Series-6

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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Foreword

In an economy, valuation is required to facilitate a variety of transactions like mergers, acquisitions, financing, taxation, liquidations etc. Different statutes – FEMA, SEBI, Companies Act, Income Tax, IBC requires valuation for a variety of purposes. It is fair to say that Valuation as a profession still remains untapped even though it offers huge opportunities for professionals rendering services in this field. But a professional should not only be competent to practise, he must also enjoy the trust and respect of his stakeholders.

India is amongst the global leader in establishing start-up ecosystem and has produced more than 50 unicorns. Through this ecosystem, innovators and entrepreneurs tries to solve real-world problems by developing requisite solutions and digital tools. Start-ups are subjected to various pricing regulations and have to comply with the multiple valuation needs under different statutes. This has been creating abundance of opportunities for professionals in the field of transaction pricing and valuations. Hence, as a professional one needs to continuously train themselves and upskill their competency to meet the requirements of the ever-changing business and economic environment.

At this juncture, I accolade the efforts of Valuation Standards Board of ICAI and ICAI Registered Valuers Organisation for taking the collective efforts for bringing out this Sixth Series of the publication titled- '**Valuation: Professionals**' **Insight** containing various articles from Valuation Experts on a range of topics that are shaping valuation and the valuation profession globally.

I extend my appreciation to the entire Valuation Standards Board especially to CA. Anil S. Bhandari, Chairman and CA. M P Vijay Kumar, Vice-Chairman, Valuation Standards Board for bringing out this publication in the form of Series for the benefit of members and other stakeholders.

I hope that the articles incorporated in this publication will be of immense use for its user's understanding about the concept of valuation in a number of ways.

CA. Nihar N Jambusaria
President, ICAI
Director ICAI RVO

Date: 30th June 2021

Place: New Delhi

Preface

Valuation is not a new concept and has been existing for decades, ever since people have been doing and running business, but the theories, tools and software in the area has revolutionised in last few decades. While there are various advanced tools and software available in the field of valuation, but it is hardly a precise science and requires extensive research and professional judgement of a valuer.

Valuation of businesses and assets is a multi-facet discipline driven by various factors such as the purpose of valuation, statutory requirements, business drivers, macro and micro economic environment, government policies etc and hence it cannot be completely codified into any digital tool or software. It is the practical insights and interpretations of the experts in the field of valuation that can prove to be immensely beneficial for a valuer in understanding these intricacies and complexities.

Considering the need for a practical insight into the knowledge of the valuers and professional practices followed by them in the field of valuation, the Valuation Standards Board jointly with ICAI Registered Valuers Organisation has decided to bring out sixth series of the publication titled "Valuation: Professionals' Insights". This publication like the other five series is a compilation of the articles on various valuation topics written by experts in this field. 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 the President of ICAI and Director ICAI RVO, CA. Nihar N. Jambusaria and Vice President of ICAI, CA. (Dr.) Debashis Mitra for their continued support in all the endeavours of the Board.

We would like to take this opportunity to convey our sincere thanks and gratitude towards the Board of ICAI RVO comprising of Shri Rajeev Kher, Chairman of the Board and other Directors, Shri Ashok Haldia, Shri Pawan Singh Tomar, Prof. Anil Saini and Shri Prafulla P. Chhajed, Shri Rakesh Sehgal for joining in the constant endeavours of the Board.

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

We, on behalf of the Valuation Standards Board, would like to put on record our appreciation to CA Hitendra Ranka, CA. Subhash Nathuramka, CA. Sandeep Dash, CA. Uttam Padival, CA. Nitin Pahilwani, CA. Rajiv Ahuja, CA. Deepak Sharma, CA. Shilpang Karia, CA. Niranjan Shah, CA Dipam Patel, CA. Amrish Garg, CA Gandharv Jain, CA Manee Bansal, Mr Romesh Vijayvarghiya & Mr Anand Shah for their contribution in developing this publication Valuation: Professionals' Insight Series VI.

We would like to thank Shri Rakesh Sehgal, Director, ICAI, CA. Sarika Singhal, Secretary to the Board, Ms S. Rita, Deputy Secretary ICAI, Ms Seema Jangid, CA. Pragya Agarwal and CA. Nikita Aggarwal for providing their technical and administrative support in bringing out this publication.

We are sure that this publication will be warmly received by all the members and they would find it immensely useful in carrying out their valuation assignments much more efficiently and effectively.

CA. Anil S. Bhandari
Chairman
Valuation Standards Board, ICAI

CA. M P Vijay Kumar
Vice Chairman
Valuation Standards Board, ICAI

Date: 28th June, 2021

Place: New Delhi

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Chapter 1
Valuation of Debentures

1. Types of Investments

There are two modes in which an entity can raise funds – Equity and Debt. Alternatively put, Equity and Debt are the two modes through which an investor can invest. Before venturing into the realm of valuations, let us understand the differences between Equity & Debt and the impact of these differences on the risks and expected returns.

2. Features of Equity Investments

Equity holders / Investors are co-owners of the Issuer / Investee. Equity holders enjoy privilege of participating in the management thereby influencing the strategic and operational decisions of the investee. Equity investment is not required to be repaid by the investee. Return on equity is in the form of appropriation of profits, called dividend, which is not a tax-deductible expense for the investee. Equity holders enjoy accretion to the value of their investment on account of superior performance of the investee. Alternatively, Equity investors bear the risk of erosion in the value of their investment, if the investee performs poorly.

3. Features of Debt Investments

Debt holders are the lenders to the investee. Debt holders cannot participate in the management of the investee. Regulations across the world give only such rights to the debt holders which are required to protect the interests of the debt holders. Debt is required to be repaid by the investee. Return on debt is in the form of expenditure, called interest, which is tax deductible for the investee. The value of debt investment does not increase proportionately on account of superior performance of the investee. However, in case the investee is performing poorly, the debt investment will experience erosion in value because there is risk that the investee may be unable to service the debt and/or repay the principal. Hence, the only risk which the debt holders bear is default risk.

Following table summarises the differences between equity and debt investments:

Table 1: Comparison of Equity with Debt

Differentiator	Equity	Debt
Relationship of the investor with the investee	Owner	Lender
Whether investor has the right to participate in the management of the affairs of the investee?	☺	☹
Whether investment needs to be repaid by the investee to the investor?	☹	☺
Nature of returns by investee to investor	Appropriation of profits, termed as "Dividend"	Charge against profits, termed as "Interest"
Whether returns need to be paid by investee to investor irrespective of the operational result?	☹	☺
Whether returns paid by investee to investor is tax deductible for investee?	☹	☺
Relative risk borne by the investor	Higher	Lower
Relative returns' expectation by the investor	Higher	Lower

Applying valuation principles without the proper understanding of the asset / liability being valued would be like attempting to cross the English Channel after a through read of the books on how to learn swimming. Hence in order to understand valuation of Debentures, we need to first appreciate the interesting contours of Debentures.

4. Debentures: Background

Debentures are debt instruments. They are paid interest during the tenure and at the end of the tenure, they must be repaid. Like any debt instrument, the only risk which a debenture holder is exposed to is the default risk. Debenture holders are not the owners of the company and hence do not enjoy any management privileges which an equity shareholder enjoys. Debenture

holders do not take any risk which an equity shareholder takes. Consequently, the return expectation of the debenture holder is less than the return expectation of the equity shareholders.

Hence, the postulate – Privileges, risks and consequently the Value of Debenture ("Vd") issued by an entity is less than Value of the Equity ("Ve") of that entity.

5. Debentures: Types

Debentures, being a debt instrument, have to be repaid (redeemed) at the end of the tenure. Such debentures that get repaid but not converted, are called *Redeemable Debentures or Non-Convertible Debentures.*

Alternatively, it might be agreed between the investor and the investee that instead of redeeming the debenture, the investee will issue a new alternate instrument. When this is done, the debenture, on retirement, is not redeemed but gets converted into a new instrument issued by the investee. Such debentures are termed as *Irredeemable Debentures or Convertible Debentures.*

Having understood the types of Debentures, let us see how debentures are valued.

6. Valuation of Non-Convertible Debentures

Non-**C**onvertible **D**ebentures ("NCD") are pure debt instruments. Like any debt instrument, NCDs can be valued by discounting the cash flows associated with NCDs at the appropriate discount rate.

Cash Flows: Cash flows associated with NCDs are,

- Periodical returns during the tenure of the NCD; and
- Repayment of principal on retirement of the NCD.

Periodical returns in the case of NCDs would be interest receivable on the NCDs upto the date of redemption. While identifying the periodical interest, care should be taken to ensure that the frequency of interest payment (monthly, quarterly, half yearly, annually) is considered.

On retirement NCDs are paid in full. In certain cases[1], in addition to the repayment of the principal, certain premium would also be paid. Such premium should also be considered for the purpose of valuation.

Appropriate Discount rate

The rate to be used for discounting should be the returns' expectation rate of the investors from similar instruments. The investor's expectations are reflected in **Y**ield **t**o **M**aturity ("YtM") of comparable debt instruments. Comparable Debt Instrument is one, which,

- carries the same annualised coupon rate as that of the debt instrument being valued;
- has the same unexpired tenor as that of the debt instrument being valued and
- has the same default risk as that of the Company issuing the debt instrument being valued.

While comparing the coupon rates, care should be taken to ensure that the coupon rates are comparable. Coupon Rates would be incomparable if the frequency of coupon payments is different. In such cases to ensure comparability, the stated annual coupon rates should be converted into **E**ffective **A**nnual **R**ates ("EAR") by using the formula,

$$EAR = (1+ r \div f)^{f} -1$$

where,

r = Stated Annual Coupon Rate

f = Frequency of Coupon payments in a year

For instance, if an instrument carries a coupon rate of 4% and has coupon payments semi-annually, EAR would be 4.04% i.e.., $(1+ 0.04 \div 2)^2 -1$.

Unexpired Tenor refers to the period upto the date of redemption / retirement of the instrument which can be computed by using the formula,

$$UxT_{Days} = (DoR – DoV + 1)$$

[1] Zero Coupon Bonds are an example of NCDs, which do not carry any interest receipts. However, to compensate the non-payment of interests, such bonds are retired / redeemed at a high premium.

UxT_{Months} = (DoR – DoV + 1) ÷ 30

UxT_{Years} = (DoR – DoV + 1) ÷ 365

where,

UxT_{Days} = Unexpired Tenor expressed in days

UxT_{Months} = Unexpired Tenor expressed in months

UxT_{Years} = Unexpired Tenor expressed in years

DoR = Date of Redemption / Retirement

DoV = Date of Valuation

For instance, if an instrument issued on 01/Jan/2021 due for redemption on 31/Dec/2030 has to be valued on 01/Apr/2022,

UxT_{Days} = (31/Dec/2030 – 01/Apr/2022 + 1) = 3197 days

UxT_{Months} = (31/Dec/2030 – 01/Apr/2022 + 1) ÷ 30 = 106.57 Months

UxT_{Years} = (31/Dec/2030 – 01/Apr/2022 + 1) ÷ 365 = 8.76 Years

Like how β is the measure of non-diversifiable risk in the case of equities, credit rating issued by independent rating agencies can be used as a proxy for representing the default risk of the company issuing the NCDs. In case credit rating from an independent rating agency for the company issuing the NCD is not available, credit rating can be imputed by considering the profitability, debt equity ratio, interest coverage ratio, etc. of the company issuing the NCD.

Where it is not possible to obtain / impute the credit rating, YtM can be derived based on the guideline / clarification issued by the **F**ixed **I**ncome **M**oney **M**arket and **D**erivatives **A**ssociation of **I**ndia (FIMMDA) for valuing bonds, debentures and preference shares which are not rated by a rating[2] agency as follows:

- Obtain the YtM on the valuation date of a corporate debt instrument having the rating equivalent to "BBB-" and which carries the same annualised coupon rate as that of the NCD and has the same unexpired tenor as that of the NCD;
- Deduct the Risk Free Rate of Return on the valuation date from the

[2] Para C) of FIMMDA Circular numbered FIMCIR/2019-20/35 dated March 31, 2020 [http://www.fimmda.org/uploads/general/FIMMDA_Valuation_of_Investment_Circular_2020.pdf]

above YtM to arrive at the default spread;

- Add 25% premium to the above default spread to arrive at the adjusted default spread;
- Add the Risk Free Rate of Return on the valuation date to the adjusted default spread to arrive at the discount rate.

7. Valuation of Convertible Debentures

While speaking of Convertible Debentures, the most prevalent instrument issued in lieu of a convertible debenture is a new equity instrument. Having said that, there is no requirement, regulatory or customary, that only equity shares must be issued on conversion of Convertible Debentures. There are also instances where preference shares or new debentures are issued in lieu of a convertible debenture. Since, such instances are exceptions rather than a rule, for the purpose of this discussion, Convertible Debentures unless otherwise specified, refer to debt instruments which are retired by issuing fresh equity shares.

8. Convertible Debentures: Types

Convertible Debentures are of two types – **C**ompulsorily **C**onvertible **D**ebentures ("CCD") and **O**ptionally **C**onvertibles **D**ebentures ("OCD"). As the name itself suggests, if the terms of the debenture specify that the debenture will be converted into equity without any choice; but out of compulsion, they are CCDs, else OCDs. The terms of the OCD specify the party who holds the right of deciding about the conversion, which can either be the investor or the investee. Depending upon the party having the exercise rights, OCDs would be Debt Instruments with Call Option or Debt Instruments with Put Option. Irrespective of who holds the option of conversion, the conversion option might be exercisable at any time before maturity or at the time of maturity. Depending upon timing of the right to exercise the option, OCDs might be American Options or European Options. Following table summarises the type of OCDs:

Table 2 : Type of OCDs

Right of conversion available with → / Right of conversion exercisable ↓	**Investee [Put]**	**Investor [Call]**
Any time upto the date of maturity [American]	American Put OCD	American Call OCD
At the time of Maturity [European]	European Put OCD	European Call OCD

Whatever might be the type of option, OCDs are derivatives deriving a part of their value from the value of the underlying instrument. It goes without saying that in case the option is not exercised upto the date of maturity, the OCD will become NCDs. OCDs can be valued using Binomial Model, Option Pricing Model, Black-Scholes Model, or any other model for valuing derivatives. For now, we will curb our obsession for OCDs for another discussion paper and move on to CCDs.

Like any other asset, the value of CCDs would be the present value of future cash flows consisting of,

- Periodical interest income and
- Terminal value.

For discounting the periodical interest income, the approach discussed for NCDs can be applied *mutatis mutandis*.

As discussed earlier, discounted Terminal Value in case of NCDs would be amount receivable on redemption, discounted at the appropriate discount rate. However, in case of CCDs, the discounted Terminal Value would be the value of equity at the date of conversion, discounted to the date of valuation, at the appropriate discount date.

For computing the value of equity on the date of conversion using the DCF method following points should be kept in mind:

- The projected cash flows should not consider the interest payments on the CCDs.

- While arriving at the price per share on the conversion date, the Equity Value on the conversion date would have to be divided by number of equity shares outstanding on a fully diluted basis on the conversion date including the number of equities to be allotted for converting the CCDs.
- In case WACC is used for computing the present value of equity on the conversion date, CCDs should be considered as being part of equity and accordingly weights should be assigned.

9. Ve as a demi-proxy for Convertible Debentures' Value

Since Convertible Debentures (OCDs as well as CCDs) embody the features of both equity and debt, there have and will always be doubts about what exactly are Convertible Debentures. An attempt to classify them either as an equity or as a debt would be akin to the blind friends of John[3]. We will never be able to arrive at a consensus because, convertibles are neither cocoons nor butterflies but embody the features both at different times.

Having said that, Convertible Debentures are neither equity pedigrees nor pure debts, but both. They remain a debt instruments upto the date of conversion. Hence, upto the date of conversion, Convertible Debentures carry default risk and from the date of conversion, equity risk i.e.,

$$V_{CD} = V_{d \text{ upto the date of conversion}} + V_{e \text{ beyond the date of conversion}}$$

On the basis of the principle enunciated in the earlier postulate[4], we know that V_e is always greater than V_d. Since Convertible Debentures are debts for some part of their life, we can safely conclude that **as on the on the date of valuation, V_{CD} will always be less than the V_e.**

Valuation of Convertible Debentures is relatively tougher than Valuation of Equity because of the lack of sufficient market data about debt instruments considering the shallow nature of the debt instruments' market in India.

Considering the above conclusion and the ease of valuation, one can explore using value of equity as a demi-proxy for Convertible Debentures' value. Under this demi-proxy approach, instead of computing the value of Convertible

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[3] It was six men of Indostan | To learning much inclined, | Who went to see the Elephant| (Though all of them were blind),|That each by observation| Might satisfy his mind - *John Godfrey Saxe*

[4] Privileges, risks and consequently the Value of Debenture ("Vd") issued by an entity is less than Value of the Equity ("Ve") of that entity.

Debenture, value per fully-diluted equity share is computed by making the following additional adjustments:

- Capital representing Convertible Debenture is considered as forming part of equity;
- Tax shield on interest payment upto the date of conversion is additionally considered;
- While arriving at the value per equity share, number of shares is considered on a fully diluted basis.

After computing the value per fully-diluted equity share, it is concluded that the value of the Convertible Debenture would be lower than computed value.

This demi-proxy approach is particularly useful in cases where the requirement is to arrive at the minimum value of the Convertible Debentures rather than the exact value of Convertible Debentures. In the Indian regulatory scenario, following are instances where Regulator is concerned with the minimum value rather than the exact value:

- Valuation requirement under section 62(1)(c) of the Companies Act, 2013[5] where the Regulator requires knowing the minimum value at which an instrument can be issued on preferential basis;
- Valuation requirement under Rule 21(2)(a) of FEMA (Non-Debt Instruments) Rule, 2019 where the Regulator requires knowing the minimum value at which an equity instrument can be issued to a person resident outside India;
- Valuation requirement under Rule 21(2)(b) of FEMA (Non-Debt Instruments) Rule, 2019 where the Regulator requires knowing the minimum value at which an equity instrument can be transferred by a person resident in India to a person resident outside India.
- Valuation requirement under Rule 11UA(1)(c)(c) of Income Tax Rules, 1962 where the Regulator requires knowing the minimum value at which an unquoted non-equity security can be received by a person.

[5] Literal interpretation of 62(1)(c) of Companies Act, 2013 hints an exact valuation requirement. However, the intention of the said statute seems to be to prevent allotment of instruments to new shareholders at less than the fair market value and not to prohibit companies from allotment of instruments to new shareholders at a price higher than the fair market value.

In the above cases, it would suffice if the value of equity on fully diluted basis is computed with an appropriate disclosure that since the computed value would be higher than the Convertible Debenture Value, allotment / transfer of the Convertible Debenture at the computed value would be above the fair market value of the Convertible Debenture.

The demi-proxy approach would not be suitable to answer the Regulators in cases where the allotment / transfer of the Convertible Debentures is below the equity value on a fully-diluted basis. The demi-proxy approach is also not suitable for 21(2)(c) FEMA (Non-Debt Instruments) Rule, 2019.

Having said that, the demi-proxy approach might be very handy since majority of current valuation assignments require the valuers to justify the lower threshold.

Chapter 2
Discount for Lack of Marketability

1. Introduction

Valuers are often required to value non-marketable ownership interests in unlisted companies. These valuations may be undertaken for ESOP or for taxation or for other purposes. In undertaking such valuations, the valuer often needs to apply a valuation adjustment or a discount to the initially arrived value in order to reach the final value assessment. The need for applying such discount is necessary considering that the potential buyers for most unlisted companies' ownership interests generally comprises of a small percentage of potential buyers of most publicly traded securities.

Discount for Lack of Marketability (DLOM) is an adjustment to the valuation of a security of a company to account for the fact that the buyer of the security may face liquidity issue as and when he intends to sell the said security. It is based on the premise that a liquid security's worth is more than a security that is illiquid. The illiquidity may be due to (a) the security has been issued by a privately held company (unlisted security) (b) there are restrictions on sale of security (lock-in period, regulatory restrictions).

A non-marketable investment is one that lacks a ready market while an illiquid investment is one for which a market exists, but the investment is not actively traded, or there are restrictions that prevent access to that market. Example- a private enterprise is marketable (there is a market) but illiquid (there is no active market). A typical minority interest in a private enterprise is non-marketable.

There is no exact DLOM percentage which can be applied to each transaction. DLOM varies from one transaction to another transaction. Thus, determining an appropriate level of DLOM for a transaction is a very complex and subjective assessment that requires valuer's judgement on the following matters; though not restricted to:

i. Size and nature

ii. Time and costs associated with marketability of security

iii. Restrictions on transferability

iv. History of past transactions

v. Exit rights

vi. Lack of or limitation to access to information

vii. Nature of security i.e., Preferred security or common stock and overall capital structure of the Company.

viii. risk or volatility

Volatility directly influences the DLOM. Generally, as volatility increases, the risk of stock price depreciation also increases along with increase in other risk factors related to holding a non-marketable security. The longer the required holding period, the greater would be the price discount that a buyer would normally demand. Further, in case of a Company with complex capital structure comprising preferred stocks and common stocks, the common stock warrants higher discount factor as compared to preferred stock.

When an investor owns a security that is restricted from trading, such investor assumes the risks of:

a) not being able to sell the investment if the value begins to decline

b) not being able to sell the investment to reallocate funds to another investment.

2. Methods for calculation of DLOM

When application of DLOM is inevitable, the valuer often relies on two types of models to quantify the appropriate DLOM:

a) Empirical Model

b) Theoretical Model

2.1 Empirical Model

Under the empirical model, the valuer analyses the DLOM applied to historical comparable capital market transactions. There are restricted stock studies and Pre-IPO studies in US markets.

Restricted stock studies: Restricted stock is the stock of a publicly listed company which is identical to the stock of the listed entity but is restricted from trading in open market for certain time period. There are numerous instances

of restricted stock in developed economies. The median discount observed in these studies ranges between 13 percent to 45 percent.[1]

Pre IPO studies: Another source of empirical data is the price a stock exhibited in private transactions prior to an IPO vis-à-vis the price of the stock post successful IPO. Since, only successful IPOs are tracked in the study, the data may present a sample biasness. The pre-IPO studies cover hundreds of transactions over more than 30 years. Difference between private transaction prices and public market prices may vary under different market conditions, ranging between 40 to 60 percent.

It may be noted that DLOM varies from transaction to transaction and it becomes extremely important to evaluate individual facts and circumstances and not to solely rely on references to the studies. Thus, the theoretical model to calculate DLOM is preferred as opposed to applying DLOM based on empirical studies.

2.2 Theoretical Model

Under the theoretical model, the DLOM is calculated based on the fundamental micro-economic relationships.

Empirical evidence suggests option pricing models (OPM) as the most appropriate method for estimating DLOMs. Below is the list of different option pricing models that could be used for calculation of DLOM:

a) The Chaffe Approach[2] – Protective put method

b) The Longstaff Approach[3] – based on Lookback put option

c) The Finnerty Approach[4] – based on average-strike put option

d) The Ghaidarov Approach – based on average-strike put option

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[1] Independent studies of restricted stock transactions are reported in Shannon P. Pratt's Valuing a Business: The Analysis and Appraisal of Closely Held Companies, 5th ed. (New York: McGraw- Hill, 2007), and Shannon P. Pratt's Business Valuation Discounts and Premiums (Hoboken, NJ: John Wiley & Sons, Inc., 2009).

[2] David B.H. Chaffe III, "Option Pricing as a Proxy for Discount for Lack of Marketability in Private Company Valuations," Business Valuation Review (December 1993): 182–6.

[3] Longstaff, Francis A., "How Much Can Marketability Affect Security Values?", The Journal of Finance, Vol. L, No. 5 (1995), pp.1767-1774.

[4] John D. Finnerty, "The Impact of Transfer Restrictions on Stock Prices." Analysis Group/ Economics (October 2002).

a) The Chaffe Approach- Protective put method

In 1993, David Chaffe authored a DLOM option pricing study in which he related the cost to purchase a European put option (put options which can be exercised only on the date of expiration) to the DLOM. In Chaffe's estimation, "if one holds restricted or non-marketable stock and purchases an option to sell those shares at the free market price, the holder has, in effect, purchased marketability for those shares, the price of that put is the discount for lack of marketability". Chaffe relied on the Black Scholes Merton (BSM) Put Option Pricing Model to determine the cost or price of the put option and defined the DLOM as the cost of put option divided by the market price.

Since, Chaffe Approach relies on BSM option pricing model, the inputs used are stock price, strike price, time to expiry, interest rate, dividend yield, volatility. In the said approach, the stock price and strike price equals marketable value of private company stock as of the valuation date, the time to expiration equals securities that are expected to remain non-marketable, interest rate represents the risk-free rate and volatility represents a judgement factor based on volatility of guideline publicly traded stocks. The model under the above approach is as follows

$$P_0 = X*e^{-rT}*N(-d_2) – S_0*N(-d_1)$$

where;

S_0 = Stock price

X = Strike price

T = Time to expiration

r = continuously compounded risk-free rate

$d_1 = (\ln(S/X) + (r + \sigma^2/2) *T)/ \sigma*(T)^{\wedge 1/2}$

$d_2 = d_1 - \sigma*(T)^{\wedge 1/2}$

σ = annual volatility of asset returns

N (*) = cumulative standard normal probability

N (-*) = 1 – N(x)

Due to the approach's reliance on European put options, the model is downward biased and thus, the results should be considered at a lower bound for estimating DLOMs and as such, should be viewed as minimum applicable

DLOM.

Below are certain representative DLOMs arrived under the approach for different levels of volatility and for different time to expiry period:

		Volatility				
		25%	**50%**	**75%**	**100%**	**125%**
Time to Expiry	**1**	6.50%	15.75%	24.84%	33.55%	41.74%
	2	7.41%	19.53%	31.25%	42.00%	51.52%
	3	7.56%	21.34%	34.42%	45.92%	55.49%
	4	7.41%	22.16%	35.93%	47.53%	56.62%
	5	7.11%	22.40%	36.44%	47.77%	56.13%

Based on risk free rate of 7%

Basis above output, it may be noted that discount is less for lower time to expiry and lower volatility levels.

b) The Longstaff Approach

Francis Longstaff used a lookback put option – exotic option with path dependency to estimate DLOMs. A lookback option differs from most options as the holder can at the end of expiry lookback and exercise the option at the highest stock price during the holding period. The approach thus, assumes that the investor has single security portfolio, perfect market timing and trading restrictions that prevent the security from being sold at optimal time.

While the Chaffe study is based on avoiding losses, the Longstaff study is based on unrealized gains. Alternatively, the study provides an upper bound on the value for marketability.

$$\text{Discount} = \left[2 + \frac{\sigma^2 T}{2}\right] * N\left[\frac{\sqrt{\sigma^2 T}}{2}\right] + \sqrt{\frac{\sigma^2 T}{2\pi}}\, e - \left[\frac{\sigma^2 T}{8}\right] - 1$$

where;

T = Time to expiry

σ = annual volatility of asset returns

N (*) = cumulative standard normal probability

Below are certain representative DLOMs arrived under the approach for different levels of volatility and for different time to expiry period:

		Volatility				
		25%	**50%**	**75%**	**100%**	**125%**
Time to Expiry	**1**	21.6%	46.6%	75.3%	108.1%	145.2%
	2	31.5%	70.1%	116.7%	172.0%	236.9%
	3	39.5%	90.0%	153.0%	229.9%	321.9%
	4	46.6%	108.1%	186.8%	284.9%	404.0%
	5	53.0%	125.0%	219.3%	338.4%	484.7%

The above analysis provides several new insights about how marketability restrictions affect security values. It also shows that discounts for lack of marketability can be large even when the length of the marketability restriction is very short. Secondly, the upper bound provides a benchmark for estimating the valuation effects of marketability restrictions such as circuit breakers, trading halts and prohibitions on program trading. Finally, these results allow us to assess directly whether empirical estimate of discounts for lack of marketability are consistent with rational market pricing.

The Longstaff model provides a wide upper bound because an average investor will possess imperfect market timing ability; therefore, the investor is unlikely to attain the maximum value of the security. Thus, it is generally not a reasonable method for estimating discounts when used with observed market volatilities since the upper bounds do not correlate well with observed market discounts and, in fact, rise in excess of 100 percent for high volatility securities with long restriction periods.

c) The Finnerty Approach

John Finnerty conducted an extension of Longstaff approach that "tests the relative importance of transfer restrictions on one hand and information and equity ownership concentration effects on the other in explaining private placement discount". Unlike the Longstaff study, the Finnerty approach derives DLOM using the value of an average strike put option.

$$DLOM = v_0 e^{-qT}\left[N\left(\frac{v\sqrt{T}}{2}\right) - N\left(-\frac{v\sqrt{T}}{2}\right)\right]$$

where;

$$V_{\sqrt{T}} = \sqrt{\sigma^2 T + \ln\left[2(e^{T\sigma^2} - \sigma^2 T - 1)\right] - 2\ln(e^{T\sigma^2} - 1)}$$

V_0 = Value of otherwise identical unrestricted interest

σ = annual volatility of the underlying security

N (*) = cumulative standard normal probability

q = Annualized dividend yield of security

T = Time to expiry

Finnerty's initial model contained a mathematical error that resulted in DLOMs exceeding 100% for long-holding periods. Finnerty published a modified model. The modified model produces no discount in excess of 32.3% regardless of higher volatilities and longer holding period times.

It has been observed that the Finnerty model more closely reflects the discounts observed from the FMV study[5] data vis-a-vis the other Put Option Pricing Models (POMPs).

Below are certain representative DLOMs arrived under the approach for different levels of volatility and for different time to expiry period:

		Volatility				
		25%	**50%**	**75%**	**100%**	**125%**
Time to Expiry	**1**	5.72%	11.24%	16.34%	20.85%	24.62%
	2	8.04%	15.50%	21.84%	26.63%	29.74%
	3	9.79%	18.52%	25.26%	29.50%	31.49%
	4	11.24%	20.85%	27.54%	30.95%	32.05%
	5	12.49%	22.73%	29.10%	31.66%	32.22%

With regards to his option-pricing study, Finnerty concluded that his model "calculates transferability discounts that are consistent with the range of discounts observed empirically in letter-stock private placements for common stocks with volatilities between 30% & 70%, but the implied discounts are greater than/ (less than) those predicted by the model for lower/(higher)

[5] FMV study is one of the most comprehensive study on restricted stock transactions data available.

volatilities.

d) The Ghaidarov Approach

Ghaidarov developed this study in the course of criticizing the flaws in the Finnerty approach. As a result, Finnerty modified his model. The equation for Ghaidarov model is as below:

$$DLOM = V_0 e^{-qT}\left[2N\left(\frac{V_T}{2}\right) - 1\right]$$

where;

$$V_T = \sqrt{\ln\left[2(e^{T\sigma^2} - \sigma^{2T} - 1)\right] - 2\ln(\sigma^2 T)}$$

V_0 = Value of otherwise identical unrestricted interest

σ = annual volatility of the underlying security

N (*) = cumulative standard normal probability

q = Annualized dividend yield of security

T = Time to expiry

The results of Ghaidarov model closely match the modified Finnerty model at particular holding periods and volatility. Stockdale affirms that the Ghaidarov model behaves properly over time, though cautions against using the model at higher volatilities for long holding periods since, the indicated DLOMs with those inputs eventually exceed the discounts implied by the restricted stock studies.

3. Differential Put Method

This method is used for companies with complex capital structure i.e., with equity shares and multiple preference shares having different conversion ratios or liquidation preferences.

The differential put is a variant of the protective put that estimates the discount based on difference between the protective put discount that would be estimated for the preferred stock and the protective put discount that would be estimated for the common stock, estimating the volatility for each series of stock based on the preferred stock liquidation preferences, and using a time to liquidity appropriate to each series of stock (example- the time to next financing round for the preferred stock and the time to the ultimate liquidity

event for common stock).

This method results in large discount for early-stage companies, in which the preferred stock liquidation preferences represent a high percentage of the equity value, and lowest discount for companies approaching an IPO, in which the preferred stock will be converted into common stock.

4. Conclusion

Estimating a discount for lack of marketability is extremely challenging, and none of above methods is completely reliable to handle all types of situations. The OPM studies discussed above generally indicate similar price discounts to restrictive stock studies given certain volatility assumptions.

All OPM methods share the conceptual shortcoming that purchasing a put is not equivalent to purchasing marketability alone since it also limits the downside risk while leaving the upside potential. In summary, these methods focus on the cost of buying a put without capturing the fact that to lock in today's price, the security holder would also have to sell a call. If it was feasible to hedge the non- marketable security, a more appropriate hedge might be to sell a forward contract, that might imply a discount for lack of marketability closer to the risk-free rate.

In addition, none of the models consider that even with such a hedge, the interest may still be illiquid. The strength of these put-based methods is that they appropriately capture the relationship between the duration of the restriction (time) and risk (volatility), and they have been correlated with the limited observable market data.

Therefore, OPM may understate the DLOM, as OPM ignore other factors that may reduce the marketability for privately held securities (e.g., contractual transferability restrictions). The DLOM indicated by a OPM is an appropriate starting point for a DLOM analysis. In determining a final DLOM, a valuer should consider other relevant factors that may contribute to a lack of marketability for the subject unlisted company interest.

Chapter 3
Treatment of Employee Stock Options in Business Valuations

One of the major challenges of business world and corporate finance is to align the interests of employees and shareholders, and increasingly, companies are offering employee stock option plans (ESOPs) to meet this challenge. Stock options grant employees a direct stake in the fortunes of the company which motivates them to engage in value-enhancing behaviour benefiting shareholders. This logic is apparently simple but the valuation of ESOPs is considerably complex.

Although the length of term varies across companies, a typical option has a 5-10-year life. Furthermore, the typical option is granted at the money, meaning that the strike price at which the option can be exercised is equal to the stock price at the time of the grant. Therefore, if the stock remains below the price at grant date throughout its life, the option will expire valueless and the employee will have gained nothing. If the stock increases in value, the employee still has the right to exercise the option and receive the shares at the strike price specified in the option agreement. Typically, an option also carries a vesting period and schedule. As do option lives, vesting schedules vary across companies. When employees exercise their options, they receive shares in exchange for paying the strike price. They can then retain the shares or sell them on the market for the current share price, having retained the spread between the market and strike prices (often referred to as the "intrinsic value" of the option).

The ESOPs are expected to benefit the employees of the company and expenses are born by existing shareholders.

Let us understand this with the help of an example.

Suppose if the employee exercises the option at a strike price of Rs 10 when the share price is Rs. 15, the employee receives a benefit of Rs. 5 at the expense of the shareholders, as it remains a cashless exercise. Now, if the employee exercises the option and immediately sells the share, pocketing the Rs. 5, the employee ends up with Rs. 5 of compensation while the company ends up with Rs. 10 of additional paid-up capital and one more share of stock

outstanding. If taxes and transaction costs are set aside, all parties are in exactly the same position that they would be had the company sold the shares in the open market for Rs 15 and paid the employee Rs 5. At this point, the company can either allow the additional share to remain outstanding or repurchase it from the open market. Whether or not the company opts to repurchase shares, the cost of options accrues to the shareholders. If the company repurchases its shares to satisfy option exercise, it avoids dilution but sacrifices cash. If the company chooses not to repurchase and instead issues more shares, it retains cash but dilutes ownership. So, either way the expected benefit to the employee from holding the option comes at the expense of existing shareholders.

Options create a claim against the existing shareholders. Furthermore, one can consider the magnitude of that obligation in terms of the discounted expected cash flows based on the intrinsic value of the option at exercise. But the options create potential benefits to the company's shareholders as well. Most directly, option compensation is likely to substitute for other forms of compensation that employees would otherwise require. More generally, option compensation changes incentives, which may also change the expected cash flows to the company.

1. There are multiple approaches to incorporate effects of ESOPs

1.1 Treasury Stock Approach

The simplest way to incorporate the effect of outstanding options in value per share is to divide the estimated value of equity by the number of shares that will be outstanding, if all options are exercised today – the fully diluted number of shares.

Estimated value of equity = value from a discounted cash flow model + expected proceeds from the exercise.

The biggest advantage of this approach is that it does not require a value per share to incorporate the option value into per-share value and circularity is ignored in computation.

However, this approach does not completely capture the complete impact on valuation.

1.2 Dilution stock approach

In this method, the company computes the number of options that are in the money at the end of the year as a basis for dilution. But rather than simply adding those shares to the number of shares outstanding, an adjustment is made for the cash that would be received (the strike price) if the options were exercised. Essentially, the dilution factor for the adjustment is based on 1 minus the strike/market ratio. For example, consider a company with 100 options outstanding, a strike price of Rs. 10, and a current market price of Rs. 40.

If the options were exercised, the company would receive Rs. 1,000 and 100 more shares would be outstanding. The company would then use the Rs. 1,000 to repurchase 25 shares (Rs. 1,000/ Rs. 40 = 25). As a result, although 100 options were outstanding, the dilution would be based on the 75 shares that could not be repurchased with the proceeds from the option exercise.

We have to further take effect of the tax saving and below equation would be used:

Strike price + [Tax rate × (Market price – Strike price)].

Continuing the example above and assuming a 25 percent tax rate, the cash available for repurchase would be Rs. 1,750, computed as Rs. 1,000 + [0.25 × (Rs. 4,000 – Rs. 1,000)]. The number of shares repurchased would be 43.75 (Rs. 1,750/ Rs. 40), so dilution would be only 56.25 shares (versus 75 shares).

1.3 Options based approach – future expected issuance

When valuing the equity of a company one has to take a cash flow perspective and assume that the company repurchases shares to issue to employees who are exercising options. This brings clarity to the cash flow implications without mixing the effect of dilution.

If in a business, one assumes no non-operating assets, the value of existing equity can be expressed as

Net Operating Assets (Net of Operating Liability) - Existing Interest-Bearing Debt

If the company provides all compensation in the form of salary or bonus and a standard discounted cash flow approach is followed, the value of the existing equity of the company can be expressed as:

Value of equity shareholders = PV (Expected operating free cash flows) – Existing debt (equation-1.1)

where,

PV (Expected operating free cash flows) is the present value of the expected operating free cash flows to the firm and includes terminal value.

Existing debt is existing interest-bearing debt, including preferred stock.

The next step in the exercise is to incorporate the effect of options. Options could effect the equation 1.1 in at least three different ways.

(i) Existing options represent an obligation of the company that is not naturally reflected in operating free cash flows and must be explicitly incorporated. From the perspective of the statement of cash flows, for example, options are reflected as a cash outflow from financing (to the extent that shares are repurchased to satisfy option grants) and a cash inflow from financing (for the strike price received when options are exercised). But from an equity valuation perspective, the cost of outstanding options should be considered as it represents a potentially significant claim against the equity of the company that is conceptually very similar to a liability.

(ii) The cost of likely future option grants should be considered to the extent that the forecasted cash inflows incorporate the anticipated benefits of options, the valuation must also include their costs. Although, it may initially seem odd to consider option compensation separately from the other compensation, the fact remains that options are different from other forms of compensation because they are not reflected typically on the income statement. As a result, net income is overstated because a major cost of doing business is ignored, but options do conceptually represent an expense and should be considered either in expected operating free cash flows or separately.

(iii) Considering the effects of options on expected future operating cash flows is necessary. That adjustment may be taken into account more naturally because it will directly affect the operating free cash flows of the company. For example, if the company has been relatively consistent in granting options, past trends of generating operating cash flows may be representative of the future. Similarly, the benefits of options will be reflected in net income, so earnings forecasts will

incorporate the incentive effects of options. If, on the other hand, the company has recently changed its compensation policy, explicitly taking option incentives into account may be more important. The potential adjustment takes two forms. First, options substitute for other compensation, so if the company has been increasing option compensation over time, its growth in reported profitability will be artificially inflated because of the resulting reduction in other forms of compensation that are included as part of compensation expense on the income statement. Second, options have incentive effects that may influence the future cash flow trajectory and risk.

Therefore,

Value of Equity shareholders

= PV (Expected pre-option operating free cash flows including terminal value)

– Existing debt – PV (Expected cost of existing options)

– PV (Expected cost of future options net of taxes)

+PV(Expected incremental cash inflows from options).

Equation (1.2)

The above is divided by outstanding no. of shares to determine value per equity share.

1.4 Option based approach- outstanding shares

The other and more preferred approach of dealing with options is to estimate the value of the options today, given today's value per share and the time premium on the option. Once this value has been estimated, it is subtracted from the estimated equity value, and divided by the number of shares outstanding to arrive at value per share.

Value of Equity per share = (Estimated Value of Equity – Value of Employee Options Outstanding net of tax)/ Primary number of shares outstanding

2. Option Valuation Models

One of the challenging aspect of stock options is determining the appropriate option-valuation model. Although several issues surround applying standard option-valuation approaches to employee stock options, probably major issue

is the issue of early exercise assumptions because option exercise is a function of many factors and belies simple assumptions. So, let us discuss various option models briefly.

2.1 Black-Scholes-Merton Model

The Black-Scholes-Merton (BSM) model is a pricing model for financial instruments. It is used for the valuation of stock options. This model is used to determine the fair prices of stock options based on six variables: volatility, type, underlying stock price, strike price, time, and risk-free rate. It is based on the principle of hedging and focuses on eliminating risks associated with the volatility of underlying assets and stock options.

The basic Black–Scholes model for a non-dividend-paying stock expresses option value as follows:

$$C = SN(D1) - Ke^{-rt}N(D2),$$

where,

C = the value of the option

S = the current market price of the stock

K = the strike price to be paid when the option is exercised

t = the time remaining before the option expires

N(•) = the cumulative standard normal density function

r = the risk-free interest rate

σ = the standard deviation of the return on the stock

$$D1 \equiv \frac{\log(S/K) + (r + \sigma^2/2)t}{\sigma\sqrt{t}}$$

$$D2 \equiv \frac{\log(S/K) + (r - \sigma^2/2)t}{\sigma\sqrt{t}}.$$

The first term of the equation(D1) can be thought of as the present value of receiving the stock at exercise price conditional on the option being in the money.

The second term(D2) captures the present value of having to pay the exercise price conditional on the option being in the money. The difference is the value of the option.

If the company is expected to pay dividends, the Black–Scholes model can be supplemented with an adjustment for dividends. The adjustment basically represents the present value of the dividends that would be sacrificed by holding the option rather than the underlying stock.

If one assumes that the stock pays dividends continuously at a constant dividend yield and that options are held to maturity, the option pricing model can be adjusted by substituting $S_{Dividend}$ for S in the Black– Scholes model, where

$$S_{Dividend} = Se^{-\delta t},$$

Where,

theta = annual dividend yield as a percentage of the current

market price of the stock.

The Black–Scholes model is well suited for estimating the value of the option obligation because it provides an estimate of the present value of the future payoffs to the option. Consequently, it does not require that the potential values of the options be forecasted then discounted back but instead permits the value to be inferred from inputs—such as the current market price, option strike price, risk-free interest rate, expected share price volatility, dividend payout, and expected time to exercise—to calculate the value of an option.

BSM model has certain major limitations. One of this limitation is that it does not accurately value stock options in the US. It is because it assumes that options can only be exercised on its expiration/maturity date. It does not take early exercise in picture. So, some modifications in traditional BSM model were made and Modified Black-Scholes Model was invented.

2.2 Modified Black-Scholes Model

Early exercise based on expected option life is explicitly incorporated in the modified Black–Scholes model. But this approach has a major assumption that all exercise occurs in the average exercise year. For example- If the life of the option is 10 years, all the exercise will happen in the 5th year.

Option exercise for a given grant is typically spread out over several years rather than occurring at one time.

2.3 Binomial model

The Binomial Lattice Option-Pricing (BLOP) model is a discrete model. This means that it is computed using a finite number of periods, in contrast to the Black-Scholes and Black-Scholes- Merton models, where the time period is assumed to be continuous. The BLOP model estimates the probability of a stock price moving up or down in a given period, and by how much. In a given period, a stock price can move up or down, creating two possible outcomes. Extending one period further, each of those results can have two possible outcomes, an up or down stock price movement. This creates three possible outcomes after two periods.

This process can be extended for any number of periods, where each new outcome has two possible outcomes. Each potential outcome for a given period is summed and discounted to present value to estimate the call price. The first step in the binomial option- pricing model is an intermediate set of equations for determining the expected up and down movement of the underlying stock price at each step.

Starting with the current share price and solving for each possible outcome using the up (U) and down (D) factors, one can construct the lattice of the future stock prices. The second intermediate calculation is then applied to determine the risk-neutral probability. The risk-neutral probability is a mathematical intermediate that by itself has no particular meaning.

Having constructed the stock price lattice, it is now possible to construct the option price lattice. Unlike the stock price lattice, which was constructed from the date of valuation until expiration, the option lattice is constructed from expiration and works its way backwards until it arrives at the date of valuation. Constructing the option price lattice is a two-step process. Beginning with the possible ending stock prices when the option expires, one uses backward induction to determine the weighted blend of each previous option value for each previous stock price.

Therefore, the value of the call option at step n is the greater of the stock price at step n less the exercise price, or zero. If the stock price is less than the exercise price, then the owner of the call option will allow the option to expire. Otherwise, the owner will exercise the call option and immediately sell the stock to capture the built-in profit. The future option values are then discounted back, step by step, to a single present value using a process called backward induction.

2.4 Other methods

Other methods for option valuation include Huddart Model, which is developed by Hemmer, Matsunaga, and Shevlin in 1994 and incorporated a spread of exercise over time, it assumed that exercise is not affected by how far the option is in the money.

Monte Carlo Simulation: Monte Carlo methods are a class of computational algorithms that are based on repeated computation and random sampling.

Chapter 4
Special Purpose Acquisition Company – An Alternative to Traditional IPOs

1. An Introduction

The special purpose acquisition companies ("SPACs") also known as "blank check companies" have been emerging as a viable alternative to traditional initial public offerings ("IPO") to take companies public. The SPAC is a company with no commercial operations, that is formed strictly to raise capital through an initial public offering for the purpose of acquiring an existing company. Once the SPAC acquires a target company, the target company merges with SPAC and become a publicly-traded company on the stock exchange.

SPACs help companies go public a lot quicker (a few weeks to months) in less time with fewer fees compared to traditional IPO route. A SPAC usually has a time period of approximately two years to acquire a target company. If the SPAC fails to achieve the business combination within the specified time period, the SPAC will dissolve and return the funds to the investors.

Though SPACs have been around for decades but have become more common in the recent years specially in the United States ("US"). The number of SPAC IPOs and the funds raised through SPAC IPOs in the US have increased significantly in 2019 and 2020. There were 248 SPAC IPOs and ~$83.0 billion[1] were raised in 2020 as compared to $13.6 billion raised in 2019 which was more than four times the $3.2 billion raised in 2016[2]. In the US, SPAC IPOs have outpaced traditional IPOs during the first three months in 2021 as the preferred method for public fundraising as presented in the chart below.

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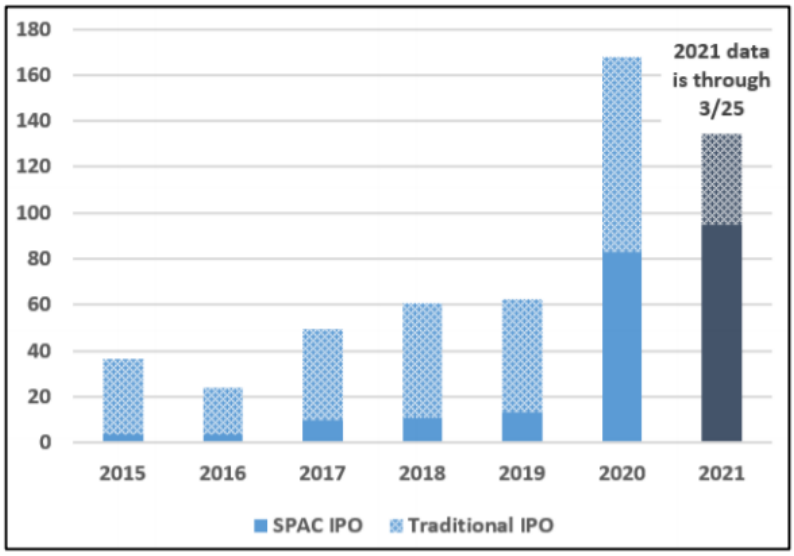
1 https://www.fe.training/free-resources/accounting/special-purpose-acquisitions-companies-spacs/

2 https://www.investopedia.com/terms/s/spac.asp

Figure 1. Funds Raised by SPAC IPOs and Traditional IPOs per Year ($Billions)



Source: CRS, based on data from Dealogic and the *Wall Street Journal*.

The recent spurt in the popularity of SPACs in the US has provided opportunities to Indian companies to list on the US stock exchanges. For example, ReNew Power Limited, India's leading pure-play renewable energy producer, has taken SPAC route to list on NASDAQ. In February 2021, ReNew Power and RMG Acquisition Corporation II (a SPAC listed on NASDAQ) announced the execution of a definitive agreement for a business combination that would result in ReNew becoming a publicly listed company on the NASDAQ[3]. Similarly, based on the information available in public domains, online grocery platform Grofers is also reportedly in advanced stages of exploring a SPAC deal. According to the news reports, venture capital firms Elevation Capital and Think Investments are expected to launch a SPAC focused on Indian technology companies seeking to list in the US[4].

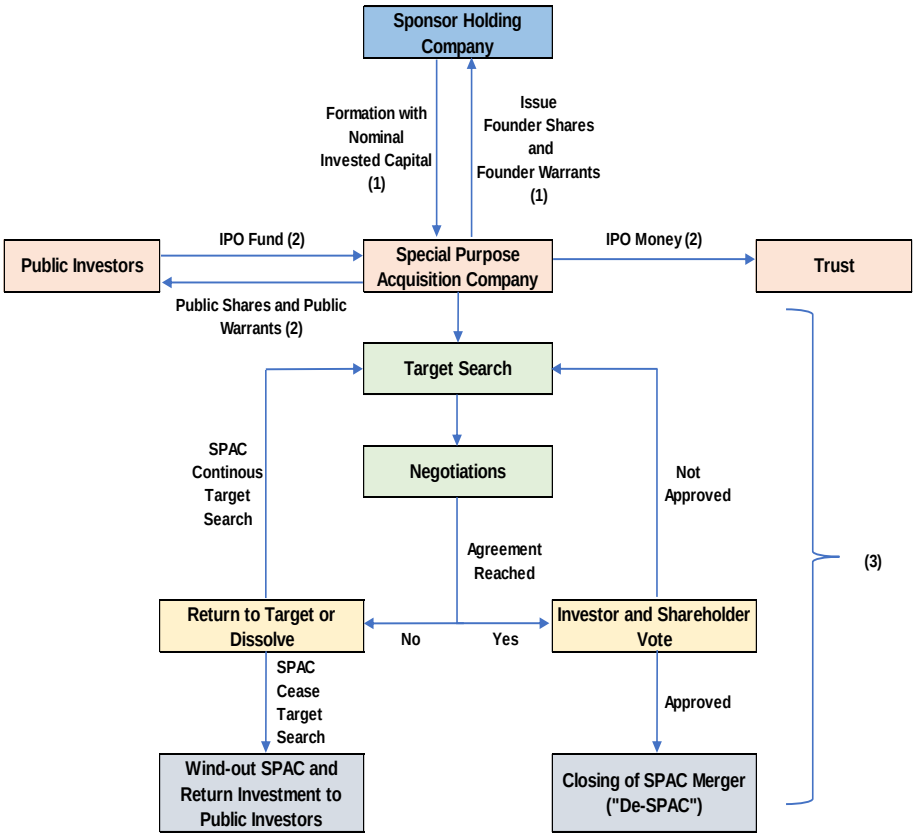
[3] https://www.businesswire.com/news/home/20210224005431/en/ReNew-Power-India%E2%80%99s-Leading-Renewable-Energy-Company%C2%A0to-Publicly-List-through-Business-Combination-with-RMG-Acquisition-Corporation-II-in-8-Billion-Transaction

[4] https://indianexpress.com/article/explained/what-are-spacs-and-why-are-they-under-the-scanner-7242646/

As SPACs are becoming a buzz word in the financial world, this article covers an overview of the SPAC structure, various instruments issued in SPAC structure and how to determine the fair market value of those instruments.

2. An Overview of SPAC Structure

The structure of a SPAC is presented in the chart below:



Step 1: Formation of SPAC

Generally, a SPAC is formed by an experienced management team or a sponsor also known as the founders. The founders provide the starting capital for the company for completing SPAC registration and IPO processing. The founders of the SPAC, purchase founder shares that entitle them to have approximately 20% ownership interest in the outstanding shares of SPAC, after the successful completion of the IPO. Along with the founder shares, the founders are usually subscriber to founder warrants. The founder shares and

founder warrants are intended to compensate the management team, who are not allowed to receive any salary or commission from the company until an acquisition transaction is completed.

Step 2: Completion of IPO

A SPAC will go through the typical IPO process of filing a registration statement with the U.S. Securities and Exchange Commission ("SEC"), clearing SEC comments, and undertaking a road show followed by a firm commitment underwriting. In consideration to the IPO fund, the public investors typically receive the public shares that results in 80% ownership interest in the outstanding shares of SPAC after the successful completion of the IPO. Along with the public shares, public investors are also generally issued public warrants. The purpose of the warrant is to provide investors with additional compensation for investing in the SPAC.

According to SEC rules, a SPAC must keep 90% of its IPO gross proceeds in an escrow account on the date of acquisition.

Step 3: De-SPAC

After the SPAC has raised the required capital through an IPO, the management team has a fixed time period, generally 24 months, to identify a target and complete the acquisition. The period may vary depending on the company and industry. After the SPAC completes a merger, the previously privately held target company becomes a publicly listed operating company. This last step of creating the listed successor company is referred to as a "de-SPAC" transaction.

The SPAC should complete acquisitions reaching an aggregate fair market value of at least 80% of the value of the escrow account within the specified time period. If the acquisitions cannot be completed within that time, the SPAC must file for an extension or return the funds to investors. At the time of the de-SPAC transaction, the combined company also must meet stock exchange listing requirements for an operating company. The Nasdaq and the New York Stock Exchange are two common exchanges for SPAC listings.

Once target is identified, the SPACs typically need to solicit shareholders' approval for a merger and make appropriate fillings. Once, the shareholders approve the SPAC merger and all regulatory matters have been cleared, the merger will close and the target company becomes a public entity.

In the event, where the SPAC could not acquire a company before the lapse of the pre-determined period, the SPAC will be dissolved, and the IPO proceeds held in the trust account are returned to the public investors and the founders' interest in SPAC effectively expires worthless.

3. Instruments Issued in SPAC Structure

As presented in previous sections, various instruments are issued in the SPAC structure which include founder shares, founder warrants, public shares, public warrants.

In the IPO, SPACs are typically priced at a nominal $10 per share. Unlike a traditional IPO of an operating company, the SPAC IPO price is not based on a valuation of an existing business. The warrants issued by SPAC are also publicly traded and the exercise price of the warrants is typically $11.5 per share.

On the successful consummation of a business combination, the founder shares and founder warrants are convertible into SPAC's public shares that are traded on the stock exchange.

Though, the securities issued by SPAC are publicly traded, however, the fair market values of the founder shares and the founder warrants are not equal to publicly traded price of the respective securities especially before the acquisition of a target by SPAC. As previously discussed, the founders of SPAC through the founder shares and/or founder warrants are entitled to have a 20% ownership interest in SPAC. However, until the SPAC completes an acquisition, the fair market value of the founders' interest in SPAC is not equal to the 20% of SPAC's market capitalization because if the SPAC is not able to complete the acquisition within the specific time limit, the SPAC will be dissolved and the sponsors' interest effectively expires worthless.

Accordingly, various adjustments (as explained in the subsequent sections) are made for determining the fair market value of the founder shares and the founder warrants in SPAC until the SPAC completes an acquisition.

4. Valuation of the Founder Shares and the Founder Warrant in SPAC

From the period starting from the SPAC IPO till the date of business combination, the SPAC shares only represent an interest in a pool of capital placed in trust for the sole propose of making an acquisition within a specified term.

Accordingly, to determine the fair market value of the founder shares and the founder warrants in SPAC before the de-SPAC transaction, certain adjustments are made to the traded prices of the public shares in which the founder shares and founder warrants will be converted on completion of the de-SPAC transaction. The following three adjustments are generally made to arrive at the fair market of the founder shares and the founder warrants in SPAC during the period from the SPAC IPO through the business combination date.

- Forfeiture of sponsor's shares: As previously discussed, the SPAC's founders are generally entitled to receive a 20% interest in the SPAC. However, based on the historical trends of SPACs that have achieved business combination, the founders often forfeit a certain share of their interest in a SPAC as part of the business combination. Accordingly, while determining the value of founders' interest in a SPAC, an adjustment is required for the risk of any founder's shares/warrants being forfeited as part of the business combination transaction.
- Probability of successful business combination: A SPAC generally has 24 months from the IPO date to complete a business combination, after which the SPAC is liquidated, the cash in trust is returned to public shareholders and the founders' interest effectively expires worthless. Accordingly, the value of founders' interest is contingent upon the successful consummation of a business combination.
- Lock-up period: The founders' interest in a SPAC is subject to certain lock-up period after the consummation of the business combination. Accordingly, an adjustment for discount for lack of marketability is required to determine the fair market value of the founders' interest in a SPAC.

The determination of the fair market value of the founder shares and the founder warrants is explained with a practical example.

Key Facts (Hypothetical Inputs)

Traded Price of SPACs Public Shares as of the valuation date: $12 per share

Traded Price of SPACs Warrants as of the valuation date: $2 per warrant

# of Founder Shares in SPAC: 6,000,000

# of Founder Warrants in SPAC: 7,000,000

Step – 1: Valuation of the Shares Based on the Traded Price Before Adjustment:

As previously discussed, the founder shares are convertible into the publicly traded shares of SPAC after the successful consummation of a business combination. As the public shares and warrants of SPAC are traded on the stock exchange, as step 1, as a starting point, the value the founder shares and share warrants is computed based on the traded price of the public shares and warrants, respectively. This value is then appropriately adjusted for various adjustments factors as explained in subsequent steps.

Table 1

Indicated Value of the Founder Shares and Founder Warrants in SPAC Before Adjustments as of Valuation Date

Particulars	Traded Price Per Share/Warrant as of the Valuation Date	# of Shares/ Warrants as of the Valuation Date	Value as of the Valuation Date (Rounded)
	A	B	(A) x (B)
Founder Shares in SPAC (1)	$12	$6,000,000	$72,000,000
Founder Warrants in SPAC	$2	$7,000,000	$14,000,000
Indicated Value of Investment in SPAC Before Adjustments			**$86,000,000**

(1) The conversion ratio of the founder shares to the common shares of SPAC is assumed to be 1:1.

Step – 2: Application of Relevant Adjustments for Forfeiture Risk, Business Combination Risk and Lock-up Period:

As previously discussed, the values of the founder shares and the founder warrants are subject to certain adjustments, as explained below:

- **Forfeiture of founder's shares/warrants:** As previously discussed, based on the historical trends of SPACs that have achieved business combination, the founders often forfeit a certain share of their interest in a SPAC as part of the business combination. Accordingly, an adjustment is made for the risk of any founder's shares/warrants being forfeited as part of the business combination transaction.
    - An article published by the Harvard Law School Forum on Corporate Governance[5] found that 30 of 47 SPAC business combination transactions had sponsor shares forfeited, made subject to forfeiture or vesting, forfeited with conditional re-issuance, or transferred to private investment in public companies ("PIPE") or debt investors.

[5] https://corpgov.law.harvard.edu/2020/08/17/update-on-special-purpose-acquisition-companies

- According to an analysis by Stanford Law professor Michael Klausner and New York University School of Law assistant professor Michael Ohlrogge, the managers' promote is subject to further negotiations with the owner of the private company involved in a SPAC merger. While many SPAC managers receive the equivalent of 20% of a SPAC after its IPO, they have been awarded on average 7.7% of the company after a merger in deals between January 2019 and June 2020.[6]
- According to an article published by Vinson & Elkins, in the merger transaction of Playa Hotels & Resorts, the sponsor agreed to cancel one-third of its founder shares and warrants. In the merger transaction of Broadmark Realty Capital, the sponsor agreed to forfeit 44% of its founder shares and 58% of its private placement warrants.[7]

Accordingly, based on the various market studies approximately 20% to 50% of the founder's shares or warrants were forfeited as part of business combinations in SPAC merger transactions. Accordingly, to capture the impact of the forfeiture risk, a downward adjustment of 20% is made to the value computed in Step 1, as presented in Table 2 below.

Table 2

Application of Adjustments for Forfeiture Risk

Particulars	Adjustment Factor	Founder Shares in SPAC	Founder Warrants in SPAC
Value of the Shares Before Adjustment for Forfeiture of Shares/Warrants (See Table 1)		$72,000,000	$14,000,000
Less: Adjustment for Risk of Shares/Warrants Being Forfeited			
Founder Shares in SPAC	20.0%	(14,400,000)	-
Founder Warrants in SPAC	20.0%	-	(2,800,000)
Value of the Shares After Adjustment for Forfeiture of Shares/Warrants		**$57,600,000**	**$11,200,000**

- **Probability of successful business combination:** A SPAC generally has 24 months from the IPO date to complete a business combination, after which the SPAC is liquidated, the cash in trust is returned to public shareholders and the founders' interest effectively expires worthless. Accordingly, the value of founders' interest is contingent upon the successful consummation of a business combination.

[6] https://www.reuters.com/article/spac-compensation-analysis-idINKBN28J1JX

[7] https://media.velaw.com/wp-content/uploads/2019/11/28180430/6013ceea-197e-433f-a4f6-1c1bb247a354.pdf

Some of the studies available in the public domain in relation to the probability of successful business combinations are presented below:

- Based on market studies published by McKinsey & Company,[8] approximately 80% to 90% of SPACs have successfully consummated mergers in recent times.
- According to an article published on reddit.com, almost 20% of SPACs failed to find a target and were liquidated.[9]
- According to information extracted from spacdata.com, out of ~966 SPACs, 90 (i.e., approximately 9.5%) are already liquidated, 421 SPACs are still looking for an acquisition target, 151 SPACs have announced an acquisition of target, and balance 304 SPACs have completed an acquisition.[10]

Based on the various market studies, approximately 80% to 90% SPAC are able to successfully achieve the business combination. Accordingly, a 90% success rate of the business combination is assumed as presented in Table 3 and Table 4 below.

Table 3
Probability Weighted Value for the Founder Shares

Scenario #	Scenario Description	Probabiltiy Factor	Value Indications (See Table 2)	Weighted Value
1	Business Combination – Successful	90%	$57,600,000	$51,840,000
2	Business Combination – Unsuccessful	10%	-	-
	Probability Weighted Value for the Founder Shares in SPAC			**$51,840,000**

Table 4
Probability Weighted Value for the Founder Warrants

Scenario #	Scenario Description	Probabiltiy Factor	Value Indications (See Table 2)	Weighted Value
1	Business Combination – Successful	90%	$11,200,000	$10,080,000
2	Business Combination – Unsuccessful	10%	-	-
	Probability Weighted Value for the Founder Warrants in SPAC			**$10,080,000**

- **Lock-up period**: The founders' shares in SPAC are subject to certain lock-up period after the consummation of the business combination. Accordingly, an adjustment for discount for lack of marketability is

8 https://www.mckinsey.com/industries/private-equity-and-principal-investors/our-insights/earning-the-premium-a-recipe-for-long-term-spac-success

9 https://www.reddit.com/r/SPACs/comments/icya8v/a_beginners_faq_guide_to_spac_warrants

10 https://spacdata.com/index.php?lang=1&link=home

required to determine the fair market value of the sponsors' shares in the SPAC.

Generally, on conversion into the public shares of SPAC, the founder shares held by the founders will be locked up until one year after the completion of the business combination.

The warrants become exercisable on the later of (a) 30 days after the completion of the initial business combination or (b) 12 months from the closing of the IPO. In addition, they are not transferable, assignable, or saleable until 30 days after the completion of the business combination.

Accordingly, in order to capture the impact of the lock-up restrictions on the fair market values of the founder shares and the founder warrants, discount for lack of marketability is applied.

The adjustment for lack of marketability can be computed using the following empirical discount studies and methodologies:

- Restricted Stock Studies
- Put Option Pricing Models
    - Chaffe Protective Put Method
    - Finnerty Average Strike Put Method
    - Ghaidarov Average Strike Put Method
    - Longstaff Lookback Put Option Model

Based on the above studies and methods, and the term of lock-up period, the discount rate generally ranges between 15% to 20%. Accordingly, a downward adjustment of 15% can be made to capture the impact of lack of marketability due to the lock-up period.

Table 5
Application of Discount for Lack of Marketability

Particulars	Adjustment Factor	Founder Shares in SPAC	Founder Warrants in SPAC
Indicate Values of the Shares Before Transfer Restrictions		$51,840,000	$10,080,000
Less: Discount for Lack of Marketability	15.0%	(7,776,000)	(1,512,000)
Concluded Fair Market Values of the Shares Held by the Founders in SPAC		**$44,064,000**	**$8,568,000**

The table below summarize the total adjustment applied in determining the fair market value of the founder shares and the founder warrants in SPAC. Due to the adjustment factors discussed in this article, the concluded fair market value of the founder shares and the founder warrants is ~39% lower than the starting value based on the traded price of the securities of SPAC.

Table 6
Summary of Adjustments

Particulars	Founder Shares in SPAC	Founder Warrants in SPAC
Indicate Values of the Shares Before Adjustment (A)	$72,000,000	$14,000,000
Indicate Values of the Shares After Adjustment (B)	44,064,000	8,568,000
Total Adjustment (C=A-B)	**$27,936,000**	**$5,432,000**
Total Adjustment (%) (D=C/A)	**39%**	**39%**

5. Conclusion

While India has not taken an official regulatory stand on allowing the listing of SPACs here, the Security and Exchanges Board of India (SEBI) has reportedly formed a group of experts to study the feasibility of bringing SPACs under the regulatory ambit[11].

Accordingly, once the SPAC structure are allowed to be implemented in India, there will be opportunities for valuation professionals to value various instruments issued by the SPAC and the concept given in this article will be helpful to compute the fair market value of the founder shares and the founder warrants in SPAC.

Given the increasing popularity of SPACs globally, we may need not to wait for a long before we could see the implementation of the SPAC structures in India!!!

[11]https://indianexpress.com/article/explained/what-are-spacs-and-why-are-they-under-the-scanner-7242646/

Chapter 5
The Power of "N" Factor in Terminal Value

One of our team members asked in a recent valuation exercise why we discount terminal value using the penultimate (last) year of the projection and not the year after the penultimate (last) year of the projection period. For example, assume the penultimate (last) year of the projection period is "N", we discount the terminal value using discount factor pertaining to the year "N". We do not discount the terminal value using discount factor pertaining to the year after projection period "N+1"? This question seems to be a very basic question on discounting. However, on second thoughts, this has genesis from a very deep thought process to the valuation method under the Income Approach.

There are two primary methods based on the Income Approach to valuation.

1. Capitalisation of earnings method

Capitalisation of earnings is a method of determining the value by calculating the worth of its future cashflow from expected profits based on anticipated subsequent achievements of profits. Here the anticipated cashflow from subsequent profits are brought to the present value by dividing by rate of capitalisation. Therefore, economic benefits for a representative single period are converted to value through division by a capitalization rate. This method is also known as Gordon Growth Method. The below equation describes the Gordon Growth Method in a formula.

Equation A

$$PV = FCF1 / r$$

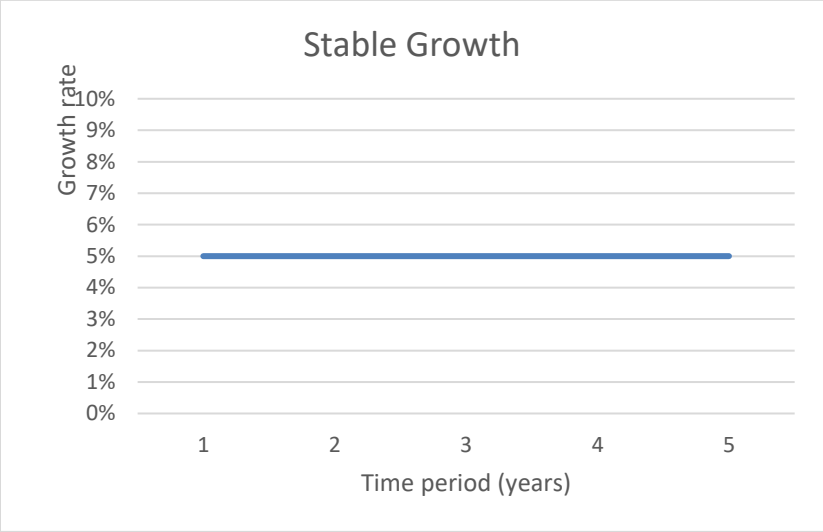
PV = Present value

FCF = Free cash flow

r = rate of capitalisation

The free cash flow (FCF1) represents cash flow for the time period of year following the valuation stage. The cash flow used in the capitalisation of earnings method is for year "1" if valuation is at juncture "0". The thought process behind the capitalisation of earnings method is that cash flow will grow

at a steady rate till perpetuity. Thus, the assumption that a single period presents a reliable estimation of flows for a business that will be generated for the investors in the expected time ahead.



The above chart represents a stable predictable growth rate which can be used for calculating the cash flows with reasonable certainty in the period going forward

Under this method, the underlying thought process is that the business will sustain to generate Free Cash Flow (FCF) at a normalised state in perpetuity, i.e., this method assumes the business will continue to generate Free Cash Flow (FCF) in a stable manner forever (perpetuity).

2. Discounted Cash Flow Method:

Discounted cash flow method of determining value by calculating present worth of the expected varying profits and anticipated subsequent achievement of profits. Here, the expected profits are the future cashflows for a limited projection period and a terminal value.

The below equation describes the discounted cash flow method in a formula.

Equation B

$$PV = \frac{FCF1}{(1+r)^1} + \frac{FCF2}{(1+r)^2} + \frac{FCF3}{(1+r)^3} + \frac{FCF4}{(1+r)^4} \dots \frac{FCFn}{(1+r)^n} + \frac{(FCFn^*(1+g))/(r-g)}{(1+r)^n}$$

Discrete projection period (First Stage) — *Terminal stage*

PV = Present value

FCF = Free cash flow

r = Discount rate

g = growth rate of long term

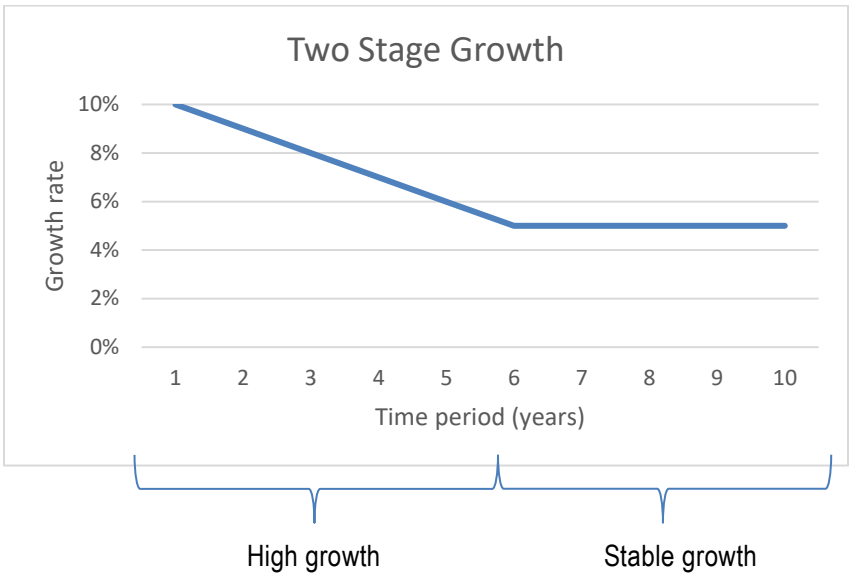
n = number of years in discrete projection period

The cashflow of the discrete projection period are estimated based on the expected growth of the business which can vary over the years. For example, the first few years of projection may have a high growth rate and then taper down in the next few years. The Terminal stage growth is the long term growth of the cashflow expected in the business over perpetuity. The underlying assumption being that the cashflow in the terminal stage will be stable over the period going forward. This part is essentially the Gordon growth method as described above. Thus, DCF is a combination of discounting the discrete projection period for finite years and then applying the capitalisation of earnings method for terminal stage.

This method is also described as Two stage method i.e. First stage being the discrete projection period applicable for a finite period and second stage being calculation of terminal value based on the perpetuity of cashlfow using long term growth in cashflows.

This method is suitable for businesses in industry having moderate barrier to entry from moderate completion, moderate pricing power for untapped opportunity. This attracts a high investment in the new industry from businesses. This presents a case for growing sales and higher profit margins leading to growth in earnings and cashflow. Once there is an external equilibrium in the marketplace, it leads to stable competition and stable pricing power for all the businesses in the industry. This causes internal equilibrium

in the business leading to stable growth in sales and constant profit margins from balanced investment in the business. Thus, a combination of internal equilibrium and external equilibrium leads an overall equilibrium. This balanced state is the genesis of steady sales and profit margins and predictable cashflow from liner growth rates.



The above chart represents a first stage of growth over five-year period and a stable predictable growth rate from sixth year onwards which can be used for calculating the cash flows with reasonable certainty in the period going forward

Another variant of Discounted cashflow method is "Three Stage Growth Method" whereby the first stage is expected to have high growth rate which narrow down to lower growth rate in the next few years known as the second stage and stable expected growth over the terminal period. The below equation describes the discounted cash flow method for a three-stage method in a formula.

Equation C

$$PV = \underbrace{\frac{FCF1}{(1+r)^1} + \frac{FCF2}{(1+r)^2} + \frac{FCF3}{(1+r)^3} + \frac{FCF4}{(1+r)^4} + \frac{FCF5}{(1+r)^5}}_{\text{Discrete projection period (First Stage)}}$$

Discrete projection period (Second Stage)

$$+ \frac{FCF6}{(1+r)^6} + \frac{FCF7}{(1+r)^7} + \frac{FCF8}{(1+r)^8} + \frac{FCF9}{(1+r)^9} + \frac{FCFn}{(1+r)^n}$$

Terminal stage

$$+ \frac{(FCFn * (1+g)) / (r-g)}{(1+r)^n}$$

PV = Present value

FCF = Free cash flow

r = Discount rate

g = growth rate of long term

n = number of years in discrete projection period

This method is meant for businesses experiencing high growth initially due to various reasons including new technology, low competition, and favourable consumer preference. Here, the business is experiencing an industry which has untapped market opportunity with virtually non-existent or low competition from other businesses.

This stage presents an imbalanced stage (first stage) of external environment in the industry with very small number of participants leading to attractive upcoming investment opportunity.

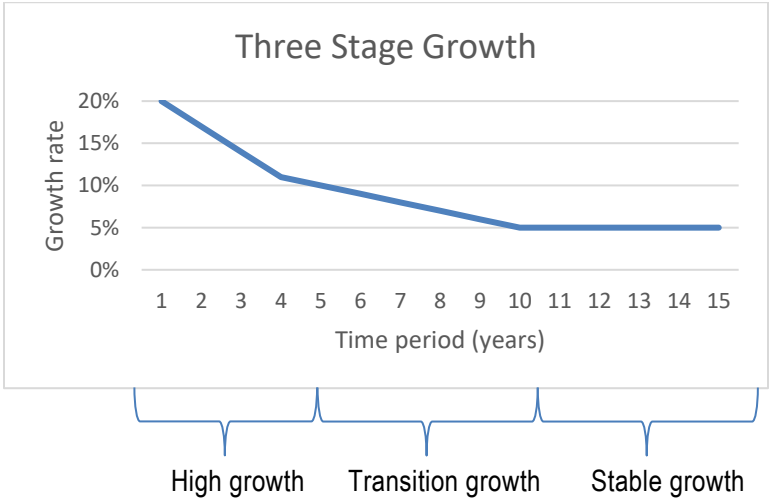
This external disequilibrium causes internal disequilibrium with high investments and resulting growing sales and high profits margins from high pricing power. This state of disequilibrium can continue for a short duration in an industry.

As the industry provides lucrative returns initially, it attracts more businesses to enter the competition. This stabilising process leads to relative lower disequilibrium in the external environment with small yet growing number of players in the industry due to lowering of barriers to entry resulting in moderate competition and loss of premium pricing for the participants.

This relative lower external disequilibrium leads to relative lower internal disequilibrium with moderately growing sales and moderating profits from moderating pricing power. This is the second stage of moderating growth (transition growth) of the business in industry.

In the third stage, the external environment of marketplace is divided in a significant number of participating business with mostly having low control over the industry. This is a steady state of external equilibrium which steady investments in the industry. Thus, the third stage can have higher competition and level playing field include stable pricing power for most businesses in the industry.

This external equilibrium triggers a state of internal equilibrium in the business with stable sales and uniform profit margins for the participants. Accordingly overall equilibrium is experienced from internal as well as external equilibrium leading to even growth in sales and stable profit margins. This leads to predictable cashflow due to observable data of growth and stable expected growth in future.



The above chart represents a first stage of high growth over five-year period and transition growth over next five-year period and then a stable predictable growth rate from eleventh year onwards which can be used for calculating the cash flows with reasonable certainty in the period going forward

However, the unsettled point of discussion is the discount factor considered for terminal value is "n" and not "n+1" i.e. if the stable predictable projection is

for period "n +1" onwards, why is it not discounted back by "n +1" instead of "n". For illustration, if we are valuing a business as on 1 April 2021 and the discrete projection period (two stage for simplicity) ends on 31 Mar 2026, the terminal value discount factor is pertaining to year ending 31 Mar 2026 (n) and not discount factor pertaining to year ending 31 Mar 27 (n+1)?

The solution lies in the detail of the equation. Here, the second part of the equation i.e., terminal value provides the cash flows immediately after the end of discrete projection period. Alternately, the terminal value gives the cash flow at the start of the terminal stage.

To present it in a simplified manner, the second part (terminal stage) of Equation B gives us a valuation of terminal stage cash flows as at the start of the terminal stage. Thus, the valuation date for terminal value is 31 Mar 2026.

Substituting Equation, A in Equation B

	Discrete projection period										Terminal stage
PV =	FCF 1 / (1+r) ^1	+	FCF 2 / (1+r) ^2	+	FCF 3 / (1+r) ^3	+	FCF 4 / (1+r) ^4	…	FCF n / (1+r) ^n	+	Terminal Value at Terminal stage

	Discrete projection period										Terminal stage
PV =	FCF 1 / (1+r) ^1	+	FCF 2 / (1+r) ^2	+	FCF 3 / (1+r) ^3	+	FCF 4 / (1+r) ^4	…	FCF n / (1+r) ^n	+	FCFn+1 /r / *Discount factor*

Or simplified

	Discrete projection period		Terminal stage
PV =	Present value of the Discrete projection period cash flows	+	Present value of Terminal stage cashflows

Here if we calculate the terminal value based on Gordon growth model the date of valuation would be close to start of the Terminal stage i.e., future value from terminal value will be generated at the start of the terminal stage. In other words, the future value from the terminal stage is available close to start of the period of start of terminal stage.

As we need to calculate the present value of the terminal value, the discount factor should be selected based on the timing of the future value of the terminal stage. As the future value from terminal stage is generated at the start of terminal stage, the discount factor relevant to the start of terminal stage is the discount factor for end of discrete period.

Correspondingly we can substitute the Equation A in Equation C for a three-stage calculation.

Similarly, in the three-stage model, the end of the second stage or start of the terminal period is relevant for analysis. The timing of terminal value based on Gordon growth model would be close end of second stage to start of the Terminal stage. Thus, the start of the terminal stage is the relevant benchmark for determining value for the future flows from the terminal period. This yardstick gives us an understanding of the timing of the value derived from the terminal stage cashflows.

Discrete projection period (First Stage)

$$PV = \frac{FCF1}{(1+r)^1} + \frac{FCF2}{(1+r)^2} + \frac{FCF3}{(1+r)^3} + \frac{FCF4}{(1+r)^4} + \frac{FCF5}{(1+r)^5}$$

Discrete projection period (Second Stage)

$$+ \frac{FCF6}{(1+r)^6} + \frac{FCF7}{(1+r)^7} + \frac{FCF8}{(1+r)^8} + \frac{FCF9}{(1+r)^9} + \frac{FCFn}{(1+r)^n}$$

Terminal stage

$$+ \text{Terminal Value at Terminal stage}$$

Discrete projection period (First Stage)

$$PV = \frac{FCF1}{} + \frac{FCF2}{} + \frac{FCF3}{} + \frac{FCF4}{} + \frac{FCF5}{}$$

$$\frac{}{(1+r)^1} \quad \frac{}{(1+r)^2} \quad \frac{}{(1+r)^3} \quad \frac{}{(1+r)^4} \quad \frac{}{(1+r)^5}$$

Discrete projection period (Second Stage)

$$+ \frac{FCF6}{(1+r)^6} + \frac{FCF7}{(1+r)^7} + \frac{FCF8}{(1+r)^8} + \frac{FCF9}{(1+r)^9} + \frac{FCFn}{(1+r)^n}$$

Terminal stage

$$+ \frac{FCFn+1 / r}{\text{Discount factor}}$$

Discrete projection period (First Stage)

PV = Present value of the Discrete projection period (First Stage) cash flows

Discrete projection period (Second Stage)

\+ Present value of the Discrete projection period (Second Stage) cash flows

Terminal stage

\+ Present value of Terminal stage cashflows

Or simplified

	Discrete projection (First and Second) period		Terminal stage
PV =	Present value of the Discrete projection (First and Second) period cash flows	+	Present value of Terminal stage cashflows

The discount factor used for the terminal value will be based on time gauge as

applicable for the start of terminal stage periods which is the end of second stage projection. As discussed above, the future value will be generated for the terminal stage period as at the start or beginning of the terminal stage.

Thus, the valuation under two stage or three stage method can be split into two phases, i.e., Phase 1 and Phase 2

Phase 1 is the present value of the projections for the finite projection period.

Phase 2 is the present value of the terminal value

Phase 1 will have the discount factor based on the year of the cash flows being projected i.e., the cash flow for year 1 will be discounted based on the discount factor of the year 1. Similarly, the cash flow for year 2 will be discounted based on the discount factor of the year 2 and so on

Phase 2 will have the discount factor based on the timing of the cash flows of the terminal period. The formula for Gordon growth model gives the expected present value for future cashflow in the terminal period. The present value at the start of the terminal period is close to the period of end of the finite projection period. Thus, the pertinent discount factor would be based on the end year of finite projection period

We can understand this better using following illustration:

A company ABC Limited is expected to generate cash flows at 10% growth in the year one, 9% growth in year two, 8% growth in the year three, 7% growth in year four, 6% growth in year five. ABC Limited is expected to generate cash flows at a stable growth rate of 5% post fifth year.

Phase 1: The year One to year Five can be considered the discrete or finite projection period. The cashflows pertaining to the Year One to Year Five would be discounted to bring them to present value using the corresponding discount factor of Year One to Year Five. An underlying assumption under this is that the cashflows are available to the business at the end of each relevant years.

Phase 2: The period pertaining to year five onwards can be considered the terminal stage period. The cashflow pertaining to the year five is considered as a basis for estimating the cashflow growing at stable growth in the terminal period.

As discussed earlier, we need to calculate the present value of the terminal value post fifth year, the discount factor should be selected based on the timing of the future value of the terminal stage after year five. As the future value

from terminal stage is generated at the start of terminal stage i.e., year sixth, the discount factor relevant to the start of terminal stage i.e., year five, is the discount factor for end of discrete period i.e., year fifth.

Anomaly explained

What would be anomaly if the terminal value is discounted using "N+1" period discount factor?

If we use the discount factor pertaining to "N+1" period to calculate the present value of the Terminal value, it will leave a gap of 1 year in the calculation or there would be mismatch in years of the discounting process for valuation. The terminal value provides the cashflow as at the start of the terminal period. Accordingly, the convention of discounting would be imbalanced as the discount factor should be in consonance with the timing of the cashflow. This would result in a lower discount factor being used to calculate the present value of the terminal value. Effectively this will present a lower value being attributed to the present value of the terminal value. Thus, the total present value will be incorrectly lower due to lower present value of terminal value.

Hence, the present value of terminal value is calculated using discount of period "N" which is *"Power of "N"*.

Chapter 6
Discounted Cash Flow Method and its Ingredients

Generally, there are three internationally accepted valuation approaches, which are.

(a) Cost Approach

(b) Income Approach

(c) Market Approach

Income approach 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 is determined based on the value indicated by current market expectations about those future amounts. This approach involves discounting future amounts (cash flows/income/cost savings) to a single present value.

The following are some of the instances where a valuer may apply the income approach:

(a) where the asset does not have any market comparable or comparable transaction;

(b) where the asset has fewer relevant market comparable; or

(c) where the asset is an income producing asset for which the future cash flows are available and can reasonably be projected.

Some of the common valuation methods under income approach are as follows:

(i) Discounted Cash Flow (DCF) Method;

(ii) Relief from Royalty (RFR) Method;

(iii) Multi-Period Excess Earnings Method (MEEM);

(iv) With and Without Method (WWM); and

(v) Option pricing models.

1. Discounted Cash Flow ('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. This method involves discounting of future cash flows expected to be generated by an asset over its life using an appropriate discount rate to arrive at the present value.

The following are the major steps in deriving a value using the DCF method:

(a) Consider the projections to determine the future cash flows expected to be generated by the asset;

(b) analyse the projections and its underlying assumptions to assess the reasonableness of the cash flows;

(c) choose the most appropriate type of cash flows for the asset, viz. pre-tax or post-tax cash flows, free cash flows to equity or free cash flows to firm;

(d) determine the discount rate and growth rate beyond explicit forecast period; and

(e) apply the discount rate to arrive at the present value of the explicit period cash flows and for arriving at the terminal value.

While using the DCF method, it is necessary to adjust the valuation to reflect matters that are not captured in either the cash flow forecasts, or the discount rate adopted for the purpose of valuation. In case of the 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.

2. Ingredients to DCF Method

Ingredients are those essential inputs which are required in the DCF Method to make valuation. The following are important ingredients for the DCF method:

(a) Cash flows;

(b) Discount rate; and

(c) Terminal value

2.1 Cash Flows

In most cases, the projections shall comprise of the statement of profit & loss, balance sheet, cash flow statement, along with the underlying key assumptions. However, in certain cases, if balance sheet and cash flow statement are not available, details of future capital expenditure and working capital requirements may also suffice.

The projections reflect the accrual-based accounting income and expenses. For arriving at the cash flows, non-cash expenses, such as depreciation and amortisation, shall be added back. Further, cash outflows relating to capital expenditure and incremental working capital requirements, if any shall be deducted.

Generally, historical financial statements are used as the base for preparation of projections. If in future, changes in circumstances are anticipated, the assumptions underlying the projections shall reflect differences on account of such differences vis-à-vis the historical financial statements.

A valuer shall by employing procedures such as ratio analysis, trend analysis to determine historical trends, gather necessary information to assess risks inherent in the achievability of the projections. The fact that the valuer considers the projections in estimating the value of the asset shall not be construed as the valuer being associated with or being a party to such projections.

The length of the period of projections (explicit forecast period) shall be determined based on the following factors:

(a) Nature of the asset- where the business is of cyclical nature, explicit forecast period should ordinarily consider one entire cycle (for example cement business).

(b) Life of the asset- In case of asset with definite life, explicit period should be for the entire life of the asset (for example, debt instruments, Build Operate Transfer (BOT) road projects).

(c) Sufficient period- The forecast period should have a length of time that is sufficient for the asset to achieve stable levels of operating performance.

(d) Reliable data- The data that are used for projecting the cash flows, should be reliable.

The following are the cash flows which are used for the projections:

(a) Free Cash Flows to Firm (FCFF): FCFF refers to cash flows that are available to all the providers of capital, i.e., equity shareholders, preference shareholders and lenders. Therefore, cash flows required to service lenders and preference shareholders such as interest, dividend, repayment of principal amount and even additional fund raising are not considered in the calculation of FCFF.

(b) Free Cash Flows to Equity (FCFE): FCFE refers to cash flows available to equity shareholders and therefore, cash flows after interest, dividend to preference shareholders, principal repayment and additional funds raised from lenders / preference shareholders are considered.

2.2 Discount Rate

Discount rate is the return expected by a market participant from a particular investment and shall reflect not only the time value of money but also the risk inherent in the asset being valued as well as the risk inherent in achieving the future cash flows.

The following discount rates are the most used depending upon the type of the asset:

(i) cost of equity;

(ii) weighted average cost of capital;

(iii) Internal Rate of Return ('IRR');

(iv) cost of debt; or

(v) yield.

Different methods are used for determining the discount rate. The most commonly used methods are as follows:

(i) Capital Asset Pricing Model (CAPM) for determining the cost of equity.

(ii) Weighted Average Cost of Capital (WACC) is the combination of cost of equity and cost of debt weighted for their relative contribution in funding the asset.

(iii) Build-up method (generally used only in absence of market inputs).

A valuer may consider the following factors while determining the discount rate:

(i) cash flows used for the projections as FCFE needs to be discounted by Cost of Equity, whereas FCFF to be discounted using WACC;

(ii) pre-tax cash flows need to be discounted by pre-tax discount rate whereas, post-tax cash flows to be discounted by post-tax discount rate;

E.g., Where we are considering cashflow after tax i.e., PAT (Profit After Tax) we should consider post-tax discount rate. Where the cashflow is pre-tax i.e., PBT (Profit Before Tax), pre-tax discount rate shall be considered.

2.2.1 BETA

CAPM is the widely use method for determining the Cost of Equity. Using the CAPM method cost of equity is determine as follows: -

$$\mathbf{Ke = Rf + \beta(Rm-Rf)}$$

Where;

Ke = Cost of Equity

Rf = Risk Free Return

β = Beta

Rm = Return from market

Generally, yield on 10 year Govt. Bond is considered as Risk Free return. Return given by stock market index is taken as return from market, such as return given by Nifty 50 or Sensex during the last 10 year is considered as Return from market.

Beta is a measure of the volatility or systematic risk of a security or portfolio compared to the market as a whole.

A beta coefficient can measure the volatility of an individual stock compared to the systematic risk of the entire market. In statistical terms, beta represents the slope of the line through a regression of data points. In finance, each of these data points represents an individual stock's returns against those of the market as a whole. Beta effectively describes the activity of a security's returns as it responds to swings in the market. A security's beta is calculated by dividing the product of the covariance of the security's returns and the market's returns by the variance of the market's returns over a specified period.

The calculation for beta is as follows:

$$\text{Beta coefficient}(\beta) = \frac{\text{Covariance (Re, Rm)}}{\text{Variance (Rm)}}$$

where:

Re = the return on an individual stock

Rm = the return on the overall market

Covariance = how changes in a stock's returns are related to changes in the market's returns

Variance = how far the market's data points spread out from their average value

In excel, Beta can be computed in a simple manner with the help of "SLOPE" function.

2.2.2 Types of Beta Values

(a) Beta Value Equals to 1.0

If a stock has a beta of 1.0, it indicates that its price activity is strongly correlated with the market. A stock with a beta of 1.0 has systematic risk. However, the beta calculation cannot detect any unsystematic risk. Adding a stock to a portfolio with a beta of 1.0 does not add any risk to the portfolio, but it also does not increase the likelihood that the portfolio will provide an excess return.

(b) Beta Value is Less Than One

A beta value that is less than 1.0 means that the security is theoretically less volatile than the market. Including this stock in a portfolio makes it less risky than the same portfolio without the stock. For example, utility stocks often have low betas because they tend to move more slowly than market averages.

(c) Beta Value is Greater Than One

A beta that is greater than 1.0 indicates that the security's price is theoretically more volatile than the market. For example, if a stock's beta is 1.2, it is assumed to be 20% more volatile than the market. Technology stocks and small cap stocks tend to have higher betas than the market benchmark. This indicates that adding the stock to a portfolio will increase the portfolio's risk, but may also increase its expected return.

(d) Negative Beta Value

Some stocks have negative betas. A beta of -1.0 means that the stock is inversely correlated to the market benchmark. This stock could be thought of as an opposite, mirror image of the benchmark's trends. Put options and inverse ETFs are designed to have negative betas. There are also a few industry groups, like gold miners, where a negative beta is also common.

Simply, we can say that Beta measures the movement relationship of the stock with the market (i. e. index). Beta tells us, if market move 5% upward then how much a particular stock would move and in which direction. If Beta of a particular stock is 1 then it indicates that this stock would move with the market. If market move 2% upward, stock will also move 2% upward. Where Beta of a stock is more than 1, let say 2, it indicates that this stock will move 2 times in response of a movement in the market. If market move 1% upward then this stock will move 2% upward, as beta of this stock is 2 times. Where Beta of a particular stock is -1 it indicates that this stock will move in opposite direction of the market move.

2.3 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.

In case of assets having indefinite or very long useful life, it is not practical to project the cash flows for such indefinite or long periods. Therefore, the valuer needs to determine the terminal value to capture the value of the asset at the end of explicit forecast period.

There are different methods for estimating the terminal value. The commonly used methods are:

(a) **Gordon (Constant) Growth Model:** The terminal value under this method is computed by dividing the perpetuity maintainable cash flows with the discount rate as reduced by the stable growth rate. The estimation of stable growth rate is of great significance, because, even a minor change in stable growth rate can have an impact on the terminal value and the value of the asset too.

(b) **Variable Growth Model:** The Constant Growth Model assumes that the asset grows (or declines) at a constant rate beyond the explicit forecast

period whereas, the Variable Growth Model assumes that the asset grows (or declines) at variable rate beyond the explicit forecast period.

(c) Exit Multiple: The estimation of terminal value under this method involves application of a market-evidence based capitalisation factor or a market multiple (for example, Enterprise Value (EV) / Earnings before Interest, Tax, Depreciation and Amortisation (EBITDA), EV / Sales) to the perpetuity earnings / income.

(d) Salvage / Liquidation value: In some cases, such as mine or oil fields, the terminal value has limited or no relationship with the cash flows projected for the explicit forecast period. For such assets, the terminal value is calculated as the salvage or realisable value less costs to be incurred for disposing of such asset.

Some of the factors that a valuer may consider while determining the terminal growth rate are as follows:

(a) whether the level of operations beyond explicit forecast period is expected to be significantly different from the level projected in the last year of the explicit forecast period or only a normal growth is expected;

(b) capacity utilisation at the end of explicit forecast period;

(c) functional currency in which the projections have been prepared;

(d) market share;

(e) product life cycle;

(f) geographic location of the asset;

(g) type of cash flows;

(h) residual life of the asset at the end of the explicit forecast period;

(i) capital investment required to support the assumed growth rate;

(j) whether there is future growth potential for the asset beyond the explicit forecast period, or whether the asset is deteriorating in nature; and

(k) for cyclical assets, the terminal value should consider the cyclical nature of the asset.

3. Discount for Lack of Marketability (DLOM)

DLOM is based on the premise that an asset which is readily marketable (such

as frequently traded securities) commands a higher value than an asset which requires longer marketing period to be sold (such as securities of an unlisted entity) or an asset having restriction on its ability to sell (such as securities under lock-in-period or regulatory restrictions).

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

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

4. Control Premium and Discount for Lack of Control (DLOC)

Control Premium generally represents the amount paid by acquirer for the benefits it would derive by controlling the acquiree's assets and cash flows. Control Premium is an amount that a buyer is willing to pay over the current market price of a publicly-traded company to acquire a controlling interest in an asset. It is opposite of discount for lack of control to be applied in case of valuation of a non-controlling/minority interest.

Generally, on acquisition an acquirer can derive benefits from the following:

(a) potential synergies as a result of merger/combination; and

(b) ability to influence acquiree's operating, financial, or corporate governance policies relating to appointment of board members, declaration of dividends, etc.

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

Chapter 7
Purchase Price Allocation & Intangible Assets Valuation

1. Background and Requirement

Under Ind AS framework

Under Indian Accounting Standard ('Ind AS') 103, Business Combinations, as on the acquisition date, the acquirer shall recognize separately from goodwill, the identifiable assets acquired, the liabilities assumed pursuant to acquisition of business. The acquirer's application of the recognition principle and conditions may result in recognizing some assets and liabilities that the acquiree had not previously recognized as assets and liabilities in its financial statements. For example, the acquirer recognizes the ***acquired identifiable intangible assets*** like customer-based intangibles etc. that acquiree did not recognize as assets in its financial statements because it developed them internally and charged the related costs to expenses.

The acquirer shall measure the identifiable assets acquired and the liabilities assumed at their ***acquisition-date fair values.***

Goodwill as on the acquisition date measured as the excess of (a) over (b) below:

(a) the consideration transferred measured based in accordance with this standard which generally requires acquisition-date fair value.

(b) the net of the acquisition-date amounts of the identifiable assets acquired and the liabilities assumed measured in accordance with this Ind AS.

Further Ind AS 38 on Intangible Assets states that the ***important criteria for the recognition of intangible asset are identifiability, control over a resource and existence of future economic benefits.***

Under erstwhile Indian GAAP framework

Under Accounting Standard ('AS') 10, where several assets are purchased for a consolidated price (i.e., slump sale), the consideration is apportioned to various assets on a fair basis. Hence, the buyer will account for all the assets

and liabilities at values determined post a valuation process. This may require recognition of assets not recognized by the seller, on account of these not meeting separate recognition criteria for the seller. However, the recognition of such assets is subject to the definition of assets enunciated under the relevant standards under IGAAP. Further as per AS 10, goodwill is generally accounted in the books only when some consideration in money or money's worth is paid for it. Whenever the consideration paid for the acquisition exceeds the net assets of the seller, the excess is termed as 'goodwill'.

Further, AS 26 Intangible Assets states that an Intangible Asset is an identifiable non-monetary asset, without physical substance, held for use in production or supply of goods or services, for rental to others, or for administrative purposes.

An intangible asset is to be recognized if, and only if, the following criteria are met:

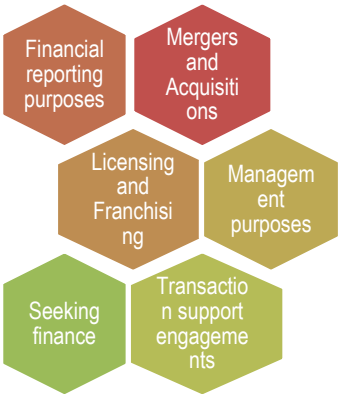
- ***it is probable that future economic benefits from the asset will flow to the entity; and***
- ***the cost (i.e., fair value) of the asset can be reliably measured.***

The standard defines fair value as "The amount for which an asset could be exchanged between knowledgeable, willing parties in an arm's length transaction".

2. Context & Purpose

Business combinations, Slump sales, Asset acquisitions – The critical aspect for all such transactions is to *allocate the consideration paid towards these transactions to respective assets and liabilities based on their acquisition date fair values*. A fairly complex process, it requires in-depth domain knowledge, understanding of the business plan, and expertise in intrinsic valuation to ensure all aspects of the analysis have been factored in correctly. From valuation point of view, intangible assets valuation is most complex and important in PPA exercise.

Purposes of Intangible Asset valuations –

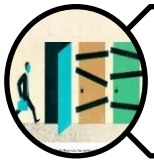


Let us discuss broad categories of Intangible assets with few examples –

Marketing-related
- trademarks
- unique trade design
- internet domains

Customer based
- customer contracts
- customer lists
- customer relationships - contractual and non-contractual

Artistic related
- royalties
- copyright protection
- motion pictures



Contract related
- lease agreements
- permits
- servicing contracts
- non-compete agreements

Technology based
- patented or non-patented technology
- software
- formulae

3. Valuation Aspects

Out of the three approaches viz. Cost, Market and Income for valuation of Intangible Assets, Income approach is the most commonly applied method and is frequently used to value intangible assets mentioned above.

Following are the popular methods under Income Approach -

(a) excess earnings method i.e., Multi-Period Excess Earning Method ('MEEM')

(b) with and without method

(c) relief from royalty method

(d) greenfield method and

(e) distributor method

In this edition, we are focusing on the first method i.e., excess earnings method.

Let us consider valuing customer relationship based intangible asset by using multi-period excess earnings method -

4. Valuation of Customer Relationship Based Intangible Asset

(i) Meaning

Customer-related intangible assets include customer lists, backlog, customer contracts and contractual and non-contractual customer relationships.

A valuation analyst should consider important elements that create this intangible asset which are mentioned below –

- For customer relationship based intangible asset to exist, it must have informational component or factual information about the customer like name, contact details, buying preferences etc. which can be useful to the Company.
- There is an expectation from such customer relationship for recurring business for the Company.
- Customer-related intangible assets create value for a definite finite period. Over period of time, customer lists will reduce due to customer mortality, competition etc.

- These assets often create value for the company along with use of other assets by the company to generate earnings e.g., property, plant and equipment, working capital, other intangible assets etc.

(ii) Important steps for valuation of customer relationship based intangible asset under MEEM

(a) Revenue estimate with appropriate attrition

(b) Contributory Asset charge

(c) Rate of return / Risk-adjusted discount rate

(d) Economic life

(e) Tax Amortization benefit

Let now us understand each step in detail -

(a) Revenue and cash flow estimate with appropriate attrition

Under this method, revenue and cash flows derived from the subject intangible asset needs to be determined and then cash flows attributed to Contributory assets needs to be deducted. This requires estimating the revenue from repeat business from existing customers as of the valuation date. Since the customer relationship assets derive value for a finite period, the number of customers providing business in future reduces over time. Attrition is the measurement of loss of existing customers. Here, if historical data is available, it may be used to arrive at the expected annual attrition rate. The attrition rate so arrived is then applied to projected revenue stream from existing customers to arrive at the expected revenue over the period of economic life of this asset.

(b) Contributory asset charges ('CACs')

There are various other assets in the category of property, plant and equipment, working capital, other intangible assets etc. which contributes in generating the projected revenue from the use of the existing customer relationships. Since the earnings from customer-relationship based intangible asset depends on these assets, the valuer must estimate the CACs to exclude the incremental cash flows attributable to customer relationship based intangible asset. Any non-operating assets which do not contribute in the estimated earnings should not be considered as contributory assets. The amount that should be deducted is typically the alternative costs for the contributory assets or the income such assets would generate in a different use if they were not used in connection with the subject intangible asset.

(c) Rate of return / Risk-adjusted discount rate

The determination of the appropriate discount rate to be used to estimate an intangible asset's fair value requires additional consideration as compared to those used when selecting a discount rate to determine enterprise value.

Selecting discount rates for intangible assets can be challenging, as observable market evidence of discount rates for intangible assets is rare. The selection of a discount rate for an intangible asset generally requires significant professional judgment. In selecting a discount rate for an intangible asset, valuers should perform an assessment of the risks associated with the subject intangible asset and consider observable discount rate benchmarks.

When assessing the risks associated with an intangible asset, a valuer should consider factors including the following:

- intangible assets often have higher risk than tangible assets,
- if an intangible asset is highly specialized to its current use it may have higher risk than assets with other potential uses,
- single intangible assets may have more risk than groups of assets (or businesses),
- intangible assets used in risky (sometimes referred to as non-routine) functions may have higher risk than intangible assets used in more low-risk or routine activities.
- the life of the asset. Similar to other investments, intangible assets with longer lives are often considered to have higher risk,
- intangible assets with more readily estimable cash flow streams, such as backlog, may have lower risk than similar intangible assets with less estimable cash flows such as customer relationships.

(d) Economic life

An important consideration in the valuation of an intangible asset is the economic life of the asset. This may be a finite period limited by legal, technological, functional or economic factors; other assets may have an indefinite life.

For customer related intangibles, attrition is a key factor in estimating an economic life as well as the cash flows used to value the customer related intangibles. Attrition applied in the valuation of intangible assets is a

quantification of expectations regarding future losses of customers. While it is a forward-looking estimate, attrition is often based on historical observations of attrition.

(e) Tax Amortization Benefit ('TAB')

The effect of income taxes should be considered when an intangible asset's fair value is estimated as part of a business combination, an asset acquisition, or an impairment analysis.

The present value of the intangible asset's projected cash flows should reflect the tax saving that may result from claiming of depreciation on such intangible asset. If the market or cost approach is used to value an intangible asset, the price paid to create or purchase the asset would already reflect the ability to amortize the asset. However, in the income approach, a TAB needs to be explicitly calculated and added.

Chapter 8
Startup Valuation

Valuing start-up companies is the most difficult task due to the absence of operating history and fewer success ratio among start-ups. Any business at the stage of new ideas, new research, new innovations, new technological products is at a dream stage, before it actually starts generating cash flow, so valuing young start-up is as difficult as valuing dream of any person. Start-up valuation is like 'Dream Valuation'. Every start-up has high level of dream which valuer needs to assess by carrying out critical analysis for putting appropriate valuation. Valuer needs to ask question at every point that whether promoter of start-up hold capacity to convert it into reality?

We can say Start-up is talk of town now a days. Everyone talks on start-up may be innovative youth, may be experienced businessman, may be government, may be investor, may be business newspapers & magazines etc. Start-up is name when you start business with new idea / new technology / new research, which could be Scalable Business Model. It is not necessary that promoter / founder should start business first time. Any successful businesses can also start new company / firm with new idea / new technology / new research as a start-up registration.

During 1994-2000 in USA stock of dot.com / internet-based companies grew aggressively, which was highly driven by sentimental estimates of analyst / investor. Yes, at the end internet end phenomenon, however at respective time it proved to be dotcom bubble in 2000. It leads to crash of NASDAQ (primarily consist of technology & internet-based stocks) market capitalization. We can derive certain similarities between those day's internet companies & present start-up companies.

Content:

(i) Startup – Meaning & Characteristics

(ii) Startup India – Eligibility, Registration & Key Tax Benefits

(iii) Startup - Funding

(iv) Startup – Investor Perspective

(v) Startup - Valuation Methods

1. What Is A Start Up?

- Ideas / Technology / Research, which could be Scalable Business Model.
- Owner of Business has an idea that can be fill up the unfilled needs of the consumers.
- Provide Solution to Numerous Users.
- To Convert Idea into Real Life Business Cycle.

Start-up characteristics:

- Ideas, Innovations, Technology
- No Operational History
- Insignificant Revenue Streams
- Uncertain Future
- High Operating Losses
- High Cash Burn Rates at Initial Level
- Capital Structure Issues

2. Eligibility for Start-Up India:

(Source: https://www.startupindia.gov.in)

2.1 Status:

- Private Limited Company
- LLP
- Partnership Firm

2.2 Business activities:

- Innovation, Development or Improvement of product / process/services.
- Scalable Business Model with high potential of employment generation or wealth creation.

2.3 Turnover:

<= Rs. 100 Crores

2.4 Period:

Can be registered as Start Up within 10 Years of Incorporation / Registration

2.5 Exclusion:

Splitting up or reconstruction of an existing business.

2.6 Process to register as startup India:

Application:

- Web (www.startupindia.gov.in) *or*
- Mobile App – Startup India

Documents:

- Incorporation / Registration Certificate
- A write up of Business Activity / Idea

Approving Authority:

- DPIIT (Department of Promotion of Industry and Internal Trade)

Total registration till date:

(Source: https://www.startupindia.gov.in/content/sih/en/startup-scheme.html)

- DPIIT Recognition: 38,756
- Income Tax Exemption: 266
- SIDBI Funds of Fund: 323 Start-ups funded.

2.7 Start-Up India – Key Tax Benefits Consideration for Valuation:

(i) Waiver of Income Tax at initial stage {Section 80IAC*}:

An Eligible start-up can avail deduction of 100% of profits for a block of 3 years in the first 5 years of its incorporation. Such deduction would be available upon filing an application with DPIIT and satisfying certain conditions.

(ii) Waiver from 'Angel tax' {Section 56(2)(viib)*}:

Domestic companies are required to issue their shares at fair market value (FMV) determined on net assets value basis or discounted cash flow basis determined by the merchant banker. Any amount received by the company from residents in India in excess of FMV is liable to tax in the hands of the

company (popularly known as 'Angel tax'). Upon filing the requisite declaration with DPIIT and subject to certain conditions, eligible start-ups are exempted from Angel tax.

(iii) Relaxation for Set-off and Carry Forward of Losses {Section 79*}:

The income tax law provides for carry forward and set-off of business losses. However, set-off is denied for a private company if there is 50% or more change in the shareholding pattern of such company from that of the year of loss. An Eligible start-up is not hit by this condition for the losses incurred in first 7 years, provided the shareholders holding shares in the year of loss continue to hold shares in the year of set off.

(iv) Exemption from Long-term Capital Gains Tax to Investors of Start-ups {Section 54GB*}:

Long-term capital gain from transfer of a residential property arising to an individual/HUF is exempted from tax where the net consideration is invested in the equity shares of Eligible start-ups.

(v) Exemption from Long-term Capital Gains Tax to Eligible Start-ups

{Section 54EE*}:

To exempt their tax on a long-term capital gain if such a long-term capital gain or a part thereof is invested in a specified asset up to Rs. 50 Lakhs within a period of **six months** from the date of transfer of the asset.

(vi) Relaxation in taxation of Employee Stock Options ('ESOP') for startups' Employees {17(2)(vi) and 192(1C)*}:

Where an eligible start-up issues ESOPs to its employees, such start-up is given certain relaxations on deducting tax on such ESOPs.

(vii) Reduced Tax Rate on Royalty Income from Patents {115BBF*}:

For innovative products start-ups with a portfolio of granted patents who missed the Start-up India Program scheme can make use of this opportunity under Section 115BBF at a **concessional rate of 10%** on royalties arising from licensing, sale or other commercial exploitation of patents developed and registered in India.

**** Subject to Terms & Conditions Specified in Relevant Section of the Income Tax Act.***

3. Startup Funding

Stage 1: Seed Funding

From Promoter's Close Groups

From Startup India Seed Fund Scheme (SISFS)

{https://seedfund.startupindia.gov.in}

- Startup Recognized by DPIIT
- Incorporated not more than 2 year ago at the time of application.
- The start-up must have a business idea to develop a product or a service with a market fit, viable commercialization, and scope of scaling.
- The start-up should be using technology in its core product or service, or business model, or distribution model, or methodology to solve the problem being targeted.
- Preference would be given to start-ups creating innovative solutions.
- Start-up should not have received more than Rs. 10 lakhs of monetary support under any other Central or State Government scheme.
- Shareholding by Indian promoters in the start-up should be at least 51% at the time of application to the incubator for the scheme.

Stage 2: Growth / Expansion Funding

From Angel Investor / Venture Capital / Private Equity

- Round A
- Round B

From Debt

Stage 3: Exit Funding

- IPO
- M & A

Raising fund through IPO for technology startup*: [NSE emerge]

- Track Record for 3 years
- At least 20% growth in past 1 year (Financial or Non-Financial)

- Post issue Capital <= Rs. 25 Crores
- Annual Turnover >= Rs. 10 Crores
- 10% of Pre-issue Capital by QIB OR by Member of Angel Investor OR PE having Investment in 25 startups – Aggregate Investment Rs. 50 Crores.

**** Subject to Other Specified Terms & Conditions.***

Raising fund through IPO for startup*: [BSE start-ups]

- The Company should register as a start-up with MSME/DIPP. In case it is not, then the company's paid-up capital should be minimum Rs. 1 Crore.
- Post issue Capital <= Rs. 25 Crores.
- The Company should have been in existence for minimum period of 2 years at the time of filing of draft prospectus with BSE.
- Investment by QIB/Angel/Accredited investor for minimum period of 2 years at the time of filing of draft prospectus with BSE.
- Net worth should be positive

**** Subject to Other Specified Terms & Conditions.***

4. What do investors look for in startups?

4.1 Idea – innovations – technology:

- Is it new? Or is it only shift from existing?
- Whether it can be separately identified / transferred / sold?
- Whether it is patented? Or capable of being patented?
- Whether control & legal right can be exercised by the company over that?
- Does it satisfy need of consumer?
- Is it disruptive in market?
- Do they have an early mover advantage?
- Is the sector regulated? What are the risks?

4.2 Promoters / Founders:

- Are they trustworthy?
- Are they capable?
- Do they have relevant experience?
- Do they have other businesses to divide focus?
- Whether this is first business activity or they have any success or failure ratio in past?
- Do they have a good management team to support their vision?
- Do they have long term commitment?
- Do they want to commit themselves contractually?
- Do they want to sign non-competence agreement with company?
- Salary / benefit, promoter / founder wants to draw till business can be converted into profit vis-à-vis their market worth.

4.3 Business & Industry:

- Is the product prototype ready? Does it need further testing?
- By when commercial launch is possible?
- What is progress of the product / project development?
- What are the Business Plans? & What is progress vis-à-vis Business Plans?
- Whether all type of scenario & adverse situation, if any covered in Business Plan?
- Are there any direct competitors? What is their size & capacity vis-à-vis our company?
- How will those competitors react to the product?
- How big is the addressable market? How can start-up place them in the market?

4.4 Funding:

- Have the promoters put in all that they have?

- How the funding pattern at each stage has been projected in Business Plan?
- What if those funds not received at later stage as per expectation of business?
- Whether promoter has any thought over potentially interested investors at each stage?
- What is the exit planning for investors? M & A / IPO etc.

4.5 Financial Planning:

- Are financial projections in line with Business Plan?
- Are in-depth forecasts prepared by the management or is it being prepared only by finance person without involvement of management?
- Visibility on revenue generation?
- By when and how much is the business likely to start making profits?
- Will the business require more funding going forward?
- How further funding need would be fulfilled?

5. Start-Up Valuation.

5.1 Startup Valuation – key issues:

- Understanding Innovations vis-à-vis Business Plan & Market Potential.
- Unclear Road map.
- Future Uncertainty.
- Absence of Operating History.
- Absence of Fund Clarity for Business Growth.
- Equity required to be diluted frequently.
- Key Persons Association with this activities / Other Activities

5.2 Valuation Methods:

(i) Discounted Cash Flow Method

(ii) Relative Method

(iii) Venture Capital Method

(iv) First Chicago Method

(v) Scorecard Method

(vi) Berkus Method

(vii) Risk Factor Summation Method

(viii) Backsolve Method

(i) Discounted Cash Flow Method:

Valuation based on Cash Flow Projections for Explicit Period, Capital Invested, Reinvestment Required, Discount Rate, Terminal Value. Exit Multiple etc.

Two Approaches can be used for DCF:

- Top line approach (Market Size-Market Share-Margins-Investment Required-Tax).
- Bottom line approach (Investment-Capacity-Revenue-Margin-Tax-Reinvestment).

Key Factors

(a) Existing assets

- It represents small portion of firm's overall value. Resources cannot be deployed considering that value.
- Absence of historical data.
- Bifurcation of Accounting Balance Sheet and Valuation Balance Sheet.

(b) Growth assets

- Past could not be base for estimation of future.
- Current operating loss make difficult to project future operating margin.
- Value is created only when return on capital is higher than cost of capital of growth assets.

(c) Discount rates

- Difficult to have data of start-up companies & comparable transactions.
- To apply Discount & Premiums on beta for making adjustment of liquidity & control.
- At Initial stage, generally cost of equity becomes cost of firm.

(d) Terminal value

- It generally occupies major part of firm value.
- Difficult to identify explicit period of projection & Stable Growth thereafter.
- After explicit period, exit multiple of publicly traded firm can be used for terminal value.

(ii) Relative method:

Valuation based on CCM (Comparable company method) & CTM (Comparable transaction method).

Key Factors

(a) What are the comparable companies?

- Young companies should be compared to young companies only in same business; however, they are generally not publicly traded.
- In absence of comparison with young companies, same business companies can be compared, however those firms are very different in size, risk, cash flow, growth, period of existence.

(b) Which Multiple to use for comparison?

- Generally due to loss in early life cycle, profit multiple like PE ratio & EBIDTA multiple cannot be used.
- Revenue & Book value multiple are difficult to compare if at early-stage revenue & book value has also not started reflecting on your financials.
- Relative Valuation is easy solution to value for start-up due to estimation challenges in DCF (intrinsic valuation).

(iii) Venture Capital Method:

It was first described by Professor William Sahlman at Harvard Business School in 1987. It is most common approach to value young companies. It is Valuation based on expectation of venture capital investor.

Step 1:

- Forecast the revenue for the period venture capital wants to invest in start-up.

Step 2:

- Find out Equity value at the end of forecast period.
    a) Expected Earning * Expected P/E
    b) Expected Revenue * Expected EV/Sales.
- Business model will decide to use revenue multiple or earning multiple.

Step 3:

- Discount equity value arrived as above with targeted rate of return to arrive at present value.
- Targeted Rate of Return is rate expected by Venture Capital Investor.

Step 4:

- Value arrived at above is pre-money value.
- Post Money Value = Pre-money value + New capital infusion by venture capital investor.

Step 5:

- Proportion of share of venture capital investor = New Capital Provided / Post Money Valuation.

Key factors

- Used largely by venture capital funds/early-stage investors for valuing start-up ventures.
- Investor will try to obtain return on its investment commensurate with risk it perceives.
- This method starts by defining return on investment.
- Objective of investor is pre-determined exit date & pre-determined ROI.
- Generally, investments are made in multiple tranches, but exit value will remain intact irrespective of investment is made in intervals.
- It focuses on revenue & earning and ignore intermediate items like working capital requirements, Capex requirements, etc.
- It ignores cash flow, which is expected to earn after shorter period of projections.

- It considers only equity cost for discounting since venture capital expectation of return is on equity only. However, when we value enterprise value by using revenue multiple, it should be discounted by cost of capital invested instead of cost of equity (venture capital investor expectation).

ILLUSTRATION: Venture Capital Method

(Amt in INR)

Particulars	Scenerio 1	Scenerio 2	Scenerio 3	Scenerio 4
Annual Earning as on date	50,00,000	50,00,000	50,00,000	50,00,000
Growth in Earning	20%	20%	15%	18%
No. of Years to Exit Date	10	10	15	10
Initial Investment by Investor	20,00,000	20,00,000	20,00,000	20,00,000
Required Rate of Return	35%	40%	30%	35%
Annual Earning as on Exit Date	**3,09,58,682**	**3,09,58,682**	**4,06,85,308**	**2,61,69,178**
P/E Multiple	12	12	15	12
Future Value of Startup	37,15,04,184	37,15,04,184	61,02,79,620	31,40,30,136
Value of Firm	**1,84,76,769**	**1,28,43,499**	**1,19,22,809**	**1,56,18,296**
Equity Stake of Investor	10%	12%	14%	25%
Current Share Outstanding	10,00,000	10,00,000	10,00,000	10,00,000
Total Outstanding Shares	11,11,111	11,36,364	11,62,791	13,33,333
Number of Shares owned by Investor	1,11,111	1,36,364	1,62,791	3,33,333
Share Price	**16.63**	**11.30**	**10.25**	**11.71**
Pre Money Valuation	**1,66,29,092**	**1,13,02,279**	**1,02,53,616**	**1,17,13,722**
Post Money Valuation	**1,84,76,769**	**1,28,43,499**	**1,19,22,809**	**1,56,18,296**

(iv) First Chicago Method:

The First Chicago Method was developed by, and consequently named for, the venture capital arm of the First Chicago bank. It is a hybrid between Discounted Cash Flow and Multiple-based approach.

Step 1:

Prepare projected financial statement of the company & arrive at future profit / cash flow under 3 various scenarios as "Best case", "Worst case" and "Base case".

Step 2:

Find out present value under each scenario.

Step 3:

Find out Comparable Companies / Comparable Transactions based on their business model and Size and calculate their Market multiple to arrive EV.

Step 4:

Apply it to target company. (EV/ EBIDTA, Sales Multiple, PE Multiple, Non-financial multiple).

Step 5:

Assign probability estimates to each scenario based on the stage of development and qualitative factors.

Step 6:

Carry out weighted average calculation based on NPV under each scenario & probability factor of each scenario

Step 7:

Arrive at Enterprise value & Equity value of Target Company based on that.

Key factors

- It tries to capture the risk involved in projections of future cash flows at various scenarios being "Best case", "Worst case" and "Base case".
- Method requires lengthy calculation to calculate DCF value of all scenario & at end it arbitrarily put weighted average of all the scenario.

ILLUSTRATION: First Chicago Method

(Amt in Crore Rs.)

Particulars	Success (Best)	Survival (Base)	Failure (Worst)
Projected sales of the Company for year ended 2020	100	75	50
Projected PAT of the Company for year ended 2020 (20% of Sales)	20	15	10
Present Value Factor [10%]	0.91	0.91	0.91
Adjusted Revenue of the company	18.18	13.64	9.09
Industry Adjusted Average (P/E Multiple)	12	12	12
Value of Operations of the company as per CCM	218.18	163.64	109.09
Probability of each scenerio	25%	50%	25%
Weighted Average Net Present Value	**163.64**		

(v) Scorecard Method:

Scorecard method also known as Bill Payne's method. It is one of the most prevalent method used by angels to value an early-stage start-up.

Step 1:

Identify the Value Driver (Strength of the Management, Team, Size of the

Opportunity, Product/Technology, Competitive Environment, Marketing/Sales Channels/Partnerships, Need for Additional Investment, others if any) along with their weight %.

Step 2:

Assign Target Company score 'Between' -2 to +2 (1 being average, <1 being below average and >1 being above average).

Step 3:

The said scores are multiplied with the corresponding weights to arrive at a weighted average factor (Adjusted factor).

Step 4:

Find out the comparable company across similar sectors for which pre-money valuation has already been arrived at & average out sector valuation.

Step 5:

Assign Adjusted Factor to Average valuation of comparable company arrived as above to arrive Pre-money valuation of Target Company.

Key factors

- This method gives more weightage to the quality of the start-up as of today rather than the uncertain sales which it can generate in the future
- However, it is not free from bias as the value is more or less dependent on the judgement of the valuer.
- The method requires one to first arrive at a range of comparable companies.

ILLUSTRATION: Score Card Method

Value Driver	Weight	Target Company's Score	Factor	Comment
Strength of the Management Team	30%	0.9	0.27	Improvement needed
Size of the Opportunity	25%	1.25	0.31	Achievable
Product/Technology	15%	1.25	0.19	Patented
Competitive Environment	10%	1.6	0.16	Less Competition
Marketing/Sales Channels/Partnerships	10%	0.3	0.03	Weak sales network
Need for Additional Investment	5%	0.12	0.01	High
Other	5%	1	0.05	Average
	100%		**1.02**	

Comparable Company	Pre-Money Valuation
A	2,30,00,000
B	4,20,00,000
C	1,20,00,000
D	60,00,000
E	1,30,00,000
Average	1,92,00,000
Adjusted Factor	1.02
Pre Money Valuation of your venture	**1,95,07,200**

(vi) Berkus Method:

Berkus method was first introduced by Mr. Dave Berkus, a renowned author and start-up angel investor from California.

This method supposes that once a company starts generating revenue, this method is no longer applicable, as everyone will use actual revenues to project the value of the start-up.

Step 1:

The maximum value that can be attributed to the firm is $ 2.5 Million post rollout. The top line to be achieved in the 5th year is $ 20 Million. Maximum value attributable to the firm is 12.5% of its expected revenue in the 5th year.

Step 2:

As per Indian Scenario, project the 5th year revenue of the start-up. The maximum value that can adopted will be 12.5% of the said revenue.

Step 3:

The value so arrived can be divided by 5 to account for the parameters mentioned in the Berkus method as: a) Sound Idea b) Prototype c) Quality Management Team d) Strategic Relationship e) Product Rollout or Sales

Step 4:

Bifurcate same into 0%, 20%, 40%, 60%, 80%, 100%.

Step 5:

Assign to maximum value of each parameter.

Key Factors

- Once a company starts generating revenue, this method is no longer applicable, as everyone will use actual revenues to project the value of the start-up.
- It arbitrarily projects maximum value can be assigned as 12.5% of the 5th year revenue, without considering, profitability margin, investment & re-investment required, cash-flow generation possible etc.

ILLUSTRATION: Berkus Method

Revenue expected in 5 years	30,00,00,000
Maximum value @ 12.5% of Sales	3,75,00,000

If Exists	Parameter	Maximum value	0	1	2	3	4	5	Total
			0%	20%	40%	60%	80%	100%	
Sound Idea	Basic Idea	75,00,000			√				30,00,000
Prototype	Reducing Technology Risk	75,00,000				√			45,00,000
Quality Management Team	Reducing Execution Risk	75,00,000					√		60,00,000
Strategic Relationship	Reducing Market Risk	75,00,000		√					15,00,000
Product Rollout or Sales	Reducing Production Risk	75,00,000			√				30,00,000
Maximum value to be adopted		**3,75,00,000**							**1,80,00,000**

(vii) Risk Factor Summation Method:

- This method was first described by the Ohio Tech Angels.
- It can be described as a combination of both Scorecard as well as the Berkus method.
- It considered a much wider set of risk factors in arriving at a pre-money valuation giving regard to qualitative factors intrinsic in the start-up.
- This method forces investors to think about various types of risks.

Step 1:

Find out pre-money valuation of the company, Say at pre-defined multiplier to total Revenue.

Step 2:

Put 12 Risk parameter (Management, Stage of the startup, Legislation/Political risk, Manufacturing risk, Sales and marketing risk, Funding/capital raising risk, Competition risk, Technology risk, Litigation risk, International risk, Reputation risk, Potential lucrative exit) in column.

Step 3:

Pre-decide value of 'Total Parameter' say at % of total Revenue for evaluation purpose.

Step 4:

Divide that Total Parameter with 12 Risk factor

Step 5:

As Risk parameters provided to assess the start-up. The parameter needs to be given range of point from -2 to +2, based on start-up evaluation where it stands.

Step 6:

Give weightage of total parameter value for particular Risk to point given.

Step 7:

Make total of all such Risk Parameter weightage

Step 8:

- Reduce / Add to Pre-Money Valuation.
- Pre-money valuation is adjusted for such evaluation of risk factors.

ILLUSTRATION: Risk Factor Summation Method

Particulars	Value (INR)
Revenue of the 5th year (Assumed)	25,00,000
Multiplier (P/E Ratio assumed for Valuation)	12
Pre-Money valuation	**3,00,00,000**

Risk Parameter Value Assumed 1.25% of Revenue	**31,250**

Risk Factor	Rating [A]	Risk Parameter Value [B]	Risk Weighted Value (INR) [C=A*B]	Comment
Management	2	31,250	62,500	Very Efficient
Stage of the startup	1	31,250	31,250	Prototype functions
Legislation/Political risk	1	31,250	31,250	Low
Manufacturing risk	-2	31,250	-62,500	Subject to Government Norms
Sales and marketing risk	1	31,250	31,250	Good sales team in place
Funding/capital raising risk	2	31,250	62,500	Low
Competition risk	0	31,250	-	Average
Technology risk	-1	31,250	-31,250	Subject to technological obsolescence
Litigation risk	-1	31,250	-31,250	Alternative of Patented technology exists
International risk	1	31,250	31,250	Low
Reputation risk	-2	31,250	-62,500	Individual entity
Potential lucrative exit	2	31,250	62,500	Buyers in the market exist
Risk Summation	**4**		**1,25,000**	

Pre-Money Valuation	**3,00,00,000**
Less: Risk Summation	1,25,000
Risk Adjusted Pre-Money valuation of the startup	2,98,75,000

(viii) Backsolve Method:

- Backsolve method which is a variant of Option Pricing Model.
- The Backsolve method uses Black-Scholes-Merton option pricing equation to estimate the value of the start-up.
- One of the lesser-known valuation methodologies used in start-up valuation.
- The first step involves determining the claims on the equity value and the resulting "breakpoint" at which different securities would benefit.
- It is presumed that preference share will exercise at particular price breaches only.
- The Risk-Free Rate, Volatility of comparable companies & expected time to exit are used as input of Black-Scholes-Merton Model. This is the method generally used for option valuation.
- Formula:

$$C = SN(d_1) - N(d_2)Ke^{-rt}$$

C = Call premium
S = Current stock price
t = Time until option exercise
K = Option striking price
r = Risk-free interest rate
N = Cumulative standard normal distribution
e = Exponential term

s = St. Deviation
ln = Natural Log

$$d_1 = \frac{\ln\left(S/K\right) + \left(r + s^2/2\right)t}{s \cdot \sqrt{t}}$$

$$d_2 = d_1 - s \cdot \sqrt{t}$$

Chapter 9
Understanding the Valuation Drivers of New-Age Modern Technology Enabled Businesses

1. Background

New-Age Modern Technology Enabled Businesses are widely referred to as "start-ups" in the global business ecosystem. These start-ups have been a topic of interest across all fraternities, especially owing to the incredible pricing that these companies receive from investors such as private equity firms and venture capitalists, when they participate in such start-ups' ownership. More often than not, the common person is awed by the valuation at which such transactions take place, specially owing to the fact that most of the so-called start-ups have been either burning cash or that their Statement of Profit and Loss is showing extremely insignificant returns on the capital employed.

Despite there being out various methodologies for valuing start-ups, most of which have been discussed in the earlier editions of the "Valuation: Professionals' Insight" series, this article focuses on attempting to develop an understanding of the valuation drivers for such new age technology enabled businesses viz. start-ups.

2. Understanding the Discussion Topic

Simplistically put, any factor that increases the value of a business is called a value driver. However, value proposition in business can commonly be understood as the value, a business promises to deliver to its customers should they choose to transact with them. Accordingly, the term 'value driver' might be misplaced in the context of the discussion for this Article, as a value driver may be understood to be an evaluating factor from the viewpoint of the customer to price the transaction of such customer with the business. The idea of discussing this topic is to develop an understanding of the valuation drivers i.e., the possible factors that investors are looking at while determining the price to transact in acquiring part ownership of the business.

The focus of this Article is on one particular valuation driver i.e., user of the business.

3. Basics

For any business to be attracting investors, there needs to be a value proposition for the business. Value propositions illustratively include Product and Service Offerings, Skilled Employees, Customer Base, Market Environment, Strategic Vision, and so on. These value drivers are common for all businesses i.e., traditional brick and mortar businesses as well as the start-ups. However, a few valuation drivers that these start-ups have in addition to the normal businesses are scalability, disruptive ideas, and technology, among other things.

4. Context

In the start-up universe, a unicorn is a privately held start-up company valued at over US$1 billion. As per the data maintained by an information platform website[1], there have been a total of 51 start-ups in India which have achieved the 'unicorn status. Of them, around 15 have achieved the 'unicorn' status only in 2021. As of March 31, 2021, based on the market capitalisation hosted on the website of the National Stock Exchange of India Limited (NSE)[2] and the reference rate published by Financial Benchmarks India Pvt. Ltd. (FBIL)[3] a total of 380 companies listed on the NSE have a market capitalisation in excess of US$ 1 billion.

Hence, the relevance, and the interest.

5. What Works Differently for Start-Ups?

While nothing can really replace the future cash generating potential of a business as the ultimate valuation driver for any business, it is the assumptions around that future cash generation, backed by achievements till date and the future growth potential that drive valuation for businesses. One key assumption around the financial model for the start-ups is the benefit that the business generates from its users. Incidentally, it is very similar to the traditional brick-and-mortar businesses, where the evaluation is done of existing customers for upselling and cross-selling; whereas, for start-ups, the same exercise is done for the users. The users for a start-up may be paying users or free users.

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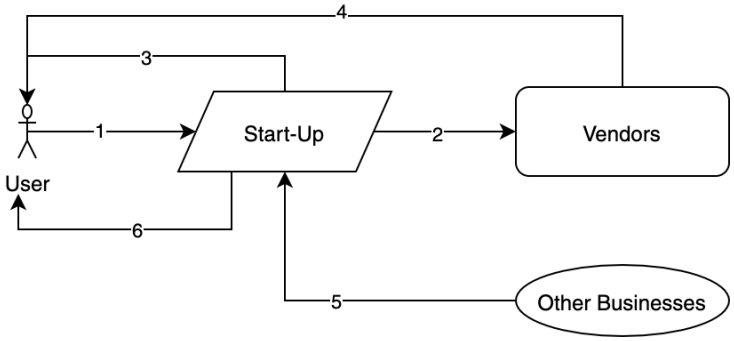
[1] https://www.ventureintelligence.com/Indian-Unicorn-Tracker.php

[2] https://www.nseindia.com/regulations/listing-compliance/nse-market-capitalisation-all-companies

[3] https://www.fbil.org.in/#/home

Hence, before diving deeper into developing an understanding on the valuation driver which is the subject matter of this Article, it is critical to understand that the subject matter of this Article is a start-up which has a typical structure like this:



1 Refers to the user of the business accessing the platform/application of the start-up

2 On receipt of the user's request to access services/products, the start-up forwards the request to the vendor, who shall actually perform the transaction

3 The start-up shall facilitate the transaction between the user and the vendor and provide an experience to the user as if the start-up is performing the transaction.

4 The vendor shall fulfil the transaction with the user

5 Other businesses (unrelated to the transaction) may request the start-up to push its advertisements to the users of the start-up's platform

6 Start-up might push such advertisements to the user for a consideration from the Other Businesses

It can be seen from the above, that the start-up may have the following revenue streams:

1. Income in the form of user based charges, which can again be of the following sub-types:

   (a) Transactional charges: More common for security-broking and similar businesses. Such revenue streams provide potential for high growth but carry a high degree of uncertainty, especially around repeat usage rates.

(b) Subscription charges: More common for over-the-top (OTT) video streaming businesses. Such revenue streams provide lower potential for growth, owing to fixed charges, whereas provide for higher predictability and carry a low degree of uncertainty, especially around renewal rates.

(c) Free users: More common for social media and content creation start-ups.

2. Income in the form of vendor commissions: More common for e-commerce start-ups.

3. Advertisement charges: More common for free-to-use start-ups such as social media.

6. User Based Economics

At the outset, it is important to differentiate between a user and a customer. A user may be a paying user or a free user, whereas a customer is generally a paying customer. Accordingly, it is important to note that as a term, user is much wider than the term customer, in the start-up discussion. Accordingly, for valuing a start-up based on the user base, it is critical to work out how much money is the start-up expecting to generate from its users? Hence, it is a factor of three things that come into picture:

(i) Existing users (Already achieved – stage of the start-up to see if it has a value proposition)

(ii) Future users (Growth potential coupled with scalability)

The above two inflows would be adjusted for Costs involved (User acquisition costs as well as business costs).

For valuing the existing users, a complex model is generally developed which projects the revenue that the start-up is expected to generate from the existing users. This complex model would generally factor:

(i) Revenue per user from existing services/goods

(ii) Renewal rate of subscription

(iii) Inflationary growth

(iv) Life of user with the start-up

(v) Associated costs of existing users i.e., business costs

For new users, in addition to the associated costs, the user acquisition costs are to be adjusted to identify the profit potential of the business.

User acquisition costs are the costs that are incurred by the start-up in acquiring a user. These are in the form of marketing spends, as well as the significant spending in the form of lucrative deals that are offered to the first-time users or to all users in the initial phase of the life-cycle of the start-up.

Business costs are the operational costs of the start-ups that are required to be incurred by the start-up for the purpose of running its business. Start-ups which have a high degree of fixed costs i.e., the costs which do not tend to increase with the increase in user base, have better potential to gain a higher valuation driver, as the growth that it does in the future, results in better surplus being generated.

For a start-up to be valued, which is running in losses at the time of the valuation exercise, the ideal valuation drivers would be lower user acquisition costs, higher retention, lower business costs.

The above is a fairly simple presentation of the complex subject. While these are the primary factors that govern the discussion, other factors affecting the above discussion includes competition, size of the market, growth potential, uncertainty about the user behaviour, especially considering the technology business, etc.

A depiction of the above discussion, in context of a start-up, in a tabular format for comparing the Good and the Bad, in a relative sense, can be as under:

Point	The Good	The Bad
Losing money	Where money is being lost for user acquisition.	Where money is being lost for business expenses.
High costs	Where higher costs are attributable to fixed expenses, which have the potential to grow revenue in the future, without corresponding increase in costs.	Where higher costs are attributable to variable expenses, which will increase with the increase in scale of operations.
Growth	Increase in the number of users backed with growth in	Growth only supported by increase in number of users

Point	The Good	The Bad
	per user revenue, backed by cross-selling and upselling.	with low per user revenue.
Life Cycle Relevance	A start-up that focuses the relevant attribute from either of user growth, revenue growth or revenue sustainability, in tandem with the life cycle where it is.	A start-up that focuses the relevant attribute from either of user growth, revenue growth or revenue sustainability, not in tandem with the life cycle where it is. For example, a young start-up focusing on revenue growth from existing users, rather than focusing on user growth, would potentially lose more users which would hamper its growth.
Surviving through uncertainty	Businesses which have serious users i.e., users that repeat/renew as well as come back to the business more often are less susceptible to adjustments on account of uncertainty. This kind of business creates a benefit of exclusivity or the choice of first preference for the users, which commands a premium in valuation.	Businesses which have casual users i.e., users who are not repetitive as well as those which do not transact but look at the business as an option, are more susceptible to adjustments on account of uncertainty.

7. How is a User Valuable?

A user is a source of data for companies. Historically, marketing spend has been a large part of the spending budgets of large enterprises. This spending has majorly focused on general media. However, businesses started understanding that their target niche population for pushing their advertising needs to be segregated or broken up further. For example, an advertisement in a financial daily newspaper would give an indication to the business that broadly that the reader of the financial daily newspaper would have something

to do with business and finance. Hence, businesses choosing to advertise in a financial daily newspaper would create a targeted advertisement based on the reader's preferences, which would have the potential to generate a higher sale for the business. This works as a combination of choosing the appropriate medium of advertising, along with the targeted content in advertising.

The user of a start-up is generating one intangible asset for the start-up viz. data. Data in today's world is significantly valuable. Data has been generated in the past too. However, what is new is the volume of data produced every single day, and the proliferation of devices, services, and sensors throughout the economy and society. This interconnection is generating all kinds of data which can be intertwined to produce meaningful information. With the increase in the volume of the data, patterns are being developed using big data analytics and artificial intelligence amongst other things, which becomes the base for improving existing or inventing new products and services. With the ease of data analytics and processing, with limited or no loss of data quality, it is increasingly becoming scalable and is finding varied applications.

With the advent of technology, the data privacy laws have not kept pace with the revolution in technology. While the western countries have understood the need for stringent data privacy laws, with public hearings of certain technology companies on anti-trust issues concerning data privacy. In our country also, there has been awareness on this front; in 2019, the Personal Data Protection Bill, 2019 was introduced in Lok Sabha by the Minister of Electronics and Information Technology, on December 11, 2019. However, it has not yet been implemented in the country. Whilst the Supreme Court of India has declared that the right to privacy is a fundamental right protected under Part III of the Constitution of India, the principles laid down by Puttuswamy v. Union of India[4], are finding limited applicability in modern age technology enabled businesses. Today, personal data is governed by the Information Technology Act, 2000, and the Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011. The Rules only deals with protection of "Sensitive personal data or information of a person", which includes such personal information which consists of information relating to: -

[4] https://main.sci.gov.in/supremecourt/2012/35071/35071_2012_Judgement_24-Aug-2017.pdf

- Passwords;
- Financial information such as bank account or credit card or debit card or other payment instrument details;
- Physical, physiological and mental health condition;
- Sexual orientation;
- Medical records and history;
- Biometric information.

The above definition of personal data, argumentatively, does not cover the tracking of user activity on a smartphone. Using cookies and tracking of activity of users across other applications installed on the smartphone, a start-up with its application installed on your smartphone is generating a user profile which is not only based on the interactions that the user has on the start-up's application on the user's smartphone, but also other activity that the user does across all other applications on the user's platform. Certain smartphone companies are taking it upon themselves to voluntarily include features which mandatorily seek the smartphone owner's permission for the installed applications to track the smartphone owner's activities across other applications, to restrict such capture of data. Nonetheless, this limitation currently applies only to a segment of the users of start-up companies, and hence, the majority of the users are still assisting the start-up companies in preparing a user profile, which is the first and foremost requirement of targeted advertising.

Because of such possibilities, in today's world, the start-up companies, which have a technologically enabled platform are wanting to get on to the smartphone of the users. Based on the data that they gather once a user installs their application assists them in creating a user profile. Creating user profiles, such start-ups are having rich information in the form of targeted advertisements for various businesses. Hence, earlier where separate businesses were spending on marketing their products and services on various media, incurring large costs, nowadays start-ups are spending on marketing their products and services on various media. Thereafter, once a user base is established, such a start-up is acting as a media for businesses to push targeted advertisements to the users, which have a better potential of being converted into the customers of the businesses which are pushing their advertisements. This helps the businesses by reducing their advertising

spends, as they now spend on such start-up media, rather than the media which would have costed significantly higher, and that the results are even better owing to the user profiles.

Hence, even the data generated by the user is assisting in creating value for the start-up companies.

Data is valuable. However, the value of the start-up companies is not solely because of this data. It is because of their business model, which allows them to generate further cash flows, which is further dependent on the value drivers of the business. A combination of all value drivers seeks to create the valuation drivers for the start-up.

8. Concluding Thoughts

A start-up's value is always subject to economic uncertainty and estimation. However, a start-up that has more of the Good Factors than the Bad Factors, as highlighted above in the Table of comparison, are set to have better valuation drivers.

A universally applicable matrix for determining the value of the business, which applies to start-ups is as under:

Profit per user	Cost of Acquiring new user		
	Low	*Medium*	*High*
Low	Average Business	Bad Business	Bad Business
Medium	Good Business	Good Business	Average Business
High	Great Business	Great Business	Good Business

Hence, in valuing a start-up, it is essential to understand the user economics of the business, to validate the assumptions and factor in the uncertainties associated with the financial model of the start-up.

Chapter 10
Valuation Factsheet on AIFs

The valuation regime concerning AIF is still evolving in India. In this article, we have tried to discuss the compendious valuation paradigm for Alternative Investment Funds in India. AIFs and Investments into AIFs have been progressively growing in India.

Investments raised by AIFs reached around 29.0 Bn USD by December, 2020 and commitments for investments reached 60 Bn USD mark and investments by AIFs in alternative assets reached 25 Bn USD. India still has a low base and a long way to go compared to the US & Europe. US has 10 Tn USD of AIF Investment and Europe has USD 7 Tn USD in 2019. US is about to reach 14 Tn USD by mid-2023.

This year, the AIF regime saw the introduction of performance benchmarking and standardization of the Private Placement Memorandum, to formalize a common industry practice, while ensuring flexibility for the AIF Managers.

1. Requirement under SEBI (Alternative Investment Funds) Regulation, 2012

The AIF shall provide a description of valuation procedure and methodology for valuing assets to its investors. Cat-I and Cat-II Alternative Investment Funds shall undertake valuation of their investments by an independent valuer at least once every six months.

Such period may be increased to one year on approval of at least seventy-five percent of the investors by the value.

Cat- III AIFs shall ensure that calculation of the net asset value (NAV) is independent of the fund management function and NAV shall be disclosed to the investors at intervals not longer than

- a quarter for close-ended funds and
- a month interval for open-ended funds.

2. Material changes in AIF Structure

It is applicable in cases material changes significantly influence the decision of the investor to continue to be invested in the AIF. Changes like change in

sponsor/manager, change in control of sponsor/manager, change in fee structure or hurdle rate.

The following process shall be followed by the Fund:

Existing unitholders who want to discontinue post the change shall be provided an exit option. The unit holders shall be provided with one month for expressing their dissent.

3. AIF is Open-ended

The exit option may be provided to the investor by either of the following:

- Buying out of units of the dissenting investors by the manager/ any other person as may be arranged by the manager, valuation of which shall be based on the market price of underlying assets.
- Redemption of units of the investors through the sale of underlying assets.

4. AIF is Close ended

The exit option may be provided as under:

- The exit option shall be provided by buying out of units of the dissenting investors by the manager/ any other person as may be arranged by the manager.
- Before buying out of such units, the valuation of the units shall be undertaken by 2 independent valuers and the exit shall be at a value not less than the average of the two valuations.

5. Submission to Benchmarking Agencies

AIFs shall report all the necessary information including scheme-wise valuation and cash flow data, for all their schemes which have completed one year from the 'First Close', to the Benchmarking Agencies within 45 days from the end of every half-year ending on 30th September and within 6 months from the end of every half-year ending on 31st March. Currently, CRISIL is benchmarking agency for AIFs.

Any changes to valuation principles shall be informed in the immediate next data submission to the Benchmarking Agencies

6. Determination of NAV of Units

TPPM states to lay down, valuation policy and asset class wise allocation of valuation methodology, description about the valuation of asset classes, for each asset class that is contemplated to be targeted by the Fund/Scheme.

Type of asset class	• Valuation methodology to be followed and the basis of such valuation • Whether valuation of such asset class shall be based on the asset class being traded or non-traded • Frequency of valuation • Calculation of the NAV for the asset class, which shall include the applicable formulae for valuation as well • Any other asset class-specific detail that may be relevant from the point of view of valuation of the same • Illustrative examples of how the units shall be issued at different NAV for each asset class

7. Subsequent Offering

In case of subsequent offering, the Fund has to state the basis of charging subscription price whether fixed or dependent on the valuation of units, and basis of valuation in such determination (if applicable). As per our view, valuation taken at last measurement date is valid in this case unless, the Fund is of the opinion that material event/development has happened between the last measurement date and subsequent offering hence, new valuation report.

8. Principles of Portfolio Valuation

In the Private Placement Memorandum, the manager shall lay down the principles for the valuation of a portfolio companies. The fund has to mention details about the external valuer, frequency of valuation, valuation principles used by the Fund/Scheme, and any other guiding principles relevant for the investor to know.

9. Valuation Principles

As AIF Regulation state to form policy on Valuation principles used by the Fund. Fund/Scheme has the option to adopt suitable Internationally accepted valuation principles. In Indian context, Fund can follow International Private Equity and Venture Capital Valuation Guidelines, International Valuation Standard by IVSC or Ind AS- 113 'Fair Value Measurement'. Fund/Scheme advise to follow International Private Equity and Venture Capital Valuation (IPEV) Guidelines for valuation of portfolio companies. In case of deviation from IPEV guidelines, they have to state the same in the supplementary section and specifies valuation tracking.

10. International Private Equity and Venture Capital Valuation Guidelines

The objective of these Guidelines is to set out best practices where private equity investments are reported at "Fair Value", with a view to promote best practices and hence help the investors in Private Funds to make better informed and economic decisions.

11. MOU with IPEV & IVSC

Global Valuation Standards continue to evolve. The IPEV Board has entered into an understanding with the International Valuation Standards Council (IVSC) to promote consistency between the IPEV Board's Valuation Guidelines and International Valuation Standards (IVSs) and to enable these Valuation Guidelines to be positioned as providing sector-specific application guidance of the principles in IVS. A valuation of Private Capital Investments prepared following the IVSs and following these Valuation Guidelines will be consistent with the requirements of applicable financial reporting standards and will also maximize investor's trust and confidence.

12. Global Practices

(i) USA

The Securities and Exchange Commission [SEC], in December, 2020 adopted a new Rule 2a-5, an updated regulatory framework for fund valuation practices. The new rule confirms that a board can make fair value determinations itself. Subject to additional conditions and oversight requirements, the rule also permits a fund to assign a "valuation designee,".

Previously, AIFs were not allowed to delegate this responsibility and took ultimate responsibility themselves. The valuation designee must provide to the board at least quarterly and annual reports in writing, along with a summary or description of material fair value matters relevant to the fund in the last year or quarter and various material changes

Fair value methodology used for this purpose must be consistent with ASC Topic 820 "Fair Value Measurement". However, the SEC accepts that there is no single methodology for determining the fair value of investment "because fair value depends on the facts and circumstances of each investment, including the relevant market and market participants."

The Valuation Designee along with the board must actively oversee all of the following:

- Periodic assessment and management of valuation risks
- Establishment and application of fair value methodologies
- Testing of fair value methodologies for appropriateness and accuracy
- Oversight and evaluation of pricing services
- Board reporting
- Recordkeeping

(ii) Europe [AIFMD]

For performing proper and independent valuation of AIF investments & assets, The Alternative Investment Fund Managers Directive [AIFMD] requires fund managers to establish and maintain consistent written procedures. The valuation may be carried out by the AIFM itself or it may appoint an external independent valuer.

One or more external independent valuers may be appointed to carry out the valuation of a fund. The valuer must be professionally recognized and must be in a position to offer professional guarantees, which should be in written form and should confirm the valuer's qualification and capability to perform the function under AIFMD and local law requirements.

Despite any delegation to a valuer, the AIFM remains ultimately responsible for the proper valuation of its investment & assets. The rules applicable to the valuation of investments, assets and the calculation of the NAV per unit or share of the AIF shall be laid down in the law of the country where the Fund is incorporated and/or in the AIF rules or the instrument(s) of incorporation.

Chapter 11
Valuation of Contingent Consideration

1. Introduction to Contingent Consideration

Ind AS 103: Business Combinations ("Ind AS 103") requires that contingent consideration assets and liabilities be recorded at fair value on the acquisition date. Moreover, the standard also requires the revaluation of some contingent consideration instruments at each subsequent reporting period until the final settlement of the obligation. Changes in the fair value of the instruments are then generally recognized in earnings. Thus, it is important to understand how to ascertain fair value of contingent consideration and the different valuation models used.

Contingent considerations are typically employed in transactions to bridge the valuation gap between buyers' and sellers' differences of opinion regarding the target company's future economic prospects. It helps to get the buyer and seller on the same page when it comes to valuation of the target company.

Often, there is a deadlock between a buyer and seller where the seller expects a multiple on a future expected revenue/earning and the buyer is unsure of the company being able to meet such targets. In such scenarios, the difference between what the seller expects and what the buyer deems reasonable is generally structured as a contingent consideration. Let us examine the basic concept by way of an example:

Company A intends to acquire Company B. Company B has just introduced a new product line that is expected to generate significant sales. Company B's owners have projected significant amount of sales from the proposed product line and is considering the same to influence the deal size. The buyer on the other hand believes that, there is a risk of uncertainty in the achievement of targets contemplated by the acquiree and hence a disagreement in the deal valuation. By incorporating a contingent consideration clause in the purchase agreement, the seller accepts part of the business risk along with the buyer, and also participates in any upside post-transaction.

If Company B, post-acquisition is able to generate the revenue and margins as projected from the new product line, there shall be additional payments made to the owners on account of the same. On the other hand, if the product

line fails to get the desired results, Company A need not make the additional payment.

Ind AS 103, Para 37 requires consideration transferred in a business combination to be measured at fair value, which is to be calculated as the sum of the acquisition-date fair values of assets transferred by the acquirer, the liabilities incurred by the acquirer to former owners of the acquiree and the equity interests issued by the acquirer. Contingent consideration is one of the forms of consideration as described in Ind AS 103. Such consideration is to be recorded at the acquisition-date at fair value as a part of the total consideration transferred.

1.1 Types of Contingent Consideration

Table 1.1.1

Purchase price adjustments	Earnouts	Holdbacks
A post-closing adjustment made to the purchase price established at the acquisition closing date.	Portion of the purchase price attributable to a contractual earnout provision is deferred and contingent on the target company achieving agreed upon expected performance goals or milestones (i.e., the metric) over a specified period (i.e., the earnout period).	A certain portion of the purchase price (typically 5%-10%) held in escrow to indemnify the acquirer for losses caused by any breach of representations and warranties regarding the acquired business.
If the target company's net working capital balance as of the closing date is above the agreed upon level established in the purchase agreement, the acquirer will pay the target company the difference.	Typical earnout measurement metrics include financial metrics, non-financial metrics and non-financial milestone events.	Paid to the seller after the escrow period ends—typically after 12 months to 18 months.

If the closing date net working capital balance is below the agreed upon level, the purchase price will be reduced by the difference.		

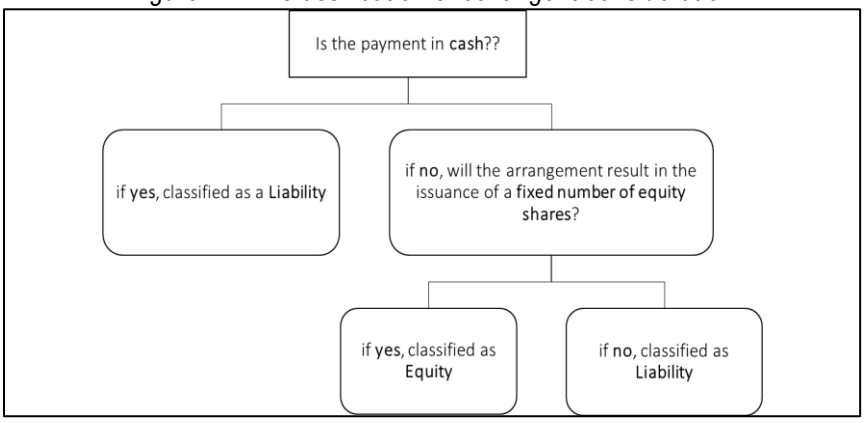
Contingent consideration may be contingent on different events, for example on launch of a product, on receiving regulatory approval, reaching a revenue or an income milestone. The achievement of such events often spans over more than a year. Thus, it is necessary to understand the post-acquisition treatment of such contingent consideration. *Ind AS 103, Para 40* also requires one to identify whether such obligations are to be classified as equity or as a liability. The classification will then impact the subsequent accounting of such contingent consideration. The classification is determined by factors specified in *Ind AS 32: Financial Instruments.*

2. Classification and Measurement of Contingent Consideration

2.1 Liability v/s Equity classification

The classification of such consideration is essentially driven by the mode of settlement of such consideration. Consideration settled in cash is always classified as a liability. In a scenario, where the consideration is to be settled by issue of certain instruments of the buyer, we need to determine whether the number of instruments to be issued are fixed and determined at the acquisition date. In a scenario, where the number of instruments is fixed, then such consideration is classified as equity and where the number of instruments to be issued is not fixed, then such consideration is to be recognized as a liability. Refer to *Figure 2.1.1* for a simplified approach to determining equity v/s liability.

Figure 2.1.1: Classification of contingent consideration



Example: A fixed monetary amount to be settled in a variable number of shares, would be classified as a liability.

Contingent consideration classified as a liability is required to be remeasured at its fair value at each reporting period. For e.g. a consideration depending on revenue achieved over the next 3 years from acquisition, will need to be fair valued at the end of each year/ quarter. Whereas a consideration classified as equity is not required to be fair valued post initial recognition, since the consideration has already been determined and locked as at the acquisition date. In a scenario, where the contingent consideration is classified as equity and fair valued at the acquisition date based on certain criteria, and the criteria remains unfulfilled by the end of the specified term, such equity may not be reversed, whereas if the same was classified as a liability, the amount recorded at initial recognition would be reversed accordingly.

2.2 Consideration v/s Compensation

Once the classification of the liability has been determined, we also need to consider to whom such consideration is to be paid and the underlying conditions for such payment. Ind AS 103, Para 52 discusses what forms a part of the business combination transaction and thus forms a part of the total purchase consideration. A transaction entered into by or on behalf of the acquirer or primarily for the benefit of the acquirer or the combined entity, rather than primarily for the benefit of the acquiree (or its former owners) before the combination, is likely to be a separate transaction. It implies that if the ultimate beneficiary of the payment arrangement is the acquirer, the amount does not form a part of the purchase consideration and rather needs

to be considered to be a post combination expense. Para B54 deals with arrangements for contingent payments to employees or selling shareholders.

Contingent payments to either employees or selling shareholders are classified as contingent consideration in the business combination or separate transactions depending upon the nature of such arrangements. Purchase agreements may provide that the acquiring company shall give additional consideration to the seller if certain future events occur, or certain performance conditions are met. Any payment that is made to the selling shareholders or employees in connection with their continuous service with the post combination entity is generally considered to be a transaction separate from the business combination. Any arrangement to compensate the selling shareholders or employees for continuing their role post the transaction is generally for the ultimate benefit of the acquirer since it would enable a much smoother transition and will ensure business continuity since the selling shareholders/ employees would be relatively more familiar with the day-to-day operations and client relationships. In a scenario where it is difficult to determine if the arrangement for payments to employees or selling shareholders is a part of the business combination or a transaction separate from the business combination, Ind AS provides certain indicators to assist in such determination. The indicators include:

(i) Continuing employment

(ii) Duration of continuing employment

(iii) Level of remuneration

(iv) Incremental payments to employees

(v) Number of shares owned

(vi) Linkage to valuation

(vii) Formula for determining consideration

Each of these indicators have been discussed in Ind AS 103. All of them require us to determine the primary reason for the arrangements and the primary beneficiary. *Table 2.2.1* below simplifies the determination of either consideration or post combination expense (referred to as “remuneration”)

Table 2.2.1

Remuneration versus contingent consideration factors		
Indicative of compensation	**Indicators**	**Indicative of consideration**
Payments forfeit on termination	**Continuing employment**	Payments are not affected by termination
Coincides with or exceeds payment period	**Duration of continuing employment**	Shorter than the payment period
Not reasonable compared to that of other key employees	**Level of compensation**	Reasonable compared to that of other key employees
Other non-employee selling shareholders receive lower additional payments (on a per-share basis)	**Incremental payments to other non-employee selling shareholders**	Other non-employee selling shareholders receive similar additional payments (on a per-share basis)
Selling shareholders remaining as employees own substantially all shares (in substance profit sharing)	**Number of shares owned.**	Selling shareholders remaining as employees own only a small portion of shares
Payment formula consistent with other profit-sharing arrangements	**Linkage of payments to valuation of business**	Payment formula linked to the valuation approach (i.e., to bridge valuation gap)
Formula is based on a percentage of earnings	**Formula for additional payments**	Formula is based on a valuation formula, such as multiple of earnings

Let us look at an illustration to understand this better.

Illustration

ABC Co., a maker of electronics, decides to expand its market by acquiring

another electronics maker for INR 10,00,00,000 cash plus an additional cash payment of 2,00,00,000 if certain volume and profitability targets are met at the end of year 2. The acquiree's sole owner (and CEO) will be employed by the post-acquisition entity as vice-president of the combined entity.

Scenario 1:

The terms of the additional payment also require the former owner/CEO of the acquiree to be employed at the newly formed division to earn the consideration.

Scenario 2:

The terms of the additional payment permit the former owner/CEO of the acquiree to be paid regardless of his employment status.

Conclusion:

Table 2.2.2

Component	Conditions	Consideration	Compensation
Initial payout of INR 10,00,00,000 cash	N/A	✓	
Additional cash payment:			
Scenario 1	Performance plus employment		✓
Scenario 2	Only performance condition	✓	

Now that we understand the classifications and accounting matters of contingent consideration, let us move on to the valuation aspects of such consideration. Pay-outs under contingent consideration are based on future events and thus valuing these is a two-step process, first being estimating the expected future pay offs and second determining the appropriate discount rate to present value the estimated pay offs.

3. Valuation of Contingent Consideration/ Earnouts

The methods to be followed and approach will be driven by the way the payment of such contingent consideration or earnouts are structured. The pay-outs are structured based on a single or more than one metric.

Figure 3.1

Underlying metrics	A multiple of Revenue or EBITDA with no thresholds, tiers, caps or milestones
	A milestone payment tied to an event
	Has thresholds, tiers, and/or caps
Linear vs. Non-Linear Payoffs	Earnouts are often structured with non-linear payoffs, e.g.:
	All or nothing – if the earnout metric is hit, there is a fixed payoff. If not, there is no payoff.
	Threshold – payoff is a function of the amount by which a metric exceeds a threshold.
	Cap – payoff is a function of metric up to a maximum (cap).
Path dependency	Earnouts may also be path dependent, e.g.:
	Total earnout over several years may not exceed a cap
	Pay-out each year depends on what happened in the previous year(s)

Table 3.2 below illustrates the various metrics which are commonly observed for contingent consideration.

Table 3.2

Financial metrices	Non-financial metrices
Revenue	Result of clinical trials
Gross profits	Software development/ R&D milestones
EBITDA	Employee retention targets
Profit before tax	Customer retention targets
Cash flows targets	Closing of a future transaction
Stock price	Number of units sold

Most commonly contingent consideration is paid on achievement of certain revenue or profit targets. Additionally, such payments may be spread over more than just one year. The payouts can either be linear payouts or non-linear payout.

3.1 Linear payouts

Payouts which are dependent on a single metric and are expressed in terms of a fixed percentage or product of a financial or some non-financial parameters are referred to as linear payouts. A contingent consideration of 2x revenue for the year one post acquisition would be a linear payout. Consideration varying based on different levels of revenues or other parameters are non-linear pay-outs. For example:

Target will receive a payment at some future date as follows:

- If EBIT < $1 million, the payoff is zero;
- If EBIT ≥ $1 million, the payoff is a 10x multiple of EBIT

The valuation methods will be driven by the structure of the contingent consideration payouts. There are two broad valuation approaches used to value a contingent consideration.

(i) Probably weighted expected return method, more commonly referred to as “PWERM” or Scenario Based Method (“SBM”); and

(ii) Option pricing method, also referred to as the “OPM”

3.1.1 Probably weighted expected return method

The PWERM assesses the distribution of the underlying metrices based on estimates of forecasts, scenarios and probabilities. The payout computed is then discounted to present value using a discount rate corresponding to the risk inherent in the inputs considered while computing the compensation. Following are the steps followed:

(i) Estimate scenarios of outcomes and associated probabilities.

(ii) Compute the expected payoffs using the scenario probabilities.

(iii) Discount expected payoffs to present value using risk-adjusted discount rates.

Illustration 3.1.1.1

- INR 100 crores payment contingent upon obtaining FDA approval.
- Approval expected in 1 year.

Solution:

Particulars	Payment	Probability	Prob.-Weighted payment
Approval obtained	INR 100	75%	INR 75
Approval denied	INR 0	25%	INR 0
Total		**100%**	**INR 75 crores**
Discount rate		10%	
Present value factor			0.91
Fair value of contingent consideration			**INR 68 crores**

Illustration 3.1.1.2:

In case of earnouts for more than one year, having formulae for computation of earnouts specified in the purchase agreement for each year, computation can be shown as follows:

Particulars	EBITDA	Payout	Probability	Probability adjusted amount	PV factor @ 15%	Present value
Earnout 1 - for 12 month period ended March 31, 2019 (Year 1)						
On achieving EBITDA of INR 1,125,000		2,500,000				
Best case	1,210,000	2,500,000	33.33%	833,333	0.87	724,638
Base case	1,100,000	-	33.33%	-	0.87	-
Worst case	990,000	-	33.33%	-	0.87	-
Earnout 1 - for 12 month period ended March 31, 2020 (Year 2)						
On achieving EBITDA of INR 1,620,000		EBITDA * 2000/1800				
On achieving EBITDA of INR 1,800,000		EBITDA * 2400/2160				
On achieving EBITDA of INR 2,160,000		2,400,000				
Best case	1,903,000	2,114,444	33%	704,815	0.76	532,941
Base case	1,730,000	1,922,222	33%	640,741	0.76	484,492
Worst case	1,557,000	-	33%	-	0.76	-
Earnout 1 - for 12 month period ended March 31, 2021 (Year 3)						
On achieving EBITDA of INR 2,160,000		EBITDA * 2500/2400				
On achieving EBITDA of INR 2,400,000		EBITDA * 3000/2880				
On achieving EBITDA of INR 2,880,000		3,000,000				
Best case	2,970,000	3,000,000	33%	1,000,000	0.66	657,516
Base case	2,700,000	2,812,500	33%	937,500	0.66	616,421
Worst case	2,430,000	2,531,250	33%	843,750	0.66	554,779
Fair value of contingent consideration						**3,570,788**

Here each year's expected payout is discounted to present value using the risk adjusted discount rate.

PWERM is generally used where we have non-financial metrices based on which the consideration is payable or such financial parameters which are difficult to statistically estimate. Listed down are the advantages and disadvantages of using the PWERM:

Advantages:

(i) Management controls scenarios and probabilities: The scenarios and probabilities are generally prepared by the management since they would be the best source for such data points.

(ii) Understandable: The computation and the flow are understandable to a reader with basic financial knowledge

(iii) Flexible: The model can be structured to fit most payout scenarios.

Disadvantages:

(i) Management controls scenarios and probabilities: While this has been discussed under advantages, management control over these inputs is also counter-intuitive since management tends to be overly optimistic or pessimistic in their assumptions

(ii) Lots of subjective assumptions: Most of the method's inputs are subjective and involve judgement, which at times is not the most ideal approach to value such payouts

(iii) Discount rate: Since the method involves multiple scenarios, it is challenging to estimate the appropriate discount rate

(iv) Path dependencies: Payout scenarios which are path dependent, i.e., the result of one scenario is related to one or more dependent scenarios are difficult to model in the PWERM. It can lead to multiple nodes and is prone to errors

3.2 Linear payouts

Non-linear contingent considerations are either not strictly linear or they pay a fixed amount based on a milestone correlated with the broader economy; thus, they require an OPM, as their complexity and discounting cannot be adequately captured in a PWERM. These considerations include ones with caps, floors, thresholds, or catch-ups; for example, if the buyer pays INR 50

crores if EBITDA is at least INR 75 crores in the first three years, or if the buyer pays 40% of revenues above INR 50 crores in year two, subject to a maximum of INR 40 crores. Another, more complicated example: The buyer pays 40% of revenues in years one to three, subject to a minimum of INR 10 crores and a cap of INR 40 crores. For such arrangement, an PWERM will not work since it is impossible to adjust the discount rate to align with the riskiness of such a complex payout structure. An option pricing model is generally used to value such arrangements.

3.2.1 Option Pricing Methods

The payoff structure for contingent consideration arrangements that have a nonlinear structure are similar to those of options in that payments are triggered when certain thresholds are met. Accordingly, some option pricing methods may be appropriate for valuing continent consideration that has a nonlinear payoff structure and is based on metrics that are financial in nature (or, more generally, for which the underlying risk is systematic or non-diversifiable). The OPM is implemented by modelling the underlying metrics based on a log normal distribution that requires two parameters:

- The expected value: The management expectation of the metrices over the term of the arrangement. This is generally provided by the management.
- The volatility (standard deviation) of the metric: The volatility of the metric measures the potential variability from the expected value. This is generally determined by using market-based data. However, volatility for financial metrics like revenue and EBITDA cannot simply be computed using the movement in stock prices of the comparable companies. It needs to be appropriately levered and unlevered to capture the variability in achievement of the metrics.

There are two widely used option pricing methods. The Black-Scholes Model ("BSM") and the Monte Carlo simulation model.

3.2.1.1 Option pricing methods – Black-Scholes Model

BSM treats a payout arrangement akin to an ordinary option which enables use of the standardized Black Scholes – Merton formula. This approach can work for simpler payout structures, for e.g., if the selling shareholder earns the payout only if the target metric hits a threshold, or for linear payouts with caps or floors. The consideration is assumed to represent a call option on the future performance of the acquiree.

Illustration for BSM

Earn outs are contingent upon target achieving a benchmark EBIT of INR 11,25,000 within 3 years.

EBIT is currently INR 10,00,000. At the end, acquirer will pay additional consideration equal to the excess EBIT over the benchmark.

The discount rate is 10 percent, and the risk-free rate is 3 percent. Volatility of earnings is 14% based on historical EBIT.

The inputs to the Black-Scholes Model for this example are:

(i) The current INR 10,00,000 level of earnings is the value of the underlying,

(ii) the benchmark of INR 11,25,000 serves as the exercise price,

(iii) the term is 3 years,

(iv) the volatility is 14%,

(v) the risk-free rate is 3% and

(vi) the dividend rate is 0%.

Based on the above inputs, calculations for the Black-Scholes Model can be incorporated into an excel spreadsheet. The resulting call option value of INR 84,413 will be the value of contingent consideration.

3.2.1.2 Option pricing methods – Monte Carlo Simulation model

For more complex structures, a Monte Carlo simulation is preferred. Arrangements that pay over multiple periods or multiple metrics are subject to combined caps or floor. A Monte Carlo simulation considers the co-relation between metrices and payouts over multiple periods. Monte Carlo simulation repeats a process many times attempting to predict all the possible future outcomes. At the end of the simulation, several random trials produce a distribution of outcomes that can be analysed. Random numbers are used to measure possible outcomes and the likelihood of occurrence. Generally, simulation software are used to generate random numbers. These random numbers are generated based on the applicable distribution driven by the metric triggering the payouts. For e.g. A log normal distribution is used to generate random numbers for revenue related payout triggers, where the expected revenue number can never be less than “Zero”. Similarly, a normal distribution is used to generate random numbers for and EBITA related payout

triggers since the estimated EBITDA can either be less or more or equal to "Zero".

Following are the important considerations of key inputs for valuing contingent considerations using an option pricing model.

Discount rate applied based on risk of target metric.

For earnouts that require this kind of discount rate, either the top-down or bottom-up approach may be used to develop the rate. These approaches are well known in the valuation field. They rely on the concept of beta (β), which reflects the level of market risk reflected in an instrument.

In the top-down approach, β is based on the deal's rate of return adjusted for the difference in market risk between the target metric and the overall enterprise value. Adjustments can reflect many relevant factors, such as the general riskiness of the target metric, leverage, term, size, premium, and company-specific risk. In the bottom-up approach, β is the target metric adjusted for term, size, company-specific risk, and other relevant valuation factors. The bottom-up approach may rely on statistical analysis of the target metric from the company or its peers.

Volatility

Valuation techniques that rely on options modelling or Monte Carlo simulation require a volatility of the target metric. There are four ways in which such volatility can be computed:

(i) Historical changes in the target metric for the acquired company and public comparable companies

(ii) Company volatility based on the relationship between the target metric and the enterprise value

(iii) The difference between analyst forecasts and actual results for peer companies

(iv) Fitting a distribution to management's estimates.

With any of these methods, a discussion with management is recommended since a derived volatility may fail to accurately incorporate the economics of the company's situation.

Synergies

While financial reporting valuations require the valuer to used market participant estimates of financial metrices specifically excluding any buyer specific synergies, at the time of computing the fair value of contingent consideration it would be more appropriate to consider any synergies assumed while setting up the payout structures.

Both option pricing models can get complex and difficult to comprehend for a lot of professionals and they have their share of advantages and disadvantages.

Advantages:

(i) Manage complex payoff structures: Can accommodate a wide range of complex payoff structures.

(ii) Objective assumptions: Most inputs are governed by market related inputs making it less subjective than the PWERM.

(iii) Discount rate: Since the computations are made using random numbers and volatility, generally risk adjusted discount rates are used, reducing the need of subjectivity inherent in building discount rates for financial metrices.

Disadvantages:

(i) Perceived to be complex and time consuming.

(ii) Rigid: OPMs are based on prescribed formula and is perceived as rigid relative to the PWERM

(iii) Difficulty in converting real -world cash flows into risk-free cash flows: it is challenging at time to convert the pay-out structure into models to be used with the OPMs.

Valuations of contingent consideration and selection of the appropriate methods can be quite challenging. Such valuations are continuously evolving as new literature on methods and approaches are published around the world. Selection of methods to value these arrangements are driven by the complexity of the pay-outs and experience and qualifications of the valuer to be able to appropriately apply these methods.

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Chapter 12
Valuation of Private Firms- An Estimation of Company Specific Risk Premium

1. Valuation of Financial Assets:

Valuations are an important part of business not just for companies themselves, but also for investors. In recent time, valuations are required for many reasons like legal compliances, acquisitions, arbitration, etc. The thumb rule for sound investing is that an investor does not pay more for an asset than it is worth. We should not buy most assets for aesthetic or receive for emotional reason. Instead, we buy financial assets for the cash flows we expect to receive from them consequently; perceptions of value have to be backed by reality. As we all know, the business valuation process involves a great deal of science in arriving at an indication of value, but also requires some art on the part of the Valuer. The science of Business Valuation involves the approaches and methodologies used in arriving at a value conclusion. While applying the market approach we use the direct market data like appropriate multiple to subject company's earnings, revenue etc. for application of various methods under this approach. Further, under market approach we can use various transactions for application of particular method like comparable transaction method. In Income Approach, we use certain observed data such as the risk-free rate and the equity risk premium to build up the company's appropriate discount rate. The art of valuation process involves experience and subjective judgment of the valuer even if many of the required inputs for company valuation are available from third parties. Selection of marketability discount or liquidity discounts also involves great amount of judgment on the part of valuer even if there exists limited methodology to quantify it. The most obvious example of the art involved in business valuation process is selection of company specific risk premium more specifically for private entities.

2. Company Specific Risk Premium:

Value of an asset represents the capacity of an asset to generate revenue over and above expected returns from such assets under valuation. The synergies developed over a period of time for firm/enterprise/asset lead to generate extra

return over market expectation and that generates value of an asset. The market expectation represents the systematic risk as well as unsystematic risk. Systematic risk, such as that associated with the market, macroeconomic factors, or equity investments, is the risk that is unavoidable and impacts all investments and cannot be minimised through diversification of a portfolio. Unsystematic risk, on the other hand, is the risk associated with particular company/assets which can usually be reduced or virtually eliminated by holding a diversified portfolio. The unsystematic risk associated with the privately-held company is usually not eliminated due to lack of diversification of portfolios as compared to publicly held entities. For valuation purposes, the firm-specific risk or unsystematic risk associated with a privately-owned company is represented in large part by the specific company risk premium.

3. Estimation of Company Specific Risk Premium:

Estimation of unsystematic risk specific to company is highly judgemental. Though estimation of company specific risk premium seems to be minor subject; any error in estimation may have significant impact. Any tool for estimation of risk premium may facilitate valuer concern to minimise the errors. The lack of empirical data regarding the specific company risk premium necessitates the development of a model or factor analysis to estimate the appropriate premium and to better justify the valuer's selection of risk premium. The basis of valuer judgement depends on various factors like financial statements, financial ratios, other qualitative matters observed during physical visit, management discussions, industry experience, current market scenario like impact of pandemic like Covid-19 etc. Although, valuer carefully considers these elements in his valuation process, however, currently there is no specific model available to quantify the exact impact of these factors to the discount rate. Further, the specific company risk premium for one company may not necessarily be the representative of the specific company risk premium applicable to another firm/company in the same or in another industry.

The factor analysis for the firm under valuation would assist valuer in development and documentation of basis for arriving company specific risk premium. It is well accepted fact that there is no database which provides various statistics regarding the specific company risk premium. Further, in order to create a model, a great amount of historic data for each company is required which is very difficult for a privately held company. Therefore, a factor analysis seems to be sound methodology to assist valuer in developing an appropriate risk premium.

4. Factor Analysis:

The first step in developing the factor analysis is to determine the appropriate factors that impact the specific company risk premium. Some of the factors that are likely to influence the specific company risk includes Business Risk, Operational Risk, Financial Risk, Market Risk, Economic Risk, Industry Risk, Profitability, Revenue Growth, Management/ Corporate Governance, Competition, Customer Concentration, Diversification, impact of pandemic like Covid-19 and Employee Relations etc. Out of the given factors, valuer should consider the most significant factors that may be quantified. Then appropriate weight should be given to each factor considering the nature of assets to be valued, business pattern and current facts prevailing at the time of valuation. The detailed understanding of some the factors affecting company specific risk premium is as under.

4.1 Revenue Growth

Revenue is a key factor for any business to grow or sustain. Fundamentally, there is an inverse relationship between revenue growth and the appropriate specific company risk premium. As revenue growth of the firm increases, firm risk typically falls as a result of greater prospects for increased earnings, dividends, etc. Though expected future cash flows of the firm assumes the impact of revenue growth on value of subject asset, highly optimistic assumptions about the future revenue growth may results in deviation from fair value. Certainly, comparing the historic revenue growth with estimated revenue growth would give us the base figure to develop company specific risk premium and to assign appropriate rating. This analysis would assist to offset the error of over estimation of cash flows, if any, on the value to be arrived for particular assets. A rating of ten implies deviation between historical and estimated revenue growth rate to a greater extent while rating of zero indicates stable revenue expectations of management with no deviation. Valuer can use the compound annual growth rate over the last three to five years as the case may be as well as forecasted revenue growth rate for horizon period while assigning the appropriate rating. The difference between two is calculated and then rating process commence. If during process of valuation analysis, valuer found any by substantial evidence supporting such deviation in expected revenue, he can choose an alternate analysis or may drop this analysis.

Illustrative Rating Matrix:

% of Deviation	0% - 10%	10%-20%	20%-30%	30% -40%	40%-50%	50%-60%	60%-70%	70%-80%	80%-90%	> 90%
Rating	1	2	3	4	5	6	7	8	9	10

4.2 Operational Risk

Operating leverage is an indication of a firm's risk of not meeting its fixed costs in the event of a decline in sales. It can be calculated using ratio of fixed costs to sales. There is a direct relationship between the operating risk of a firm and the specific company risk premium. Higher ratio indicates a higher level of fixed costs as compared to sales. If the level of fixed cost is higher as compared to sales it leads to increase in the risk of the firm not being able to meet its fixed cost obligations, thus would possibly end up with bankruptcy of the firm. A firm with no fixed costs would receive a weighting of zero which is to be gradually increased with increase in the fixed costs of the firm. Valuer can use the data of most recent financial years unless he finds a major cost reduction tools captured in proposed business plan/Model or projected financials.

Illustrative Rating Matrix:

Fixed cost/ Sales ratio	0%	<10%	10%-20%	20%-30%	30% -40%	40%-50%	50%-60%	60%-70%	70%-80%	80%-90%	>90%
Rating	0	1	2	3	4	5	6	7	8	9	10

4.3 Profitability:

Profit is a life blood of every firm. The profitability of the firm is a clear indication of the level of risk associated with that firm. More profitable firms obviously have a lower level of risk than unprofitable/less profitable firms. Therefore, firms with a higher net profit margin will have a lower rating of risk in the factor analysis, thus it reduces the specific company risk premium provided figures are realistic. While the profitability is already considered in the projections, possibly there can be two methodologies to satisfy that assumed figures are not absurd. One is to use empirical database where in historical profits figures are compared with estimates profits. Ideally, use of average of three or five

years normalised net profits (i.e., after adjusting exceptional items, if any), is most preferable one for this analysis. The second one is to benchmark industry profitability with estimated profitability of firm. This can be a good approach for green field/start-up firms. In order to build up appropriate risk premium attached with this profitability factor; we can use deviation analysis as used in Revenue growth analysis above. The deviation of estimated profitability with historic profitability of firm or industry profitability is to be worked out and suitable rating should be assigned. This is because the highly optimistic projection has a more chances of failure in performance and can conclude towards unrealistic assumptions. Valuer should also evaluate the other factors for such optimistic assumptions about earnings, after due discussion with management, before considering this analysis. A rating of ten implies deviation to a greater extent which indicates enhanced risk to firm while rating of zero indicates stable growth rate with minimal risk.

Illustrative Rating Matrix:

% of Deviation	0%	<10%	10%-20%	20%-30%	30%-40%	40%-50%	50%-60%	60%-70%	70%-80%	80%-90%	>90%
Rating	0	1	2	3	4	5	6	7	8	9	10

4.4 Industry Risk:

Industry risk attached with the firm means firm's performance relative to the industry performance. Industry risk is the risk specific to the industry which would be expected to impact all firms in the industry. This risk is relative to performance of a firm in an industry. The firms which perform well has less impact of Industry risk as compared to firms with degraded performance. The ratio of the firm's performance to the industry performance is an appropriate measure of risk. The Return on Asset (ROA) ratio measures the ability of the firm to generate revenues with its asset base. One can calculate Industry ROA as an average of ROA calculated for the same/similar entities/peers engaged in the identical business line as that of firm under valuation. If we divide the firm ROA by the industry ROA, it gives a ratio which indicates the firm risk relative to the average industry risk. Higher ratio indicates better performance of firm and thus has lower company specific risk premium.

Illustrative Rating Matrix:

Firm ROA/ Industry ROA	<0	0-0.25	0.25-0.50	0.5-0.75	0.75-1.00	1.00-1.25	1.25-1.50	1.50-1.75	1.75-2.00	2.00-2.25	>2.25
Rating	10	9	8	7	6	5	4	3	2	1	0

4.5 Economic Risk

Under this factor analysis, most recent annual GDP growth rate of a country is to be used for ascertaining risk premium, of the firm. GDP is the measure of the country's economic output in a year. Using the return on assets of the firm, it is suggested that economic risk for the firm is a function of its ability to generate a return on its asset base relative to the ability of the overall economy to generate a return on its total asset base. Therefore, if a firm has a low ROA as compared to economic growth, the specific company risk premium is to be on higher side.

Illustrative Rating Matrix:

Firm ROA /GDP Growth rate	<0	0.00 - 0.50	0.50-1.00	1.00-1.50	1.50-2.0	2.00-2.50	2.50-3.00	3.00-3.50	3.50-4.00	4.00-4.50	>4.50
Rating	10	9	8	7	6	5	4	3	2	1	0

4.6 Customer Concentration:

The customer concentration risk in this analysis measures the risk of dependency on few customers vis-a-vis overall customer base. In case a firm's revenue consist of majority of the sales from a few customers, the risk to the firm increases, as losing a major customer may substantially impact the cash flow of the company. If the customer concentration (i.e., sales of top five/ten customers divided by total sales) increases, the specific company risk premium should increase as well. Higher rating is appropriate if the company's few customers represents majority of its total annual sales. Gradually, rating may reduce with reduction in dependency on customers. To perform this analysis, use of the most recent fiscal year sales figures is justified unless there is anticipation for loss of one of the top customers in the coming years.

Illustrative Rating Matrix

% of Sales of top customers	<5%	5%-10%	10%-20%	20%-30%	30%-40%	40%-50%	50%-60%	60%-70%	70%-80%	80%-90%	>90%
Rating	0	1	2	3	4	5	6	7	8	9	10

5. Application of Factor Analysis:

Let us take a simple hypothetical example to understand the application of factor analysis and consequently arriving company specific risk premium.

Particulates	Figures
Compounded Annual Growth Rate (CAGR) of last 3 years revenue	11%
Estimated revenue growth for horizon period	15%
Historical average profit of last 3 years	8%
Projected average profitability of horizon period	11%
Fixed cost to Sale ratio	45%
Return on assets of Firm	2.5%
Industry Return on Assets (ROA)	3.5%
GDP Growth rate of country	4%
Top 10 Customer's % revenue of total revenue	65%

Calculation of Company Specific Risk Premium:

Factor	Calculation	Weight*	Risk Factor Rating *(based on Illustrative Matrix)*	Company Specific Risk premium
Revenue Growth *(Deviation of historic and expected revenue)*	4% (15%-11%)	20%	1	0.2
Operational Risks *(Fixed Cost to Sales ratio)*	45%	15%	5	0.75

Profitability *(Deviation of historic and expected profit)*	3% (11%-8%)	20%	1	0.20
Industry Risk *(Firm ROA/Industry ROA)*	2.5%/3.5% = 0.71	10%	7	0.7
Economic Risk *(Firm ROA/GDP growth)*	2.5%/4% = 0.625	10%	8	0.8
Customer Concentration *(Top 10 customers revenue)*	65%	15%	7	1.05
Company Specific Risk Premium				**3.7%**

*****_The weights given are based on the discretion of the Valuer._

6. Conclusion

The above analysis is highly subjective to the judgement of the valuer, hence, could not be considered as conclusive and perfect but gives to valuer a way forward to strengthen the documentation of the estimation process for company specific risk premium. The valuer can choose its own process to build up appropriate risk premium considering the facts and circumstances prevailing while valuing the assets. It is imperative to note here, that any error in the specific company risk premium may have a significant impact upon the value of assets, hence utmost care of valuer is must while estimating the same. Therefore, there is a strong need for a quantifiable analysis for the specific company risk premium in order to strengthen valuations process and to limit the valuer's exposure for future legal challenges. The factor analysis present herein, though not perfect or not standard, provides a foundation to valuer in developing the specific company risk premium.

Chapter 13
Valuation - The Story Behind the Numbers

A value has a value, only if its value, is valued.

As valuation professionals, we are constantly crunching numbers and ensuring the correct application of the various accepted valuation techniques and methods. However, it should be evidently clear to not only the valuation professional but also to the end consumer of the valuation assignment that a good valuation is not just numbers. While it is critical to get the maths and application right- however it is equally important to a pragmatic understanding of the narrative behind the valuation.

Two notable points which deserve attention here are:

1. Valuing a company is much more than evaluating the financial statements of a company and estimating an intrinsic value based on numbers. This concept is getting more and more critical in today's day and age where most emerging business are valued not on their historical performances captured in the financial statement but rather on a narrative driven factors like scalability, ease of replication, growth potential, cross sell opportunities etc.
2. More often than not, investors/users tend to focus on either numbers or the story without attempting to reach a middle ground.

Think of it this way- if valuing a company was as easy as attaching an intrinsic value based on a market ratio such as price to earnings (PE) multiple or price-to-cash flow, or even a discounted cash flow method- Then everybody would have made money in the stock market! However, sadly that is not the case. Numbers, most certainly, play an important role in helping investors arrive at an intrinsic value estimate for a company. Without desirable financial results, a company could only destroy value for shareholders in the long run. At the same time, however, not paying attention to the story behind a company could lead to investors missing out on big opportunities and/or being on the wrong side of the equation, most of the time. The story behind a company could often describe price movements that seem irrational from a financial performance perspective.

Emotions/Sentiments are important characteristics behind valuation assumptions - There's a simple reason why the narrative matters in valuing a business. Even though a robust intrinsic value calculation using financial statements data and an error-free model makes investing a more technical subject, in reality, emotions play a massive role in moving stocks higher or lower. Not accounting for this fact, therefore, could become an obstacle in consistently getting the valuation right. Even from the end user perspective- Users of the valuation report are either those who depend entirely on numbers or others who base their investment thesis entirely on the story. Both these types, in my opinion (and experience), will fail to capture opportunities that could have been unlocked had they been willing to reach some middle ground between the two concepts.

While building valuation assumptions based on the underlying sentiment driven story, we should look at the following five key steps:

1. Develop a narrative for the business that you are valuing.
2. Test the narrative against history, experience, and common sense.
3. Convert key parts of the narrative into drivers of value.
4. Connect the drivers of value to a valuation.
5. Keep the feedback loop open.

According to the valuation expert Prof Aswath Damodaran- *a company with substantial earnings with no story to tell is no better than a company with a great story to tell but no earnings to show (from the perspective of an investor, that is).* The best valuation, therefore, lie in the **middle ground where a story meets numbers.** Empirical evidence confirms that a bias toward the narrative or the numbers in a valuation model of a company often leads to inaccurate results. An unconventional yet effective way to approach valuation is to strike a balance between the two, which is easier said than done.

The five-step process listed above could be used as a starting point for developing a valuation framework that takes into account both the financial performance and the narrative behind a company. The way forward to achieve some sort of balance between the two components could vary from one valuation professional to another.

Based on the two components of story and numbers- we can divide the businesses that we value into four different segments:

1. A narrative-driven company that is yet to confirm its ability to generate earnings- Example an early stage startup company which is just in the ideation/early product development phase.
2. A numbers-driven company with no story to tell- Example could be a plain vanilla bank with an established revenue model but not much innovation or growth story for the future.
3. A narrative-driven company that is already bringing in some sort of revenue and profits- Successful startups like Uber, Netflix etc.
4. A numbers-driven company with an interesting story to tell- like an innovative but profitable company with proven track records of revenues as well as being at the fore front of market innovations and strategic movements.

For each one of these categories, a valuation professional should look for certain types of catalysts that could either boost the share price or ground the company for good. Whether a company would move from one category to another that warrants a change in the valuation assumptions based on what factor (the narrative or numbers) would drive the stock price in the coming months/years.

For companies, that are expected to trade in the assigned category for a prolonged period of time, the valuation professional should evaluate whether the primary driver of the stock would change resulting in the stock surging to new highs or shedding most of its value. For example, if the valuation professional believes Company X is a narrative-driven stock and then should try to assess whether the story would change within a given period of time. Even if numbers are still missing, it would be difficult to undervalue Company X, unless otherwise, there is a clear change in the narrative. Similarly, despite the very attractive numbers and the valuation multiples, one should not overvalue Company Y if there is no story to drive the stock price higher.

Importance of the story/narrative in valuation of technology/ecommerce startups and social media-based companies

Ecommerce and social media companies seem to be generating astronomical valuations relative to those garnered by seasoned corporations in other industries. Many ask: are these companies deserving of such generous estimates? Could these companies intrinsically be worth as much as well-established profit generating companies? These questions belie the underlying pessimism that many of us have: are we experiencing yet another tech bubble?

The five-step valuation narration building process as discussed above can be most usefully deployed while working on valuation assignments relating to technology based startups- ecommerce, aggregator businesses and social media companies

1. **Narrative development**- Develop a vision, a feeling of mission, a credible plan with milestones and communicate that with a sense of urgency. A useful framework to define urgency could be in the form of asking questions like:

   (i) Is the problem statement clear?

   (ii) Is the business model inevitable (if they do not do, will someone else do it for sure)?

   (iii) Is the timing right?

   (iv) Are the people involved (core team) right from a technical and strategic point of view?

   When answering these questions, the valuation professional should try to emphasize on one's related experience and previous track-record in the industry. Display enthusiasm and passion while telling the startup's story in the valuation report and try to show leadership and assertiveness – investors look for these qualities in entrepreneurs.

2. **Testing the narrative-** Choose a story that is **possible, plausible and probable**. Here it is important to note a few details. When it comes to the narrative, people genuinely only understand up to 2 layers of complexity. If it takes more than that for them to understand, the story is probably too complex. Once your narrative is complete, try telling your story to the client to check if they understand and relate to it. Test it and be receptive to feedback.

3. **Convert the narrative into value drivers-** Once the story has been established and tested, convert it to value drivers. In other words, attach numbers to your story in order to reinforce your narrative and make it concrete. There are two approaches to do that –

   (i) **Top-down approach (from the outside-in):** Focus on the big picture – total available market size, target market share, etc. Break these components down in terms of number of acquisitions, conversion rates, and other metrics to give an

estimate of the company's expected performance. The top-down approach is preferable for young, high-growth companies.

(ii) **Bottom-up approach (from the inside-out):** Focus on the company and its drivers such as productivity, price, hiring, etc. Make assumptions on the future evolution of these metrics and use these assumptions to derive the company's expected performance. The bottom-up approach is applicable when you do not have reliable market figures.

Choosing between the two approaches depends entirely on the type of company and the availability of the data that you need to make the assumptions. Whichever approach you choose, the number that constitutes your company's performance needs to be supported by evidence that the company can reach these goals. For example, you can use the performance of similar companies (comparable) as a benchmark.

4. **Connect the drivers to a valuation-** This is the moment where the valuation professional makes the **actual valuation estimation.** There are tools and resources you can use to determine the specific value of your company. It is recommended to use a combination of methods and calculations to arrive at a comprehensive valuation estimate**.** Do not forget that the valuation is just a reflection of the assumptions you make in the financial modelling process. So, continuously question and challenge your own assumptions. **In the negotiation process, one should focus on the assumptions rather than on the valuation itself. If the other party agrees on them, then they will most likely agree with the valuation.**

5. **Keep the feedback loop open -** Be passionate about the narrative behind the valuation story but do not make it a dogma. Defend the narrative that you have created but **be receptive to criticism**. If a disagreement arises on the assumptions you have presented, try to pinpoint the main criticism and work towards smoothing that over. It would be helpful to make assumptions and value drivers clear and ask for feedback on them that make setting common milestones much easier.

Defending the story in the feedback loop-

As laid out in the Annexure 1 of the Companies (Registered Valuers and Valuation) Rules, 2017 MODEL CODE OF CONDUCT FOR REGISTERED VALUERS - A valuer shall not carry out any instruction of the client insofar as they are incompatible with the requirements of integrity, objectivity and independence. He shall act with objectivity in his/its professional dealings by ensuring that his/its decisions are made without the presence of any bias, conflict of interest, coercion, or undue influence of any party, whether directly connected to the valuation assignment or not. He shall maintain complete independence in his/its professional relationships and shall conduct the valuation independent of external influences.

In pursuance of the above statutes- the valuation professional will face many situations where his narrative behind the valuation story and the consequent assumptions forming part of the valuation model needs to be defended and justified to the end user of the valuation report. During the initial valuation assignment related discussions, the valuation professional should strive to find out what the most sensitive variables of the end user/client/counterpart is – the one they feel less inclined to negotiate on. This will enable the valuer to prepare, adjust and plan out the narrative which can be justified and defended as part of the feedback discussions and possible pushbacks. The equity stake is usually the less flexible lever, while the investment amount and valuation have larger variation.

It also helps to clearly lay down a clear underlining of WHAT VALUATION IS and WHAT IT IS NOT in the initial valuation assignment related discussions.

First things first –

We have to clarify to the client WHAT VALUATION IS - According to the ICAI Valuation Standards- *Value is an* ***estimate*** *of a* ***business or business ownership interest****, arrived at by applying the* ***valuation procedures*** *appropriate for a valuation engagement and* ***using professional judgment*** *as to the value or* ***range of values*** *based on those procedures*. According to the International Glossary of Business Valuation- *It is a* ***logical, defendable process*** *of arriving at* ***the opinion*** *as to the* ***worth of a business*** *given the* ***information available, assumption & limiting conditions*** *as on the* ***valuation date****.* Thus, one can safely summarize that a valuation is - A valuer's professional judgment on the estimate of value drafted in the form of a valuation report which can be used as an instrument to support the value claim.

Further, it is a disciplined and defendable process to measure and quantify the future (based on a set of assumptions which are driven primarily by a valuer's professional assessment of the valuation narrative).

WHAT IT IS NOT-

A well-researched, well-done model is NOT timeless, and the values will change as new information is revealed. A good valuation DOES NOT provide a precise estimate of value. A valuation by necessity involves many assumptions and is a professional estimate of value. The quality and veracity of a good valuation model DOES NOT depend just on number crunching. The quality of a valuation will be directly proportional to the time spent in collecting the data and in understanding the firm being valued.

With the above understanding established with the client- the valuer will have laid down a good ground rule for subsequent discussions. The valuer with respect to defending the story in the feedback loop can create their own strategies based on the assignment, professional experience, type of business, nature of the client etc. A few things at their disposal could be:

- Try to negotiate the narrative based on real world examples. Pure fantasies may really be hard to justify or defend as part of the valuation report and should as such be avoided.
- Present strong assumptions supported by data and prove the pre-conceptions of the clients wrong
- One of the approaches towards creating solid assumptions is looking into market comparable – those companies or deals that are similar in size, type of company and industry. Having solid arguments for your assumptions clears the path to negotiate on the investment capital that you need and the equity percentage you are prepared to give away.
- The other point you can negotiate on is your valuation – the fair market value of your business.

Especially with respect to valuation assignments involving start up valuations- if the valuer feels that the client on the other side of the table is less willing to discuss valuation ranges, emphasis should be made on the amount of capital that they would need to meet their target and reach a subsequent funding round. Having a clear step-by-step plan of how the capital will be invested as well as a comprehensible definition of the growth strategy will further reinforce the investment and subsequently the valuation narrative. Many investors enter

into negotiations bearing in mind the equity percentage that they want to receive. To succeed in negotiations, one need to consider the stage of development of their startup, since oftentimes, the percentage is respective to the stage. Generally, for an initial fundraising round (pre-seed stage) you would be negotiating within 10% -20% of equity. At the following stage – seed to Series A, the range of negotiation increases to 15%-35%.

In conclusion-

Numbers provide a sense of control, a sense of precision and the appearance of objectivity. However, without narratives to back them up, numbers can be easily manipulated, used to hide bias or to intimidate those not in the loop. On the other hand, stories are more easily remembered than numbers and connect with human emotions. However, stories that are not anchored to or connected with numbers can veer into fairy tales, leading to unreal valuations. Thus, valuation is not a stand-alone concept. One should use his financial modelling, strategy and growth plans to help him get his point across. Financial modelling, strategy and growth plans do not mean much without a narrative to back them up.

Chapter 14
All about Valuation of Receivables

1. Introduction

There are many businesses like construction, real estate, government contracting, manufacturing, Oil and Gas etc. in which receivables constitute a significant proportion of total assets. In such cases, the survival and growth of the business depends upon the quality and prospects of recovery of receivables. The following illustration will throw more light on the importance of valuation of receivables-

Rs. in Crores

	FY 2019-20	FY 2020-21	% increase
Revenue	100.00	150.00	50
Profit after Tax	20.00	32.00	60
Receivables	30.00	75.00	150

In the above illustration, revenue and profit increased on the back of increase in receivables. In other words, if receivables of Rs.75 Crores as on March 31, 2021 are not realized by say 20% about half of the profit for FY 2020-21 will be wiped off. Even in relatively bigger companies like Jain Irrigation Ltd. a global leader in drip irrigation we have seen such phenomena where revenues and receivables kept on rising during a long period of time after which profits the fell as a result of provision for bad and doubtful debts. Such experiences underline the importance of continuous monitoring and valuation of receivables. The recovery of receivables is also intimately connected with liquidity of the enterprise. If the profit is locked up in receivables for an unduly long period of time, the enterprise's ability to make timely payment to its suppliers, employees, statutory dues, dues of banks and financial institutions can get eroded with the result that its credit rating can also go down.

Many banks and financial institutions entrust audit/valuation of receivables of their borrowers to professional accountants, as they know the critical importance of receivables with reference to recovery of their interest and principal of loans. Unlike, fixed assets receivables have the nature of

continuous rolling which make them complex and subject to continuous monitoring.

2. Important Definitions

As per Schedule III to the Companies Act, 2013 an asset shall be classified as current when it satisfies any of the following criteria:

(a) it is expected to be realized in, or is intended for sale or consumption in, the company's normal operating cycle;

(b) it is held primarily for the purpose of being traded;

(c) it is expected to be realized within twelve months after the reporting date; or

(d) it is cash or cash equivalent, unless it is restricted from being exchanged or used to settle a liability for at least twelve months after the reporting date.

All other assets shall be classified as non-current.

An operating cycle is the time between the acquisition of assets for processing and their realization in cash or cash equivalents. Where the normal operating cycle cannot be identified, it is assumed to have a duration of twelve months.

A receivable shall be classified as a "trade receivable" if it is in respect of the amount due on account of goods sold or services rendered in the normal course of business.

For the purpose of valuation, receivables fall under the category of "Securities or Financial Assets" under (Companies Registered Valuers and Valuation) Rules, 2017.

3. Main Considerations While Making Valuation of Receivables

(a) Reliable and proper Transaction Documentation is of essence

As per practice prevailing in India, trade receivables are generally unsecured and hence prone to high risk of recovery. However, there are several other factors which need to be taken into consideration. The Valuer should go through the relevant transaction documents between the company and its debtor. Such documents include agreement between parties, letter of intent, order, invoice, documents evidencing delivery, insurance documents, approval

of quality process etc. If the documents are proper, it shows the genuineness of the transactions which can be considered to be a positive factor. On the other hand, if there are gaps in documentation, the receivable becomes dubious ab initio.

(b) Internal Control systems, Process of KYC

While undertaking valuation of receivables, it is important to evaluate the internal control systems, process of KYC being followed by the company. If there are loopholes in the systems there is more possibility of selection of wrong parties and in turn higher risk involved in respect of recovery.

(c) Security, Guarantee, Escrow Mechanism

If the receivable is secured by any tangible security or guarantee, it naturally adds confidence about the recovery prospects. In some cases, there is an escrow mechanism in place for recovery where earmarked cash flows directly come to the designated bank account. The mechanism enhances the prospects for recovery and in turn the valuation of receivables.

(d) Status and reliability of Receivable

Market reputation and Credit rating of the receivable party is extremely important. If the receivable company's share is listed on the stock exchanges and enjoys good credit rating it is more likely that recovery will come, provided the transactions are orderly and genuine. On the other hand, very small, unlisted players while being in financial distress are more likely to make default in payment. So the status of receivable in terms of net worth, reputation, rating, business ethics is a significant factor while making valuation.

(e) Reconciliation and confirmation of balances

Receivables involve two-way transactions. Hence, it is imperative for the valuer to go into the reconciliation statements between the parties to know whether there are some material entries on which parties disagree. If the balances are mutually confirmed it should be considered to be a positive factor. On the other hand, if the balances are not confirmed it should be considered to be a negative factor.

(f) Claims by debtor for deficient service, poor quality of material supplied

There have been cases where debtors have made substantial claims regarding deficient services or for poor quality of material supplied but which are not

accounted for in the books of accounts. It is imperative on the part of valuer to go through the relevant correspondence between the parties and make suitable adjustment in figures of receivables based on genuine claims made by the debtors.

(g) Age wise analysis of Receivables

Valuer should take the normal operating cycle of the business of the enterprise as the benchmark within which receivables have to be recovered. In case the period exceeds, the valuer has to find reasons for the delay. The reasons could be disputes between parties, inability to pay, litigation etc. Whatever be the reasons, if any receivable is not recovered within the normal operating cycle of business it has to be red flagged and has to be analyzed in detail before arriving at a conclusion.

(h) Receivables Turnover Ratio

Receivables turnover ratio is an accounting measure used to measure how effective a company is in extending credit as well as collecting debts. The ratio is equal to Net Credit Sales/Average net receivables. A high ratio implies that its extension of credit and collection of accounts receivable is efficient. While a low ratio implies the company is not making timely collection of credit. The actual ratio should be compared with industry's standard ratio to conclude whether there is any material deviation. The valuer should go into the reasons behind any material deviation towards negative side. The ratio can be employed in individual accounts also, wherever amounts involved are significant in relation to turnover of the company.

(i) Using Audited Accounts and Auditor's Report

The Valuer has to carefully go through the audited accounts to check the provision for bad and doubtful debt created by the company. At the same time auditor's report should be referred to check whether auditor has commented upon the recoverability of debts considered good by the management of the company. Unprovided receivables accounts should be checked in detail for the purpose of arriving at net realizable value.

4. Factors Influencing Valuation of Receivables, Loans and Advances at a Glance

	Positive/Negative Factor
Reliable and Proper Transaction Documentation	✓
No Reliable and Proper Transaction Documentation	X
Proper internal control over selection of parties, KYC	✓
No Proper internal control over selection of parties, KYC	X
Secured by tangible assets, guarantee	✓
Escrow Mechanism for recovery	✓
Good Reliability of debtor based on status -listed or unlisted entity, Public or Private entity, Credit rated or unrated	✓
Low Reliability of debtor based on status -listed or unlisted entity, Public or Private entity, Credit rated or unrated	X
Proper enforceable Agreement with debtor	✓
No proper enforceable Agreement with debtor	X
Reconciliation, Confirmation of balances done	✓
Reconciliation, Confirmation of balances not done	X
Substantial Claims by debtor for deficient service, quality of material issues	X
Recovery pending for more than normal operating cycle	X
Receivables under litigation	X
Statutory auditor has suggested higher provision for bad and doubtful debts	X

5. Guidance Note on Audit of Debtors, Loans and Advances issued by the ICAI

Reference to the guidance note on audit of debtors, loans and advances issued by the ICAI can be useful in knowing the procedures regarding internal control evaluation in respect of debtors. It also deals with verification,

evidence, completeness regarding existence of debtor, its valuation and disclosure, examination of records, special considerations in case of loans and advances, direct confirmation procedures, analytical review procedures, management representations, documentation.

6. Guidance Note on Audit of Revenue issued by the ICAI

Reference to the Guidance note on audit of revenue issued by the ICAI can be useful to ascertain occurrence, completeness, measurement, presentation and disclosure, internal control evaluation and documentation of revenue since revenue is intimately connected with receivables.

7. Basis of Valuation

Unlike other assets where different methods & approaches to valuation may be used, in case of receivables valuation is generally made at fair value or liquidation value which is guided by the extent of recoverability of receivables. In other words, it can also be called valuation at net realizable value. Interestingly, IBC law deals specifically with the basis of valuation of assets.

The term Fair Value and Liquidation Value have been defined under Corporate Insolvency Resolution Process Regulations as follows:

Clause 2(hb): "Fair Value" means the estimated realizable value of the assets of the corporate debtor, if they were to be exchanged on the insolvency commencement date between a willing buyer and a willing seller in an arm's length transaction, after proper marketing and where the parties had acted knowledgeably, prudently and without compulsion.

Clause 2(k): "Liquidation Value" means the estimated realizable value of the assets of the corporate debtor if the corporate debtor were to be liquidated on the insolvency commencement date.

(a) As per International Valuation Standards 2017 (IVS 104 Bases of Value), the term Fair Value and Liquidation Value are defined as follows:

(i) Fair Value

(International Financial Reporting Standards)

IFRS 13 defines Fair Value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

(ii) Liquidation Value

Liquidation Value is the amount that would be realised when an asset or group of assets are sold on a piecemeal basis. Liquidation Value should take into account the costs of getting the assets into saleable condition as well as those of the disposal activity. Liquidation Value can be determined under different premises of value:

a. An orderly transaction with a typical marketing period, or

b. A forced transaction with a shortened marketing period

A valuer must disclose which premise of value is assumed.

(b) ICAI Valuation Standards, 2018

(i) 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.

It can be seen that the definition of 'Fair Value' is identical to the definition given under Ind AS 113.

(ii) Liquidation value:

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

8. Concluding Remarks

Unlike other asset classes, valuation of receivables involves audit of internal controls, KYC, agreements and documents to ensure genuineness of transactions and receivables arising out of such transactions. Generally, receivables are unsecured in nature however in case of any security, guarantee or escrow mechanism it is considered to be a positive factor from valuation point of view. The status of receivables particularly in terms of their market reputation is also an important factor which valuer has to take into account. In case of genuine transaction debtors would not like to put their reputation and rating into jeopardy. However, if the debtor is already in financial distress or under resolution within the framework of IBC its valuation would come down subject to other underlying factors.

Unlike other assets where different methods & approaches to valuation may be used, in case of receivables valuation is generally made at fair value or liquidation value which is guided by the extent of recoverability of receivables. In other words, it can also be called valuation at net realizable value.

Chapter 15
Sample Draft Valuation Report under CIRP

PART-A GENERAL INFORMATION & VALUATION APPROACH

A. Brief of the Corporate Debtor

M/s PQR Pvt Ltd with CIN No _____ is incorporated on 8th May, 2009, having registered office at _____, Gujarat, India. Its authorized share capital is Rs. 5,00,00,000 and its paid-up capital is Rs. 5,00,00,000. It is engaged in the activity of manufacturing of biodegradable bags, covers and other items.

On Application under Section 7 of Insolvency & Bankruptcy Code, 2016 of Union Bank of India ("the Financial Creditor"), The Hon'ble National Company Law Tribunal (NCLT), Ahmedabad Bench has ordered for initiation of Corporate Insolvency Resolution Process ("CIRP") against the Company vide order No. C.P. (I.B.) No. _____on _____. By the same order Hon'ble NCLT has appointed Insolvency Professional Mr. ABC & Associates, to act as Interim Resolution Professional.

B. Purpose of Valuation & Appointment

As per Regulation 27, of the Insolvency & Bankruptcy Board of India (Insolvency Resolution Process for Corporate Persons) Regulations, 2016 (" IBC, 2016"), the Resolution professional have to appoint two registered to determine the fair value and liquidation value of the Corporate Debtor in accordance with Regulation 35.

Accordingly, I have been appointed by the Resolution Professional of M/s PQR Pvt Ltd, vide letter dated 23.09.2020 to provide the Services of Valuation of Securities & Financials Assets of the Corporate Debtor as on 01.06.2020 i.e., CIRP commencement date in accordance with Regulations 27 and 35 of IBC, 2016.

C. Scope of Work

The purpose of the current valuation exercise is to arrive at the Fair Value and Liquidation value of the Corporate Debtor as per the IBC Regulations.

Regulation 2(hb) and 2(k) of the IBC Regulations read with IBC Amendments provide the definition of fair value and liquidation value and Regulation 35(1)(a) of IBC regulation and Notification issued on February 6, 2018, state the manner of determination of fair value and liquidation value.

The Scope of Valuation of Financial Assets as mentioned in the Appointment letter is to arrive at the Market Value, Fair Value and Liquidation Value of the Securities and Financial Assets of the Corporate Debtor as on 01.06.2020.

D. Limitations

The valuation results are bound by certain limitations which could have an impact on the valuation arrived at. The limiting factors to this Valuation exercise are given below and the reader of the report must take cognizance of the same while formulating his opinion.

(a) The valuation has been conducted based on the information and documents provided by the Resolution Professional. The Audited Financials provided are assumed to be correct and nor any review or due diligence of the same has been conducted by me.

(b) The valuation has been conducted for a specific purpose and may not be valid for any other purpose. Therefore, this valuation opinion is restricted for the purpose defined in the report.

(c) The valuation opinion is subjective and based on information provided and relied upon. I have no liability whatsoever to any person who makes any decision based on results given in this report.

(d) Further, this valuation report is based on the extant regulatory environment and the business/market conditions, which are dynamic in nature and may change in future, thereby impacting the valuation of the Company. The information presented in this valuation report does not reflect the outcome of any due diligence procedures, which may change the information contained herein and, therefore, the valuation report materially.

(e) It may be noted that valuation is a highly subjective exercise and the opinion on valuation may differ from valuer to valuer depending on the individual perception of the attendant circumstances. At best, it is an expression of opinion or a recommendation based on certain assumptions.

E. Disclosure

E.1 Disclosure of Valuer's Interest:

I have no present or prospective contemplated financial interest in the company, and I have no personal interest with respect to the Promoters & Board of Directors of the company. I have no bias/prejudice with respect to any matter that is the subject of the valuation report or to the parties involved with this engagement. The professional fee for the valuation is based upon the normal billing rates, and not contingent upon the results or the value of the business or in any other manner.

E.2 Restrictions on Use of the Report:

This Valuation Report is confidential and has been prepared exclusively for PQR Pvt Ltd only for the purpose specified above. It should not be circulated or reproduced to any other person, without prior consent of the valuer.

F. Valuation Methods

As per Indian Valuation Standards, 2018 applicable from 1st July 2018

(a) **Liquidation value**: It is the amount that will be realized on sale of an assets or a group of assets when an actual/hypothetical termination of the business in contemplated/assumed

(b) **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 valuation date. Regulation 2(hb) and 2(k) of the IBC Regulations read with IBC Amendments provide the definition of fair value and liquidation value and Regulation 35(1)(a) of IBC regulation and Notification issued on February 6, 2018 state the manner of determination of fair value and liquidation value as follows:

Rule 2(hb) - Fair value means the estimated realizable value of the assets of the corporate debtor, if they were to be exchanged on the insolvency commencement date between a willing buyer and a willing seller in an arms-length transaction, after proper marketing and where parties had acted knowledgeably, prudently and without compulsion.

Rule 2(k)- Liquidation value is the estimated realizable value of the assets of the corporate debtor if the corporate debtor were to be liquidated on the insolvency commencement date.

Rule 35(1)(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.

The key considerations as per IBC Regulations for undertaking fair valuation and liquidation valuation exercise are as follows:

- Application of internationally accepted valuation standards;
- Determination of fair value and liquidation value;

The International Valuation Standards Council (IVSC) 2017 refers to IFRS 13 for definition of fair value and defines as the price that would be received to sell as asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Liquidation value as per IVSC is the amount that would be realized when an asset or group of assets is sold on a piecemeal basis. Liquidation Value should take into account the costs of getting the assets into saleable condition as well as those of the disposal activity. Liquidation value can be determined under two different premises of value:

1. An orderly transaction with a typical marketing period or
2. A forced transaction with a shortened marketing period

Orderly Liquidation: "the value of a group of assets that could be realized in a liquidation sale, given a reasonable period of time to find a purchaser (or purchasers), with the seller being compelled to sell on an as-is, where is basis".

Forced Sale: "Forced Sale" is often used in circumstances where a seller is under compulsion to sell and that, as a consequence, a proper marketing period is not possible, and buyers may not be able to undertake adequate due diligence. The price that could be obtained in these circumstances will depend upon the nature of the pressure on the seller and the reasons why proper marketing cannot be undertaken. Unless the nature of, and the reason for, the constraints on the seller are known, the price obtainable in a forced sale cannot be realistically estimated.

Based on the nature of assignment and availability of information, I have estimated fair value and liquidation value of assets as per the definition of Regulation 2(hb) and 2(k) of IBC Regulations. Further, I have considered Orderly Liquidation for liquidation valuation which is defined by IVS.

PART-B VALUATION OF ASSETS

A. Summary of Valuation of Financial Assets

An Overview of estimated Fair value and Liquidation Value of Assets of M/s PQR Pvt Ltd (In CIRP) is tabulated below

Particulars	Book Value*	Fair Value	Liquidation Value
Securities or Financial Assets:			
1. Long Term Loans & Advances	100	50	50
2. Other Non -Current Assets	200	-	-
3. Trade Receivables	500	-	-
4. Cash & Bank Balances	100	25	25
5. Short Term Loans & Advances	100	-	-
6. Other Current Assets	100	35	30
7. Unidentified Balances	100	-	-
Total	**1200**	**110**	**105**

** Book Value is as on 1st June, 2020 as per unaudited financials.*

B. Information relied on for Valuation

The following documents were relied upon during the said assignment:

- Audited Financial Statement of the company for FY 2017-18 and FY 2018-19
- Provisional Financials for FY 2019-20
- Unaudited Provisional Financials upto 1st June, 2020.
- Bank Statement and Balance confirmation certificate for TDR till CIRP date
- Latest Electricity Bill for the month of May-2020
- Income tax Returns of AY 2017-18, 2018-19 and 2019-20.
- Form 26AS for AY 2018, 2019, 2020 and 2021.
- Intimation Order for AY 2019-20 of Income Tax

- GST ID and Password
- Discussion with Resolution Professional for information & explanation required for the purpose of ascertaining the Value of assets.

In addition to the above, I have also obtained such other information and explanations which were considered relevant for the purpose of valuation.

C. Valuation of each Asset Class in Detail

The valuations are based on the Unaudited Financial Statements as on 01.06.2020 provided by the Resolution Professional and other written or verbal communications shared.

1. Long Term Loans & Advances

Particulars	Book Value	Fair Value	Liquidation Value
XYZ Vij. Co – Deposits	100	50	50
Total	**100**	**50**	**50**

The Resolution Professional has provided Latest Electricity Bill for the month of May-2020. On analysing the said bill, observed that there is security deposit of Rs. 75. As per the UGVCL bill dated 16.05.2020 there is outstanding arrears of Rs 25, I have sought the details of payment made for the outstanding, which was not provided to me, hence taking a conservative view I have deducted the outstanding amount from the deposit value and given the liquidation value of Rs 50 to the Deposit.

2. Other Non-Current Assets

Particulars	Book Value	Fair Value	Liquidation Value
R &D Costs	100	-	-
Total	**100**	**-**	**-**

The Provisional financials as on 01.06.2020 shows R&D Costs of Rs 100 which is shown as Intangible assets under development. As per the communication provided by the Resolution Professional, the Suspended Management has not provided any breakup or details regarding the same. The only explanation provided as per the Suspended Management is as mentioned below:

"When we started this business way back in 2009, there was no ban from Government; however, there was even no market for this product and product

being ₹500 per kg, nobody was ready to buy the product when it was available at ₹90. So, we had to develop our own compounds for market sustainability, as the raw material we were importing from France was very expensive and also it had lot of issues coming due to temperature variation. For this reason, we sought help of various professionals to streamline the product with respect to performance, quality, rentability and cost. Further since, the weather in India was also not favouring, we had to do a lot of R&D from 2009-2012 for commercially launching the product in India, which took lot of capital. So, in this process we kept on, importing different grades of raw materials. We also tried to reduce the expenses (material, cost, labour) by purchasing few materials locally and therefore, in this process lot of material in 24 months was wasted, to reach at the final product which was fit for Indian market."

The above explanation is no satisfactory enough and no substantial record or proof has been given for the same, hence I have assigned **Nil** value to the asset.

3. Trade Receivables:

Particulars	Book Value*	Fair Value	Liquidation Value
A	100	-	-
B	100	-	-
C	100	-	-
D	200	-	-
Total	**500**	**-**	**-**

Generally, the fair value of trade receivable is considered as carrying value in the normal course of business. In case of CIRP or insolvency proceedings, valuation is arrived after considering various factors i.e., ageing, confirmations, movement etc. I generally factor a discount of 100% on the book value of the trade receivables, which are due for more than 365 days to estimate the fair value and liquidation value.

As per the audited financials of March 31, 2019 & as per the provisional financials of 1st June 2020 receivables of INR 500/- are shown as receivable more than 6 months & no receivables less than 6 months. As discussed with RP, they have sent the recovery letters & payment request to all the parties, but no response/money has been received back. The amount recoverability looks very doubtful. The above receivables are outstanding for more than 360 days. Therefore, **Nil** value has been assigned to all trade receivables.

4. Cash & Bank Balances

Particulars	Book Value	Fair Value	Liquidation Value
Cash balance	100	-	-
Bank of A -	100		
FDR – Bank B	100	25	25
The C Co. Op. Bank Ltd.-7076	100		
D Bank -35489	100		
Total	**500**	**25**	**25**

The realizable value of Cash & Cash Equivalents is assessed based on its book value. The Cash and Cash Equivalent assets were assessed as per books of accounts. I am not able to verify the Cash in hand as the same was not shown/presented to me during the verification process. Also, no Cash Balance certificate has been provided to me. Hence, I have assigned **Nil** value for the same.

With regards to Bank Balances, all the Bank statements have been provided by the Resolution Professional as on 1st June, 2020. On verification of the same the current balances as per the bank statement has been considered as the fair value and the liquidation value. Therefore, I have assigned Rs. 25 totalling all the above-mentioned bank accounts.

5. Short Term Loans & Advances

Particulars	Book Value	Fair Value	Liquidation Value
EMD-DEPOSIT			
1	5	-	-
2	5	-	-
3	40	-	-
Loans & Advances			
1	25	-	-
2	25	-	-
Total	**100**	-	-

I have reviewed all loans and advances account based on the latest financial statement and trial balance provided. I factored a discount of 100% on the book value of loans & advances. The Resolution Professional of the company has tried to recover the money in CIRP proceedings from the parties to whom

advance was given but unable to get recovered. Therefore, I have considered **Nil** value for these advances.

6. Other Current Assets

Particulars	Book Value	Fair Value	Liquidation Value
Advance to Creditors	10		
TDS Receivables AY 19-20	20		
TDS Receivables AY 20-21	10		
TDS Receivables AY 21-22	10		
GST Debit Balance	50	35	30
Total	**100**	**35**	**30**

Various Advances has been issued to Creditors, but no details of confirmation or recovery has been provided to us by the Resolution Professional. As per communication with the Resolution Professional no information regarding the addresses or any explanation were given by the Suspended Management regarding the above balances. Hence, I have considered **Nil** value of the balances, considering no future recoverability from them.

I have been provided with Form 26AS for FY 2018-19, 2019-20 and till CIRP date. As per 26AS for the AY 2019-20 the TDS receivable is Rs _____ which has been claimed as refund while filing Income Tax Return, but on verification of Intimation u/sec 143(1) of the Income Tax Act, 1961 for AY 2019-20 dated 26.11.2019, it is observed that the refund amount is adjusted against outstanding demand and interest payable under section 220(2) hence the value of the same is considered **Nil.** For TDS receivable for FY 21-22, _____ LLP has deducted TDS but not deposited and hence, the same is not reflected in the Form 26AS, as a result taking a conservative view, I have given **Nil** value for TDS Receivables AY 21-22.

The GST Electronic Credit ledger as shown in the GST portal has been verified by me. It has been noticed that the company has taken Trans-1 Credit of Rs _____. As per the e-mail communication received from the Resolution Professional, no details have been shared by the Suspended Management regarding the credit taken. Assuming, the same credit pertains to Capital goods I am assigning the value to it. However due to non-availability of required details and confirmation, valuation on the GST may be affected subsequently. Details of the credit balance as well as cash ledger balances as per GST portal along with its adjustment from books are as under:

Considering the above calculation and lack of proper records and documents I take a conservative approach and therefore assigned Rs _____ as the Fair Value for Credit Balance of GST and assign 85% of the Fair Value i.e., Rs _____/- as the Liquidation Value.

7. Unexplained Balances

Particulars	Book Value	Fair Value	Liquidation Value
Unexplained Balances	100	-	-
Total	**100**	**-**	**-**

The Provisional Financials as on 01.06.2020 provided by the Resolution Professional contains the unexplained balances of Rs 100/-. No explanation or details is available for the balances as shown in the financials. As per information provided by the Resolution Professional, the said amount is reflected in the Audited Financials of FY 2018-19 also, but no breakup or supporting has been provided either by the Suspended Management or the Auditors. Hence, I assign Nil value to the above asset.

D. Conclusion

Based on the valuation approach and considering all the information available on record with Resolution Professional & information available on public domain and applying professional scepticism, RV arrived on fair and liquidation value of PQR Pvt Ltd assets after reviewing each factors independently.

Total Fair Value of Financial Assets = INR **110/-**

Total Liquidation Value of Assets = INR **105/-**

The realisable value of the assets (as mentioned in the valuation summary) of PQR Pvt Ltd as on 1st June, 2020 based on RV findings works out to INR **110/- (Rupees _____ Only)** respectively**.** The report should be read in entirety along with the limitations and disclaimers pertaining to specific asset class.

CA RSA

Date: _____ **Registered Valuer**

Place: _____ **Reg. No: IBBI/RV/00/2020/12345**

UDIN No. _____

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