YOUR INSIGHT JOURNAL

THE VALUATION PROFESSIONAL

MARCH 2023

ICMAI REGISTERED VALUERS ORGANISATION

About ICMAI Registered Valuers Organisation

The Companies Act, 2013 brought into the light the concept of 'Registered Valuers' to regulate the practice of Valuation in India and to standardize the valuation in line with International Valuation Standards. Consequentially, The Ministry of Corporate Affairs (MCA) notified the provisions governing valuation by registered Valuers [section 247 of the Companies Act, 2013] and the Companies (Registered Valuers and Valuation) Rules, 2017, both came into effect from 18 October, 2017.

In view of the above, the Institute of Cost Accountants of India (Statutory body under an Act of Parliament) has promoted ICMAI Registered Valuers Organisation (ICMAI RVO), a section 8 company under Companies Act, 2013 on 23rd February 2018, which is recognised under Insolvency and Bankruptcy Board of India (IBBI) to conduct educational courses on Valuation for three different asset classes - Land & Building, Plant & Machinery and Securities or Financial Assets and to act as frontline regulator as Registered Valuers Organisation. ICMAI Registered Valuers Organisation is an Academic Member of International Valuation Standards Council.

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RECOGNISED RVO UNDER INSOLVENCY AND BANKRUPTCY BOARD OF INDIA

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FROM THE CHAIRMAN's DESK

CS (Dr.) Shyam Agarwal
Chairman
ICMAI Registered Valuers Organisation

Dealmakers expect a revival in 2023, even though market conditions aren't yet considered ideal. We sense that businesses are seemingly more certain about rising to a continued challenging atmosphere On the other hand, uncertainty about interest rates, inflation, and recession fears continue to give everyone quite a bit of heartburn. M&A is very much on the agenda for corporate strategies in 2023; while it likely won't be the year of the mega-deal, companies will be approaching the space with thoughtful due diligence as the turbulence felt from the pandemic may continue to linger. Overall, deal making will also depend on further stabilization of inflation and a hopeful avoidance of—or a short-lived—recessionary period. The only certainty is uncertainty hanging over the market and economy; as such, we expect dealmakers to incorporate creativity into their agreements to mitigate risk while not keeping M&A on the side lines as they continue shaping transformative deals, long-term success, and positioning to thrive in a rapidly changing, competitive market space.

FROM THE PRESIDENT's DESK

CMA Vijender Sharma
Nominee Director
ICMAI Registered Valuers Organisation

President
The Institute of Cost Accountant of India

The budget has broadly maintained the fiscal consolidation and more importantly focussed on infra spending which has long-term multiplier effect rather than higher allocations to subsidies. Market performance will be more driven by earnings outlook and valuation depending on the growth prospects. The resilience in the Indian market is dependent on the fact that the expectations on growth in India are pretty optimistic. In the last decade with quantitative easing and rates pretty much pinned down at zero across the world, there was very little differentiation in monetary policy. This made it hard to take investment positions that favoured one country over another. Inflation is the key to market performance in 2023. Provided inflation does come down, we could start to see a more benign environment for markets. But if inflation persists, then we've got a problem on our hands. Rates might then have to go even higher, and markets would have to reassess valuations once again. It's worth noting that emerging markets were far quicker to deal with inflation last year, so they're getting very near to the end of their tightening cycle. They've already taken a great deal of pain by pre-emptively raising rates, and we now see some value in emerging market assets.

FROM THE MD's DESK

Dr. S. K. Gupta
Managing Director
ICMAI Registered Valuers Organisation

Market volatility isn't new. But today's investors face an almost perfect storm, with geopolitical upheaval and the ongoing pandemic having altered everything from global peace post-WWII, supply chains for food and energy and monetary policy. The downstream results, in part, are new macroeconomic trends that include rising interest rates, countries reopening their economies and shifting economic partnerships. Russia's war with Ukraine has already had a profound impact on commodity markets, since it is a major supplier of oil and gas, fertilizers and metals, and other countries are reassessing their dependence on Russia for these commodities. Industrial companies could benefit if countries seek to build liquified natural gas import terminals to replace gas pipelines from Russia or invest more in local energy sources, such as natural gas or nuclear. The combination of the pandemic and war in Ukraine has shifted us into a new growth, inflation and interest rate regime. The low growth, low inflation and low interest rates of the last decade, which provided the foundations for growth stocks' phenomenal outperformance now looks to be behind us. In our central scenario, whereby economic growth demonstrates a degree of resilience, value's outperformance could have further to run.

PROFESSIONAL DEVELOPMENT

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January '2023 to February '2023	
Date	**PD Programs**
03rd January 2023	Learning Session - S Curve Concept in Depreciation of Assets
04rth -5th -6th January 2023	New Year New Opportunities New Skills Emerging Dimensions of Valuation
07th - 08th January 2023	Workshop on Valuation
09th January 2023	International Lecture Series World Valuers' Concerns on their Future Tips on the Valuation of Business
10th January 2023	Learning Session, The true acquisition cost of a Merger and Acquisition Deal
11th-12th-13th January 2023	Achieving excellence in Valuation
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17th January 2023	Learning Session For Valuation Professionals of Nepal
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1st March 2023	Seminar on Journey and Success Stories of Women
03rd-04th March 2023	Master Class

05th March 2023	Achieving Excellence in Valuation
06th March 2023	International Women's Day
09th-10th March 2023	Master class on Valuation
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PROFESSIONAL DEVELOPMENT PROGRAMS

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January '2023 to March'2023	
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19th to 29th January 2023	50 Hrs. Educational Course on Valuation (Land & Building)
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Date	PD Programs
25th-26th March 2023	Master Class on Valuation
27th-28th March 2023	Master Class on Valuation


Articles

BRAND VALUATION: WHAT IT MEANS AND HOW IT IS DONE

Dr. S. K. Gupta

Managing Director
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The Perspective

Over recent years, intangible assets have become more important to businesses operating in a wide variety of industries. This, in turn, has put a premium on being able to come up with credible ways to value brands. There is now widespread acceptance that brands play an important role in generating and sustaining the financial performance of businesses. With high levels of competition and excess capacity in virtually every industry, strong brands help companies differentiate themselves in the market and communicate why their products and services are uniquely able to satisfy customer needs. lt is a truth universally acknowledged that modern business success increasingly depends on intangible assets - and in particular, on brands. Consequently, the importance of the management of intangibles has grown. In order to manage and control the value of intangible assets it is of course necessary to be able to determine this value.

What Is a Brand and What Does It Include?

ISO 10668 defines a brand as a:

"marketing-related intangible asset including, but not limited to, names, terms, signs, symbols, logos and designs, or a combination of these, intended to identify goods, services or entities, or a combination of these, creating distinctive images and associations in the minds of stakeholders, thereby generating economic benefits/values."

A simpler dictionary definition of a brand is "a trademark or distinctive name identifying a product, service, or organization." Brands identify a business and distinguish a company's products and services from its competition. The following table lists 26 different types of brand-related assets. There are two different concepts all of which are sometimes referred to as the brand.

- **Logos and Visual Elements :** First, there are logos and associated visual elements. This is the most specific definition of brand focusing on the legally protectable, visual and verbal elements that are used to differentiate one company's products and services from another and to stimulate demand for those products and services.
- **Intellectual Property Rights :** larger bundle of trademark and associated intellectual property rights. Under this definition, brand is extended to encompass a larger bundle of intellectual property rights. Marketing intangibles such as domain names, product design rights, trade dress, packaging, copyrights in associated colours, smells, sounds, descriptors, logotypes, advertising visuals and written copy are often included in this wider definition.

A strong brand is a combination of physical, functional and emotional attributes. It is the complete package of these attributes which becomes the essence of a particular brand and provides the basis for differentiation from its competitors. In different sectors the importance of each element varies in degree but they can all be part of a brand, summarised as follows:

- **Physical:** names, colours, descriptors, smells/tastes, symbols, packaging, logotypes, straplines, sounds, advertising
- **Functional:** ensure recognition, simplify selection, guarantee origin, confirm quality
- **Emotional:** association, reassurance, aspiration, self-expression

Brands are ideally suited to this task because they communicate on a number of different levels. Brands have three primary functions – navigation, reassurance and engagement:

- **Navigation**: brands help customers to select from a bewildering array of alternatives.
- **Reassurance**: they communicate the intrinsic quality of the product or service and so reassure customers at the point of purchase.

- **Engagement:** they communicate distinctive imagery and associations that encourage customers to identify with the brand.

Brand valuation

Brand valuation is a process of a company's net worth analysis from the company's perspective. It considers all the tangible and intangible assets of the firm for computation. Brand valuation is the process of estimating the total financial value of a brand. The term brand, infers to names, terms, signs, symbols and logos that identify goods, services and companies. Brand Value is not just a financial number. As put forth by Ajimon Francis, Indian head and CEO for global brand consultancy Brand Finance, "It (Brand Value) is a measure of several factors like loyalty of customers, the ability of a brand to keep offering newer products and technology, and the connect with consumers, who give it a premium."

The term brand is used in practice to refer to many different things, not necessarily just a product or service or a name or trademark. A relevant brand valuation needs to encompass exactly what is required in the circumstances. Brand Valuation as a concept is the net value of all a business' tangible as well as intangible assets. Brand valuation is a method to estimate of the overall value of the brand. Brand value is the monetary worth of your brand, if you were to sell it.

Importance of Brand Valuation

Brand valuation has been by far used for many purposes by companies.

1. Mergers and Acquisitions: Usually, a company or an organization does not pay the book value while acquiring another business entity. Now the difference between the paid acquisition price and book value is known as Goodwill. Goodwill can be defined as the value of a business entity which is not directly attributable to its tangible assets and liabilities. Estimating the financial value using brand valuation of a brand helps us to determine the premium over book value that a buyer should be paying.

2. Licensing: One of the approaches to take advantage of the value of a solid brand is by broadening or permitting the brand. It is feasible for both the licensor and the licensee to profit financially from an authorizing course of action. The licensor profits by another wellspring of income that requires minimal capital speculation. The licensee benefits by having a lower channel, publicizing and client obtaining costs.

3. Financing: While companies don't convey marks on their monetary records as long-term resources, money related markets perceive the commitment brands have on investor esteem. Organizations with solid brands consistently acquire preferable budgetary terms over organizations with poor brands. The higher the estimation of the brand through brand valuation, the better the terms.

4. Brand Reviews: Usually, brand investment reviews entail the comparison, across brands and against competitors of hard measures, such as sales and market share, and soft measures, such as reputation and awareness. For some brands, it is also important to determine financial value. Brand valuations allow companies to gauge their return on brand investment and to develop appropriate investment strategies across a portfolio of brands.

5. Budget Allocations: The marketing mix is utilized by advertisers who must settle on choices about the assignment of spending plan and assets. Organizations can now more precisely gauge the blend of promoting vehicles required to expand both spending proficiency and advertising viability. For a few organizations, brand valuations are a basic component of the marketing mix.

What is the difference between brand equity and brand valuation?:

Brand equity is driven by the customer's perception, I.e., consumer satisfaction, brand recognition, brand association, and consumer loyalty. However, brand valuation is the evaluation of a company's net worth with the help of the company's tangible and intangible assets. Moreover, brand equity is achieved through perceived quality, brand loyalty, brand awareness, and brand associations. On the contrary, brand valuation involves financial, legal, and behavioural analysis.

Brand valuation – basic considerations

Valuing a brand, like valuing any intangible asset or an overall business entity, requires both a qualitative and quantitative assessment of the benefits generated. With regard to the qualitative assessment, the appraiser should ask questions such as the following:

- How long has the brand been in use?
- Does the brand clearly differentiate the product or service with which it is associated?
- What is the geographic scope of the brand?
- How much does the brand facilitate the company's market penetration? How does it impact the company's market share?
- Is the company able to get better pricing on its product or service because of the brand? For example, salt is as commoditized a product as can be, yet Morton Salt sells at a 20 cent premium over other brands.
- How is the brand impacting the company's sales and marketing expenses?
- What are the risks of losing brand value quickly (through bad press/blogs/social media)? Brand values can be volatile and failure risk can be high.

- How did the brand build its recognition/reputation?
- How is the brand impacting overall customer behaviour?
- How long is the brand expected to be in use? To what extent is it possible that the brand may have an indefinite life?
- How well is the brand protected legally (if it is covered under a trademark, product or design patent, unregistered trademark on the basis of use, copyright, etc.)?
- Has the brand ever been licensed to a third party?
- How important is the brand relative to the company's other assets in producing the company's expected overall cash flows?

Brand Valuation Methods

Today's appreciation of the power of brands means that there is deep thinking, and as a result, a wide array of perspectives on what makes a brand successful, how brands interact with consumer psychology, and even what the true definition of brand should be. Unsurprisingly then, measuring brand value can be complex and confusing without a clear strategy in mind.

There are a number of different brand valuation methods. There are pros and cons of all these methods of valuing brands. A brand valuation method that is appropriate for one brand may not be the best valuation method for another. Judgement should be exercised to ensure the most appropriate of brand valuation methods is used. The main brand valuation methodologies are:

1. Income based brand valuation methods

- **Relief from royalty method:** this brand valuation method is based on how much the brand owner would have to pay to use its brand if it licensed the brand from a third party. It uses discounted cash flow analysis (DCF) to capitalise future branded cash flows
- **Excess-earnings method:** this brand valuation methodology calculates the earnings above the profits required to attract an investor – which uses the estimated rate of return based on the current value of the assets employed. These excess earnings are assumed to be attributable to the intellectual property, or brand.
- **Price premium method:** this brand valuation method is based on a capitalisation of future profit stream premiums attributable to a business' brand above the revenues of a generic business, without a brand.
- **Capitalisation of historic profits method:** the brand valuation method is based on the capitalisation of profits earned by the brand.

2. Market based brand valuation methods

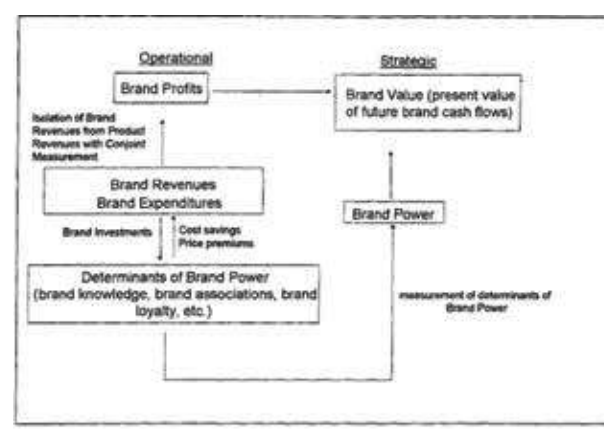
- **P/E ratios method:** the P/E (price to earnings) brand valuation method multiples the brand's profits by a multiple derived from similar transactions of profits to price paid based on the value of reported brand values.
- **Turnover multiples method:** this brand valuation method multiplies the brand's turnover by a multiple derived from similar transactions.

3. Cost based brand valuation methods

- **Creation costs method:** this brand valuation methodology estimates the amount that has been invested in creating the brand.
- **Replacement value method:** this brand valuation method estimates the investment required to build a brand with a similar market position and share.

Selecting the Right Method for Your Brand

All of these methods have pros and cons. This is natural, given the intangible and subjective nature of a brand and its value. Regardless of what method you choose, the exercise of measuring your brand's value will clearly illustrate its monetary impact on your company. Use it to inform your goal-setting and brand strategy going forward. Every method presented in this paper involves several problems. No one seems to produce an adequate measure that meets all requirements for use in brand controlling. However, a combination of some methods might deliver an adequate way to determine brand power and brand value which is also suitable for the controlling of brands. A combined model for a system of brand controlling performance measures could, for example, look like the following



Brand Controlling performance measures

In summary, to control the valuable intangible asset "brand", a controlling system has to be developed that makes it possible to control brand revenues and brand expenditures as monetary indicators and determinants of brand power as non-monetary indicators for operational

controlling. The profit potential of a brand, represented by brand value, is broken down to its influencing indicators such as brand revenues and expenditures. Brand power, which is influenced by brand expenditures, has an impact on brand value and, as a result, should also be controlled. Brand value then can serve as a strategic performance measure that is broken down to the operational level. To control the operational performance measure "brand profit", traditional controlling instruments adapted to brand controlling could be applied

Conclusions

Today, brand has become a powerful competitive differentiator for a business enterprise. It is recognized as a bundle of various attributes, which helps sellers to differentiate themselves from each other. Growing global competition and ever shorter periods of supremacy of products with inbuilt latest technology, the contribution of brand to its owners will keep on increasing. Brand is just one of several factors that provide stable competitive advantage. As the importance of intangibles to company's increases, managers will inevitably need to install more value-based brand management systems that can align the management of the brand asset with that of other corporate assets and provide more reliable indicators on contribution of brand to the overall business performance

Brands are one of the most important value-creating assets within an organization, so it stands to reason that the asset's performance should be measured, evaluated, and valued much like other assets, many of which are capitalized in the books. Understanding what drives brand value and how brand fuels business and shareholder value creation is crucial to ensuring brand decision making is in lockstep with business strategy

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VALUATION OF INTANGIBLE ASSETS

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Valuation is most essential part of life whenever one wants to buy something. The value gives us an idea of how much 'value' the asset gives us The amount of happiness that one gets when converted into a currency it amounts to Value of the asset The Price then is compared with the value derived to conclude the deal.

'VALUE' in general is the amount buyers or sellers are willing to pay to acquire an asset or transfer a liability. The sellers and buyers are not related and act with independence.

There are various types of assets in the Company. When we look at the Balance sheet, we get only tangible assets. Intangible assets are those assets which are not visible on the face of the Balance Sheet many times, unless they are acquired during purchase of a business.

As per the definition under Ind AS38 an intangible asset is an identifiable non monetary asset without physical substance.

International Valuation Standard 210 defines an Intangible Asset as a non monetary asset identified itself by its economic properties. It does not have physical substance but grants rights and economic benefits to its owner.

International Glossary of Business Valuation Terms (IGBVT) defines Intangible Assets as "non-physical assets such as franchises, trademarks, patents, copy rights, goodwill, equities, mineral rights, securities and contracts (as distinguished from physical assets) and grants rights, privileges, and will have value for the owner".

From the above we can conclude that INTANGIBLE ASSETS should be identifiable, non-monetary without physical presence and give economic benefit to the owner.

By identifiable we mean – we can separately buy or sell or grant licensee, rented or exchanged.

We can control these assets by restricting access to others for their use and the owner gets economic benefit.

They also give future economic benefit.

RECOGNITION OF INTAGIBLE ASSET:

An Intangible asset can be either developed internally or bought separately. When an Intangible asset is acquired separately as a part of Business combination, it shall be valued at the fair value on the date of its acquisition.

When an intangible asset is acquired separately, the same shall consist of the purchase price and any other expenses which is attributed to bringing the same for its intended use.

An Intangible asset shall only be recognized only when it is separable, has future economic beneifts accruing to the owner and the cost of the asset can be measured reliably.

CLASSIFICATION OF INTANGIBLE ASSETS;

Marketing Related: Trade Marks,Trade Names, Trade Designs, Intenet Domain Names

Technology Related: Patents, Trade Secrets, Formulae, Designs, Software, Recipies, Processes

Artistic Related: Films, Music, Plays, Books

Customer Related: Customer Relations, Customers Contacts, Customer Lists

Contract Related: Licensing and Royalty agreements, Service or supply contracts, Lease Agreements, Permits, Broadcast rights, Non-competitive agreements Natural Resource Rights.

GOODWILL:

Can we classify as goodwill? What is good will? It is represented by the excess price paid while acquiring a business. After adjusting the price to various tangible and intangible assets/ liabilities, the remaining amount is attributed as good will.

WHY VALUE INTANGIBLES:

Intangibles are valued for generaly financial reporting purpose, Taxation, transfer pricing, gift planning, Financing as Collateral, Individual sale or purchase of such assets , Litigation, divorce or disputes.

WHAT CONSIDERTIONS ARE TO BE SEEN WHILE VALUING INTANGIBLE ASSETS:

1. Purpose and objective of valuation
2. Definition of the subject intangible
3. Date of Valuation
4. History and how the Intangible is developed
5. Details of Owner / Licensee / Licensor
6. Competitive Environment
7. Legal Rights associated with the Intangible Asset

8. Discount rate applicable to the Intangible.

What approaches are available for Valuation:

INCOME APPROACH

Excess Earning Method

Relief from Royalty Method

With and Without Method

Green Field Method

Distributor Method

MARKET APPROACH

Guideline Transaction Method

Comparable Companies Multiple Method

COST APPROACH

Replacement Method

Reproduction Method

Let us briefly touch upon these methods:

Under Income approach, Cash Flows, Cost Savings that are generated by the Intangible are considered and discounted by a discount rate applicable for the intangible. The Present value of the Cash Flows or Cost Savings is the value of the Intangible Asset.

DIFFICULTIERS THAT THE ENCOUNTERED:

The Most difficult part in this approach is identifying the Cash Flows or Cost Savings available for the identified Intangible.

The other diffculty is identification of economic life of the Intangible. The life can be finite in cases such as Legal, functional, franchise agreements. There can be situations where the life is infinite.

Identifying Discount rate is another most important and most difficult aspect. What discount rate can we apply for the intangible. The options available are: Equity cost, Weighted Average Cost of Capital, Weighted Average Return on assets . Internal Rate of Return, Cost of Debt with similar maturities. One has to properly identify and elect discount rate to avoid higher or lower valuation of Intangibles.

LET US NOW SEE SOME ILLUSTRATIONS:

PARTICULARS		YEAR 1	YEAR 2	YEAR 3
Cash Flows		10000	20000	30000
Earnings before Interest as % of NCF	20%	2000	4000	6000
Less: Tax	30%	600	1200	1800
PAT		1400	2800	4200
Less:Contributory charges	5%	70	140	210
NET CASH FLOWS		1330	2660	6650
Discount Factor	15%	0.8696	0.7561	0.6575
Sum of Cash flows	Rs. 7540	1157	2011	4372

The Value of Intangible asset will be equal to Rs.7540. Depending upon the asset and applicable laws Tax Ammortisation Benefit can also be considered. This illustrated Excess earnings method under Income Approach of valuation. This is so because we are deducting a contributory charge pertaining to other assets which are contributing for these cash flows of the Intangible asset.

Under Market Approach let us consider one example on Comparable Companies Multiple method.

The first Step in this method is selecting companies multiple such as EV/EBIT, EV/EBITDA

The second step is to find comparable Listed Companies on stock exchanges and calculate the selected multiple in the first step.

The third step is to calculate the Enterprise Value (EV) of the subject company considering the multiple computed above.

The Last step is to reduce the Contributory Asset Charge if any from the EV computed in step four

The resultant value is the value of Intangible Asset.

Though the method looks simple, it is most difficult to find comparable listed companies on the stock exchanges. Once that is identified the next processes are simplified.

CONCLUSION:

The valuation of Intangibles is most essential while acquiring a business or in business combination which is equivalent to synergic value.

The most difficult part will be which discount factor to be applied. Selection of the discount factor depends upon the experience of the valuer. The another area of difficulty is identifying the Cash Flows attributable to the Intangible Asset.

Given the above conditions are satisfied, then valuation of an Intangible is an easy task.

ARTICLE

DETERMINANTS OF VALUATION ASSESSMENT

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Abstract:

Valuation of assets is a science subject based on multi-variables. Land, Structure, and Depreciation are the three main important factors governing the valuation of assets. Other factors are supply, Demand, Market strategy, affordable price level, Inflation, deflation, the standard of living, transport networks, amenities and facilities, market participants, easiness in the lending process, etc. Three main methods are available for valuation appraisal: Precedent market comparison, Cost-based, and Income or revenue-based assessments. Each method has its own constraints and limitations. But a theoretical tool is required to determine the dominant factor and justify the assessed value. Regression analysis of multivariant scientific analysis process followed by hypothesis testing, the statistical tool. We can use this approach to compare the evaluations appraised with that of the conventional three methods viz, cost, income & prevailing market-based.

Objectives: Land being the first and foremost component that is needed for any kind of development, the services like sale, purchase, exchange, and pledge of a wide variety of rights of land properties which render services either for short duration or perpetuity. On construction or situation of any structure raises the services and improvements values added together with activities like demolition, re-construction, repairs, renovations, refurbishments, etc. Valuations are needed to fix the exchange value while trading or transacting used assets to a prospective buyer. The seller is also to be well known on how much worth his asset is. There are still some more purposes where the valuation of assets is compulsory. There is plenty of valuation appraisals that are used currently in practice, in which dependability and accountability are an issue since the degree of accuracy is poor and not consistent. Alternatively, scientific solutions like the linear regression process can be engaged to find the validity of such valuation predictions. The authors try to put forth the factors dominating the components of the valuation study. The land is the appreciating parameter while infrastructure is depreciating on utilization. Considering these, the valuation of any asset is a summation of land value, infrastructure construction value, and amenable deduction for depreciation (in any form) according to the life served by the asset. Therefore, the theory behind this analysis is valid for both movable and immovable assets.

Introduction: Land is one of the basic factors of production. To add economic value still further, reclamations, improvements, and developments were undertaken. The government or private agencies are working hard to turn the inert land into productive land by converting the existing land use to some other pattern, say commercial, industrial and residential according to the

GIS geography of the land piece. Governments execute infrastructure facilities and amenities to the people through the construction of Dams, Electrical power stations, Housing needs of the poor, roads, bridges, etc, wherein budget allocations at periodical need stage evaluations by Engineers and other Professionals. Economists work out the income created through the construction of these infrastructures anticipating cash flow patterns and other such parameters. As a part of this predicting generation of revenue, particulars of capital investments, revenue expenditures, capital expenditures, etc are to be provided. Extra provision to be allowed for escalation of the cost of the project due to unavoidable execution time delay or for some other valid reason. The theory of pricing or cost analysis or evaluation is currently based on well-known three methods with due assumptions and limitations such as income, cost, and precedent sales comparison. Now, the regression model of analysis is studied for accurate prediction of the value of assets.

Literature review: The Appraisal Institute was established when the American Institute of Real Estate Appraisers (AIREA) and the Society of Real Estate Appraisers (Society). AIREA and the Society, founded in 1932 and 1935, respectively, were created to help standardize the appraisal process by promoting professional education and upholding high ethical standards.

1932 – AIREA is formed in Cincinnati by 120 leading real estate appraisers from throughout the country as an affiliate of the National Association of Realtors. The Appraisal Journal launched in October (called The Journal of the Appraisal Institute). In November, the Metro New Jersey Chapter becomes the first chartered chapter of the Appraisal Institute.

1935 – The U.S. Building and Loan League resolves to sponsor a society dedicated to establishing appraisal guidelines and standards. As a result, the Society is founded. The first SRA designation is conferred upon members who have achieved education and experience requirements.

1945 – The candidate program leading to the MAI designation is introduced, although AIREA's MAI designation dates back to the 1930s.

1951 – The first edition of The Appraisal of Real Estate is published. Now in its 15th edition, the textbook continues to be widely regarded as the premier source of real estate valuation knowledge.

1961 – The Society opens a Washington, D.C., office to establish a voice among the leaders of Congress and the federal government.

1969 – The Society initiates the Young Advisory Council (YAC), a series of roundtable discussions on topics of interest to appraisers and analysts. This concept continues today as the Leadership Development and Advisory Council (LDAC).

1981 – The first translated edition of The Appraisal of Real Estate is published in German. Since then, 14 additional international editions of this essential text have been published.

1987 – AIREA and the Society are founding sponsors of The Appraisal Foundation, which is established to work with the government to create a self-regulatory system.

1989 – Congress passes the Financial Institutions Reform, Recovery, and Enforcement Act of 1989, known as FIRREA. Title XI directs the establishment of state appraisal certification/licensing by July 1, 1991, for federally related transactions.

1991 – AIREA and the Society formally merge, resulting in the creation of the Appraisal Institute.

1992 – The Y. T. and Louise Lee Lum Library is established in memory of Y. T. Lum (1903-1977), a real estate appraiser, writer, and lecturer from Hawaii, and his wife, Louise Lee Lum (1909-1963).

1996 – The first quarterly issue of Valuation Insights & Perspectives (now known as Valuation magazine) is introduced to Appraisal Institute professionals.

2000 – The Appraisal Institute introduces Appraiser News Online (ANO). Today it is a weekly e-newsletter providing AI professionals and others with valuation-related news.

2003 – The first MAI designations are conferred upon Korean appraisers who completed the designation program in their home country.

2011 – The Appraisal Institute relaunches its Annual Meeting, drawing nearly 400 participants to a three-day event in Las Vegas. The Appraisal Institute moves its headquarters to its present location of 200 W. Madison St. in Chicago.

2014 – The Appraisal Institute begins issuing two review designations. The AI-GRS and AI-RRS designations are AI's first new designations in more than 20 years. With 90 years of history, the Appraisal Institute continues to serve as the nation's largest professional organization of real estate appraisers. Through its designation programs, educational offerings, advocacy efforts, and publishing endeavours, the Appraisal Institute maintains its leadership position within the real estate industry and continues to be a leader in the global valuation profession

From the beginning of Civilisation onwards, trading started under the barter system by exchanging commodities predicting some ideas such as equivalent value, demand in the market, scarcity, perishable and non-perishable, logistic costs, etc

Until then, traders felt that a common denomination may be an optimistic means to exchange commodities, so they adopted the currency form of exchange value. Subsequently, the weights and measures were adopted and became important in merchanting

Each and every commodity is to be valued to find an equivalent exchange price, here comes the role of evaluation jobs. There find so much of variations among these professionals while doing valuations of particular assets does not depict the true intrinsic value. There are so many errors and the dependability of those methods become often inadequate for practical adoption.

This necessitates finding alternate tools to verify the genuineness of conventional methods and approaches. The comparable sales approach is most common in residential real estate and uses recent sales of similar properties to determine the value of the subject property. The sales price of the "comps" is adjusted based on differences between them and the subject property. For example, if a comparable property has an additional bathroom, then the estimated value of the bathroom is subtracted from its observed sales price. Commercial real estate is considered to be more heterogeneous, so the comparable sales approach is used less frequently.

As a capital-intensive industry, the real estate industry has a strong dependence on finance. Real estate finance linked to real estate refers to the general term for investment, financing, and related financial services through currency circulation and credit channels in the process of real estate development, construction, operation, circulation, and consumption. While supporting the development of the real estate industry, real estate finance realizes and strengthens financial functions through the special carrier of real estate, which forms the main source of financial risks. Purchases for the purpose of maintaining and increasing value, which has further aggravated real estate financial risks.

The real estate finance industry has also played a positive role in supporting urban residents to purchase houses, boosting housing investment, expanding domestic demand, and promoting the development of the national economy. However, in the rapid development of real estate finance, a series of problems such as imperfect markets, single financing channels, and weak product innovation ability are also exposed. On the one hand, the rental income is higher than the bank deposit rate and the personal housing loan rate. On the other hand, house price continues to rise rapidly, and the index keeps rising. In the case of other investments, channels are blocked, and a large amount of social funds has turned to home

Keywords:

Existing methods of asset valuation
Linear regression model of asset valuation
Theory of Pricing of land
Theory of Pricing of infrastructures
Theory of depreciation
Theory of valuation
Regression analysis of valuation of an asset
Results and interpretation
Sources/References

Methods: Three prevailing **conventional methods** are:

Method of "Comps": Precedent transactions of cost of assets of that particular zone are studied from the primary data available in the market by suitable means. Data can be collected from various sources according to procedures laid in the statistical tools such as local inquiry, questionnaire, e-mail, personal interviews, etc. the appropriate rate can be deduced based on experience by adopting certain assumptions and presumptions. But in all cases that should match with the particular region bearing similar assets having approximately comparable facilities and amenities. Cost-to-capacity methods can also be employed to arrive at the specific value

Method of quantification: Cost analysis or item rate estimation can be employed to evolve almost exact values with minimum adjustments. Certain costs can also be enquired about in the prevailing market and slight modifications can be employed to fit into a similar case. But as far as possible all items need to account for without any omission to find out the exact asset value. Care to be exercised to avoid duplication of entries of items of executions. This is usually called as Land & Building method

Method of Profits: potential or high-income properties like Entertainment Halls, Hotels &

Restaurants, and High facility Hospitals need to be assessed based on their prime locality. Profit or income-generating properties possess higher values than any other similar-sized asset located or utilised other than the purpose intended. Land and Building method building cannot serve the purpose of the valuation sought for

Scientific method: Linear regression model is created for valuation appraisal. Valuation is nothing but the Cost of Land plus infrastructure and deduction for the depreciation value of infrastructure for the life served.

Methodology:

- Practically, regression analysis is a tool to analyze various determinants that dominate in the fixation of pricing policies of lands, infrastructures, and valuation appraisal. In the case of lands, among the multivariant, locational attribute is considered the dominant factor at a glance.
- Regression is defined as a statistical method that helps us to analyze and understand the relationship between two or more variables of interest.
- The process that is adapted to perform regression analysis helps to understand which factors are important, which factors can be ignored, and how they are influencing each other.
- Regression analysis is a basic method used in the statistical analysis of data. One needs to identify the dependent variable which will vary based on the value of the independent variable. For example, the value of the house (dependent variable) varies based the on square feet of the house (independent variable). Regression analysis is a very useful tool in predictive analytics. In regression, have one dependent variable and one or more independent variables.
- Similarly, the cost of resourcing materials predominates fixation of costing of structure.
- Also, Valuation assessment is mainly dependent on market strategy.
- On analysis, hypothesis treatment helps to predict which dominant factor is for the evaluation of an asset. Regression analysis is used for prediction and forecasting.

Factors governing the evaluation of land value:

Locational attributes: Land value has an upper-appreciating phenomenon in assessment practice. It is an independent variable that is dependent on many factors such as Locational attributes, Demand or scarcity, Market trends, Affordability, or Consumption power of Buyers. Moreover, a small piece of land, a plot possesses a comparatively square feet value than a large tract of land parcel square feet value. This is quite evident in the case of an urban plot of a tiny size that has a higher value than a mega-sized campus of the same zone. Different locations will pose greater desirability within the market at different times.

Urban/Peri-urban/Rural:

Urban Land: Under the explanation of Section 2(ea)(v), the meaning and interpretation of the word "Urban land", which is a taxable asset, is given. Explanation (b) states: (b) 'Urban land' means land situate – in any area which is comprised within the jurisdiction of a municipality (whether known as a municipality, municipal corporation, notified area committee, town area committee, town committee, or by any other name) or a cantonment board and which has a population of not less than ten thousand according to the last preceding census of which the relevant figures have been published before the valuation date, or in any area within such distance, not being more than eight kilometres from the local limits of any municipality or cantonment board referred to in sub-clause (I) as the Central Government may having regard to the extent of, and scope for, urbanization of that area and other relevant considerations, specify in this behalf by notification in the Official Gazette, but does not include land on which construction of a building is not permissible under any law for the time being in force in the area in which such land is situated or the land occupied by any building which has been constructed with the approval of the appropriate authority or any unused land held by the assessee for industrial purposes for a period of two years from the date of its acquisition by him (or any land held by the assessee as stock-in-trade for a period of ten years from the date of its acquisition by him.

- The more easily economic activity is accessible, the more the value of the land. For example, most metropolitan cities have the maximum land values at the center, or at the central business district of the city.
- This is because of the nearness to the economic activities and workplace. This factor affecting land value is the most important factor that led to the development of various land price models in urban economics.
- Plot of a tiny size that has a higher value than a mega-sized campus of the same zone. In urban planning, the sound is usually measured as a source of pollution

- The CBD area is the most accessible market area and thus usually houses the most expensive businesses and services.
- Streets are designed for people rather than just cars and accommodate multi-modal transportation including walking, bicycling, transit use, and driving.
- Provide plazas, squares, sidewalks, cafes, and porches to host daily interaction in public life. Streets rely only on engineering and tend to move automobiles, and all disciplines related to the built environment together to create great places.
- The same may hold true for houses that stand next to or back onto the commercial property, such as a grocery store or gas station, or houses on streets that get an unusual amount of parking traffic and parked cars, such as those near large churches or community centers.
- Hobby classes, restaurants, shopping malls, multiplexes, etc. start operating in that area. This suits the lifestyle of many people and hence the properties in this residential market start trading at a premium. The more developed a location becomes, the more people want to live in it and prices continue to rise.
- Demographics and location go hand in hand when it comes to the value of your commercial real estate property. Statistics such as age, race, gender, average income level, and projected growth of an area and its population will help to determine what types of properties are in demand. This affects how property is priced.

Peri-urban:

- Increasing population density in industrial city immigration from abroad rural-to-urban migration.
- Cheap land at periphery advertising (influences culture) expensive property and transportation served to segregate classes rising wages in the early 20th century.
- Zoning is used to prevent new development from interfering with existing residents or businesses.
- The urban canyon effect is a colloquial, non-scientific term referring to street space bordered by very high buildings.
- This type of environment may shade the sidewalk level from direct sunlight during most daylight hours.
- Urban Settlements, Smart cities and Satellite cities are situated in these outskirts

Rural:

- In general, a rural area or a countryside is a geographic area that is located outside towns and cities.
- Typical rural areas have a low population density and small settlements.
- Agricultural areas and areas with forestry typically are described as rural.
- In rural areas, because of their unique economic and social dynamics, and relationship to the land-based industries such as agriculture, forestry and resource extraction, the economics are very different from cities and can be subject to boom and bust cycles and vulnerability to extreme weather or natural disasters, such as droughts.
- These dynamics alongside larger economic forces encouraging to urbanization have led to significant demographic declines, called a rural flight, where economic incentives encourage younger populations to go to cities for education and access to jobs, leaving older, less educated, and less wealthy populations in the rural areas.
- Agricultural land, which is used for growing crops and rearing animals, is the oldest human use of land.
- Development Areas include croplands (paddy, rice, coconut, sugar cane, orchard, diversified crops, etc.) and livestock production (feeding operations, or open grazing); settlement areas such as growth centers and ethnic reserves; military reservation and other urban uses which required relatively large areas like industrial estates and utilities.\
- Agricultural land has the lowest price since there are a number of restrictions on permitted activities. Future value also depends on upcoming greenfield development or brownfield development

Urban land	Rural land
Usually refer to Cities, suburbs & Cities	Hamlets & Villages
More development in terms of access to infrastructure and connectivity like airports, ports, railways, housing, roads, etc	Usually don't have many developments in terms of infrastructure
Land in urban areas is used for development activities. There is usually not much land available that has been used for developmental activities	The rural area usually has a lot of vacant lands without much development
Urban areas are densely populated	Rural areas are sparsely populated
As of 2018, approximately 34% of India's population lives in urban areas	More than 65% of India's population lives in rural areas,2018. Between 2008-2018, a steady decline in the percentage of the population migrated toward urban areas
Population density is high in urban areas	Population density is low in rural areas compared with urban areas
Urban areas have a scarcity of land	Rural areas do not have land scarcity
High pollution in urban areas due to the high population due to vehicles & industries etc	Pollution is low in rural areas compared with urban areas due lesser vehicles & meagre pollution in industries like the Green category
Greenery area is less due to enormous residential density & highly populated human wastes	Lesser pollution due to low population and also due to greenery agricultural lands etc
Job opportunities are ample due to more Industries, Trade organisations, and commercial establishments in Central business districts	Only agricultural activities
In urban areas, the problem of social barriers is minimal, there are equal opportunities for jobs, education, and etc	There is a lot of difference in social status in rural areas due to gender, religion, caste, culture etc

Proximity:

- The cost of land is also affected by the availability of the facilities such as shopping areas, medical facilities, schools, parks & playgrounds, and other basic needs of humans. walkable blocks and streets, housing and shopping in close proximity, accessible public spaces, urban infill, revitalization, preservation, etc.
- This helps in saving the time of people every day, the time saved adds up to the cost of land. Also, the reduced travel and reduced trip distance will directly have monetary benefits for a person residing in an area with many such facilities in proximity.
- Depending on the need of a buyer, he or she may decide to live in a residential area or near a commercial area. Such location has a direct impact on daily commuting and transportation cost.
- Even within a housing society, location plays a major role in deciding a property's worth. Flats that are closer to the main entry point, for example, will fetch a lower price, because of the continuous disturbance that the residents may be subjected to. Similarly, a park-facing flat is more lucrative for a buyer and hence worthier than a flat that is surrounded by other flats
- The property located in the area of high-level infrastructure facilities or the one located in or adjacent to the area of intensive economic activities such as markets or industries has higher values.
- Educational and Recreational Facilities: The elementary schools in a city are better equipped than in the village. Most training schools, colleges, and technical schools are urban.
- Most big libraries are situated in cities. Examination Centers for competitive examinations are located in cities and the recruiting agencies are also urban located. Art galleries and museums are urban. Prominent educationists give their talks in cities.
- Naturally, on account of all these facilities, young men and women are attracted to the cities for higher education.
- Recreational facilities are available in cities. Amusement theatres and operas are urban. By making appeals to the feelings and play impulses of children and adults alike they draw them to the cities.

Plain/Low lying/Valley:

- Depending on the city where the apartment is located, the level of the apartment would also decide the value of the property.
- In Mumbai, an upper-story flat in a housing society costs more than an apartment on the ground floor, because of recurring flooding during the monsoons.
- The opposite is true in Delhi-National Capital Region (NCR) where ground-floor homes command a premium.
- Topography further has a direct effect on the construction cost and thus the overall development cost.
- The facilities thus developed on uneven land will have a much higher cost as compared to the flat plain.
- This is the reason why construction cost is much higher in hilly and mountainous areas and the price of land is low
- The plot may have a level ground or sloping ground or uneven ground. The plots with uneven topography require special consideration by the valuer.
- Plot may be on a hilltop or it may be a valley plot along a hill slope. The low-lying plot which may require earth filling because it is lower than the road level. The plot may be low-lying as compared to the surrounding ground and adjoining plots also. All such plots have a higher value or lower value depending upon their advantages or disadvantage.
- A plot on a hilltop would fetch higher value due to the commanding scenic view and maximum light and ventilation and better environment. Similarly, a plot along a hill slope above road level would fetch a higher land rate due to unobstructed views or scenic aspects. But valley plots may or may not fetch a high value. If the plot has a regular motorable road up to the plot and it commands a good view and free building with all side open spaces is possible on the plot, such a plot will fetch a high price even if it is lower than the road, and with extra cost on retaining walls.
- Made-up soil is filled-up soil that has not been consolidated either in the natural course or by other means. Sometimes, tanks, ponds, and low-lying areas are filled up the for construction of buildings. The soil, thus built up, is termed made-up soil.
- The materials used for filling are generally of heterogeneous composition. In most cases, whatever waste materials are available, are dumped for filling. Even organic materials which are liable to decomposition and rubbish, brick-bats, and waste materials are used.
- This causes a delay in the consolidation of the fill. Generally, soil filled with uniform materials having less clay in composition should consolidate in a natural process in a period of 20 to 30 years. Filling with granular materials like sand, fly ash, etc. consolidate quickly.
- The first and foremost thing to be done is to ascertain the safe bearing capacity of such soil and the depth of filling. If the soil has not attained the desired bearing capacity and the varying depths of filling are of different materials, due to superimposed load on the foundation, the soil below would be compressed differentially causing unequal settlement of the foundation.
- Furthermore, if the filling is in a limited area and the foundation is laid partly on made-up soil and partly on virgin soil, the foundation would be liable to differential settlement.
- To build a safe foundation on made-up soil, it is necessary to improve the safe bearing capacity of the soil

Disaster prone:

- Tsunami: Human settlements were located on higher ground (for defense) and close to freshwater sources.
- Cities have often grown onto coastal and flood plains at risk of floods and storm surges. If the dangers can be localized then the affected regions can be made into parkland or green belt, often with the added benefit of open space provision.
- Extreme weather, flood, or other emergencies can often be greatly mitigated with secure emergency evacuation routes and emergency operations centers.
- Many cities will also have planned, built safety features, such as levees, retaining walls, and shelters.
- Some city planners try to control criminality with structures designed from theories such associate-architecture or architectural determinism a subset of environmental determinism.

Potable groundwater:

- Groundwater is the water present beneath the Earth's surface in soil pore spaces and in the fractures of rock formations.
- Groundwater can be a long-term 'reservoir' of the natural water cycle (with residence times from days to millennia), as opposed to short-term water reservoirs like the atmosphere and fresh surface water (which have residence times from minutes to years).
- A unit of rock or an unconsolidated deposit is called an aquifer when it can yield a usable quantity of water.
- The depth at which soil pore spaces or fractures and voids in rock become completely saturated with water is called the water table.
- Groundwater is recharged from the surface; it may discharge from the surface naturally at springs and seeps, and can form oases or wetlands.
- Groundwater is also often withdrawn for agricultural, municipal, and industrial use by constructing and operating extraction wells.
- Groundwater is often cheaper, more convenient, and less vulnerable to pollution than surface water.
- Underground reservoirs contain far more water than the capacity of all surface reservoirs and lakes. Many municipal water supplies are derived solely from groundwater.
- The volume of groundwater in an aquifer can be estimated by measuring water levels in local wells and by examining geologic records from well-drilling to determine the extent, depth and thickness of water-bearing sediments and rocks.
- Before an investment is made in production wells, test wells may be drilled to measure the depths at which water is encountered and collect samples of soils, rock, and water for laboratory analyses.
- Groundwater makes up about thirty percent of the world's freshwater supply, which is about 0.76% of the entire world's water, including oceans and permanent ice.
- Global groundwater storage is roughly equal to the total amount of freshwater stored in the snow and ice pack, including the north and south poles.
- This makes it an important resource that can act as a natural storage that can buffer against shortages of surface water, as during times of drought. Groundwater is naturally replenished by surface water from precipitation, streams, and rivers when this recharge reaches the water table.

Public Sewerage systems:

- Water and sanitation infrastructure: This encompass water provision, waste-water treatment, and sewage infrastructure.
- These services are crucial for public health; thus, one aspect of urban planning is to consider how to best provide these services to urban residents in effective and cost-sensitive ways.
- Economic status is highly correlated to water and sanitation service access in urban environments. But economic status is often tied to other demographic characteristics such as caste, ethnicity, and race.
- Therefore, access to water and sanitation services is an equity issue that faces urban planners working for urban governments.
- Polluted groundwater is less visible and more difficult to clean up than pollution in rivers and lakes.
- Groundwater pollution most often results from improper disposal of waste on land.
- Major sources include industrial and household chemicals and garbage landfills, excessive fertilizers and pesticides used in agriculture, industrial waste lagoons, tailings and process wastewater from mines, industrial fracking, oil field brine pits, leaking underground oil storage tanks and pipelines, sewage sludge and septic systems
- While centralized water-carriage systems have more potential for scalability, decentralized systems are simply more efficient because waste water-water is managed closer to where it is generated, thus allowing for each management system to be adapted to the local community/household needs
- Latrines: One aspect of sanitation infrastructure that is a major determinant of environmental health in slums is the latrine. There are a number of variables surrounding latrines and sewage which can play a critical role in determining health outcomes for urban families, including latrine location (in-house versus out-of-house), latrine usage (family vs community), and latrine type (for example pit latrine versus toilet).

Ground/Plot rate

Economic Pull of the City: Cities provide more opportunities for personal advancement than rural areas. Modern business and commerce pull young men to the cities where they are paid munificent salaries. People live in cities not because they like them as places of residence but because they can get jobs there.

- Employment opportunities are more in the city than in the village. Even businessmen come to the city from the village to avail of better opportunities for making higher profits.
- As the standard of living in the country rises, there is an increasing demand for the kind of commodities that are supplied in and by cities.
- This increased demand means that people can earn livelihood in a larger percentage in the cities. It is in the city that leaders, religious or educational, receive special and high recognition.
- In short, the possibilities of greater achievement and better living in the city account for a good deal for urban expansion. Gross Density, Net Density, Housing Density,
- Significance of Density. Variations in hilly/plain/coastal regions, Application of Density in Urban planning.
- The demand for commercial real estate property is directly affected by the current state of the economy.
- Depending on where consumers are spending the majority of their money, higher demand will be created for the types of properties where those products or services are being offered. This helps drive up the price.

Highest and best use.

- Closely related to plottage is the principle that "Real estate valuation is maximized when land is utilized in the best possible way."
- Thus, rich farmland should be used to grow crops, and land located within sight of an interstate freeway is best used for highway commercial zoning. The same observations apply to all forms of zoning and usage.
- Real estate valuation is unusual in that sometimes 10 one-acre plots are worth more than one 10-acre plot.
- An analyst needs to compare the land size to the proposed land use and be prepared to adjust the valuation based on a site's variance from the idea. This means looking at far more than just zoning and its obvious attributes. Zoning is only one aspect; one expert has observed: How many times have we seen statements in reports that conclude that the highest and best use of a property is as zoned?
- **Scarcity/Demand:** Whenever the demand is higher than the supply, speculation arises.
- The fast rate of growth of population and the development in urban areas leads to a migratory movement of people from rural areas to cities, the demand for serviced land perpetually outstrips its supply leading to the ever-rising price of land.
- Whenever there is a scarcity, there is speculation and therefore, it would not be incorrect to conclude that urban land prices include high degrees of speculative factors.
- When sprawling cities experience a population exodus, it's the outlying areas that tend to suffer the most severe declines in property value. This is part of how location impacts the fundamental economic tenet of supply and demand.
- **Demand and Supply Function:** With the significant demographic changes in the cities with time, the need for land also increases with the same factor, with the increase in population there is an increase in economic and other activities.
- This directly increases the demand for land components. The anticipation of high yields may also induce false scarcity of land; hence the location advantages of the properties at any time within the urban boundaries and hence causes the economic values of land to be increase.
- For any site, there are specific points of transition in use, closely related to the infrastructure and services, where a jump in property value is likely to happen.

Residential areas:

- Residential built according to Zoning regulations as stipulated in DCR and the like by Government bodies applicable to both Urban and Rural areas.
- Increasing development density has the advantage of making mass transport systems, district heating, and other community facilities (schools, health centers, etc.) more viable.

- However, critics of this approach dub the densification of development as 'town cramming' and claim that it lowers the quality of life and restricts market-led choice.
- Residential land values are also observed to be in direct proportion to the hierarchical order of the adjacent road.
- Easy access and proximity to public transport such as bus or metro train is an added advantage for the resident and thus adds up to the cost of land
- FSI or FAR is the main tool used in urban planning to regulate the densities of the population with reference to infrastructure provision.
- In Chennai, FSI allowed for buildings up to 15 m in height is a maximum of 1.50. with a premium of up to 1.75. In multi-storeyed developments, to encourage amalgamation of smaller plots into larger sizes and construction of buildings with large open space around, a higher FSI of 2.5/2.75 is allowed.
- Ratios below 1.5 are low density. Ratios above 5.00 constitute a very high density. Most exurbs are below 2.00, while most city centers are well above 5.00. Walk-up apartments with basement garages can easily achieve a density of 3.00. Skyscrapers easily achieve densities of 30.00 or more. Problems can often occur at residential densities between about 2.00 and 5.00.
- These densities can cause traffic jams for automobiles. The conventional solution is to use buses, but these and light rail systems may fail where automobiles and excess road network capacity are both available, achieving less than 2% ridership.

Commercial: Category includes all types of wholesale, retail, and service activities serving areas larger than neighborhoods. Included in this category are the Major Central Business Districts in urbanized areas Minor Central Business Districts in less urbanized areas Highway Service Centers or Commercial Strips such as highway gas stations, traveller's inns, and restaurants.

Landlocked land fetches increased value than the current market trend:

- A landlocked piece of land is a parcel of property that has no legal access road.
- Landlocked properties are surrounded by land that is owned by others on all sides.
- Landlocked property usually results from a landowner subdividing his property into one or more parcels with no public roads in between.
- A vacant lot that is located behind a strip mall and can only be reached by walking through the mall qualifies as this type of lot.
- Landlocked parcels are typically the result of subdivisions or the division of a larger parcel of land into smaller parcels, which are sold off individually.
- Ideally, the smaller parcels would each have access to a public right-of-way, but sometimes that's not possible.
- Landlocked property typically has a lower value than the surrounding properties, due to its inaccessibility; however, that doesn't mean the landlocked real estate is worth nothing.
- In addition, because it has a lower value, it may be a better value in expensive neighbourhoods for prospective buyers.
- This may allow these buyers access to a community that they would otherwise be priced out of.
- If a property doesn't already have an easement agreement, and it isn't certain, then it's not smart to purchase immediately.
- Careful due diligence of landlocked property and its future potential includes the potential to resell when the time is right.
- Ultimately, whether a property makes sense as an investment also depends on the price

Town planning parameters:

- Planners manage the growth of cities, applying tools like zoning and growth management to manage the uses of land. Historically, many of the cities now thought the most beautiful are the result of dense, long-lasting systems of prohibitions and guidance about building sizes, uses, and features.
- There are some cities that have been planned from conception, and while the results often do not turn out quite as planned, evidence of the initial plan often remains the 20th and 21st-century trend for New Classical Architecture seeks to develop aesthetically pleasing smart growth in urban areas and to continue the architectural tradition and classical design

- One of the major reasons for the change in price in the real estate sector is the change in the zoning of land. For instance, 50 years earlier, the population was not as much as it is today. Hence, a lot of lands was intended for agricultural use. Agricultural land does not have as much commercial value. Therefore, the prices of these lands were lower. As a result, when the zoning laws change and the land is allowed to be used for commercial and residential purposes, the value of the land increases. A lot of appreciation over the past 50 years has been due to changes in zoning laws. This is particularly true regarding the locations adjoining megacities. Over time, cities tend to grow in size and as a result, the agricultural land adjoining these cities tends to become valuable. However, many cities of the world have already expanded too much. It is unlikely that they will face more expansion in the future. Hence, what has happened in the past 50 years may or may not be repeated in the next 50 years
- Planning permission for land can indeed add value to a property.
- A piece of land with this permission ensures a future property will have a higher price than its market worth, which is why numerous landowners obtain it before selling.
- Getting planning approval for specific improvements but without even making any alterations wouldn't cost you an arm and a leg.
- Other permitted development projects include garage conversions, loft conversions, outbuildings, and extensions.
- There are certain conditions for adding rear or side extensions, though. For instance, a single-storey extension must not extend four meters in height while also remaining lower than the roof's highest point.

- **Present and future land use:** The value of the land is also determined by the land use permitted in the land premises. For example, if we compare the values of two lands of the same prices and the same location but the land use permitted in the lands are different, one is commercial and one is residential. In such a case the value of the land with the land use which has more rate of return over a period of time will be valued more. People are willing to pay a higher amount for commercial land and mixed-use development, in some cases industrial or institutional land use might attract even higher prices.
- **Development Controls and building bye-laws-** Since we are discussing the price of land, it becomes important to consider the various restrictions and regulations in place related to construction. Land once purchased will be put to use in some or another manner and thus needs to be developed. The construction which will take place is governed by various laws such as land use, land tax, premise level use, floor area ratio, and other development controls. Thus, such rules and regulations are major factors in the price of land.
- **Shape:** While nobody prefers a house with an irregular shape, the possibility of such homes getting as much as the asking price is further diminished with Vastu making a big comeback in India. Under the principles of Vastu, flats with irregular sizes hamper the owner's personal, as well as professional growth.
- **Frontage:** A corner flat, by virtue of having easier entry and egress points, would command a premium, as compared to other properties.

Transfer of Development rights:

- In certain circumstances, the development potential of the whole or a part of the plot/site may be separated from the land itself and may be made available to the land owner in the form of Transferable Development Rights (TDR) except in the case of existing or retention users, or any compulsory reservation of space for a public purpose or recreational use or EWS/social housing, etc. in the cases of subdivisions/ layouts/ special buildings/ group developments/ multi-storied buildings or such other developments prescribed in these Development Regulations.
- When part of the plot is affected by Reservation and Development Rights used by the same plot owner on the remaining adjacent portion of the said plot, is called Development Right or D.R.
- There will be no need for transfer of said right as it could be utilised on the same plot from which TDR is generated. In such cases, originating plot and the receiving plot are not different but the same. However, if the owner of the plot does not intend to use said D.R. on his remaining plot, he can obtain DRC after the free surrender of the affected land to the local authority.
- This type of D.R. is found generally in the case of plots affected by road widening (Set back) lines. T.D.R. are generally given to the owners of those plots which are under Public Reservation under the Development Plan of the town. Reservation may be for Roads, gardens, playgrounds, schools, markets, hospitals, Fire stations, Drama theatres, etc.
- In lieu of free of cost and free of encumbrances receipt of such plots, the local authority grants a certificate of development rights (Development Right Certificate) to the owner of the plot who is so dispossessed of such land. The rights under these certificates are Transferable and Tradable in the market. Hence these rights are called Transferable Development Rights. In brief, this is called T.D.R.

Transport and Communication:

- Industrial uses include manufacturing, refining, fabricating, assembly, storage, parking, and other incidental uses including food processing, cottage industry, sawmills, rice mills, steel mills, chemical processing plants, etc.
- Also included are the proposed industrial estates/subdivision Industrialization depends upon transportation so that raw materials and manufactured goods can be carried in large volumes.
- In an industrial city, the means of transport and communication are essentially developed.
- The city is connected not only with other parts in and outside of the country but through developed means of local transportation, the different parts of the city as well are connected to each other.
- At the time factory was introduced, local transportation facilities were poor. The factory workers were compelled to live near their place of employment. Congestion of housing resulted.
- Local transport added to the population of the city by extending its boundaries.
- The city was divided into different areas, a market area, a dwelling area, a slum area, a factory area, and so on. In earlier cities, lack of adequate local transportation prevented such a marking off of natural areas.
- Transportation (steam ferry, steam railroad, omnibus, horsecar, electric streetcar, automobile) industrialization (steam power, factory system, moving assembly line) construction (balloon-frame house, machine nails, road paving) improved public utilities for suburban areas (water and sewer systems, electricity) lawn mower.
- Good planning uses transit-oriented development, which attempts to place higher densities of jobs or residents near high-volume transportation. Transport within urbanised areas presents unique problems. The density of an urban environment increases traffic, which can harm businesses and increase pollution unless properly managed.
- Parking space for private vehicles requires the construction of large parking garages in high-density areas. This space could often be more valuable for other development.
- Transport linkages are also crucial since they govern the mobility & ease of movement to and from the area. Clearly defined hierarchy of roads, efficient public transportation and lack of congestion are some of the desired transportation attributes of any area.

Nearness to Aerodrome & Railroad:

Nearness to Harbour/Ports:

Nearness to the logistical corridor of exclusive surface roads:

Telecommunications & Digital Infrastructure:

Uninterrupted Electrical power supply:

Construction equipment:

Availability of Construction equipment for hiring for improvement of existing land or plot.

Plants such as Concrete Mixture Machines, Road Rollers, and Tar Mixing Plants, which are required for the construction of buildings and other infrastructures.

The distance from the site under consideration and place of availability is a matter to control expenses likely to be incurred.

If the distance is too long, then the expenditures will be on increasing order.

Nearness to Source of Raw materials:

- Construction materials sources are essentially near a work spot. The lead or distance increases the transport charges of those materials.
- In turn, on project cost
- Quarries of Sand, Metal blue granite stone chips, Cement godowns should be as near as possible
- Also, the market supply or demand should be ease to enable supply whenever needed without interruption
- The logistic supply of ready-mix concretes must be quick and affordable cost
- There should be no time lag
- The materials to be made available round the clock
- Similarly, manpower must be provided with qualified personnel with all safety devices including basic survival amenities in the work spot

Size – Tiny Projects, Mega Projects

Land Size: the extent of land determines the price. Mega projects involving large tract of land needs all essential basic amenities such as approach roads up to the tail end of the land field which consumes a considerable portion of land area. Therefore at least 20% of available land is to be allotted to the formation of a road network. Only 80% effective portion can be best utilised for structure building. Alternately, tiny plots and subsequent developments cover almost 100%. Therefore, the Hypothetical Layout or size of the plot also plays in the fixation of pricing

Width of Plot/Plottage: The width of the plot of a tract of land factors high pricing in the market

Synergy attained by a combination of plots together: Plottage occurs when two pieces of land that are adjacent to each other are combined to form a single, larger parcel of real estate. Land values tend to increase when adjacent lots are combined into single ownership and put to a single zoning or use. This phenomenon is observed when a series of relatively small lots remain underdeveloped and are eventually purchased by one person or company and subsequently developed. Synergistic Value is the result of a combination of two or more assets or interests where the combined value is more than the sum of the separate values. If the synergies are only available to one specific buyer then Synergistic Value will differ from Market Value, as the Synergistic Value will reflect particular attributes of an asset that are only of value to a specific purchaser.

Affordability – Economically affordable cost

Potential buyers:

- IVS 2022 stipulates both Buyers and Sellers must have knowledge about the technical aspects of particular assets. People spend a lot of time on social media, which makes it a great place for finding buyers in real estate.
- Right now, one can probably find a group for residential real estate sales, commercial real estate sales, real estate investing, or just general home buying.
- Virtually any type of real estate marketing can be used to attract cash buyers too. They may need to be filtered out from those using loans, but the more leads one can get the better.
- Yard signs and 'bandit' signs can be some of the least expensive methods of marketing homes for sale.

GDP – Inflation & deflation:

- Properties become expensive to develop each year because the price of inputs like cement, steel, and skilled labour tends to increase every year. As a result, general inflation makes properties more expensive. If the nominal price of the property is not increasing by 2% to 3% every year, it means the homeowner owner is actually losing money in real terms. This is because inflation is increasing whereas the price of the properties is not.

Revenue from investments:

- All the properties falling under the group of investment property are marketable as there is always a demand for them at some price; because it is a property that has an earning capacity.
- Exceptions to these are some lease-hold properties and distributors franchise. But, if the contractual or legal restrictions are removed, they can be sold.
- For this reason, it is not necessary to classify these properties under another category like "non-marketable investment property" in the scheme of classification for the purpose of valuation.

Realize a capital gain if it appreciates in price: Unearned increment is an increase in the value of land or any property without the expenditure of any kind on the part of the proprietor; it is an early statement of the notion of unearned income, consequent to development by the Government proposal for the establishment of new projects or so.

An unearned increment is an increase in the value of land or any property without the expenditure of any kind on the part of the proprietor; it is an early statement of the notion of unearned income. Transfer of Property Act, Rule - 7: Where the property is constructed on land obtained on lease from the Government, a local authority or any authority referred to in clause (20A) of section 10 of the Income Tax Act, and the Government or any such authority is, under the terms of the lease, entitled to claim and recover a specified part of the unearned increase in the value of the land at the time of the transfer of the property, the value of such property as determined under rule 3 shall be reduced by the amount so liable to be claimed and recovered or by an amount equal to fifty percent of the value of the property as so determined, whichever is less as if the property had been transferred on the valuation date.

Land-based financing:

- Secured Lending: A loan is an amount of money borrowed for a set period within an agreed repayment schedule.

- The repayment amount will depend on the size and duration of the loan and the rate of interest.
- Banks will loan money to businesses on the basis of an adequate return for their investment, to reflect the risks of defaulting and to cover administrative costs.
- The terms and price of loans will vary between providers
- For larger sums, the pricing and terms may be negotiable.
- Banks have been lending to all kinds of borrowers ever since their inception lending being one of their core objectives.
- Almost all such lending is generally secured by taking primary and/or collateral securities including personal guarantees of borrowers.
- So, by and large, the banks' lending is supposed to be secured by tangible and intangible securities and guarantees.
- High-interest rates tend to reduce the demand for land and hence reduce land prices. However, high-interest rates tend to raise the cost of financing development - thus forcing prices up.
- Depending on the ability to raise rents, higher interest rates also have the capacity to decrease the value of rental property because, if rents cannot be increased, the higher interest rates will reduce the present value of expected rents; and lending money at high-interest rates could become more profitable than investing in rental property.
- Lower interest rates would make borrowing cheaper and should encourage firms to invest and consumers to spend.
- People with mortgages will have lower monthly mortgage payments so more disposable income to spend.
- Consumer and business confidence is very important for determining economic growth.
- If consumers are confident about the future they will be encouraged to borrow and spend. If they are pessimistic, they will save and reduce spending.

A land flip is a fraudulent real estate practice where buyers and sellers collude to exchange a piece of undeveloped land between each other to inflate the property's price beyond the market value

- After manipulating the market price of a property, land flip perpetrators sell it to an unsuspecting outside buyer at an inflated price.
- When that buyer attempts to resell the land at a later date, its value may be much lower than where they purchased it.
- Land flips can be done to hide various issues, such as hidden legal issues, toxic pollution, liens, or easements.
- In large part, this is because the value of land demand for an undeveloped piece of land is hard to determine.
- The lender may repossess the undeveloped parcel if a buyer defaults on the loan.

Other Factors

Government charges – Stamp duties, Taxes, and land rates.

- Normally, the black-market value of any piece of urban land is far more than its value in the legal market, mainly for exemption of stamp duty, income, wealth, and other taxes.
- There is thus, a significant black-market component attached to the market value of urban land, as specified in the documents in the records of the sale transaction.
- Also, the Owners and developers will try to pass these charges on to the buyers, thus tending to raise the supply price of land, but as in the case of taxes, the precise incidence (who pays in the end) is not clear (it depends upon the slope of the demand curve, among other things).
- This involves cultural aspects such as custom, government, law, public opinion, etc., and tenure practices the law of the land and other directives for individuals to have control, exploit, and use land resources to expand and enlarge the opportunities available to others.
- High levels of land tax and rates have the potential to discourage people from holding large amounts of land and could therefore encourage them to bring that land onto the market.
- The concepts of demand, price, cost, and competition have an effect on the supply of the various types of land resources. Competition between individuals and between land uses has an effect on the land resources supplies picture (Market forces).
- The supply of land resources available to each individual operator is limited only by his willingness and ability to pay the going price asked for the resources he needs. Continued expansion of the high-priority uses inevitably leads to a diminution of the other supplies of land resources available.

Money Laundering through Real Estate:

- Real estate is having easy prone to cash transfers for the sales and buying of assets.
- Since capital investments in property buying is a secure investment with good potential to increase in value.
- Real estate is not covered under the Prevention of Money Laundering Act.

- Corruption proceeds largely go into the land and structures erected on the land.
- The unstructured growth of this sector has not only affected economic life and urbanization but has created environmental problems in various Indian cities.
- Since constructing the buildings requires no skills besides networking with vendors, all the major politically exposed persons have interests in real estate.
- Investment of illicit money in real estate to purchase or sell, for renovations and improvements, etc.
- Structuring of cash deposits across different banks/branches to avoid triggering threshold transactions to buy real estate.
- Price manipulation e.g. over-valuation, under-valuation, reverse flip, or multiple purchases and sales in a short period of time.
- Purchase of properties to facilitate other criminal activity such as drug production, thus generated revenue may then be used to buy additional properties to disguise the original source of funds.
- Use of front companies e.g. shell corporations, trusts, etc. to hide beneficial ownership and links to criminal activity.
- Use of third parties or family members with no criminal record as the legal owner to avoid direct involvement in the money laundering process.
- Use of loans and mortgages (e.g. lump sum cash repayments to integrate illicit funds into the economy, loan back money laundering method).
- Use of professional facilitators (e.g. real estate agents, lawyers, accountants, etc.) to complicate the money laundering process.
- Rental income legitimizes illicit funds.
- Investment by overseas-based criminals to conceal assets and avoid confiscation from authorities in their home countries.

Benami property (means 'Without Name' in Hindi). The industry of real estate is the main area of investing this unaccounted money. With the intervention of the Benami act in the field of real estate, the property price will be affected adversely. The Benami transactions reform act 2016, consisted of 72 sections. If a purchaser buys an asset in someone else's name designated as Benamy. The hidden owner, called 'benamidar' is not particular about price. He accounted for his black money or parallel money in overpriced transactions. The legal owner reduces the burden of income tax upon purchasing the same property on his relations as a benamy person. This concealing of facts is one of a fraudulent transaction in a civil case in a court of law. The 'Benami Transfers' (Prohibition) Act (1988) was introduced to suppress illicit money and corruption. But regulation of such assets can be penalised. The prohibition of the Benami property transaction act has an impact on land transactions and affects the volume of such real estate transactions.

INFRASTRUCTURE

Locational attributes:

Good surroundings: A property could be immaculate with excellent landscaping and lawn care, but the value would be hurt if it sits next to a run-down house with a yard full of weeds. When making an offer for a house, most buyers consider how much it would cost to fix problems; but they also might lower their offered price because of unattractive surrounding properties. The property value of a neighbourhood is determined by what buyers are willing to pay to live in that area. So, while the frontage of any home helps establish its value, surrounding houses also play a part.

Electricity – So many of our important day-to-day activities and work depend upon electricity so the proper uninterrupted 24-hour supply of electricity is a must.

Water sources – Clean and drinkable water is the key to healthy and safe survival.

Sewage disposal – Sewage waste can be a place to give birth to diseases and infections.

Transportation – Proper means of connectivity and transportation is a must for proper living.

Green Belt:

- A greenbelt is a policy and land use zone designation used in land use planning to retain areas of largely undeveloped, wild, or agricultural land surrounding or neighboring urban areas.
- Similar concepts are greenways or green wedges which have a linear character and may run through an urban area instead of around it. In essence, a green belt is an invisible line designating a border around a certain area, preventing the development of the area and allowing wildlife to return and be established.
- Green Belt homes have by definition nearby protected landscapes. Local residents in affluent parts of a Green Belt, as in parts of the city, can be assured of preserving any localised bourgeois status quo present and so assuming the Green Belt is not from the outset an area of more social housing proportionately than the city, it naturally tends toward greater economic wealth.
- In a protracted housing shortage, the reduction of the Green Belt is one of the possible solutions.
- All such solutions may be resisted however by private landlords who profit from a scarcity of housing, for example by lobbying to restrain new housing across the city.
- The stated motivation and benefits of the green belt might be well-intentioned (public health, social gardening, agriculture, environment), but inadequately realised relative to other solutions.
- When paired with a city that is economically prospering, homes in a Green belt may have been motivated by or result in considerable premiums. They may also be more economically resilient as popular among the retired and less attractive for short-term renting of modest homes.
- Where in the city itself demand exceeds supply in housing, green belt homes compete directly with much city housing wherever such green belt homes are well-connected to the city. Further, they in all cases attract a future-guaranteed premium for the protection of their views, and recreational space and for the preservation/ conservation value itself.
- Most also benefit from higher rates of urban gardening and farming, particularly when done in a community setting, which has positive effects on nutrition, fitness, self-esteem, and happiness, providing a benefit for both physical and mental health, in all cases easily provided or accessed in a green belt.
- Government planners also seek to protect the green belt as its local farmers are engaged in peri-urban agriculture which augments carbon sequestration, reduces the urban heat island effect, and provides a habitat for organisms.
- Peri-urban agriculture may also help recycle urban greywater and other products of wastewater, helping to conserve water and reduce waste.

Ribbon development is building houses along the routes of communications radiating from a human settlement.

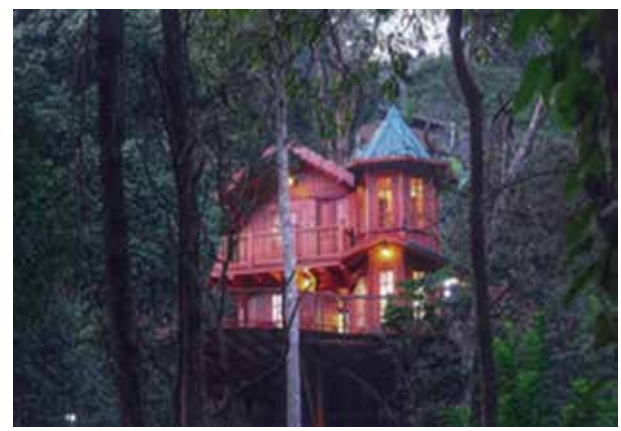
- Features & characteristics of Ribbon form of development: The term 'ribbon development' refers to a line of houses built along existing highways (or railways or similar linear barriers), each being served by individual accesses. The land to the rear of the houses is not developed. The buildings can be positioned back from the road, staggered, set at different angles from the road, or left with gaps between them, and still be classed as ribbon development, so long as they are visually linked when viewed from the highway.
- The resulting ribbons of development are clearly visible on land use maps and aerial photographs, giving cities and the countryside a particular character.
- Normally the very first ribbons are focused on roads. However, the cost of building stations, their attraction and need for accompanying roads usually led to new small urban centres and broader settlements.
- Ribbon development created great attractiveness on isolated roads as increasing motor car ownership meant that houses could be sold easily even if they were remote from workplaces and urban centres.
- It was attractive to developers because they did not have to waste money or plot space constructing roads.
- It also enabled spaces at the interstice between several urban areas appealing to potential buyers needing to access either or many of these.
- This development tends to help in better transport facilities
- It provides easy access to goods and services.
- It helps business minds in increasing their wealth by establishing their workshops, shops, factories, etc.
- Moreover, it helps the students in having a better education by reducing their travel time and by connecting their towns with modern cities having universities and schools.
- It also helps in giving a boon to the income of small farmers by allowing them to sell their products in cities.
- Time-saving because all the facilities are available just at the doorstep whether its transport facilities, food, or any other thing.
- In the ribbon development, there is a problem related to the political, legal, and economic for finding the solution.
- As a result, planning control is an important part of every country because then the development of one roadside is being implemented. As a result, people prefer to build a house near the main roads.

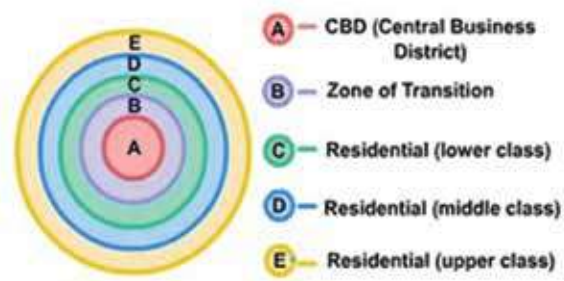
Coastal Zone developments:

- A Beach Resort is a full-service holiday lodging facility, located at the seaside, with access to a private beach. The beach is the primary focus for tourists.
- A Beach Resort offers a wide range of services and amenities and typically includes entertainment and recreational activities, which sets it apart from smaller-scale city hotels, B&Bs, or boutique hotels.
- There are two subtypes of recreation resorts: health-focused and sports resorts. Health-focused resorts are a modern interpretation of those Roman spas in Bath to improve your health, whether it's with Dead Sea mineral wraps or detoxifying through guided yoga and special diets.
- As a self-contained establishment, a Beach Resort provides for most of a vacationer's needs while remaining on the premises (lodging, food, drink, sports, entertainment, shopping, etc.).
- The benefits of booking a Beach Resort are that the guest finds not only the proximity to the beach but also an all-around service within the premises. It is convenient for families, offering kids club, evening entertaining program, shopping, etc.
- In cases the Resort is located far away from the city, the Resort provides all the infrastructure needed (it is a 'village' itself). Often a Beach Resort is used as a wedding location (with a beach setting ceremony, a wedding planner on the side, a photographer, a hairdresser, and a beauty salon, etc.).



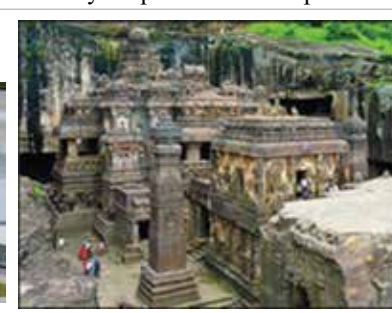

- A river delta is a landform created by the deposition of sediment that is carried by a river as the flow leaves its mouth and enters slower-moving or stagnant water. This occurs when a river enters an ocean, sea, estuary, lake, reservoir, or (more rarely) another river that cannot carry away the supplied sediment.
- The size and shape of a delta are controlled by the balance between watershed processes that supply sediment, and receiving basin processes that redistribute, sequester, and export that sediment. The size, geometry, and location of the receiving basin also play an important role in delta evolution.
- River deltas are important in human civilization, as they are major agricultural production centers and population centers. They can provide coastline defense and can impact the drinking water supply.
- Deltas are coastal landforms comprised of subaerial and subaqueous packages of fluvial-transported sediments that have formed an alluvial landscape by deposition at the mouth of a river.
- Deltas form at the coastal interface where riverine sediment supplied to the coastline is not removed by tides or waves.
- Deltas are typically classified according to the main control on deposition, which is a combination of river, wave, and tidal processes, depending on the strength of each.
- The other two factors that play a major role are landscape position and the grain size distribution of the source sediment entering the delta from the river
- Oceanfront, relative to rivers and lakes, has generally been demonstrated as having more impact on residential property value.
  - Rivers and lakefronts are not as valuable as ocean fronts
  - Oceanfront sites with waves are highly valued
  - Larger lakes are better than smaller lakes
  - The greater the radius of unobstructed views the better
  - Proximity matters and the waterfront premiums decline rapidly after 60 to 100 meters
  - Flood zones on rivers and lakes lower values slightly, but few studies have dealt with elevation risks from sea level rise.





Central Business District:

- The Central Business District (CBD) is a city's focal point of the commercial or business hub of a city. It is high on economic activity and is provisioned with adequate infrastructure and utilities.
- Central Business District (CBD) is a widely used term in commercial real estate and is defined as the functional area of a city that has the maximum concentration of commercial, retail, and business centers.
- Geographically, it coincides with the city center and is the focal point for the transportation networks of the city. It has a maximum urban density than other districts of the town and offers a healthy environment for carrying out various commercial activities. The area is characterized by a concentration of commercial land use with a high number of commercial offices, retail shops, and services such as finance and banking.
- CBD refers to an area in state capital cities with a high concentration of skyscrapers and has no particular boundary.



Time Shared Assets:

Shared deeded ownership gives each buyer a percentage share of the physical property, corresponding to the time period purchased. A timeshare is a shared ownership model of vacation real estate in which multiple purchasers own allotments of usage, typically in one-week increments, in the same property. The timeshare model can be applied to many different types of properties, such as vacation resorts, condominiums, apartments, and campgrounds. A resort condominium unit that is sold in timeshare increments of one week can technically have 52 total deeds. In other words, buying one week would confer a one-fifty-second (1/52) ownership interest in the unit while two weeks would give a one-twenty-sixth (1/26) interest, and so on. Shared deeded ownership interest is often held in perpetuity and can be resold to another party or willed to one's estate.

Shared leased ownership interest entitles the buyer to use a specific property for a fixed or floating week (or weeks) each year for a certain number of years. In this structure, the timeshare developer retains the deeded title to the property, unlike the shared deeded ownership structure where the owner holds the deed.

- Valuations are needed when transfer, surrender, and exchange take place.
- Property transfers or resales are also more restrictive than with a deeded timeshare.
- As a result, a leased ownership interest may have a lower value than a deeded timeshare

Industrial Establishments: Industrial establishment means any room, group of rooms, building, or other enclosure used or intended for use, in whole or in part, in the operation of a business enterprise for manufacturing, fabricating, processing, cleaning, laundering, or assembling any product, commodity, or article or from which any industrial waste, as distinct from Sanitary Sewage, shall be discharged. The industrial establishment is classified into "Big, medium, and small industrial establishments" by the number of employees and the capital of the establishment.

Industries and Factories are large or Mega sized structures engaged for manufacturing activities of various components either for domestic household articles or for export-oriented. Special Economic Zones and Industrial Development units are installed in particular zones exclusively to cater to the needs of new products including research and development. The growth of this sector provides a large number of employment opportunities in all kinds of labour. The construction and running of a smooth business need continuous support services like new additional construction, expansion, improvement, import, and export of products or services are all value additions

Raw Material or Resources cost: Construction rate:

- Building construction is the process of adding structure to real property.
- Residential construction practices, technologies, and resources must conform to local building authority regulations and codes of practice.
- Materials readily available in the area generally dictate the construction materials used (e.g. brick versus stone, versus timber).
- Cost of construction on a per square meter (or per square foot) basis for houses can vary dramatically based on site conditions, local regulations, economies of scale (custom-designed homes are always more expensive to build), and the availability of skilled tradespeople.
- As residential (as well as all other types of construction and manufactured homes) can generate a lot of waste, careful planning again is needed here.
- The most popular method of residential construction in the United States is wood-framed construction.
- As efficiency codes have come into effect in recent years, new construction technologies and methods have emerged.
- The cost of construction in Chennai will vary from Rs 2500 / sq. ft to Rs 4500 / sq. ft and upwards for ultra-luxury houses.
- Diesel fuel and construction materials such as steel pipe and tube, asphalt paving mixtures, and aluminum products were among the diverse products that contributed to the large year-over-year cost increases, including goods important to the construction industry.
- The vast majority of building construction projects are small renovations, such as the addition of a room, or the renovation of a bathroom.
- Often, the owner of the property acts as a laborer, paymaster, and design team for the entire project.
- However, all building construction projects include some elements in common - design, financial, and legal considerations.
- Many projects of varying sizes reach undesirable end results, such as structure collapse, cost overruns, and/or litigation.
- For this reason, those with experience in the field make detailed plans and maintain careful oversight during the project to ensure a positive outcome.

Builder Brand:

- In the case of a building, the brand of the developer will also have an impact on the pricing.
- A project by a well-known developer will, for instance, cost more than a project by a comparatively less-known developer

- Normally, buyers have in mind the reputation of the construction company or the developer who builds the project.
- Branding plays a major in the decision-making of a purchase. Friends and relatives thrust this factor to consider while proposing a new purchase.
- A good rapport in the construction market permits quick and easy sales of any product.
- Real estate developers are entrepreneurs who find and buy land and finance real estate deals that develop the land and any resulting projects (commercial malls, housing developments, etc.) on that land.
- They create and control real estate developments from start to finish, taking the greatest risks, but reaping the greatest rewards.
- They also buy real estate and make improvements to existing buildings
- A successful real estate developer uses earnings from some of their first properties to invest in others.
- This means having a strong foundation (literally and figuratively) on which to grow, rather than attempting to borrow too much money to get new projects off the ground.
- Because successfully developing properties requires substantial research on a wide variety of laws, management of construction, and management of existing properties, only a limited number of developers seen in the market

Project Cost & Size:

The Size and Accessibility of Lot: Because of their uniqueness, mega structures like Multi-storeyed buildings having a large number of dwelling units offer comparatively a lesser cost than the individual or small-sized buildings. Therefore, the number of dwelling units determines the sale value. The units constructed in posh areas attract buyers for quick sales at higher bargaining prices, because of the easy approach

Market: The housing market plays a significant role in the value of a house. In a weak market, houses aren't moving, and the appraiser might have a difficult time finding relevant sales. They may need to go outside the neighbourhood or further back in time to find a good comparable sale. The housing market can change in just a few months, perhaps a new employer comes to town or an external change in the neighbourhood causes a change (zoning changes, new infrastructure, nearby developments, etc.) and if the appraiser is only looking at old data when they factor the current value then the home's appraisal could come in low

Quality of construction: In determining the value of land comes the quality of construction of the building standing on it. In the same locality, a building will cost much more if premium materials have been used to build it, as compared to a building constructed using average quality materials, even if there is no age difference between the two buildings.

Wider Frontage sites: Property frontage is the outward appearance or "curb appeal" of a home or land. This first impression is what a potential buyer will remember; think of it as the formal introduction to the property. The exterior's condition, as well as landscaping and yard maintenance all, play key roles. Many potential home buyers will rule a property off their lists based simply on curb appeal, so it is imperative that one do everything possible to enhance that first look. It's a sure way to attract the greatest number of interested buyers--and to fetch the highest price--for the property.

Increase in rents:

- In regions of business markets where renting of spaces and built-up stalls is profitable. Such areas and plots bear high commendable market costs compared to other similar zones
- A special characteristic of markets is that very often customers can have a wide choice of commodities under one roof and such markets are licensed for the sale of a particular variety of goods. For instance, fish and meat markets, grocery, livestock markets, and so on.
- On account of this facility, rents of shops and stalls may be found a little higher than that of shops and stalls outside the market in the vicinity.
- Because it costs more to build, the replacement costs also increase. This makes existing buildings in the trade area more valuable.
- Also, due to the high cost that comes with mortgages, most people will opt to rent rather than buy.
- The high demand for rental properties and the influx of tenants will prompt landlords to raise their rental rates.
- Needless to say, owning a rental property in this economic climate places you in an ideal position as tenants are more willing to pay higher rents than take on an unmanageable mortgage

Zoning Regulations:

- Building Bylaws/ Town planning and Zoning Regulations.
- Town Planning Act/Municipal Corporation Act/ U.L.C. Act/Rent Act.
- Wealth Tax Act/Income Tax Act.
- Law on earthquake-resistant buildings.
- Reservations under different Acts.

Number of dwellings:

- Dwellings are the main counting unit in the housing sector.
- Dwellings are reported for a variety of purposes including a number of untenantable or tenantable, and occupied or vacant dwellings.
- A dwelling includes a boarding house building and boarding house units.
- The aggregated dataset includes 82.6 million individuals from 20.8 million households.

Built-up area-

- The area to be constructed. For example, if a 1000 sqft. land the build-up area would be approximately 800 sqft if it is only the ground floor.
- If planning for G+1 construction the build-up area would be 800 sqft on the ground floor and 800 sqft on the first floor, a total of 1600 sqft would be build-up area.
- RERA allows only carpet area to be reckoned in the building rate
- FSI/FAR is a ratio obtained by dividing the total built-up area to land extent.
- This is allowed as 1.50 - 2.00

Modular kitchen- Modular kitchen helps in saving space and gives a contemporary design to the home. This also helps in effective storage.

Interior wardrobe- To make the home aesthetically appealing, provide BWP (Boiling waterproof) wardrobes

A sump will be required if want to store lorry water during summer or even if the bore water is too salty or hard water. In Chennai, during summers most of the bore well goes dry. The sump has become a necessity in Chennai.

Solar- Electricity is becoming expensive day by day; solar power is a naturally available resource that can be used to generate electricity.

Power Inverters: As standby electrical power supply in emergency situations, branded quality inverter system installed when the power failed, as a substitute

DEPRECIATION:

Age of the property:

- Age is a factor that impacts the worth of a property.
- An old construction would value much less than new construction in the same location.
- In the case of a built property, the age of the structure has a direct impact however the land value has an indirect impact.
- Land located in an area with predominantly old buildings will see a negative impact due to the age of structures in the surroundings.
- A newly developed town thus might have a higher land value as compared to a similarly developed area with very old buildings

Utilisation of assets:

- Asset utilization is a ratio used by business analysts to determine how well a company is using its available assets (both movable and immovable) to generate a profit.
- Asset-utilization ratios are used to determine the profitability of everything from inventory to accounts receivable, sales, and total asset turnover.
- High asset utilization is generally a good thing, as it shows that asset/equipment is being used productively.
- However, high utilization may also mean that maintenance is being deferred. Conversely, low utilization is generally bad.
- It may indicate excess capacity, insufficient demand, or inefficiencies that reduce uptime
- For any installed asset, consider two different factors – its potential utilization and actual utilization.

Kind of Depreciation:
Direct appraisal: arbitrary assumption of the rate of depreciation based on the experience of a valuer where wear & tear, repair cost, restoration costs, etc. are not easily predictable

Written down value:
Net Present Value = Original Capital cost x [1 – the rate of depreciation] $^{\text{age of asset in years}}$

Straight line:
Net Pre. Value = $\frac{\text{Original Capital cost – [No of years x [(Original Capital cost – Scrap/Salvage Value)]]}}{\text{The total life of the asset in years}}$

Constant percentage:
Net Present Value = $\frac{\text{Current replacement cost x [100 – the rate of dep]}^{\text{age of asset in years}}}{100}$
The rate of depreciation depends on the total life of the asset, 100/60 = 1.67, taken 60 years as life

Sinking fund: Net Present Value = Replacement cost x Percent depreciation based on age
Percent Depreciation = 100 x Annual sinking fund x Accrued sum for Re 1
Annual sinking fund = Rate of Interest/ [(1+ Rate of Interest) $^{\text{Total life of the asset in years}}$ -1]
The accrued sum for Re 1 = [(1+ Rate of Interest) age of asset in years – 1]/ Rate of Interest

Sum of digit: This method shows a lower depreciation rate in earlier years and higher in later periods. This is based on DIGIT derived by the summation of years of the total life of the asset.
Therefore, summation of DIGIT for 60 years = (1+60) x (60/2) = 1830
Rate of Depreciation = Summation of the age of the asset/DIGIT
Net Present Value = Original Capital cost x rate of depreciation
Declining balance: Rate of Depreciation/year = $\frac{\text{Salvage Value}^{(1/\text{Total life of the asset})}}{\text{Original Capital Value}}$

Maintenance of Assets:

- A clean, well-presented house will likely have a higher value than a poorly maintained house in a similar location.
- This could involve simple steps like pressure washing the exterior or deep cleaning the carpet or could decide to repaint and replace the flooring entirely.
- These steps increase the appraised value of the home as well as increase the actual home value.
- They make the home more “move-in ready” which more people are willing to pay for.
- Maintenance Cost as a % of Replacement of Asset Value (RAV).
- The metric is the amount of money spent annually maintaining assets, divided by the Replacement Asset Value (RAV) of the assets being maintained, expressed as a percentage.
- Total Maintenance Cost - Total expenditures for maintenance labor (including maintenance performed by operators, e.g., total productive maintenance (TPM), materials, contractors, services, and resources. Include all maintenance expenses for outages, shutdowns, or turnarounds, as well as normal operating times.
- This is necessary so that excessive replacement versus proper maintenance is not masked.

Terminal value:

- The value of a business or investment is the present value of its expected future cash flows.
- To determine that value, an investor or analyst will need to estimate those future cash flows because due to our inability to predict the future, they can’t be known with certainty.
- This is an important concept for anyone who conducts discounted cash-flow analysis because although an investor may feel confident projecting expected cash flows for several years into the future, the further off projections are, the less inherently accurate they become.
- Because the value of an investment is the present value of all expected future cash flows, this inability to know those future values needs to be addressed.
- The first step in this process would be to estimate the value of an investment for the chosen period using a valuation technique such as the discounted cash flow model. T
- The next step would be to estimate the terminal value at the end of that period.
- The total value of the investment is the combined value of those two estimations

VALUATION ASSESSMENT:

Principles of Valuation:

Principles of Progression. "A property's value may increase due to the existence of similar properties in similar locations, containing greater quality." In fact, progression is also expressed by the maxim that profit in real estate by buying the worst house on a good block.

Principles of Regression. "A property's value may decrease due to the existence of similar properties in similar locations, containing lower quality." So, an exceptional house may not appreciate as one would expect if and when other houses even on the sale block are outdated, obsolete, or poorly maintained.

Principles of Conformity. This concept is, **"A property is most likely to appreciate in value along with other, similar properties in the same neighborhood."** So, if an investor spends a lot of money to upgrade a house, for example, conformity may limit appreciation regardless of how the work is performed. This relates to construction materials, age of properties, number of rooms, and overall square footage and style. If the neighbourhood consists of 2,000 square feet, three-bedroom, two-bath homes 10 years old, improving property above that standard may not be profitable. Converting a home by adding 500 square feet and changing the internal layout to four bedrooms and three baths could be money poorly spent, based on the principle of conformity.

Principles of Substitution. In real estate, comparison rules the way that valuation trends become established. Thus, progression, regression, and conformity are primary concepts. A variation on this theme is that of substitution. This principle is, **"A property's greatest potential market value is limited by the market value of other, similar properties."** Thus, it would not be realistic to judge market value in a vacuum. Without considering the market value of similar properties located in similar areas, cannot accurately analyze the market value of any property. This theory is easily observed. When two similar properties are for sale, the *lower-priced one will tend to sell first* and, as a result, the market value of the remaining property may be lowered.

Principles of Change: "No condition remains the same indefinitely; change is part of the economic cycle." Property values are affected by the change in several ways. These include local economic and demographic trends, the physical age and condition of the property and surrounding properties, the character of a neighborhood or city, and natural events like disasters (hurricanes and earthquakes, for example).

Principles of Anticipation. Real estate investors like those in all markets are continually estimating the future value of properties. The principle of anticipation may be stated as: **"Market value often is affected by expectations about future events."** For example, if an investor believes that a particular area is likely to experience growth in coming years, that would mean property values would rise. The very expectation actually increases demand, and valuation rises as a result. The cause and effect can be more immediate than the time it takes for the cause to occur. If a proposed rezone is in the works, properties in the affected area could experience a rise or fall in property value in anticipation of the change.

Principles of Contribution. This principle acknowledges a limitation on growth in market value, notably in the case of improvements. The additional market value one may expect from improving a property is not equal to cost, but to the contribution, those changes make to actual market value. Thus, in a low-demand market, an improvement may add only $2,000 to market value even though the actual cost was $5,000. In the case of cosmetic repairs to properties in hot markets, the opposite effect may be seen as well. Contribution tells us, **"Improvements add to market value as a factor of current supply and demand, and not necessarily on the basis of the actual cost."** The principle of contribution can also be defined as being controlled both by increasing returns and diminishing returns. In other words, making improvements to the property will cause growth in market value to an extent (increasing returns), but ***when improvements exceed that level, the return on investment begins to fall*** (diminishing returns).

Economic Factors

- Demand and supply of properties.
- State and Central Govt. policies for land development.
- Economic and Taxation policies of Government.
- Income and wage level of residents, trends for saving and paying capacities of people in the locality.
- Money market situation.
- Cyclical boom and recession periods in the real estate market.
- Expected rental yields and returns on investment in real estate.
- Inflation or deflation in the nation's economy.
- Availability of money on credit from Banks and other institutions and rate offered for such advances.
- Burden of property tax and other maintenance outgoings.
- Better alternative use against current inferior use.
- Employment opportunities and development potential in the area.
- Availability of alternative or substitute assets in the market.
- Local population, per capita income of residents

Physical (Technical) Factors

- Land characteristics: Size, shape, plot area, vista, frontage, orientation, soil type, topography, etc.
- Infrastructure facility: Good network of roads, water supply, drainage system, power supply, and telecommunication links.
- Prominence and placement: Main road, by-lane, remote area location.
- Building characteristics:
- R.C.C. framed or load-bearing structure.
- Expected future life and age of the structure.
- Deterioration and present condition.
- Specification of building, (Civil, electrification, and plumbing items).
- Aesthetics and workmanship quality.
- Obsolescence due to changes in technology or change in lifestyle.
- Maintenance and repair liability.
- Functional aspect: Optimum use of space, good planning and design with no wastage, high utility value, modern habitation style.
- Amenities: Swimming pool, garden, lift, security system, car parking facility, Health club, Children's play area.
- Environmental aspect: Noise and smoke pollution level, sea or lake frontage, nuisance due to the railway track, industries or airport, climatic conditions.
- Natural calamity: Earthquake-prone areas, flooding, cyclone hazards, Tsunami prone areas.

Social Factors

- Locality: Poor class, middle class, posh areas (Lifestyle and living standards of residents of the locality).
- Neighbourhood: Well developed, less developed, slum-like, cremation ground, dumping ground, nuisance due to community hall, cinema, school on adjoining plot.
- Civic amenities: Proximity of shops, Mall, market, school, cinema, community hall, hospital, railway station, bus stand, and garden.
- Population: Density in the area and population growth, congestion.
- Means of communication: Railway, roadway, or waterways.
- Prestige aspect: Prestigious building, prominent location, a renowned personality like a film star or industrialist, politician, or a celebrity as a next-door neighbor.
- Political factor: Linguistic or Religious communal unrest.
- Racial habitation: Parsi colony, Mohmedan locality, Hindu colony, Catholic colony. Brahmanwada and Maharwada.

Religious factor:

- The proximity of the Temple, Church, Mosque, and Place of worship.
- Personal factors: Sentimental considerations, beliefs in 'Vastu' principles or Feng Sui norms, Liking for a specific neighborhood, Speculative intent.
- Stigma aspects: Haunted house, Dislike for Vyagramukhi or Tee junction plots, fear due to past history of a cyclone, Tsunami, flood or earthquake, case history of murder or suicide on the property, previous use of land as Kabrastan or Cremation ground.

Legal Factors

- Social legislation like The Rent Control Act of 1948.
- Land Reform Legislation like The Urban Land Ceiling Act 1976.
- Ecological Restriction Like Coastal Regulations.
- Transfer of Property Act with lease provisions.
- Covenants under lease or conveyance deed.
- Land Acquisition Act.
- Laws Governing Building Construction like Development Control Rules/

Guideline Value:

- In every state, the state government fixes certain prices for properties, and all purchases and sales cannot take place at a rate below this value.
- This rate has been called a Guideline value. In some states, the guideline value is also known as the circle rate or ready reckoner rate.
- For any sort of conveyance deeds, the stamp duty has to be calculated based on these values.
- Those rates vary in accordance with the regional location of the site or asset under transfer.
- These rates are available in all sub-registrar's offices in Tamilnadu state.
- This rate is a fixed minimum stamp duty value, but market value is to be taken in all cases.

Stamp Duty Value:

- Any document on which stamp duty has been paid gets legal, evidentiary value in the court of law, such as all transfer Instruments/documents.
- Stamp Duty is computed on the market value or consideration amount of the property, whichever is higher.
- The consideration amount is the total value of funds involved in any purchase/ sale transaction entered between two or more parties.

Documents on which stamp duty is required to be paid

1. Purchase of a Flat
2. Purchase of an Apartment in a Building (Commercial / Residential)
3. Purchase of a Plot of Land
4. Purchase License of Land /Apartment (Lease / Freehold)
5. Development Agreement
6. Will / Bequest Deed
7. Transfer Deed
8. Power of Attorney
9. Lease Agreement
10. Gift Deed of Property
11. Construction Agreement
12. Rent Agreement
13. Sale/ Purchase Agreement
14. Agreement to Sell
15. Deed of Mortgage of Property
16. Relinquishment Deed
17. Surrender Deed in Cooperative Housing Society
18. Mortgage Deed

- An appraisal of the Valuation of asset is an opinion of a Registered Valuer
- Registered Valuers are professionals with training and expertise in the accepted valuation methods and techniques who have an ethical obligation to remain interested and unbiased while performing an appraisal
- Registered Valuer gathers relevant evidence and logical analysis of that data make the appraiser's opinion valuable to clients
- Using observed data is the core of any empirical approach, but

it's important to remember that past results don't always predict the future.

- Illiquid assets like real estate are particularly vulnerable to changes in the business cycle.
- The predictive power for certain variables is likely to change based on current economic conditions.
- This problem is not unique to linear regression and is found with traditional approaches as well.
- Correlation doesn't equal causation.
- The purpose of model building is to find useful variables that will make valid predictions.

Results/Interpretation

Benefits of Using Regression Models in Real Estate Valuation: Regression analysis is particularly suitable for analyzing large amounts of data. It would be practically impossible to have a strong knowledge of every local real estate market in the country, but regression modeling can help narrow the search.

Flexibility: The greatest benefit of using regression modeling is its inherent flexibility - it can work independently of other models or in concert with them. There are numerous sources of free data from local, state, and federal agencies which can be supplemented with private data providers. Another option is to use regression models to predict inputs for other traditional valuation methods more accurately. For example, when analyzing a mixed-use commercial project, a developer could build one model to predict the sales per square foot for the retail space, and another model to predict rental rates for the residential component. Both could then be used as input to an income approach for valuation.

Some of the objective advantages of statistical valuation are the following: Statistical analysis allows you to determine the statistical significance (reliability) of individual factors in the model. While scenario or sensitivity analysis can give you a general idea about changes to inputs in more traditional methods, it's more akin to making multiple predictions rather than giving you a better idea of the accuracy of the original prediction. On the other hand, when building a regression model, one can know what the range of outcomes will be based on a certain level of confidence. Regression models are unique in the fact that they have a built-in check for accuracy. After building a model on a sample of the total population (training data), one can use the model on out-of-sample data (testing data) to detect possible sampling bias.

Sticking to Core Competency: Traditional valuation methods all have a significant risk of selection bias. When choosing comparable properties, it's very easy to fall into the trap of selecting the best outcomes and assuming they are most like your project. There is also an emphasis on predicting variables, such as the rate of return in the income approach. Eliminating the need for this prediction could be attractive to many real estate investors, which is why a regression-based valuation is a useful approach.

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FAIR VALUE MEASUREMENT AS PER INDIAN ACCOUNTING STANDARD (IND AS) 113

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The below write up is an attempt to drill down the "Technical guide on Valuation "issued by ICAI into a data collation format so that it can be used as a working format for asset/liability valuation.

In addition the assets so valued need to be measured and disclosed at fair Value as per IND AS 113. Here again the step by step activities as provided in the various paragraphs mentioned in the MCA publication on the standard is considered in a working format.

The exercise is more to use as a guidance reference point.

Tangible assets

Para Ref 6.1	In order to estimate the fair value of the tangible assets, the following three approaches are typically employed: the Cost Approach, Market Approach - Sales Comparison, and Income Approach.

Cost Approach	The principle behind the Cost Approach is that a prudent investor will not purchase an asset for more than it will cost him to replace this asset with an asset of comparable utility.			
A valuation analysis using the Cost Approach typically involves the following steps:				
Estimate replacement or reproduction cost new, based on The trended reproduction cost method, which uses analytical trending where, based on the fixed asset register, assets are categorized into similar appraisal groups. Using historical cost and acquisition date, current reproduction cost new estimates are developed by multiplying the cost data by inflationary/ deflationary trend factors that reflect various types of assets and their respective ages;				
Current reproduction cost new estimates (para 6.2(a)(i)				
Assets categorized into similar appraisal groups (1)	**Historical Costs (2)**	**Acquisition Date (3)**	**Inflationary/ Deflationary trend(4)**	**Current reproduction cost new estimates(4*2)**
Asset 1				
Asset 2				
Asset 3				
Asset 4				
Asset 5				
Asset 6				
Asset 7				
Asset 8				
The direct replacement cost method (para 6.2(a)(ii)				
Assets categorized into similar appraisal groups (1)	**Price Estimates from sources below:**			
	Manufacturers	**Major Vendors**	**Construction & erection Companies**	**Engineers**
Asset 1				
Asset 2				
Asset 3				
Asset 4				
Asset 5				

Asset 6				
Asset 7				
Asset 8				
Assets categorized into similar appraisal groups (1) **All Products**	**Capacity factors in the case of process related facilities from Engineering Companies or Other sources**			
	Estimate total economic life and effective age	**Depreciate replacement/ reproduction cost new over economic life to reflect obsolescence related to effective age;**	**Functional obsolescence(**the loss in value or usefulness of an asset caused by inefficiencies or inadequacies of the property itself, when compared to a more efficient or less costly replacement property that new technology has developed	**Economic obsolescence (**the loss in value or usefulness of an asset caused by factors external to the asset. These factors may have included increased cost of materials, labor, utilities, reduced demand for the product, increased competition, environmental regulations, or similar factors)
Asset 1				
Asset 2				
Asset 3				
Asset 4				
Asset 5				
Asset 6				
Asset 7				
Asset 8				

Market Approach	The principle behind the sales comparison method is that the value of the asset is equal to the market price of an asset of comparable features such as location and size
A valuation analysis using the sales comparison method typically involves the following steps: **(para 6.3(b)**	

Assets categorized into similar appraisal groups (1) **All Products**	**Valuation analysis**				
	Analyze comparable transactions or sales data to determine unit prices for comparable assets	Adjust for differences between comparable property and subject property such as location, size, market conditions, utility services, etc.	Apply adjusted unit price to subject property	Adjust for obsolescence factored into sales prices, where appropriate	Adjust for additional functional/economic obsolescence not reflected in the comparable transactions
Asset 1					
Asset 2					
Asset 3					
Asset 4					
Asset 5					
Asset 6					
Asset 7					
Asset 8					

Income Approach	The principle behind the Income Approach is that the value of the asset is equal to the earnings potential of this asset, i.e., the present value of net rental savings attributable to owning the asset The application of the Income Approach may be limited in situations where the income stream cannot be allocated reasonably and effectively to each of the individual tangible assets or groups of assets that comprise the business.

A valuation analysis using the sales comparison method typically involves the following steps: **(para 6.4(b)**

Assets categorized into similar appraisal groups (1) **All Products**	**Valuation analysis**						
	Determine appropriate rental yield for subject asset	Estimate total economic life and effective age	Determine effective gross income	Deduct operating expenses associated with the asset	Derive investor's required rate of return for subject asset	capitalize effective net income;	Adjust for additional functional/ economic obsolescence
Asset 1							
Asset 2							
Asset 3							
Asset 4							
Asset 5							
Asset 6							
Asset 7							
Asset 8							

Intangible assets -Please refer to Paragraph 7 of Technical Guide on Valuation by ICAI edition 2022 for specific

Para Ref 7.1	Intangible assets are assets that do not have a physical identity.
Ind AS 38-Intangible Assets	An intangible asset as "an identifiable non-monetary asset without physical substance". These assets represent a company's right or claim to future benefits arising from their use.
Corporate intellectual property items	1. Patents, 2. Trademarks, 3. Copyrights, 4. Business methodologies, 5. Customer related intangibles, 6. Brands and 7. Goodwill are all common intangible assets in today's marketplace
Requirements to valuation of Intangible assets	1. Under the applicable accounting standards a. Ind AS 103 - Business Combinations b. Ind AS 36- Impairment of Assets c. Ind AS 38 – Intangible Assets
	2. Income Tax Act, 1961 allows amortization of certain acquired intangible assets as tax deductible a. allocation of sales consideration in acquisitions to different tangible and intangible assets
	3. Valuation of these assets is also required in the case of transactions involving sale of stand-alone intangible assets a. Brands, b. Trademarks, c. Trade names, d. Patents
Key functional attributes associated with intangible assets	

Asset Category	**Identifiability -** As per Ind AS 38, the definition of an intangible asset requires an intangible asset to be identifiable to distinguish it from goodwill.				
Asset is considered as identifiable, if the asset meets either of the following criteria detailed in Ind AS 36	**Contractual-legal criterion**		**Separability criterion**	**Control**	**Future economic benefits**
Patens,					
Trade-marks					
Copyrights					
Business Methodologies					
Customer related intangibles					
Brands					
Goodwill					
Categorization based on function					
	Contract based intangible assets		**Customer based intangible assets**	**Technology related intangible assets**	**Artistic related intangible assets**
Patens,					
Trade-marks					
Copyrights					
Business Methodologies					
Customer related intangibles					
Brands					
Goodwill					
The cost of a separately acquired intangible asset can usually be measured reliably, which normally comprises of					
	Purchase price of the asset (including import duties, non-refundable purchase taxes, after deducting trade discounts and rebate (1)	Any directly attributable cost of preparing the asset for its intended use (2)	Total Purchase Price of the acquired Intangible asset (3=1+2)	Per Ind AS 103, if an intangible asset is acquired in a business combination, the cost of that intangible asset is its fair value at the acquisition date. In the context of Ind AS 103, implied goodwill is computed on a residual basis and not valued directly through the application of the Income, Market or Cost Approach. As such goodwill is subject to change given any potential modifications to the total consideration and the Fair Value of acquired assets and liabilities. Total Consideration less (FV of acquired Assets – Acquired Liabilities)	
Patens,					
Trade-marks					
Copyrights					

Business Methodologies					
Customer related intangibles					
Brands					
Goodwill					
Income Approach - The income approach bases value on the cash flows an asset is expected to generate over its useful life.					
Whether the primary economic benefit associated with the subject intangible asset has its ability to generate income, or reduced costs? If Yes, the next columns.	The future economic benefits can be reasonably forecasted? (yes/No). If yes, the quantified benefits (1)		After reasonably excluding the cash flow contributions of other tangible and intangible assets.(2)	The discount rate appropriate to the risk of the asset. (3)	The present values of such yearly cash flows are summed to estimate the value. (1-2) after applying DF= 4
Patens,					
Trademarks					
Copyrights					
Business Methodologies					
Customer related intangibles					
Brands					
Goodwill					
1.14 **Income Approach – Relief from Royalty Method - This method is based on a hypothetical royalty (typically calculated as a percentage of revenue) that the owner will otherwise be willing to pay in order to use the asset— assuming it was not already owned. (classification)**					
Determination of the royalty rate can be a complex process and the following factors	Royalty rate for an asset in isolation which will likely be lower than one for a bundled asset, including trademarks and product formulations		Royalty rate paid for the right to use an intangible asset within a limited geography or specific customer channel for a limited time will likely be different than that paid for perpetual rights	Assets providing higher returns will warrant higher royalty rates	Licensees who are willing to pay an upfront fee or share in future marketing or advertising expenses may be able to negotiate a lower royalty rate.
Patens,					
Trademarks					
Copyrights					
Business Methodologies					
Customer related intangibles					
Brands					
Goodwill					
7.14 Income Approach – **Relief from Royalty Method -** This method is based on a hypothetical royalty (typically calculated as a percentage of revenue) that the owner will otherwise be willing to pay in order to use the asset— assuming it was not already owned. (Major Steps in computing Royalty expenses saved)					

Determination of the royalty rate can be a complex process and the following factors	*Projected income statement associated with the intangible asset (a)*	*Less associated expenses like maintenance or marketing (b)*	*projected income statement (c= a-b)*	*Appro-priate royalty rate (d)*	*. Forecasted revenue is roy-alty computed as a percentage of revenue using an appropriate royalty rate (e=d*c)*	*Marginal Tax Rate (f)*	*Post Tax Roy-alty Income g=e*(1-f)*	*The value of the intangible asset to be valued is the present value of the after - tax cash flows so computed by us-ing an appropri-ate risk- adjusted discount rate.(h)*	*Discounted value of the Cash flows as per column h with Tax amortization benefit (TAB) added (i)s*
Patens,									
Trademarks									
Copyrights									
Business Meth-odologies									
Customer related intangibles									
Brands									
Goodwill									

7.15 Income Approach – **With and without method -** The fundamental concept underlying this method is that the value of the subject intangible asset is the difference between an established, ongoing business and one where the subject intangible asset does not exist.

	Projected income statement associated with the intangible asset (a)	*Less associated expenses like main-tenance or marketing (b)*	*projected income statement (c= a-b)*	*Appropri-ate royalty rate (d)*	*Forecasted revenue is royalty comput-ed as a percentage of revenue using an appropriate royalty rate (e=d*c)*	*Marginal Tax Rate (f)*	*Post Tax Royalty Income g=e*(1-f)*	*The value of the intangible asset to be valued is the present value of the after - tax cash flows so computed by using an appropri-ate risk-adjusted discount rate.(h)*	*Value with subject Intangible asset=* *Discounted value of the Cash flows as per column h with Tax amortiza-tion benefit (TAB) add-ed (i)*	*Value with-out the sub-ject matter intangible asset*
Patens,										
Trademarks										
Copyrights										
Business Methodologies										
Customer related intan-gibles										
Brands										

1.16 Income Approach – **Multi period excess earnings method -** The excess earnings method calculates the value of an asset based on the expected revenue and profits related to that particular asset, reduced by the portion of those profits attributable to other supporting assets (tangible and intangible) that contribute to the generation of cash flow (for example, working capital, fixed assets, assembled workforce etc.)

Projections for the entity (A)	*projections for the entity or the combined asset group over the remaining useful life of the said intangible asset to be valued from the client (a)*	*Less associat-ed expenses like maintenance or marketing (b)*	*Projected income statement (c= a-b)*	*Marginal Tax Rate (f)*	*Post Tax Cash Flow g=e*(1-f)*
Patens,					
Trademarks					
Copyrights					
Business Method-ologies					
Customer related intangibles					

Brands					
Goodwill					

Contributory Asset Charges (CAC) (B)	*Charges for the use of an asset or group of assets (e.g., working capital, fixed assets, assembled workforce, other intangibles) based on their respective fair values and should be considered for all assets over the remaining useful life of the said intangible asset to be valued from the client (a)*	*Less associated expenses like maintenance or marketing (b)*	*Projected income statement (c= a-b)*	*Marginal Tax Rate (d)*	*Post Tax Cash Flow e=c*(1-d)*
Patens,					
Trademarks					
Copyrights					
Business Methodologies					
Customer related intangibles					
Brands					
Goodwill					

C= A+B	The incremental after-tax cash flows attributable to the intangible asset to be valued e of A – e of B (1)	Discount rate (2)	*Discounted Cash Flow (3) =1 adjusted for 2*	*Tax Amortization rate (TAB) (4)*	*Final discounted post tax cash flow adjusted for TAB (5)*
Patens,					
Trademarks					
Copyrights					
Business Methodologies					
Customer related intangibles					
Brands					
Goodwill					

7.17 Distributor method *– this method is a variation of the excess earnings method, which is used to value customer-related intangible assets in certain circumstances*

Whether the Intangible asset is a Customer Relationship asset. If Yes, next columns)	***Revenue and projections of existing customers relationships along with relevant attrition (a)***	***Expenses projections of existing customers relationships along with relevant attrition (b)***	***Cash Flows (revenues less expenses (c)***	***profit margins of distributors* cash flows d=(P-M%*c)***	***contributory assets like working capital, fixed assets, workforce (e)***	***excess earnings after considering the contributory asset charge f= (d-e)***	***Discount rate (g)***	***present value of cash flows using an appropriate discount rate (h)***	***Marginal Tax Rate (i)***	***Post Tax Cash Flow i=(h*(1-i)***	***Tax Amortization Benefit(j)***	***Post Tax CF plus TAB***
Patens,												
Trademarks												
Copyrights												
Business Methodologies												
Customer related intangibles												
Brands												
Goodwill												

7.18 Greenfield method *– the value of an intangible is estimated using cash flow projections that assume the only asset of the business as of the valuation date is the subject intangible*

Whether the Intangible asset is a valuing franchise-based intangible assets and broadcast spectrum intangibles. If Yes, next columns)	***Revenue and projections of existing intangible with the premise that the intangible is the only asset in the business (a)***	***Expenses projections of existing intangible assets (b)***	***Investment in relating to acquisition, creation or rentals of other assets required by the intangible asset to be valued (C)***	***Cash Flows (revenues less expenses (D= a-b-c)***	***Discount rate (g)***	***present value of cash flows using an appropriate discount rate (h)***	***Marginal Tax Rate (i)***	***Post Tax Cash Flow i=(h*(1-i)***	***Tax Amortization Benefit(j)***	***Post Tax CF plus TAB***
Patens,										
Trademarks										
Copyrights										
Business Methodologies										
Customer related intangibles										
Brands										
Goodwill										

Market Approach	The Market Approach is often inapplicable to the valuation of intangible assets. Intangible assets are often purchased "bundled" with other assets, so the price paid for an individual intangible asset is not observable with certainty

7.21 Price/Valuation multiples/Capitalization rates: This method considers certain multiples/Capitalization rates to arrive at the valuation of a comparable intangible asset.

Whether the amount paid for an asset in a transaction is known then proceeds to next column, under the Market as a useful valuation measure for an individual intangible asset.	***Comparable intangible asset***	***Price/Valuation multiples/Capitalization rates***	***Any differences between the intangible asset to be valued and comparable intangible asset***	***Adjusted Multiple/ Rate***	***Adjusted Rate* Price paid for the Intangible asset to be valued***
Patens,					
Trademarks					
Copyrights					
Business Methodologies					
Customer related intangibles					
Brands					
Goodwill					

7.21 Guideline pricing method This method determines the value of an intangible asset by considering the price paid in an orderly transaction for a comparable intangible asset

Whether the amount paid for a guideline asset in a transaction is known then proceeds to next column, under the Market as a useful valuation measure for an individual intangible asset.	***Guideline price paid in an orderly transaction for a comparable intangible asset***
Patens,	
Trademarks	
Copyrights	
Business Methodologies	
Customer related intangibles	
Brands	
Goodwill	

Cost Approach	The Cost Approach values intangible assets by examining costs that would currently be required to replace the asset. The premise of this approach is that an investor would pay no more for an asset than what would be required to replace it. The Cost Approach also considers the reproduction cost as the value of the intangible asset.

7.22 Reproduction Cost Method: Reproduction Cost Method involves valuing an asset based on the cost that a market participant shall have to incur to recreate a replica of the asset to be valued, adjusted for obsolescence.

	Reproduction Cost - the cost that a market participant shall have to incur to recreate a replica of the Comparable intangible asset (1)	*Adjusted for obsolescence (2)*	*Reproduction Cost adjusted for Obsolescence (3=1-2)*
Patens,			
Trademarks			
Copyrights			
Business Methodologies			
Customer related intangibles			
Brands			
Goodwill			

7.22 Replacement Cost Method: Replacement Cost Method involves valuing an asset based on the cost that a market participant shall have to incur to recreate an asset with substantially the same utility (comparable utility) as that of the asset to be valued adjusted for obsolescence.			
	Replacement Cost - the cost that a market participant shall have to incur to recreate a replica of the Comparable intangible asset (1)	*Adjusted for obsolescence (2)*	*Replacement Cost adjusted for Obsolescence (3=1-2)*
Patens,			
Trademarks			
Copyrights			
Business Methodologies			
Customer related intangibles			
Brands			
Goodwill			

Fair Value Measurement - Standard (Ind AS) 113

The fair value measurement approach

Asset Reference (Assets categorized into similar appraisal groups)	**Yes/No or Rs.**	**If Yes, If Yes, the IND AS do not apply**
Whether the transaction is share-based payment transactions within the scope of Ind AS 102, *Share-based Payment*		
Whether the transaction is a leasing transactions within the scope of Ind AS 17, *Leases;*		
If Yes, the IND AS do not apply		
Whether it refers to measurements that have some similarities to fair value but are not fair value, such as net realizable value in Ind AS 2, *Inventories,* or value in use in Ind AS 36, *Impairment of Assets*		
Whether it refers to plan assets measured at fair value in accordance with Ind AS 19, *Employee Benefits*		
Refer Appendix 1		
Whether the assets for which recoverable amount is fair value less costs of disposal in accordance with Ind AS 36.		
Capitalized value adjusted for Obsolescence (as per earlier tables as per Technical Guide on Valuation)		
Para 24. The price - Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction in the principal (or most advantageous) market at the measurement date under current market conditions (i.e. an exit price) regardless of whether that price is directly observable or estimated using another valuation technique. No adjustment for Transaction Costs		
If the asset is a Non-Financial Asset - Ability to generate economic benefits by using the asset in its *highest and best use* or by selling it to another market participant that would use the asset in its highest and best use after adjusting for liabilities	Highest Best Use	
Para B2 The objective of a fair value measurement is to estimate the price at which an orderly transaction to sell the asset or to transfer the liability would take place between market participants at the measurement date under current market conditions. A fair value measurement requires an entity to determine all the following:		

(a)	The particular asset or liability that is the subject of the measurement (consistently with its unit of account).		
(b)	For a non-financial asset, the valuation premise that is appropriate for the measurement (consistently with its highest and best use).		
(c)	The principal (or most advantageous) market for the asset or liability.		
(d)	The valuation technique(s) appropriate for the measurement, considering the availability of data with which to develop inputs that represent the assumptions that market participants would use when pricing the asset or liability and the level of the fair value hierarchy within which the inputs are categorized.		
	the condition and location of the asset; and		
	Restrictions, if any, on the sale or use of the asset.		
15	Assumption: **A fair value measurement assumes that the asset or liability is exchanged in an orderly transaction between market participants to sell the asset or transfer the liability at the measurement date under current market conditions.**	**Orderly transaction**	**Sell the asset or transfer the liability**
(a)	**In the *principal market* for the asset or liability; or**		
(b)	**In the absence of a principal market, in the *most advantageous market* for the asset or liability.**		
Identify characteristics that distinguish market participants generally specific to			
(a)	The asset or liability;		
(b)	The principal (or most advantageous) market for the asset or liability; and		
(c)	Market participants with whom the entity would enter into a transaction in that market.		
The principal (or most advantageous) market			
At the measurement date			
Under current market conditions (i.e. An exit price)			
Highest and best use (in case of Non-Financial assets)			
•	**A use that is physically possible**		
•	**A use that is legally permissible**		
•	**A use that is financially feasible**		
•	**Liabilities associated with the asset and with the complementary assets**		
•	**Whether the highest and best use of a non-financial asset is consistent for all the assets**		
Paragraph B3 - Valuation premise for non-financial assets (paragraphs 31-33)			
•	The fair value of the asset might be the same whether the asset is used on a stand-alone basis or in combination with other assets or with other assets and liabilities		
•	An asset's use in combination with other assets or with other assets and liabilities might be incorporated into the fair value measurement through adjustments to the value of the asset used on a stand-alone basis (like transportation & installation costs) - if the asset is a machine and the fair value measurement is determined using an observed price for a similar machine (not installed or otherwise configured for use), adjusted for transport and installation costs so that the fair value measurement reflects the current condition and location of the machine (installed and configured for use).		
•	If the asset is work in progress inventory that is unique and market participants would convert the inventory into finished goods, the fair value of the inventory would assume that market participants have acquired or would acquire any specialized machinery necessary to convert the inventory into finished goods.		
•	When using the multi-period excess earnings method to measure the fair value of an intangible asset because that valuation technique specifically takes into account the contribution of any complementary assets and the associated liabilities in the group in which such an intangible asset would be used		

• Check whether the o A liability would remain outstanding and the market participant Transferee would be required to fulfil the obligation. o The liability would not be settled with the counterparty or otherwise extinguished on the measurement date. o An entity's own equity instrument would remain outstanding and the market participant transferee would take on the rights and responsibilities associated with the instrument. o The instrument would not be cancelled or otherwise extinguished on the measurement date.		
• *Liabilities and equity instruments held by other parties as assets*		
o *Using the quoted price in an active market for the identical item held by another party as an asset, if that price is available.*		
o *if that price is not available, using other observable inputs, such as the quoted price in a market that is not active for the identical item held by another party as an asset.*		
o *present value technique that takes into account the future cash flows that a market participant would expect to receive from holding the liability or equity instrument as an asset Refer para B10 & B 11*		
o *A market approach (e.g. using quoted prices for similar liabilities or equity instruments held by other parties as assets; see paragraphs B5B7).*		
• *Para B 10 & B 11*		
Income approach		
B10 The income approach converts future amounts (e.g. cash flows or income and expenses) to a single current (i.e. discounted) amount. When the income approach is used, the fair value measurement reflects current market expectations about those future amounts.		
B11 Those valuation techniques include, for example, the following:		
(a) present value techniques (see paragraphs B12-B30);		
(b) option pricing models, such as the Black-Scholes-Merton formula or a binomial model (i.e. a lattice model), that incorporate present value techniques and reflect both the time value and the intrinsic value of an option; and		
(c) The multi-period excess earnings method, which is used to measure the fair value of some intangible assets.		
Market approach		
B5 The market approach uses prices and other relevant information generated by market transactions involving identical or comparable (i.e. similar) assets, liabilities or a group of assets and liabilities, such as a business.		
B 7 Valuation techniques consistent with the market approach include matrix pricing		

After initial recognition, when measuring fair value using a valuation technique or techniques that use unobservable inputs, an entity shall ensure that those valuation techniques reflect observable market data (e.g. the price for a similar asset or liability) at the measurement date.	The price for a similar asset or liability	Unobservable inputs,
A change in a valuation technique or its application (e.g. A change in its weightage when multiple valuation techniques are used or a change in an adjustment applied to a valuation technique) is appropriate if the change results in a measurement that is equally or more representative of fair value in the circumstances		
(a) new markets develop;		
(b) new information becomes available;		
(c) information previously used is no longer available;		
(d) Valuation techniques improve; or (e)		
(e) Market conditions change.		

Inputs to valuation techniques		
Observable inputs - Para 34 paragraphs 67-71		

(a) Exchange markets,	***In an exchange market, closing prices are both readily available and generally representative of fair value. An example of such a market is the National Stock Exchange.***		
(b) Dealer markets,	*In a dealer market, dealers stand ready to trade (either buy or sell for their own account), thereby providing liquidity by using their capital to hold an inventory of the items for which they make a market. Typically bid and ask prices (representing the price at which the dealer is willing to buy and the price at which the dealer is willing to sell, respectively) are more readily available than closing prices. Over-the-counter markets (for which prices are publicly reported) are dealer markets. Dealer markets also exist for some other assets and liabilities, including some financial instruments, commodities and physical assets (e.g. used equipment).*		
(c) Brokered markets	*In a brokered market, brokers attempt to match buyers with sellers but do not stand ready to trade for their own account. In other words, brokers do not use their own capital to hold an inventory of the items for which they make a market.*		
(d) Principal-to-principal markets (see paragraph B34).	In a principal-to-principal market, transactions, both originations and resales, are negotiated independently with no intermediary. Little information about those transactions may be made available publicly.		
If an asset or a liability measured at fair value has a bid price and an ask price (e.g. an input from a dealer market), the price within the bid-ask spread that is most representative of fair value in the circumstances shall be used to measure fair value regardless of where the input is categorized within the fair value hierarchy	**Ask price/Bid Price**	**Bid-ask spread**	**Final conclusion**
Fair value hierarchy			
Level 1 inputs			
a) the principal market for the asset or liability or, in the absence of a principal market, the most advantageous market for the asset or liability			
b) Whether the entity can enter into a transaction for the asset or liability at the price in that market at the measurement date.			
Adjustment to a Level 1 input only in the following circumstances			
1. A practical expedient, an entity may measure fair value using an alternative pricing method that does not rely exclusively on quoted prices (e.g. Matrix pricing).			
2. If the quoted price is adjusted for new information, the adjustment results in a fair value measurement categorized within a lower level of the fair value hierarchy.			
3. However, any adjustment to the quoted price of the asset results in a fair value measurement categorized within a lower level of the fair value hierarchy.			
If an entity holds a position in a single asset or liability (including a position comprising a large number of identical assets or liabilities, such as a holding of financial instruments) and the asset or liability is traded in an active market, the fair value of the asset or liability shall be measured within Level 1 as the product of the quoted price for the individual asset or liability and the quantity held by the entity.			
Level 2 inputs			

72 Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.		
Level 2 inputs include the following:		
1. Quoted prices for similar assets or liabilities in active markets.		
2. Quoted prices for identical or similar assets or liabilities in markets that are not active.		
3. inputs other than quoted prices that are observable for the asset or liability, for example:		
(i) interest rates and yield curves observable at commonly quoted intervals;		
(ii) implied volatilities; and		
(iii) Credit spreads.		
Adjustments to Level 2 inputs will vary depending on factors specific to the asset or liability. Those factors include the following		
(a) the condition or location of the asset;		
(b) the extent to which inputs relate to items that are comparable to the asset or liability (including those factors described in paragraph 39); and		
(c) The volume or level of activity in the markets within which the inputs are observed.		
Paragraph B35 Examples of Level 2 inputs for particular assets and liabilities include the following		
(a) *Receive-fixed, pay-variable interest rate swap based on the Mumbai Interbank Offered Rate (MIBOR) swap rate.* A Level 2 input would be the MIBOR swap rate if that rate is observable at commonly quoted intervals for substantially the full term of the swap.		
(b) *Receive-fixed, pay-variable interest rate swap based on a yield curve denominated in a foreign currency.* A Level 2 input would be the swap rate based on a yield curve denominated in a foreign currency that is observable at commonly quoted intervals for substantially the full term of the swap. That would be the case if the term of the swap is 10 years and that rate is observable at commonly quoted intervals for 9 years, provided that any reasonable extrapolation of the yield curve for year 10 would not be significant to the fair value measurement of the swap in its entirety.		
(c) *Receive-fixed, pay-variable interest rate swap based on a specific bank's prime rate.* A Level 2 input would be the bank's prime rate derived through extrapolation if the extrapolated values are corroborated by observable market data, for example, by correlation with an interest rate that is observable over substantially the full term of the swap.		

(d) *Three-year option on exchange-traded shares.* A Level 2 input would be the implied volatility for the shares derived through extrapolation to year 3 if both of the following conditions exist: (i) Prices for one-year and two-year options on the shares are observable. (ii) The extrapolated implied volatility of a three-year option is corroborated by observable market data for substantially the full term of the option.		
(e) Licensing arrangement. For a licensing arrangement that is acquired in a business combination and was recently negotiated with an unrelated party by the acquired entity (the party to the licensing arrangement), a Level 2 input would be the royalty rate in the contract with the unrelated party at inception of the arrangement.		
(f) *Finished goods inventory at a retail outlet.* For finished goods inventory that is acquired in a business combination, a Level 2 input would be either a price to customers in a retail market or a price to retailers in a wholesale market, adjusted for differences between the condition and location of the inventory item and the comparable (i.e. similar) inventory items so that the fair value measurement reflects the price that would be received in a transaction to sell the inventory to another retailer that would complete the requisite selling efforts.		
(iii) *Building held and used.* A Level 2 input would be the price per square meter for the building (a valuation multiple) derived from observable market data, e.g. multiples derived from prices in observed transactions involving comparable (i.e. similar) buildings in similar locations.		
(iv) *Cash-generating unit.* A Level 2 input would be a valuation multiple (e.g. a multiple of earnings or revenue or a similar performance measure) derived from observable market data, e.g. multiples derived from prices in observed transactions involving comparable (i.e. similar) businesses, taking into account operational, market, financial and non-financial factors.		
Level 3 inputs Level 3 inputs are unobservable inputs for the asset or liability.		
Unobservable inputs shall be used to measure fair value to the extent that relevant observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset or liability at the measurement date.		
Assumptions about risk include the risk inherent in a particular valuation technique used to measure fair value (such as a pricing model) and the risk inherent in the inputs to the valuation technique.		
a) An entity need not undertake exhaustive efforts to obtain information about market participant assumptions. However, an entity shall take into account all information about market participant assumptions that is reasonably available. Unobservable inputs developed in the manner described above are considered market participant assumptions and meet the objective of a fair value measurement.		
B36 describes the use of Level 3 inputs for particular assets and liabilities. Examples of Level 3 inputs for particular assets and liabilities include the following:		

(a) *Long-dated currency swap.* A Level 3 input would be an interest rate in a specified currency that is not observable and cannot be corroborated by observable market data at commonly quoted intervals or otherwise for substantially the full term of the currency swap. The interest rates in a currency swap are the swap rates calculated from the respective countries' yield curves.		
(b) *Three-year option on exchange-traded shares.* A Level 3 input would be historical volatility, i.e. the volatility for the shares derived from the shares' historical prices. Historical volatility typically does not represent current market participants' expectations about future volatility, even if it is the only information available to price an option.		
(c) *Interest rate swap.* A Level 3 input would be an adjustment to a mid-market consensus (non-binding) price for the swap developed using data that are not directly observable and cannot otherwise be corroborated by observable market data.		
(d) *Decommissioning liability assumed in a business combination.* A Level 3 input would be a current estimate using the entity's own data about the future cash outflows to be paid to fulfill the obligation (including market participants' expectations about the costs of fulfilling the obligation and the compensation that a market participant would require for taking on the obligation to dismantle the asset) if there is no reasonably available information that indicates that market participants would use different assumptions. That Level 3 input would be used in a present value technique together with other inputs, e.g. a current risk-free interest rate or a credit-adjusted risk-free rate if the effect of the entity's credit standing on the fair value of the liability is reflected in the discount rate rather than in the estimate of future cash outflows.		
(e) *Cash-generating unit.* A Level 3 input would be a financial forecast (e.g. of cash flows or profit or loss) developed using the entity's own data if there is no reasonably available information that indicates that market participants would use different assumptions.		
B37-B47 **Measuring fair value when the volume or level of activity for an asset or a liability has significantly decreased. To determine whether, on the basis of the evidence available, there has been a significant decrease in the volume or level of activity for the asset or liability, an entity shall evaluate the significance and relevance of factors such as the following:**		
(a) There are few recent transactions.		
(b) Price quotations are not developed using current information.		
(c) Price quotations vary substantially either over time or among market-makers (e.g. some brokered markets).		

(d) Indices that previously were highly correlated with the fair values of the asset or liability are demonstrably uncorrelated with recent indications of fair value for that asset or liability.		
(e) There is a significant increase in implied liquidity risk premiums, yields or performance indicators (such as delinquency rates or loss severities) for observed transactions or quoted prices when compared with the entity's estimate of expected cash flows, taking into account all available market data about credit and other nonperformance risk for the asset or liability.		
(f) There is a wide bid-ask spread or significant increase in the bid-ask spread.		
(g) There is a significant decline in the activity of, or there is an absence of, a market for new issues (i.e. a primary market) for the asset or liability or similar assets or liabilities.		
(h) Little information is publicly available (e.g. for transactions that take place in a principal-to-principal market).		
Adjustments also may be necessary in other circumstances (e.g. when a price for a similar asset requires significant adjustment to make it comparable to the asset being measured or when the price is stale).		
The risk adjustment shall be reflective of an orderly transaction between market participants at the measurement date under current market conditions.		
The objective is to determine the point within the range that is most representative of fair value under current market conditions. A wide range of fair value measurements may be an indication that further analysis is needed.		
Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction (i.e. not a forced liquidation or distress sale) between market participants at the measurement date under current market conditions.		
An entity's intention to hold the asset or to settle or otherwise fulfill the liability is not relevant when measuring fair value because fair value is a market-based measurement, not an entity-specific measurement.		
Identifying transactions that are not orderly		
Circumstances that may indicate that a transaction is not orderly include the following:		
(a) There was not adequate exposure to the market for a period before the measurement date to allow for marketing activities that are usual and customary for transactions involving such assets or liabilities under current market conditions.		
(b) There was a usual and customary marketing period, but the seller marketed the asset or liability to a single market participant.		
(c) The seller is in or near bankruptcy or receivership (i.e. the seller is distressed).		

(d)	The seller was required to sell to meet regulatory or legal requirements (i.e. the seller was forced).		
(e)	The transaction price is an outlier when compared with other recent transactions for the same or a similar asset or liability.		
B44	An entity shall consider all the following when measuring fair value or estimating market risk premiums:		
a)	If the evidence indicates that a transaction is not orderly, an entity shall place little, if any, weight (compared with other indications of fair value) on that transaction price.		
b)	If the evidence indicates that a transaction is orderly, an entity shall take into account that transaction price. The amount of weight placed on that transaction price when compared with other indications of fair value will depend on the facts and circumstances, such as the following		
(i)	The volume of the transaction.		
(ii)	The comparability of the transaction to the asset or liability being measured.		
(iii)	The proximity of the transaction to the measurement date.		
c)	When an entity does not have sufficient information to conclude whether particular transactions are orderly, the entity shall place less weight on those transactions when compared with other transactions that are known to be orderly.		
B 45 This Ind AS does not preclude the use of quoted prices provided by third parties, such as pricing services or brokers, if an entity has determined that the quoted prices provided by those parties are developed in accordance with this Ind AS.			
B 46 In weighting a quoted price as an input to a fair value measurement, an entity places less weight (when compared with other indications of fair value that reflect the results of transactions) on quotes that do not reflect the result of transactions.			
B 47 Furthermore, the nature of a quote (e.g. whether the quote is an indicative price or a binding offer) shall be taken into account when weighting the available evidence, with more weight given to quotes provided by third parties that represent binding offers.			

Disclosure			
a)	For assets and liabilities that are measured at fair value on a recurring or non-recurring basis in the balance sheet after initial recognition, the valuation techniques and inputs used to develop those measurements.		
b)	For recurring fair value measurements using significant unobservable inputs (Level 3), the effect of the measurements on profit or loss or other comprehensive income for the period.		
To meet the objectives in paragraph 91, an entity shall consider all the following:			
a)	The level of detail necessary to satisfy the disclosure requirements;		
b)	How much emphasis to place on each of the various requirements;		

c) How much aggregation or disaggregation to undertake; and		
d) Whether users of financial statements need additional information to evaluate the quantitative information disclosed.		
93 To meet the objectives in paragraph 91, an entity shall disclose, at a minimum, the following information for each class of assets and liabilities (see paragraph 94 for information on determining appropriate classes of assets and liabilities) measured at fair value (including measurements based on fair value within the scope of this Ind AS) in the balance sheet after initial recognition:		
a. For recurring and non-recurring fair value measurements, the fair value measurement at the end of the report-ing period, and for non-recurring fair value measurements, the reasons for the measurement.		
b. For recurring and non-recurring fair value measurements, the levels of the fair value hierarchy within which the fair value measurements are categorized in their entirety (Level 1, 2 or 3).		
c. for assets and liabilities held at the end of the reporting period that are measured at fair value on a recurring basis, the amounts of any transfers between Level 1 and Level 2 of the fair value hierarchy, the reasons for those transfers and the entity's policy for determining when transfers between levels are deemed to have occurred (see paragraph 95).		
d. for recurring and non-recurring fair value measurements categorized within Level 2 and Level 3 of the fair value hierarchy, a description of the valuation technique(s) and the inputs used in the fair value measurement. If there has been a change in valuation technique (e.g. changing from a market approach to an income approach or the use of an additional valuation technique), the entity shall disclose that change and the reason(s) for making it.		
e. for recurring fair value measurements categorized within Level 3 of the fair value hierarchy, a reconciliation from the opening balances to the closing balances, disclosing separately changes during the period attributable to the following:		
(i) Total gains or losses for the period recognized in profit or loss, and the line item(s) in profit or loss in which those gains or losses are recognized.		
(ii) Total gains or losses for the period recognized in other comprehensive income, and the line item(s) in other comprehensive income in which those gains or losses are recognized.		
(iii) Purchases, sales, issues and settlements (each of those types of changes disclosed separately).		

(iv) The amounts of any transfers into or out of Level 3 of the fair value hierarchy, the reasons for those transfers and the entity's policy for determining when transfers between levels are deemed to have occurred (see paragraph 95). Transfers into Level 3 shall be disclosed and discussed separately from transfers out of Level 3.		
(f) for recurring fair value measurements categorized within Level 3 of the fair value hierarchy, the amount of the total gains or losses for the period in (e) (i) included in profit or loss that is attributable to the change in unrealized gains or losses relating to those assets and liabilities held at the end of the reporting period, and the line item(s) in profit or loss in which those unrealized gains or losses are recognized.		
(g) for recurring and non-recurring fair value measurements categorized within Level 3 of the fair value hierarchy, a description of the valuation processes used by the entity (including, for example, how an entity decides its valuation policies and procedures and analyses changes in fair value measurements from period to period).		
(h) for recurring fair value measurements categorized within Level 3 of the fair value hierarchy:		
(i) for all such measurements, a narrative description of the sensitivity of the fair value measurement to changes in unobservable inputs if a change in those inputs to a different amount might result in a significantly higher or lower fair value measurement.		
(j) To comply with that disclosure requirement, the narrative description of the sensitivity to changes in unobservable inputs shall include, at a minimum, the unobservable inputs disclosed when complying with 93(d).		
i. For financial assets and financial liabilities, if changing one or more of the unobservable inputs to reflect reasonably possible alternative assumptions would change fair value significantly, an entity shall state that fact and disclose the effect of those changes.		

ii. For recurring and non-recurring fair value measurements, if the highest and best use of a non-financial asset differs from its current use, an entity shall disclose that fact and why the non-financial asset is being used in a manner that differs from its highest and best use.		
An entity shall determine appropriate classes of assets and liabilities on the basis of the following:		
(a) the nature, characteristics and risks of the asset or liability; and		
(b) The level of the fair value hierarchy within which the fair value measurement is categorized.		
94 The policy about the timing of recognizing transfers shall be the same for transfers into the levels as for transfers out of the levels. Examples of policies for determining the timing of transfers include the following:		
(a) The date of the event or change in circumstances that caused the transfer.		
(b) The beginning of the reporting period.		
(c) The end of the reporting period.		
If an entity makes an accounting policy decision to use the exception in paragraph 48, it shall disclose that fact.		
For each class of assets and liabilities not measured at fair value in the balance sheet but for which the fair value is disclosed, an entity shall disclose the information required by paragraph 93(b), (d) and (i).		
98 For a liability measured at fair value and issued with an inseparable third-party credit enhancement, an issuer shall disclose the existence of that credit enhancement and whether it is reflected in the fair value measurement of the liability.		
99 An entity shall present the quantitative disclosures required by this Ind AS in a tabular format unless another format is more appropriate.		

VALUATION OF STARTUP BUSINESS

CMA CS N. Rajaraman

Executive Summary:

Startup valuations often require information from other companies that are like yours to determine the true value of a startup. Investors (at venture capital firms and beyond) will look at competitors and other companies in the same industry to best understand, how your company and business model fits into this landscape. Investors/VC's will look at financials, funding rounds, how much those companies raised, pre revenue valuations, or post revenue valuations. Valuations don't necessarily define founder success— there is a lot more to it than that. This article deals with different valuation methods for early start-up businesses.

Valuation thoughts:

The question of startup valuation is one that founders struggle with, especially in the initial stages. If you are a pre-profitable startup company — or even pre-cashflow — how can you figure out what your company is worth? Valuation, intrinsically what one perceives as his value proposition and not what is found through various methods.

"Value" as something that exists beyond monetary terms (especially for pre revenue startups). "Valuation is both art and science," "The science is the easy part — researching valuations for comparable companies and constructing a revenue or EBITDA multiple. The art is more subjective. How strong is the team? How probable are the leads in the pipeline? How innovative is the technology?"

Those are the more nebulous aspects of "value." Another aspect is the valuation of similar companies that are already out in the market.

"Startups, by definition don't have a long track record of revenue, earnings or cash flow (if any) so much of the valuation exercise is conducted by looking at the marketplace of comparable companies and understanding how the industry for a type of startup values the companies within it,"

To value a startup: Think of value beyond monetary terms and then think explicitly about the monetary value of similar companies.

There are more than one way to figure out startup valuation for pre revenue startups or early stage startups.

The different valuation methods for early-stage startups are as follows

1. Standard Earnings Multiple Method

Standard earnings multiple, with additional consideration being attributed to recurring revenue models. This valuation method provides the greatest insight into free cash flow and how that metric will drive incremental value to a purchaser.

The multiple typically ranges between 5 to 8x the past three years average profit (yearly) but in SAAS (Software as a Service) businesses, likely in the 8 to 12x range.

Besides the standard profit model, other factors to consider are previous debt incurred or funding rounds as well as the intellectual capital of the product or service. In situations which strategic buyers are present, and a company has some sort of patent or proprietary technology, startup company valuations can grow tremendously without profit being on the books."

2. Human Capital Plus Market Value Method

"Figuring out startup valuation is no easy task for an investor because most of them have exceptionally low intangible/intangible assets ratio (ex-venture capital firms).

A potential startup investor should calculate a value of ideas, know-hows, and human potential of the team.

We can get to know the team and their expertise and assess the people who develop the project (when you work in a common sector of economy with those who you assess, e.g. IT, it could be a pretty simple task). Secondly, perform a purely mathematical valuation based on the obtainable market volume. When an investor knows at least some rough estimations, can easily extrapolate a startup's potential, and thus, future profits hidden in today's valuation."

3. 5x Your Raise Method

'value' of a company from metrics like monthly revenue multiple but more about the 'stake' the investor is receiving for their money — with a rule of thumb that investors will desire something in the neighbourhood of 20 to 25 percent. In short, value of a startup is roughly five times the amount you are raising.

The temptation here is to maximize

entity valuation, but this creates a new problem for promoter/founder in the future when you go to raise next round (bad things happen to founders in down rounds). Thus, shoot for a strong and reasonable valuation, but don't shoot yourself in the foot."

4. Exit Method

Few of promoters wish to build a big operational business and have enough stake when it's sold. They suggest a method which is control based, meaning valuation leaves promoter enough stake on the exit. I have seen enough situations when the business needed to raise, but due to wrong evaluations on early rounds and subsequent terms on the late rounds, founders did not have an incentive to prove startup worth or grow the company further.

Build a model cap table with the main stages of business should go through (depends on the business model). That gives investor a tool for sensitivity analysis on what valuation and other terms are acceptable on early rounds of pre revenue startups to have a good exit. Of course, We assume that on Series A and later the valuation will be based on revenue growth or EBITDA."

5. Discounted Cash Flow Method

Preferred valuation method is the Discounted Cash Flow Method. The key to using this valuation method correctly for valuing startups is:

1. Estimating the total market for the startup company's product or services and its expected revenue growth.

2. Forecasting market share acquisition across a timeline.

3. Forecasting cash flow by identifying the startup's fixed and variable costs and future working capital and capital expenditures needs.

With all the forecasts, we cannot just take into account the most optimistic/pie-in-the-sky outlook. We need to consider that most startups fail completely — and a significant amount of the non-failures just squeak by. Apply a discount rate to these forecast that accounts for the risk inherent in them. We determine this rate according to the subject's lifecycle stage (seed/startup/early/expansion/later). All these numbers should be based on empirical data sources that are as trustworthy as possible.

Constructing a valuation in this way helps the founder have meaningful valuation conversations with investors and steers the conversation toward the real assumptions that drive value. Without this type of valuation, everybody is just shooting from the hip when talking about how to value a startup. Investors will often combine a DCF with another method to understand the valuation. There is another offshoot of this method, which combines both a DCF and comparable multiples.

6. Comparison Valuation Method

"Anchoring valuation in recent and comparable M&A deals or venture investments is often the most common way both founders and investors look at startup valuation, in my experience. Given the lack of much alternative, I think this is a fair way of looking at startup valuation.

Of course, the downside of this valuation approach is that a startup's valuation can hugely change depending on the market conditions, so be sure you know which valuation method is right for your startup company. For example, a certain type of startup might be in vogue versus another kind of startup, which will make a lot of startup valuation subject to investor whims and trends. However, this broader phenomenon is not unique to startups and exists in all financial markets."

7. Customer-Based Corporate Valuation Method

"I would recommend using an emerging methodology called 'customer-based corporate valuation.' It is more diagnostic and accurate because it infers and incorporates the most important determinants of corporate valuation — customer acquisition, retention, and monetization — directly into the valuation model, while traditional models do not.

Customer-based corporate valuation values a business by using sophisticated predictive customer analytics to uncover how well a company is acquiring new customers and retaining and monetizing existing customers. It then plugs this information into a standard discounted cash flow valuation model to come up with an estimate of the overall valuation of a firm."

8. Combo Platter Method

"Being in the Boston area, there is a bend towards more conservative financing vehicles (e.g. equity over convertible Debt) as well as more conservative valuations. Having started our company while at Babson College, we first did our financial models by the book, but were quickly told that valuations at our stage were not particularly tied to our financial assumptions, but rather things in the real world. The key metrics investors were looking for were tied to us 'de-risking' the business. Did we have a product? Were we the right team? Was this the right time and is the vision big enough?

We answered these and then backed them up with real-world valuation numbers from three sources. First and most dependable, was looking at Angel List for past 'enterprise' 'AI' 'Boston' deals and we came up with a best/moderate/worst case for a valuation. This was balanced with the Berkus method and the Risk Factor Summation method, which helped us refine the right valuation range.

9. Gross Profit x Competitor's Multiple Method

"The valuation method I prefer for valuing startups is gross profit multiplied by a multiple based on industry, offering, and revenue growth. Gross profit is a great indication of growth, company health, and market penetration while still properly

valuing businesses that aren't profit optimized because they consistently invest back into the business.

For example, we valued our business by looking for public companies that are most similar to our business. We then used the same valuation formula they used but attributed to our gross profit. The formula we used:

Monetize More Gross Profit (Last 12 months) x 5.91 (Competitor's Multiple) = Current Valuation

When looking for similar companies, they must have a remarkably similar business model, industry, and customer base. In our case, we chose a competitor with a similar product."

10. Best for Me Method

"There are a variety of valuation methods to value a business including: book value, multiple of revenue, multiple of earnings, and more. As a buyer or seller, you will obviously want to select the valuation method that favours you most — assuming that the person on the other side of the transaction is going to use the method that favours you least.

Typically, however, each industry has a standard it favours that standard will likely govern the end value. A local retail business will probably sell for 1-2 times annual earnings plus assets/property that convey with the sale. A tech startup with high growth potential is going to be a multiple of future earnings based on the rate of growth it currently exhibits."

Bonus Valuation Method

As mentioned briefly above, there are multiple valuation methods to value a startup, and one not mentioned (but worth noting since this is arguably the most common startup valuation approach) is the Venture Capital Method

If working with a venture capital firm, you should know how they calculate valuations. Venture capital firms use this valuation method to establish an understanding of the value of a startup using this basic framework. In addition to the venture capital method, a VC Term Sheet is used to define the specific conditions of venture capital investments between an early-stage startup company and the venture firm itself.

So how should you Calculate your startup's valuation?

As you can see, different people have different valuation methods for figuring out startup valuation. However, the differences are pretty small — a slightly different calculation here; a shift in perspective there.

But many of them take both the human and the monetary elements into consideration when figuring out the "value" of a startup.

"Obviously valuation matters, but if you find the right partner that you think will actually help you in areas other than just money, think twice about just taking the highest offer," Lustig says. "Also, read the fine print. Many term sheets include other provisions that make the same valuation offer extremely different."

So, remember: You need to make both human and monetary considerations. But make sure you never forget the human, even when you're spending hours and hours on cap tables and calculations to value a startup.

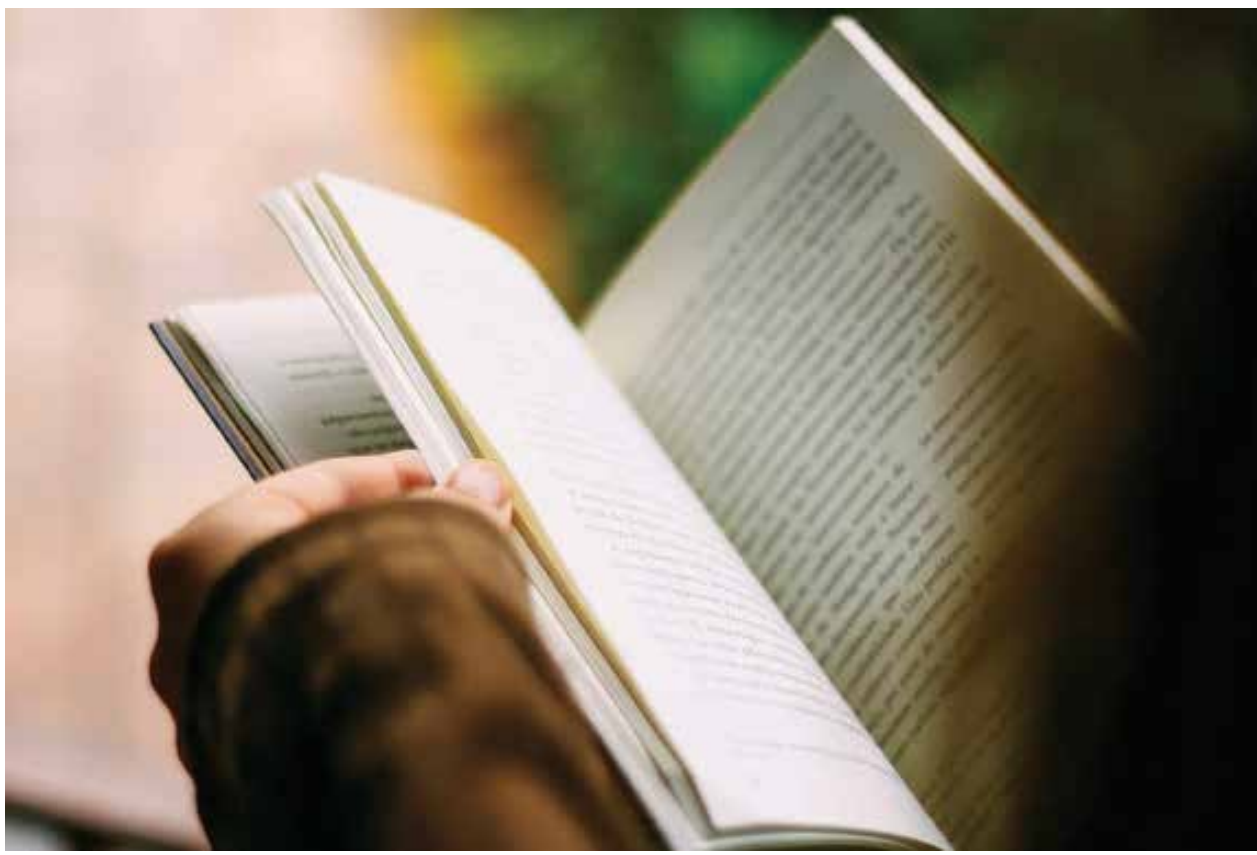
Because it's the people who really make your startup what it is.

Conclusion:

Startup valuations often require information from other companies that are similar to yours to determine the true value of a startup. Investors (at venture capital firms and beyond) will look at competitors and other companies in the same industry to best understand how your company and business model fits into this landscape.

They will look at financials, funding rounds, how much those companies raised, pre revenue valuations, or post revenue valuations. Valuations do not necessarily define founder's success or what does-founder-success-feel-like, there is a lot more to it than that. Access to resources to find that information either through public domain or other means give the edge to come to a fair valuation.

OTHER READINGS



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PRACTICAL BUSINESS VALUATION

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2023 Uden/ The Netherlands

Valuation made practical ! Part 1

Valuation & the balance sheet

Companies need "assets" for their operations.

Think for example of a construction company that needs trucks, building machines and inventory for construction projects.

These assets are put on their balance sheets.

Some people argue that the total value of a company is the value of its assets.

And when you minus the debt that is attracted to finance those assets, the equity is what remains.

This technically is true, but here we have calculated the book value of a company, which means that actually the purchase price of these assets is taken into account minus some depreciation. This to arrive at the equity value.

But this is something else than business valuation, because with valuation we do not look at the book value of businesses, we look at the "economic value" of businesses.

Economic value

"Economic value" is the key for business valuation.

We calculate the economic value of businesses with so called "discounted cash flow valuation" (DCF).

DCF valuation is accepted all over the globe, and I have literally provided training on valuation with DCF all over the globe, in:

Peru, Mongolia, Surinam, Kuwait, Saudi Arabia, Luxembourg, New York, London, France etc etc.

What DCF valuation basically says is that when the assets make more return, than they should (above a hurdle rate), the company is creating value.

This basically means that if the left hand side of the balance sheet (the asset side) is making more return than the right hand side (liability side) requires, then the company is creating value.

This needs some clarification on how this can be calculated.

Returns: NOPAT

Companies create turnover by selling products and/ or services, also known as the P

* Q equation (price * quantity).

But there is also direct labour involved, or the buying in of stock.

So when products and/ or services are sold (revenue), companies also need to book

up "costs of goods sold" (COGS) against these revenues. This all happens into the P&L (profit & loss statement). And revenues – COGS = Gross margin.

After that a company still needs to take up SG&A in the costs, which stands for sales, general and administrative expenses.

And then the P&L arrives at the EBITDA (earnings before interest tax depreciation and amortisation).

Revenues – COGS – SG&A = EBITDA.

This number is very popular, because the lines below EBITDA are less relevant than the lines above EBITDA. I will explain this more clearly later in this sequence of blogs.

After EBITDA, depreciation and amortisation (= depreciation on intangible assets) (D&A) is deducted to arrive at EBIT.

EBIT is earnings before interest and tax. Revenues – COGS – SG&A – D&A = EBIT.

In valuation we do NOT like interest, and I will explain later in this series of blogs why this is.

So after EBIT we deduct Tc (corporate tax), and here we take the "marginal tax rate" into account, this is the legal tax rate.

EBIT – Tc = NOPAT.

NOPAT means net operating profit after tax. Revenues – COGS – SG&A – D&A – Tc = NOPAT.

Returns: Invested capital

Now that we have calculated NOPAT, we need to calculate "invested capital".

With invested capital we only look at the operations, so we basically take all operating fixed assets and we plus "net working capital" (account receivables + inventory – accounts payables, and also some more line items of the balance sheet can be involved, as long as they are operating).

And now that we have NOPAT and invested capital, we can calculate ROIC.

Return on invested capital.

We basically divide NOPAT by invested capital and we get to a percentage. This is the return of the operating assets.

And this return should have a certain "hurdle".

As a matter of fact ROIC should be higher than the so

called WACC (weighted average cost of capital).

So when ROIC > WACC a company is creating value, and you will get goodwill in M&A transactions.

When ROIC < WACC a company is destroying value, and you will technically get "badwill" in a M&A transaction.

End part 1

Valuation made practical ! Part 2

Enterprise value

In part 1 of this blog series I have talked about ROIC (return on invested capital). And then I have said that when ROIC is higher than WACC, a company is creating value.

In for example a M&A transaction this would result in that the company can be sold with "goodwill".

This because the assets are making more return than they should above a certain "hurdle rate" (WACC).

Before we go any further let's talk about the concept "enterprise value" (EV).

Enterprise value (EV) is the economic value of the OPERATING assets minus the operating liabilities.

Later on I will explain clearly why I have highlighted "operating", because this a very important component of EV.

Calculation of EV

The EV generally is calculated by a multiplier of EBITDA.

EBITDA is mentioned in part 1 of this blog series, and the concept is very popular because the line items under EBITDA all have "issues".

D&A (depreciation & amortisation) are costs but no "cash outs", and they are set by the board, and although signed off by auditors, valuators do not like D&A.

Actually, later on with discounted cash flow valuation (DCF) we take up CAPEX (capital expenditures), so of course we understand that investments and re- investments in assets need to be made.

Further is "interest" also something that we do not like, because interest is the result of a capital structure.

And corporate tax is also something that we do not like, because there is the "marginal tax rate" (the legal tax rate), and the "effective tax rate" (what is really paid).

And companies/ boards have different perspectives on "tax optimization".

The EBITDA can be multiplied with a certain factor. I sell SMEs (small & medium sized enterprises) and my EBITDA multiples lie around 4 * EBITDA to about 12 * EBITDA.

And the EBITDA multiples can be taken from "look alike listed firms" (comparable company analysis). But they can also be taken from precedent transactions, the latter is what I use, because comparable listed companies are hard to find in the SME league.

When LTM EBITDA is for example 2 million, and the multiple 7, then we have an EV of 14 million.

Discounted cash flow (DCF) valuation

Another way to calculate the EV is DCF valuation.

What you basically need to do is estimating 5 future years of P&Ls until NOPAT. Revenues – COGS = Gross Margin

Gross margin – SG&A = EBITDA EBITDA – D&A = EBIT

EBIT – corporate tax (marginal tax rate) = NOPAT

After NOPAT we plus D&A again because D&A is a cost, but not a cash out. And then we minus CAPEX + adjustments in NWC (net working capital).

The outcome then is "free cash flow", and this is basically the money that is available for the holders of equity and debt in a company. Remember, interest is not taken into account.

When we have 5 years of free cash flows we discount them back to time is zero (now).

And the discount rate to be used is the WACC (weighted average cost of capital).

WACC

The WACC basically is a mixed return that the holders of equity "need" and what the holders of debt "need".

And then this needs to be calculated in a certain mix; the "capital structure".

The cost of equity is calculated with the CAPM (capital asset pricing model).

Please check my former blogs on "discount rates" since I have written lots and lots about discount rates here on linked.

But the CAPM basically says that equity holders need to be compensated with a "risk free rate" + the spread on what equity holders in general have made (in the past e.g. 100 years) above the risk free rate, multiplied with a variable for risk ("beta").

And the cost of debt is calculated by the yields of similar debt instruments.

And then it all comes together in WACC with a capital structure, and ideally a capital structure should be used that is "normal" in the industry (based on market values of equity and debt).

Huge companies can have a WACC of 5%, medium sized companies can have a WACC of 10%, SME's can have a WACC of 15% and scaleups can have a WACC of 35%. Just to give you some (very) rough direction.

Terminal value

When we discount back the 5 free cash flows (FCF), we

are only partly done with the valuation.

We still have a "terminal value", and this is calculated by dividing the FCF of year 5 by the WACC, and then we still need to discount this outcome back to time is zero (now).

And in this terminal value often some growth is taken up, in the form of expected GDP (gross domestic product) growth of about 2%.

When we take the present values of the 5 FCFs, and the present value of the terminal value, then we have calculated the enterprise value of a company.

And then it is always good on comparing this EV out of DCF valuation with the EV calculated out of EBTIDA multiples (out of for example precedent deals). This as a sanity check !!

Now that we have an EV we have calculated the economic value of the operating assets minus the operating liabilities.

So we still need to go from EV to "value of the equity", because we are not there yet.

M&A and a Headline Price ! (" enterp ri se valu e")

The "Headline Price"

Companies are generally valued based on the operations of the business. This for example with discounted cash flow valuation (DCF) and/ or EBITDA multiples based on precedent M&A deals.

Then most of the time the deal is done on a "cash & debt free" basis, which means that the company is purely valued on its operations in first instance.

The company valued purely on its operation is called the "Headline Price" of the deal.

Another word for this headline price is "enterprise value" (EV).

With this EV the seller is responsible for paying off the debt in the company.

And when, after paying back the debt, there is cash left, then the buyer will pay "euro for euro" for the cash in the company.

But when there is not enough cash for paying back the debt, then this shortfall in cash is deducted from the EV.

There is a big advantage for deals done this way cause then you can agree on a EV, and afterwards negotiate the LOI, perform the DD (due diligence) and negotiate the SPA or APA (share purchase agreement/ asset purchase agreement).

And then simply at the closing date of the deal you can look at the level of cash & debt in the business, in order to calculate the value of the shares out of the EV.

Net debt adjustments

Anything that the buyer in a M&A deal sees as debt will be deducted from the EV.

But there is a large grey area on what "debt" and "debt like items" are.

Common debt items are for example: Interest bearing loans, bonds and notes payable.

Unpaid dividends are also treated as debt. Other debt items are for example:

Accrued interest, financial lease obligations, liabilities related to financial instruments, unfunded pension obligations, restructuring liabilities, past due payables to suppliers (stretched), income tax liabilities, payables to related parties etc.

And these last items are finally addressed in the DD.

But please do not mix these debt items with regular operating items like normal payables to suppliers, accrued payroll, accrued rent etc.

So when you want to buy a company, place your bid on:

- A certain times (cleaned) EBITDA;
- "cash & debt free";
- And then define your debt and debt like items !

Valuation & Real Estate in M&A

Valuation & Real Estate in M&A

Often companies are sold together with their real estate.

This real estate is sometimes held in the "limited company" of the activities, or sometimes this real estate is held in the "holding company" above the "operating limited company".

Concerning the valuation, it would mean that NO rent is inside the SG&A (sales general & administrative expenses).

Since when we valuate the holding with "consolidated" numbers, then the rent would be "consolidated" out of the numbers.

But the question is whether this way of valuation is correct ??

With valuation we valuate the free cash flows of a company, and we generally say that the present value of the future free cash flows of a company is the so called "enterprise value" of a company.

An enterprise value basically is the "economic value" of the operating assets of a company.

With adding the non-operating assets, and with deducting the non-operating liabilities, we then get to the economic value of the shares.

This step is done with the so called "equity bridge" or with deducting so called "adjusted net debt".

Another way of popularly mentioning this step is saying the price of the shares is calculated "cash & debt free".

But let's jump back to the "enterprise value" of a company again, to look at the issue with valuation including real estate.

When we get the economic value of the operating assets, this means that all the operating assets of a company are inside the "enterprise value". And this also counts for the "real estate" !!

So with an M&A (sell side) we need to hand over all the operating assets, including the real estate, for a price that is often based on the "enterprise value".

But here we get to a problem, because when we have made a valuation of a company without rent inside, we have valued the real estate with a relatively low multiple !!

A too low multiple !

I can explain this the easiest with mentioning a simple valuation method, a so called "EBITDA multiple" in order to calculate the "enterprise value" of a company.

When the EBITDA of a company is: € 1,000,000 euro, then with a multiple of 7, the enterprise value is:

- € 7,000,000 (7 times 1 million).

But inside the EBITDA is NO rent because you can find real estate on the balance sheet of this specific company.

Let's say this real estate is on the balance sheet of the "consolidated numbers" of a holding limited.

Then the problem is that real estate has a larger multiple, than the multiple 7 of the company itself.

As mentioned I am active in M&A of SMEs in The Netherlands, and I do my deals for about 4 to 8 times EBITDA to get to an enterprise value.

But real estate is valued nowadays for 15 to 20 times the rent !

So when the rent of this specific company would be € 300,000, then the value of the real estate would be with a multiple of for example 17.5 times the rent:

- 17.5 times € 300,000 = € 5,250,000.

This would imply that an enterprise value of € 7,000,000 could never mean that real estate would be included in this value.

The reason is that companies, and real estate, have different multiples, especially in my league with the SMEs, because of the relatively low EBITDA multiples of 4 to 8.

The current valuation that needs to be made would be:

1. Take off rent from EBITDA: € 1,000,000 minus € 300,000 = € 700,000 clean EBITDA;
2. Cleaned EBITDA times company multiple: € 700,000 * 7 = € 4,900,000 enterprise value;
3. Enterprise value + value real estate = € 4,900,000 + € 5,250,000 = € 10,150,000;
4. This is € 3,150,000 more than the original enterprise value (of € 7,000,000), because real estate has a higher multiple.

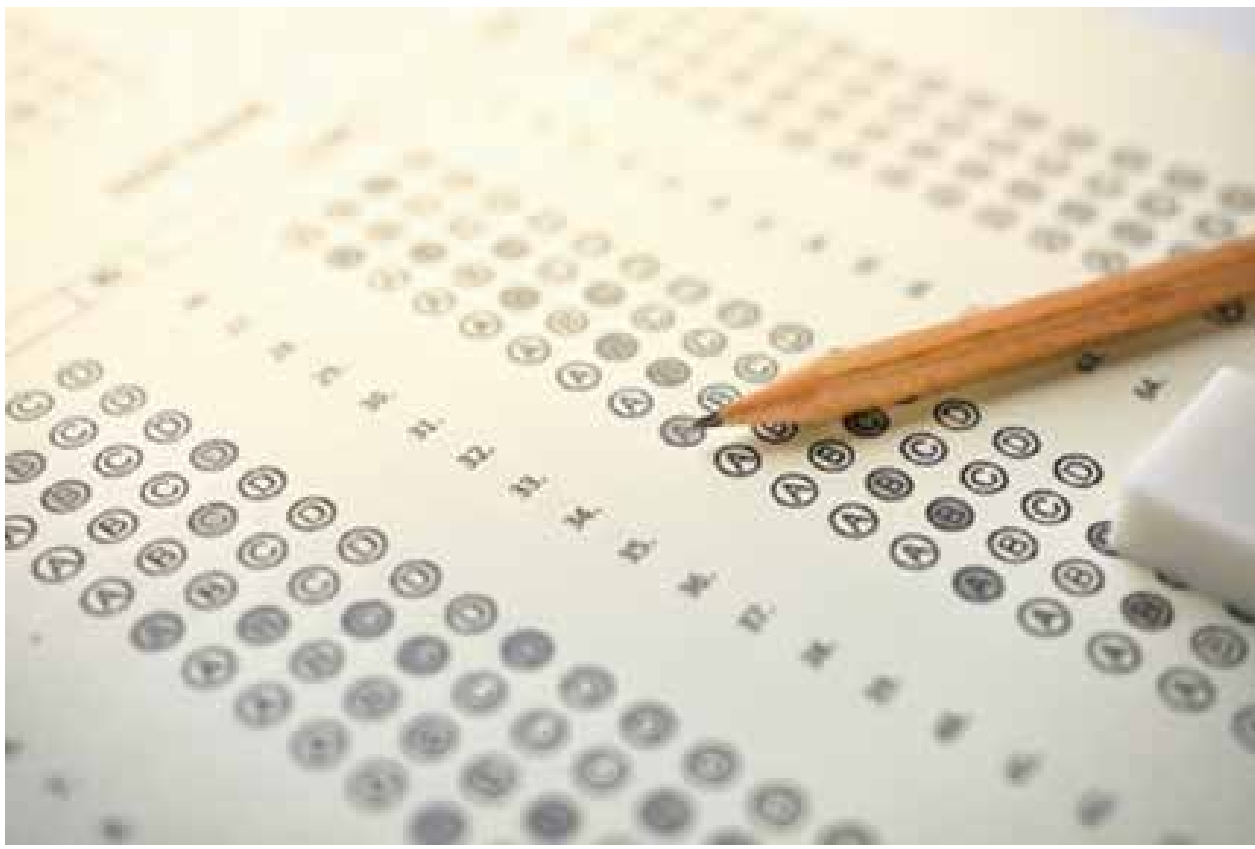
So please take this into account !

At last, when real estate is part of the deal, real estate needs to be put for its fair value on the balance sheet.

So its value needs to be adjusted from book value to market value, and also the equity should be increased, after an adjustment for "deferred tax" is taken into account.

After that you can sell the shares of the company (the Holding Limited), taking the adjusted book value of equity of the holding limited into account. While you do not forget taking up the goodwill created in the operating limited company.

MULTIPLE CHOICE QUESTIONS



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MULTIPLE CHOICE QUESTIONS

MCQ FOR SFA

1.The expenditure in India is classified as capital and revenue. Which of the following is/are revenue expenditure ?
1. interest payments on debt
2. loans granted by central government
3. subsidies
a) 1 and 2 only
b) 1 and 3 only
c) 2 and 3 only
d) 1, 2 and 3

Ans)1 and 3 only

2. The difference between revenue deficit and grants for creation of capital assets is called
a) Revenue deficit
b) Fiscal deficit
c) Effective revenue deficit
d) Primary deficit

Ans) Effective revenue deficit

3.The difference between fiscal deficit and interest payment during the year is called
a) Revenue deficit
b) Fiscal deficit
c) Budget deficit
d) Primary deficit

Ans) Primary deficit

4. Which of the following may not be a part of projected Financial Statements?
a) Projected Income Statement
b) Projected TrialBalance
c) Projected Cash Flow Statement
d) Projected Balance Sheet.

Ans) Projected Trial Balance

5. Stock split is a form of
a) Dividend Payment
b) Bonus Issue
c) Financial restructuring
d) Dividend in kind

Ans) Financial restructuring

6. A preliminary prospectus is known as a
a) golden parachute.
b) red herring.
c) blue sky.
d) green shoe.

Ans) red herring.

7. First rating agency of India is
a) CRISIL
b) ICRA
c) SMERA
d) MOODY

Ans) CRISIL

8. The process of protecting oneself against future price changes by shifting some or all of the risk to someone else is called:
a) speculating
b) investing
c) hedging
d) gambling

Ans) hedging

9 Organised markets that enable new issues of equity and debt to be traded.
a) Secondary markets
b) Primary capital markets
c) BSE
d) NSE

Ans) Primary capital markets

10 DU PONT Analysis deals with:
a) Capital Budgeting
b) Analysis of Profits
c) Analysis of Current Assets
d) Analysis of Fixed Assets

Ans) Analysis of Profits

11 Process of Financial Planning ends with:
a) Comparison of Actual with Projected
b) Preparation of Actual Statements
c) Preparation of Projected Statements
d) Conveying that the projected figures may come true

Ans) Comparison of Actual with Projected

12 Operating leverage helps in analysis of:
a) Production Risk
b) Financing Risk
c) Business Risk
d) Credit Risk

Ans) Business Risk

13 Financial leverage arises because of:
a) Interest Cost
b) Variable Cost
c) Fixed cost of production
d) Manufacturing cost

Ans) Interest Cost

14 Who can initiate the Corporate Insolvency Resolution Process against the Corporate Debtor who commits a default?
a) Financial Creditor
b) Operational Creditor
c) Corporate Debtor
d) Financial Creditor, Operational Creditor or Corporate Debtor

Ans) Financial Creditor, Operational Creditor or Corporate Debtor

15 Who is a Financial Creditor under the Insolvency and Bankruptcy Code, 2016:
a) Any person to whom a financial debt is owed and includes a person

MULTIPLE CHOICE QUESTIONS

to whom such debt has been legally assigned or transferred to
b) Any person that has a claim on the services of a second party
c) Any person to whom a financial debt is owed
d) Any person who owes financial debt to another

Ans) Any person to whom a financial debt is owed and includes a person to whom such debt has been legally assigned or transferred to

16 Application for the Corporate Insolvency Resolution can be filed by financial creditor:
a) By itself
b) Jointly with other financial creditor
c) Both (a) and (b)
d) Jointly with Interim Resolution Professional

Ans) Both (a) and (b)

17 Under which of the following section, Financial Creditor can initiate the Corporate Insolvency Resolution:
a) Section 7
b) Section 8
c) Section 9
d) Section 10

Ans) Section 7

18 The Adjudicating Authority shall within ..... days of the receipt of the application by the Financial Creditors, ascertain the existence of a default:
a) 7
b) 10
c) 14
d) 21

Ans)14

19 Which of the following date is considered as insolvency commencement date for Corporate Insolvency Resolution Process:
a) Date of default by the Corporate Debtor
b) Date of application to Adjudicating Authority
c) Date of admission of application by Adjudicating Authority
d) Date of appointment on Interim Resolution professional

Ans) Date of admission of application by Adjudicating Authority

20 The Adjudicating Authority shall communicate the order to the financial creditor and the corporate debtor within ..... days of admission or rejection of application:
a) 7
b) 10
c) 14
d) 21

Ans)7

21 As defined in section 5(20) of the insolvency and bankruptcy code 2016, a person to whom an operational debt is owed is called:
a) Creditor
b) Operational Creditor
c) Loanee
d) Bankruptcy

Ans) Operational Credito

22 Under which of the following section, Operational Creditor can initiate the Corporate Insolvency Resolution:
a) Section 7
b) Section 8
c) Section 9
d) Section 10

Ans) Section 9

23 A demand notice means a notice served to the Corporate Debtor demanding repayment of which debt:
a) Financial Debt
b) Operational Debt
c) Secured Debt
d) All of the above

Ans) Operational Debt

24 Before rejecting the admission of an application for corporate insolvency resolution, the applicant will be given how many days to rectify the defects in the application:
a) 7
b) 10
c) 14
d) 21

Ans)7

25 Under which of the following section, Corporate Applicant can initiate the Corporate Insolvency Resolution:
a) Section 7
b) Section 8
c) Section 9
d) Section 10

Ans) Section 10

26 Extension of the period of corporate insolvency resolution process shall not be granted more than:
a) Once
b) Twice
c) Thrice
d) As the adjudicating authority may decide

Ans) Once

27 Who shall declare a moratorium?
a) Insolvency Professional
b) Insolvency Professional Agency

MULTIPLE CHOICE QUESTIONS

c) Adjudicating Authority
d) Insolvency and Bankruptcy Board of India

Ans) Adjudicating Authority

28 The Adjudicating Authority shall appoint an interim resolution professional within ..... from the insolvency commencement date:
a) 10 days
b) 14 days
c) 21 days
d) 1 month

Ans)14 days

29 What is the term of appointment of interim resolution professional?
a) 30 days from date of appointment
b) 14 days from date of appointment
c) 21 days from date of appointment
d) 10 days from date of appointment
Ans)30 days from date of appointment

30 The Board shall within ..... of the receipt of a reference from the Adjudicating Authority, recommend the name of an insolvency professional to the Adjudicating Authority against whom no disciplinary proceedings are pending:
a) 10 days
b) 14 days
c) 21 days
d) 1 month

Ans)10 days

31 Section ..... of the insolvency and bankruptcy code, 2016 provides provision for constitution of a committee of creditors:
a) Section 14
b) Section 16
c) Section 20
d) Section 21

Ans) Section 21

32 Following the accounting concept of a business combination, a business combination occurs when a company acquires an equity interest in another entity and has_
a) at least 20% ownership in the entity
b) more than 50% ownership in the entity
c) 100% ownership in the entity.
d) control over the entity, irrespective of the percentage owned

Ans) control over the entity, irrespective of the percentage owned

33 Historically, much of the controversy concerning accounting requirements for business combinations involved the _____ method
a) purchase
b) pooling of interests
c) equity
d) acquisition

Ans) pooling of interests

34 When considering an acquisition, which of the following is NOT a method by which one company may gain control of another company?
a) Purchase of the majority of outstanding voting stock of the acquired company.
b) Purchase of all assets and liabilities of another company
c) Purchase the assets, but not necessarily the liabilities, of another company previously in bankruptcy
d) All of the above methods result in a company gaining control over another company

Ans) All of the above methods result in a company gaining control over another company

35 The criterion used when determining the acquisition date for a business combination is the date:
a) on which the consideration was paid by the acquirer
b) on which the consideration was received by the acquiree
c) control was achieved by the acquirer
d) on which specific assets are delivered to the acquirer

Ans) control was achieved by the acquirer

36 The fair value of liabilities acquired in a business combination are best measured using the:
a) liquidation value
b) market value
c) present value of future cash outflows
d) nominal value

Ans) present value of future cash outflows

37 Goodwill arising in a business combination is classified as_
a) an item in equity
b) an asset
c) a liability
d) an expense associated with the acquisition

Ans) an asset

38 Ind AS will apply to
a) both consolidated as well as standalone financials of the company.
b) Only consolidated financials
c) Only standalone financials
d) Optional

Ans) both consolidated as well as standalone financials of the company.

39 Which of the following qualities

MULTIPLE CHOICE QUESTIONS

should an asset possess for it to qualify for recognition as an asset?
a) It should have physical existence
b) It should be within the entity's control
c) It should always be separable i.e. realizable without selling the whole business
d) There should be a no probability of future economic benefit from it

Ans) It should be within the entity's control

40 Which of the following is not an intangible asset?
a) A patent
b) A trademark
c) An investment in marketable securities
d) copyright

Ans) An investment in marketable securities

41 Amortization of intangible Asset Such as Goodwill which has indefinite life is an example of accounting concept_
a) Conservatism Concept
b) Continuity Concept
c) Realisation Concept
d) Measurement Concept

Ans) Conservatism Concept

42 Liquidity is normally measured in terms of_
a) Terminal cost
b) Transaction cost
c) Total cost
d) Net Cost

Ans) Transaction cost

43 The complete absorption of one company by another,wherein the acquiring firm retains its identity and the acquired firm ceases to exist as a separate entity, is called a:
a) merger
b) consolidation
c) tender offer.
d) spinoff

Ans) merger

44 A firm that acquires another firm as part of its strategy to sell off assets, cut costs, and operate the remaining assets more efficiently is engaging in
a) a strategic acquisition
b) a financial acquisition
c) two-tier tender offer
d) shark repellent

Ans) a financial acquisition

45 What is the most likely reason that a firm (who is highly profitable) might consider acquiring a firm that has had large recent losses and will continue to have losses into the near future?
a) Hubris
b) White knight
c) Tax-loss usage
d) Increase assets

Ans) Tax-loss usage

46 Steps in determining the fair value of non-financial assets:Which of the following is NOT a valuation technique prescribed by IFRS 13?
a) the fair value approach
b) the income approach
c) the cost approach
d) the market approach

Ans) the fair value approach

47 Which one is covered in the Valuation report_
a) Proposed Transaction
b) Related party issue with the transactions
c) Share Holding Pattern
d) Valuation methodologies

Ans) Valuation methodologies

48 Under which approach present value is used:
a) Cost Approach
b) Income Approach
c) Hybrid Approach
d) None of the above

Ans) Income Approach

49 Quantitative forecasting techniques include:
a) Consumer surveys
b) Delphi method
c) Exponential smoothing
d) Manager opinions

Ans) Exponential smoothing

50 Which of the following provides better estimate of value in case of valuation of firms for takeovers?
a) Cash flows
b) Free cash flows
c) Future cash flows
d) Free cash flow to equity

Ans) Free cash flow to equity

51 The cash flow of the firm must be equal to:
a) cash flow to equity minus cash flow to debtholders.
b) cash flow to debtholders minus cash flow to equity
c) cash flow to governments plus cash flow to equity.
d) cash flow to equity plus cash flow to debtholders.

Ans) cash flow to equity plus cash flow to debtholders.

52 Free cash flow is:
a) without cost to the firm.
b) net income plus taxes.
c) an increase in net working capital.
d) cash that the firm is free to distribute to creditors and stockholders.

MULTIPLE CHOICE QUESTIONS

Ans) cash that the firm is free to distribute to creditors and stockholders.

53 Cash flow to stockholders is defined as:
a) interest payments
b) repurchases of equity less cash dividends paid plus new equity sold.
c) cash flow from financing less cash flow to creditors.
d) cash dividends plus repurchases of equity minus new equity financing.

Ans) cash dividends plus repurchases of equity minus new equity financing.

54 Identification of all cash flows associated with project gives value classified as_
a) net discounted value
b) net present value
c) net future value
d) net compounded value

Ans) net present value

55 Bonds issued by corporations for relatively longer term are classified as_
a) long term bonds
b) short term bonds
c) corporate bonds
d) Federal Reserve bonds

Ans) corporate bonds

56 As compared to publicly placed issues, privately placed bonds are issued for-
a) lower paid interest rates
b) higher paid interest rates
c) unregistered interest rates
d) registered interest rates

Ans) higher paid interest rates

57 Bonds that does not pay any interest rate are considered as_
a) interest free bond
b) zero coupon bond
c) price less coupon bond
d) useless price bonds

Ans) zero coupon bond

58 Funds transferred usually for a day between financial institutions are classified as_
a) federal funds
b) bankers
c) secured funds
d) debt funds

Ans) federal funds

59 Process of issuing treasury bills is classified as_
a) treasury trading auction
b) treasury fund auction
c) treasury bills auction
d) treasury bills transfer

Ans) treasury bills auction

60 Markets in which new securities are issued by corporations to raise funds are called_
a) primary markets
b) secondary markets
c) Gross markets
d) proceeds markets

Ans) primary markets

61 Which of the following marketable securities is the obligation of a commercial bank?
a) Commercial paper
b) Negotiable certificate of deposit
c) Repurchase agreement
d) T-bills

Ans) Negotiable certificate of deposit

62 Marketable securities are primarily_
a) short-term debt instruments
b) short-term equity securities.
c) long-term debt instruments.
d) long-term equity securities.

Ans) short-term debt instruments

63 Commercial paper issued with low interest rate thus commercial paper are categorized as_
a) payables rating
b) commercial rating
c) poor credit rating
d) better credit rating

Ans) better credit rating

64 Financial instrument such as commercial paper can be sold_
a) issued by commercial banks
b) directly
c) with brokers or dealers
d) functional buyers

Ans) directly

65 Who discounts the treasury bills?
a) RBI
b) Commercial banks
c) SEBI
d) Finance Ministry

Ans) RBI

66 Coupon rate of convertible bond is_
a) higher
b) lower
c) variable
d) stable

Ans) lower

67 Coupon payment is calculated with help of interest rate, then this rate considers as_
a) payment interest
b) par interest
c) coupon interest
d) Yearly interest rate

Ans) coupon interest

MULTIPLE CHOICE QUESTIONS

68 Coupon payment of bond which is fixed at time of issuance_
a) remains same
b) becomes stable
c) becomes change
d) becomes low

Ans) remains same

69 In equilibrium position, spread between foreign and domestic rate of interest must be equal to spread of_
a) domestic rates
b) forward and spot exchange rates
c) forward rate
d) spot rates

Ans) forward and spot exchange rates

70 Price of treasury notes and treasury bonds without including accrued interest is classified as_
a) clean price
b) full price
c) dirty price
d) accrued price

Ans) clean price

71 Call premium is added to face value of bond to calculate_
a) call price of bond
b) premium price of bond
c) call price of stock
d) discounted price of stock

Ans) call price of bond

72 Sum of purchase price and accrued interest on treasury bonds and notes is considered as_
a) Dirty price
b) Clean Price
c) Paid Price
d) Unpaid Price

Ans) Dirty price

73 If YTM increases_
a) Future value of cash flows goes down
b) Present value of cash flows goes up
c) Present value of cash flows goes down
d) Future value of cash flows goes up

Ans) Present value of cash flows goes down

74 _____ is the price at which the bond is traded in the stock exchange_
a) Redemption value
b) Face value
c) Market value
d) Maturity value

Ans) Market value

75 Value of Options increases with
a) Volatility
b) Uncertainty
c) Relativity
d) Risk

Ans) Volatility

76 The distinction between an American Option and European Option is that_
a) Under American option can be exercised at any time while European option right
can be exercised on a specific date.
b) Under American option can be exercised only on a specific date while European option right can beexercised on any date
c) Under both options right can be exercised only at a specific date
d) Under both options right can be exercised on any date.

Ans) Under American option can be exercised at any time while European option right
can be exercised on a specific date.

77 Other things equal, the price of a stock call option is positively correlated with the following factors except
a) the exercise price.
b) the time to expiration.
c) the stock volatility.
d) the stock price

Ans) the exercise price.

78 The major distinction between futures and options arises from the phrase_
a) With obligation
b) Without obligation
c) With or without obligation as the case may be
d) Call & Put

Ans) With obligation

79 An American Option is one where the holder has the right to exercise_
a) On the expiration date
b) Before the expiration date
c) On or before the expiration date
d) On and before the expiration date

Ans) On or before the expiration date

80 Which of the following option is a common real option?
a) Wait option
b) Watch option
c) Wait or Watch option
d) Wait and Watch option

Ans) Wait and Watch option

81 If the value of the swap is +ve, it is an_
a) Asset
b) Liability
c) Income
d) Expense

Ans) Asset

MULTIPLE CHOICE QUESTIONS

82 Type of swaps in which fixed payments of interest are exchanged by two counterparties for floating payments ofinterest are called_
a) float-fixed swaps
b) interest rate swaps
c) indexed swaps
d) counter party swaps

Ans) interest rate swaps

83 A swap that is used to evade risk of exchange rate existsbecause of currency mismatching is classified as_
a) floating swaps
b) fixed swaps
c) currency swaps
d) notion swaps

Ans) currency swaps

84 In the light of Supreme Court decision in case of Duncans Industries Ltd vs. State of U.P. &Ors civil appeal NO. 5929 of 1997, when is the court reluctant to interfere with the findings of fact:
a) If it is based on relevant material on record
b) If the method adopted by the relevant authority for the purpose of the valuation is based on relevant material
c) Both (a) and (b)
d) None of the above

Ans) Both (a) and (b)

85 In case of Duncans Industries Ltd vs. State of U.P. &Ors. civil appeal NO. 5929 of 1997, Supreme Court held that:
a) The question of valuation is basically a question of a fact
b) The Supreme Court is normally reluctant to interfere with the finding on such question of fact if it is based on relevant material on record
c) If the method adopted by the relevant authority for the purpose of valuation is based on relevant material then it will not interfere with such a finding of fact
d) All of the above

Ans) All of the above

Use the following information to answer Questions 86-90:
An analyst following Barlow Energy has compiled the following information in preparation for additional analysis she has to include in a report she has been asked to produce (data is in hundreds of millions of $):

Security Type	Market Value	Before-Tax Required Return
Preferred stock	$200	7.0%
Bonds	$600	7.5%
Common stock	$700	14.0%
Total	$1,500	

- Bonds are trading at par Preferred share dividends: $14
- Net income available to common: $125 Investment in working capital: $30 Investment in fixed capital: $100
- Net new borrowing: $40 Depreciation: $50
- Tax rate: 40%
- Long-term growth rate of FCFF: 4% Long-term growth rate of FCFE: 4% WACC: 9.27%

MULTIPLE CHOICE QUESTIONS

86 The current FCFF for Barlow Energy is *closest* to:
a)$36.
b)$62.
c)$86.
d)none of the above

Ans) $86

87 The total value of Barlow Energy using a single-stage FCFF model is *closest* to:
a)$894.40.
b)$1,631.88.
c)$1,697.15.
d)none of the above

Ans) $1,697.15.

88 The value of Barlow Energy's equity using a single-stage FCFF model is *closest* to:
a)$897.15.
b)$1,097.15.
c)$1,497.15.
d)none of the above

Ans) $897.15.

89 The current FCFE using the information for Barlow Energy is *closest* to:
a)$45.
b)$85.
c)$99.
d)none of the above

Ans) $85.

90 The value of Barlow Energy's equity using a single-stage model and the current FCFE is *closest* to:
a) $468.
b) $850.
c) $884.
d)none of the above

Ans) $884.

Use the following information to answer Questions 91-95

Jamie Johnson, Valuer, has been asked by her supervisor to evaluate the value of two stocks in the recreational vehicle industry, AAA Motorhomes (AAA) and Three Star Travelers (TST). Johnson compiled analyst information for the two companies in Table 1. The expected return on the market is 11%, and the risk-free rate is 4%. Johnson's supervisor has requested that Johnson focus on dividends in estimating the value of the two firms.

TABLE 1	AAA	TST
Current Roe	0.30	0.22
Current EPS	$2.50	$4.60

MULTIPLE CHOICE QUESTIONS

Retention Ratio	0.40	0.30
Beta	1.2	0.9

TABLE 2	Risk Premiums	Factor Sensitivities	Factor Sensitivities
		AAA	TST
Confidence Risk	0.048	0.63	0.42
Time Horizon Risk	0.031	0.47	0.39
Inflation Risk	0.045	0.70	0.51
Business Cycle Risk	0.038	0.98	0.91
Market Timing Risk	–0.018	0.05	0.21

91 The sustainable growth rates for each firm are closest to:

AAA TST

a) 18.0% 6.6%

b) 12.0% 6.6%

c) 12.0% 15.4%

d)none of the above

Ans) 12.0% 6.6%

92 Johnson decides to start by estimating the value of the two stocks using the constant growth dividend discount model and estimating the required rate of returns using the capital asset pricing model (CAPM). Both firms are expected to grow at their sustainable growth rates.

The estimated values are closest to:

	AAA	TST
a)	$273.54	$92.77
b)	$273.54	$48.57
c)	$420.00	$92.77

d)none of the above

Ans) $420.00, $92.77

93 Johnson believes the estimate for TST using the constant dividend discount model (DDM) is appropriate. However, she believes that AAA is expected to grow at a higher rate of 20% for the next four years and then grow at a rate of 7% after that. Using the two-stage model, and CAPM for the required rate of return, the current value of AAA is closest to:

a) **$45.69.**

b)$58.00

c)$61.62.

d)none of the above

Ans) $45.69

94 After further consideration, Johnson feels the growth rates of AAA and TST are more likely to gradually decline over the next four years and therefore considers the H-model. She estimates TST growth will decline from current 15% to long-term 5% and AAA growth will decline from current 20% to long-term 7%. Johnson estimates the required rate of return for AAA and TST to be 15.3% and 12.6%, respectively. Johnson's estimated values of AAA and TST using the H-model are closest to:

	AAA,	TST
a)	$15.35	$52.96
b)	$24.04	$35.58
c)	$24.04	$52.96

d)none of the above

Ans) $24.04 $52.96

95 Johnson's supervisor also requested a calculation of the justified leading P/E ratios for the two firms using a macroeconomic multifactor model based on the information in Table 2 (on the previous page) to estimate the required returns. Assuming that the earnings and dividends will grow at 5% for TST and 7% for AAA, the justified leading P/E ratios are closest to:

	AAA	TST
a)	11.11	12.87
b)	7.26	9.21
c)	11.89	13.21

d) none of the above

Ans) 7.26 9.21

Organising Seminar on Journey and Success Stories of Women on 1st March 2023

International Women_s Day - Creditable Accomplishments, Challenges _ Inspiring Future on 02nd March 2023

Interactive Meet of Registered Valuers on 15th March 2023

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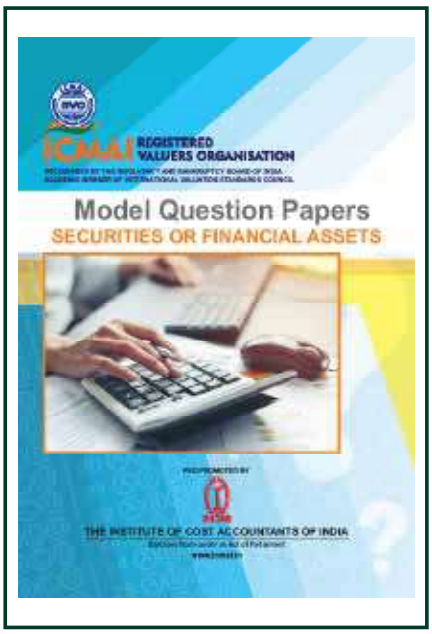

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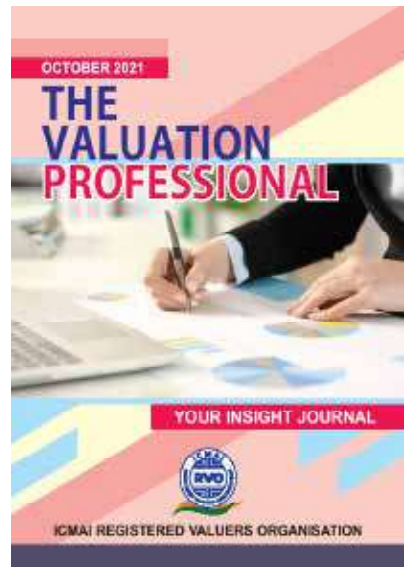

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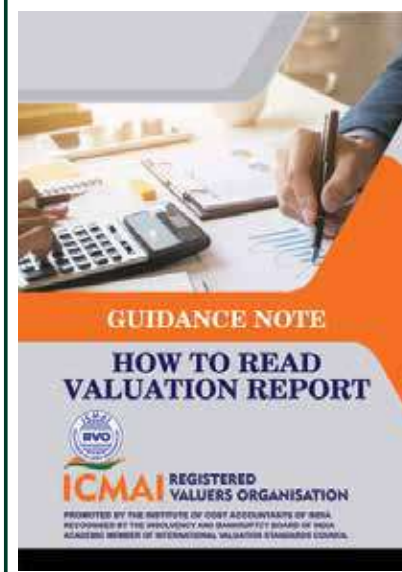
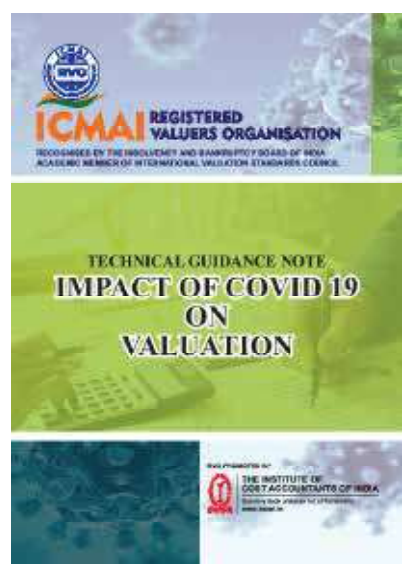
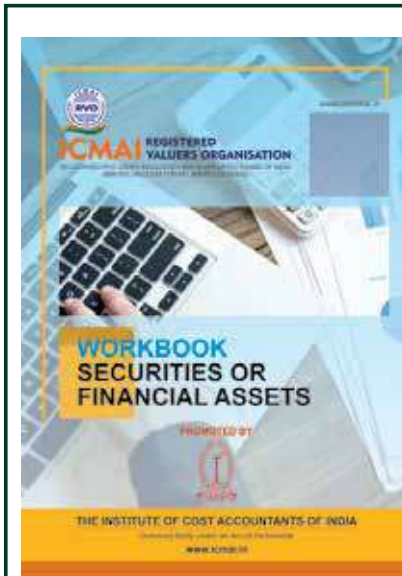


Guidance Note
How to Read Valuation Report

Technical Guidance Note
Creation Maintenance and Retention of Valuation Working Papers



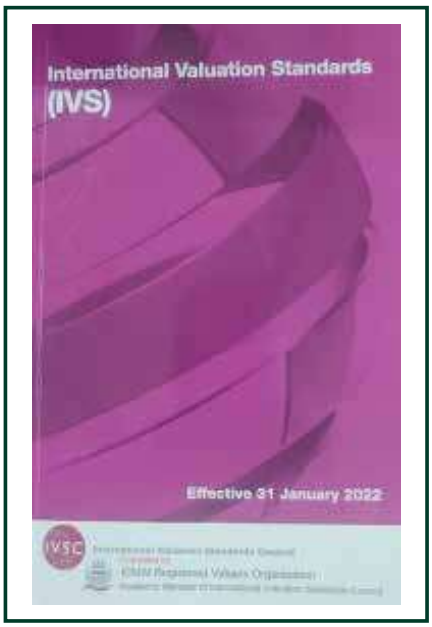
Technical Guidence Note
Impact of Covid 19
on Valuation



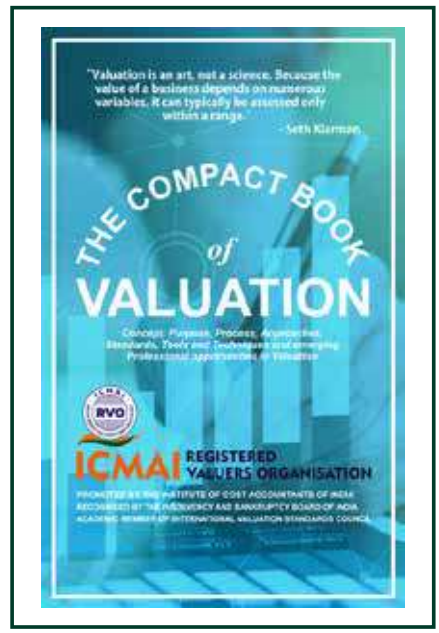
Work Book
Securities or Financial Assets

Link:- https://www.rvoicmai.in/publication/

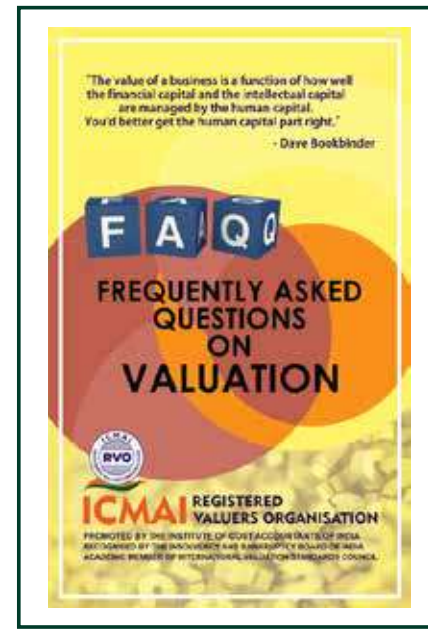
PUBLICATIONS



International Valuation Standards

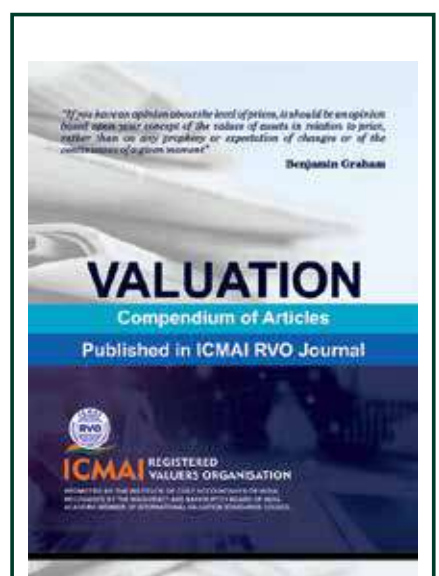


The Compact Book of Valuation

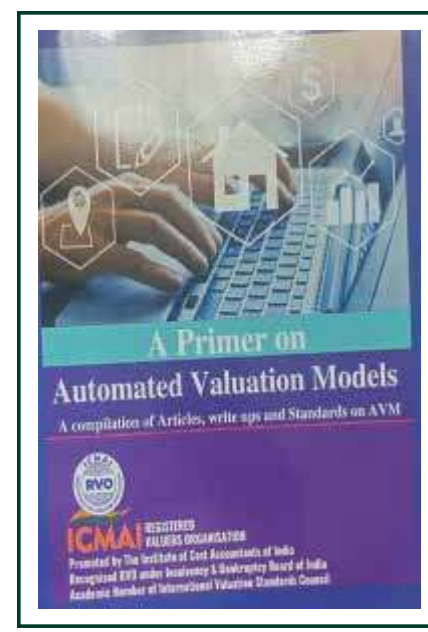


FAQ
Frequently Asked Questions on Valuation

Compendium of Perspective Papers



Compendium of Articles



Automated Valuation Models

Link:- https://www.rvoicmai.in/publication/

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K

Key Person Discount—an amount or percentage deducted from the value of an ownership interest to reflect the reduction in value resulting from the actual or potential loss of a key person in a business enterprise.

L

Levered Beta—the beta reflecting a capital structure that includes debt.

Limited Appraisal—the act or process of determining the value of a business, business ownership interest, security, or intangible asset with limitations in analyses, procedures, or scope

Liquidity—the ability to quickly convert property to cash or pay a liability

Liquidation Value—the net amount that would be realized if the business is terminated and the assets are sold piecemeal. Liquidation can be either "orderly" or "forced."

M

Majority Control—the degree of control provided by a majority position.

Majority Interest—an ownership interest greater than 50% of the voting interest in a business enterprise.

Market (Market-Based) Approach—a general way of determining a value indication of a business, business ownership interest, security, or intangible asset by using one or more methods that compare the subject to similar businesses, business ownership interests, securities, or intangible assets that have been sold.

Market Capitalization of Equity—the share price of a publicly traded stock multiplied by the number of shares outstanding.

Market Capitalization of Invested Capital—the market capitalization of equity plus the market value of the debt component of invested capital.

Market Multiple—the market value of a company's stock or invested capital divided by a company measure (such as economic benefits, number of customers).

Marketability—the ability to quickly convert property to cash at minimal cost.

Merger and Acquisition Method—a method within the market approach whereby pricing multiples are derived from transactions of significant interests in companies engaged in the same or similar lines of business.

Mid-Year Discounting—a convention used in the Discounted Future Earnings Method that reflects economic benefits being generated at midyear, approximating the effect of economic benefits being generated evenly throughout the year.

Minority Discount—a discount for lack of control applicable to a minority interest.

Minority Interest—an ownership interest less than 50% of the voting interest in a business enterprise.

Multiple—the inverse of the capitalization rate

N

Net Book Value—with respect to a business enterprise, the difference between total assets (net of accumulated depreciation, depletion, and amortization) and total liabilities as they appear on the balance sheet (synonymous with Shareholder's Equity). With respect to a specific asset, the capitalized cost less accumulated amortization or depreciation as it appears on the books of account of the business enterprise.

Net Cash Flows—when the term is used, it should be supplemented by a qualifier. See Equity Net Cash Flows and Invested Capital Net Cash Flows.

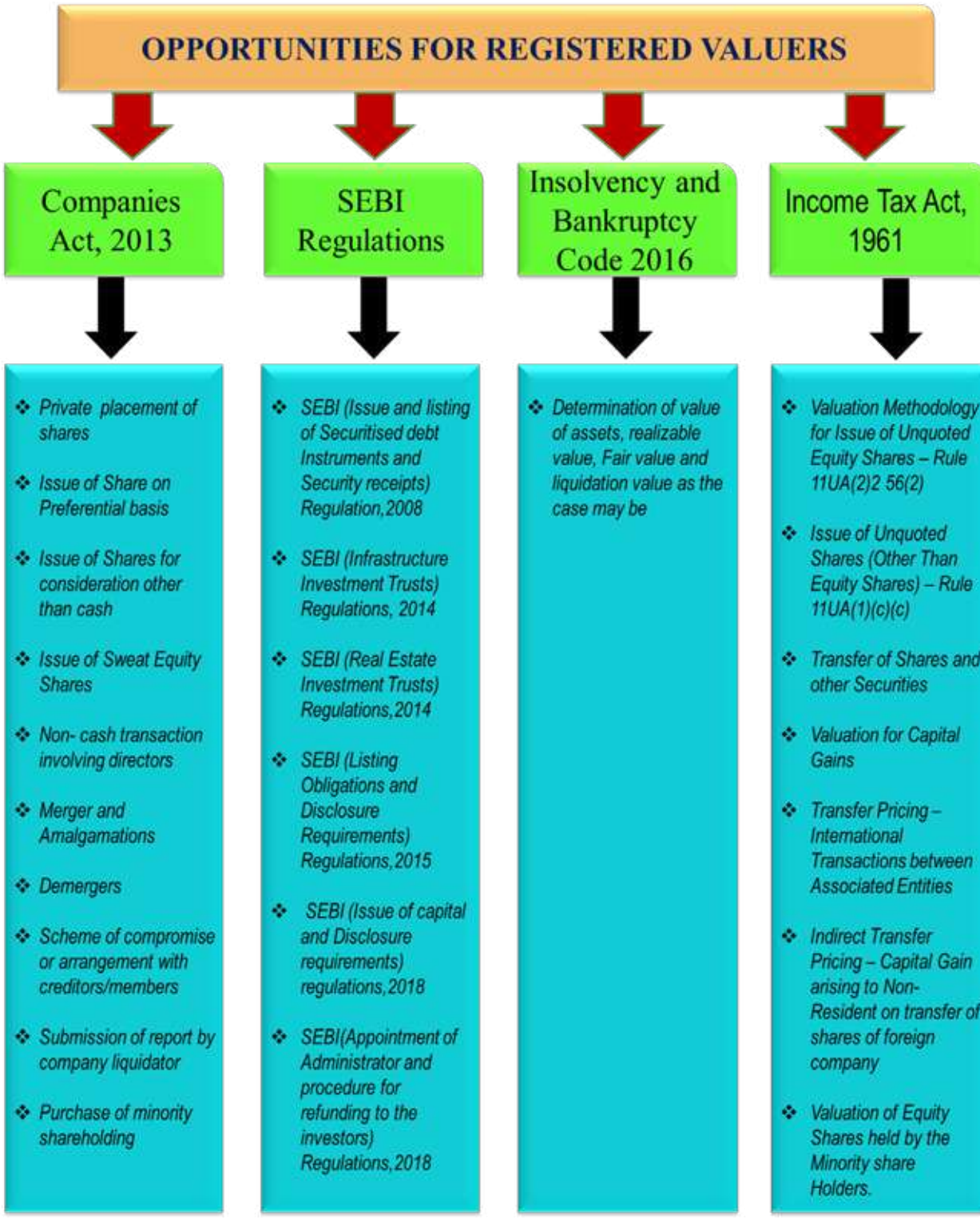
Net Present Value—the value, as of a specified date, of future cash inflows less all cash outflows (including the cost of investment) calculated using an appropriate discount rate.

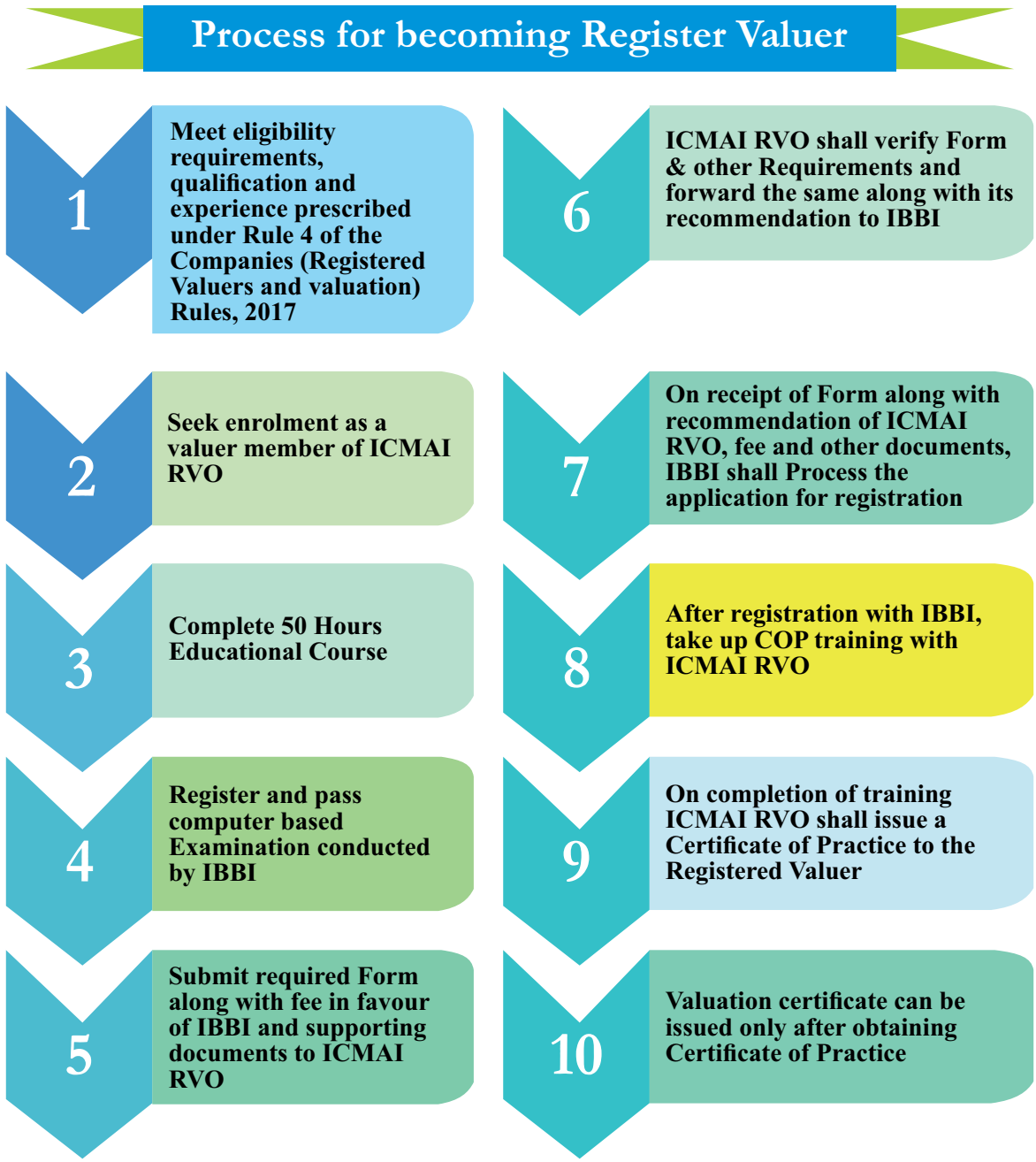
Net Tangible Asset Value—the value of the business enterprise's tangible assets (excluding excess assets and nonoperating assets) minus the value of its liabilities.

Nonoperating Assets—assets not necessary to ongoing operations of the business enterprise

Normalized Earnings—economic benefits adjusted for nonrecurring, noneconomic, or other unusual items to eliminate anomalies and/or facilitate comparisons.

Normalized Financial Statements—financial statements adjusted for nonoperating assets and liabilities and/or for nonrecurring, noneconomic, or other unusual items to eliminate anomalies and/or facilitate comparisons.


OPPORTUNITIES FOR REGISTERED VALUERS
Companies Act, 2013
Private placement of shares
Issue of Share on Preferential basis
Issue of Shares for consideration other than cash
Issue of Sweat Equity Shares
Non- cash transaction involving directors
Merger and Amalgamations
Demergers
Scheme of compromise or arrangement with creditors/members
Submission of report by company liquidator
Purchase of minority shareholding
SEBI Regulations
SEBI (Issue and listing of Securitised debt Instruments and Security receipts) Regulation,2008
SEBI (Infrastructure Investment Trusts) Regulations, 2014
SEBI (Real Estate Investment Trusts) Regulations,2014
SEBI (Listing Obligations and Disclosure Requirements) Regulations,2015
SEBI (Issue of capital and Disclosure requirements) regulations,2018
SEBI(Appointment of Administrator and procedure for refunding to the investors) Regulations,2018
Insolvency and Bankruptcy Code 2016
Determination of value of assets, realizable value, Fair value and liquidation value as the case may be
Income Tax Act, 1961
Valuation Methodology for Issue of Unquoted Equity Shares – Rule 11UA(2)2 56(2)
Issue of Unquoted Shares (Other Than Equity Shares) – Rule 11UA(1)(c)(c)
Transfer of Shares and other Securities
Valuation for Capital Gains
Transfer Pricing – International Transactions between Associated Entities
Indirect Transfer Pricing – Capital Gain arising to Non-Resident on transfer of shares of foreign company
Valuation of Equity Shares held by the Minority share Holders.


Process for becoming Register Valuer
1
Meet eligibility requirements, qualification and experience prescribed under Rule 4 of the Companies (Registered Valuers and valuation) Rules, 2017
2
Seek enrolment as a valuer member of ICMAI RVO
3
Complete 50 Hours Educational Course
4
Register and pass computer based Examination conducted by IBBI
5
Submit required Form along with fee in favour of IBBI and supporting documents to ICMAI RVO
6
ICMAI RVO shall verify Form & other Requirements and forward the same along with its recommendation to IBBI
7
On receipt of Form along with recommendation of ICMAI RVO, fee and other documents, IBBI shall Process the application for registration
8
After registration with IBBI, take up COP training with ICMAI RVO
9
On completion of training ICMAI RVO shall issue a Certificate of Practice to the Registered Valuer
10
Valuation certificate can be issued only after obtaining Certificate of Practice

EDUCATIONAL QUALIFICATION & EXPERIENCE

FOR 50 HOURS EDUCATIONAL COURSE

Asset Class	Eligibility/ Qualification	Experience in specified discipline.
Plant and Machinery	(I} Graduate in Mechanical, Electrical, Electronic and Communication, Electronic and Instrumentation, Production, Chemical, Textiles, Leather, Metallurgy, or Aeronautical Engineering, or Graduate in Valuation of Plant and Machinery or equivalent; (ii) Post Graduate on above courses.	(i) Five years (ii) Three years
Land and Building	(i) Graduate in Civil Engineering, Architecture, or Town Planning or equivalent; (ii) Post Graduate on above courses and also in valuation of land and building or Real Estate Valuation (a two-year full time post-graduation course).	(i) Five years (ii) Three years
Securities or Financial Assets	(i) Member of Institute of Chartered Accountants of India, Member of Institute of Company Secretaries of India, Member of the Institute of Cost Accountants of India, Master of Business Administration or Post Graduate Diploma in Business Management (specialisation in finance). (ii) Post Graduate in Finance	Three years
Any other asset class along with corresponding qualifications and experience in accordance with rule 4 as may be specified by the Central Government. *Note: The eligibility qualification means qualification obtained from a recognized Indian University or equivalent Institute whether in I ndia or abroad.".*		

PROCESS FOR IBBI EXAMINITION

a. The candidate may enroll for the examination on payment of the fee as prescribed by IBBI
b. Online examination with objective multiple-choice questions
c. The duration of the examination is 2 hours
d. Wrong answer attracts a negative mark of 25% of the assigned for the question
e. A candidate needs to secure 60% of marks for passing.

FORMAT AND FREQUENCY OF EXAMINATION

a. The examination is conducted online (computer-based in a proctored environment) with objective multiple-choice questions;
b. The examination centers are available at various locations across the country;
c. The examination is available on every working day;
d. A candidate may choose the time, the date and the Examination Centre of his choice for taking the Examination. For this purpose, he needs to enroll and register at https://certifications.nism.ac.in/nismaol/
e. A fee of Rs. 5900/- (Five thousand nine hundred rupees) is applicable on every enrolment;
f. The duration of the examination is 2 hours;
g. A candidate is required to answer all questions;
h. A wrong answer attracts a negative mark of 25% of the marks assigned for the question;
i. A candidate needs to secure 60 % of marks for passing;
j. A successful candidate is awarded a certificate by the Authority;
k. A candidate is issued a temporary mark sheet on submission of answer paper;
l. No workbook or study material is allowed or provided;
m. No electronic devices including mobile phones and smart watches are allowed; and
n. Use of only a non-memory-based calculator is permitted. Scientific Calculators (memory based or otherwise) are not allowed.

INSOLVENCY AND BANKRUPTCY BOARD OF INDIA

New Delhi, the 30th September, 2022

THE INSOLVENCY AND BANKRUPTCY BOARD OF INDIA (ONLINE DELIVERY OF EDUCATIONAL COURSE AND CONTINUING PROFESSIONAL EDUCATION BY INSOLVENCY PROFESSIONAL AGENCIES AND REGISTERED VALUERS ORGANISATIONS) (AMENDMENT) GUIDELINES, 2022

In exercise of powers conferred by section 196(1)(aa) of the Insolvency and Bankruptcy Code read with regulation 5(b) and clause (ba) of sub-regulation (2) of regulation 7 of the IBBI (Insolvency Professionals) Regulations, 2016 and clauses (a) and (e) of sub-rule (2) of rule 12 of the Companies (Registered Valuers and Valuation) Rules, 2017, the Insolvency and Bankruptcy Board of India hereby makes the following amendments to the Insolvency and Bankruptcy Board of India (Online Delivery of Educational Course and Continuing Professional Education by Insolvency Professional Agencies and Registered Valuers Organisations) Guidelines, 2020, namely:-

1. (1) These amendments may be called the Insolvency and Bankruptcy Board of India (Online Delivery of Educational Course and Continuing Professional Education by Insolvency Professional Agencies and Registered Valuers Organisations) (Amendment) Guidelines, 2022.

(2) It shall come into force with immediate effect.

2. In the Insolvency and Bankruptcy Board of India (Online Delivery of Educational Course and Continuing Professional Education by Insolvency Professional Agencies and Registered Valuers Organisations) Guidelines, 2020 (hereinafter referred to as the principal guidelines), in Clause 9, in sub-clause (d), for the digit '100', the digit '200' shall be substituted.

3. In the principal guidelines, for Clause 11, the following shall be substituted, namely:-

"11. **Validity**
The Guidelines shall remain in force till further orders."

NOTES

ICMAI REGISTERED VALUERS ORGANISATION

RECOGNISED RVO UNDER INSOLVENCY AND BANKRUPTCY BOARD OF INDIA

GUIDELINES FOR ARTICLES

The articles sent for publication in the journal "The Valuation Professional" should conform to the following parameters, which are crucial in selection of the article for publication:

- The article should be original, i.e. Not Published/ broadcasted/hosted elsewhere including any website.
- A declaration in this regard should be submitted to ICMAI-RVO in writing at the time of submission of article.
- The article should be topical and should discuss a matter of current interest to the professionals/readers.
- It should preferably expose the readers to new knowledge area and discuss a new or innovative idea that the professionals/readers should be aware of.
- The length of the article should not exceed 2500-3000 words.
- The article should also have an executive summary of around 100 words.
- The article should contain headings, which should be clear, short, catchy and interesting.
- The authors must provide the list of references, if any at the end of article.
- A brief profile of the author, e-mail ID, postal address and contact numbers and declaration regarding the originality of the article as mentioned above should be enclosed along with the article.
- In case the article is found not suitable for publication, the same shall be communicated to the members, by e-mail.

ICMAI REGISTERED VALUERS ORGANISATION

RECOGNISED RVO UNDER INSOLVENCY AND BANKRUPTCY BOARD OF INDIA

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