. Certain areas have been identified which should be part of this comprehensive process an attempt has been made to cover the said aspects in this Chapter.

Initial Steps at the start of process

Whenever a valuation assignment is referred, first step would be to get the details from client to start the process. For this a common practice is to share a standard checklist with the client. However, my advice is to ask for basic details at initial stage. First of all, understand the purpose of valuation from the client. Initially, just ask for last one or two years audited financials and current year provisional financials if available. Do not share a detailed checklist at this stage because i) getting such details might take time which would delay the process ii) it may happen that many such details would not be applicable to the assignment. Once basic clarity about the transaction, valuation purpose and subject entity (entity or asset for which valuation is being undertaken) is in place, you can ask the specific details as applicable to the assignment.

Data Gathering:

Once the basis financial statements of the subject entity are available, analyze the same in detail so as to prepare a comprehensive checklist for further data gathering. Some of the aspects to be looked into at this stage are listed hereunder:

- Based on the understanding of the valuation purpose, prepare a brief note and check all the applicable regulatory aspects for the proposed transaction. Various regulations prescribe for valuation approaches or standards to follow and knowledge of such aspects are very crucial. As per ICAI valuation standards, in case of deviations between valuation standards and statutory regulations, the statue would prevail. A note

covering all such aspects should be prepared and discussion amongst the team members handling the assignment should be undertaken. This will give a bird eye view of entire valuation assignment to each team member. This would help them in carrying out the assignment effectively.

- Analyze the financial statements mainly for the following aspects:
  - Movement in Equity and Reserves:
  - Have there been any transactions in past years which might have required valuation? E.g. Buyback, Capital Reduction, Issue of new shares, Conversion of convertible instruments, Merger, Demerger etc.
  - If any of such events have happened, ask for the valuation report taken at the time of such event.
  - Non-Current Liabilities:
  - If entity has outstanding debt, take sanction letter of secured debt and agreement of unsecured debt so as to understand applicable interest rate and debt covenants amongst others.
  - In case of other non-current liabilities, ask for the break-up and nature of the same.
  - Fixed asset schedule:
  - What is the asset mix, ownership, age of the assets etc.?
  - Are the key assets like land/building/plant & machinery etc. owned by entity? If assets are not owned, ask for a copy of lease/rent agreement so as to understand tenure of the lease, amount of rent, escalation clause etc.
  - If gross block is high and net block is low it may indicate that assets are old and significant capex requirement might arise. Considering this, check whether such capex is considered in projections? If not, this needs to be deliberated with management.
  - Are there any intangible assets? If yes, how the same has been recognized? What is the documentary evidence supporting recognition and value of such assets?

- Non-current assets:
  - What are the types of investments made by the entity?
  - If investments are in listed entities, ask for the investment schedule containing security wise details of date of purchase, quantity and cost as on valuation date.
  - If investments are in mutual funds, ask for the mutual fund statement as on the valuation date so as to consider its market value.
  - If investment is made in any private limited company or any other entity, valuation process for that entity is also required to be followed in the same manner as the subject entity. This would also give an idea about quantum of valuers work under the valuation assignment.
  - Take details of other investments if any like immovable property, debt instruments, metal, art effects, crypto currencies etc.
  - If any loans and advances are shown under this head, take complete details of the same like to who the same has been given, agreement if any, interest rate, tenure, current status etc.
- Current Assets & Liabilities:
  - Ask for the Debtors, Creditors and Inventory ageing so as to understand and consider impact of old debtors, creditors and non-moving/slow-moving inventory etc. on valuation.
  - Take break-up of other current assets and liabilities so as to analyze nature of each and every item.
  - Notes and other descriptive aspects of schedules:
  - Sometime, we concentrate only on numbers and miss the important information which are in descriptive portion of the audit report, notes to accounts, schedules etc. Carefully go through each such aspect. The same can be in relation to recognition of various assets, liabilities, revenue, cost and certain key events that would have happened in past.
- Others:

- Check if past financials can be provided by client in excel. This would ease work of valuer in building valuation model.
- If DCF method is to be used, take projections from client in excel format with all formulas.
- You should also take business plan describing how the financial projections shall be achieved. Alternatively, this can be incorporated in management representation letter.
- Assumptions used in preparation of financial projections should be taken from management. Alternatively, this can be incorporated in management representation letter.
- Study various aspects of the subject entity like business, products, services, locations, infrastructure, promoters, management, age of business etc. Prepare a questionnaire of the same. Queries/key aspects to be discussed with management during site visit/management interaction.
- Key operating locations of the entity should be visited. Management interaction at least once during entire valuation process should be undertaken.
- The valuer should understand the share-holding to analyze if the subject entity is a Subsidiary, Holding or Associate.
- Understand the Various Accounting policies of the subject entity. This will also be useful if Valuation is to be done under Market Approach.
- Check for the Contingent Liabilities reported in financials so that clarity can be sought from management regarding the probability, quantum and timing of crystallization of such liabilities.

o Client Meeting before getting the data:

- Try to arrange a meeting with key representative of the client after sharing the detailed checklist with them. Explain client about your requirements in detail. This would be helpful because educating client at this stage would ensure that details shared by them are in line with your requirement. Many times, educating client about preparation of financial projections is also

necessary. Also inform the client that you would require supporting document for each key aspect of details used in valuation exercise. Even for projected numbers, detailed business plan defining the execution strategy would be required. If this is not communicated in advance, it may become very difficult to substantiate the projections later on.

Data Analysis:

Clearly communicate with client that you would commence valuation process only when all the required details are made available. This would discourage client to share details in piecemeal. Ensure that at least eighty to ninety percent of data is available from client before you start the valuation process. Starting process with the use of incomplete data would consume lot of time as the same process might have to be done multiple times. Further, intervening time lag would break continuity of the process leading to probable errors in valuation.

Once substantial data is available, valuation process is started. Key aspects of analysis are given hereunder:

- Valuation Model:
  - Rather than relying on financial model given by the client, always develop your own valuation model. This has many advantages like uniform template, complete understanding of data flow, higher probability of identifying errors in client projections etc. Alternatively, you can share your format with client and ask them to provide details in such format. Even in this case, a thorough review of the projections would be necessary.
  - Develop a standard template for the valuation model which can be used for all valuation assignments. If needed, the same can be modified according to the requirement of each assignment.
  - Plot past and projected financial data in the standard format. Analyze past trends of each and every item of income statement, balance sheet and cash flow with projected numbers and identify the deviations.
  - All such deviations to be discussed with client and reasons for the same should be documented. E.g. past trade receivable

holding period can be lower than projected. A possible reason for the same could be change in credit policy of the entity so as to achieve higher sales growth, penetration to new product lines/geographies etc. This needs to be documented properly. Insist the management to include these aspects in their business plan or management letter.

- A ratio analysis would help in comparing past trends with future. Even within past years, deviations can be identified and discussed with management. This could be helpful in identifying exceptional years/items/aspects etc.
- If any industry reports are available, refer them. It would help in understanding industry, business, products/services, key drivers, SWOT, past growth rates, expected growth rates, key players, financial parameters like sales drivers, profit margins, asset level etc. If no industry reports are available, even brokerage reports on listed comparable companies in the same segment could help to an extent.
- Ask for the financials up to/as on valuation date. E.g. if valuation date is 31st December 2019, take Profit & Loss account from April 01 2019 to December 31 2019, balance sheet as on December 31 2019 along with schedules, grouping and notes. It would be better if these intervening period financials are audited.
- Ensure that past audited financials provided by client are final and signed. Check the same for excel financials as well.
- Comparing trend of past financials with intervening financial is also important.
- Special attention is required for the projected financials of first year. E.g. considering valuation date of December 31, 2019, projected financials for FY 2019-20 needs to be compared with 9 months actual financials for FY 2019-20. As nine months would have already passed for FY 2019-20, projection for the said year needs to be validated in line with actual performance.

o Some important aspects to be looked into:

- Understand the various costs and divide them appropriately into variable, semi-variable and fixed, to analyze the ratios and growth of each cost in proportion to the production/sales.
- Understand key business processes properly as it would be very crucial in review of projected financials. E.g. in case of a manufacturing concern, understanding of manufacturing process could help in answering various significant aspects as documented hereunder:
- What is the raw material procurement cycle? This would help in projection of raw material inventory period.
- What is the production cycle and delivery terms? This would help in projection of inventory of finished goods and work in process.
- In case of import of material or export of finished goods, how the foreign exchange risk is managed?
- If entity operates out of rented premises, is rent expense factored in? Check rent agreement for key terms, rent escalation etc. If rented premises are owned by a related party, check the reasonableness of rent expense.
- Check break-up of labor cost with number of labors and wages paid to each of them. If such wages are below minimum wages as prescribed by government, please check the same with management.
- Who bears transportation cost of raw material and finished goods? If entity has to bear the same, whether such costs are included in respective material cost or projected separately, this should be ensured.
- Check owner remuneration (in all forms) for reasonableness. In case of private entities, owners might be paid excessive remuneration for taxation and other reasons. If valuer feels that such remuneration is not reasonable/does not commensurate with industry standards, excess remuneration should be added back to profit.
- When entity is engaged into trading activity, sales and profitability projections need to be checked carefully. Trading

activity generally has low entry barrier and in such scenario very high projections for sales level and profit margins need to be highlighted to the management and detailed discussion on the same should be done.

- Treatment to all non-operating assets and liabilities should be given separately than the valuation of operating business. E.g. company might have invested surplus funds in mutual fund which is otherwise not required to operate the business. Realizable value of such investment as on valuation date should be considered separately. However, fixed deposit with bank as margin money for a bank guarantee required for the purpose of business should be treated as an operating asset.
- Make complete disclosure of all the assumptions, basis, limiting factors etc. as applicable to the valuation. This would be obviously in addition to all mandatory aspects as prescribed by ICAI valuation standards or other applicable valuation standards and statutory requirements as the case may be.

o When a valuer finds it necessary to take assistance of an expert such as valuer of Land & Building and Plant & Machinery, proper communication should be made regarding the purpose of the valuation. The valuer should explain the premise and approach of valuation. For example, if a company is valued with the use of Cost approach, it should be made clear that Replacement cost or Reproduction Cost is required to be ascertained.

o Communication with Client:

- Properly document all queries/major deviations etc. and discuss each with client. Also, document response of the client. If any changes are required in projections, ensure that client makes the same.
- Document all the queries and responses at one place so that tracking can be easily done. In case valuation gets challenged, proper documentation in this regard would help the valuer. It is advisable to list date-wise all the queries and responses in a single file.

- All mail communication with client should also be kept in a single file for ease of referencing. In case valuation gets challenged or dispute arises with client, this would be of great assistance.
- Maintain a communication chart listing date of communication to client and date of response received from them.

o Selection of Valuation Approach:

- Prepare a standard checklist which would help you in selection of valuation premise, bases and approach. This will also help in documentation of process properly and would form part of valuation documentation.
- Some key points which would help you in preparation of such checklist are as under:
- Is the entity under liquidation?
- Is going concern assumption valid?
- Whether the asset is income generating and possesses history of income generation?
- Can the future cash flow projections be made with reasonable certainty and timing?
- Is it a cyclical business?
- Are comparable companies to the subject entity listed on any stock exchange in India?
- Have there been recent investment transactions in any of the comparable companies to the subject entity? If yes, whether required details in this regard are available from reliable sources?
- Are there any methods prescribed under any regulations and applicable to the present valuation exercise?

Valuation is a subjective exercise and needs to be amended with every valuation assignment. However, certain degree of standardization in the process will help to make it smooth and less prone to errors.

Chapter 13

Terminal Growth Rate: A Key Value Driver in DCF Model

EXECUTIVE SUMMARY

Terminal Growth Rate (TGR) is a key number in the DCF model. How do you estimate it? Should it be in nominal or real terms? What are its implications on horizon value, and by default on the valuation of an enterprise? These are sought to be examined in this Chapter.

INTRODUCTION

In valuation, there is a point up to which you can make reasonable projections, say five years. This is called the discrete projection period. Beyond that, estimates are a shot in the dark. This period is called the terminal period. The usual practice is to assume a cash flow at the start of the terminal period and to believe that it will grow at a specified rate.

The horizon value is the present value of future cash flows in the terminal period. Often this value is 75 percent or more of the enterprise value or the security value, as the case may be. This is more true if there are fewer discrete projection periods between the valuation date and the terminal period.

Driving the horizon value is the 'terminal growth rate' (TGR). The TGR is the expected constant growth rate of the company's cash flows from the end of the forecasting period to perpetuity. In mathematical terms, the horizon value is the present value of a growing perpetuity. The formula is known as Gordon's growth model (GGM).

This Chapter will take you through the estimation of TGR, its implication on horizon value, and by default on the valuation of an enterprise.

IMPLICATION 1: SENSITIVITY TO TGR

The enterprise value derived from the DCF model is highly sensitive to the terminal growth rate. A small change to the TGR estimate can lead to a substantial change in the calculation of enterprise value. Consequently, the TGR input is one of the disputed variables in valuations prepared for M&A.

Let's get down to specifics.

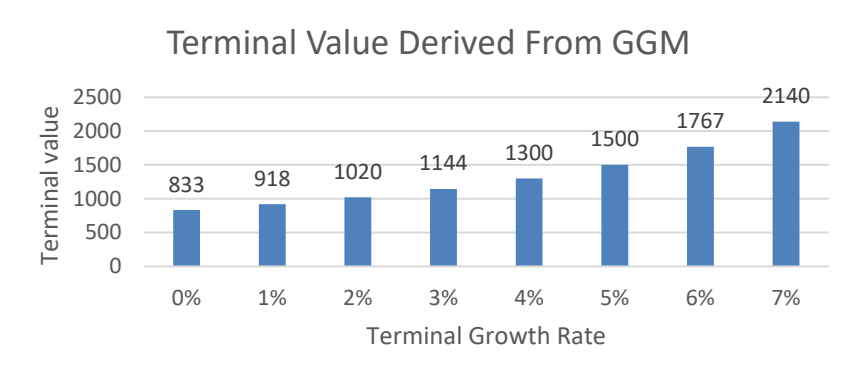
In the GGM Model, the terminal value is estimated using the formula:

TV of the Firm = [NCF_0 × (1 + g)] / (K – g)

Where:

- TV = Terminal value at the end of the forecasting period.
- NCF_0 = Net cash flow in the terminal period
- g = Terminal growth rate, which represents the expected constant growth rate in Firm's free cash flows
- K = Cost of capital

The first step is to estimate the normalized net cash flow at the start of terminal period (NCF_0). Following Figure 1 demonstrates the sensitivity of the terminal value to the selected TGR rate, assuming (a) 12 per cent WACC and (b) terminal period cash flow of Rs 100.



For a small change in terminal growth rate from 4% to 5%, the terminal value changes from Rs 1300 to Rs 1500, which is an increase of 15.38%

Moral: It is crucial to understand the sensitivity of the terminal value to the terminal growth rate input.

IMPLICATION 2: LARGE PART OF TV COMES IN THE INITIAL YEARS

When an analyst selects a TGR, he is concluding that the company's cash

flow will increase (or decrease) at that constant rate forever. At first glance, the assumption seems unrealistic, especially if he selects a growth rate higher than the projected rate of inflation. For, in doing so, he is implicitly assuming that the company will grow to infinite size over infinite time. However, calculations show that a significant part of the terminal value is generated by the cash flow that occurs within the first few years of the terminal period. Therefore, when the analyst selects a terminal growth rate for the GGM, he is making an estimate of the annual percentage changes in a company's cash flow over the first 10 odd years in the terminal period.

How much of the terminal value is generated in each successive period? That depends on the spread between the cost of capital and growth rate. Given the same WACC, a lower TGR leads to a higher proportion of terminal value to be generated in the near term. A higher TGR causes the opposite result. This is because a higher TGR causes cash flow to increase more rapidly into the future, which causes future periods to have relatively higher present values.

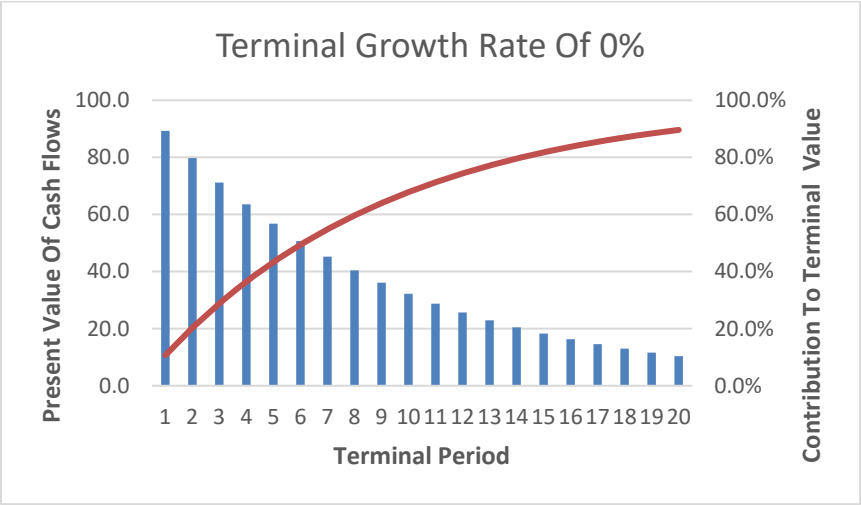
Figure 2 to Figure 4 present both the annual and cumulative per cent of the terminal value in the initial 20 years of the terminal period. This is based on the following assumptions:

a. WACC 12 per cent

b. Cash flow in the base year of the terminal period Rs 100

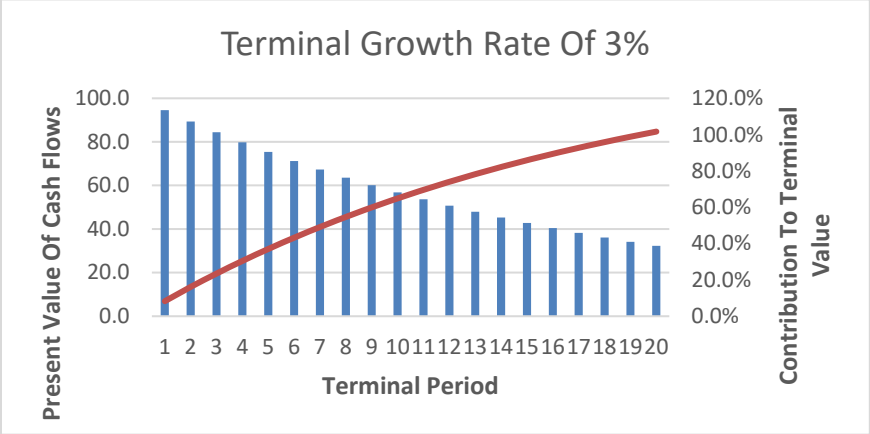
c. TGR rates between 0 per cent and 5 per cent

Figure 2



- When TGR = 0%; Capitalization rate = 12% -0% = 12%. Terminal value = 100*(1+0%)/ (12%) = Rs 833
- Notice that when TGR is zero, the cumulative present value of cash flows of the first 20 years in the terminal period is 89.6% of terminal value.

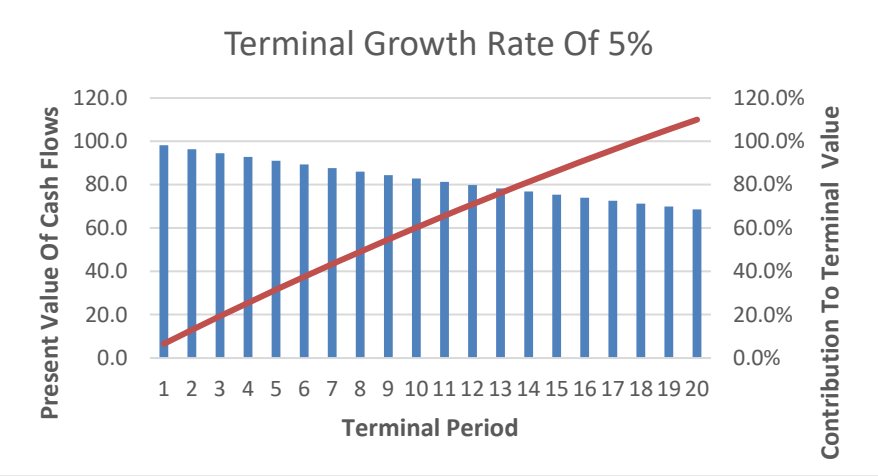
Figure 3



- When TGR = 3%; Capitalization rate = 12% - 3% = 9%. Terminal value = 100*(1+0.03)/ (9%) = Rs 1144
- When the TGR is 3%, the present value of cash flows of the first 19

years in the terminal period account for 98.8% of the terminal value! Almost all of the terminal value is captured in the first 20 years.

Figure 4



- When TGR = 5%; Capitalization rate = 12% -5% = 7%. Terminal value = 100*(1+0.05)/ (7%) = Rs 1500.
- When the terminal growth rate is 5%, we observe that the present value of cash flows of the first 18 years in the terminal period account for 100.6% of the terminal value. In other words, all of the terminal value is captured in this time frame of 18 years.

The idea here has been to give you three estimates of terminal growth rate and understand its impact on the terminal value.

IMPLICATION 3: SELECTING THE TERMINAL GROWTH RATE

TGR is the long-term growth rate. If the valuation company is in the mature stage (not growth, not decline stage) and its market share is expected to remain stable, then the usual assumption is that the long-term growth rate should be close to the country's GDP growth rate. However, most of the large and mature companies are multinational corporations (MNCs) whose revenues are derived from different geographies. Further, large companies tend to be conglomerates, and they derive revenues from various businesses, products, segments, and geographies. Moreover, it is challenging to estimate a country's long-run GDP growth rate. GDP forecasts

are generally available only for short durations ranging from the next quarter to as long as three years or five years.

Some of the factors you should consider when estimating the company's growth rate from existing assets are the following:

- Overall industry growth
- Company's market share
- Inflation
- Growth of the existing assets before the terminal period

According to Aswath Damodaran, the investment doyen, a company's TGR, is determined by several subjective factors like the quality of management, the strength of a firm's marketing, its capacity to form partnerships, and the management's strategic vision He also includes reinvestment as a critical input. Damodaran writes that "defining reinvestment broadly to include acquisitions, research and development, and investments in marketing and distribution allows you to consider different ways in which firms can grow."

In short, for any company, reinvestment may be viewed as coming from the following three sources:

- Opportunities to exploit the existing assets
- New internally developed assets
- Acquisitions

IMPLICATION 4: INFLATION AS A FACTOR FOR ESTIMATING TGR

An important metric when selecting TGR is the expected rate of inflation. To select a reasonable TGR rate, an analyst should understand the relationship between expected inflation and the growth of a business.

In theory, inflation should affect all line items alike. Consequently, a company that is neither gaining nor losing ground will nonetheless see its cash flows increase at a rate equal to that of inflation. This is referred to as nominal growth. In an inflationary environment, a company that is not changing its economic position will still exhibit growth at the rate of inflation. Real growth, on the other hand, is growth that signifies the improvement in the financial status of a business. If a company is exhibiting an increase in economic

position, it will show real growth above and beyond the rate of inflation. So, if an analyst wants to select a TGR rate that reflects an improvement in the economic condition of a business, he or she should forecast real growth.

Moral: As the WACC, aka the discount rate, includes inflation, which is embedded in the risk-free rate, the future expected cash flows should be forecasted on a nominal basis so that cash flows and discount rates are measured on the same scale. The growth rate should also be ideally inclusive of inflation. However, if cash flows, for convenience, are expressed in real terms, the discount rate and the growth should also be suitably expressed in real terms by removing the inflation component. However, where nominal cash flows are used assuming a two per cent or five per cent TGR in the India context may not be fair, though it would be conservative.

IMPLICATION 5: INDUSTRY ISSUES IN ESTIMATION OF TGR

In individual sectors such as banks, insurance companies, NBFCs, etc. cash flow forecasting has no meaning. This is because cash is both the raw material and the finished product. Instead, growth in book value of the company is the forecasting metric, and the equity value is estimated by discounting the future book value at the cost of equity capital. The evolution of book value in the forecasting period and in the terminal period is a function of capital adequacy norms of the banking regulator, the profitability of existing operations, dividends payout ratios.

Moral: Recognize industry angularities, and be industry-specific while picking TGR.

IMPLICATION 6: CALIBRATION OF TERMINAL VALUE

The terminal value should be compared with current market multiples for the companies operating in the same industry. Such companies should preferably be in the same stage of growth as we expect the valuation company to be in at the start of the terminal period. This calibration gives us a sense of the reasonableness of our estimate of the terminal growth rate. The commonly used market multiples are:

- Enterprise value to Sales (EV to sales multiple)
- Enterprise value to EBITDA (EV to EBITDA multiple)

- Enterprise value to Free Cash flow
- Price to Book for BFSI companies
- PE multiple

Example

Implied EV to EBITDA Multiple = Terminal Value /EBITDA at the end of the forecasting period.

This implied multiple is calibrated with currently observed market multiples to assess the reasonableness of the estimate of the terminal value.

One might argue that this, in a way, could mean that we may ditch using TGR and just apply the multiple!. However, we would like to ask for a note of caution. The multiple is observed today. Although we might pick a company which is now in the state which our company would be at the start of the terminal period, it might be useful to go by TGR and use multiple as a sanity check. Also, mark it; the multiples can change a lot from today to the end of the forecasting period. So we want to say that it is a good practice to compare the GGM value with today's observed multiples.

Given the importance of the terminal value computation, sources of information that may be considered in the selection of a TGR rate include:

1. Qualitative factors like growth strategies. Would these be organic or inorganic?
2. Quantitative factors, including the following:
    a. Historical financial statements
    b. Management-prepared projections

c. Expected inflation and/or real growth in the general economy

3. Nature of the Industry: Regulatory framework relating to solvency and capital requirements.

CLOSING OUT

The Horizon Value is a significant percentage of the final value. TGR is perhaps one of the most important determinants. It is, therefore, imperative that it is picked with due caution. A database of relevant multiples at different stages of growth in the Indian context will be instructive. That can happen

only if valuers choose to share inputs into a centralized pool. We believe that for an organization's growth of the profession, it is an idea whose time has come.

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Chapter 14

Time Series Analysis: An Effective Technique for Cash Flow Projection

Business valuation helps management and other stakeholders to take informed decision. The valuation methodology to be adopted varies from case to case depending upon different factors affecting valuation. The value is derived in the context of existing environment that includes economic conditions and the state of industry or market, etc. Valuation is based on estimate of the risks facing by the company and the return on investment that would be required on alternative investments with similar levels of risk. One of the approaches for valuation is income approach.

The 'income approach' provides an estimate of the present value of the monetary benefits expected to flow to the owners of the business. It requires projection of the cash flows that the business is expected to generate. These cash flows are then converted to their present value by means of discounting, using a rate of return that accounts for the time value of money and the appropriate degree of risk in the investment. The value of the business is the sum of the discounted cash flows.

An important step in valuation under 'income approach' is analysis of historical data and to identify key value drivers which include sales growth rate, profit margin, etc. and to use those key value drivers for projection of future cash flow. Hence the most critical part is projection of future cash flow precisely.

Statistical techniques which are considered as objective science should be applied for projection of future cash flows for more accurate result and one such statistical technique which may be used is "time series analysis".

TIME SERIES ANALYSIS

Time series analysis comprises methods for analyzing time series data in order to extract meaningful statistics and other characteristics of the data. Time series forecasting is the use of a model to predict future values based on previously observed values.

Mathematically, a time series is defined by functional relationship.

$$y=f(t)$$

Where **y** is the value of the phenomenon under consideration at time **t**

The value of phenomenon observed at different periods of time will show changes and are due to the fact that the value is affected by cumulative effect of the different factors unless otherwise the various factors are in a state of equilibrium.

Various forces affecting the value of a phenomenon in a time series may be classified as:

(a) Secular trend or long-term trend (T)

(b) Periodic trend or short-term trend

- Seasonal trend (S)
- Cyclical trend (C)

(c) Random or irregular Trend (R)

The value of (Y) of a phenomenon observed at any time (t) is the net effect of the above forces.

At time 0 = $Y_0 = T_0+S_0+C_0+R_0$

At time 1 = $Y_1 = T_1+S_1+C_1+R_1$

MEASUREMENT OF TREND

To study and measure trend component in a time series, following four methods are generally used:

(a) Free hand curve method

(b) Semi averages method

(c) Moving averages method

(d) Least square method

Free hand curve method

This method is very simple and flexible. This method considers the long-term trend. A curve is drawn on graph paper in free hand by plotting the time series values to obtain the tendency of the data. The smoothing of curve eliminates other components of trend. This method is highly subjective in nature and affected by personal judgement.

Semi average method

In this method the whole time series data is divided into two equal parts with respect to time and arithmetic mean of time series values of each half separately calculated which is known as semi averages and plotted as points in respective time periods and a line is drawn to obtain tendency of the data. This method is more objective than the graphics method.

Moving Average method

Moving average is a calculation made to analyse data points by creating a series of averages of different subsets of the full data set. This method is very simple and here a series of moving averages (i.e. arithmetic mean) of successive groups of the time series is obtained to understand tendency of the data. A moving average is used to smooth out short-term fluctuations and highlight longer-term trends or cycles. it is often used in technical analysis of financial data, like stock prices, returns or trading volumes. Moving averages can be calculated in either of the following ways:

- Simple moving averages;
- Cumulative moving averages;
- Weighted moving averages; and
- Exponential moving averages.

Least square method

Least square is the method for finding the best fit of a set of data points. It gives the trend line of best fit to a time series data. In this method a mathematical equation is used to obtain the tendency of the data. This is the most widely used method for forecasting and predictions.

Mathematical Model is

$Y = a + b\ t$

To estimate 'a' : $\sum y = n\ a + b \sum x$

To estimate 'b' : $\sum xy = a \sum x + b \sum x^2$

Example

Time series data of an industry is as follows:

Year:	2015	2016	2017	2018	2019
Sales (Rs '000):	20	24	28	27	29

By applying above mathematical model, we can forecast sales of 2021 in the following manner.

Year	Sales (y)	x= t-middle Year (2017)	x^2	Xy	Trend Value (y_e) = a + b x	$y-y_e$
1	2	3	4	5	6	7
2015	20	-2	4	-40	25.6+2.1*-2=21.4	-1.4
2016	24	-1	1	-24	25.6+2.1*-1=23.5	0.5
2017	28	0	0	0	25.6+2.1*0= 25.6	2.4
2018	27	1	1	27	25.6+2.1*1= 27.7	-0.7
2019	29	2	4	58	25.6+2.1*2= 29.8	-0.8
	$\sum y=128$	$\sum x = 0$	$\sum x^2 = 10$	$\sum xy = 21$	-	$\sum(y-y_e) = 0$

Steps to prepare the above Table:

(i) Put the historical data in column 1 and 2 in an orderly manner;

(ii) Calculate values of column 3,4 & 5 as per details provided in column head;

(iii) Derive value of 'a' and 'b' by applying the mathematical formula given above;

(iv) Calculate values of column 6 & 7 as per detail provided in column head.

The equations for estimating 'a' is:

$\sum y = n\,a + b \sum x$

$\Rightarrow 128 = 5*a + b*0$ (Here n = 5 as data for five years considered)

$\Rightarrow a = 128/5 = 25.6$

The equations for estimating 'b' are:

$\sum xy = a \sum x + b \sum x^2$

$\Rightarrow 21 = a *0 + b*10$

$\Rightarrow b= 21/10 = 2.1$

After above table is prepared always ensure that $\sum(y-y_{e)} = 0$

Forecast of future sales for 2021 can be obtained mathematically as follows:

't' is 2021

'x' can be derived as 4 (t-Middle year) (2021-2017)

'a' is 25.6 (already derived above)

'b' is 2.1 (already derived above)

'Y_e' (Forecasted future sales for 2021) can be derived as

$Y_e = (a + (b*x))$

$= 25.6 + (2.1*4)$

$= 34$

Similarly, we can forecast for any future year to give us more realistic data rather than arbitrary method of subjective forecasting.

In the above example the number of years under observation is *odd* (i.e. 5) and hence we derived value of x as t-middle year; however in case the number of years under observation is *even* then following formula may be used to arrive at the value

x = 2 (t - (1/2 of middle both the years))

Variant approach in time series data analysis

All the methods of trend analysis in time series discussed in the previous paragraphs are basic methods and are having its own advantages and disadvantages. Many models have been developed upon them to overcome the disadvantages.

Auto regressive Integrated Moving Average (ARIMA)

One of the advanced models of time series analysis is auto regressive integrated moving average (ARIMA) which may be used in time series data analysis to forecast cash flow in a more efficient way. Studies show that a cash flow projection based on auto regressive integrated moving average has a high forecasting accuracy. The ARIMA modeling approach offers a

model-driven technique to time series forecasting by using a theoretical framework.

Auto regression is a time series model that uses observations from previous time steps as input to a regression equation to predict the value at the next time step. The auto regressive model specifies that the output variable depends linearly on its own previous values and on a stochastic term. The model allows Y_t to be explained by past values of Y itself and stochastic error terms.

ARIMA models have the following three components:

(i) an autoregressive (AR) component, which indicates that the evolving variable of interest is regressed on its own lagged values;

(ii) an integration (I) component, which indicates that the data values have been replaced with the difference between their values and the previous values; and

(iii) a moving average (MA) component, which indicates that the regression error is actually a linear combination of error terms whose values occurred contemporaneously and at various times in the past.

Model specifications

ARIMA models are generally denoted ARIMA (p, d, q) where parameters p, d, and q are non-negative integers, **p** is the order (number of time lags of the dependent variables) of the autoregressive model, **d** is the degree of differencing (the number of times the data have had past values subtracted or how many time data have been differenced to become stationary), and **q** is the order of the moving-average model(number of lags of the error term). The AR part and MA part moves in opposite direction of one another in the ARIMA model and have a lot of complicated stochastic structure. It turns out that an MA process of finite order can be expressed as an AR process of infinite order and that an AR process of finite order can be expressed as an MA process of infinite order. This duality has led to the principle of parsimony in the Box-Jenkins methodology, which recommends that the practitioner employ the smallest possible number of parameters for adequate representation of a model.

1. ARIMA (1, 1, 2) indicates model has

   p = 1 lag of dependent variables

d = variable being used is of first difference stationary

q = 2 lags of error terms

2. ARIMA (1, 0, 1) indicates model has

p = 1 lag of dependent variables

d = variable being used is of level stationary

q = 2 lags of error terms

Essence of engaging an ARIMA model is to forecast a time series and the entire process consists of following four phases:

1. Identification of model
2. Estimation of model
3. Diagnostic checking of model
4. Forecasting or projecting the series.

The first phase of the ARIMA modeling is to determine and identify appropriate value of p, d, q. The process starts with identification of the appropriate lags for the AR and MA process using correlograms (the plots of the ACFs and PACFs against the lag length) and auto correlation function (ACF) and partial autocorrelation function (PACF). The partial autocorrelation is the correlation between Y_t and Y_{t-k} after removing the effect of intermediate Y and measures the marginal impact. For an AR process, the ACF attenuates and the PACF truncates; conversely, for an MA process, the PACF attenuates and the ACF truncates.

In reality most economic variables are non-stationary as the properties change over different time period reflecting trends, cycles, fluctuations, etc. However, ARIMA models are applied in cases where data show evidence of stationarity. A stationary time series' property does not depend on the time at which the series is observed. In other way a stationary process is a stochastic process whose unconditional joint probability distribution does not change when shifted in time. Consequently, parameters such as mean and variance also do not change over time. Stationarity is an assumption in ARIMA model used in time series analysis, non-stationary data are often transformed to become stationary through differencing process.

If the time series data are non-stationary due to linear or polynomial trend, the original data is differentiated and a unit root test is made to ascertain

whether a time series variable is non-stationary and possesses a unit root. If the process has a unit root, it was further differentiated till the process has no unit root and data is stationary. Differentiating is a transformation process applied to time-series data in order to make it stationary. In order to differentiate the data, the difference between consecutive observations is computed as follows

$Y_t' = Y_t - Y_{t-1}$

Above differentiating process is also called integration. Differentiating removes the changes in the level of a time series, eliminating trend and seasonality and consequently stabilizing the mean of the time series. Sometimes it may be necessary to differentiate the data a second time to obtain a stationary time series, which is referred to as second order differentiating. The differentiated data is then used for the estimation of an ARIMA model.

The second phase of the ARIMA modeling is to estimate following the Box–Jenkins approach.

$X_t = \alpha_1 X_{t-1} + \alpha_2 X_{t-2} + \ldots\ldots + \alpha_p X_{t-p} + \varepsilon_t - \theta_1 \varepsilon_{t-1} - \ldots\ldots - \theta_q \varepsilon_{t-q}$

Given a time series data Xt where **t** is an integer index and the **Xt** are real numbers(e.g. sales, expenses, etc.), the $\alpha_1 \ldots \alpha_p$ are the parameters of the autoregressive part of the model i.e. coefficient associated with the lagged value X_{t-1} , the $\theta_1 \ldots \theta_q$ are the parameters of the moving average part i.e coefficient associated with the lagged residual term and the ε_t are error terms or residual term for time **t.**

To determine the order of an ARIMA model, the Akaike information criterion (AIC) may be used which is:

$AIC = 2 \log (L) + 2 (p + q + k)$

where **L** is the likelihood of the data, **p** is the order of the autoregressive part and **q** is the order of the moving average part. The **k** represents the intercept of the ARIMA model. For AIC, if **k = 1** then there is an intercept in the ARIMA model **($c \neq 0$)** and if **k = 0** then there is no intercept in the ARIMA model (**$c = 0$**).

AIC is based on information theory. When a statistical model is used to represent the process that generated the data, the representation will almost never be exact; so some information will be lost by using the model to represent the process. AIC estimates the relative amount of information lost by a given model.

Further to determine the order of an ARIMA model, the Bayesian Information Criterion (BIC) may be used which is

BIC = AIC + (log (T) - 2) (p + q + k)

BIC is a criterion for model selection among a finite set of models. It is based on the likelihood function. When a statistical model is used, it is possible to increase the likelihood by adding parameters, but doing so may result in over fitting.

Both BIC and AIC attempt to resolve the problems of over fitting or loss of information by introducing a penalty term for the number of parameters in the model.

The AIC and the BIC are used for two completely different purposes. While the AIC tries to approximate models towards the reality of the situation, the BIC attempts to find the perfect fit. The reason to determine the order of an ARIMA model is to minimize the AIC or BIC values and to identify the preferred model. The preferred model should have most significant coefficients, lowest volatility and lowest AIC and BIC. The appropriate value of one of these criteria for a range of models is further examined and model parameters are estimated by applying maximum likelihood method.

The third phase of the ARIMA modeling is diagnostic checking, where the model is assessed with certain parameters like:

i) model is *Parsimonious* as possible (the simplest model with the least assumptions and variables but with greatest explanatory power);

ii) all information is captured and nothing is left;

iii) the correlogram is flat, which is most ideal;

iv) model is not an over fitting model;

v) conduct autocorrelation test; and

vi) confirm the lag is not significant.

If the model does not satisfy the diagnostic check then the model goes to second phase and it has to be re-estimated.

The fourth phase of the ARIMA modeling is to forecast which is based on the final ARIMA model identified, estimated and passed diagnostic check. The model uses the past values of the series itself and forecast the future values as per parameters used.

CONCLUSION

An ARIMA model may be used for every cash flow parameters of the businesses like sales, expenses for materials, expenses for manpower, etc. and all income and expenses items can be integrated into a complete business model so that each and every source can be analyzed, projected and forecasted in detail. This will ultimately help to forecast the future cash flow and those cash flows may be in income approach of valuation and to arrive at the business value. ARIMA model can be applied in both equity approach or entity approach of valuation. This model is quite complex and many statistical software are available to forecast cash flow using this model.

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Chapter 15
Case Study on DCF Valuation

(Facts and figures shown in the 'Case Study' are hypothetical & for learning purpose only. They are not based on actuals)

You have been approached by ABC Pharma Private Limited ('company') to value equity per share of the company for the proposal to acquire minority shareholding of 5% by the P/E firm X Capital Ltd. The details of the company & their financials are given hereunder. The company has appointed you to carry out valuation considering the latest audited financials, assumption & projections being provided by the management of the company.

Fact Sheet

- **Name of Company:** ABC Pharma Private Limited ('company')
- **Business Activity:** Engaged in Pharma API & its formulation business. API being used for own formulation purpose only. Medicines are used to cure heart related disease. The company has own manufacturing plant.
- The company was incorporated on 1.1.2000
- Promoters of company are Mr. X & Mrs. X
- Mr. X is PHD in Chemistry & Key person who developed the patented products.
- After the incorporation, the company had started the project with a cost of Rs. 1 Crore, out of which Rs. 40 Lakhs was brought as promoter capital and Rs. 60 lakh was through bank funding. The company acquired 1 acre of land at Rs. 20 lakh, carried out construction at Rs. 20 lakh, acquired machineries at Rs. 50 lakhs & Rs. 10 lakhs was used for working capital margin. Working capital facilities of Rs. 10 lakh was also obtained at that time.
- Within just 3 year, the company repaid total loan and generated good cash flow. The company operated for 2 years without any term loan & earned good cash flow from the operations.
- Looking to cash flow availability & availability of adjoining land at

cheap rate, the company decided to purchase 10 acres of land, for investments purpose and possible future expansion purposes.

- The company kept on expanding gradually and increased its manufacturing capacity significantly.
- Presently, the company operates its production facility on 6 acres, which is sufficient for additional CAPEX required during explicit period. The company has staff quarters constructed on 1 acre. Present market value of the land is Rs. 10 crore per acre.
- The company also invests its surplus cash in mutual funds, whose fair market value (NAV) as on last date of previous audited accounts are Rs. 30 crore.
- The current year provisional performance is approximately at par with the given projections.
- The company is having contingent liability in the form of tax litigation with income tax department at the High Court. In the opinion of the advocate handling the litigation, it is highly probable that it will go against the company looking to recent judgements & retrospective amendment brought by department. Probable total amount of tax, interest & penalty could be to the tune of Rs. 50 crore. However in the opinion of the advocate, they are confident of getting penalty waiver of Rs. 10 crore.

Last 3 Year Audited Financials & Assumption for projection given by management: (Rs. In Crore)

Particulars	*Previous Year 3*	*Previous Year 2*	*Previous Year 1 (Last Year)*
EQUITY & LIABILITIES			
Equity Share Capital	50.00	50.00	50.00
Reserve & Surplus	281.66	376.08	489.02
Long Term Borrowing	24.00	22.00	20.00
DTL	5.54	10.15	14.00
Short Term Borrowing	20.00	22.50	25.00
Current Liabilities	40.00	45.00	50.00
TOTAL ASSETS	**421.20**	**525.73**	**648.02**

Land	3.20	3.20	3.20
Other Tangible / Intangible Assets	243.00	236.70	231.03
Security Deposit / Advances	10.00	10.00	10.00
Current Assets (Inventory & Receivables)	160.00	180.00	200.00
Cash & Bank Balances (Other than FD)	5.00	5.50	6.05
Bank FD	0.00	67.83	172.74
Investment in Mutual Fund (Equity Oriented)	0.00	22.50	25.00
TOTALPROFIT &LOSS	**421.20**	**525.73**	**648.02**
Revenue from Operation	400.00	450.00	500.00
Other Income (FD Interest)	0.00	2.31	8.98
COGS	120.00	135.00	150.00
Other Mfg. Exp.	60.00	67.50	75.00
Salary, Wages, Bonus	40.00	45.00	50.00
Other Expenses	40.00	45.00	50.00
EBITDA	140.00	159.81	183.98
Finance Cost –Long Term	2.25	2.07	1.89
Finance Cost–Short Term	1.70	1.91	2.13
Depreciation	27.00	26.30	25.67
PBT	109.05	129.53	154.30
Current Tax	24.43	30.50	37.50
Deferred Tax	5.54	4.62	3.85
PAT	**79.09**	**94.41**	**112.95**

Assumptions for Projections Year 1 to Year 5		
Revenue from Operation	10%	Expected growth Y-O-Y
Other Income (Bank FD Interest)	7 % on Average FD of the year	

Mutual Fund Income	Presumed that no regular income.	
COGS	30%	Of Revenue from Operation
Other Mfg. Exp.	10%	Of Revenue from Operation
Salary, Wages, Bonus	15%	Of Revenue from Operation
Other Expenses	10%	Of Revenue from Operation
Long Term Borrowing Cost	9%	Of Average Yearly Outstanding. Yearly Repayment Rs. 2 Crores
Short Term Borrowing Cost	8.5%	Of limit utilised. Limit utilized 5% of Turnover during full year.
Depreciation (Books)	10%	Of Tangible / Intangible Assets
Depreciation (Income Tax)	15%	Of Tangible / Intangible Assets
Income Tax Rate	25.168%	Of Taxable Income No other incentive applicable No brought forward loss
Current Assets (Excluding Cash and Bank Balances & FD)	40%	Of Revenue from Operation
Current Liabilities other than Short Term Borrowings	10%	Of Revenue from Operation
Mutual Fund Investment	5%	Of Revenue from Operation
Capital Expenditure	Rs. 20 Crores each year – Plant & Equipment. Addition / put to use	

	presumed on 1st day of each year.
Cash & Bank Balance (Other than FD)	As per Business cycle needs, it required 10% growth each year.
Bank FD	Balance after Business need, kept in Bank FD

Other Assumptions for Valuations

Perpetual growth rate post explicit period – 2%

Discount for lack of marketing (DLOM) – 30%

Equity share of Rs. 10 each.

Market Comparable companies in Pharma - PQR Healthcare Ltd. & XYZ Pharmaceuticals Ltd.

Question 1	Calculate enterprise value of the ABC Pharmaceuticals Private Limited by applying discounted cash flow method, considering that last year financials are latest . Also find out equity value per share based on enterprise value.
Questions 2	Calculate per share equity value of ABC Pharmaceuticals Private Limited by applying discounted cash flow method, considering that last year financials are latest .
Questions 3	Calculate scenario analysis of terminal growth rate of 1% to 5% & by applying WACC + 1% to 4%
Questions 4	Carry out sanity check through market multiple: EV/EBITDA Multiple & P/E Multiple as per last year financials.
Questions 5	The company has also asked you to give further sanity check through valuation based on last year earning (profit earning capacity & cash-flow earning capacity) capitalization, by applying cost of capital & cost of equity based on last year financials. Perpetual growth rate to be considered 2%.
Questions 6	ABC Pharmaceuticals has received proposal to from another Pharma company to sell their Brand named 'PQR', whose brand projections are as under:

	Year 1 = 100 Crore & YOY to growth of 5% from year 2 to 5. As per co., same trade name is expected to continue during explicit period & thereafter. Royalty rate to operate same brand is worked out at 8%. Tax rate 25.168% WACC rate estimated: 16.20% Perpetual growth rate estimated 2% As per company keeping all other operating cost at similar level, sale price of generic is 10% lower than brand it wants to acquire. Further it may be required to incur 2% of revenue each year for advertisement & sales promotion to keep same brand active in market. Kindly calculate brand value by using 'Relief from royalty method' & 'WIth or without method'.

Suggested Valuation Sheet

Valuation Case Study - ABC Pharma Private Limited	
CONTENT	
Sr. No.	*Particulars*
1	DCF Firm
2	Discount Rate
3	DCF Equity
4	Sensitivity Analysis
5	Sanity Check
6	Brand - ROR
7	Brand - With or Without
8	Assumptions
9	Balance Sheet
10	Profit Loss Statement
11	Cash Flows

Suggested Calculation for Q 1: Calculation of Enterprise Value and Equity value per share based on Enterprise Value

ABC PHARMA PRIVATE LIMITED (Rs. In Crores)						
Projected Free Cash Flow to Firm	**Previous**	**Projected**				
Particulars	**P1**	**1**	**2**	**3**	**4**	**5**
PBT	154.30	184.15	213.98	247.21	284.22	325.39
Less: Other Income (Bank FD Interest) (Net of Tax)	6.80	15.69	23.26	31.99	42.01	53.45
Add: Depreciation	25.67	25.10	24.59	24.13	23.72	23.35
Add: Interest on Long Term Debt (Net of Tax)	1.43	1.29	1.15	1.01	0.88	0.74
Total Inflows	**174.60**	**194.86**	**216.46**	**240.37**	**266.81**	**296.03**
(-) Increase / (Decrease) in Working Capital	15.00	15.00	16.50	18.15	19.97	21.96
(+) Increase / (Decrease) in Short Term Debt	2.50	2.50	2.75	3.03	3.33	3.66
(-) Capital Expenditure	20.00	20.00	20.00	20.00	20.00	20.00
(-) Tax	37.50	45.29	53.02	61.57	71.03	81.51
Net Cash Inflows	**104.59**	**117.07**	**129.69**	**143.68**	**159.14**	**176.22**

Free Cash Flow to Firm	**104.59**	**117.07**	**129.69**	**143.68**	**159.14**	**176.22**
Discounting Period						
in Months		6.0	18.0	30.0	42.0	54.0
in Years		0.50	1.50	2.50	3.50	4.50
Discount Factor		0.93	0.80	0.69	0.59	0.51
Present Value	**-**	**108.67**	**103.65**	**98.77**	**94.07**	**89.54**
Discount Rate (Year Wise WACC)		**16.05%**	**16.12%**	**16.17%**	**16.21%**	**16.24%**
(As per Discount Rate Working)						

ABC PHARMA PRIVATE LIMITED	
Statement Showing Intrinsic Value per share	
Value through DCF Method	*Value*
PV of Explicit Period =*(Year 5 Cash Flow*(1+Terminal Growth Rate)) / (WACC 5th year - Terminal Growth Rate)*	494.70
Terminal Growth Rate	2.00%
PV of Terminal Value	641.56
Add: Bank FD (Surplus Assets)	172.74
Add: Land 4 Acres (Surplus Assets)	40.00
Add: Mutual Fund Investments NAV (Surplus Assets)	30.00
Less: Contingent Liabilities	40.00
Enterprise Value	**1,339.01**
Less: Debt	20
Equity Value	**1,319.01**
No. of Shares	500,00,000
Equity Value per Share	**263.80**

DISCOUNT RATES - Valuation - DCF Analysis Sheet				
		SOURCES		
Assumption:		1	2	3
Cost of Equity for FCFE				
Risk Free Return [a]	**6.94%**	FBIL	Country Economy	RBI
		10 Year Zero Coupon % (Semi Annual)	**10 Year Govt. Bond %**	**10-Year G-Sec Par Yield**
		https://fbil.org.in/modules/Archives/downloads.aspx	https://countryeconomy.com/bonds/india	https://www.rbi.org.in/Scripts/BS_NSDPDisplay.aspx?param=4
		6.94%	**6.59%**	**6.73%**
Stock Beta (re-levered corrected for cash) [b]	**0.79**	Calculated as Unlevered with peer company & re-levered with target co.	http://www.stern.nyu.edu/~adamodar/pc/datasets/betaIndia.xls	
		0.79	**0.61**	
Equity Risk Premium [c]	**7.08%**	http://www.stern.nyu.edu/~adamodar/pc/datasets/betaIndia.xls	Nifty Pharma Equity Market Return (-) Risk Free Rate of Return	
			12.63	
		7.08	**5.69**	
Cost of Equity (COE) [a+(b*c)] [d]	**12.54%**			

(+) Discount for Lack of Marketing (DLOM) of COE	**30.00%**					
Cost of Equity (Inclusive of DLOM)	**16.30%**					
Say Rounded to	**16.30%**					
WACC CALCULATION	**Previous**	**Projected**				
Year	**P1**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Equity on B/s	50	50	50	50	50	50
Reserves & Surplus	489	627	787	972	1,185	1,428
Gross Equity on B/S	**539**	**677**	**837**	**1,022**	**1,235**	**1,478**
Gross Debt on B/s	**20**	**18**	**16**	**14**	**12**	**10**
Total	**559**	**695**	**853**	**1,036**	**1,247**	**1,488**
Debt to Equity %	3.71%	2.66%	1.91%	1.37%	0.97%	0.68%
Average Debt to Equity % (i)				1.52%		
Profit Before Tax	**154**	**184**	**214**	**247**	**284**	**325**
Current Tax	**38**	**45**	**53**	**62**	**71**	**82**
Effective Tax Rate % [A]	24.31%	24.59%	24.78%	24.90%	24.99%	25.05%
Average				24.86%		

Effective Tax Rate % (ii)						
Average Borrowing During Year	**21**	**19**	**17**	**15**	**13**	**11**
(Opening + Closing)/2						
Interest Paid	**2**	**2**	**2**	**1**	**1**	**1**
Effective Interest Rate % [B]	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
Average Effective Interest % (iii)				9.00%		
WACC CALCULATION						
[C] Effective Cost of Debt {(1-A)*B}	6.81%	6.79%	6.77%	6.76%	6.75%	6.75%
[D] % of Debt	3.58%	2.59%	1.88%	1.35%	0.96%	0.67%
[E] % of Equity	96.42%	97.41%	98.12%	98.65%	99.04%	99.33%
[F] Cost of Equity	16.30%	16.30%	16.30%	16.30%	16.30%	16.30%
WACC = (C*D)+(E*F)	**15.96%**	**16.05%**	**16.12%**	**16.17%**	**16.21%**	**16.24%**
Average WACC		**16.16%**				
WACC Rounded to		**16.20%**				
2. Terminal Value Growth rate		**2%**				

Suggested Calculation for Q 2: Calculation of per share equity value

ABC PHARMA PRIVATE LIMITED (Rs. In Crores)						
Projected Free Cash Flow to Equity		**Projected**				
Particulars	**P1**	**1**	**2**	**3**	**4**	**5**
PBT	154.30	184.15	213.98	247.21	284.22	325.39
Less: Other Income (Bank FD Interest) (Net of Tax)	6.80	15.69	23.26	31.99	42.01	53.45
Add: Depreciation	25.67	25.10	24.59	24.13	23.72	23.35
Total Inflows	**173.17**	**193.57**	**215.31**	**239.36**	**265.93**	**295.29**
(-) Increase / (Decrease) in Working Capital	15.00	15.00	16.50	18.15	19.97	21.96
(+) Increase / (Decrease) in Short Term Debt	2.50	2.50	2.75	3.03	3.33	3.66
(+) Increase / (Decrease) in Long Term Debt (Repayment of Debt)	(2.00)	(2.00)	(2.00)	(2.00)	(2.00)	(2.00)
(-) Capital Expenditure	20.00	20.00	20.00	20.00	20.00	20.00
(-) Tax Provision	37.50	45.29	53.02	61.57	71.03	81.51

Net Cash Inflows	101.16	113.78	126.54	140.66	156.26	173.48
Free Cash Flow to Equity	**101.16**	**113.78**	**126.54**	**140.66**	**156.26**	**173.48**
Discounting Period						
in Months		6.0	18.0	30.0	42.0	54.0
in Years		0.50	1.50	2.50	3.50	4.50
Discount Factor		0.93	0.80	0.69	0.59	0.51
Present Value		**105.51**	**100.89**	**96.44**	**92.12**	**87.93**
Discount Rate {Cost of Equity}		**16.30%**	**16.30%**	**16.30%**	**16.30%**	**16.30%**
(As per Discount Rate Working Sheet)						

ABC PHARMA PRIVATE LIMITED	
Statement Showing Intrinsic Value per share	
Value through DCF Method	**Value**
PV of Explicit Period	482.88
Terminal Growth Rate	2%
PV of Terminal Value =*(Year 5 Cash Flow*(1+Terminal Growth Rate)) / (WACC 5th year - Terminal Growth Rate)*	627.18
Add: Bank FD (Surplus Assets)	172.74
Add: Land 4 Acres (Surplus Assets)	40.00
Add: Mutual Fund Investments NAV (Surplus Assets)	30.00

Equity Value (Incl. Surplus Cash & Surplus Assets)	1,352.81
Less: Contingent Liabilities	40.00
Equity Value	**1,312.81**
No. of Shares	500,00,000
Equity Value per Share	**262.56**

Suggested Calculation for Q 3: Calculation of scenario / sensitivity analysis of Terminal growth rate of 1% to 5% & by applying WACC + 1% to 4%

WACC and Terminal Growth Rate Sensitivity Analysis						
		TGR				
	1339.01	**1%**	**2%**	**3%**	**4%**	**5%**
WACC	16.05%	1,291.03	1,339.01	1,394.25	1,458.51	1,534.22
	17.05%	1,290.56	1,338.55	1,393.78	1,458.05	1,533.75
	18.05%	1,289.65	1,337.63	1,392.87	1,457.14	1,532.84
	19.05%	1,288.32	1,336.31	1,391.54	1,455.81	1,531.51
	20.05%	1,286.63	1,334.61	1,389.85	1,454.11	1,529.82

Suggested Calculation for Q4: Sanity Check (EV/EBITDA Multiple)

Sanity Check - Market Multiples					
EV/EBITDA MULTIPLE					
Company	**M Cap (31.3.19)**	**Debt**	**EV = M Cap + Debt**	**EBITDA**	**EV/EBITDA Ratio**
PQR	34,392.63	1,788.30	36,180.93	2,366.70	15.29
XYZ	32,718.37	4,905.16	37,623.53	1,994.99	18.86
				Average	17.07
ABC Pharma	3,121.15	20	3,141.15	183.98	17.07
Less: DLOM	936.34				

(30%)					
	2,184.80				
EV as per Multiple	**2,184.80**				
EV as per DCF	**1,339.01**				

Suggested Calculation Q 4: Sanity Check (P/E Multiple)

Sanity Check - PE MULTIPLE			
Company	**M Cap (31.3.19)**	**Earning**	**PE Multiple**
PQR	34,392.63	1,570.10	21.90
XYZ	32,718.37	768.47	42.58
		Average	32.24
ABC Pharma	3,641.41	112.95	32.24
Less: DLOM (30%)	1,092.42		
	2,548.98		
Equity as per Multiple	**2,548.98**		
EV as per DCF	**1,312.81**		

Suggested Calculation for Q 5: Sanity Check (Profit Earning Capacity & Cash-flow earning Capacity)

Sanity Check - Market Multiples				
Earning Capitalization Method (Cash Flow & Profit)				**(Rs. In Crore)**
Earning Capitalization	**PAT 31.3.19**	**Cost of Equity**	**Perpetual Growth Rate**	**Value = A /(B-C)**
	[A]	[B]	[C]	
	112.95	16.30%	2%	789.83
Cash Flow Capitalization	**Cash Flow 31.3.19**	**Cost of Equity**	**Perpetual Growth Rate**	**Value = A /(B-C)**
	[A]	[B]	[C]	

	104.59	16.30%	2%	731.43
Value as per Earning Capitalization		**789.83**		
Value as per Cash Flow Capitalization		**731.43**		
Equity Value as per DCF		**1,312.81**		
Enterprise Value as per DCF		**1,339.01**		

Suggested Calculation for Q 6: Calculation of Brand Value by using "Relief from Royalty Method"

ABC PHARMA PRIVATE LIMITED (Rs. In Cores)					
BRAND - RELIEF FROM ROYALTY METHOD	**Projected**				
Particulars	**1**	**2**	**3**	**4**	**5**
Total Revenue	100.00	105.00	110.25	115.76	121.55
Probability of continuing trade name in respective year	100%	100%	100%	100%	100%
Relief from Royalty % to turnover	8%	8%	8%	8%	8%
Relief from Royalty in Amount	8.00	8.40	8.82	9.26	9.72
Taxes %	25.168 %	25.168 %	25.168 %	25.168 %	25.168 %
Taxes Amount	2.01	2.11	2.22	2.33	2.45
Royalty Cash Flows (post tax)	**5.99**	**6.29**	**6.60**	**6.93**	**7.28**
PV Factor (As per Average WACC)	0.93	0.80	0.69	0.59	0.51

Present Value of Cash Flows	5.55	5.02	4.53	4.10	3.70
Terminal Value	26.60				
Sum of the present value of cash flows (including Terminal Value)	**32.15**				
Tax amortisation Benefit Factor (Refer Below Working)	1.196				
Fair Value of Brand (32.15*1.196)	**38.46**				
Tax amortisation Benefit (38.46 – 32.15)	6.31				
WACC Considered for Terminal Value	16.20%				
Perpetual Growth Rate Considered for Terminal Value	2.00%				
Tax amortisation Benefit Factor Formula					
Tax amortisation Benefit Factor Formula					
$FV = PVC \times \frac{1}{\left[1 - \frac{t}{n} * \left(\frac{1}{k} - \frac{1}{(k*(1+k)^n)}\right)\right]}$	32.15				
	25.17%				
	5 years				
FV: Fair value of the intangible asset *PVC: Present value before tax amortisation benefit* *t: effective tax rate* *n: legal tax life time* *k: discount rate*	16.20%				
	1.196				

Answer 6: Calculation of Brand Value by using "With or without Method"

ABC PHARMA PRIVATE LIMITED (Rs. In Cores)					
BRAND - WITH AND WITHOUT METHOD	**Projected**				
Particulars	**1**	**2**	**3**	**4**	**5**
Total Revenue (Branded)	100.00	105.00	110.25	115.76	121.55
Total Revenue (Non-Branded / Generic) with equivalent Qty. (90%)	90.00	94.50	99.23	104.19	109.40
Difference in Revenue Due to Brand	**10.00**	**10.50**	**11.03**	**11.58**	**12.16**
Branding Expenses (2%)	2.00	2.10	2.21	2.32	2.43
Incremental Cash Flow due to Brand (Pre Tax)	**8.00**	**8.40**	**8.82**	**9.26**	**9.72**
Taxes %	25.17%	25.17%	25.17%	25.17%	25.17%
Taxes Amount	2.01	2.11	2.22	2.33	2.45
Incremental Cash Flow due to Brand (Post Tax)	**5.99**	**6.29**	**6.60**	**6.93**	**7.28**
PV Factor (As per Average WACC)	0.93	0.80	0.69	0.59	0.51
Present Value of Cash Flows	5.55	5.02	4.53	4.10	3.70
Terminal Value	26.60				
Sum of the present value of cash flows (including Terminal Value)	**32.15**				
Tax amortisation	1.196				

Benefit Factor (Refer Working)					
Fair Value of Brand (32.15*1.196)	**38.46**				
Tax amortisation Benefit (38.46 – 32.15)	6.31				
WACC Considered for Terminal Value	16.20%				
Perpetual Growth Rate Considered for Terminal Value	2.00%				

Disclaimer

The above case study is prepared on the basis of various assumptions / basis applied for the limited purpose of discussion on hypothetical example. Valuation exercise & result may differ from valuer to valuer on the basis of assumptions / basis / sources applied by him for arriving at suggested valuation. Case study & its suggested answer produced hereinabove iare on the basis of own understanding of the author on the basis on various sources, and reading materials .There may be more views on particular subject based on facts & circumstances of each matters & also from person to person. The contents of this Chapter should not be produced as source or benchmark for any purposes of whatsoever nature by the readers.

	Assumptions							
Sr. No.	**Particulars**	**Previous Year 1**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Base**
1	Revenue from Operations	NA	10.00 %	10.00 %	10.00 %	10.00 %	10.00 %	Expected growth Y-O-Y
2	Other Income (Interest on Average FD)	7%	7%	7%	7%	7%	7%	Revenue from Operation

3	COGS	30.00%	30.00 %	30.00 %	30.00 %	30.00 %	30.00 %	Revenue from Operation
4	Salary, Wages and Bonus	15.00%	15.00 %	15.00 %	15.00 %	15.00 %	15.00 %	Revenue from Operation
5	Other Manufacturing Expenses	10.00%	10.00 %	10.00 %	10.00 %	10.00 %	10.00 %	Revenue from Operation
6	Other Expenses	10.00%	10.00 %	10.00 %	10.00 %	10.00 %	10.00 %	Revenue from Operation
7	Depreciation (Books)	10.00%	10.00 %	10.00 %	10.00 %	10.00 %	10.00 %	Tangible / Intangible
8	Depreciation (Income Tax)	15.00%	15.00 %	15.00 %	15.00 %	15.00 %	15.00 %	Tangible / Intangible
9	Long Term Borrowing Cost	9.00%	9.00 %	9.00 %	9.00 %	9.00 %	9.00%	Average Outstanding
10	Short Term Borrowing Cost	8.50%	8.50 %	8.50 %	8.50 %	8.50 %	8.50%	Outstanding
11	Income Tax Rate	22.00%	22.00 %	22.00 %	22.00 %	22.00 %	22.00 %	Taxable Income
12	Surcharge	10.00%	10.00 %	10.00 %	10.00 %	10.00 %	10.00 %	Income Tax
13	Education Cess	4.00%	4.00 %	4.00 %	4.00 %	4.00 %	4.00%	Income Tax + Surcharge
14	Short Term Borrowing	5.00%	5.00 %	5.00 %	5.00 %	5.00 %	5.00%	Revenue from Operation

15	Long Term Borrowing	2	2	2	2	2	2	Crores Per Annum
16	Current Assets (Excluding Cash and Bank Balances)	40.00%	40.00 %	40.00 %	40.00 %	40.00 %	40.00 %	Revenue from Operation
17	Current Liabilities other than Short Term Borrowings	10.00%	10.00 %	10.00 %	10.00 %	10.00 %	10.00 %	Revenue from Operation
18	Mutual Fund Investment	5.00%	5.00 %	5.00 %	5.00 %	5.00 %	5.00%	Revenue from Operation
19	Capital Expenditure	20	20	20	20	20	20	Crores Per Annum
20	Cash & Bank Balance other than Bank FD	10.00%	10.00 %	10.00 %	10.00 %	10.00 %	10.00 %	Rs. 5 Crores in First year then 10% Rise
21	Fixed Deposit	172.74	299.10	445.49	614.39	808.53	1030.91	Net off Cash and Bank Balance
22	Interest on Average FD @7% p.a.	8.98	20.80	30.92	42.60	56.00	71.32	

ABC PHARMA PRIVATE LIMITED									
Balance Sheet (Rs. in Crore)									
PARTICULARS		**Actual**			**Projected**				
		Previous Year 3	**Previous Year 2**	**Previous Year 1**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
I.	**EQUITY AND LIABILITIES**								
	Shareholders' Funds								
	Share Capital	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
	Reserves and Surplus	281.66	376.08	489.02	626.83	786.95	971.94	1,184.63	1,428.13
		331.66	426.08	539.02	676.83	836.95	1,021.94	1,234.63	1,478.13
	Non-Current Liabilities								
	Long-term Borrowings	24.00	22.00	20.00	18.00	16.00	14.00	12.00	10.00
	Deferred tax Liabilities (Net)	5.54	10.16	14.00	15.06	15.90	16.55	17.05	17.43
		29.54	32.16	34.00	33.06	31.90	30.55	29.05	27.43
	Current Liabilities								
	Short-term Borrowings	20.00	22.50	25.00	27.50	30.25	33.28	36.60	40.26
	Current Liabilities	40.00	45.00	50.00	55.00	60.50	66.55	73.21	80.53
		60.00	67.50	75.00	82.50	90.75	99.83	109.81	120.79
	Total	421.20	525.73	648.02	792.39	959.60	1,152.32	1,373.49	1,626.35
II.	**ASSETS**								
	Non-Current Assets								
	(i) Tangible / Intangible Assets	246.20	239.90	234.23	229.13	224.53	220.40	216.68	213.33

	(ii) Capital Work-in-Progress	-	-	-	-	-	-	-	-
	Long-term Loans and Advances / Deposits	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
		256.20	249.90	244.23	239.13	234.53	230.40	226.68	223.33
	Current Assets								
	Current Assets	160.00	180.00	200.00	220.00	242.00	266.20	292.82	322.10
	Cash and Cash Equivalents other than FD	5.00	5.50	6.05	6.66	7.32	8.05	8.86	9.74
	Fixed Deposit	-	67.83	172.74	299.10	445.49	614.39	808.53	1,030.91
	Current Investments (Mutual Fund)	-	22.50	25.00	27.50	30.25	33.28	36.60	40.26
		165.00	**275.83**	**403.79**	**553.26**	**725.06**	**921.92**	**1,146.81**	**1,403.02**
	Total	**421.20**	**525.73**	**648.02**	**792.39**	**959.60**	**1,152.32**	**1,373.49**	**1,626.35**

ABC PHARMA PRIVATE LIMITED								
Statement of Profit or Loss (Rs. in Crores)								
PARTICULARS	**Actual**			**Projected**				
	Previous Year 3	**Previous Year 2**	**Previous Year 1**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Revenue From Operations	400.00	450.00	500.00	550.00	605.00	665.50	732.05	805.26
Other Income	-	2.31	8.98	20.80	30.92	42.60	56.00	71.32
Total Revenue	**400.00**	**452.31**	**508.98**	**570.80**	**635.92**	**708.10**	**788.05**	**876.57**
Expenses:								
COGS	120.00	135.00	150.00	165.00	181.50	199.65	219.62	241.58
Salary, Wages and Bonus	60.00	67.50	75.00	82.50	90.75	99.83	109.81	120.79
Other Manufacturing Expenses	40.00	45.00	50.00	55.00	60.50	66.55	73.21	80.53

Other Expenses	40.00	45.00	50.00	55.00	60.50	66.55	73.21	80.53
Total Expenses	**260.00**	**292.50**	**325.00**	**357.50**	**393.25**	**432.58**	**475.83**	**523.42**
EBITDA	**140.00**	**159.81**	**183.98**	**213.30**	**242.67**	**275.52**	**312.22**	**353.15**
EBITDA %	35.00%	35.33%	36.15%	37.37%	38.16%	38.91%	39.62%	40.29%
Finance Costs	3.95	3.98	4.02	4.05	4.10	4.18	4.28	4.41
Long Term Borrowing Cost	*2.25*	*2.07*	*1.89*	*1.71*	*1.53*	*1.35*	*1.17*	*0.99*
Short Term Borrowing Cost	*1.70*	*1.91*	*2.13*	*2.34*	*2.57*	*2.83*	*3.11*	*3.42*
Depreciation	27.00	26.30	25.67	25.10	24.59	24.13	23.72	23.35
Profit before Tax	**109.05**	**129.53**	**154.30**	**184.15**	**213.98**	**247.21**	**284.22**	**325.39**
PBT %	27.26%	28.64%	30.31%	32.26%	33.65%	34.91%	36.07%	37.12%
Tax Expense:								
Current Tax	24.43	30.50	37.50	45.29	53.02	61.57	71.03	81.51
Deferred Tax	5.54	4.62	3.85	1.06	0.84	0.65	0.50	0.38
Profit for the year after Tax	**79.09**	**94.41**	**112.95**	**137.80**	**160.12**	**184.99**	**212.69**	**243.50**
PAT %	19.77%	20.87%	22.19%	24.14%	25.18%	26.13%	26.99%	27.78%

ABC PHARMA PRIVATE LIMITED							
Cash Flow Statement (Rs. In Crores)							
Particulars	**Actual**		**Projected**				
	For the Year ended	**For the Year ended**	**For the Year ended**	**For the Year ended**	**For the Year ended**	**For the Year ended**	**For the Year ended**
	Previous Year 2	**Previous Year 1**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
1.Cash Flow From Operating Activities:							
Profit before tax	129.53	154.30	184.15	213.98	247.21	284.22	325.39
Add:							
Depreciation and amortization expense	26.30	25.67	25.10	24.59	24.13	23.72	23.35
Interest & Other Charges	3.98	4.02	4.05	4.10	4.18	4.28	4.41

Operating Profit before Working Capital Changes	**159.81**	**183.98**	**213.30**	**242.67**	**275.52**	**312.22**	**353.15**
(Increase) / Decrease in Current Assets	(20.00)	(20.00)	(20.00)	(22.00)	(24.20)	(26.62)	(29.28)
Increase / (Decrease) in Current Liabilities	5.00	5.00	5.00	5.50	6.05	6.66	7.32
Cash Generated from Operation	**144.81**	**168.98**	**198.30**	**226.17**	**257.37**	**292.26**	**331.19**
Taxes Paid (Current Year)	30.50	37.50	45.29	53.02	61.57	71.03	81.51
Net Cash from Operating Activities	**114.31**	**131.48**	**153.01**	**173.15**	**195.81**	**221.23**	**249.68**
2. Cash Flow From Investing Activities:							
Fixed Assets Purchased	(20.00)	(20.00)	(20.00)	(20.00)	(20.00)	(20.00)	(20.00)
Increase / (Decrease) in:							
Long Term Loans & Advances	-	-	-	-	-	-	-
Current Investment	(22.50)	(2.50)	(2.50)	(2.75)	(3.03)	(3.33)	(3.66)
Net Cash from Investing Activities	**(42.50)**	**(22.50)**	**(22.50)**	**(22.75)**	**(23.03)**	**(23.33)**	**(23.66)**
3. Cash Flow From Financing Activities:							
Proceeds from Short term borrowings	2.50	2.50	2.50	2.75	3.03	3.33	3.66

Repayment of Long Term Borrowings	(2.00)	(2.00)	(2.00)	(2.00)	(2.00)	(2.00)	(2.00)
Interest & Other Charges paid	(3.98)	(4.02)	(4.05)	(4.10)	(4.18)	(4.28)	(4.41)
Net Cash from Financing Activities	**(3.48)**	**(3.52)**	**(3.55)**	**(3.35)**	**(3.15)**	**(2.95)**	**(2.75)**
Net Increase/ (Decrease) in Cash & Cash Equivalents	68.33	105.46	126.97	147.05	169.63	194.95	223.27
Cash & Cash Equivalents at the beginning of the year	5.00	73.33	178.79	305.76	452.81	622.44	817.39
Cash & Cash Equivalents at the end of the year	**73.33**	**178.79**	**305.76**	**452.81**	**622.44**	**817.39**	**1,040.65**
Note:							
Components of Cash & Cash Equivalents :							
Particulars	**Previous Year 2**	**Previous Year 1**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Cash & Cash Equivalents	**73.33**	**178.79**	**305.76**	**452.81**	**622.44**	**817.39**	**1,040.65**
Cash & Bank	**5.50**	**6.05**	**6.66**	**7.32**	**8.05**	**8.86**	**9.74**
Fixed Deposit	**67.83**	**172.74**	**299.10**	**445.49**	**614.39**	**808.53**	**1,030.91**

Chapter 16

Market Impact Cost- A proxy for Discount for Lack of Marketability/ Liquidity

Liquidity means ABILITY to buy or sell

– Rapidly

– In large volumes

– At a low cost

– Without affecting the price materially

Liquidity in the context of stock markets means a market where large orders can be executed without incurring high execution cost.

Execution Cost = Direct Cost + Market Impact Cost

Direct costs are explicit costs such as brokerage, depository fees, duties & taxes, etc. Market impact costs are incurred by extracting liquidity from the market in order to acquire or dispose of a large position. Impact cost is a realistic measure of market liquidity i.e. true cost of execution faced by a trader/investor in comparison to the quoted price.

In mathematical terms, it is the percentage mark up/down observed while buying/selling the desired quantity of a stock with reference to the quoted price. Investment Banks and Brokerages have developed proprietary market impact models to estimate the probable impact cost of executing a large block of shares. These models incorporate historical trading pattern, back-test the performance and simulate various market condition scenarios.

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. This phenomenon is more ubiquitous in the case of selling large block of shares due to lack of liquidity at the exchange. In general, market impact cost is higher for securities with low volume, high volatility and large block size.

Market Impact Cost- A proxy for Discount for Lack of Marketability/Liquidity

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. Let's analyze the market impact cost with real-life examples.

SBI Life Insurance: BNP Paribas Cardif held 22% stake (220mn shares) in SBI Life Insurance as of Dec 31, 2018. BNP Paribas Cardif sold 90mn shares (9.00% stake) in a bulk* deal to CA Emerald Investments (The Carlyle Group) for INR 515/share on Mar 1, 2019 in a deal valued at ~INR 4,635 crores. In addition to the bulk deal on BSE, BNP Paribas Cardif also sold 2.25mn shares in the open market for INR 515/share. The above transactions happened around the market open i.e. 9:15 AM. The shares of SBI Life Insurance had opened at INR 580.35, indicating that the bulk deal happened at a discount of 11.26%. However, the impact was temporary and the share prices recovered during the trading session to close at INR 612.25.

In a similar bulk deal on BSE, BNP Paribas Cardif sold 50.74mn shares (5.07% stake) on Mar 29, 2019 for INR 577.93/share. Canada Pension Plan Investment Board (CPPIB) acquired 20mn of these shares in the bulk deal at INR 577.50/share. The shares of SBI Life Insurance had opened at INR 616, indicating that the bulk deal for BNP Paribas Cardif happened at a discount of 6.18%. SBI Life Insurance shares closed the day at INR 579.55 and it took about 3-4 trading sessions to regain the pre-bulk deal price.

Company : SBILIFE (540719)

Period :01-Jan-2019 to 31-Mar-2019

Deal Date	Client Name	Deal Type	Quantity	Price
01/03/19	BNP PARIBAS CARDIF	S	92252908	515.01
01/03/19	CA EMERALD INVESTMENTS	P	90000000	515.00
29/03/19	BNP PARIBAS CARDIF	S	50740000	577.93
29/03/19	CANADA PENSION PLAN INVESTMENT BOARD	P	20000000	577.50

Source: BSE

Zee Entertainment: As of Dec 31, 2018, Zee Entertainment promoters owned 41.62% stake in the company, of which 59.37% were pledged with lenders. On Jan 25, 2019, Zee Entertainment's share price started nose-diving as about 62-63 lakh pledged shares (~0.65% of shares outstanding or ~1.5% of promoters' holding) were sold in the open market by the lenders. Zee's shares crashed 27%, its worst single day fall, to INR 318.40 and shares of other Essel Group companies also plummeted.

Over that weekend, promoter of the Essel Group reached a standstill agreement with lenders on pledged shares. The lenders agreed not to revoke shares even if the share prices fell further. Lenders drew comfort from reiteration by the promoters for a speedy resolution through a strategic sale (~50% promoter stake) in a time bound banner. On Jan 28, 2019 (i.e. Monday), shares of Zee Entertainment rallied 15% to close at INR 373.30. It took about two weeks (~14 trading sessions) for Zee Entertainment to regain the lost ground.

Date	Open Price	High Price	Low Price	Last Price	Close Price	Average Price	Total Traded Quantity	Turnover
24-Jan-19	433.95	439.00	424.35	433.80	433.85	433.58	6,954,715	3,015,425,853
25-Jan-19	437.75	439.35	288.30	299.70	318.40	353.90	74,261,004	26,281,042,556
28-Jan-19	350.20	382.00	320.00	368.50	373.30	353.29	121,305,516	42,856,219,941
29-Jan-19	369.90	388.50	362.75	379.20	377.40	377.87	37,435,712	14,145,655,180
30-Jan-19	380.00	391.65	374.10	387.15	388.85	383.62	15,810,931	6,065,382,766
31-Jan-19	390.30	390.90	362.30	378.25	380.20	375.00	21,434,530	8,037,981,671
1-Feb-19	378.60	399.85	348.60	352.60	354.40	368.37	24,540,656	9,040,122,265
4-Feb-19	344.90	361.95	329.10	346.75	347.75	347.98	25,098,014	8,733,691,230
5-Feb-19	343.00	369.90	341.05	364.65	365.35	357.87	12,141,903	4,345,165,399
6-Feb-19	367.00	398.00	367.00	388.95	388.00	386.73	25,112,956	9,712,012,675
7-Feb-19	389.00	411.50	386.00	405.70	408.75	399.30	15,012,316	5,994,491,147
8-Feb-19	405.65	409.00	396.15	398.95	398.80	401.75	7,589,058	3,048,903,733
11-Feb-19	399.00	404.90	392.80	404.35	401.70	399.26	4,888,722	1,951,888,447
12-Feb-19	404.00	419.00	401.60	418.00	414.70	409.72	6,978,555	2,859,245,966
13-Feb-19	415.75	417.95	386.05	410.00	408.20	404.13	15,416,976	6,230,522,466
14-Feb-19	414.50	439.90	406.50	435.00	433.45	424.50	12,652,652	5,371,036,920
15-Feb-19	440.20	441.00	421.10	428.40	431.35	429.15	9,519,734	4,085,370,364

Source: NSE

Zee Entertainment was mired with rumours and controversies (vehemently refuted by the management and promoters) during that period, which exacerbated the impact cost. Nonetheless, the large block of pledged shares hitting the market and sudden drying of liquidity had an undesirable impact on the share price which lasted for few days. What is more surprising is Zee Entertainment is constituent of NIFTY 50 Index with market cap of ~INR

40,000 crores. Imagine what would have been the impact cost if it were a small/mid cap stock with low liquidity…

*Note: A bulk deal is a trade when total quantity of shares bought/sold is more than 0.5% of equity shares of the company listed on the exchange. Bulk deals happen during normal trading window. The broker who manages the bulk deal has to provide the details of the transaction to the stock exchange whenever they happen.

Chapter 17

Decoding Pre-Money and Post-Money Valuation

PRE-MONEY AND POST-MONEY VALUATION IN LAYMAN'S LANGUAGE

For many entrepreneurs, especially first-time founders, raising outside capital can be daunting. Emergence of the new vocabulary — like "term sheets," "capitalization tables," "pro rata" and different valuation metrics — and the very real legal implications of the agreements being signed, it's easy to get overwhelmed. One of the hardest things about the fund-raising process for entrepreneurs is to raise money from people who have "asymmetric information." Venture Capital (VC) firms see thousands of deals and have a refined sense of how the market is valuing deals because they get price signals across all of these deals. As an entrepreneur it can feel as intimidating as going to buy a car where the dealer knows the price of every make & model of a car and you're guessing as to how much to pay.

When Aileen Lee, founder of Cowboy Ventures, in 2013, coined the term 'unicorn' for start-ups with valuations over USD 1000 Mn, India had only two of them — Makemytrip and Inmobi. However, in the recent years there have been significant changes. While in 2018, 10 start-ups entered the coveted club, 2019 witnessed the journey of seven start-ups claiming the tag of a unicorn. Moreover, five out of these seven start-ups, which joined the unicorn club, were B2B. From Ola Electric raising money at a high valuation (while it is yet to roll out the service) to Druva's' sooner-than-expected entry into the unicorn club and Icertis's leap in funding, all three have surprised the ecosystem in some way. With the close of its USD 150 Mn Series F funding round, Bengaluru-based hyper-local grocery start-up Big Basket, in May 2019, entered the niche unicorn league. Gurugram-based ecommerce logistics start-up Delhi very joined India's growing group of unicorns with USD 400 Mn plus funding round led by Japanese investment firm SoftBank. The infusion from the Japanese marquee investors helped the logistics company to become a part of India's unicorn club. But as it sounds so seemingly alluring, one must understand that there are only 'few' from the

unfortunate 'many' that rise on the top like these companies. As an entrepreneur, he or she must understand the fine points that determine your company's valuation and your investors ownership percentage. To simply put, a business owner should always know what his or her business is worth.!

Before understanding the tools to measure a company's worth, it is important to understand the methods used by VC's and investors to determine valuations for start-ups.

In the common parlance, there are two ways to measure a company's worth. They are as follows:

- Pre-money Valuation
- Post-money Valuation

Pre-money and post-money valuations are two critical measurement tools, Pre-money valuation being the company's value without including funds and Post-money valuation being the company's value including funds received.

Pre-money = Post-money - New Investment

Post-money = Pre-money + New Investment

If the pre-money value is unknown, mathematically, the following equation can be used to arrive at the value.

Post-money = Venture Capital Investment / VC Percentage of Ownership

Just to understand the concept of pre-money and post-money in layman's terms, let's take an example.

There are two hi-tech start-ups A Ltd. and B Ltd. An investor company X Ltd. is willing to make investment in these start-ups and in each of the start-ups investment of USD 5 Mn is agreed to be made to arrive at valuation of USD 20 Mn.

Let us say for A Ltd., X Ltd. chooses to invest USD 5 Mn at the pre-money valuation of USD 20 Mn and for B Ltd., X Ltd. invests the same amount (USD 5 Mn) at the post-money valuation of USD 20 Mn.

By this calculation as X Ltd and B Ltd. have mutually agreed on investment of USD 5 Mn on Post-money valuation of USD 20 Mn, B Ltd. is valued at USD 20 Mn and its pre-money value is USD 15 Mn. On the other hand, A Ltd. was valued at USD 20 Mn before the investment of USD 5 Mn, so his company will be now valued at USD. 25 Mn.

Now, the impact of change in ownership percentage as per pre-money and post-money valuations can be seen as follows:

Equity owned by X Ltd. in A Ltd.

Amount invested ÷ (Agreed Pre-money Valuation + Invested amount)

Equity% for 'X Ltd' = 5 Mn ÷ (20 Mn + 5 Mn) = 20%

Equity owned by X Ltd. in B Ltd:

Amount invested ÷ (Pre-money Value + Invested amount)

Equity% for 'X Ltd.' = 5 Mn ÷ (15 Mn + 5 Mn) = 25%

As it can be seen, the valuation method can affect the ownership percentage in a big way. Always remember as an entrepreneur losing out on the ownership of 5% might sound like losing out on a small chunk, but it represents millions of USDs if the company goes public in the near future.

DETERMINING PRE-MONEY AND POST-MONEY VALUE (DCF VALUATION)

DCF value is computed by taking into consideration the following components- the future cash flows, discount rates, terminal value, equity claims in the business and effect of liquidity.

Estimation of future cash flows

There are two ways in which future cash flows can be estimated. The first, which we term the "top down" approach, is where we begin with the total market for the product or service that a company sells and work down to the revenues and earnings of the firm. In the "bottom up" approach, we work within the capacity constraints of the firm, estimate the number of units that will be sold and derive revenues, earnings and cash flows from those units.

Estimating Discount Rates

There are two key risk parameters for a firm that we need to estimate its cost of equity and debt. We estimate the cost of equity by looking at the Beta (or Betas) of the company in question. For assessing the risk in a company and computing the discount rates, available data of market prices for the securities issued by the firm is considered. Thus, we estimate the beta for equity by regressing returns on a stock against returns on a market index.

The cost of debt is considered equal to the current yield of publicly traded bonds. The debt cost is considered post tax. The weighted average cost of capital is computed by applying the market value weights for debt and equity.

Terminal Value

At some point in time in the future, we have to stop estimating cash flows, partly because of increasing uncertainty and partly for practical reasons. Generally terminal value is computed after taking projections of four to five years. This "terminal value" estimate represents a big chunk of the value of any business. The terminal value is computed using the Gordon Growth Model as:

Terminal Value= [CFs(1+g)]/(WACC-G)*

Value of Equity Claims

The path from firm value to equity value in publicly traded firms is simple. We add back cash and marketable securities, subtract debt and divide by the number of shares outstanding to estimate the value of equity per share. However, in case of young private businesses, there are certain complications in each of these phases.

From operating asset to firm value: **Cash and capital infusions**: In case of mature companies, the cash balance represents what the firm has accumulated from operations and is generally static, cash balances at young companies are dynamic for two reasons:

1. Use of the accumulated cash, rather than earnings from on-going operations, to fund new investments.

We discount free cash flows to the firm, where reinvestment needs are treated as cash outflows, and the value of operating assets is computed without taking into consideration the cash in hand. By adding the company's prevailing cash balance to the discounted cash-flows pre-money valuation of the firm is obtained.

Pre-money firm value = CFs/ (1+g) + Cash & Marketable securities

Pre money equity value = Pre money firm value – Debt (Existing)

2. Raising new capital at regular intervals, and capital infusions augment the cash balance. Further these capital infusions represent a significant proportion of overall firm value.

If the firm raises additional capital in the form of either debt or equity, the portion of that capital infusion that stays in the firm (as opposed to being used by owners who want to cash out their ownership) will augment value to yield a post-money valuation:

Post-money firm value = Pre-money firm value + Equity(New) +Debt(New) - Owner cash out)

Post-money equity value = Post-money firm value – Debt (Existing) – Debt (New)

UNDERSTANDING A COMPANY'S PRE-MONEY FULLY DILUTED CAPITALIZATION:

Generally all stock that have been issued prior to the financing is included in a company's fully diluted capitalization. However there are variations around other items that may be included as part of the fully diluted capitalization. Because counting or not counting these items will impact the fully diluted capitalization and, as a result, the relative ownership interests after the financing, the parties to a financing should understand and carefully consider the following four items when negotiating term sheets.

1. Options and warrants

In nearly all cases, investors will require that a company's fully diluted capitalization include any and all options and warrants that are outstanding prior to the investment. Although the holder of such options or warrants may never exercise such options or warrants (if the holder ceases to perform services for the company and the options or warrants terminate), the company is likely to grant a similar number of options or warrants to the parties who would replace those former service providers.

Example: AVB Tech Ltd. is going to invest USD 2 million into Arch Ltd. based on USD 8 million pre-money valuation. The term sheet dictates that the fully diluted capitalization includes all outstanding stock plus granted options and warrants. Arch Ltd.'s fully diluted capitalization is as follows:

Stock 6,000,000 shares; Options 1,800,000 shares; Warrants 200,000 shares :Total 8,000,000 shares

Here, the price per share that AVB Tech Ltd. would pay for its stock would be: USD 8 million (pre-money valuation) / 8 million shares (fully diluted capitalization) = USD 1. Accordingly, AVB Tech Ltd.'s USD 2 million investment would buy it 2 million shares.

2. Shares reserved in an employee option plan

Shares in the ESOP plan shall be included if (i) the company will grant options for all such set-aside shares in the future and (ii) the holders of such options will exercise their options for stock.

Example: AVB Tech Ltd. is going to invest USD 2 million into Arch Ltd. based on an USD 8 million pre-money valuation. The investment term sheet dictates that the fully diluted capitalization include all outstanding stock, all granted options and warrants and any shares reserved but unissued under an employee incentive plan.

Arch Ltd.'s fully diluted capitalization is as follows:

Stock 6,000,000 shares; Options 18,000,000 shares; Warrants 200,000 shares; Plan shares 1,000,000 shares: Total 9,000,000 shares

Here, the price per share that AVB Tech Ltd. would pay for its stock would be: USD 8 million (pre-money valuation) / 9 million shares (fully diluted capitalization) = USD 0.8889. Accordingly, AVB Tech Ltd.'s USD 2 million investment would buy it 2.25 million shares.

3. Increase in employee option pool

It is fairly common that investors will require that (i) a company increase the total number of shares that it has set aside in an employee option plan and (ii) that the company's fully diluted capitalization includes all such shares set aside. The values shall be included if (i) the company will need to grant service providers more options than it currently has in its employee option pool (often as a result of new hires made with the new money that the investor is investing), and (ii) such holders will exercise those options for stock.

Example: AVB Tech Ltd. is going to invest USD 2 million into Arch Ltd. based on an USD 8 million pre-money valuation. The term sheet dictates that the fully diluted capitalization include all outstanding stock, granted options and warrants, any shares reserved under an Employee Incentive Plan and an increase in the shares reserved under an employee incentive plan. Arch Ltd.'s fully diluted capitalization is as follows:

Stock 6,000,000 shares; Options 1,800,000 shares; Warrants 200,000 shares; Plan shares (current) 1,000,000 shares; Plan shares (increase) 1,000,000 shares: Total 10,000,000 shares

Here, the price per share that AVB Tech Ltd. would pay for its stock would be: USD 8 million (pre-money valuation) / 10 million shares (fully diluted capitalization) = USD 0.80. Accordingly, AVB Tech Ltd.'s USD 2 million investment would buy it 2.5 million shares.

4. Convertible securities

A company's fully diluted capitalization shall include any shares of stock that are being issued in the financing on account of convertible securities that are converting in connection with a financing. They shall be included if (i) the company already received the money for such convertible securities and (ii) because no new money is being received, any shares issued in consideration for the conversion of such securities should be counted as if they were outstanding prior to the new investment (rather than treating such shares as if issued for new cash i.e. able to be leveraged by the company).

Example: AVB Tech Ltd. is going to invest USD 2 million into Arch Ltd. based on an USD 8 million pre-money valuation. The investment term sheet dictates that the fully diluted capitalization include all outstanding stock, all granted options and warrants, any shares currently reserved under an employee option plan, an increase in the shares reserved under an employee option plan and all shares issued in consideration for Convertible Notes. Arch Ltd.'s fully diluted capitalization is as follows:

Stock 6,000,000 shares; Options 1,800,000 shares; Warrants 200,000 shares; Plan shares (current) 1,000,000 shares; Plan shares (increase) 1,000,000 shares ;Note shares 1,000,000 shares :Total 11,000,000 shares.

Here, the price per share that AVB Tech Ltd. would pay for its stock would be: USD 8 million (pre-money valuation) / 11,000,000 shares (fully diluted capitalization) = USD 0.7273. Accordingly, AVB Tech Ltd.'s USD 2 million investment here would buy it 2.75 million shares.

CONCLUSION

In Professor Aswath Damodaran's words "Valuation is not just a number, there's a story to it". The dynamics of valuation process keep changing based upon the development of a company as its level of operations scale up. Practically speaking, a lot of factors are taken into consideration to arrive at the value of a company. Different methodologies are taken into consideration to arrive at the value of the company.

The ambiguity in respect of the DCF valuation being pre money and post money has always remained a debatable issue. Different corporate finance experts have different schools of thoughts. There is a very clear theoretical case, that the DCF approach to equity valuations yield a pre-money equity value as negative free cash flows are also discounted which reflect the impact of future dilutions in equity. Therefore no further adjustments are required.

"Intuitively, though, consider what a negative free cash flow to equity implies. It indicates that the firm does not generate enough cash flows from current operations to meet its reinvestment needs. Since the free cash flow to equity is after net debt issues, the firm will have to issue new equity in years where the cash flow is negative.

This expected dilution in future years will reduce the value of equity per share today. In the FCFE model, the negative free cash flows to equity in the earlier years will reduce the estimated value of equity today. Thus, the dilution effect is captured in the present value and no additional consideration is needed of new stock issues in future years and the effect on value per share today."[4]

As valuation is a subject matter of expertise of the valuer, different point of views might hold. But, one thing remains constant - the fact that the valuation will always be derived by the utility what it holds in the eyes of the beholder.

To conclude in Warren Buffet words, "Price is what you pay and value is what you get".

[4] *Aswath Damodaran - Professor of Finance at NYU-Stern, Chapter 14, Investment Valuation (Third Edition)*

Chapter 18

Non-Financial Liabilities: Definition and Understanding

DEFINITION AND UNDERSTANDING

While Accounting Standards included in the Companies (Accounting Standards) Rules, 2006 (hereinafter referred to as "AS") do not define "non-financial liabilities", the term is indirectly defined in Indian Accounting Standards included in the Companies (Indian Accounting Standards) Rules, 2015 (hereinafter referred to as "Ind AS").

Ind AS 32 provides that liabilities that are not contractual (such as income taxes that result on account of statutory requirements imposed by governments) are not financial liabilities. Similarly, constructive obligations, as defined in Ind AS 37, do not arise from contracts and are not financial liabilities. Accordingly, any liability that is payable pursuant to the application of a law is a non-financial liability. Apart from income taxes, such liabilities will include goods and service tax payable, excise duty payable, value added tax payable, liabilities under labour laws such as for gratuity, provident fund, bonus, employees' state insurance, etc.

Liabilities under labour laws such as for gratuity, provident fund, bonus, employees' state insurance are covered under a separate Accounting Standard under Ind AS as well as AS and are not covered in this Chapter.

Similarly, taxes payable and statutory dues are computed under the provisions of relevant laws and are not covered here.

Obligations, even though contractual, in respect of which an entity is not required to deliver cash or another financial asset to another entity or to exchange financial assets or financial liabilities under potentially unfavourable conditions to the entity are also non-financial liabilities. These include liabilities where an entity has to provide goods or services to others such as advance received from customers, deferred income, warranties, asset retirement obligations (also known as decommissioning, restoration and environment rehabilitation and similar obligations), onerous contracts and restructuring provisions.

IVS 220, *Non-Financial Liabilities* ("IVS 220") forming part of International Valuation Standards (hereinafter referred to as "IVS") issued by International Valuation Standards Council ("IVSC"), defines non-financial liabilities as

"those liabilities requiring a non-cash performance obligation to provide goods or services."

IVS 220 further states that a non-exhaustive list of liabilities that may in part or in full require a non-cash fulfilment and be subject to IVS 220 includes:

- deferred revenue or contract liabilities
- warranties
- environmental liabilities
- asset retirement obligations
- certain contingent consideration obligations
- loyalty programmes
- power purchase agreements
- certain litigation reserves and contingencies, and
- certain indemnifications and guarantees.

NEED FOR VALUATION OF NON-FINANCIAL LIABILITIES

Need for valuation (or "measurement" in accounting terms) arises in the following situations:

1. Initial recognition and measurement/ subsequent measurement of non-financial liabilities in financial statements.
2. Recognition and measurement/ subsequent measurement of asset retirement obligations pursuant to recognition and measurement of property, plant and equipment.
3. Accounting of all types of business combinations under Ind AS (except common control transactions) under Ind AS 103, *Business Combinations* (Ind AS 103).
4. Accounting for certain types of business combinations under AS – such as amalgamation accounted for under purchase method on the basis of assets and liabilities, respective fair values under AS 14,

Accounting for Amalgamations (AS 29), or on acquisition of a business/division or a group of assets and liabilities from another entity applying the principles of AS 10, *Property, Plant and Equipment* (AS 10), Ind AS 26, *Intangible Assets* (AS 26) and AS 29, *Provisions, Contingent Liabilities and Contingent Assets* (AS 29).

5. Valuation of shares of a company or of a business applying the cost approach.

6. In a scheme of arrangement under the Companies Act, 2013 ("the Act") where any liabilities, with or without any assets, are proposed to be transferred to another company or proposed to be divided among and transferred to two or more companies (section 232 (2)(d)).

7. Determination of fair value and liquidation value of a company under corporate insolvency resolution process in terms of the Insolvency and Bankruptcy Code, 2016 ("IBC") as provided in Regulations 27 and 35 of Insolvency and Bankruptcy Board of India (Insolvency Resolution Process for Corporate Persons) Regulations, 2016,, or as provided in Regulations 26 and 34 of Insolvency and Bankruptcy Board of India (Fast Track Insolvency Resolution Process for Corporate Persons) Regulations, 2017.

8. Determination of liquidation value of a company under liquidation in terms of the Insolvency and Bankruptcy Code, 2016 ("IBC") as provided in Regulation 35 of Insolvency and Bankruptcy Board of India (Liquidation Process) Regulations, 2016.

9. As may be deemed necessary by the management of an entity for any other purpose.

VALUATION OF NON-FINANCIAL LIABILITIES

For accounting purposes, the valuation (or measurement) of non-financial liabilities should follow the requirements provided in respective Accounting Standards.

In AS, while there is no specific requirement covering all types of non-financial liabilities, AS 1, *Disclosure of Accounting Policies*, provides for the following assumptions and consideration which assist in measurement of non-financial liabilities:

FUNDAMENTAL ACCOUNTING ASSUMPTIONS

Going Concern – The enterprise will continue its operations in the foreseeable future

Consistency – Accounting policies (including valuation methodologies) are consistent from one accounting period to another

Accrual – Revenues and costs have accrued, i.e. recognised as they are earned or incurred and recorded in the financial statements of the period to which they relate.

CONSIDERATIONS FOR SELECTING ACCOUNTING POLICIES

Prudence – Provision is made for all known liabilities and losses even though the amount cannot be determined with certainty and represents only a best estimate in the light of available information (emphasis supplied)

Substance – The accounting treatment and presentation in financial statements of transactions and events should be governed by their substance and not merely their legal form

Materiality – Financial statements should disclose all items the knowledge of which might influence the decisions of the users of financial statements.

Further AS 29 provides the following key requirements for measurement of provisions:

"The amount recognised as a provision should be the best estimate of the expenditure required to settle the present obligation at the balance sheet date. The amount of a provision should not be discounted to its present value except in case of decommissioning, restoration and similar liabilities that are recognised as cost of property, plant and equipment. The discount rate (or rates) should be a pre-tax rate (or rates) that reflect(s) current market assessments of the time value of money and the risks specific to the liability. The discount rate(s) should not reflect risks for which future cash flow estimates have been adjusted. (emphasis supplied)

The risks and uncertainties that inevitably surround many events and circumstances should be taken into account in reaching the best estimate of a provision.

Future events that may affect the amount required to settle an obligation should be reflected in the amount of a provision where there is sufficient objective evidence that they will occur.

Gains from the expected disposal of assets should not be taken into account in measuring a provision."

Such requirements may also be followed for measurement of all other non-financial liabilities under AS.

Similarly, in Ind AS, while there is also no specific requirement covering all types of non-financial liabilities, Ind AS 1, *Presentation of Financial Statements*, provides that the general features of financial statements include the following which assist in the measurement of non-financial liabilities:

Presentation of true and fair view and compliance with Ind AS

- Going Concern
- Accrual
- Materiality
- Consistency.

Further, Ind AS 8, *Accounting Policies, Changes in Accounting Estimates and Errors*, provides that in the absence of an Ind AS that specifically applies to a transaction, other event or condition, the management shall use, *inter-alia*, prudence as a principle in developing accounting policies. Hence, prudence becomes a key consideration in the measurement of all types of liabilities including non-financial liabilities.

KEY REQUIREMENTS OF MEASUREMENT (VALUATION) OF PROVISION UNDER IND AS 37

"The amount recognised as a provision shall be the best estimate of the expenditure required to settle the present obligation at the end of the reporting period.

The best estimate of the expenditure required to settle the present obligation is the amount that an entity would rationally pay to settle the obligation at the end of the reporting period or to transfer it to a third party at that time. It will often be impossible or prohibitively expensive to settle or transfer an obligation at the end of the reporting period. However, the estimate of the amount that an entity would rationally pay to settle or transfer the obligation gives the best estimate of the expenditure required to settle the present obligation at the end of the reporting period.

The risks and uncertainties that inevitably surround many events and circumstances shall be taken into account in reaching the best estimate of a provision.

Where the effect of the time value of money is material, the amount of a provision shall be the present value of the expenditures expected to be required to settle the obligation.

The discount rate (or rates) shall be a pre-tax rate (or rates) that reflect(s) current market assessments of the time value of money and the risks specific to the liability. The discount rate(s) shall not reflect risks for which future cash flow estimates have been adjusted.

Future events that may affect the amount required to settle an obligation shall be reflected in the amount of a provision where there is sufficient objective evidence that they will occur.

Gains from the expected disposal of assets should not be taken into account in measuring a provision."

Such requirements may also be followed for measurement of all other non-financial liabilities in respect of day to day accounting of such liabilities under Ind AS.

For financial reporting purposes, while it is easy to measure/ value liabilities like advance from customers or deferred income since these measurements are based on transaction value, the valuation/ measurement of other non-financial liabilities such as warranties, asset retirement obligations, environment related liabilities, loyalty programs and the like can be complex.

IND AS 113, FAIR VALUE MEASUREMENTS

Fair valuation of non-financial liabilities is specifically required under Ind AS 103 in case of business combinations (other than common control transactions). For this purpose, the requirements of Ind AS 113, *Fair Value Measurements* (Ind AS 113) need to be considered.

Ind AS 113 defines fair value as

"Fair value is 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."

This is further explained as under:

"Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction in the principal (or most advantageous) market at the measurement date under current market conditions (i.e. an exit price) regardless of whether that price is directly observable or estimated using another valuation technique."

KEY PRINCIPLES FOR VALUATION OF LIABILITIES AS PER IND AS 113

An entity shall measure the fair value of an asset or a liability using the assumptions that market participants would use when pricing the asset or liability, assuming that market participants act in their economic best interest.

A fair value measurement assumes that a financial or non-financial liability is transferred to a market participant at the measurement date. The transfer of a liability assumes that the liability would remain outstanding and the market participant transferee would be required to fulfil the obligation. The liability would not be settled with the counterparty or otherwise extinguished on the measurement date.

Even when there is no observable market to provide pricing information about the transfer of a liability (e.g. because contractual or other legal restrictions prevent the transfer of such items), there might be an observable market for such items if they are held by other parties as assets (e.g. a corporate bond or a call option on an entity's shares).

Use of relevant inputs

In all cases, an entity shall maximise the use of relevant observable inputs and minimise the use of unobservable inputs to meet the objective of a fair value measurement, which is to estimate the price at which an orderly transaction to transfer the liability would take place between market participants at the measurement date under current market conditions.

When a quoted price for the transfer of an identical or a similar liability is not available and the identical item is not held by another party as an asset, an entity shall measure the fair value of the liability using a valuation technique from the perspective of a market participant that owes the liability.

For example, when applying a present value technique, an entity might take into account either of the following:

(a) the future cash outflows that a market participant would expect to incur in fulfilling the obligation, including the compensation that a market participant would require for taking on the obligation.

(b) the amount that a market participant would receive to enter into or issue an identical liability, using the assumption that market participants would use when pricing the identical item (e.g. having the same credit characteristics) in the principal (or most advantageous) market for issuing a liability with the same contractual terms.

Non performance risk

The fair value of a liability reflects the effect of non-performance risk. Non-performance risk includes, but may not be limited to, an entity's own credit risk (as defined in Ind AS 107, *Financial Instruments: Disclosures*). Non-performance risk is assumed to be the same before and after the transfer of the liability.

When measuring the fair value of a liability, an entity shall take into account the effect of its credit risk (credit standing) and any other factors that might influence the likelihood that the obligation will or will not be fulfilled. That effect may differ depending on the type of liability, for example whether the liability is an obligation to deliver cash (a financial liability) or an obligation to deliver goods or services (a non-financial liability).

When measuring the fair value of a liability, an entity shall not include a separate input or an adjustment to other inputs relating to the existence of a restriction that prevents the transfer of the item. The effect of a restriction that prevents the transfer of a liability is either implicitly or explicitly included in the other inputs to the fair value measurement.

Key principles for applying valuation techniques under Ind AS 113

An entity shall use valuation techniques that are appropriate in the circumstances and for which sufficient data are available to measure fair value, maximising the use of relevant observable inputs and minimising the use of unobservable inputs.

The objective of using a valuation technique is to estimate the price at which an orderly transaction to sell the asset or to transfer the liability would take place between market participants at the measurement date under current market conditions.

Three widely used valuation techniques are the market approach, the cost approach and the income approach. An entity shall use valuation techniques consistent with one or more of those approaches to measure fair value.

In some cases, a single valuation technique will be appropriate (e.g. when valuing an asset or a liability using quoted prices in an active market for identical assets or liabilities). In other cases, multiple valuation techniques will be appropriate (e.g. that might be the case when valuing a cash-generating unit).

If multiple valuation techniques are used to measure fair value, the results (i.e. respective indications of fair value) shall be evaluated considering the reasonableness of the range of values indicated by those results. A fair value measurement is the point within that range that is most representative of fair value in the circumstances."

In case of most of non-financial liabilities, a key factor or a constraint is that the liability is not held as an asset by another party and there is no observable market to provide pricing information about the transfer of a liability. In some cases, such as advances from customers or deferred income, the corresponding asset may be held by numerous parties making it difficult to reconcile the asset values with the liability value. Hence, the role of valuation technique to be applied becomes very important.

MARKET APPROACH

There are usually no quoted market prices or market comparables available in respect of non-financial liabilities. Such liabilities are usually transferred along with the related asset. For example, asset retirement obligations or environment related obligations in respect of a manufacturing plant can only be transferred along with the sale of that plant. However, it is quite possible that obligations such as warranty obligations may be transferred on a stand-alone basis, especially there are third party providers of such services. Such stand-alone transfers are not frequent and appropriate market comparables may not be available even if such transfers are observed.

Prices offered by competitors may be relevant

In some cases, such as warranty obligations, deferred income or advance from customers, there may be third parties (say competitors) providing similar goods or services (such as annual maintenance contracts) at a price.

In such cases, prices offered by such parties for goods or services (including warranties) may become the starting point for valuation under the market approach and it may be possible to apply market approach with appropriate adjustments.

Adjustment for partial fulfilment of obligation

An important adjustment that may be required is when the entity has already partially fulfilled its performance obligations on the valuation date. In such a case, the price of such third-party goods or services will need to be adjusted for cost of satisfied performance obligations plus profit margin thereon.

For example, a company provides annual maintenance contracts for air conditioners for an annual upfront fee. It has a number of competitors which also provide same services for an upfront fee. On the valuation date, the average unexpired portion of such annual maintenance contracts is eight months. The valuation of such non-financial liability should consider the (average) annual upfront price charged by most comparable competitor(s) less the cost of service already incurred in the two months which have expired less an appropriate profit margin on such costs.

Another important element is that the cost of acquiring such contracts and an appropriate profit margin on such contract acquisition costs should also be reduced from the annual upfront fee. Other adjustments may also need to be made depending upon the facts and circumstances of the case. Effectively, the valuation reflects the cost of unfulfilled performance obligations plus an appropriate profit margin plus other adjustments, if any, as may be required.

COST APPROACH

Non-financial liabilities are usually not acquired i.e. purchased, or developed by the entity since such liabilities arise as a consequence of some other transaction, and the entity is required to incur costs to fulfil the obligations. Hence, it would be rare instance where the cost approach can be applied to value non-financial liabilities.

INCOME APPROACH

Usually, a non-financial liability would be valued using income approach, particularly the discounted cash flows method. This would require the valuer to estimate the amount and timing of the cash outflows and to discount them to present value using an appropriate discount rate after considering an entity's credit risk.

Discount rate

It is important to note that such liabilities are not secured and hence a discount rate appropriate for an unsecured liability of a similar tenor will have to be used as a starting point. In case, the entity has a credit rating, most recent credit rating (after adjusting the same for unsecured nature of liability) may be used for considering the credit risk. Otherwise, the valuer would need to assess the credit risk considering the profitability, liquidity and solvency of the subject entity and the tenor of the liability to be valued. The longer the tenor, the higher the credit risk.

Further, the restrictions on transferability of non-financial liability should also be considered to compute the discount rate. This is so because the market participants may want an additional margin to compensate for restrictions on transferability.

Similarly, the riskiness of the non-financial obligation also needs to be considered in arriving at the discount rate. The riskiness of the non-financial obligations depends not only on the nature of the obligation but also the tenor and the variables involved. For example, in case of an asset retirement obligation of a plant which has a life of fifty years, there are risks relating to inflation, costs that will be incurred, changes in technology and the like. However, it may be difficult to arrive at a margin to be deducted from the discount rate for such riskiness of the obligation.

Estimation of cash flows

Instead of adjusting the discount rate for the riskiness of non-financial liabilities, cash flows and timing thereof under different possible scenarios should be estimated and probability assigned to each scenario. Techniques such as Monte Carlo Simulation may be used for this purpose. Probability-weighted cash flows should then be used for valuation purposes.

Any entity-specific factor should be ignored while developing or computing information for the purposes of the valuation. This is because Ind AS 113 requires that an entity shall measure an asset or a liability using the assumptions that market participants would use when pricing the asset or liability assuming that market participants act in their economic best interest.

For example, manufacturer of a product, say air conditioners, should consider the market price of spare parts to compute the valuation of a warranty liability even though the manufacturer may be manufacturing such

spare parts itself. This is because the market participants may be buying the spare parts and not manufacturing them.

MATTERS APPLICABLE TO ALL APPROACHES

Profit margin

Since Ind AS 113, considers fair value to be a price to transfer a liability, one would also need to consider a profit margin that the market participant would require to assume the liability. Hence, an adjustment for the profit margin would need to be made to arrive at the fair value of the concerned non-financial liability.

The computation of profit margin would need to consider the riskiness and the tenor of the liability as well as the market practice, if any. For example, in the case of a warranty obligation, one should consider the average profit margin earned by the entity and other entities providing annual maintenance services on the particular product and adjusted for the fact that such annual maintenance services usually commence after the warranty period is over and that the risk of repairing/replacing the product may be higher during such contract period than during the warranty period.

Orderly transaction

Another point to note is that the definition of fair value under Ind AS 113 encompasses “orderly transaction” between market participants. This means that the transaction is not a distress or a forced sale and assumes that the subject entity had sufficient time to market the relevant asset or the liability. Accordingly, all information, particularly the profit margin, that is used for the valuation should be developed/ computed on this basis. Orderly transaction also assumes that the market participants are willing and able to undertake the transaction.

Valuation date

Lastly, Ind AS 113 also specifies that the fair value should be as on a “measurement date”. The measurement date in Ind AS 113 is the same as the “valuation date”. Hence, all information that is collected or computed or developed for the valuation of a non-financial liability should be as of, and reflect the fact and circumstances of, the valuation date.

VALUATION STANDARDS

Apart from financial reporting purposes, non-financial liabilities may need to be valued for other purposes earlier. For such valuations, the valuer needs to consider the requirements of applicable valuation standards. For that matter, the valuer also needs to consider the requirements of applicable valuation standards for carrying out fair valuation of non-financial liabilities for financial reporting purposes to the extent such valuation standards do not contradict applicable Accounting Standards.

Similarly, the valuation process/ techniques under Ind AS 113, to the extent not contravening the requirements of applicable Valuation Standards may be used for valuation of non-financial liabilities for purposes other than for financial reporting under Ind AS.

ICAI VALUATION STANDARDS

In India, we have **ICAI Valuation Standards, 2018** issued by The Institute of Chartered Accountants of India and adopted by ICAI Registered Valuers Organization ("ICAI VS"). ICAI VS do not specifically cover valuation of non-financial liabilities.

ICAI VS 103, *Valuation Approaches and Methods*, provides that this standard applies to valuations of asset, liability and business. The Standard provides for all three valuation approaches, namely, market approach, income approach and cost approach.

INTERNATIONAL VALUATION STANDARDS

Apart from the above, IVSC has issued IVS 220, effective from 31 January 2020 for valuation of non-financial liabilities.

IVS 220 provides that apart from applying the requirements of this Standard, the valuers should also apply requirements of all other applicable Standards including IVS 104, *Bases of Value*, and IVS 105, *Valuation Approaches*.

It may be noted that while valuing non-financial liabilities using IVS, IVS 220 should not be applied in isolation but should be applied along with all other applicable IVS.

Important provisions of IVS 220 as regards Non-Financial liabilities

The party assuming a non-financial liability typically requires a profit margin on the fulfillment effort to compensate for the effort incurred and risk borne for the delivery of goods or services.

Non-financial liabilities will most often be valued using a liability framework.

The market for the non-financial asset and liability is often highly illiquid, thus resulting in asymmetric information, high bid-ask spreads, and asset-liability asymmetry.

Participants that most often transact in the subject non-financial liability may not be the comparable companies and competitors of the entity holding the subject non-financial liability.

Elements of the three valuation approaches described in IVS 105 (market, income and cost approach) can all be applied to the valuation of non-financial liabilities.

IVS 220 provides further explanations and details for applying various approaches for valuation of non-financial liabilities though it states that the cost approach has limited application for valuation of non-financial liabilities.

Valuation techniques explained in IVS 220 are similar to the ones explained above in the section on Ind AS 113 though they are explained in greater detail.

Chapter 19

Capitalizing Operating Leases and Market Impact Cost

CAPITALIZING OPERATING LEASES

Ind AS 116 (Leases) sets out the principles for recognition, presentation and disclosures of leases. The Ministry of Corporate Affairs notified the new Standard to be effective from April 1, 2019. The key change is the elimination of classification between operating and financial leases.

An operating lease is a contract that allows for the use of an asset, but does not convey ownership rights of the asset. Operating leases have been treated as off-balance sheet financing – meaning that a leased asset and associated liabilities of future rent payments are not included in the lessee's balance sheet. The lease payments are considered as operating expenses and expensed through the profit & loss statement.

In contrast, a capital or financial lease is treated more like a long-term loan and ownership of the asset. The lease asset and corresponding liability are recorded on the lessee's balance sheet. The depreciation on the leased asset and interest expense on the liability are expensed through the profit & loss statement.

The new Standard on leases bring a substantial change in the accounting for operating leases by lessees and few improvements in the disclosure related aspects for lessors' accounting. In the balance sheet of the lessee, majority of the leases will be recognized as "Lease Liability" with a corresponding "Right-of-Use" asset.

Companies operating in the retail, multiplex, airlines, logistics, telecom, hotel and hospital sectors with asset-light business models and off-balance sheet obligations are likely to be impacted the most by the new Accounting Standard on leases. Most airlines acquire aircraft through lease, while retail and multiplex companies operate mainly from leased premises. Healthcare sector companies such as hospitals and diagnostic service providers acquire equipment on lease. Hotels acquire immovable properties and vehicles on operating lease.

Let's understand the financial implications of capitalizing operating leases with the help of an example. Inter Globe Aviation Ltd (IndiGo) has taken aircraft on operating lease from lessors. Under the aircraft operating lease arrangement, IndiGo accrues monthly rental that are charged to Profit & Loss statement. Total future minimum lease payments due under non-cancellable operating leases are follows:

Particulars	As at 31 March 2018	As at 31 March 2017
Less than one year	29,447.88	25,603.42
Between one and five years	68,724.08	54,159.89
More than five years	1,827.90	3,445.52
Total	99,999.86	83,208.83

(Source: IndiGo Annual Report 2017-18)

In FY18, IndiGo might have recognized INR 25,603mn as "Aircraft and Engine Rentals" in the Profit & Loss statement. The accounting treatment would have been entirely different if the aircraft operating lease is capitalized (in-line with Ind AS 116 requirement).

Step 1: Lease liability is recognized and measured at an amount equal to the present value of minimum lease payments during the lease term

Step 2: The corresponding lease asset (i.e. aircraft on operating lease) is also recognized

Year	Minimum Lease Payments	PV of MLP		Cost of Debt (Kd)		Weights
1	25,603	24,754		Foreign Currency Term Loan	5,082.09	23%
2	13,540	12,657		Financial Lease Obligations	17,331.61	77%
3	13,540	12,237		Total Borrowings	22,413.70	100%
4	13,540	11,831				
5	13,540	11,439		Rate of Interest - Term Loan	5.20%	1.18%
6	3,446	2,814		Rate of Interest - Finance Lease	4.81%	3.72%
	83,209	**75,732**		**Cost of Debt (Kd)**		**4.90%**
				Pre-Tax Cost of Debt [Kd x (1 - t)]		**3.43%**

Step 3: The lease liability will be amortized over the period of lease payment (i.e. 6 years). The minimum lease payment for each year will be bifurcated into interest expense and principal repayment.

Step 4: The leased asset will be depreciated on a straight-line-method over the period of 6 years.

Year	Liability Balance	Lease Payment	Interest Expense	Principal Repayment	Asset Balance	SLM Depreciation	Adjusted P&L	P&L Impact	PV of P&L Impact
FY18	75,732	25,603	2,598	23,006	75,732	12,622	15,220	10,384	10,039
FY19	52,727	13,540	1,809	11,731	63,110	12,622	14,431	(891)	(833)
FY20	40,995	13,540	1,406	12,134	50,488	12,622	14,028	(488)	(441)
FY21	28,862	13,540	990	12,550	37,866	12,622	13,612	(72)	(63)
FY22	16,312	13,540	560	12,980	25,244	12,622	13,182	358	303
FY23	3,331	3,446	114	3,331	12,622	12,622	12,736	(9,291)	(7,589)
		83,209	**7,476**	**75,732**		**75,732**	**83,209**	-	**1,416**

The net impact on the P&L statement for the total period of 6 years is zero. However, there will be divergence in the P&L statement for each individual year because lease payments keep declining over the years in the above example. In FY18, the lease payment of INR 25,603mn is the actual cash outflow, but the amount expensed through P&L statement is INR 2,598mn as interest expense and INR 12,622mn as depreciation. This adjustment will result in positive P&L impact of INR 10,384mn, which will be reversed in the subsequent years.

One might argue that since the net impact on the P&L statement for the total period is zero and cash flow is unaffected, why operating leases should be capitalized? The capitalization of operating lease enables proper recognition of liability, assets and expenses in the lessee's financial statements. The off-balance sheet liability (disclosed in the Notes to Accounts) is adequately recorded in the balance sheet.

Capitalizing operating leases do affect the key financial metrics. In the IndiGo example, there will be material impact on FY18 financial ratios. FY18 indicates the reported figures, while the Adj FY18 takes into account the impact of capitalizing operating lease on aircraft.

	FY18	Adj FY18
EBITDA Margin	12.84%	23.96%
EBIT Margin	10.94%	16.58%
PAT Margin	9.74%	14.25%
ROE	41.31%	60.44%
ROCE	24.28%	26.95%
ROA	54.15%	41.38%
Long-Term Debt/Equity	0.74	1.81
Interest Service Coverage	7.41	6.37

The profitability margins improve significantly due to positive P&L impact as interest expense and depreciation is much lower than minimum lease payment. ROE also improves due to positive P&L impact and unchanged equity. ROA decreases as the recognition of lease asset significantly increases the asset base. The most important financial ratio affected by capitalizing operating leases is “Long-Term Debt/Equity”, which more than doubles with the recognition of lease liability.

Research analysts have been capitalizing the operating leases to arrive at the true financial position of the company. With Ind AS 116 coming into effect, the accountant will also have to make these adjustments to depict true and fair view of financial statements.

Chapter 20
Valuation of Customer Based Intangible Assets

CONCEPT AND IMPORTANCE

For numerous businesses, 'customer-based intangible assets' represent a valuable advantage but determining the monetary value of such assets can be tricky. The value of customer relationships is generally derived from the expectation of repeat business. While many a times, this value is based on contractual agreements with such customers, in other cases, enterprises leverage on information garnered through internal experiences and external data to make future sales to existing customers.

Valuation of such customer relationships gets further complicated as often there are several other factors (e.g. superior technology, established brand name, good after sales service, logistics, pricing , lack of competition), which could contribute to the enterprise's success story and repeat business from customers could be substantially influenced by the same.

Valuation of these assets assumes importance in situations such as when determining the true value of an entity / business deriving value from customer loyalties/ repeat business; determining the purchase price allocation; in case of transfer of such customer-based intangible assets on a stand alone basis between entities etc.

Customer-based intangible assets are assuming greater importance than ever as globally economies are witnessing businesses being run digitally. Companies are now disclosing new types of key performance indicators (KPIs) or metrics like daily active users (DAUs) and monthly active users (MAUs) on their platforms, average revenue per user (ARPU), customer acquisition cost, and customer churn rate, which corroborates the growing importance of the customer relationship. Acquisition of stakes in loss making digital economy players such as Flipkart and Uber Eats at astounding valuations are a testimony of the value embodied in customer-based intangible assets.

Further, in a different context of cross border trade between multinational

enterprises, developing nations such India and China are asking for a greater share of the profit pie attributing equal ,if not more value, to the size of the market (which is nothing but the customer base).

GUIDANCE FOR VALUING CUSTOMER-BASED INTANGIBLE ASSETS

In the Indian context, there is guidance available in the form of ICAI Valuation Standard 302 ('VS 302'), Intangible Assets, which deals with valuation of intangible assets. These intangibles *inter alia* include 'customer-based intangible assets', which are created by an entity establishing relationships with its customers in due course of its business. Such intangibles are of different types and may be contractual like customer contracts and order backlog or non-contractual like customer relationships and customer lists.

VS 302 states that an intangible asset is identifiable if it either:

(a) is separable, i.e. is capable of being separated or divided from the entity and sold, transferred, licensed, rented or exchanged, either individually or together with a related contract, identifiable asset or liability, regardless of whether the entity intends to do so; or

(b) arises from contractual or other legal rights, regardless of whether those rights are transferable or separable from the entity or from other rights and obligations.

Thus, while identifying / valuing a 'customer-based intangible asset', a valuer must evaluate whether the said asset meets the above mentioned criteria before proceeding any further.

Having said the above, it is pertinent to note that not all 'customer-based intangible assets' stand on the same footing from a valuation perspective. Both VS 302 and commercial acumen supports the view that value of intangible assets within the same category may differ having regard to characteristics such as their ownership, market position, function, and image. Similarly, in the context of 'customer-based intangible assets' there is incremental value accretion depending on whether the customer has a live contract with the enterprise with greater chances of renewal (i.e. a customer contract) versus one that just exists in the form of an entry / reference in a customer list.

VALUATION APPROACH

'Income approach' is commonly used for the valuation of intangible assets like customer relationships and contracts. The cost approach is rarely used as 'customer-based intangible assets' take relatively a longer time to replace. Further, as there are limited transactional data available involving comparable assets, the market approach too is not considered suitable.

'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. The 'income approach' is to be applied in accordance with the requirements contained in ICAI Valuation Standard 103, *Valuation Approaches and Methods*.

There are various methods (under the 'income approach') which can be adopted to value intangible assets depending on the importance of the asset to the value of the enterprise / business which are relevant for valuing 'customer-based intangible assets' viz.

- With or Without Method ('WWM');
- Multi-period Excess Earnings Method ('MEEM'); and
- Distributor Method ('DM').

Highlights of these Methods and their applicability are tabulated below:

	WWM	**MEEM**	**DM**
Value Determination	Present Value ('PV') of difference between projected cash flows ('CF') over remaining useful life of the asset under the	PV of economic benefits determined by calculating CF attributable to the asset after deducting appropriate returns for	PV of economic benefits determined by calculating the CF computed by applying the market proxy/ distributor margin to the revenue

	WWM	MEEM	DM
	following two scenarios: (a) business with all assets in place including the 'customer-based intangible asset' to be valued; and (b) business with all assets in place except the 'customer-based intangible asset' to be valued.	contributory assets[5] used by the business in generating the customer-based intangible asset's revenue/ earnings (commonly referred to as "contributory asset charges").	attributable to the 'customer-based intangible asset' after deducting Contributory asset charges.
Appropriate to use when	Customers are not the primary assets or can be re-created	Customers are the primary assets	Customers are not the primary assets (value of business is primarily driven by assets such as strong brands or unique, high-value technology)

Thus principally, under all these methods, value of an intangible asset is equal to the PV of the incremental after-tax cash flows ('excess earnings') attributable to the intangible asset to be valued over its remaining useful life. There are significant considerations (some of which are already discussed above) that the valuer needs to be mindful of while valuing intangible assets

[5] 'Contributory assets' are assets such as Brand IP, technology, Plant and machinery, land and buildings, assembled workforce, working capital etc that must be present for an enterprise to generate value from 'customer-based intangible assets'.

like determining the purpose and objective of the overall valuation assignment; considering legal rights; evaluating the highest and best use considerations; assessing history and development of the intangible asset; and considering any specific laws or regulations guiding the intangibles.

More specifically in the context of 'customer-based intangible assets', the following aspects need to be looked into:

- Determining a reasonable estimate of the future revenues from the 'customer-based intangible assets'. This can be done either by mapping the actual revenues from the contracts (typically in the case of unique / long-term contracts) or by determining normalized revenue per customer, income per customer, and cash flow per customer.
- Then, the remaining useful life of those customers can be estimated based on the churn rate data i.e. after factoring appropriate customer revenue attrition. Attrition is the measurement of the rate of loss of existing customers and is generally based on an analysis of historical customer revenue or count data. Thus, customer count and revenue are often used as a proxy for determining the rate and pattern of attrition.
- When determining future customer loss patterns, there are two key considerations that a valuer needs to factor viz. quality of data that may be available to make future attrition estimates and application of various approaches / methodologies (like using arithmetic/ geometric averages using enterprise's historic customer data, applying data collated from external sources, considering management estimates of future customer stickiness/growth rate etc.) to determine the future attrition pattern using the available data. VS 302 states that attrition can either be calculated using the mid-point convention (average of beginning and end of the year) or by considering the year-on-year customer count or change in revenue).

VS 302 also provides guidance on the various options available to a valuer for computing the rate for discounting the CF associated with the intangible asset under valuation. Thus, depending on the relevant facts and circumstances, discount rate could be either:

- Cost of equity or weighted average cost of capital of the company or market participants;

— Risk free rates / cost of debt having maturity similar to the economic life of the intangible asset to be valued;

— internal rate of return of the transaction for the particular intangible asset

In this regard, the Standard states that discount rate is commonly considered with necessary premiums or discounts to arrive at the appropriate discount rate for the intangible asset to be valued and that while determining the rate for discounting the CF, the valuer should be mindful of risk associated with the CF arising from the intangible asset to be valued as generally intangible assets:

— have relatively more risk associated than tangible assets/ group of assets/ business as a whole;

— having a higher economic life has more risk associated than those having a lower one; and

— with definite/ determinable CF have relatively less risk associated as compared to those not having determinable CF.

Further, the Standard states that tax amortisation benefits (TAB) can be computed and added to the overall value of the intangible asset based on the nature of the asset and purpose of valuation, if appropriate.

OTHER PRACTICAL ASPECTS

Certain other (list is non-exhaustive) practical aspects that need to be factored by a valuer while valuing Customer-based Intangible Assets are[6] described in the following paragraphs.:

Separate Backlog valuation: When backlog is valued separately from the customer contracts, the valuer needs to ensure that the relevant customer's value is not double counted. The valuation of both assets using the approaches discussed above is achieved by excluding backlog revenue and operating profit from the customer contract valuation.

Adjusting Deferred Revenues: Deferred revenue arise when a customer pays for goods or services (e.g. annual maintenance contracts) in advance of the delivery thereof and there is a remaining performance obligation. The

[6] Appraisal Practices Board VFR Valuation Advisory 2: The Valuation of Customer-Related Assets

undelivered performance obligation is a liability at the time of the transaction and is recognized as revenue once the performance obligation is fulfilled. Such deferred revenue needs to be adjusted while drawing up the cash flows to ensure there is no double counting. Further, the valuer needs to ensure that the costs and profits are not measured in another intangible asset such as customer contract so that the liability is not netted with an asset.

Significant negative CF: When evaluating the CF, the valuer must also understand the rationale for significant negative cash flows attributable to the 'customer-based intangible asset' in the model where such negative inflows exist. This may result in very little or no value being assigned to the 'customer-based intangible asset' and may need a revisit of the CACs considered, or substantial investments by the enterprise in the near future benefits of which will accrue beyond the life of the existing customer base. In any case, the valuer should ensure that there is adequate support and/or justification for such significant negative CF in the model, which may at times require a reconsideration of the valuation methodology itself.

VALUING DIGITAL COMPANIES

Having discussed valuation of customers, one cannot ignore the new challenges thrown up in valuing the customer base of digital companies of the world like Amazon or Facebook. While this is a subject on which lots can be written, an attempt has been made here to capture certain aspects relevant to valuing the existing customers i.e. users of such companies.

A user/subscriber-based company with an existing user (or subscribers) broadly speaking can generate cash in three ways[7]:

Subscription fees: The user or subscriber pays a fee, usually fixed, each period for using the service. That fee can be the same for every subscriber or varying depending on services used.

Advertising: With this model, users pay nothing for the enterprise's service, but other businesses are attracted by the user base (its size and focus) to try to sell them products and services.

Transactions: Here, the user or subscriber transacts with or through the enterprise, which results in revenue to the latter.

[7] Going to Pieces: Valuing Users, Subscribers and Customers by Aswath Damadoaran

Irrespective of the revenue model, the value of a user or a subscriber is similar to that for a traditional 'Brick and Mortar' business i.e. the present value of the expected after-tax cash flows that will be generated from that user/subscriber over the period that they are expected to stay on the platform. To derive this value, the following information is needed:

User life: Whether the users are individuals or businesses, the lifetime of that user is finite, due to mortality/ because the technology may have a more limited life and/or users' preferences for a brand may change over time. Generally speaking, the more tied the entity's product or service to a specific technology, the shorter the user life will be.

User renewal rate: Renewal rates are generally less than 100%, and hence, the expected CF in future years have to reflect the survival likelihood for that customer. It is also worth noting that renewal rates, even when reported by companies, can be difficult to generalize, since some subscribers can cancel their subscriptions and renew them multiple times during a period. Finally, the importance of renewal rates in value is far greater for subscription-based companies as compared to transaction-based companies.

User cash flow (current): The current cash flow per user is not just the revenue that the business is expected to generate from that user but it is important that the same is met out of the cost of servicing that user. Thus, if A generates $100/subscriber per year and spends $40 providing direct services to that subscriber, the base year cash flow for A will be $60 per subscriber, on a pre-tax basis, and perhaps only $42 per subscriber, if it faces an effective tax rate of 30%.

Growth in per-user cash flow: Once the enterprise has acquired a user, it may be able to sell that user other products and services in the future, leading to growth in the per-user revenues, and if some of the service costs are fixed, the operating profits per user will grow even more quickly.

Risk in Cash Flow: Since the risk of losing a user is already built into the expected cash flow, the primary risk here comes from both variations in renewal rates over time and from how much cash flow is generated from each user. Again, the revenue model matters, with subscription-based models delivering more predictable revenues than transaction-based models and the discount rates that are used to value the cash flows have to reflect risk differences.

PARTING THOUGHTS

Valuing any kind of intangible is a complex exercise involving extensive use of estimates and assumptions. The challenges grow manifold in the case of the new-age business considering the surge of technology enabled solutions, which at one end open up opportunities for budding enterprises but at the same time usher uncertainties of continuity especially given the fickle customer loyalty. A valuer must pool together as much data as possible not only from internal sources but from external avenues to support and corroborate the assumptions and estimates drawn up.

Chapter 21

Valuation Requirement for Transfer or Issue of Shares under Companies Act, 2013 and Income Tax Act, 1961 with Brief Summary of Valuation Regime

EXECUTIVE SUMMARY

In recent times, we have been receiving lot of queries from clients and other professional friends on exact valuation requirements pursuant to transactions involving transfer or issue of shares under Companies Act, 2013, Income Tax Act, 1961 and related rules. In most of these queries, common questions that arise are - whether valuation will be required by Registered Valuer enrolled with Insolvency and Bankruptcy Board of India, Merchant Banker or Chartered Accountant and what are the methods prescribed under different provisions. The objective of this Chapter is to summarize the valuation requirements pursuant to transfer or issue of shares under various provisions of the above Acts and related rules.

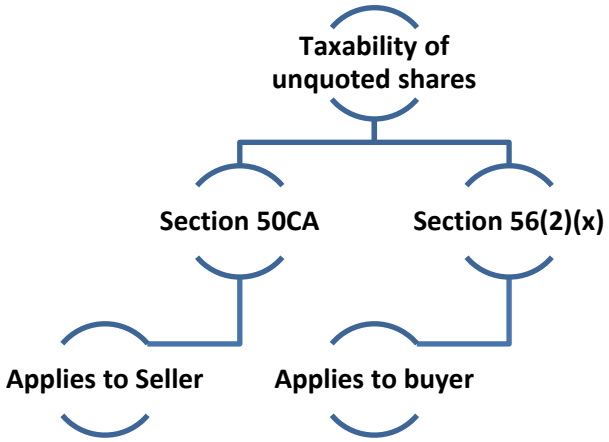
BACKGROUND

The Finance Act, 2017 inserted two new provisions in the Income-tax Act viz. clause (x) under section 56(2) and section 50CA. The said sections were inserted to deal with a situation where property, including *unquoted shares*, are being transacted for inadequate consideration much below the fair market value ('FMV') of such property.

By the insertion of the Clause (x) under section 56(2) the scope of the provisions has widened largely as the same now becomes applicable for all taxpayers unlike erstwhile clauses like (vii), (via) and (viib) which were applicable to selected taxpayers only.

Section 56(2)(x) provides that receipt of money or specified property by any person for inadequate consideration or without consideration from any person shall be liable for tax. On the other side, section 50CA prescribes that when consideration for transfer of unquoted shares of a company is less than

the FMV of such share, the FMV determined as per the Rules shall be deemed to be the full value of consideration for computing income under the head 'capital gains'. This can be better explained by the following presentation:



FMV FOR QUOTED SHARES

The FMV of quoted shares and securities shall be determined in the following manner:

(i) If the quoted shares are received by way of transaction carried out through any recognized Stock Exchange, the FMV of such shares shall be the transaction value as recorded in such Stock Exchange.

(ii) If such quoted shares are received by way of transaction carried out other than through recognized Stock Exchange, the FMV of such shares shall be the lowest price of such shares quoted on any recognized stock exchange on the valuation date / immediately preceding date (in case there is no trading on valuation date).

FMV FOR UNQUOTED SHARES - NEW RULES 11UA AND 11UAA

On 12 July 2017, CBDT issued final rules applicable for all transactions taking place on or after 1 April 2017.

Amended rule 11UA

Amended Rule 11UA(1)(c)(b) prescribes computation of FMV of the unquoted equity shares as follows:

(A + B + C + D - L) * (PV) / (PE), where

A = Book value of all the assets (other than jewellery, artistic work, shares, securities and immovable property) in the balance sheet as reduced by

(i) any amount of income tax paid less the amount of income tax refund claimed and

(ii) any amount shown as asset including the unamortized amount of deferred expenditure which does not represent the value of any asset.

B = the price which the jewellery and artistic work would fetch if sold in the open market on the basis of the valuation report obtained from registered valuer.

C = FMV of shares and securities determined as per this rule.

D = the value adopted by Government for the payment of stamp duty for immovable property.

L = book value of liabilities shown in the balance sheet, but not including the following amounts, viz :-

- Paid-up capital in respect of equity shares
- Amount set apart for payment of dividends on preference shares and equity shares where such dividends have not been declared before the date of transfer at a general body meeting of the company.
- Reserves and surplus, by whatever name called, even if the resulting figure is negative, other than those set apart towards depreciation.
- Any amount representing provision for taxation, other than the amount of income tax paid if any less the amount of income tax claimed as refund to the extent of the excess over the tax payable with reference to the book profits in accordance with the applicable law.
- Provisions for unascertained liabilities
- Contingent liabilities

PV = the paid-up value of such equity shares

PE = total amount of paid up equity share capital as shown in the balance sheet.

FMV FOR SECTION 56(2)(VIIB)

The FMV of unquoted equity shares shall be the value as determined under clause (a) or clause (b) *at the option of assessee* viz. :-

(a) The FMV of unquoted equity shares = (A-L) / (PE) * (PV),

Where,

A = book value of the assets in the balance sheet as reduced by any amount of tax paid as deduction or collection at source or as advance tax payment as reduced by the amount of tax claimed as refund under Income Tax Act and any amount shown in the balance-sheet as asset including the unamortised amount of deferred expenditure which does not represents the value of any asset;

L = book value of liabilities shown in the balance sheet, but not including the following amounts, viz :-

- Paid-up capital in respect of equity shares
- Amount set apart for payment of dividends on preference shares and equity shares where such dividends have not been declared before the date of transfer at a general body meeting of the company.
- Reserves and surplus, by whatever name called, even if the resulting figure is negative, other than those set apart towards depreciation.
- Any amount representing provision for taxation, other than the amount of income tax paid if any less the amount of income tax claimed as refund to the extent of the excess over the tax payable with reference to the book profits in accordance with the applicable law.
- Provisions for unascertained liabilities
- Contingent liabilities

PV = Paid-up value of such equity shares

PE = Total amount of paid up equity share capital as shown in the balance sheet.

(b) The FMV of unquoted equity shares *determined by a Merchant banker ('MB') as per Discounted Cash Flow ('DCF') method*.

RULE 11UA(1)(c)(c) OF I T RULES

The FMV of unquoted shares and securities other than equity shares in a company (eg. preference shares) shall be estimated to be the price it would fetch if sold in the open market on the valuation date and the assessee may obtain a report from the merchant banker or an accountant in respect of such valuation.

NEW RULE 11UAA OF I T RULES

For the purposes of section 50CA, the FMV of the share of a company other than the quoted share shall be determined in the manner as prescribed under 11UA(1)(b)/(c) of the Income-tax Rules 1962 as the case may be and for this purpose the reference to the valuation date in rule 11U and rule 11UA shall mean the date on which such shares are transferred.

COMPARISON OF NEW AND ERSTWHILE RULES

Erstwhile rule prescribed determination of FMV of unquoted equity shares wholly on the basis of book value of the company ignoring the valuation impact relating to those assets for which specific valuation rules were provided and thus, there was inconsistency in direct and indirect valuation of certain assets. The amended rule now removes the above inconsistency and provides adjustments for such assets in the valuation of unquoted equity shares of company having such assets.

RELEVANT VALUATION REQUIREMENT UNDER COMPANIES ACT, 2013

Section 62(1)(c)

A company having a share capital may increase its subscribed capital by the issue of further shares to –

(a) Existing shareholders by way of rights issue

(b) Employees under a scheme of employee's stock option

(c) Any persons, whether or not those persons include persons referred to in (a) or (b) above either for cash or for a consideration other than cash, *if the price of such shares is determined by the valuation report of a registered valuer.*

DCF method

The DCF method values the asset by discounting the cash flows expected to be generated by the asset for the explicit forecast period and also the perpetuity value (or terminal value) in case of assets with indefinite life. The DCF method is one of the most common methods for valuing various assets such as shares, businesses, real estate projects, debt instruments, etc. While using the DCF method, it may also be necessary to make adjustments to the valuation to reflect matters that are not captured in either the cash flow forecasts or the discount rate adopted.

In case of DCF method, projected cash flows reflect the benefits of control and accordingly the value of asset arrived under this method is not to be grossed up for control premium. A valuer uses his professional judgement while applying the discount for lack of marketability / discount for lack of control. It may include adjustments for discount for the marketability of the interest being valued or whether the interest being valued is non-controlling interest in the business.

DCF uses the future free cash flows of the company discounted by the firm's weighted average cost of capital (the average cost of all the capital used in the business, including debt and equity), plus a risk factor measured by beta, to arrive at the present value.

Traditional DCF method is not suitable for distressed companies for the following reasons:

- Uncertainty over future cash flows
- Uncertainty around life of the enterprise
- Challenges around estimating the appropriate discount rate

Beta is an adjustment that uses historic stock market data to measure the sensitivity of the company's cash flow to market indices, for example, through business cycles.

The DCF method is a strong valuation tool, as it concentrates on cash generation potential of a business. This valuation method is based on the capability of a company to generate cash flows in the future. The free cash flows are projected for a certain number of years and then discounted at a discount rate that reflects a company's cost of capital and the risk associated with the cash flows it generates. DCF analysis is based mainly on the following elements:

- Projection of financial statements (key value driving factors)
- The cost of capital to discount the projected cash flows

Terminal Value

The terminal value refers to the present value of the business as a going concern beyond the period of projections up to infinity. This value is estimated by taking into account expected growth rates of the business in future, sustainable capital investments required for the business as well as the estimated growth rate of the industry and economy.

NEW VALUATION REGIME

The Ministry of Corporate Affairs (MCA) has in October 2017, notified Section 247 of the Companies Act, 2013 and introduced the Companies (Registered Valuers and Valuation) Rules, 2017. Effective from 31 January 2019 onwards, only a 'Registered Valuer' is permitted to undertake valuations required under the Companies Act and Rules made thereunder.

Section 247 of the Companies Act provides that "where a valuation is required to be made in respect of any property, stocks, shares, debentures, securities or goodwill or any other asset or net worth of a company or its liabilities under the provisions of this Act, it shall be valued by a person having such qualifications and experience and registered as a valuer in such manner and on such terms and conditions as may be prescribed and appointed by the Audit Committee or in its absence by the Board of Directors of that company".

This is the first time valuation professionals have received a statutory recognition and has been subjected to various rules and regulations governing it.

The MCA has designated Insolvency and Bankruptcy Board of India (IBBI) as the authority for implementing the new regime of registered valuers in addition to Insolvency Professionals.

As per Rule 8 of Companies (Registered Valuers and Valuation) Rules, 2017, the registered valuer shall, while conducting a valuation, comply with the valuation standards as notified or modified under rule 18:

Provided that until the Valuation Standards are notified or modified by the Central Government, a valuer shall make valuations as per-

(a) Internationally accepted Valuation Standards;

(b) Valuation Standards adopted by any registered valuers organisation.

MANDATORY REGISTERED VALUER (RV) REQUIREMENTS UNDER COMPANIES ACT, 2013

- **Section 39(4): Allotment of Securities by Company for consideration other than cash**

A report of RV in respect of valuation of the consideration shall also be attached.

- **Section 54(1): Sweat equity shares**

The sweat equity shares to be issued shall be valued at a price determined by a RV as the fair price giving justification for such valuation.

The valuation of Intellectual Property Rights ('IPRs') or know how or value additions for which sweat equity shares are issued shall be carried out by RV.

- **Section 62(1): Fresh Issue of Share Capital**

Fresh issue of shares either for cash or for a consideration other than cash, except rights issue and ESOP as explained above.

- **Section 73: Acceptance of deposits – Valuation of bonds where secured by charge of any** assets

The amount of such secured bonds shall not exceed the market value of such assets (on which charge is created) as assessed by RV.

- **Section 192(2): Restriction on non-cash transactions involving directors**

The notice for approval resolution by company shall include particulars of the arrangement involved along with value calculated by RV.

- **Section 230: Power to Compromise or Make Arrangements**

The Company or any other person, by whom an application is made shall disclose to the Tribunal by affidavit various information including valuation report in respect of the shares and the property and all assets by a RV.

- **Section 232: Merger and Amalgamation of Companies**

The section enlists documents to be circulated for such a meeting including a report adopted by the directors of the merging companies explaining the effect of compromise on each class of shareholders, KPM, promoters and non-promoters shareholders laying out in particular the share exchange ratio, specifying any valuation difficulties.

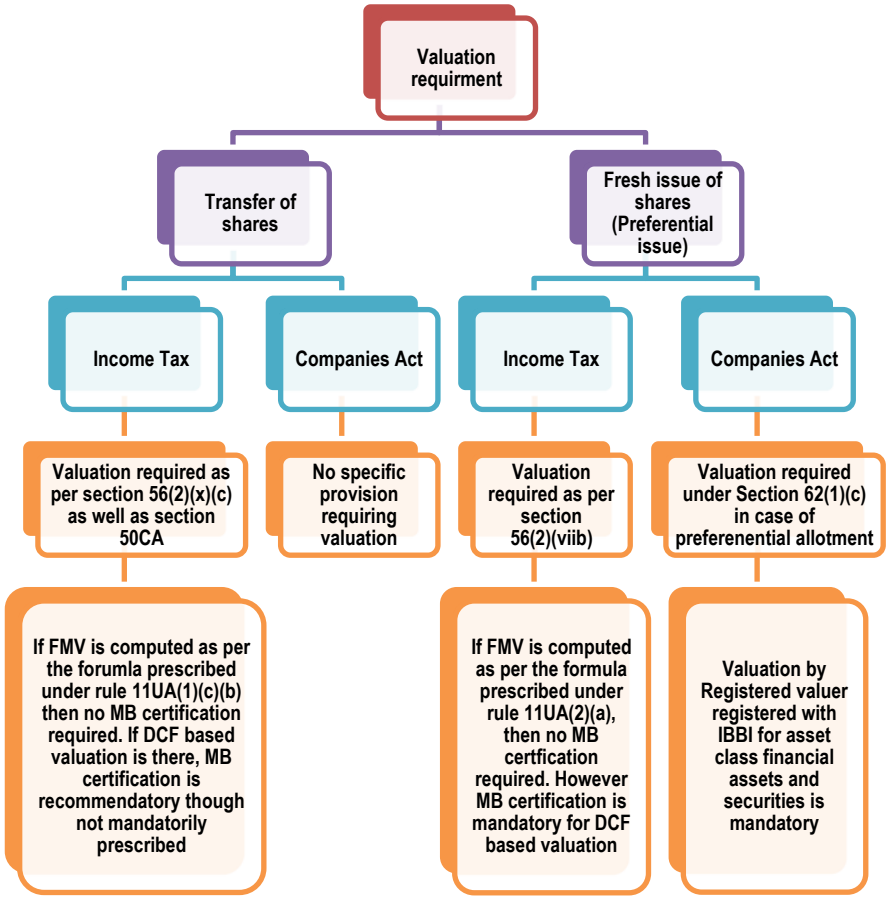
- **Section 236: Purchase of Minority Shareholding**

The acquirer, person or group of persons shall offer to the minority shareholders of the company for buying the equity shares held by such minority shareholders at a price determined on the basis of valuation by a registered valuer in accordance with such rules as may be prescribed.

- **Section 281: Submission of Report by Company Liquidator**

In the event of a winding up order passed in respect of a a sick company, a company liquidator is appointed by the Tribunal. The liquidator shall submit within 60 days of passing the order, a report which *inter alia* provides value of assets and securities held if any of the company. Such value shall be determined as per valuation report by a registered valuer.

KEY TAKEAWAY



Chapter 22

Anomalies in the Profession of Registered Valuers

INTRODUCTION

The concept of a "registered valuer" under Indian law was introduced for the first time vide Section 247 of Chapter XVII of the Companies Act, 2013 for matters requiring valuation under the said act. It provides that: "*where a valuation is required to be made in respect of any property, stocks, shares, debentures, securities or goodwill or any other asset or net worth of a company or its liabilities under the provisions of this Act, it shall be valued by a person having such qualifications and experience and registered as a valuer in such manner and on such terms and conditions as maybe prescribed and appointed by the Audit Committee or in its absence by the Board of Directors of that company*".

Accordingly, in exercise of powers given under Section 247 read with Section 458 of the Companies Act, 2013, the Ministry of Corporate Affairs introduced the Companies (Registered Valuers and Valuation) Rules, 2017 ("**Rules**") vide Notification No. 1316 (E) dated 18-10-2017. The Rules *inter alia* provided for the eligibility criteria which needs to be fulfilled for obtaining a certification for being a registered valuer and the manner in which the certification maybe obtained. Now, it has been mandated that all valuations under the Companies Act after January 31, 2019 must be conducted by a registered valuer as per provisions of Section 247 of the Act.

The notified Rules are an attempt and initiative to bring in standardisation in the Valuation Standards in India and ensure that valuation reports disclose a true and fair view and result in greater objectivity in valuation procedures. The increased transparency and fairness in the valuation system would also increase stakeholder confidence by bringing uniformity.

Further, the Insolvency and Bankruptcy Board of India (IBBI) has been specified as the Authority by the Central Government under section 458 of the Companies Act, 2013 to perform the functions as specified under Valuation Rules.

A registered valuer is now recognized as a professional like a chartered accountant, cost accountant and company secretary and is responsible for any negligence or misconduct leading to disciplinary action by IBBI and regulatory penalties and fines. Both the regulator IBBI and the MCA are trying to further institutionalize the profession of registered valuers.

All these developments are expected to create sea change in the valuation practice and bring governance in focus in the valuers profession in India. However in spite of all these developments, the profession of valuation is still at very nascent stage in India and there are lots of anomalies which we would like to discuss from our own experience as Registered Valuers of Securities or Financial Assets (i.e. SFA).

CONCEPT OF UDIN NOT MANDATORY TO ALL VALUERS

There is a concept of generating Unique Document Identification Number (UDIN) for all the certificates/reports issued by Chartered Accountants. The generation of UDIN helps in ensuring that there is no fake document submitted with any authority and at the same time, the possibility of back date signing of any document also gets ruled out. However, this condition of generating UDIN is only for Registered Valuers, who are also practicing as Chartered Accountants or Company Secretaries. Other registered valuers, who are by profession MBA, ICMA or Land & Building Valuers or Plant and Machinery valuers are not required to generate UDIN. This creates discrimination within the profession of Registered Valuers. In view of the enormous benefits of UDIN, the IBBI should insist for introduction of this concept in respect of all RVOs to ensure the level playing field between all the valuers.

REQUIREMENT OF SEPARATE VALUATION UNDER COMPANIES ACT AND INCOME TAX ACT

For the purpose of issue of further equity share capital by a closely held company to any person being a resident in India, valuation report under Section 62 read with Section 247 of Companies Act is required from a Registered Valuer under Companies Act 2013 and at the same time, valuation report from merchant banker is also required under section 56(2)(viib) of the Income Tax Act, 1961. This requirement of separate valuation reports for Companies Act and Income Tax Act is an undue harassment for companies to take two valuation reports and incur double expense for one transaction.

Further, the valuation given by the Registered Valuers under Companies Act is considered as minimum benchmark for pricing of shares whereas valuation given by merchant banker under Income Tax Act is considered as maximum valuation and thus the requirement under Companies Act and Income tax Act are contradictory to each other. Therefore, considering that the valuation process is still open for many assumptions despite ensuring objectivity, it is really difficult for a company to ensure the balance between valuation given by two different set of valuers as in case of difference in both valuation. There are distinct penal provisions under Income Tax Act and Companies Act.

Thus, there is an urgent need to align provisions of Companies Act as well as Income Tax so that there is uniformity in valuation process and companies do not suffer with extra cost or tax demands.

REQUIREMENT OF SEPARATE VALUATION UNDER COMPANIES ACT AND FOREIGN EXCHANGE MANAGEMENT ACT (FEMA), 1999

Similarly in case of investment by a foreign person/ entity in equity share capital of any Indian company, valuation of such instruments is required from a Chartered Accountant/Cost Accountant or merchant banker as per guidelines issued by RBI under FEMA. Here again, valuation of equity share capital done by Registered Valuer under Companies Act 2013 is not accepted by the Reserve Bank of India resulting into undue hardship for the companies. Therefore, there is an urgent need to align the provisions of various acts, such as Companies Act, Income Tax Act, Insolvency & Bankruptcy Code, FEMA and SEBI, to avoid undue hardships for the companies.

As per Regulation 27 of Insolvency and Bankruptcy Board of India (Insolvency Resolution Process for Corporate Persons) Regulations, 2016, two registered valuers for each asset class (i.e. Land and Building, Plant and Machinery and Securities or Financial Assets) are appointed to determine fair value and liquidation value of the corporate debtor in accordance with Regulation 35.

As per Regulation 35 of the Insolvency and Bankruptcy Board of India (Insolvency Resolution Process for Corporate Persons) Regulations, 2016-,

(1) Fair value and liquidation value shall be determined in the following manner:-

(a) the two registered valuers appointed under regulation 27 shall submit to the Resolution Professional an estimate of the fair value and of the liquidation value computed in accordance with internationally accepted Valuation Standards, after physical verification of the inventory and fixed assets of the corporate debtor;

(b) if in the opinion of the resolution professional, the two estimates of a value are significantly different, he may appoint another registered valuer who shall submit an estimate of the value computed in the same manner; and

(c) the average of the two closest estimates of a value shall be considered the fair value or the liquidation value, as the case may be.(2) After the receipt of resolution plans in accordance with the Code and these regulations, the Resolution Professional shall provide the fair value and the liquidation value to every Member of the Committee in electronic form, on receiving an undertaking from the member to the effect that such Member shall maintain confidentiality of the fair value and the liquidation value and shall not use such values to cause an undue gain or undue loss to itself or any other person and comply with the requirements under sub-section (2) of section 29:

(3) The resolution professional and registered valuers shall maintain confidentiality of the fair value and the liquidation value.".]

SIGNIFICANT DIFFERENCE IN VALUATION NEEDS TO BE DEFINED

As per Regulation 35(1)(b) as mentioned above, *if in the opinion of the Resolution Professional, the two estimates of a value are significantly different, he may appoint another registered valuer who shall submit an estimate of the value computed in the same manner.* There is no clarity about what constitutes significant difference in two estimates of value given by registered valuers. Some RPs are considering difference of more than 10% as significant difference, some are considering 15% or 20% as per their own judgement. Further, generally there are two registered valuers for each

asset class and in case of most of the corporate debtors, there exist all three asset classes i.e. Land & Building, Plant & Machinery and SFA, thus total 6 registered valuers are appointed by a Resolution Professional. There is no clarity about whether significant difference needs to be worked out for each asset class or total valuation for all three asset classes. In some case, it may be that each asset class wise there may be significant difference, but when compared in total, valuation of CD may not be significantly different. Hence, proper clarity should be there as to how to deal with such cases by the Insolvency Professional.

WHETHER VALUATION REPORT NEEDS TO BE DISCUSSED WITH RP BEFORE FINALISATION

Regulation 35(2) and (3) deal with confidentiality of fair value and liquidation value determined by the registered valuer. It has been observed that few Registered Valuers insist that they will not discuss the Draft Valuation Report with RP and will issue the report in sealed cover only which can be opened by RP after receipt of resolution plan only. At the same time, some RPs are of the view that before finalising the valuation report, the same should be discussed with RP to ensure that all the relevant facts about CD have been considered and there is no loose end in the valuation report. Further, practically it has been observed that generally resolution plans are received only at the fag end of CIRP period and if RP becomes aware of any significant difference between two valuation reports, then RP would not be left with any time for appointment of third valuer and it may jeopardise the whole process of CIRP. Therefore, there is a need for clear guidelines from IBBI in this regard.

SUMMING UP

The Ministry of Corporate Affairs (MCA) has already set up an eight member Committee of Experts to examine the need for an institutional framework for regulation and development of valuation professionals which has submitted its Report.

Chapter 23

Valuation of Life Insurance Company

"You don't need to pray to God anymore when there are storms in the sky, but you do have to be insured." Bertolt Brecht

"Life is 10% what happens to you and 90% how you react to it" Charles R. Swindoll

BACKGROUND

A life insurance is a contract with between an individual ("policy holder") and an insurance company ("insurer"), in which the insurer provides financial security in return for premium payment(s). In case of the policy holder's death or on maturity, the insurer pays a specified amount, as per the terms of the contract, to the policy holder or their family, either on a lump sum basis or for a specified period of time.

The insurance industry in India has witnessed different eras and is more than 150 years old. From the days when there were several private companies, to nationalization, and to privatization, the industry has come as a full circle.

The Insurance Laws (Amendment) Act 2015 introduced much-awaited reforms, including, increasing the foreign investment cap in the insurance sector to 49 per cent, permitting overseas reinsurers to open branch offices to carry out reinsurance business in India.

Presently, the insurance industry of India consists of 57 insurance companies of which 24 are in life insurance business and 33 are in non-life insurance business. Among the life insurers, Life Insurance Corporation of India ("LIC") is the sole public sector company. Apart from that, among the non-life insurers there are six public sector insurers. In FY20, premium from new life insurance business increased ~20.6% year-on-year to ~INR 2.59 trillion (~US$ 34.4 billion) (Source: www.irdai.gov.in). Life insurance industry in the country is expected to grow by ~ 12-15% annually for the next three to five years. With ~68.7% new business market share in FY20, LIC, the only public sector life insurer in the country, continues to be the market leader.

Insurance Regulatory and Development Authority of India ("IRDAI") is the statutory body set up for protecting the interests of the policyholders and

regulating, promoting, and ensuring orderly growth of the insurance industry in India. IRDAI is an autonomous, statutory agency tasked with regulating and promoting the insurance and re-insurance industries in India.

FIVE BASIC TYPES OF LIFE INSURANCE PLANS

Term insurance

Term plans are the most basic form of life insurance. They provide life cover with no savings / profit component. They are relatively more affordable form of life insurance as premiums are lower compared to other life insurance plans.

Endowment plans

Endowment plans differ from term plans in one important aspect i.e. maturity benefit. Unlike term plans which pay out the sum assured, along with profits, only in case of an eventuality over the policy term, endowment plans pay out the sum assured under both scenarios – death and survival.

Unit linked insurance plans ("ULIP")

ULIPs are a variant of the traditional endowment plan. They pay out the sum assured (or the value of investment portfolio if it is higher) on death/maturity. Since ULIPs invest in stock markets they are well-suited for individuals with appetite for risk.

Whole life policy

A whole life insurance plan covers a policyholder over his life. The main feature of a whole life policy is that the validity of the policy is not defined and the individual enjoys the life cover throughout his life.

Money back policy

This is a variant of the endowment plan. A money back policy gives periodic payments over the policy term. To that end, a portion of the sum assured is paid out at regular intervals. If the policy holder survives the term, he gets the balance sum assured.

Riders are extra benefits which can be attached with the main policy and provide for added protection against specific risks at nominal costs. Common riders in the industry include critical illness benefit rider, waiver of premium rider, accident & disability benefit rider, etc

A participating policy ("Par") enables a policy holder to share the profits of the insurance company. These profits are shared in the form of bonuses or dividends. It is also known as a with-profit policy. In non-participating ("Non-Par") policies the profits are not shared, and no dividends are paid to the policyholders.

The primary purpose of the insurance business is the spreading of risks. The activities of insurance companies include underwriting insurance policies (including determining the acceptability of risks, the coverage terms, and the premium), billing and collecting premiums, and investigating and settling claims made under policies. Other activities include investing the accumulated funds and managing the portfolio.

LIFE INSURANCE ACCOUNTING

Accounting of Life insurance companies is relatively complex, given that there are two income statements (Policyholders' account and Shareholders' account).

The financial statements of a life insurance company consist of:

1. *Revenue Account – Policyholders' account (Technical account): -*

The income of technical account generally consists of premium after adjusting reinsurance ceded and reinsurance accepted and income from investments. The expenses that form part of insurance companies are commission expenses, operating expenses, benefits paid, interim / terminal bonus paid and change in valuation of liability against life policies in force. The transfer of funds from shareholders' fund to policyholders' account is shown separately in the revenue account.

As per the IRDA regulations, policyholders funds are expected to maintain adequate level of solvency separately for each type of policy for declaration of bonuses to Participating fund and Pension fund.

2. Profit and Loss account – Shareholders' account (Non-technical account)

This account represents all income and expenses relating to shareholders' account (those not relating to insurance business). The income comprises mainly of investment or other income earned from shareholders' fund and expenses like depreciation on assets, investment expenses, directors' fees etc., transfer of funds to policyholders' fund and preliminary expenses written off. The balance in this account is transferred to balance sheet.

3. Balance Sheet

The items in the balance sheet of a life insurance company include, other than the normal items –

1. Shareholders' fund
2. Policyholders' fund
3. Investments related to policyholders' fund, shareholders' fund and assets held to cover linked liabilities.

   Shareholders' fund includes share capital, reserves and surplus and fair value change account.

   Policyholders' fund consists of policy liabilities, fair value change relating to policy fund investments, insurance reserves, provision for linked liabilities, funds for future appropriations, surplus allocated to shareholders etc.

   The balance in the funds for future appropriations represents funds, the allocation of which, either to participating policyholders or to shareholders has not been determined at the balance sheet date. Transfers to and from the fund reflect the excess or deficiency of income over expenses and appropriations in each accounting period arising in the Company's policyholder fund.
4. Receipts and Payments account - Cash flow statement
5. The segmental and reconciliation reports relating to the funds (Revenue accounts and Balance Sheet)

APPROACH TO VALUATION

An insurance company pools the premiums that customers pay to offset the risk of loss. The difficulty arises in properly estimating what future insurance claims will be and setting the premiums at a level that covers those claims, as well as leave profit for shareholders. Insurance companies earn returns on the investments they make and from returns on float. In simple terms, an insurance business makes profit when the present value of its income from premium and interest on float exceeds the present value of claims and operating expenses over the life of the policy.

Generally, for valuation of a financial services firms, one may consider adopting price to book (P/B) and/ or price to earnings (P/E) multiples. P/B is

a valuation measure that relates a firm's stock price to its book value. PE is a valuation measure that relates a firm's market capitalisation to its profits. However, considering the nature of business of life insurance companies, these valuation metrics may not be appropriate.

Income approach

Insurance companies are highly regulated. The regulatory authority governs where they can invest their fund and how much they can invest. Two major reinvestment items are net capital expenditure and change in working capital. However, an insurance company has its own challenges. Unlike a non-financial company which invests in plant and machinery, land and building and other fixed assets, an insurance company primarily invests in marketing, human capital, and other intangible assets like brand name. Such investments are often categorized as operating expenses and are expensed out in books. Insurance companies do not have what is normally understood as "net working capital". Their balance sheets include investments, and policy liabilities which have various and unpredictable payment dates. Actuarial assumptions often play an important role in accounting and valuation of the life insurance companies.

Considering the aforementioned issues in estimating the periodical cash flow, application of discounted cash flow method is generally challenging for valuing a life insurance company.

Key Valuation Parameters

Life insurance is a long-term business. The policy that the insurance company sells today results in income from the premiums paid over several years. It is from this future income that the insurers make profits. So, the value of a life insurance company is assessed by future profits that the current business is able to generate. Life insurance company expense acquisition costs upfront, profits for these companies come in later during their lifecycle. Thus, accounting statements of life insurers in India do not give a correct picture of the company's true/ commercial profitability. Furthermore, during periods of high growth, the acquisition costs are higher, and so is the strain on the business (acquisition expenses plus reserves) denting reported profitability.

Some of the key valuation parameters that need to be analysed are,

- *Value of new business (VNB)* - VNB is the present value of profits of insurance contracts written in the current year. The insurance company makes assumptions on persistency, mortality, and maintenance costs (post overrun) etc. to determine and report VNBs.
- *VNB margin* - VNB Margin indicates the profit margin of Life insurance company. VNB margin is Value of New Business divided by Annualized Premium Equivalent (Regular Premium + 10% of single premium). Simply put, a VNB margin of 20% would mean that if the insurer underwrote new business premium for a particular mix of products of INR 1,000 in a year, the expected profit over the lifetime of that business is INR 200. Insurers derive higher VNB margin from their protection business. If a company wants to improve its margins, they have to focus more on the protection business.
- *Persistency ratio:* This is also a very important parameter. Life Insurance companies incur huge acquisition costs, owing to marketing and commission pay-outs, which are paid over the life of the policy. The higher the number of years the policy continues, higher is the profitability. In some cases, lower persistency may improve margins. This is especially true for Non-Par policies and true in some cases even for Par policies.
- *Expense ratio* : This is yet another number that needs to be analysed. The expense ratio of an insurance company is described as the expense of management divided by the gross premium. Expenses of management are the costs that an insurance company incurs and includes commissions, and operational and administrative expenses. Expense ratios depend on the type of business sold by a company.
- *Embedded Value (EV)* - Given the constraints in the way financials of insurance companies are prepared namely profits for policies arise with a long lag, insurance companies cannot be valued on P/E, P/B or EV/Sales basis. To get over this constraint the industry has formulated Embedded Value ("EV"). EV is widely accepted measure for valuing a life insurance company. EV is computed as the sum of the adjusted net worth ("ANW") and the discounted value of profits from in- force policies ("VIF").

A consistent performance in the growth of EV indicates stability. Companies that experience significant changes in product strategy, distribution model, expense performance, persistency, etc, have relatively volatile EV

Market consistent embedded value (MCEV) is a measure of the consolidated value of shareholders' interests of the insurance company. An alternative description of the MCEV is the present value of all future shareholder cash flows from the covered in force business and capital and surplus. MCEV does not include any values attributable to future sales.

Under the MCEV framework, the risk-free curve is used to discount cash flows while computing VNB margins. This is because the cash flows in the numerator are already adjusted for risk. Most of the insurance industry's assets are investments in bonds and other non-equity instruments, while liabilities typically include products sold and the ability to meet policy commitments. As a result, life insurance is a liability-driven business as the business model is predicated on taking funds today in exchange for the promise to make payments in the future. The assets and liabilities of life insurers have a unique relationship. Life insurers collect premiums from policy owners, which they invest in stocks and bonds. With these investments, insurers aim to generate returns in excess of their liabilities through investment income and capital gains. As a result of this business model, the life insurance industry is greatly impacted by its exposure to the financial sector, including interest rate risk. Earnings are dependent on the spread between investment returns and the interest paid on each insurance policy or product.

VALUATION METHODS (Market Approach)

Certain methods which are adopted for valuation of life insurance companies are explained below

1. Embedded Value Multiple

Much as the way price/ book value multiples work, insurance companies are usually assigned a multiple on the embedded value. Multiples vary based on the expected growth, profitability, and other qualitative factors.

Valuation = EV (Net worth + VIF) x Multiple

This method is more suitable for companies in mature stage where both growth and RoEVs have stabilized.

The following table represents the P/EV Multiple of listed life insurance companies in India,

Name of the Company	Particulars as at,	Mar-31-2017	Mar-31-2018	Mar-31-2019	Sep-30-2019
ICICI Pru Life Insurance	Embedded Value (EV) (in INR Bn)	162	188	216	227
	Market Cap. (P) (in INR Bn) *	601	607	525	690
	P / EV Multiple	**3.7**	**3.2**	**2.4**	**3.0**
HDFC Life Insurance	Embedded Value (EV) (in INR Bn)	125	152	183	201
	Market Cap. (P) (in INR Bn) *	N.A.	940	883	1,238
	P / EV Multiple	**-**	**6.2**	**4.8**	**6.2**
SBI Life Insurance	Embedded Value (EV) (in INR Bn)	165	191	224	262
	Market Cap. (P) (in INR Bn) *	N.A.	664	777	902
	P / EV Multiple	**-**	**3.5**	**3.5**	**3.5**

The following table represents the P/EV Multiple of listed insurance companies in Asia,

Name of the Company	Particulars	2017	2018	2019
Dai ichi Life YE March 31,	Embedded Value (EV) (in JPY Bn)	5,495	6,094	5,937
	Market Cap (P) (in JPY Bn) *	2,394	2,290	1,831
	P / EV Multiple	**0.4**	**0.4**	**0.3**
AIA Group YE December 31,	Embedded Value (EV) (in HKD Bn)	397	N.R.	483
	Market Cap (P) (in HKD Bn) *	816		829
	P / EV Multiple	**2.1**	**-**	**1.7**
China Pacific Insurance YE December 31,	Embedded Value (EV) (in CNY Bn)	214	258	306
	Market Cap (P) (in CNY Bn) *	299	279	215
	P / EV Multiple	**1.4**	**1.1**	**0.7**
China Life Insurance YE December 31,	Embedded Value (EV) (in HKD Bn)	882	905	1,054
	Market Cap (P) (in HKD Bn) *	857	808	726
	P / EV Multiple	**1.0**	**0.9**	**0.7**

YE - Year Ending
N.R. - Not Reported

** Pricing as of the filing date of the balance sheet period end date*

N.A. – Not available as the company was not listed.

2: Appraisal Value

Appraisal Value (AV) refers to the value of an insurance company coming from both its in-force business and its new business. AV is the summation of the present value of the existing business i.e. the business written in earlier years (called Embedded Value, or EV) and Structural Value. The fair VNB multiple is based on the margin, growth, and longevity of growth.

AV = EV + Structural Value,

where,

Structural Value = VNB * Multiple

CHALLENGES IN VALUATION OF INSURANCE COMPANIES

Given the significant difference in reported profits and VNB on the one hand and net worth and EV on the other, assessing the value of insurance companies solely on the basis of reported profits/ net worth becomes a challenge and valuers often consider/ rely on additional disclosures/ data point in respect of EV and VNB.. Life insurance companies report an EV movement between two periods of time detailing the extent and the causes of changes to EV.

Under the new accounting rules (Ind AS 117/ IFRS 17) insurance companies will be required to:

- Classify contracts into investment contract or insurance contract based on assessment of insurance risk.
- Separate insurance and investment components and unbundle the insurance contract Insurance component, embedded derivative, and distinct investment components.
- Evaluate packaged products and contracts with different rights and obligations into onerous or profitable. Loss on onerous contracts have to be separated and recognized immediately.
- Capitalize and allocate insurance acquisition cash flows during the period of the contract and amortize the same on basis of revenue recognition.
- Recognize impact on insurance liabilities due to changes in discount rate in either in OCI or in P&L. Using OCI will reduce P&L volatility.
- Change revenue line item to “insurance contracts revenue”.
- Provide more granularity in contract groupings for valuation purposes - portfolio of insurance contracts shall be split into annual cohorts which would be further split based on profitability bucket.
- Present income/expense from reinsurance contracts held separately from expense or income from insurance contracts issued.
- Disclose details of the new insurance contracts issued- growth of entity’s insurance business, level of aggregation applied and expectation with respect to contractual service margin recognition in future periods.

Ind AS 117 will significantly change the financial statements and disclosure requirements for life insurance companies. The new Accounting Standard will result in separation of insurance and investment income streams. Additionally, the amortization of acquisition costs over the premium payment term of the contract will further help in stream-lining the reported profitability of companies. These changes probably mean that dependence on VNB margins and Embedded Value as a measure to track performance of insurance companies may reduce and valuers should be able to directly use statutory filings to value life insurance companies.

CONCLUSION

To conclude, when compared to Asian markets that have higher growth rates and operate at superior profit margins, the valuations of life insurance companies in India seem to command higher multiples. While life insurance companies in Asian markets are valued at a multiple in the range of 0.5 to 2.1 times the embedded value, the multiples for their Indian peers are upwards of three times the EV. This implies a bullish outlook for the life insurance sector to grow in the future. The outlook is that insurance companies are expected to generate greater profits on the back of relatively higher growth prospects, better product mix, higher margins, and customer profile.

Chapter 24
Startup Valuation Challenges

Fundamentally, the value of a firm is based on its capacity to generate cash flows and the uncertainty associated with these cash flows. This general statement applies no matter what kind of firm we look at. Generally, more profitable firms are valued more highly than less profitable ones. In the case of start-ups, though, this proposition may not work.

Start-ups are either in idea stage or have short operating history with little or no revenue and high operating losses. While valuing these companies, the easiest of the puzzle to solve is – determining the Beta, cost of equity, researching valuations of comparable companies, deriving valuation multiples, etc. However, the more difficult part is determining answers to various subjective questions like – how innovative the business model/product or service offerings is, how strong is the team, will the company survive as a going concern, etc. As a result, the traditional methods of determining the cash flow, discount rates, valuation multiples may lead to erroneous and biased valuations.

This Chapter highlights the challenges in valuing start-ups and the ways to overcome them.

CHARACTERISTICS OF A START-UP

At the onset it is important to define a start-up and understand the difference between start-up and a small business. There is no dictionary definition but the following definition captures the essence of it -

"A start-up is a young company founded by one or more entrepreneurs to develop a unique product or service and bring it to market"[1]

Start-ups focus on disrupting markets and driving top-line at a fast pace. Small businesses, on the other hand, often set their goals on long-term, stable growth in an existing market. The key difference is the growth intent behind the business. Some of the common characteristics of start-ups are outlined hereunder.

1. Little history with negligible revenues and high operating losses

Start-ups have limited or no history. The operational data available would be for one or two years or even less than a year. Revenues may be zero with high operational expenses largely towards setting up of business, resulting into operational losses

2. Intent to become a large company in shorter period

From day 1, the intent of the start-up is to grow into a large disruptive company. The entrepreneur believes that the idea he/she is working on will disrupt the market and thereby capture a large market share in a short period of time.

3. High Failure Rate

A report by IBM Institute for Business Value and Oxford Economics found that 90% Indian start-ups fail within the first five years, lack of innovation being the main reason.

4. Flexibility

A start-up is very dynamic and ready to adapt to the adversities that may arise during the course of business. They readily tailor their product/services to meet customer requirement in order to create a sustainable business model.

VALUATION CHALLENGES

Discounted cash flow and relative valuation are the two methods which are extensively used for valuation of companies. However, when the same methods are used for start-ups, we encounter the following challenges.

DCF Valuation

For DCF valuation – estimation of cash flows, discount rate and terminal value are the key inputs. Given the characteristics of start-ups, estimation of these inputs is always challenging.

Estimation of cash flows

The first step in estimation of cash flows is to use the historical financial

statements to determine the revenues and profitability of the firm. However, the past financial statements may not be available or may not give any relevant information in case of start-ups. The lack of history on revenue means that we will not be able to use the same to estimate the future revenues. Similarly, it would not be possible to determine the future earnings as the start-up would be reporting losses. As a result, we would have to depend on the management projections and the biases these numbers possess.

Discount Rate Determination

The traditional CAPM model which we use for determination of cost of equity focuses only on market risk i.e. the risk that cannot be diversified. However, this would not be true for a start-up. For a start-up there is lot of firm specific risk which needs to be accounted for. Hence the cost of equity which we may calculate using the CAPM model, will not be commensurate with the risk of investing in a start-up.

Terminal Value

Terminal value typically accounts for most of the value of start-ups (may be more 100% of the value) and hence determination of terminal value is very critical. For determining terminal value one of the most important assumptions is stable growth rate of the firm. When a start-up will achieve stable growth and whether the start-up will make to stable growth rate stage given higher failure rate of start-up are the key questions. The standard practice of projecting for 5 years and then assuming a stable growth rate for terminal value calculation may lead to wrong estimation.

RELATIVE VALUATION

Given the challenges in DCF valuation, sometimes relative valuation is considered or a mix of DCF and relative valuation is considered. Using relative valuation has its own share of challenges. Some of key issues faced while using relative valuation are outlined in the following paragraphs.

What companies do we use as comparable?

We would need companies in similar business and age profile for relative valuation. In markets like India, there are not many young start-ups which are listed. Using mature companies in similar industry is not advisable as the risk return matrix and the growth projections are likely to be very different.

What multiples to use?

Even if we find comparable companies, use of relative valuation multiple may not be useful. The historical revenues are insignificant and typically the companies report huge operational losses. Hence, estimation of valuation using popular multiples like Price to Sales, Price to book value, EV/EBITA, Price to Earnings, etc. may not be possible or may not yield the correct estimate of value.

How long the start-up will survive?

Finally, the larger question that remains is will the start-up be able to survive for long term?

Hence, under both DCF and relative valuation we encounter very similar problems in estimating the value of the start-up. However, it does not mean that we cannot estimate the value of the start-up using these traditional methods. We would now demonstrate how we can use DCF to value a start-up.

USING DCF FOR VALUING START-UP

The following discussion on DCF method assumes that the reader is well versed with the standard DCF approach for valuation and hence the focus is not on the actual workings but on the variations. Wherever necessary, formulas have been provided.

Estimating the cash flows

One of the first steps is to estimate the cash flows. Instead of just projecting the revenue and the profitability of the firm, one needs to get into details of the business and estimate the revenue and corresponding operational expenses. There are two approaches –

- *Top down approach* – This starts with a look at the total available market (TAM) and then determines the serviceable available market (SAM) i.e. the market that can be served by the start-up given its geographic reach and product/service. From SAM, we determine the market share the company can capture over the projection years. Thus, industry estimates are taken as starting point and narrowed down into revenue projections for the start-up.
- *Bottom ups approach* - Estimating projections by starting with number. of customers/capacity and working 'up' to revenue.

Both approaches have their pros and cons and the best method would depend upon the type of business being valued and the available data. Typically, the top down approach may result into a very optimistic projections which may be unrealistic. Typically, start-ups submit projections which use top-down approach. Validating these projections using a bottom-up approach may result into more realistic projections.

One other important factor to consider is what should be the period of projection? Sometimes it is difficult to project for immediate years given the uncertainty around the start-up, then projecting later years would be all the more difficult. There is no correct answer to this and the valuer has to take a call depending on his comfort with the forecast period. However, the forecast period should be of such duration that the firm captures significant market share and the future growth post the forecast period should be stable and not exponential. This would mean forecast period of 5 to 10 years or till the period it is expected to go for IPO.

ESTIMATION OF DISCOUNT RATE

As discussed earlier, the prevalent CAPM method to determine the discount rate is not correct as it does not take into account the firm specific risk and also because the investors may not be well diversified. The important parameter to determine is Beta.

Estimation of Beta

Take average of the Beta of the publicly traded firms which are in similar business and then unlever the average beta to arrive at the unlevered beta for the start-up. Now calculate correlation of the sector with the total market and then divide the unlevered beta with correlation.

Illustration

- *Average beta of listed peers = 1.3*
- *Average Debt equity ratio of the sector = 30%*
- *Tax rate = 30%*
- *Unlevered Beta = 1.3/ {(1-0.30) * 0.30} = 1.07*
- *Average correlation with total market = 0.50*
- *Total Beta = 1.07/0.50 = 2.14*

The Beta is now an appropriate one and is commensurate with the risk of investing for an undiversified investor.

Estimation of Cost of Capital

Cost of equity can be easily computed using the CAPM model. The above adjust Beta is unlevered Beta, and hence we will have to lever it with the target debt to equity ratio. Typically, start-up does not have debt and hence the cost of equity will be equal to the cost of capital. For start-ups which have debt on books, we can use the 'book debt to equity' ratio of the start-up or the 'average debt to equity' ratio of listed peers. Cost of debt will the interest rate on the bank loan.

ESTIMATION OF TERMINAL VALUE

Terminal value is always a significant portion of the total value as start-ups have small or negative cash flows in the initial years and hence its proper estimation is very critical. Generally, we assume the start-up as a going concern. However, certain start-ups may have limited contract periods or operating license and hence the cash flows would not be perpetual. In such cases, we have the following two options:

1. We estimate how long the cash flows would continue in future and then calculate their present value to arrive at the terminal value
2. A more appropriate/conservative approach would be to estimate the salvage value of the business at the end of the forecast period. The salvage value would be the terminal value in this case.

Adjusting for survival

As discussed earlier, 90% of start-ups in India fail and hence it is important that this factor is taken into account. The above terminal value is based on the assumption that the start-up would survive. One of the prevalent methods is to hike up the discount rate. But a better method would be to assume the probability of start- up survival based on the sector data or macro-economic data.

Recently a study was conducted by Rajeswari Sengupta and Manish Singh of the Indira Gandhi Institute of Development Research using MCA data to analyse the status of all new firms formed in India over 1981- 2011, and their survival over time. They found that on an average, roughly 50% of new firms registered in India survived for more than 20 years and on considering all

dormant firms as inactive – the data suggested that more than 45% of new-born firms survive in India.

If sector wise data for survival is available, we can use that probability or otherwise we use the survival rates of Indian firms in general. Also, depending upon the status of the start-up and the strength of promoters, the above survival rate can be adjusted upwards or downwards.

The following formula can be used for adjusting for survival rate –

*Value = PV of Cash flows of the year * survival probability*

Value at the end of each period is estimated by multiplying the PV of that year with the survival probability. The survival probability increases over a period of time as the firm grows and hence, we can start with lower probability in the initial years (first 2-3 years) and then increase the survival probability in the later years.

CONCLUSION

Valuing start-up is a very challenging exercise given the short or negligible operating history, lack of data and uncertainty around the future of business. Typically, we see very high discount rates and forward multiples being used to take care of these challenges. However, what we have tried here is to use the most common valuation method i.e. DCF and address the challenges by integrating some additional inputs in the DCF methodology. The challenge would still be to estimate some of these inputs and it is easier said than done. But with some best estimates/guesstimates for these inputs with the help of research, the valuation we would arrive at will still be a more realistic valuation for the business.

Valuation is more of an art than science. Science is well established and widely practised but an analyst or valuer adds value to the process to make the right guesses and making the best estimates. Once the variable estimates are in place, the science takes over and the job is done.

Chapter 25

Valuation of Construction & Infrastructure Companies and Challenges under IBC Mandate

Insolvency and Bankruptcy Code comes as a life saver for various stakeholders of companies under distress viz. operational creditors and for the financial creditor. The Code has seen some good success over the past years. The code empowers creditors to rescue the company when there is threat of the company becoming sick. Since the code specifically provides time bound resolution process, it has seen success in terms of resolution.

While getting into intricacies of valuing infrastructure companies let us understand in brief about the basics of valuation under Insolvency and Bankruptcy Code.

Registered valuers play a very significant role as far as the scope under Insolvency and Bankruptcy Code is concerned. The valuation report by the registered valuer forms the basis of successful resolution and in that respect the success of IBC is dependent on the exercise carried out by the valuers.

Under the IBC mandate following are the types of valuation to be mentioned in the report by the valuers:

- **Liquidation Value*** – The price at which the assets of the business would sell at an orderly liquidation or if a fair sale were to occur.
- **Fair Value** – Fair value is 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 valuation date.

*IBC mandates that valuers derive liquidation value also under the basic assumption of 'going concern'.

APPROACHES TO VALUATION

There are primarily three approaches to valuation that are considered while valuing assets:

Income – Based Approach

An income-based valuation relies upon a company's expected cash flows in assessing the value. Income-based approaches include the discounted cash flow method and the capitalization of earnings method.

Market Based / Relative Valuation

A market-based valuation is also known as relative valuation. In relative valuation, the value of an asset is derived from the pricing of 'comparable' assets, standardized using a common variable such as earnings, cash flows, book value or revenues. One illustration of this approach is the use of an industry-average price-earnings ratio to value a firm. This assumes that the other firms in the industry are comparable to the firm being valued and that the market, on average, prices these firms correctly. Other multiples could be Price to Book Value, Price to Sales, Price to cash flows etc.

Assets Based Approach

An asset-based approach relies on an assessment of the necessary costs to recreate, reassemble, redevelop, and/or redeploy all the company's assets using date-specific prices. A company's estimated equity value is the total assessed asset costs minus its liabilities.

The assets (or cost) based approach derives value from the combined fair market value (FMV) of the business's net assets. This technique usually produces a "control level" value, meaning the value to an owner with the power to sell or liquidate the company's assets.

Following are the type of assets based valuation:

- Net assets method:
- Liquidation value method
- Replacement cost method

CONSTRUCTION & INFRASTRUCTURE FIRMS

Out of the total number of cases admitted by NCLT under CIRP more than 10% are construction and infrastructure companies (this is without considering the real estate entities). Construction and Infrastructure companies are particularly interlinked with the overall economic growth and capital expenditure cycle. These companies see massive growth and

investment in the growing economic cycle. These companies potentially grow rapidly when there is massive investment in infrastructure by the government, but lot of these companies do not insulate / de-risk themselves from the fall which is bound to happen after the growth cycle. The construction and infrastructure companies have seen massive value erosion on account of such economic slow-down which has resulted into a lot of these companies falling under CIRP net.

These companies have the operations usually spread out in different Geographies & States. Some of them grow domestically while others expose themselves to international Geographies, markets and hence the risks. Domestically too each State imposes varying risks and challenges. In a manufacturing concern while resources, inventory, man power are all within the confined boundaries (small or big), in construction and infrastructure companies these resources are spread out and hence do bring in further risks of safeguarding & utilizing the assets and resources.

The above challenges get accentuated when the companies are admitted under Insolvency and Bankruptcy Code by NCLT. The issues pertaining to non-payment of salaries, rents and other essential payments lead to misappropriation and misutilization of these assets. If these non-payments are stretched over a longer duration they could lead to massive value destruction for the companies and its stake holders.

Typically, most of the construction companies have, over the years, diversified into infrastructure development projects. Infrastructure Projects could be

- Roads & Highways
- Railways
- Ports & Airports
- Power (Renewable / Non-Renewable) i.e. Thermal / Solar / Wind / Hydro
- Power Transmission Projects
- Irrigation Projects
- Water Supply Projects (Industrial & City)

The investment in such infrastructure projects could be by way of simple

cash contract arrangement or investment through 'PPP Mode'(Public Private Partnerships). Initially public private partnerships were primarily in the form of Build Own Operate and Transfer / Build Operate & Transfer (BOOT / BOT). Generally, PPP Projects lead to substantially high capital investments for companies which is then recovered over an extended period sometimes as high at 30 years. Projects under BOOT / BOT put onus on the Concessionaire / BOT Operator to arrange capital required for the project; over the years it has been noticed that whenever the financial health of the contractor is deteriorated, it has not only impacted the misutilization of resources already applied for such projects but also resulted in incomplete projects. Some of these projects were of national importance. Need was felt to realign and rethink the process under PPP. This resulted into government bringing 'Hybrid Annuity Model' which is a mix of BOT, Annuity and EPC Models.

RISKS TO BE CONSIDERED FOR VALUATION

However, the infrastructure opportunities are laced with multiple risks like

Political risks

Regulatory & policy framework risks

Liquidity risk & capital risk

Sectoral risks

Credit market risks

Current volatility risks / price volatility risks

It is fundamental for a valuer that the above risks are considered before valuation reports are being finalized..

TYPES OF CONTRACT ADDING TO THE COMPLEXITY

Construction and Infrastructure firms generally run a web of companies since as a regulatory requirement almost all the public private partnership projects ('PPP') will primarily require a separate entity. This is a requirement laid out by the concessioning authority in order to ensure and establish control over the investment and execution of the construction work of the project. Also, it enables the authority to take control of the entity under the terms of the contract in such circumstances where contractor is not being able to invest / execute the work in time. This is critical considering the fact that most of

these infrastructure contracts are contracts of national importance. India with its vast diversities has various authorities that tender out PPP projects viz. National Highway Authority of India, Various State Road Development Authorities, Airports & Ports Development Authorities, State Electricity Boards and Transmission Utilities etc. to name a few. The contractual terms vary with each Authority.

Further, most of the construction & infrastructure companies have a mix of the contracts ranging from Cash Contracts, EPC (Engineering Procurement & Commissioning), BOOT / BOT, Annuity Projects and many more sometimes running into hundreds of concurrent contracts. Most of these contracts are capital intensive contracts and hence the balance sheets of the construction and infrastructure companies are generally capital-intensive which have a range of these assets.

To enhance the complexity, every Authority has a varied way of handling the challenges and complexities and a lot of them have political and regulatory risks built into it.

For instance, some Authority may take a lenient view towards slow pace of work and could have provided for extension of time while their past working also leads one to believe that getting extension of time for established reasons may not be hard to obtain; however the same Authority with changes in its management may have a very different approach and suddenly the time extensions would be hard to come by. Both the situation could lead to differing valuation of the same contract.

A valuer is not expected to be an expert in terms of reading and analyzing these contracts, but it is important that he has done enough work on understanding the contracts before the values are arrived at.

Most of these contracts will have various financial assets spread out on the financials.

Type of Asset	*Disclosure in Financials*	*Valuer Considerations*
Margin money given for bank guarantee towards (BG) EMD	Fixed Deposits – Under Bank Balances (Could be under Current / Non-	If the contract is on the verge of termination the Bank Guarantee may be invoked there by realization of FD would not be possible. This is

	Current Assets)	against the view that the FD with the bank is secured. It is critical for a valuer to understand if these FD's are encumbered.
Margin Money towards Advance Bank Guarantee (ABG)	Fixed Deposits – Under Bank Balances (Could be under Current / Non-Current Assets)	
Security Deposits deducted from Running Bills	Deposits (Under Current / Non-Current Assets)	These are deducted in lieu of timely completion and to ensure quality work and are generally released after expiry of defined time period. *The release of this money is contingent upon many future events.*
Receivables	Receivable / Debtors (Current Assets)	Valuer needs to analyze each of the material contracts to understand if the debtor balances will be realized which is contingent upon a lot of future events including companies' ability to utilize the resources at site in the constrained environment as the company is under IBC, ability to manage client's manpower and many more.

Most of the time the contractor would have taken advances from the client against the contract under various pretexts of liquidity constraints. These advances could be in the nature of advance against supply, against bank guarantee etc. These liabilities would be disclosed under the liabilities and hence *it is critical that the valuer does need to take cognizance of these*

advances before the he values the financial assets as described above in table.

RECEIVABLES ON ACCOUNT OF ARBITRATION & LITIGATIONS

We have observed that the financials of these entities have huge receivable sitting on account of arbitration and litigation. Some such arbitration and litigations pertain to funding of large cost and time overruns, additional work being executed etc. Time and cost overruns could be for multiple reasons ranging from local issues to non-completion of obligations by government / nodal agency or non-availability of capital with the contractor.

Many construction firms have funded large cost and time overruns on their own balance sheets in the absence of timely compensation from client. Dispute resolution in India is time consuming and long-term activity taking sometimes more than a decade. Furthermore, governmental authorities / clients challenge arbitration awards all the way through to the Supreme Court, thereby eliminating any benefit of negotiating an arbitration clause within the contract.

"Top executives from infrastructure companies said that while most public sector undertakings and government bodies clear regular payments on time, sometimes with small delay, they are not keen to pay for variations or claims due to increase in cost. The fear of 3Cs — Central Bureau of Investigation (CBI), Comptroller and Auditor General of India (CAG), and Central Vigilance Commission (CVC) — has ensured that in the past 4-5 years, all payments where any judgement is required is escalated to arbitration. In many cases and even after an arbitration award, it is challenged in courts, –[Source Economic Times.]

These receivables are either accounted or not accounted. If accounted, they are disclosed as receivables under the head "Non-Current Assets". In case they are not accounted they are being disclosed separately in the notes to the accounts. In either case either accounted or not while valuing the construction & infrastructure companies it is pertinent that we take note of these receivables. Complexity arises from the fact that it is extremely difficult to judge the outcome of the litigation and hence assigning value to such receivables.

TYPES OF CONTRACTUAL ASSETS AND VALUATION METHODOLOGY

As discussed above the company could have various types of contracts ranging from Cash Contracts, EPC (Engineering, Procurement and Commissioning) Contracts, Build Operate & Transfer / Build Own Operate & Transfer Contracts, Annuity Contracts, Hybrid Annuity Contracts etc.

Assets under each of these categories will require the valuer to use his judgement on the best valuation methodologies and approaches (as discussed above) in order to arrive at the value.

For instance a solar power project having consistent cash flow could be valued by income method (DCF) and a similar asset not having consistent cash flow but contractually allowed to be sold could, be valued by assets method (replacement cost method)

INTANGIBLE ASSETS

Generally, there are two primary intangible assets that these companies have which a registered valuer may want to consider valuing / mentioning in the valuation report whether they are recorded in the books of account or not:

Pre-qualification is one of the primary intangible assets.

What is Pre-Qualification?

Contractor prequalification is an information gathering and assessment process that determines a contractor's capability, capacity, resources including financial resources, management processes, and performance.

Typical subject matter areas include financial capacity and technical capacity, work history, licensing and qualifications, management standards and, regulatory, quality, safety, and environmental performance data.

When used by local government, the potential bidders on projects are audited to assess their prequalification standing before bids are accepted. Only those bidders that are prequalified will be invited to submit a bid

Pre qualifications are nothing but ability of the company to be able to bid for tenders. Typically, this is the single largest intangible asset that most of these construction and infrastructure companies carry. Since this leads to

entry barriers for new entrants in the sector, pre qualifications generally carry value. Companies that are intending to diversify in the construction and infrastructure sector either needs to create pre-qualifications. Creating pre qualifications organically is an extremely slow and time consuming process which gets built every time a project is successfully executed. Alternatively they can pay for pre-qualifications by partnering an existing pre-qualified company or buy a company which already has these pre-qualifications. It is this demand which provides value to pre qualifications.

However, as is with any asset so is with pre-qualifications the value is subject to demand of such asset in the free market. The demand varies with the economic growth trajectory of the country. If the country is growing significantly and there is enormous amount of investment happening in the infrastructure sector, the demand for pre qualifications and hence companies having such pre-qualifications will rise but in the down turn or falling economy there will be no takers of such asset.

Nevertheless, prequalification is an important asset that could derive value during resolution process and it is pertinent that the valuer does work around valuing pre-qualifications. In our opinion, pre-qualifications could be single largest reason for resolution of these companies.

Brand Value

In spite of deteriorating financial health of the company, the company would still carry significant brand value in its area of operation, which as a resolution professional and as a registered valuer you might want to consider before the closure / submission of the report.

Fixed Assets

As has been discussed above the construction and infrastructure companies are capital intensive and assets heavy. Unlike manufacturing companies where most of the assets are within the confined boundaries of the entity, in case of construction and infrastructure companies all the assets are moveable in nature and are generally lying in the client premises or at client location. Further the assets are either owned or rented. As a valuer you need to take cognizance of all these facts before the valuation of assets is derived. Unlike manufacturing where assets are primarily within one location and confined boundaries, in construction and infrastructure companies these assets are movable and are lying at various sites where the work is under

progress. A lot of these movable assets get misappropriated, if the entity being valued did not have internal control over the assets and defined assets verification plan is not in place.

Further a lot of contracts have terms which prohibit the company from taking out the asset from client premises without the work getting completed. There could be various encumbrances over the asset.

To sum up as a valuer, not only comfort needs to be established on physical availability of the asset but also it should be ensured that the assets are non-encumbered and are freely available in order to transact.

CONCLUSION

In valuing construction and Infrastructure companies the valuer may not be able to apply a straight-jacket approach and will need to analyze every asset basis, its contractual terms, current status of the contract, future outlook on the project and various communication that the company has on the project with the client and the valuer needs to corroborate evidences and give his opinion on the value of such company considering the above challenges.

However, valuation of construction and infrastructure companies is a significantly enriching experience from the point of view of testing valuers' and valuer organizations' technical and analytical skills.

Chapter 26
Valuation of Mining Rights

INTRODUCTION

Mines such as iron ore mines, limestone mines, coal mines etc. are very important assets for the companies such as steel, cement and thermal power. Mines are generally allocated by government authorities for the captive use by these companies on a long-term lease basis for a specified period. This right is generally called the “mining right”. In other words, mining right is a permission granted by the government authorities through the Department of Mineral Resources giving the right to carry out mining activities on minerals within a certain geographically identified area.

Usually, while determining the fair market value of steel, cement or power companies, the mining rights are not valued separately because the benefits arising from the captive mines are already factored in the income statement of the companies in the form of lower raw material cost resulting in higher profitability. However, there could be certain situations where in the mining rights may need to be valued separately such as in case of purchase price allocation, financial reporting, mergers & acquisition transactions, etc.

In this Chapter, we have discussed some relevant valuation methodologies, along with case studies, which may be applied for valuation of mining rights.

We will first discuss some of the critical information which a valuer should collate for valuing the mining right and the relevant documents from which this information may be extracted.

KEY INFORMATION

(a) Mining reserves (proved reserves and probable reserves)

(b) Quality of mineral

(c) Lease period granted by the government

(d) Annual extraction of mineral

(e) Extraction cost

(f) Third party procurement cost/ market price of similar mineral of similar quality

(g) Auction price of similar mines in recent times

SOURCE OF INFORMATION

(a) Mining lease deed

(b) Mining plan

(c) Reports published by Indian Bureau of Mines (IBM)

METHODOLOGIES FOR VALUING MINING RIGHTS

Incremental Income Method

In this case, the cost savings generated upon usage of captive mineral reserves as compared to third party procurement of similar grade mineral is determined.

The following steps are applied to determine the fair value of the mining rights *via* the incremental income method.

- *Calculation of cost saving due to mining rights*: The cost saving is equal to third party procurement price *minus* captive mining cost.
- Third party procurement cost includes base price of the mineral and transportation cost (including loading and unloading charges).
- Captive mining cost includes extraction cost, transportation cost from mines to the factory and royalty payment to government.
- *Annual extraction and consumption of mineral*: The cost saving is multiplied with the annual extraction of the mineral to arrive at total annual saving.
- *Calculation of saving net of tax*: Application of corporate tax rate on the net savings due to mining rights to arrive at post tax net saving.

Net present value: Calculation of the net present value of the post-tax cash savings over the extraction period by using an appropriate discount rate specific to asset. As the mining rights are a form of intangible asset, , the applicable discount rate in case of mining rights usually ranges between the weighted average cost of capital and the cost of equity of the company which owns the mining rights.

This method is more suitable in the case of operational mines which are used for captive consumption.

Case study

Let's take the example of a cement manufacturing company ABC Cements Limited which owns mining rights for a limestone mine. The key facts are presented in the following table.

ABC Cements
Key Assumptions

Extractable Reserves (In MnT)	30
Period (In Years)	10
Extraction Volume (In MnT)	3
3rd Party Procurement Price(INR Per Tonne)	430
Average Mining Cost (Extraction + Royalty) (INR Per Tonne)	265
Net Saving (INR per Tonne)	165
Income Tax Rate	25.17%
Discount Rate (WACC)	14.00%

Notes

- Third party procurement price can be determined by using the local rates charged by a vendor for supplying similar quality limestone.
- Average captive mining cost is provided by the company's management
- Weighted average cost of capital is assumed to be around 14%

Based on the above inputs we have presented the value of mining rights via the increment income method as under:

ABC Cements
Computation of Fair Value of Saving of Bid Price for ABC Mines

INR Crores

Particulars	For the Year Ending March 31:									
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Limestone Extraction (MNT)	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Net Saving (INR/Ton)	335	335	335	335	335	335	335	335	335	335
Net Saving (In Crore)	100.50	100.50	100.50	100.50	100.50	100.50	100.50	100.50	100.50	100.50
Income Tax	(25.29)	(25.29)	(25.29)	(25.29)	(25.29)	(25.29)	(25.29)	(25.29)	(25.29)	(25.29)
Net Saving (post tax)	**75.21**	**75.21**	**75.21**	**75.21**	**75.21**	**75.21**	**75.21**	**75.21**	**75.21**	**75.21**
Discount Rate (1)	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%
Discounting period (Mid Year)	0.50	1.50	2.50	3.50	4.50	5.50	6.50	7.50	8.50	9.50
Discounting Factor	0.94	0.82	0.72	0.63	0.55	0.49	0.43	0.37	0.33	0.29
Discounted Cash Flow	**70.44**	**61.79**	**54.20**	**47.54**	**41.70**	**36.58**	**32.09**	**28.15**	**24.69**	**21.66**
Net Present Value of the Saving										**418.84**

(1) Discount rate represents weighted average cost of capital for ABC cements

ROYALTY RELIEF METHOD (AUCTION BID PRICE)

Mines and Mineral (Development and Regulation) Amendment Act 2015 mandated the allocation of mineral blocks or grant of mining leases through E-Auction process to bring greater transparency in the allocation of mining rights.

E-Auction Methodology

In case of e-auction, the bidding parameter i.e. price offer is as follows:

(a) "Percentage (%) of the value of the mineral dispatched."

(b) "Value of mineral dispatched" is an amount equal to the product of:

- Minerals dispatched in a year
- Sale price of the minerals (grade-wise and State-wise) as published by IBM for such year of dispatch.

In case the mining rights are allotted to the target company before the applicability of the above regulations, then the target company is not required to pay any auction price. Accordingly, there is a saving in the hands of the target company and it can be used to determine the fair value of the mining rights. This method is more suitable where the mines are yet to be operational and the target company is yet to establish the manufacturing unit for the captive use the underlying mineral.

The following steps are applied to determine the fair value of the mining rights:

- **IBM price:** Extract the applicable IBM price per ton as on the valuation date which is published on the website https://ibm.gov.in/
- **Auction Price**: Calculate the auction price at which the mines were e-auctioned by the government to private players.
- **Annual extraction of the mineral:** Estimate the annual extraction of the mineral as per the mining plan.
- **Annual saving:** The auction price is multiplied with the annual extraction of the mineral to arrive total annual saving.
- **Calculation of saving net of tax:** Application of corporate tax rate on the net savings due to mining rights to arrive at post tax net saving.
- **Net present value**: Calculation of the net present value of the post-tax cash savings over the extraction period by using an appropriate discount rate specific to asset.

Case study

We will again take an example of a cement manufacturing company ABC

Cements Limited which owns mining rights for a limestone mine. But in this case assume that the mining rights were allotted in 2014. However, the mine is expected to be operational in 2021 as the cement manufacturing unit for use of the limestone for that mine will be established in 2021. Other key facts:

ABC Cements
Key Assumptions

Extractable Reserves (In MnT)	30
Period (In Years)	10
Extraction Volume (In MnT)	3
IBM Price (Per Tonne)	400
Median Final Auction Bid	50%
Net Saving (Per Tonne)	200
Income Tax Rate	25.17%
Discount Rate (Cost of Equity)	16.00%

In this case, as a first step, extract relevant information regarding the recent e-auction of the limestone mines by the government. In the table below, we have presented the details of e-auction of certain limestone mines.

Computation Final Bid Price of Limestone Mines Auctioned in Recent Years

Name of the Block (Limestone Mine)	State	Reserve Price	Floor Price	Final Bid Price as % of IBM Price
Gudipadu Limestone Block	Andhra Pradesh	5.00%	5.02%	8.12%
Erragudi-Hussainapuram–Yanakandla	Andhra Pradesh	10.00%	10.40%	10.60%
Nandavaram–Venkatapuram	Andhra Pradesh	10.00%	10.40%	10.70%
Kesla, Raipur	Chattisgarh	5.00%	5.45%	10.15%
Karhi Chandi, Balodabazar-Bhatapara	Chattisgarh	5.00%	23.60%	58.95%
Kesla- II, Raipur	Chattisgarh	5.00%	21.00%	96.15%
Harihaspura Block I, Ramgarh	Jharkhand	10.00%	10.10%	12.00%
Harihaspura Block II, Ramgarh	Jharkhand	10.00%	10.10%	12.00%
Kottameta , Malkangiri	Odisha	5.00%	12.00%	12.05%
Sindwari, Ramkhera, Satkhanda Block- B	Rajasthan	7.00%	16.00%	48.05%
Limestone block- 3B1-(a) n/v Deh of Tehsil Jayal	Rajasthan	7.00%	16.59%	67.94%
Limestone block- 3B1-(b) n/v Deh of Tehsil Jayal	Rajasthan	7.00%	16.59%	60.09%
3D1, n/v Harima-Pithsar	Rajasthan	10.00%	25.00%	41.60%
Mudhvay Sub- block B, kachchh	Gujarat	5.00%	10.00%	20.00%
Mudhvay Sub- block C, kachchh	Gujarat	5.00%	5.25%	30.05%
Mudhvay Sub- block D, kachchh	Gujarat	5.00%	10.00%	35.00%
Nandgaon Ekodi, Dist. Chandrapur	Maharashtra	5.00%	9.45%	125.05%

Information presented in the above table is extracted from the public domain that presents the mines allotted by the government to the private players through an auction process in different geographies. As per the auction process, the private player has to submit an auction bid price which is a % of an Indian Bureau of Mines ("IBM") price that will be paid by the private player to the government every year on extraction of limestone.

As may be analyzed from the above-table, the auction bid price as a % of IBM price varied from 8.12% to 125.05%. There are various factors which

impact the auction bid price such as quality of limestone mines, quantity of reserves, location of mines, market potential and demand for cement in that region and competition. We have summarized some of the key factors and their impact on the auction bid price in the table below.

Key Factors Affecting the Auction Bid Prices

Factors	Description
Quality of Limestone	Higher the proportion of Cardon Dioxide, the better is the quality of limestone which resulted in higher limestone to clinker conversion ratio. High quality limestone will fetch high premium. Industry Standard Carbon Dioxide Proportion is 42%.
Quantity of Minestone	Large mine commands more premium as compared to mine with less reserves
Location of Minestone	It mainly consider the factors such as accessability of mine, ease of operations etc. A mine which does not have easy accessability or the area is impacted by naxalite etc. command low premium
Market Potential	It mainly captures the factors such as demand for cement in the region, growth potential etc. Higher the market demand for cement, higher the premium for the mine.
Competition	Competition from existing players will result in high premium

The analysis of the above factor in relation to the target mine to be valued is critical to estimate the appropriate auction bid price application to the target mine.

Based on the above inputs we have presented below the value of mining rights:

ABC Cements
Computation of Fair Value of Saving of Bid Price for ABC Mines

INR Crores

Particulars	For the Year Ending March 31:									
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Limestone Extraction (MNT)	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Saving of Auction Bid Price (INR/Ton)	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00
Saving of Auction Bid Price (In Crore)	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
Income Tax	(15.10)	(15.10)	(15.10)	(15.10)	(15.10)	(15.10)	(15.10)	(15.10)	(15.10)	(15.10)
Net Saving (post tax)	**44.90**	**44.90**	**44.90**	**44.90**	**44.90**	**44.90**	**44.90**	**44.90**	**44.90**	**44.90**
Discount Rate (1)	16%	16%	16%	16%	16%	16%	16%	16%	16%	16%
Discounting period (Mid Year)	0.50	1.50	2.50	3.50	4.50	5.50	6.50	7.50	8.50	9.50
Discounting Factor	0.93	0.80	0.69	0.59	0.51	0.44	0.38	0.33	0.28	0.24
Discounted Cash Flow	**41.69**	**35.94**	**30.98**	**26.71**	**23.02**	**19.85**	**17.11**	**14.75**	**12.72**	**10.96**
Net Present Value of the Saving										**233.72**

Notes
(1) Discount rate represents cost of equity for ABC cements

Please note that this Chapter has provided a simplified example of how valuation methods can be used to determine the value of mining rights. An actual analysis and valuation report would be far more evolved and would consider a variety of other issues, that might impact the value of mining rights.

Chapter 27

The Client Company- Valuation Report as per Return of Allotment

This Chapter is based a case study based on experience with a client that wanted a Valuation report as part of Return of allotment in pursuance of Rule 12 (5) of the Companies(Prospectus & Allotment of Securities) Rules 2014.

THE ENGAGEMENT

1. Further allotment of 90,000/- shares at Rs 187.50 per share.
2. Requirement of valuation report to be filed along with return of allotment

Activity chart followed:

S.No	*Requirements*	*Data provided by Management*
1.	Rs 1, 53, 50,000/- Funds have been received from Feb 2019 till 24 Jan 2020. Rule 2(1) (c) of the Companies (Acceptance of Deposits) Rules, 2014 as notified by MCA vide notification No. G.S.R 256(E) dated 31.03.2014 with effect from 1st day of April, 2014 Substituted by Notification on Companies (Acceptance of Deposits) Second Amendment Rules, 2015 Dated 15th September, 2015 provides that the term "deposits" does not include (vi) Any amount received by a company from any other company; (viii) "Any amount received from a person who, at the time of the receipt of the amount, was *a director of the company or a relative of the*	Company has received moneys from: A private limited – shareholder Ms M- relative of a director Ms J- Director

	director of the private company: Provided that the director of the company or relative of the director of the private company, as the case may be, from whom money is received, furnishes to the company at the time of giving the money, a declaration in writing to the effect that the amount is not being given out of funds acquired by him by borrowing or accepting loans or deposits from others and the company shall disclose the details of money so accepted in the Board's report;".	
2.	Vide notification no G.S.R. 42(E) dated 22nd January 2019, in the said rules, in rule 16(A), after sub-rule (2), the following sub-rule shall be inserted, namely:- "(3) Every company other than Government company shall file a onetime return of outstanding receipt of money or loan by a company but not considered as deposits, in terms of clause (c) of sub-rule 1 of rule 2 from the 1st April, 2014 to the date of publication of this notification in the Official Gazette, as specified in Form DPT-3 within ninety days from the date of said publication of this notification along with fee as provided in the Companies (Registration Offices and Fees) Rules, 2014.". A one-time return of moneys received which are not considered as deposits must be filed in form DPT-3 within 90 days of 22nd January 2019 – i.e. 22nd April 2019.	The One time Return of Deposits has not yet been filed in form DPT-2 as on 20th February 2020. For any contravention of the above, please refer to Rule 21 of the Companies (Acceptance of Deposits Rules, 2014 The company has been informed of the above through mail.

3.	Since these are loans received from director/shareholder and relative of Director, the provisions of Section 73 get attracted. Section 73(2) provides "A company may, subject to the passing of a resolution in general meeting and subject to such rules as may be prescribed in consultation with the Reserve Bank of India, accept deposits from its members on such terms and conditions, including the provision of security, if any, or for the repayment of such deposits with interest, as may be agreed upon between the company and its members, subject to the fulfilment of the following conditions". The conditions referred to under clauses (a) to (e) of sub section (2) of section 73 have been exempted from application to a private company vide MCA notification no G.S.R. 583(E) dated 13th June 2017 which is reproduced below: Chapter V, clauses (a) to (e) of sub-section (2) of section 73 shall not apply to a private company- (A) which accepts from its members monies not exceeding one hundred per cent of aggregate of the paid up share capital, free reserves and securities premium account; or (B) which is a start-up, for five years from the date of its incorporation; or which fulfills all of the following conditions, namely:- which is not an associate or a subsidiary company of any other company;	No Board meeting was held to approve acceptance of deposits from its members, directors, relative of director or another company (requirements under sections 179(3) (d). No approval under sections 62(3) by means of a special resolution at the company's general meeting to authorise the Board to acceptance of deposits from its members, directors, relative of director or another company has been passed (requirement under 62 (3), 73(2) and 180(1) (c) Filing of MGT -4 with respect to having passed the Board resolution and special resolution approving the receipt of loans and agreeing to the terms & conditions of future conversion into equity shares at pre agreed prices based on valuation report , within 30 days from the passing of the special resolution has not happened. Contract to acquire equity shares by converting the loans into equity entered into between the company and each of the

	if the borrowings of such a company from banks or financial institutions or anybody corporate is less than twice of its paid up share capital or fifty crore rupees, whichever is lower; and such a company has not defaulted in the repayment of such borrowings subsisting at the time of accepting deposits under this section: Provided that the company referred to in clauses (A), (B) or (C) shall file the details of monies accepted to the Registrar in such manner as may be specified." Requirements under Section 73(2) – (*2*) A company may, subject to the passing of *a resolution in general meeting* and subject to such rules as may be prescribed in consultation with the Reserve Bank of India, accept deposits from its members on such terms and conditions, including the provision of security, if any, or for the repayment of such deposits with interest, as may be agreed upon between the company and its members Therefore a resolution at the company's general meeting is required to be passed before acceptance of deposits/loans from Members (including Directors, relative of a Director, any other company etc.) The term used is only "Resolution" and not "Special Resolution", in section 73(2). But this is a case where the loans received are going to be converted into equity. We need to check Section 63 that deals with	allottees as required under rule 12 sub rule (3) and sub-rule (4) is not made available. Allotment of equity shares after conversion of loans into shares is yet to happen. Post such allotment the following are expected from the company: Board resolution to allot the shares u/s 63(2) List of allottees with any further moneys to be received, having been received Filing of PAS – 3 forms

	"Further issue of share capital" Under the Proviso to sub section (3) of section 62 the terms of issue of such debentures or loan containing such an option have to be approved before the issue of such debentures or the raising of loan by a special resolution passed by the company in general meeting. The powers of Board with respect to the following acts are subject to approval by shareholders in the general meeting. *Section 179. (3)*- The Board of Directors of a company shall exercise the following powers on behalf of the company by means of resolutions passed at meetings of the Board, namely:— (a) to make calls on shareholders in respect of money unpaid on their shares; (b) to authorise buy-back of securities under section 68; (c) to issue securities, including debentures, whether in or outside India; (d) to borrow monies; (e) to invest the funds of the company; (f) to grant loans or give guarantee or provide security in respect of loans; (g) to approve financial statement and the Board's report; (h) to diversify the business of the company;	

	(i) to approve amalgamation, merger or reconstruction; (j) to take over a company or acquire a controlling or substantial stake in another company; (k) any other matter which may be prescribed: Since the company has received moneys from its members, relative of director and from another company, though not considered as deposits, must before acceptance of the moneys as loan: 1. Pass a Board resolution to receive the moneys (under section 179(3)) 2. To convene a general meeting under section 73(2) 3. To get approval of the shareholders under section 179(3)(d) to borrow moneys and pass a special resolution authorising the company to accept moneys from the member, relative and another company in the form of loans that will be converted into equity at a future date as and when the company decides at the agreed price at the time of conversion 4. File Form MGT-14 within 30 days of the passing of special resolution with ROC. At the time of conversion of loan to equity 1. Pass a Board resolution 2. Prepare list of allottees	

	3. File Form PAS-3 within 30 days of the passing of Board Resolution for allotment of equity shares.	
4.	Copies of the following were asked: 1. Certificate of incorporation 2. Memorandum of association	Provided and are available
5.	1. Articles of association 2. MGT-7 – filing of Annual return with the RoC 3. Form no AOC -4 – filing of annual FS with the RoC	Provided and are available
6.	Copies of the financial statements were asked: 1. Audited and signed copy of the FS for the FY ended March 31, 2019 2. Projected Revenue, cost and cash flows for the 10 FY till March 31, 2030 3. Unaudited FS for the period ending January 24, 2020 4. Bank statements for the period from February 2019 till January 24, 2020 evidencing receipt of funds from the members/ directors/ relative 5. Ledger account in the books of the company reflecting the loan amounts in the name of the members/directors/relative as unsecured loans	Provided and are available
6.	From the Web and publicly available sources the following were collated: 1. 10 year GoI Bond RoI from Bloomberg website 2. Market return from BSE website to ascertain the average market	

	return from 2010 and 2020 using BSE S&P 500 Index 3. Beta is assumed as 1 since the company does not have comparable companies to ascertain the Beta	
7.	Following documentation were sent to the company for their signature: 1. Engagement letter signed by both the directors including valuers fee structure. This covers engagement assumptions and duties and responsibilities of each party 2. Management representation letter	Documents sent to the company for their review and signature
8.	Draft valuation report arriving at per share value range – minimum and maximum using the DCF method.	The projections with 5% CAGR was considered to issue the opinion

The company is a start-up one. Its business appears to be in exhibition industry. Women entrepreneurs are encouraged to become members of a scheme run by the company (not shareholders but members in some club run by the company). Only those member participants in the scheme could be allowed space or opportunity in company provided market place to show case their products/skills and arrange to market and sell to the target customers.

Since the company is yet to start commercial operations, the discount rate to be applied must be between 40 to 70%. The growth considered by the company under two sets of projections were 5 % and 28%. As a thumb rule, the discounting rate used for the 5% CAGR projections was 13.5% (bank lending rate) and for the 28% for the one with the CAGR of 28%

Now several questions arise:

1. The company has not submitted the onetime deposit return for the deposits received from its directors/members/related parties
2. No Board resolution was passed before receipt of the deposits

3. No special resolution has been passed at the company's general meeting prior to receipt of the deposits
4. No resolution passed to convert the deposits into equity with the terms and issue price agreed
5. In that context, will issuing a valuation report serve the purpose of allotment?
6. Can the ROC accept the return of allotment or treat it as irregular?
7. The punishments attached to non-filing of deposit return, receipt of deposit moneys without passing the necessary Board and special resolution under sections 63(2)/179(3) and non-filing of PAS 3 returns hanging on the heads of the Directors, how successful will it be to submit the return of allotment along with Valuation report?
8. Should the valuer consider the non-compliance of the provisions of the companies Act 2013 in his report?

These questions currently are in the grey area.

ISBN : 978-81-8441-964-1

June | 2020 | 00000 (New)

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