

Hyderabad branch of SIRC of ICAI  
Primer on valuation

Rajesh C. Khairajani  
Partner, KNAV

July 6, 2020

Topic	Slide number
Valuation landscape in India	3
Reporting requirements	5
Valuers Bill, 2020	6
Eligibility – Registered valuer	7
Valuation approaches	8
Income approach	9
Market approach	21
Valuation of early stage business/ start-ups	26
Data requirements	28
Levels of value	29
Financial reporting valuations – Ind AS/ IFRS	31
Introduction to intangible assets	37
Purpose of valuation of intangible assets	38
Identification of intangible assets	39
Financial reporting valuations – Intangible assets	43
Valuation report	44
Impact of Covid-19 on valuations	45

## Regulatory

---

RBI/FEMA/SEBI

Income tax purposes (&  
court cases)

Insolvency And Bankruptcy  
Code, 2016

Companies Act, 2013 &  
rules thereunder

## Financial reporting

---

Purchase price allocation

Impairment analysis

Financial instruments

ESOP's

## Strategic planning/ Transactions

---

Mergers and acquisitions

Funding/ Investing in  
businesses and ventures

Exit strategy planning

Demerger/Split off

## Others

---

Family settlement

Litigation

Exit strategy planning

Transaction	Valuation requirements	Who can issue report?
Fresh issue of shares	Companies Act, 2013	Registered valuer
	Income Tax Act, 1961 (If shares are issued above face value)	Chartered accountant Merchant banker - If discounted cash flow methodology has been applied
	SEBI regulations	Merchant banker
	FEMA regulations - ODI	If investment - exceeds USD 5 million - Merchant banker Other cases - Chartered Accountant/ Certified Public Accountant
	FEMA regulations - FDI	Chartered accountant/SEBI registered merchant banker
ESOP	Companies Act, 2013 - At the time of grant	Registered valuer
	Income Tax Act, 1961 - At the time of exercise	Merchant banker
Transfer of shares	Income Tax Act, 1961	Chartered Accountant Merchant banker - If discounted cash flow methodology has been applied
	FEMA regulations - ODI	If investment - exceeds USD 5 million - Merchant banker Other cases - Chartered Accountant/ Certified Public Accountant
	FEMA regulations - FDI	Chartered accountant/SEBI registered merchant banker
Scheme of arrangement	Companies Act	Registered valuer
	SEBI law	Merchant banker

## Valuers Bill, 2020

---

A Draft Valuers Bill, 2020 has been drafted to establish a National Institute of Valuers (NIV) on basis of recommendations by a Committee of Experts constituted by the Ministry of Corporate Affairs (MCA) to examine the need for an institutional framework to regulate and develop valuation as a profession.

### **The need for accurate valuations:**

Logically, it is not always meaningful to wait for an asset to pass through the market to determine its worth. For such reasons, a valuer's role in estimation helps quantify the value of an asset in a simulated context.

The Bill envisages the appointment of the NIV to serve the purpose of developing the profession of valuers and regulating the market of valuation services.

### **Important subjects acknowledged in the Bill:**

1. Completion of either a national or graduate valuation programme ranging from 2-4 years to be registered as a valuer.
2. Enactment of an exclusive statute to provide for the establishment of an institute to protect the interests of users of valuation services in India.
3. This institute shall register and regulate Valuer Institutes, VPOs (Valuation Professional Organizations) and Valuers. Valuer Institutes, who would compete among themselves for excellence, shall offer courses and conduct internal examinations, while the institute shall conduct a screening examination for admission to the courses and a qualifying examination for registration as valuers,
4. Elevate valuation to a distinct profession in itself and provide for separate designations to be given to different classes of valuers.
5. In order to ensure at least a minimum quality of valuation services across the market, only Valuers registered under a proposed institutional framework should be permitted to render valuation services.
6. The proposed institutional framework should lay down valuation standards based on the recommendations of the Valuation Standards Committee and it shall be mandatory for Valuers to conduct valuation as per the valuation standards.

Eligibility for registered valuers as an individual

An individual is a valuer member, is recommended by the registered valuers organization, as passed valuation examination, is a resident of India, is not a minor/unsound mind, fulfils educational and work qualifications

The educational qualifications and experience required for an individual applicant?

An individual shall have the following qualifications and experiences to be eligible for registration for valuation examination:

- (a) post-graduate degree or post-graduate diploma, in the specified discipline, from a recognized university or
- (b) a Bachelor's degree or equivalent, from a recognized university and at least five years of experience in the specified discipline thereafter; or
- (c) membership of a professional institute established by an Act of Parliament, with at least three years' experience after such membership.

passing the examination and securing certificate of registration

An individual who passes the valuation examination, shall receive acknowledgement of passing the examination, there is no restriction on the number of attempts allowed for this examination. For securing the certificate of registration an application must be filled in prescribed form with payment of prescribed fees

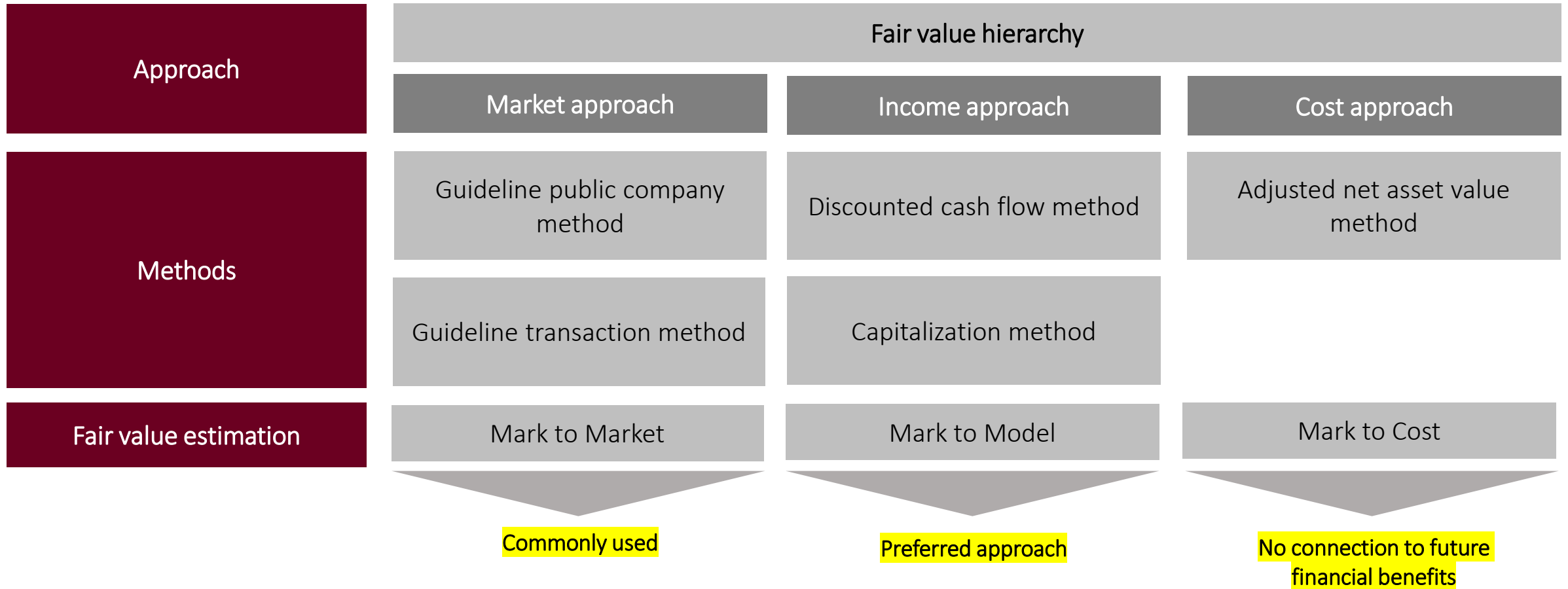
Eligibility for registered valuers as partnership entity/ company

No partnership entity or company shall be eligible to be a registered valuer if-

- (a) it has been **set up for objects** other than **for rendering professional or financial services**
- (b) it is undergoing an insolvency resolution or is an undischarged bankrupt;
- (c) all the partners or directors, as the case may be, are not ineligible
- (d) **three or all the partners or directors, whichever is lower, of the partnership entity or company, are not registered valuers; or**
- (e) none of its partners or directors, as the case may be, is a registered valuer for the asset class, for the valuation of which it seeks to be a registered valuer

# Valuation approaches





*The specific valuation techniques used in a valuation engagement depend on the facts and circumstances specific to each case, including the nature and characteristics of the business enterprise being valued, and the purpose of the business appraisal. **The appraiser's choice of methods is determined by the characteristics of the business to be appraised, the availability of reliable information requisite to the various methods, the function and use of the appraisal, applicable statutory law, case law, and administrative rulings.***

## Overview

The income approach is a general way of determining the value of a business by **considering expected returns on an investment**, which are then **discounted or capitalized at an appropriate rate of return** to reflect the risks and potential rewards associated therewith.

## Methods

**Capitalized cash flow method:** In CCF method, a representative benefit level is divided or multiplied by an appropriate capitalization factor to convert the benefit to value. A common variation of this theme is the reciprocal or the market multiple price/earnings, which would be earnings/price. An earnings/price ratio is a capitalization rate.

- Used for businesses that have reached a mature stage in the business lifecycle and are expected to have steady cash flows
- Formula  $PV = CF/(r-g)$

**Discounted cash flow method:** In DCF method, benefits are estimated for each of several future periods. These benefits are converted to value by applying an appropriate discount rate and using present value procedures.

- Used for businesses that are in the growth phase of the business lifecycle and are expected to have varying cash flows
- Formula  $DCF = [CF_1 / (1+r)^1] + [CF_2 / (1+r)^2] + \dots + [CF_n / (1+r)^n]$

FCFF v/s FCFE

- **FCFF:** This is the total cash flow a 100% owner would receive **assuming no debt**
- **FCFE:** This is the cash flow a shareholder would expect to receive **after interest and net borrowings.**

Discount rate:  
Cost of equity v/s WACC

The general formula for calculating the WACC is:

$$\text{Formula} \rightarrow \text{WACC} = (K_e * E\%) + (K_d * D\%)$$

where:  $K_e$  = Cost of equity;  $E\%$  = Equity capital as a percentage of total invested capital;  $K_d$  = After-tax cost of debt; and  $D\%$  = Debt capital as percentage of total invested capital.

### CAPM

Risk free rate

Equity risk premium

Beta

### Modified CAPM

Risk free rate

Equity risk premium

Beta

Size risk premium

Company-specific risk

### Build-up method

Risk free rate

Equity risk premium

Industry risk premium

Size risk premium

Company-specific risk

Projections

Project the **operating results** and **free cash flows** of the business over the **forecast period**.

Terminal value

Estimate the **exit multiple** and/or **growth rate in perpetuity** of the business at the **end of the forecast period**.

Discount rate

Estimate the company's **weighted average cost of capital** to determine appropriate discount rate range.

Present value

Determine a range of values for the enterprise by discounting the projected free cash flows and terminal value to the present, using a **mid year convention**.

Adjustments

Adjust the resulting valuation for all assets and liabilities not accounted for in cash flow projections, i.e. **non operating assets and liabilities**

Calculate and interpret results

Check the overall forecast and value conclusion for reasonableness

# Income approach – Illustration

(All amounts INR millions)

Particulars	Notes	Projections for the year ended March 31,					Terminal Year
		2021	2022	2023	2024	2025	
Revenue from operations		8,209	10,847	14,578	18,689	22,890	24,431
<i>Revenue growth</i>			32%	34%	28%	22%	7%
Minus: Cost of revenue		(5,718)	(7,826)	(10,634)	(13,803)	(16,829)	(17,961)
<b>Gross profit</b>		<b>2,491</b>	<b>3,022</b>	<b>3,945</b>	<b>4,887</b>	<b>6,061</b>	<b>6,469</b>
<i>Gross margin</i>		30%	28%	27%	26%	26%	26%
Minus: Operating expenses		(1,982)	(2,315)	(2,737)	(3,226)	(3,696)	(3,944)
<b>EBITDA</b>		<b>509</b>	<b>706</b>	<b>1,208</b>	<b>1,661</b>	<b>2,366</b>	<b>2,525</b>
<i>EBITDA margin</i>		6%	7%	8%	9%	10%	10%
Minus: Depreciation and amortization		(271)	(312)	(343)	(446)	(580)	(549)
<b>EBIT</b>		<b>238</b>	<b>394</b>	<b>864</b>	<b>1,215</b>	<b>1,785</b>	<b>1,976</b>
<i>EBIT margin</i>		3%	4%	6%	6%	8%	8%
Minus: Tax	25.17%	(60)	(99)	(218)	(306)	(449)	(497)
<b>EBIT (Net of tax)</b>		<b>178</b>	<b>295</b>	<b>647</b>	<b>909</b>	<b>1,336</b>	<b>1,479</b>
Plus: Depreciation and amortization		271	312	343	446	580	549
Minus: Capital expenditure		(281)	(359)	(450)	(562)	(541)	(577)
Plus/(Minus): Release of/(Investment in) working capital		(74)	(195)	(215)	(179)	(27)	(78)
<b>Free cash flow to the firm ("FCFF")</b>		<b>94</b>	<b>54</b>	<b>325</b>	<b>614</b>	<b>1,348</b>	<b>1,373</b>
Partial period adjustment		1.0	1.0	1.0	1.0	1.0	
<b>Adjusted FCFF</b>		<b>94</b>	<b>54</b>	<b>325</b>	<b>614</b>	<b>1,348</b>	
Discounting period (mid-year convention)		0.5	1.5	2.5	3.5	4.5	
Present value factor	18.88%	0.92	0.77	0.65	0.55	0.46	
<b>Discounted FCFF</b>		<b>86</b>	<b>41</b>	<b>211</b>	<b>335</b>	<b>619</b>	

# Income approach – Illustration

(All amounts INR millions)

Particulars	Notes	Projections for the year ended March 31,					Terminal Year
		2021	2022	2023	2024	2025	
Discounted FCFF		86	41	211	335	619	
Sum of discounted FCFF						1,293	
Plus: Terminal value	Note A					5,188	
<b>Enterprise value</b>						<b>6,481</b>	
Plus: Non-operating assets (net)	Note B					239	
<b>Market value of invested capital</b>						<b>6,720</b>	
Minus: Interest bearing debt	Note C					(2,283)	
<b>Equity value (Control , marketable basis)</b>						<b>4,437</b>	

## Note A: Terminal value and perpetual growth rate

Description	
Terminal year cash flow	1,373
Discount rate (R)	18.88%
Long term growth rate (G)	6.73%
Capitalization rate (R-G)	12.15%
Terminal year value	11,297
Present value factor	0.46
<b>Discounted terminal value</b>	<b>5,188</b>

## Note B: Non-operating assets (net)

Description	Amount
Other assets	670
Other liabilities	(1,715)
Investments	1,283
Advances	1
<b>Total non-operating assets - (net)</b>	<b>239</b>

## Note C: Interest bearing debt

Description	Amount
Borrowings	1,108
Deposits	1,175
<b>Total</b>	<b>2,283</b>

Risk free rate  
( $R_f$ )

- The risk free rate of return includes the investors' required rate of return for the **riskless use of their funds and a factor of inflation.**
- The risk-free rate is the rate available on instruments considered to have **virtually no possibility of default** and **thus the rate of return on a long term sovereign bond is considered a good proxy** for the risk free rate of return.

Equity risk premium  
( $RP_m$ )

- The equity risk premium is the **extra return** that investors demand **in excess of the risk free rate** to **compensate them for investing in a diversified portfolio of large common stocks rather than investing in risk free securities.**
- It represents additional risk, or the degree of uncertainty, that the expected future equity returns will not be realized.
- It is a forward-looking concept in that the discount rate should reflect what investors think the risk premium will be going forward.

Beta  
( $\beta$ )

- **Beta is a measure of systematic risk of a stock, the tendency of a stock's price to correlate with changes in the market.**
- It is **used as a modifier to the ERP** in the context of the CAPM.
- Beta is simply the **covariance** between the **return of the security** AND the **return of the market** divided by the **variance** of the **market return.**

## Industry risk premium (R<sub>Pi</sub>)

- The industry risk premium is one of the components used while estimating cost of equity **under the build-up method**
- The industry risk premium **measures how risky the industry is in relation to the market as a whole.**
- In other words, it is a **special form of beta that has been adjusted so that it can be employed as a simple up or down adjustment in estimating the cost of capital.**

## Size risk premium (R<sub>Ps</sub>)

- The size risk premium compensates for the size effect which is based on the empirical observation that companies of **small size are associated with greater risk and therefore have a greater cost of capital.**
- The size risk premium represents the difference between the actual historical excess return and the excess return predicted by beta.

## Company specific risk premium (R<sub>Pc</sub>)

- The company specific risk premium is an **unsystematic risk (risk that can be diversified)** specific to a company's operation and reputation.
- It **depends on the judgement of the valuer based on assessment of various factors.**
- The factors considered for evaluating the addition of a company specific risk premium include; **stability of industry in which the company operates, diversification of product lines, stability of earnings, earnings margins, financial structure, management depth and achievability of projections.**



## Illustration 1: Modified capital asset pricing model

$$K_e = R_f + (R_{Pm} \times \beta) + R_{Ps} + R_{Pc}$$

Components	%
Risk-free rate (Rf)	2.63%
Equity risk premium (R <sub>Pm</sub> )	6.91%
<b>Beta</b>	<b>0.80</b>
Size risk premium (R <sub>Ps</sub> )	8.25%
Company specific risk premium (R <sub>Pc</sub> )	<b>4.00%</b>
<b>Cost of equity ("K<sub>e</sub>")</b>	<b>20.41%</b>

Components	%
Cost of debt ("K <sub>d</sub> ")	6.67%
Tax rate	27.00%
<b>K<sub>d</sub> (after tax)</b>	<b>4.87%</b>

Particulars			
Cost of equity	20.41%	Cost of debt (after tax)	4.87%
<b>Weight of equity</b>	<b>80.00%</b>	<b>Weight of debt (Note 8)</b>	<b>20.00%</b>
Weighted average cost of equity	16.39%	Weighted average cost of debt	0.97%
<b>WACC</b>		<b>17.36%</b>	

## Illustration 2: Built up WACC

$$K_e = R_f + (R_{Pm} + R_{Pi}) + R_{Ps} + R_{Pc}$$

Components	%
Risk-free rate ("Rf")	2.63%
Equity risk premium ("R <sub>Pm</sub> ")	6.91%
<b>Industry risk premium ("R<sub>Pi</sub>")</b>	<b>0.97%</b>
Size risk premium	5.22%
Company specific risk premium	2.00%
<b>Cost of equity ("K<sub>e</sub>")</b>	<b>17.73%</b>

Components	%
Cost of debt ("K <sub>d</sub> ")	6.67%
Tax rate	27.00%
<b>K<sub>d</sub> (after tax)</b>	<b>4.87%</b>

Particulars			
Cost of equity	17.73%	Cost of debt (after tax)	4.87%
<b>Weight of equity</b>	<b>80.00%</b>	<b>Weight of debt (Note 8)</b>	<b>20.00%</b>
Weighted average cost of equity	14.18%	Weighted average cost of debt	0.97%
<b>WACC</b>		<b>15.15%</b>	

## Free cash flow to firm

---

Cash flow attributable to the long term capital providers ascertained

---

Includes **Long term debt (LT debt)** and **preference share capital (PSC)** as 'Source of capital'

---

**LT debt and PSC servicing cost** not considered as cost/outflow

---

**LT debt and PSC** considered for WACC computation

---

Equity value computed by reducing LT debt and PSC

---

Part payment of long term capital does not impact cash flows

## Free cash flow to equity

---

Cash flow attributable to the equity shareholders alone considered.

---

LT debt and PSC not considered as 'Source of capital'

---

LT debt and PSC servicing cost considered as cost/outflow – Affects yearly cash flows

---

**LT debt and PSC** not considered for WACC computation

---

Equity value is computed as aggregate of cash flows.

# Income approach – Levels of cash flow

## Free cash flow to firm - Illustration

Particulars	2020-21	2021-22	2022-23	2023-24	2024-25	Terminal year
EBIT	325,000	405,000	574,750	780,238	1,145,449	
Minus: Interest	- 40,244	- 45,708	- 50,350	-54,600	-57,979	
EBT	284,756	359,292	524,400	725,638	1,087,470	
Minus: Tax	- 113,902	- 143,717	-209,760	-290,255	-434,988	
Net income	170,853	215,575	314,640	435,383	652,482	
Plus: Depreciation & Amortization	25,000	30,000	35,000	40,000	20,000	
Plus: Interest expense (1-t)	24,147	27,425	30,210	32,760	34,787	
Minus: Capex	- 100,000	-20,000	-20,000	-20,000	-20,000	
Plus (Minus): Release (Investment) in working capital	- 14,583	-2,917	-12,500	-9,000	-24,375	
FCFF	105,417	250,083	347,350	479,143	662,895	
Discounted FCFF discounted at WACC	90,316	183,567	218,440	258,157	305,998	2,297,213
Firm value	3,353,690					
Minus: debt	670,738					
Equity value	2,682,952					

## Free cash flow to equity- Illustration

Particulars	2020-21	2021-22	2022-23	2023-24	2024-25	Terminal year
Net income	170,853	215,575	314,640	435,383	652,482	
Plus: Depreciation & Amortization	25,000	30,000	35,000	40,000	20,000	
Minus: Capex	-100,000	-20,000	-20,000	-20,000	-20,000	
Plus (Minus) : Release (Investment) in working capital	-14,583	-2,917	-12,500	-9,000	-24,375	
Plus (Minus): Debt proceeds (repaid)	91,064	77,357	70,837	56,323	28,990	
FCFE	172,334	300,015	387,978	502,705	657,097	
Discounted FCFE discounted at Ke	143,612	208,344	224,524	242,431	264,072	1,599,968
Equity value	2,682,952					

## Surplus assets

- Refers to **assets not actively used for the purpose of business**
- **Income** from such assets **not to be considered for cash flows**
- Disposal and acquisitions not reflected in cash flows
- **Fair value of such assets to be added to the enterprise value**
- Fair value may be determined through appropriate methods.

## Holding company

- Not appropriate to consider dividend flows from subsidiary companies as cash flow for DCF
- **Approach 1: DCF to be considered on consolidated cash flow basis**
- **Approach 1: DCF value of all subsidiary companies to be computed independently**
- Surplus assets to be added to the enterprise value and operating portion to be considered as a part of working capital.

## Cash and cash equivalents

- **Operating cash requirements to be considered**
- Cash cycle acts as a guide to this
- **Current cash and bank balance beyond requirement to be considered as surplus assets**
- **Surplus assets to be added to the enterprise value and operating portion to be considered as a part of working capital.**

## Tax considerations

- **Benefit of carry forward of losses to be considered**
- **Full tax rate to be considered for terminal value**

## Overview

The market approach is a general way of determining a value indication of a business, business ownership interest, security or asset by using one or more methods that **compare the subject to similar businesses, business ownership interests, securities or assets that have been sold (GTM) or are traded on a stock exchange (GPCM).**

## Methods

- **Guideline transaction method:** This method values a business based on **transaction multiples derived from the sale of companies that are similar to the subject company.**
- **Guideline public company method:** This method values a business based on **trading multiples derived from publicly traded companies that are similar to the subject company.**

## Multiples

### *Common multiples*

- Price / Earnings (P/E)
- Price / Tangible Book Value (P/B)
- **EV / Revenue**
- **EV / EBITDA**
- **EV / EBIT**

### *Other Multiples*

- EV / R&D Expenses; # of Phase I, Phase II and Phase III products in pipeline – Early Stage Biotechnology
- EV / # of Licenses and Rights – Shell Company, etc

*Note: Appropriate Multiple Depends on Company Characteristics*

## Select comparable ("Guideline") companies

Develop appropriate "comparable" criteria:

- Industry characteristics
- Size of companies
- Trading activity of the stock
- Availability of information
- Financial trends: profitability, growth, etc.
- Financial analysis: ratio comparisons

## Adjustments

- Most companies differ from the subject company
- Need to adjust for differences between market comparables and subject company being valued
- Common adjustments are based on:
  - Size
  - Growth Rate
  - Profitability
  - Leverage
  - Other Company Specific Factors
  - Discounts and Premiums

## Source of information

- Company filings
- Databases
- Analysts reports

## Guideline public company method - Benchmarking

Company name	Ticker	Business description
Company 1	ABC: AA	Company 1 produces and sells bauxite, alumina, and aluminum products internationally. The company operates through Bauxite, Alumina, and Aluminum segments. It engages in bauxite mining operations; and processes bauxite into alumina and sells bauxite to customers who process it into industrial chemical products. The company is also involved in the aluminum smelting, casting, and rolling businesses; production of aluminum sheets sold directly to customers in the packaging end market for the production of aluminum cans.
Company 2	ABC: BB	Company 2 engineers, manufactures, and sells lightweight metals worldwide. The company operates in three segments: Engineered Products and Solutions, Global Rolled Products, and Transportation and Construction Solutions. The Engineered Products and Solutions segment produces and sells fastening systems and seamless rolled rings; aircraft parts for aerospace; industrial, commercial transportation, and power generation end markets. The Global Rolled Products segment produces and sells aluminum sheets and plates for the aerospace, automotive, commercial transportation, packaging, construction, and industrial products end markets. The Transportation and Construction Solutions segment provides integrated aluminum structural systems, architectural extrusions, and forged aluminum commercial vehicle wheels.
Company 3	ABC: CC	Company 3 supplies metal packaging products to the beverage, personal care, and household products industries. It operates in four segments: Beverage Packaging, North and Central America; Beverage Packaging, South America; Beverage Packaging, Europe; and Aerospace. The Beverage Packaging, North and Central America segment manufactures and sells metal beverage containers to fillers of carbonated soft drinks, beer and other beverages. The Beverage Packaging, South America segment offers aluminum beverage containers. The Beverage Packaging, Europe segment manufactures and supplies aluminum beverage containers. The Aerospace segment develops spacecraft, sensors and instruments, radio frequency systems, and other technologies and products for the civil, commercial, and national security aerospace markets. It also designs, manufactures, and tests satellites, remote sensors, and ground station control hardware and software; and provides launch vehicle integration and satellite operational services.
Company 4	ABC: DD	Company 4 produces standard-grade and value-added primary aluminum products. It also operates three aluminum smelters and aluminum reduction facilities in the United States and Iceland. It also owns a carbon anode production facility. Carbon anodes are used in the production of primary aluminum. The company's annual primary aluminum production capacity is approximately 1,000,000 tonnes per year.
Company 5	ABC: EE	Company 5 designs, manufactures, and sells packaging products and equipment for consumer goods and industrial products. It offers products like steel and aluminum cans for food, beverage, household, and other consumer products and metal vacuum closures and steel crowns through its sales organization to the soft drink, food, citrus, household products, personal care, and other industries. The company also provides industrial products, like steel and plastic strap consumables, paper-based protective packaging, and plastic film consumables and equipment to metals, food and beverage, construction, agricultural, corrugated industries. In addition, it offers aerosol cans and ends, promotional and specialty packaging containers with various variations.

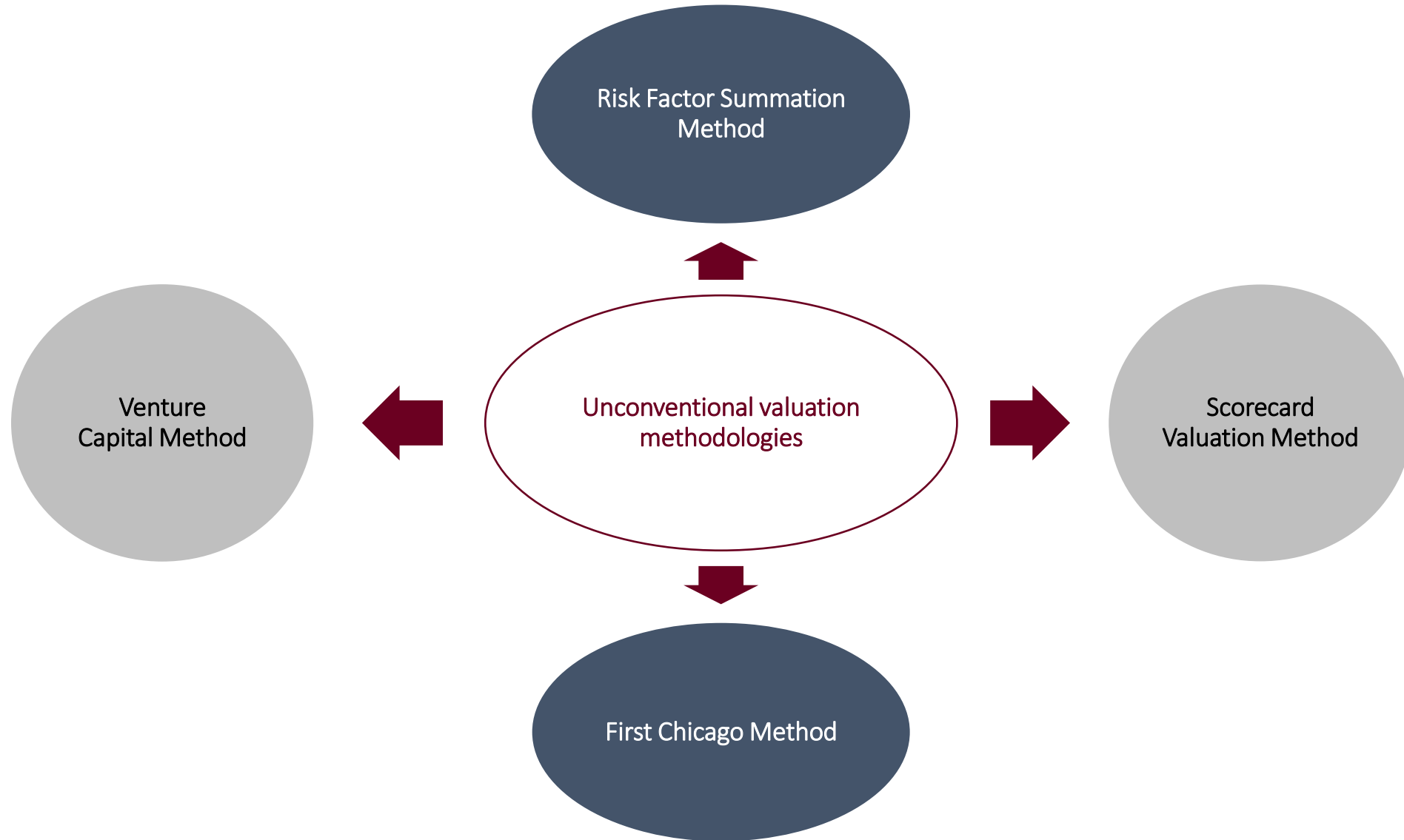


## Guideline public company method

Name of Company	Trailing multiples		Forward multiples (FY +1 )	
	EV/ Revenue	EV / EBITDA	EV/ Revenue	EV / EBITDA
Company 1	1.1 x	13.2 x	1.1 x	9.9 x
Company 2	1.5 x	15.4 x	1.5 x	14.4 x
Company 3	3.0 x	15.6 x	2.9 x	11.5 x
Company 4	2.2 x	15.5 x	2.1 x	11.6 x
Company 5	2.8 x	10.0 x	2.6 x	13.0 x
<b>Interquartile Range</b>				
75th Percentile	2.8 x	15.5 x	2.6 x	13.0 x
<b>50th Percentile</b>	<b>2.2 x</b>	<b>15.4 x</b>	<b>2.1 x</b>	<b>11.6 x</b>
25th Percentile	1.5 x	13.2 x	1.5 x	11.5 x
Standard deviation	0.8 x	2.4 x	0.8 x	1.7 x
Coefficient of variation	0.38	0.17	0.37	0.14
<b>Selected multiple - 50th Percentile</b>	<b>2.2 x</b>	<b>15.4 x</b>	<b>2.1 x</b>	<b>11.6 x</b>
Revenue/EBITDA	4,558	960	8,285	1,767
<b>Enterprise value ("EV")</b>	<b>10,040</b>	<b>14,735</b>	<b>17,386</b>	<b>20,444</b>
Plus: Cash and cash equivalents	450	450	450	450
<b>Market value of invested capital ("MVIC")</b>	<b>10,490</b>	<b>15,185</b>	<b>17,836</b>	<b>20,894</b>
Weights	0.25	0.25	0.25	0.25
<b>Weighted MVIC</b>				<b>16,101</b>
Minus: Interest bearing debt				(890)
<b>Equity value (Minority, marketable basis)</b>				<b>15,211</b>
Less: DLOM	21.5%			(3,268)
<b>Equity value (Minority, non-marketable basis)</b>				<b>11,943</b>

## Guideline transaction method

Transaction date	Acquiree	Acquirer	MVIC/Revenue	MVIC/EBITDA
7/27/2015	Company A	Company V	4.6 x	13.4 x
10/9/2018	Company B	Company W	3.7 x	13.4 x
10/5/2018	Company C	Company X	0.9 x	7.4 x
7/1/2015	Company D	Company Y	3.5 x	17.9 x
10/4/2015	Company E	Company Z	0.7 x	6.0 x
<b>Interquartile Range</b>				
75th Percentile			3.6 x	13.4 x
<b>50th Percentile</b>			<b>1.6 x</b>	<b>11.5 x</b>
25th Percentile			0.8 x	6.7 x
Standard Deviation			1.6 x	4.6 x
Coefficient of Variation				0.7 x
<b>Selected multiple - 50th Percentile</b>				<b>1.6 x</b>
Revenue/EBITDA			8,285	1,767
<b>Enterprise value</b>				<b>13,173</b>
Plus: Cash and Cash equivalent				450
<b>Market value of invested capital</b>				<b>13,623</b>
Minus: Interest bearing debt				(890)
<b>Equity value (control basis)</b>				<b>12,733</b>
Weights			0.50	0.50
<b>Equity value (Control , marketable basis)</b>				<b>16,325</b>
Minus: DLOC			16.9%	(2,751)
<b>Equity value (Minority , marketable basis)</b>				
Minus: DLDM			21.5%	(2,916)
<b>Equity value (Minority , non-marketable basis)</b>				



# Valuation of early stage business/ start-ups – Venture capital rate

Range	Stage of development					
	Start-up	First stage	Second stage	Third stage	Fourth stage	Bridge/ Mezzanine
Plummer [1]	70% - 50%	60% - 40%		50% - 35%		35% -25%
Scherlis and Sahlman [2]	70% - 50%	60% - 40%		50% - 35%		35% -25%
Management team	√	√	√	√	√	√
Business plan	√	√	√	√	√	√
Financing		√	√	√	√	√
Expense history		√	√	√	√	√
Prototype			√	√	√	√
Established market			√	√	√	√
Revenue growth				√	√	√
Profitable					√	√

Stage	Company Characteristics
Start-up	Entities which have just incorporated or are less than a year old. These entities are generally in early software development stage.
First stage	Entities involved in preliminary activities like performing market studies, testing prototypes, and manufacturing limited amounts of products.
Second stage	A stage where the entity can develop viable product and have an established market. They have either received or are looking for financing in order to begin expanding the business. Net income is usually negative or insignificant.
Third stage	Entity experiencing significant and constant revenue growth . Net income earned may be positive, but the internally generated cash is probably insufficient to meet expansion requirements.
Fourth stage	A stage where entity is profitable and growing rapidly. The entity may need additional capital to fuel growth, but the risk associated with investing in an early stage company has diminished significantly for the investors.
Bridge/ Mezzanine	A stage where an entity is planning for their IPO but needs additional funds to carry them through to the completion of the offering. As a rule of thumb, mezzanine rounds are done within six months of a scheduled IPO.

## Company information

Marketing brochure including details about the products/services	Cap table and shareholding pattern	Company outlook
--	------------------------------------	-----------------

## Prospective financial information

Projected revenue & profitability ratios	Projected working capital and capex assumptions	Rationale for the above information
--	---	-------------------------------------

## Historical financial information

Audited financial statements of prior years	Balance sheet as on the valuation date
---	--

## Other relevant information

Information regarding pending litigations, if any	Information regarding contingent contracts and liabilities, if any	Past due diligence and valuation reports, if any
---	--	--

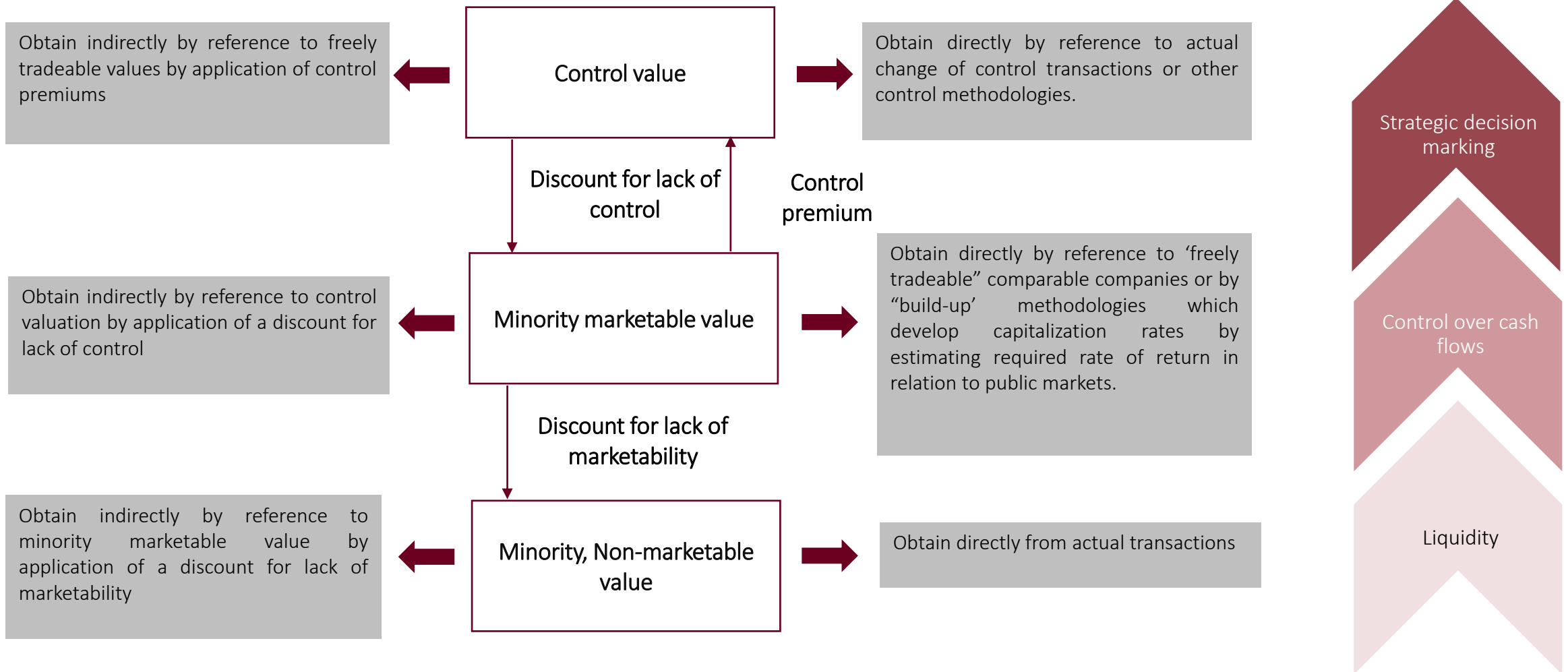
# Levels of value

The applicability of a minority discount or control premium depends on the methodology used to arrive at a base value. The approach used can produce values that may be either minority or control, and the analyst must decide which level-of-value model best fits the specific case at hand in order to determine which discounts or premiums should be applied.

The relationship between methodology used and type of value resulting is shown below:

Approach/ Method	Assumption	Resulting value
Income approach - Discounted cash flow method	Control cash flows Minority cash flows	Control Minority, marketable
Market approach - Guideline public company method	NA	Minority, marketable
Market approach - Guideline transaction method	Majority stake acquired Minority stake acquired	Control Minority
Cost approach: Adjusted book value method	100% control interest	Control

*Levels of value are conceptual points at which the value of business interest can be calculated.*





# Financial reporting valuation

## Ind AS 102 Share based Payment

Requires share based payments to be measured at fair value. For equity-settled transactions, this fair value is measured at the date of grant only. For cash settled and share-based payments with cash alternatives, the fair value of the liability is measured at fair value at each balance sheet date.

## Ind AS 103 Business Combinations

Requires the allocation of the purchase price in a purchase combination to be allocated between tangible and intangible assets based on fair value. Ind AS 103 will require the identification of more intangible assets than is currently the norm. The fair value concept applies on all acquisitions of subsidiaries, associates and joint ventures

## Ind AS 16 Property, Plant and Equipment

Allows property to be carried at re-valued amount, which is the item's fair value.

## Ind AS 38 Intangible Assets

Allows the use of fair value when an active market exists for those intangibles.

## Ind AS 36 Impairment of assets

Requires annual impairment of following assets:

- An intangible asset not yet available for use
- An intangible asset with an indefinite useful life
- Goodwill acquired in business combination

## Ind AS 39 Financial Instruments: Recognition and Measurement

Requires certain financial assets and financial liabilities to be measured at fair value. These include derivative instruments, assets available for sale, and assets held for trading. In addition, Ind AS 39 provides an option to fair value certain held for trading. In addition, Ind AS 39 provides an option to fair value certain financial assets and financial liabilities that are not required to be measured at fair value.

## Ind AS 40 Investment Property

Allows investment property to be measured under a fair value model or cost model.

## Fair value – Ind AS 113

### Definition of fair value

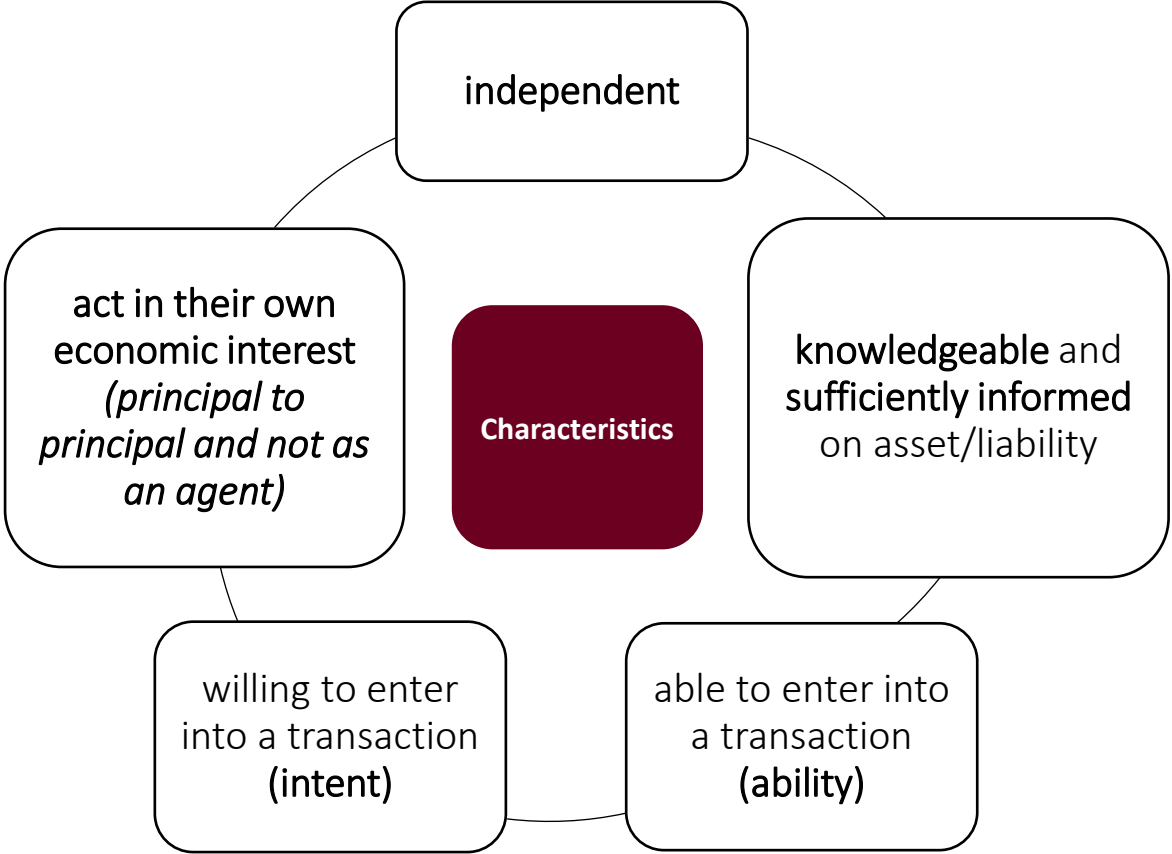
*“Price that would be received to **sell an asset** or paid to **transfer a liability** in an **orderly transaction** between **market participants** at the measurement date”*

Particulars	Comment
Price	It refers to exit price and not entry price
<b>Sell an asset</b>	It refers to the selling of the asset
<b>Transfer a liability</b>	It refers to the transfer the liability
Orderly transaction	It is not a forced or distressed sale
<b>Between market participants</b>	It is a market based measurement not entity based
At measurement date	It states explicitly when the sale or transfer takes place

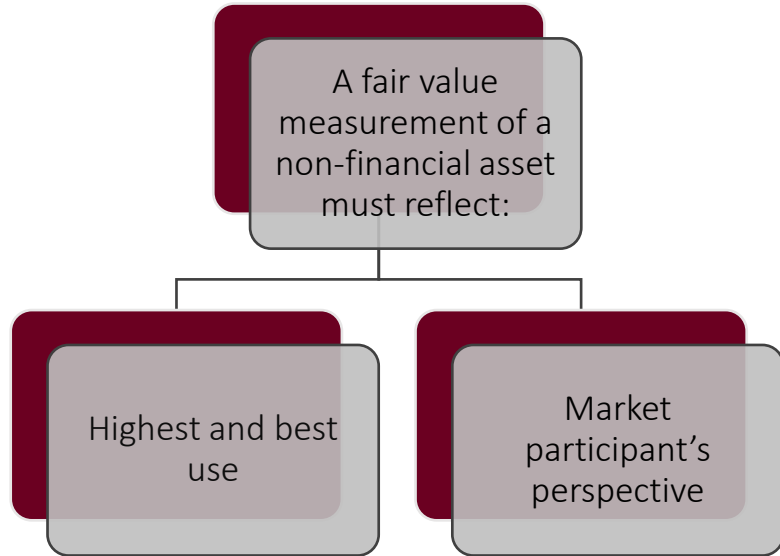
## Market participant framework

### Definition of market participant

Market participants include buyers and sellers in the *principal or most advantageous market* for the asset



## Highest and best use



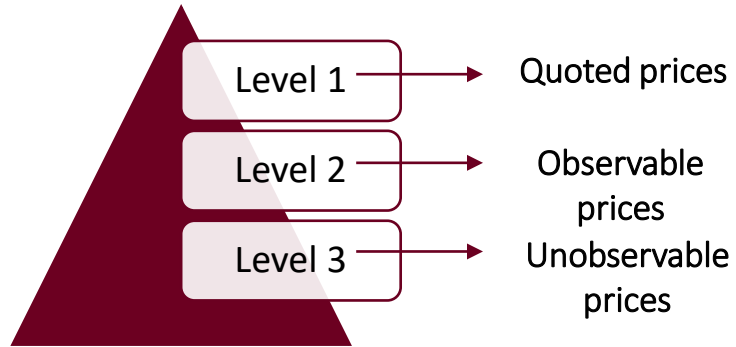
- Fair value of assets on a standalone basis vs in combination with other assets and liabilities.
- The concepts of highest and best use and valuation premise are only **relevant for non-financial assets**.

The highest and best use of a **NONFINANCIAL ASSET** takes into account the use of the asset that is:



*It is determined from the perspective of market participants, even if the entity intends a different use.*

## Hierarchy of value



Hierarchy of fair value inputs

Particulars	Level 1	Level 2	Level 3
Definition	Quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at the measurement date	Inputs other than quoted prices included within the level 1 that are observable for asset or liability, either directly or indirectly	Unobservable inputs for the asset or liability. (Reporting entity's own data)

- **Observable inputs** - Observable inputs are publicly available information about actual events or transactions.
- **Unobservable inputs** - Unobservable inputs are inputs for which there is no market data available

# Intangible valuation



## What are intangible assets?

- ICAI Valuation Standard 302 define intangible assets as “an **identifiable non-monetary asset** without physical substance.”
- Lacks physical properties and represents **legal rights developed** or **acquired** by an owner;

An entity for the purpose of recognition of an item as an intangible asset requires to demonstrate that the intangible

- **Meets definition** of intangible asset **AND**.
- **Meets the Recognition criteria**
  - **Probability of future economic benefits**
  - **The cost of the asset can be measured reliably.**

## Financial reporting

- Purchase price allocation
- Fair valuation of intangible assets acquired in course of an acquisition
- Impairment testing

## Taxation support

- Transfer of intangible asset to related party (Transfer pricing)
- Estate or gift planning

## Financing support

- For the purpose of providing the asset as collateral

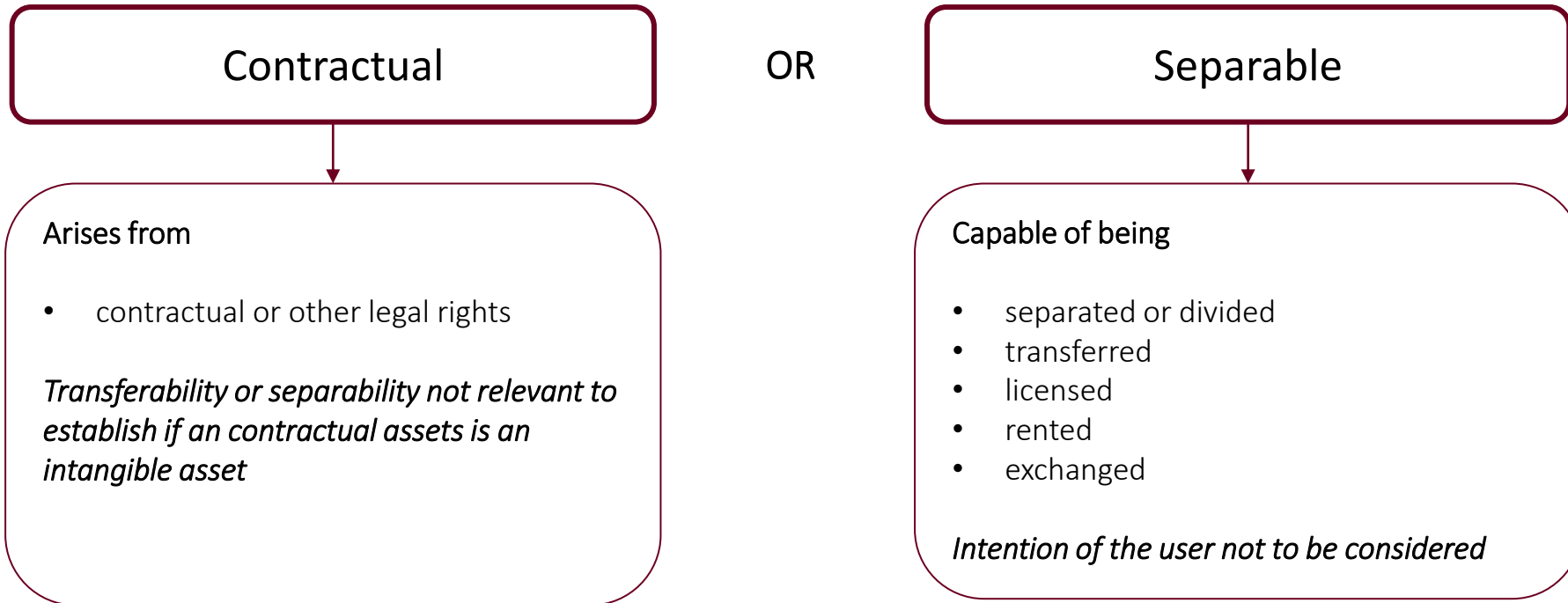
## Transaction support

- Determination of fair value for purpose of sale or purchase of such asset
- Determining the licensing terms with respect to such asset

## Dispute resolution

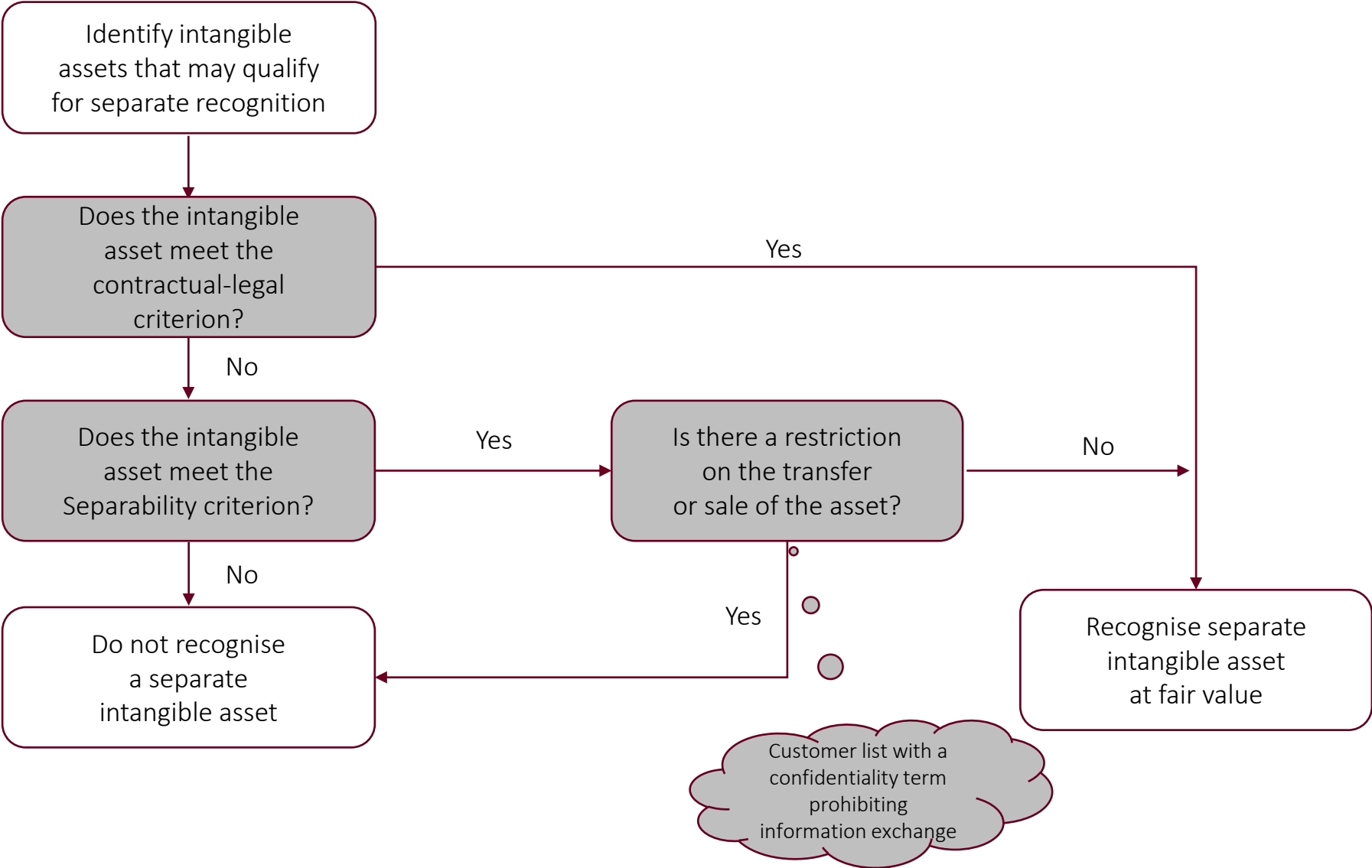
- Infringement
- Bankruptcy/ Insolvency and Bankruptcy code
- Martial and family dissolution

How does one identify an intangible asset?



*Intangible assets that **do not qualify** for the separability criterion or the contractual-legal criterion are **subsumed into goodwill**.*

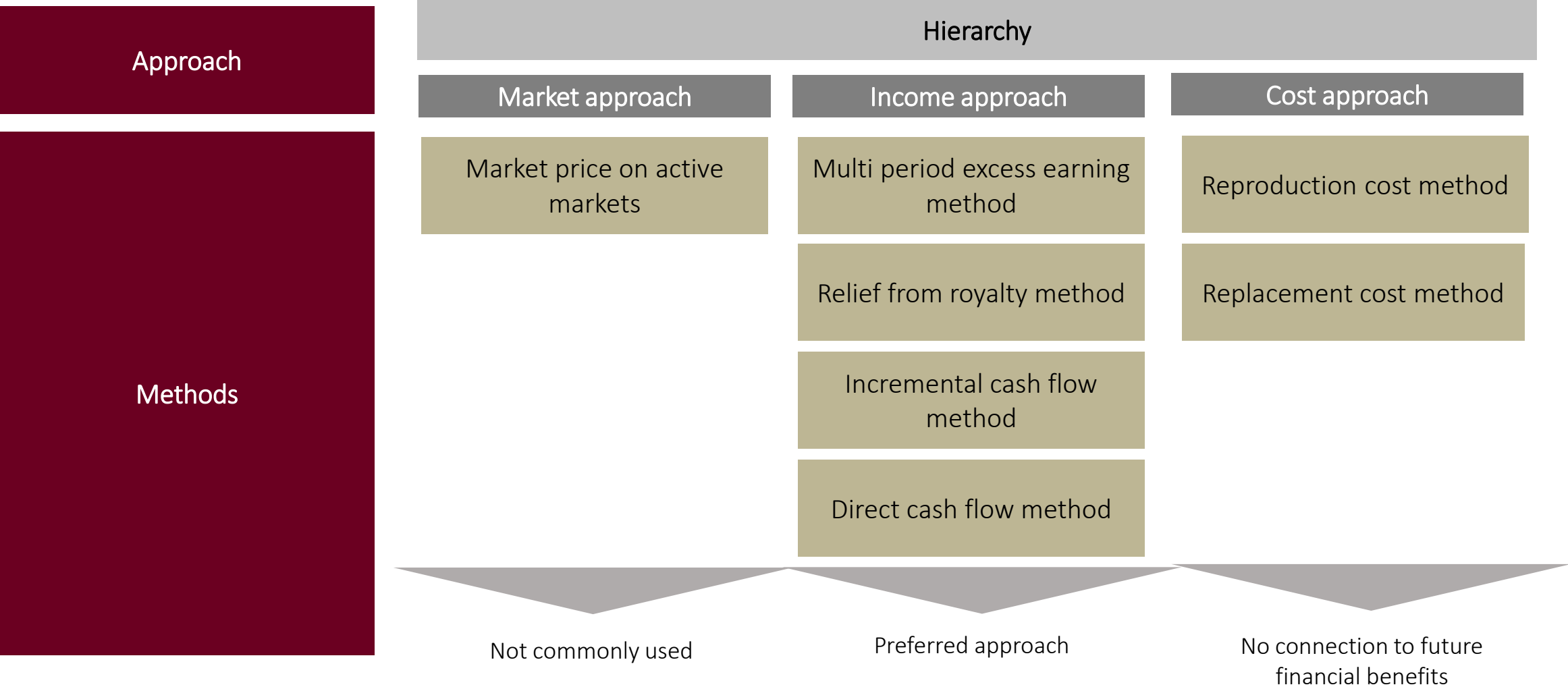
*Some of the intangibles merged with goodwill are **assembled workforce, buyer specific synergies, distribution channels, technical knowledge, training and recruitment programs, customer service capability, product or service support, effective advertising programs etc.***





Intangible asset	Contractual- legal criterion	Separability criterion
<p><b>Contract based:</b></p> <ul style="list-style-type: none"> <li>- Licensing, royalty, standstill agreements</li> <li>- Advertising, construction, management, service or supply contracts</li> <li>- Lease agreements</li> <li>- Construction permits</li> <li>- Franchise agreements</li> <li>- Operating and broadcast rights</li> <li>- Use rights, such as drilling, water, air, mineral, timber cutting, and route authorities</li> <li>- Servicing contracts (e.g., mortgage servicing contracts)</li> <li>- Employment contracts</li> </ul> <p><b>Technology based:</b></p> <ul style="list-style-type: none"> <li>- Patented technology</li> <li>- Research and development</li> <li>- Computer software and mask works</li> <li>- Unpatented technology</li> <li>- Databases, including title plants</li> <li>- Trade secrets, such as secret formulas, processes, recipes</li> </ul>	<ul style="list-style-type: none"> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> <li>✓</li> </ul>	<ul style="list-style-type: none"> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li>✓</li> <li>✓</li> <li>✓</li> </ul>

## Measurement – Valuation approaches



As a final step, the overall valuation analysis is documented in a self-contained valuation report with comprehensive narrative detailing engagement finding and supporting exhibits





The extensive economic changes provoked by the COVID-19-crisis have led to some urgent questions regarding the business valuation.

- It's essential to consider the specific purpose of the valuation when deciding how much of the market's volatility to import into the valuation.
- Assumptions should be challenged to determine if management expectations fully reflect the implications of recent events and whether these are captured in the cash flows
- **Valuation date:** An assessment based on the specific valuation date, with respect to information available must be made to determine the known and knowable.
- **Selecting the valuation method and additional considerations:**
  1. Income approach (DCF) : Alternative ways to calculate the DCF value include using multiple scenarios or multiple discount rates to model the business' performance and account for risk over projection periods. Further adjustments to market inputs being used in the discount rate might be appropriate to capture a higher level of uncertainty.
  2. Market approach (GPCM): Use of multiples as on the valuation date needs to be considered carefully and deliberation to use short term averages for financial metrics like the share price is important.
- **Use of ranges:** Value conclusions might be subjected to wider lower and higher ranges of value.

# QUESTIONS?

For any questions, please contact:

**Rajesh C. Khairajani**

rajesh.khairajani@knavcpa.com | +91 98203 18265

**Anand Shah**

anand.shah@knavcpa.com | +91 98190 01170

## OUR OFFICES

### INDIA

Mumbai  
201/202, Naman Centre,  
G-Block, Bandra-Kurla Complex,  
Bandra (East), Mumbai – 400 051

Pune  
A 401, Lotus Siddhi, Survey no. 162,  
D.P. Road, Aundh, Pune - 411007

### SINGAPORE

60, Paya Lebar Road, #06-15,  
Paya Lebar Square, Singapore 409051

### NETHERLANDS

Fokkerstraat 12,3833 LD Leusden, The Netherlands

### UK

57-67 High St,Edgware, HA8 7DD, U.K

### USA

Atlanta  
One Lakeside Commons, Suite 850,  
990 Hammond Drive NE, Atlanta, GA 30328

California  
521 Buena Vista Ave,Apt 109  
Alameda, CA 94501

### CANADA

55 York Street, Suite 401,  
Toronto, ON M5J 1R7, Canada

USA | UK | INDIA | NETHERLANDS | CANADA | SINGAPORE

Website: [www.knavcpa.com](http://www.knavcpa.com)