

Broad Categories of Machines

Topics

- ▶ Valuation of a machine for which current cost of identical brand-new machine is available
- ▶ Valuation of a machine for which current cost of identical brand-new machine is not available
- ▶ Valuation of a machine which is no longer manufactured
- ▶ Reasons for difference in price of machines with same technical specifications and features by different manufacturers
- ▶ Factors to be considered while adopting cost approach
- ▶ Data collection and valuation analysis under: cost, market and income approaches
- ▶ Leasing of plant and machinery

Experience

- ▶ During valuation we find
 - ▶ A large variety of similar machines.
 - ▶ Age difference / Technology difference / Maker difference / Capacity difference
 - ▶ Special purpose machine for a specific need.
 - ▶ These machines are NOT available in the market.
 - ▶ Similar may be available.

We will consider several approaches in these circumstances.

Case 1 :: Similar Machine from same maker

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- ▶ Take present cost
- ▶ Put the depreciation as per company law
- ▶ This is the valuation.

Cost of new machine = Rs 5 lakh

Age of machine to be valued = 3 years

Total age of machine as per company law = 15 years

Residual value = 5%

Depreciation per year. = $(100 - 5)/15 = 6.33\%$

Depreciation on SLM = $3 \times 6.33 = 19\%$

Value = new value – depreciation = $5 - 5 \times 19\% = \text{Rs } 4.05 \text{ lakh}$

Value with Written Down Value

Starting year	Value	Depreciation @6.33%	Remaining value
Year 0	5.00	0.32	4.68
Year 1	4.68	0.3	4.38
Year 2	4.38	0.28	4.10
Year 3	4.10	0.26	3.84

Case 2 :: Current cost of present brand new machine is NOT available

- ▶ Usual case
- ▶ Machines improve
 - ▶ Competition
 - ▶ Technology
 - ▶ Materials

It is very difficult to find same machine from the same maker.

So we get a similar machine and

Adjustments have to made.

Replacement in Kind & Utility

Machine to be of

Similar work, similar utility. **UTILITY & WORK ARE IMPORTANT**

KEY RULES of Adjustment ::

Any attribute positive – put a negative percent.

Any attribute negative – put a positive percent.

Attribute	What it is	
Energy Consumption	Better by 15%	-0.15
Consumables consumption	Better by 10%	-0.1
Space used	Better by 5%	-0.05
TOTAL		-0.3

Replacement Cost New = 3 lakh (the new machine price) X (1-0.3) = Rs 2.1 lakh

Case 3:: Machine no longer manufactured



- ▶ Special purposes machine
- ▶ Technology is so old that it is not economical to us.
- ▶ Manufacturer is bankrupt / sold off.

Look for machine as much similar as possible.

Compare the basic utility attributes.

Ignore what is not important.

(Only direct costs are to be compared)

Old & Outdated machines discontinued

- ▶ Old machine – purchased 10 years ago – Rs 1.5 Lakh
- ▶ Latest machine is Rs 5.0 lakh
- ▶ Comparison below

Attribute	What it is	Factor
Energy Consumption	Better by 10%	-0.1
Consumables Consumption	Better by 10%	-0.1
Space used	Less by 5%	-0.05
Productivity / Wages	Less by 15%	-0.15
Capacity	Double	NIL
TOTAL		-0.4

Replacement Cost New = 5 lakh (the new machine price) X (1-0.4) = Rs 3.0 lakh

Reasons of difference in price

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- ▶ Better Capacity
- ▶ Better accuracy
- ▶ Better productivity
- ▶ Better automation
- ▶ Lower breakdown
- ▶ Longer life
- ▶ Better brand
- ▶ Better resale value
- ▶ More flexible

Factors for COST APPROACH

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- ▶ Normally on DRC (Depreciated Replacement Cost)
 - ▶ New machine cost
 - ▶ Use factorization to get the equated value.
 - ▶ Put the depreciation for the years used.
 - ▶ Deduct the depreciation
 - ▶ That is DRC
 - ▶ EXCEPT if there is a permanent diminution, then the recoverable amount.
- ▶ If there is decommissioning to be done..
 - ▶ Cost of dismantling, decommissioning & demolition to be reflected in the report – even if that has a total of negative value.
 - ▶ Negative asset value may also come – if there is a cost of disposal
 - ▶ Common in advance countries.

- ▶ If there is transfer to other site
 - ▶ Assets to be transferred from one site to other.
 - ▶ Cost of removal,
 - ▶ Cost of transportation
 - ▶ Cost of reinstalling & re starting (foundation cost including) is considered.
- ▶ Factors that may influence future utilization to be taken in account.
 - ▶ Law changes,
 - ▶ Material supply,
 - ▶ Life of building,
 - ▶ Different licencing
- ▶ DRC based valuation is based on potential profitability.
- ▶ Market conditions to be kept in mind
 - ▶ Time limit sale – forced sale
 - ▶ Technology running in the market.

Data Collection & Analysis in 3 approach

Approach	How to do	Details
Replacement Cost New	Float inquiries	Get tech specs from PO & tech team
	Use price Indexes	Take care of .. Right historic cost, right index, similar conditions
Market / Sale comparison	Get the comparable market price	Date of purchase, Maker name & country, Purchase price / sale price Condition at the time of purchase, Terms of sale
	If dis-similar machines	Use the comparative model or weighted average method
	Try to get international price from web sites	
Income Method / Capitalized Method	How much income can be derived from the machine	See next slide

Capitalized Income Method

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- ▶ To consider
 - ▶ Income & Expense history of the asset.
 - ▶ Income & expense of a comparative asset
 - ▶ Any rental that has happened or running for similar asset?
 - ▶ Maintenance expense of the said asset and how does it compare with others
 - ▶ Operating Data
 - ▶ Market Expectations
 - ▶ Replacement allowances that will be made.

Lease Case

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- ▶ Terms & conditions of lease.
- ▶ Lease rent?
- ▶ Penalty clauses
- ▶ Wet or dry lease?
- ▶ Premium paid if any?
- ▶ Return provisions?
- ▶ Buy back after lease?

... continued

- ▶ To confirm
 - ▶ Rental history – if any
 - ▶ Maintenance history & Expense Plus projected in future.
 - ▶ General & Administrative expense done so far
 - ▶ Marketing & Advertisement expense.
 - ▶ Social taste & preference of the product manufactured from the asset.
- ▶ For rate of capitalization
 - ▶ Risk free rate of return in the market. (Bank FD rates)
 - ▶ Additional risks if any.
 - ▶ Effect of inflation.

The Value is derived by

- *Net Income X YP*
- *Total discounted income over remaining economic balance life.*

thanks

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Categories of machines found.

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Case		To Consider	
Identical Machine from the original maker	Easy to do. Ascertain depreciation	Age, Usage, Estimated balance life	
Original make stops, but similar machine from alternate source	Can be accepted with consideration of adjustment	Replacement of kind annuity to be done	Difference – Brand, Quality, Capacity etc.
Old & outdated machines that are no more available.	Compare with a new machine taking in consideration	Tech specs, Direct Wages, Consumables, Direct Energy, Fixed cost, Space, maintenance etc	With appropriate adjustments