

श्री जगदीश

श्री अरवि चण्डा

श्री अरवि चण्डा

Ind As 113

## Fair Value Measurement

Objectives :- is to estimate the price at which asset can be sold or liability can be transferred. (to estimate exit price)

Applicability :- it prescribes principles for determination of fair value for being used in other Ind As.

Such as

\* FV less cost to sell

- \* FV of J.I.
- \* FV of PPE for Rev. model
- \* FV of biological Asset in Ind AS 41

but not:

- \* fair value options in SBP
- \* fair value used in lease asset
- \* NRV
- \* Value in use

Meaning of fair value :- F.V. is the price at which

asset can be sold

or

Liabilities can be settled

in an orderly transaction between market participants at measurement date.  
(lot of buyers & sellers)

Note:- while calculating fair value

↳ entity specific restriction should not be considered.

↳ A/L specific restriction should be considered.

Market :-

I<sup>st</sup> pref  
principal market

Active market where lot of buyers & sellers are there.

$$FV = SP - \text{Transportation Cost}$$

II<sup>nd</sup> pref.  
most advantageous market

Market where net proceeds from sale of Asset is maximum & Liability is minimum

$$FV = SP - \text{Transportation Cost} - \text{Transaction Cost}$$

# Calculations of fair value :-

market based  
(1st pref)

$$FV = SP - \text{Transportation cost}$$

it is also known as market price.

Hierarchy.

1st → level 1 → Quoted MP

2nd → level 2 → M.P adjusted with observable inputs.

3rd → level 3 → MP based on Unobservable inputs.

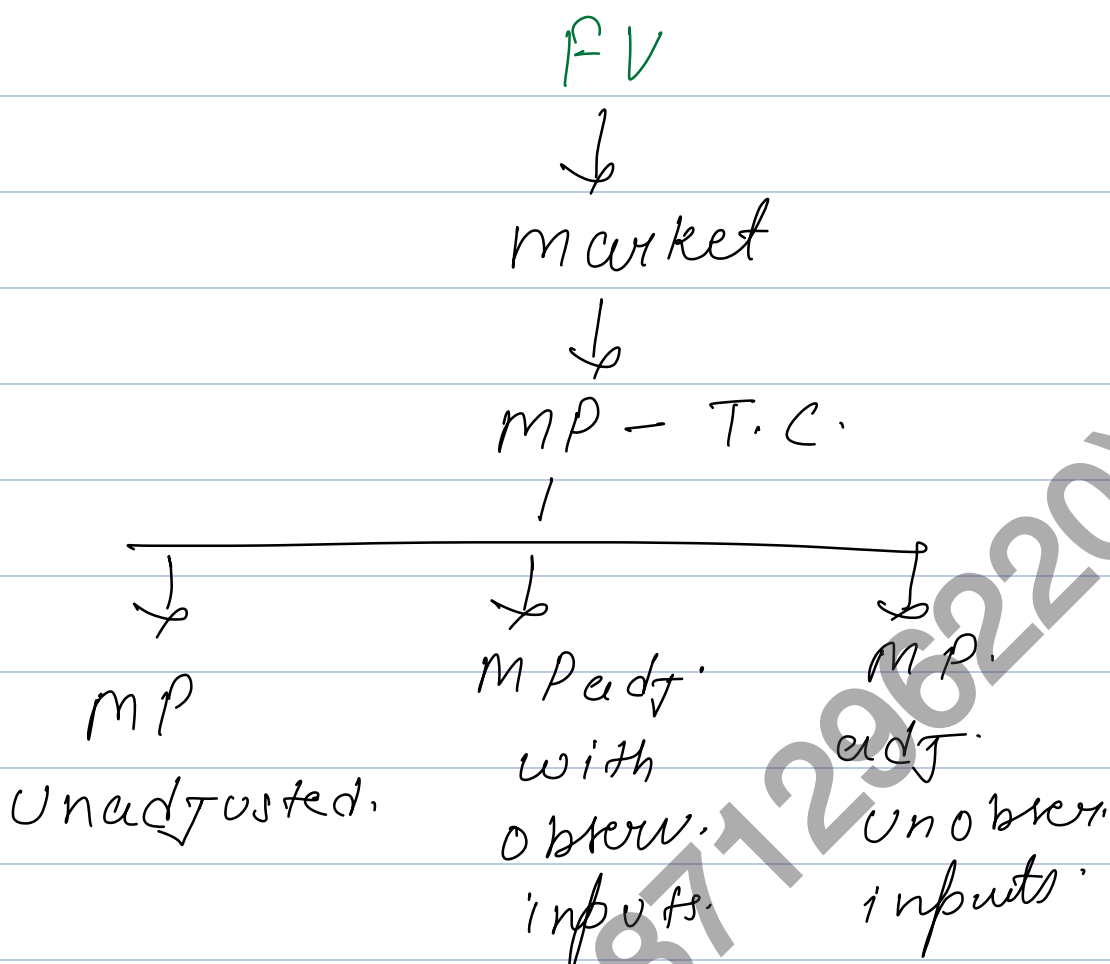
Income based  
(2nd pref)

- 1) PV Techniques
- 2) Option pricing model

F.M. concepts.

Cost based.  
(3rd pref)

$$FV = \text{Cost of Replacement}$$



FV of

Asset

Liability

Equity

Ist pref → market based.

↓

Principle market

IIInd pref → most advantageous

→ exit price

→ Liability will not extinguish.

→ Credit risk of both parties (i.e. buyer & seller) should be

Enterprise value per share.

Provided

- ↳ legally permissible
- ↳ financially viable

↳ physically possible.

Considered.

Refer module Q.2 TYR & Q.6

\* if amount & period is specific

then we  $FV = PV \text{ of liability}$

\* else  $\Rightarrow f.v. = \text{trf. price.}$

no. of times of EBITA.

Similar transactions

Equity shares.

Enterprise value.

$FV \Rightarrow \frac{\text{no. of eq. shares.}}$

PV of future cash flows

+ f.v. increase in Asset

+ C.S.C.E.

- Debts.

inv't in equity

X stake %

- Liquidity discount (exany)

$FV \Rightarrow \boxed{xxx}$

1. An asset is sold in 2 different active markets at different prices. An entity enters into transactions in both markets and can access the price in those markets for the asset at the measurement date.

**In Market A:**

The price that would be received is ₹ 26, transaction costs in that market are ₹ 3 and the costs to transport the asset to that market are ₹ 2.

**In Market B:**

The price that would be received is ₹ 25, transaction costs in that market are ₹ 1 and the costs to transport the asset to that market are ₹ 2.

You are required to calculate:

- The fair value of the asset, if market A is the principal market, and
- The fair value of the asset, if none of the markets is principal market.

Sol<sup>n</sup> :- i) if market A is principal market

$$\begin{aligned} \text{FV of Asset} &= \text{SP} - \text{Transportation Cost} \\ &= ₹ 26 - ₹ 2 \\ &= ₹ 24 \end{aligned}$$

ii) if neither of market is principal market then  
FV of asset.

	A	B
S.P.	26	25
- Transportation cost	(2)	(2)
- Transaction cost	(3)	(1)
FV	<u>21</u>	<u>22</u>

∴ Net proceeds are higher in market B.  
∴ FV of Asset in market B is considered.

$$\begin{array}{r}
 SP = 25 \\
 - \text{Transp. Cost (2)} \\
 \hline
 \text{J.V. } \underline{23}
 \end{array}$$

Q.3 ABC Ltd. acquired 5% equity shares of XYZ Ltd. for ₹ 10 crores in the year 20X1-20X2. The company is in process of preparing the financial statements for the year 20X2-20X3 and is assessing the fair value at subsequent measurement of the investment made in XYZ Ltd. Based on the observable input, ABC Ltd. identified a similar nature of transaction in which PQR Ltd. acquired 20% equity shares in XYZ Ltd. for ₹ 60 crores. The price of such transaction was determined on the basis of Comparable Companies Method (CCM)-Enterprise Value (EV) / EBITDA which was 8. For the current year, the EBITDA of XYZ Ltd. is ₹ 40 crores. At the time of acquisition, the valuation was determined after considering 5% of liquidity discount and 5% of non-controlling stake discount. What will be the fair value of ABC Ltd.'s investment in XYZ Ltd. as on the balance sheet date?

Soln :-  $\therefore \frac{EV}{EBITDA} = 8 \quad \& \quad EBITDA = 40 \text{ Cr}$

$$\therefore EV = 8 \times 40 \text{ Cr}$$

$$EV = 320 \text{ Cr}$$

ABC's investment in E. sh. of XYZ Ltd of 5%  
Stake

$$FV \Rightarrow EV \times \text{invst stake} - 10\% \text{ Disc}$$

$$\Rightarrow 320 \text{ Cr} \times 5\% - 10\%$$

$$\Rightarrow 16 \text{ Cr} - 10\%$$

⇒ 14.4 Qs.

Q.4 UK Ltd. is in the process of acquisition of shares of PT Ltd. as part of business reorganization plan. The projected free cash flows of PT Ltd. for the next 5 years are as follows:

(₹ in crores)

Particulars	Year 1	Year 2	Year 3	Year 4	Year 5
Cash flows	187.1	187.6	121.8	269	278.8
Terminal Value					3,965

The weightage average cost of capital of PT Ltd. is 11%. The total debt as on measurement date is ₹ 1,465 crores and the surplus cash & cash equivalent is ₹ 106.14 crores.

The total numbers of shares of PT Ltd. as on the measurement date is 8,52,84,223 shares. Determine value per share of PT Ltd. as per Income Approach.

compulsory

Soln:

Year	Step 1 Cash flows	PV of CF @ 11%	of future cash flows	P.V.
1	187.1	0.909		168.558
2	187.6	0.8116		152.256
3	121.8	0.7312		89.060
4	269	0.6587		177.19
5	278.8	0.5934		165.478

5

3965

0.5934

2353.23

3105.76

Step 2 EV

PV of future cash flows	3105.76
+ CSCE	106.14
- Debt	(1465)
	<u>1746.90</u>

E.V.

Step 3 FV of E. sh.

$$= \frac{EV}{\text{no. of Eq. sh.}}$$

$$= \frac{1746.90}{85284223} = \underline{\underline{204.83}}$$

Q.5 You are a senior consultant of your firm and are in process of determining the valuation of KK Ltd. You have determined the valuation of the company by two approaches i.e. Market Approach and Income approach and selected the highest as the final value. However, based upon the discussion with your partner you have been requested to assign equal weights to both the approaches and determine a fair value of shares of KK Ltd. The details of the KK Ltd. are as follows:

Particulars	₹ in crore
Valuation as per Market Approach ✓	5268.2
Valuation as per Income Approach ✓	3235.2
Debt obligation as on Measurement date	1465.9

Surplus cash & cash equivalent	106.14
Fair value of surplus assets and Liabilities	312.4
Number of shares of KK Ltd.	8,52,84,223 shares

Determine the Equity value of KK Ltd. as on the measurement date on the basis of above details.

(4) Dec 21

Sol<sup>n</sup> :- Step 1 weighted avg of M.A + I.A.

$$\Rightarrow \frac{5268.2 \text{ Cr} \times 50 + 3135.2 \times 50}{50 + 50}$$

$$\Rightarrow 4251.7$$

Step 2

EV

M.A + I.A

$$\Rightarrow 4251.7$$

+ C.SCE

$$106.14$$

+ f.v. increase

$$312.4$$

- Debt.

$$(1465.9)$$

$$\underline{3204.34}$$

Step 3 FV of E. sh.

$$= \frac{\text{FV}}{\text{no. of eq. sh.}} = \frac{3204.34}{85284223}$$

7. On 1<sup>st</sup> January, 20X1, A Ltd assumes a decommissioning liability in a business combination. The reporting entity is legally required to dismantle and remove an offshore oil platform at the end of its useful life, which is estimated to be 10 years. The following information is relevant:

If A Ltd was contractually allowed to transfer its decommissioning liability to a market participant, it concludes that a market participant would use all of the following inputs, probability weighted as appropriate, when estimating the price it would expect to receive:

a. Labour costs

Labour costs are developed based on current marketplace wages, adjusted for expectations of future wage increases, required to hire contractors to dismantle and remove offshore oil platforms. A Ltd. assigns probability to a range of cash flow estimates as follows:

Cash Flow Estimates:	100 Cr	125 Cr	175 Cr
Probability:	25%	50%	25%

b. Allocation of overhead costs:

Assigned at 80% of labour cost

c. The compensation that a market participant would require for undertaking the activity and for assuming the risk associated with the obligation to dismantle and remove the asset. Such compensation includes both of the following:

i. Profit on labour and overhead costs:

A profit mark-up of 20% is consistent with the rate that a market participant would require as compensation for undertaking the activity

ii. The risk that the actual cash outflows might differ from those expected, excluding inflation:

A Ltd. estimates the amount of that premium to be 5% of the expected cash flows. The expected cash flows are 'real cash flows' / 'cash flows in terms of monetary value today'.

d. Effect of inflation on estimated costs and profits

A Ltd. assumes a rate of inflation of 4 percent over the 10-year period based on available market data.

e. Time value of money, represented by the risk-free rate: 5%

f. Non-performance risk relating to the risk that Entity A will not fulfill the obligation, including A Ltd.'s own credit risk: 3.5%

A Ltd, concludes that its assumptions would be used by market participants. In addition, A Ltd. does not adjust its fair value measurement for the existence of a restriction preventing it from transferring the liability.

You are required to calculate the fair value of the asset retirement obligation.

*increase*

*COE*

*573.6*

Soln  
✂

		Amount (In Crore)
Expected Labour Cost (Refer W.N.)		131.25
Allocated Overheads	(80% x 131.25 Cr)	105.00
Profit markup on Cost	(131.25 + 105) x 20%	47.25
<b>Total Expected Cash Flows before inflation (Pr of d. C.F.)</b>		<b>283.50</b>
Inflation factor for next 10 years (4%)	$(1.04)^{10} = 1.4802$	
Expected cash flows adjusted for inflation	$283.50 \times 1.4802$	419.65
Risk adjustment - uncertainty relating to cash flows	$(5\% \times 419.64)$	20.98
<b>Total Expected Cash Flows</b>	$(419.65 + 20.98)$	<b>440.63</b>
Discount rate to be considered = risk-free rate + entity's non-performance risk	$5\% + 3.5\% \rightarrow$ over 10 years	8.5%
<b>Expected present value at 8.5% for 10 years</b>	$(440.63 / (1.085^{10}))$	<b>194.97</b>

after taking dis. rate into consid

**Working Note:**

**Expected labour cost:**

Cash Flows Estimates	Probability	Expected Cash Flows
100 Cr	25%	25 Cr
125 Cr	50%	62.50 Cr
175 Cr	25%	43.75 Cr
<b>Total</b>		<b>131.25 Cr</b>

F.V.

6. Comment on the following by quoting references from appropriate Ind AS.

(i) DS Limited holds some vacant land for which the use is not yet determined. The land is situated in a prominent area of the city where lot of commercial complexes are coming up and there is no legal restriction to convert the land into a commercial land.

The company is not interested in developing the land to a commercial complex as it is not its business objective. Currently the land has been let out as a parking lot for the commercial complexes around.

The Company has classified the above property as investment property. It has approached you, an expert in valuation, to obtain fair value of the land for the purpose of disclosure under Ind AS.

On what basis will the land be fair valued under Ind AS?

Asset

- (i) As per Ind AS 113, a fair value measurement of a non-financial asset takes into account a market participant's 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.

The highest and best use of a non-financial asset takes into account the use of the asset that is physically possible, legally permissible and financially feasible, as follows:

- (a) A use that is physically possible takes into account the physical characteristics of the asset that market participants would take into account when pricing the asset (eg the location or size of a property).
- (b) A use that is legally permissible takes into account any legal restrictions on the use of the asset that market participants would take into account when pricing the asset (eg the zoning regulations applicable to a property).
- (c) A use that is financially feasible takes into account whether a use of the asset that is physically possible and legally permissible generates adequate income or cash flows (taking into account the costs of converting the asset to that use) to produce an investment return that market participants would require from an investment in that asset put to that use.

Highest and best use is determined from the perspective of market participants, even if the entity intends a different use. However, an entity's current use of a non-financial asset is presumed to be its highest and best use unless market or other factors suggest that a different use by market participants would maximise the value of the asset.

To protect its competitive position, or for other reasons, an entity may intend not to use an acquired non-financial asset actively or it may intend not to use the asset according to its highest and best use. Nevertheless, the entity shall measure the fair value of a non-financial asset assuming its highest and best use by market participants.

In the given case, the highest best possible use of the land is to develop a commercial complex. Although developing a business complex is against the business objective of the entity, it does not affect the basis of fair valuation as Ind AS 113 does not consider an entity specific restriction for measuring the fair value.

Also, its current use as a parking lot is not the highest best use as the land has the potential of being used for building a commercial complex.

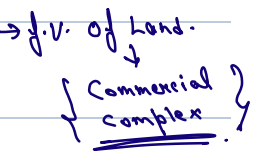
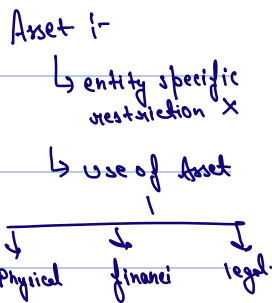
Therefore, the fair value of the land is the price that would be received when sold to a market participant who is interested in developing a commercial complex.

- (ii) DS Limited holds equity shares of a private company. In order to determine the fair value' of the shares, the company used discounted cash flow method as there were no similar shares available in the market.

Under which level of fair value hierarchy will the above inputs be classified? L.3.

What will be your answer if the quoted price of similar companies were available and can be used for fair valuation of the shares?

L-2. Observable inputs.



Q. 6

As per Ind AS 113, 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. The unobservable inputs shall reflect the assumptions that market participants would use when pricing the asset or liability, including assumptions about risk.

In the given case, DS Limited adopted discounted cash flow method, commonly used technique to value shares, to fair value the shares of the private company as there were no similar shares traded in the market. Hence, it falls under Level 3 of fair value hierarchy.

Level 2 inputs include the following:

- (a) quoted prices for similar assets or liabilities in active markets.
- (b) quoted prices for identical or similar assets or liabilities in markets that are not active.
- (c) inputs other than quoted prices that are observable for the asset or liability.

If an entity can access quoted price in active markets for identical assets or liabilities of similar companies which can be used for fair valuation of the shares without any adjustment, at the measurement date, then it will be considered as observable input and would be considered as Level 2 inputs.

Read.

Sol<sup>n</sup> to Q.7.1

Particulars	₹ in Crores.	
i) Expected labour cost. (100 Cr x 25% + 125 Cr x 50% + 175 Cr x 25%)	131.25	
ii) Over head cost (80% of 131.25)	105	
Total (labour + overhead)	236.25	
+ profit (20% markup) (236.25 x 20%)	47.25	
Total cost before inflation		283.50
X PVA of @4% for 10 years		X 1.48

total Expected Cashflows	419.65
Add:- Risk adjustment $(419.65 \times 5\%)$	20.98
Total Cashflows.	440.63
X Non performance Risk (8.5%) for 10 years	X 0.442
P.V. of Cashflows Considering risk	194.88

8. (i) Entity A owns 250 ordinary shares in company XYZ, an unquoted company. Company XYZ has a total share capital of 5,000 shares with nominal value of ₹ 10. Entity XYZ's after-tax maintainable profits are estimated at ₹ 70,000 per year. An appropriate price/earnings ratio determined from published industry data is 15 (before lack of marketability adjustment). Entity A's management estimates that the discount for the lack of marketability of company XYZ's shares and restrictions on their transfer is 20%. Entity A values its holding in company XYZ's shares based on earnings. Determine the fair value of Entity A's investment in XYZ's shares.
- (ii) Based on the facts given in the aforementioned part (i), assume that, Entity A estimates the fair value of the shares it owns in company XYZ using a net asset valuation technique. The fair value of company XYZ's net assets including those recognised in its balance sheet and those that are not recognised is ₹ 8,50,000. Determine the fair value of Entity A's investment in XYZ's shares.

Soln:-

- (i) An earnings-based valuation of Entity A's holding of shares in company XYZ could be calculated as follows:

Particulars	Unit
Entity XYZ's after-tax maintainable profits (A)	₹ 70,000
Price/Earnings ratio (B)	15
Adjusted discount factor (C) $(1 - 0.20)$	0.80
Value of Company XYZ $(A) \times (B) \times (C)$	₹ 8,40,000

Value of a share of XYZ = ₹ 8,40,000 ÷ 5,000 shares = ₹ 168

The fair value of Entity A's investment in XYZ's shares is estimated at ₹ 42,000 (that is, 250 shares x ₹ 168 per share).

(ii) Share price = ₹ 8,50,000 ÷ 5,000 shares = ₹ 170 per share.

The fair value of Entity A's investment in XYZ shares is estimated to be ₹ 42,500 (250 shares x ₹ 170 per share).

Solve all Q.B. Questions.

FR with HD (8871296220)