

UNIT 1: CONCEPT OF VALUATION**1.1 Introduction**

Valuation is the process of estimating what something is worth. Items that are usually valued are either financial assets or liabilities. Valuation can be used as a very effective business tool by management for better decision making throughout the life of the enterprise. Valuations are needed for many reasons such as investment analysis, capital budgeting, merger and acquisition transactions, financial reporting, determination of tax liability and in litigation.

Companies are governed and valuations are influenced by the market supply-demand life cycles along with product and technology supply-demand lifecycles. Correspondingly, the value of an enterprise over the course of its life peaks with the market and product / technology factors. Both financial investors such as venture capitalists and entrepreneurs involved in a venture would ideally like to exit the venture in some form near the peak to maximize their return on investment. Thus, valuation helps determine the exit value of an enterprise at that peak. This exit value typically includes the tangible and intangible value of the company's assets. Tangible value would typically include balance sheet items recorded as the book value of the enterprise. Intangibles would typically include intellectual property, human capital, brand and customers, among others. In more traditional companies considering the private equity markets, the value of intangibles is much higher than the value of the tangible assets. Therefore, an effective enterprise valuation methodology needs to be developed.

One can also define valuation as Measurement of value in monetary terms. Measurement of income and valuation of wealth are two interdependent core aspects of financial accounting and reporting. Wealth comprises of assets and liabilities. Valuation of assets and liabilities are made to portray the wealth position of a firm through a balance sheet and to supply logistics to the measure of the periodical income of the firm through a profit and loss account.

Again valuation of business and valuation of share are made through financial statement analysis for management appraisal and investment decisions. Valuation is pivotal in strategic, long term or short term decision making process in cases like reorganization of company, merger and acquisition, extension or diversification, or for launching new schemes or projects. As the application area of valuation moves from financial accounting to financial management, the role of accountant also undergoes a transition. That order of transition in the concept and use of valuation process is followed in the subsequent units of this chapter.

1.2 Concept of Valuation

Valuation means measurement of an item in monetary term. The subjects of valuation are varied as stated below:

- ◆ Valuation of Tangible Fixed Assets
- ◆ Valuation of Intangibles including brand valuation and valuation of goodwill
- ◆ Valuation of Shares
- ◆ Valuation of Business

The objectives of valuation are again different in different areas of application in financial accounting and in financial management.

1.3 Need for Valuation

Financial statements must give a “true and fair view” of the state of affairs of a company as per provisions of the Companies Act. Proper valuation of all assets and liabilities is required to ensure true and fair financial position of the business entity. In other words, all matters which affect the financial position of the business have to be disclosed. Under or overvaluation of assets may not only affect the operating results and financial position of the current period but will also affect these for the next accounting period. The present unit deals with different principles involved in the valuation of different types of assets.

For the purposes of Part I of Schedule III to the Companies Act, 2013 assets are classified as (i) Non-current assets and (ii) current assets. Non-current assets have been further sub-classified into (a) fixed assets i.e. tangible assets, intangible assets, capital W.I.P. and intangible assets under development (b) non-current investments (c) deferred tax assets (Net) (d) long term loans and advances and (e) other non-current assets. Current assets have been further sub-classified into (a) Current Investments (b) Inventories (c) Trade Receivables (d) Cash and Cash Equivalents (e) Short Term Loans and Advances and (f) Other Current Assets.

The students are expected to learn the essence and modalities of valuation, a core function in financial accounting. Valuation is done sometimes by the Chartered Valuers /Engineers in cases where technical inputs and knowledge is required to arrive at the Fair value and accepted by various Government and Statutory Authorities. Students should be familiar with these valuation Reports and their basis of valuation.

Different approaches to valuation of different kinds of assets and liabilities in different perspectives have pushed the role of accountant to a complex position. This chapter is aimed to differentiate the objectives, approaches and methods of valuation in order to integrate them in a comprehensive logical frame. In this chapter, we shall discuss valuation of tangible fixed assets following the requirement of the Companies Act and guidelines of AS 10 ‘Property, Plant and Equipment’, AS 12 ‘Accounting for Government Grants’ and AS 14 ‘Accounting for Amalgamations’.

1.4 Bases of Valuation

A number of different measurement bases are employed to different degrees and in varying combinations in valuation of different assets in different areas of application. They include the following:

- (a) *Historical cost.* Assets are recorded at the amount of cash or cash equivalents paid or the fair value of the other consideration given to acquire them at the time of their acquisition.
- (b) *Current cost.* Assets are carried at the amount of cash or cash equivalents that would have to be paid if the same or an equivalent asset were acquired currently.
- (c) *Realizable (settlement) value.* Assets are carried at the amount of cash or cash equivalents that could currently be obtained by selling the asset in an orderly disposal.
- (d) *Present value.* Assets are carried at the present value of the future net cash inflows that the item is expected to generate in the normal course of business.

Other generally used valuation bases are as follows:

Net Realizable Value (NRV): This is same as the Realizable (settlement) value. This is the value (net of expenses) that can be realized by disposing off the assets in an orderly manner. Net selling price or exit values also convey the same meaning.

Economic value: This is same as the present value. The other name of it is value to business.

Replacement (cost) value: This is also same as the current cost.

Recoverable (amount) value: This is the higher of the net selling price and value in use.

Deprival value: This is the lower of the replacement value and recoverable (amount) value.

Liquidation value: This is the value (net of expenses), that a business can expect to realize by disposing of the assets in the event of liquidation. Such a value is usually lower than the NRV or exit value. This is also called break-up value.

Fair value: This is not based on a particular method of valuation. It is the acceptable value based on appropriate method of valuation in context of the situation of valuation. Thus fair value may represent current cost, NRV or present value as the case may be.

In financial accounting 'An asset is recognised in the balance sheet when it is probable that the future economic benefits associated with it will flow to the enterprise and the asset has a cost or value that can be measured reliably.' 'The measurement basis most commonly adopted by enterprises in preparing their financial statements is historical cost. This is usually combined with other measurement bases. For example, inventories are usually carried at the lower of cost and net realisable value and pension liabilities are carried at their present value. Furthermore, the current cost basis may be used as a response to the inability of the historical cost accounting model to deal with the effects of hanging prices of non-monetary assets.' (Framework, Issued 2000, Para 100)

The requirements of regulations and accounting standards as to recognition of assets, reliability of measurement and disclosure in financial reports have set certain limitations to the freedom of valuation so far as financial accounting is concerned.

1.5 Types of Value

The following are six types of value:

- ◆ Going-concern value is the value of a firm as an operating business.
- ◆ Liquidation value is the projected price that a firm would receive by selling its assets if it were going out of business.
- ◆ Book value is the value of an asset as carried on a balance sheet. In other words, it means (i) the cost of an asset minus accumulated depreciation (ii) the net asset value of a company, calculated by total assets minus intangible assets (patents, goodwill) and liabilities (iii) the initial outlay for an investment. This number may be net or gross of expenses such as trading costs, sales taxes, service charges and so on. It is the total value of the company's assets that shareholders would theoretically receive if a company were liquidated. By being compared to the company's market value, the book value can indicate whether an Inventory is under or overpriced. In personal finance, the book value of an investment is the price paid for a security or debt investment. When an inventory is sold, the selling price less the book value is the capital gain (or loss) from the investment.
- ◆ Market value is the price at which buyers and sellers trade similar items in an open market place. The current quoted price at which investors buy or sell a share of common Inventory or a bond at a given time. The market capitalization plus the market value of debt. Sometimes referred to as "total market value". In the context of securities, market value is often different from book value because the market takes into account future growth potential. Most investors who use fundamental analysis to picks Inventory's look at a company's market value and then determine whether or not the market value is adequate or if it's undervalued in comparison to its book value, net assets or some other measure.
- ◆ Fair market value is the price that a given property or asset would fetch in the market place, subject to the following conditions: (i) Prospective buyers and sellers are reasonably knowledgeable about the asset; they are behaving in their own best interests and are free of undue pressure to trade. (ii) A reasonable time period is given for the transaction to be completed. Given these conditions, an asset's fair market value should represent an accurate valuation or assessment of its worth. Fair market values are widely used across many areas of commerce. For example, municipal property taxes are often assessed based on the fair market value of the owner's property. Depending upon how many years the owner has owned the home, the difference between the purchase price and the residence's fair market value can be substantial. Fair market values are often used in the insurance industry as well. For example, when an insurance claim is made as a result of a car accident, the insurance company covering the damage to the owner's vehicle will usually cover damages up to the fair market value of the automobile.
- ◆ Intrinsic value is the value at which an asset should sell based on applying data inputs to a valuation theory or model. The actual value of a company or an asset based on an

underlying perception of its true value including all aspects of the business, in terms of both tangible and intangible factors. This value may or may not be the same as the current market value. Value investors use a variety of analytical techniques in order to estimate the intrinsic value of securities in hopes of finding investments where the true value of the investment exceeds its current market value. For call options, this is the difference between the underlying Inventory's price and the strike price. For put options, it is the difference between the strike price and the underlying Inventory's price. In the case of both puts and calls, if the respective difference value is negative, the intrinsic value is given as zero. For example, value investors that follow fundamental analysis look at both qualitative (business model, governance, target market factors etc.) and quantitative (ratios, financial statement analysis, etc.) aspects of a business to see if the business is currently out of favour with the market and is really worth much more than its current valuation.

- ◆ Extrinsic value is another variety. It is the difference between an option's price and the intrinsic value. For example, an option that has a premium price of ₹ 10 and an intrinsic value of ₹ 5 would have an extrinsic value of ₹ 5. Denoting the amount that the option's price is greater than the intrinsic value, the extrinsic or time value of the option declines as the expiration date of an option draws closer.

These types of values can differ from one another. For example, a firm's going-concern value is likely to be higher than its liquidation value. The excess of going-concern value over liquidation value represents the value of the operating firm as distinct from the value of its assets. Book value can differ substantially from market value. For example, a piece of equipment appears on a firm's books at cost when purchased but decreases each year due to depreciation charges. The price that someone is willing to pay for the asset in the market may have little relationship with its book value. Market value reflects what someone is willing to pay for an asset whereas intrinsic value shows what the person should be willing to pay for the same asset.

1.6 Approaches of Valuation

Three generally accepted approaches to valuation are as follows:

- 1) Cost Approach: e.g. Adjusted Book Value
- 2) Market Approach: e.g. Comparables
- 3) Income Approach: e.g. Discounted Cash Flow

Each approach has advantages and disadvantages. Generally, there is no "right" answer to a valuation problem. Valuation is very much an art as much as a science! These approaches can be briefly discussed as:

Cost Approach: This technique involves restating the value of individual assets to reflect their fair market values. It is useful for valuing holding companies where assets are easy to value (for example, securities) and less useful for valuing operating businesses. The value of an operating company is generally greater than that of its assets. The difference between that value of the expected cash flows and that of its assets is called the "going concern value". It

is a useful approach when the purpose of the valuation is that the business will be liquidated and Trade payables must be satisfied. While doing this valuation following adjustments to book value can be made:

- ◆ Inventory undervaluation
- ◆ Bad debt reserves
- ◆ Market value of plant and equipment
- ◆ Patents and franchises
- ◆ Investments in affiliates
- ◆ Tax-loss carried forward

Market Approach: The market approach, as the name implies, relies on signs from the real market place to determine what a business is worth. It is to be understood that business does not operate in vacuum. If what one does is really great, then chances of others doing the same or similar things are more. If one is looking to buy a business, one decides what type of business he is interested in and then looks around to see what the "going rate" is for businesses of this type. If one is planning to sell business, he will check the market to see what similar businesses sell for. So the market approach to valuing a business is a great way to determine its fair market value - a monetary value likely to be exchanged in an arms-length transaction, when the buyer and seller act in their best interest.

Income approach: The income approach considers the core reason for running a business ie. making money. Here the so-called economic principle of expectation applies. Since the business value must be established in the present, the expected income and risk must be translated to today. The income approach generally uses two ways to do this translation: (i) Capitalization and (ii) Discounting.

UNIT 2 : VALUATION OF TANGIBLE FIXED ASSETS

2.1 Introduction

Tangible Fixed Assets are valued for presenting them in the balance sheet with due reference to the relevant portions of the "Framework for the Preparation and Presentation of Financial Statements", Part I of Schedule III to the Companies Act, 2013 (Division A), AS 10, AS 11, AS 12, AS 14, AS 16 and AS 28. We shall discuss different approaches to and procedural aspects of valuation of tangible fixed assets.

Part I of Schedule III, to the Companies Act, 2013 (Division A) requires the following classification of tangible assets (a) Land (b) Buildings (c) Plant and Equipment (d) Furniture and fixtures (e) Vehicles (f) Office Equipment and (g) Others (specifying nature).

Assets under lease shall be separately specified under each class of asset.

The said Part I of the Schedule III also requires that a reconciliation of the gross and net carrying amounts of each class of assets at the beginning and end of the reporting period showing additions, disposals, acquisitions through business combinations and other adjustments and the related depreciation and impairment losses/reversals should be disclosed separately.

2.2 Measurement at Cost

As per AS 10, the cost of an item of property, plant and equipment comprises:

- (a) Its purchase price, including import duties and non –refundable purchase taxes, after deducting trade discounts and rebates.
- (b) Any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Examples of directly attributable costs are:
 - (i) costs of employee benefits (as defined in AS 15, Employee Benefits) arising directly from the construction or acquisition of the item of property, plant and equipment;
 - (ii) costs of site preparation;
 - (iii) initial delivery and handling costs;
 - (iv) installation and assembly costs;
 - (v) costs of testing whether the asset is functioning properly, after deducting the net proceeds from selling any items produced while bringing the asset to that location and condition (such as samples produced when testing equipment); and
 - (vi) professional fees.
- (c) The initial estimate of the costs of dismantling, removing the item and restoring the site on which it is located, referred to as 'decommissioning, restoration and similar liabilities', the obligation for which an enterprise incurs either when the item is acquired or as a

consequence of having used the item during a particular period for purposes other than to produce inventories during that period.

The amount of a provision should not be discounted to its present value except in case of decommissioning, restoration and similar liabilities that are recognised as cost of Property, Plant and Equipment. The discount rate (or rates) should be a pre-tax rate (or rates) that reflect(s) current market assessments of the time value of money and the risks specific to the liability. The discount rate(s) should not reflect risks for which future cash flow estimates have been adjusted. Periodic unwinding of discount should be recognised in the statement of profit and loss.

- (d) An enterprise applies AS 2, Valuation of Inventories, to the costs of obligations for dismantling, removing and restoring the site on which an item is located that are incurred during a particular period as a consequence of having used the item to produce inventories during that period. The obligations for costs accounted for in accordance with AS 2 or AS 10 are recognised and measured in accordance with AS 29, Provisions, Contingent Liabilities and Contingent Assets.
- (e) Examples of costs that are not costs of an item of property, plant and equipment are:
 - (i) costs of opening a new facility or business, such as, inauguration costs;
 - (ii) costs of introducing a new product or service (including costs of advertising and promotional activities);
 - (iii) costs of conducting business in a new location or with a new class of customer (including costs of staff training); and
 - (iv) administration and other general overhead costs.
- (f) Some incidental operations may occur before or during the construction or development activities but are not necessary to bring the item to the location and condition necessary for it to be capable of operating in the manner intended by management. The income and related expenses of incidental operations are recognised in the statement of profit and loss and included in their respective classifications of income and expense.
- (g) Self constructed fixed assets: The cost of a self-constructed asset is determined using the same principles as for an acquired asset. If an enterprise makes similar assets for sale in the normal course of business, the cost of the asset is usually the same as the cost of constructing an asset for sale as per AS 2. Therefore, any internal profits are eliminated in arriving at such costs. Similarly, the cost of abnormal amounts of wasted material, labour, or other resources incurred in self-constructing an asset is not included in the cost of the asset. AS 16, Borrowing Costs, establishes criteria for the recognition of interest as a component of the carrying amount of a self-constructed item of property, plant and equipment.

2.3 Subsequent Change in Original Cost

The cost of a fixed asset may undergo changes subsequent to its acquisition or construction on account of exchange fluctuations, price adjustments, and changes in duties or similar factors. (Refer AS 11 (Revised) for better understanding).

Government Grants related to specific fixed assets, as per AS 12, can be deducted from the cost of the said assets. Alternatively, the Grant can be shown as deferred income.

Parts of some items of property, plant and equipment may require replacement at regular intervals. Items of property, plant and equipment may also be acquired to make a less frequently recurring replacement or to make a non-recurring replacement. An enterprise recognises in the carrying amount of an item of property, plant and equipment the cost of replacing part of such an item when that cost is incurred if the recognition criteria are met as per AS 10. The carrying amount of those parts that are replaced is derecognised in accordance with the derecognition provisions of the standard.

The derecognition of the carrying amount occurs regardless of whether the cost of the previous part / inspection was identified in the transaction in which the item was acquired or constructed.

2.4 Measurement After Recognition Change of Original Cost – Improvements, Revaluation, Impairment

AS 10 also deals with the recognition of costs incurred subsequently to add, to replace part of, or service a previously recognized tangible fixed asset. The general recognition criteria set out in AS 10 are applied to such expenditure.

The criteria is –

It is probable that future economic benefits associated with the asset will flow to the enterprise; and

The cost of the asset to the enterprise can be measured reliably.

If the recognition criteria are met, then the expenditure will be added to the carrying amount of the tangible fixed asset. If the recognition criteria are not met, then the expenditure will be charged to the statement of profit and loss when incurred.

Revaluation: AS 10 permits two different bases for the determination of the carrying amount of tangible fixed assets at subsequent reporting dates- the cost model and the revaluation model. The accounting policy selected is required to be applied to an entire class of property, plant and equipment.

Cost model: Where the cost model is selected, after recognition as an asset, a tangible fixed asset is carried at cost less any accumulated depreciation and any accumulated impairment losses.

When the cost model is used, the cost of the asset will normally remain unchanged until it is derecognized. The income generated by an asset should not be deducted from its cost.

Revaluation Model: Where the revaluation model is selected, after recognition as an asset, a tangible fixed asset whose fair value can be measured reliably is carried at a revalued amount, being its fair value at the date of the revaluation less any subsequent accumulated depreciation and any subsequent accumulated impairment losses. Revaluations are required to be carried out with sufficient regularity to ensure that the carrying amount does not differ

materially from that which would be determined using fair value at the balance sheet date.

An increase in the carrying amount of an asset arising on revaluation should be credited directly to owners' interests under the heading of revaluation surplus. However, the increase should be recognised in the statement of profit and loss to the extent that it reverses a revaluation decrease of the same asset previously recognised in the statement of profit and loss.

A decrease in the carrying amount of an asset arising on revaluation should be charged to the statement of profit and loss. However, the decrease should be debited directly to owners' interests under the heading of revaluation surplus to the extent of any credit balance existing in the revaluation surplus in respect of that asset.

Impairment of assets: When the recoverable amount of an asset falls below its carrying amount, as per AS 28, the carrying amount has to be reduced to the recoverable amount and the loss on impairment should be charged to profit and loss account in addition to the depreciation. If subsequently the recoverable amount rises the reversal, i.e., addition shall be made to the already reduced carrying amount. However, the reversed carrying amount should never exceed the original carrying amount which would have been had there been no impairment.

2.5 Valuation Approaches

From the discussion in the above paragraphs we clearly observe that:

- (a) In most of the cases the basis of valuation is historical cost.
- (b) In case of revaluation the current cost basis is applied.
- (c) In case of impairment of assets we get another value called 'recoverable amount'. Recoverable amount is the higher of an asset's net selling price and its value in use. Value in use is the present value of estimated future cash flows expected to arise from the continuing use of an asset and from its disposal at the end of its useful life. Net selling price is the amount obtainable from the sale of an asset in an arm's length transaction between knowledgeable, willing parties, less the costs of disposal. (AS 28)
- (d) When a fixed asset is acquired in exchange for another asset, its cost is usually determined by reference to the fair market value of the consideration given. It may be appropriate to consider also the fair market value of the asset acquired if this is more clearly evident. An alternative accounting treatment that is sometimes used for an exchange of assets, particularly when the assets exchanged are similar, is to record the asset acquired at the net book value of the asset given up; When a fixed asset is acquired in exchange for shares or other securities in the enterprise, it is usually recorded at its fair market value, or the fair market value of the securities issued, whichever is more clearly evident. (AS 10)

(Note: We find different terms in different references viz., Realizable (settlement) value, Net selling price and fair market value connoting the same meaning. Again, Present value and Value in use are also carrying the same meaning.)

2.6 Net Valuation

After arriving at the gross book value (gross block) based on any or combination of the different approaches, accumulated depreciation is deducted there from to get the Net Book Value (net block). Thus, net valuation is dependent on the amount of depreciation accumulated through annual depreciation, which, again, differs with different methods of depreciation.

2.7 Disposal and Retirement

An item of fixed assets is eliminated from financial statements on disposal. If any fixed asset is retired from active use and held for disposal, it should be valued at the lower of the net book value and net realisable value. This means expected loss arising out of retirement of the fixed assets is immediately accounted for. Such loss should be charged to Profit and Loss Account. Similarly, gain or loss arising out of disposal of fixed assets is generally charged to Profit and Loss Account.

If any fixed asset was revalued earlier and the revaluation reserve remains unutilised partly or fully any loss arising out of sale of such fixed assets can be adjusted with the unutilised balance of revaluation reserve.

2.8 Depreciation

Assessment of depreciation and the amount to be charged is based on three factors:

- (i) Value of fixed assets (already discussed);
- (ii) Useful life of fixed assets; and
- (iii) Estimated residual value.

Each part of an item of property, plant and equipment with a cost that is significant in relation to the total cost of the item should be depreciated separately.

An enterprise allocates the amount initially recognised in respect of an item of property, plant and equipment to its significant parts and depreciates each such part separately.

There are several methods for charging depreciation of which straight line method and written down value method are used.

Regarding depreciation, AS 10 suggests adoption of the following principles:

- (i) Consistency in application of the depreciation method.
- (ii) If there is change in method, unamortised amount of the fixed assets should be charged to revenue following the new method from the date of the asset coming into use.
- (iii) If useful life is revised, the unamortised value of the fixed assets should be charged to revenue over the revised remaining period of useful life.
- (iv) If the value of the fixed asset is revised, the depreciation should be charged to write off the unamortised value of the fixed assets including revaluation profit/loss over the

remaining useful life. In case the revaluation has a material effect on the amount of depreciation, the same should be disclosed separately in the year in which revaluation is carried out.

- (v) Depreciation is recognised even if the fair value of the asset exceeds its carrying amount, as long as the asset's residual value does not exceed its carrying amount. Repair and maintenance of an asset do not negate the need to depreciate it.

Illustration 1

Fixed Assets of XYZ Ltd:

Purchased as on 1.4.2012 ₹ 7,50,000

Revaluation + 20% on 1.4.2014.

Expected life 15 years.

The company charged straight line depreciation.

The fixed asset was sold on 1.4.2017 for ₹ 5,60,000

Show Fixed Assets A/c, Depreciation A/c and Revaluation Reserve A/c in the book of XYZ Ltd.

Solution

Fixed Assets Account

		₹			₹
1.4.12	To Bank	7,50,000	31.3.13	By Depreciation	50,000
				By Balance c/d	7,00,000
		7,50,000			7,50,000
1.4.13	To Balance b/d	7,00,000	31.3.14	By Depreciation	50,000
				By Balance c/d	6,50,000
		7,00,000			7,00,000
1.4.14	To Balance b/d	6,50,000	31.3.15	By Depreciation	60,000
	To Revaluation Reserve	1,30,000		By Balance c/d	7,20,000
		7,80,000			7,80,000
1.4.15	To Balance b/d	7,20,000	31.3.16	By Depreciation	60,000
				By Balance c/d	6,60,000
		7,20,000			7,20,000
1.4.16	To Balance b/d	6,60,000	31.3.17	By Depreciation	60,000
				By Balance c/d	6,00,000
		6,60,000			6,60,000
1.4.17	To Balance b/d	6,00,000	1.4.17	By Bank	5,60,000
				By Revaluation Reserve A/c	40,000
		6,00,000			6,00,000

9.13 Financial Reporting

Depreciation A/c

31.3.13	To Fixed Assets A/c	<u>50,000</u>	31.3.13	By P & L A/c	<u>50,000</u>
31.3.14	To Fixed Assets A/c	<u>50,000</u>	31.3.14	By P & L A/c	<u>50,000</u>
31.3.15	To Fixed Assets A/c	<u>60,000</u>	31.3.15	By P & L A/c	<u>60,000</u>
31.3.16	To Fixed Assets A/c	<u>60,000</u>	31.3.16	By P & L A/c	<u>60,000</u>
31.3.17	To Fixed Assets A/c	<u>60,000</u>	31.3.17	By P & L A/c	<u>60,000</u>

Revaluation Reserve A/c

31.3.15	To Balance c/d	<u>1,30,000</u>	1.4.14	By Fixed Assets A/c	1,30,000
		<u>1,30,000</u>			<u>1,30,000</u>
31.3.16	To Balance c/d	<u>1,30,000</u>	1.4.15	By Balance b/d	1,30,000
		<u>1,30,000</u>			<u>1,30,000</u>
31.3.17	To Balance c/d	<u>1,30,000</u>	1.4.16	By Balance b/d	1,30,000
		<u>1,30,000</u>			<u>1,30,000</u>
1.4.17	To Fixed Assets A/c - Loss on disposal To General Reserve	40,000 <u>90,000</u>	1.4.17	By Balance b/d	1,30,000
		<u>1,30,000</u>			<u>1,30,000</u>

Illustration 2

Vidarva Chemical Ltd. purchased a machinery from Madras Machine Manufacturing Ltd. (MMM Ltd.) on 30.9.2016. Quoted price was ₹ 162 lakhs. MMM Ltd. offers 1% trade discount. Sales tax on quoted price is 5%. Vidarva Chemical Ltd. spent ₹ 42,000 for transportation and ₹ 30,000 for architect's fees. They borrowed money from ICICI ₹ 150 lakhs for acquisition of the assets @ 20% p.a. Also they spent ₹ 18,000 for material in relation to trial run. Wages and overheads incurred during trial run were ₹ 12,000 and ₹ 8,000 respectively. The machinery was ready for use on 15.11.2016. It was put to use on 15.4.2017. Find out the original cost. Also suggest the accounting treatment for the cost incurred in the interval between the date the machine was ready for commercial production and the date at which commercial production actually begins.

Solution

(1) Determination of the original cost of the machine

	₹ in lakhs	₹ in lakhs
Quoted price	162.00	
Less: 1% Trade discount	<u>(1.62)</u>	160.38
Add: Sales tax	8.10	
Transportation	0.42	
Architect's fees	0.30	
Financing cost (since it is a non-qualifying asset)	<u>Nil</u>	<u>8.82</u>
		<u>169.20</u>

Expenditure for start-up:		
Material	0.18	
Wages	0.12	
Overhead	<u>0.08</u>	<u>0.38</u>
		<u>169.58</u>

(2) Cost incurred in the interval

Financing cost @ 20% on ₹ 150 lakhs for 15.11.16 – 15.4.2017 = ₹ 12.50 will be charged to statement of profit and loss as per AS 16 "Borrowing Costs".

Illustration 3

The original cost of the machine shown in the books of PK Ltd. as on 1st Jan., 2014 is ₹ 180 lakhs which they revalued upward by 20% during 2014. In the year 2016, it appears that a 5% downward revaluation should be made to arrive at the true value of the asset in the changed economic and industry conditions. They charged 15% depreciation on W.D.V. of the asset.

Show the value of the asset at which it should appear in the Balance Sheet dated 31st Dec. 2016 and show the Revaluation Reserve Account.

Solution

(1) Determination of Cost

	₹ in lakhs
W.D.V as on 1.1.2014	180.00
Add: Revaluation profit	<u>36.00</u>
	216.00
Less: Depreciation for 2014	<u>(32.40)</u>
W.D.V as on 1.1.2015	183.60
Less: Depreciation for 2015	<u>(27.54)</u>
W.D.V as on 1.1.2016	156.06
Less : Revaluation loss	<u>(7.80)</u>
	148.26
Less: Depreciation for 2016	<u>22.24</u>
W.D.V as on 31.12.2016	<u>126.02</u>

(2) Revaluation Reserve Account

		₹ in lakhs			₹ in lakhs
31.12.14	To Balance c/d	<u>36.00</u>	31.12.14	By Machinery A/c	<u>36.00</u>
31.12.15	To Balance c/d	<u>36.00</u>	01.01.15	By Balance b/d	<u>36.00</u>
31.12.16	To Machinery A/c	7.80	01.01.16	By Balance b/d	36.00
	To Balance c/d	<u>28.20</u>			—
		<u>36.00</u>			<u>36.00</u>

Illustration 4

X Ltd. purchased fixed assets for ₹ 10 lakhs for which it got grants from an international agency (which comes within the definition of government as mentioned in AS 12) ₹ 8 lakhs. X Ltd. decides to treat the grant as deferred income. Suggest appropriate basis for taking credit of the grant to Profit and Loss A/c. Take life of the assets 10 years. The company followed W.D.V method. Scrap value ₹ 2.5 lakhs.

Solution

Deferred income on account of grant should be taken credit at the proportion by which depreciation is charged.

Calculation of Depreciation and taking Credit of Deferred Grant (Depreciation Rate 12.95)

	Original Cost /W.D.V (₹ in lakhs)	Depreciation (₹ in lakhs)	Recovery of Grant (₹ in lakhs)
t ₀	10.000	–	–
t ₁	10.000	1.295	1.381
t ₂	8.705	1.127	1.202
t ₃	7.578	0.981	1.046
t ₄	6.597	0.854	0.912
t ₅	5.743	0.744	0.794
t ₆	4.999	0.647	0.690
t ₇	4.352	0.564	0.602
t ₈	3.788	0.491	0.524
t ₉	3.297	0.427	0.455
t ₁₀	2.870	0.370	0.394

Notes:

$$(i) \text{ Rate of Depreciation} = 1 - \left[\frac{2.5}{10} \right]^{\frac{1}{10}} = 12.95\%$$

$$(ii) \text{ Recovery of grant} = \text{Amount of grant} \times \frac{\text{Depreciation for the year}}{\text{Total depreciation}}$$

For t₀₁, ₹ 8 lakhs × 1.295 / 7.5 = 1.381 lakhs.

UNIT 3 : VALUATION OF INTANGIBLES

3.1 Definition of Intangibles

An intangible asset is an identifiable non-monetary asset, without physical substance, held for use in the production or supply of goods or services, for rental to others, or for administrative purposes (As per Para 6 of AS 26 "Intangible Assets"). It is important to note that Intangible assets are the major contributors for the disparity between company value according to accounting records and company value as per market capitalization. Therefore, understanding the concept of an intangible asset from the angle of an accountant is necessary. Enterprises usually expend resources, or incur liabilities, on the acquisition, development, maintenance or enhancement of intangible resources such as scientific or technical knowledge, design and implementation of new processes or systems, licences, intellectual property, market knowledge and trademarks (including branch names and publishing titles) at regular intervals of time. Common examples of items encompassed by these broad headings are computer software, patents, copyrights, motion picture films, customer lists, mortgage servicing rights, finishing licences, import quotas, franchises, customer or supplier relationships, customer loyalty, market share and marketing rights. Goodwill is another example of an item of intangible nature which either arises on acquisition or is internally generated. Intangible fixed assets can be classified as identifiable intangibles and not identifiable intangibles. The identifiable intangibles include patents, trademarks and designs and brands whereas the not identifiable intangibles are clubbed together as goodwill. To be identifiable, it is necessary that the intangible asset is clearly distinguished from goodwill. An intangible asset can be clearly distinguished from goodwill if the asset is separable.

3.2 Recognition

AS 26 establishes general principles for the recognition and measurement of Intangible Assets. An intangible asset should be recognised in the financial statements if, and only if:

- (a) It is probable that the future economic benefits that are attributable to the asset will flow to the enterprise; and
- (b) The cost of the asset can be measured reliably.

These recognition criteria apply to both costs incurred to acquire an intangible asset and those incurred to generate an asset internally. The Standard imposes additional criteria, however, for the recognition of internally-generated intangible assets.

If an intangible asset is acquired separately:

Cost of the intangible asset can usually be measured reliably and such intangible asset is recognized and valued at cost in the same manner as in case if the tangible fixed assets.

If the intangible asset is internally generated:

AS 26 prohibits the recognition of internally generated goodwill as an asset. In addition, certain internally generated items are specifically identified in AS 26 as not capable of being

distinguished from the cost of developing the business as a whole and therefore are prohibited from being capitalized as internally-generated intangible assets. Brands, Mastheads, Publishing titles, Customer Lists etc. are all internally generated assets.

However, when such assets are purchased either individually or as part of an amalgamation in the nature of a purchase, they may meet the general recognition criteria for intangible assets and, therefore, potentially may be recognized. This difference means that intangible assets such as brands can be capitalized if acquired, but will be expensed if they are generated internally.

The Standard distinguishes between two phases in the generation of an intangible asset internally, namely, the research phase and the development phase. Capitalisation is only permitted during the development phase.

Research is defined as original and planned investigation undertaken with the prospect of gaining new scientific or technical knowledge and understanding.

Development is the application of research findings or other knowledge to a plan or design for the production of new or substantially improved materials, devices, products, processes, systems or services prior to the commencement of commercial production or use.

If it is not possible to distinguish the research phase from the development phase of an internal project to create an intangible asset, the expenditure on that project is treated as relating only to the research phase.

Subsequent expenditure on an intangible asset after its purchase or its completion should be added to the cost of the intangible asset if:

- (a) It is probable that the expenditure will enable the asset to generate future economic benefits in excess of its originally assessed standard of performance; and
- (b) the expenditure can be measured and attributed to the asset reliably.

Designs which are acquired separately valuation would be made at initial cost of acquisition (with subsequent addition to cost, if any). If they are generated internally and are not recognized then no valuation shall be made. However, for internally generated recognized, valuation would be made at cost (with subsequent addition to cost, if any).

The depreciable amount of an intangible asset should be allocated on a systematic basis over the best estimate of its useful life. There is a rebuttable presumption that the useful life of an intangible asset will not exceed ten years from the date when the asset is available for use.

Amortisation should commence when the asset is available for use.

3.3 Goodwill

Goodwill is said to be that element arising from reputation, connection or other advantages possessed by a business which enables it to earn greater profits than the return normally to be expected on the capital represented by net tangible assets employed in the business. In considering the return normally to be expected, regard must be had to the nature of the business, the risk involved, fair management remuneration and other relevant circumstances.

Goodwill of a business may arise in two ways. It may be inherent to the business that is generated internally or it may be acquired while purchasing any concern. Purchased goodwill can be defined as being the excess of fair value of the purchase consideration over the fair value of the separable net assets acquired. The value of purchased goodwill is not necessarily equal to the inherent goodwill of the business acquired as the purchase price may reflect the future prospects of the entity as a whole. This point has been elaborated in Unit 6: Valuation of Business. Non-purchased goodwill is any goodwill other than purchased goodwill. AS 26 'Intangible Assets' states that only purchased goodwill should be recognized in the accounts.

Goodwill in financial statements arises when a company is purchased for more than the fair value of the identifiable net assets of the company. The difference between the purchase price and the sum of the fair value of the net assets is by definition the value of the "goodwill" of the purchased company. The acquiring company must recognize goodwill as an asset in its financial statements and present it as a separate line item on the balance sheet, according to the current purchase accounting method. In this sense, goodwill serves as the balancing sum that allows one firm to provide accounting information regarding its purchase of another firm for a price substantially different from its book value. Goodwill can be negative, arising where the net assets at the date of acquisition, fairly valued, exceed the cost of acquisition. Negative goodwill is recognized as a gain to the extent that it exceeds allocations to certain assets. Under current accounting standards, it is no longer recognized as an extraordinary item. For example, a software company may have net assets (consisting primarily of miscellaneous equipment, and assuming no debt) valued at ₹ 1 million, but the company's overall value (including brand, customers, intellectual capital) is valued at ₹ 10 million. Anybody buying that company would book ₹ 10 million in total assets acquired, comprising ₹ 1 million physical assets, and ₹ 9 million in goodwill.

3.4 Relevant Provisions of the Accounting Standards on Goodwill

Goodwill, in general, is recorded in the books only when some consideration in money or money's worth has been paid for it. Whenever a business is acquired for a price (payable either in cash or in shares or otherwise) which is in excess of the value of the net assets of the business taken over, the excess is termed as 'goodwill'. Goodwill arises from business connections, trade name or reputation of an enterprise or from other intangible benefits enjoyed by an enterprise.

As a matter of financial prudence, goodwill is written off over a period. However, many enterprises do not write off goodwill and retain it as an asset.

In case of amalgamation under purchase method any excess of the amount of the consideration over the value of the net assets of the transferor company acquired by the transferee company should be recognised in the transferee company's financial statements as goodwill arising on amalgamation.

If expenditure on an intangible item acquired in an amalgamation in the nature of purchase cannot be recognised as an intangible asset, this expenditure (included in the cost of acquisition) should form part of the amount attributed to goodwill at the date of acquisition.

Again in case of consolidation of balance sheet in the books of the parent company any excess

of the cost to the parent of its investment in a subsidiary over the parent's portion of equity of the subsidiary, at the date on which investment in the subsidiary is made, should be described as goodwill to be recognised as an asset in the consolidated financial statements.

Internally generated goodwill should not be recognised as an asset. Thus, in corporate financial accounting the scope for valuation of goodwill is limited to the measurements stated in the above circumstances. In case of amalgamation in the nature of merger, there does not arise any goodwill. In case of amalgamation in the nature of purchase, the excess of purchase consideration over the net asset value is computed as goodwill. In case of consolidation of final accounts, the excess of cost of investment in subsidiary over the parent's share in subsidiary's equity at the date of acquisition is computed as goodwill. Thus for determining the value of goodwill to be shown in the financial statements, one has to find the amount of purchase consideration, net asset value, cost to the parent of its investment in subsidiary and parent's share in subsidiary's equity.

If we assume that the purchase consideration or the cost of investment in subsidiary is inclusive of the price for goodwill, if any, then question may arise whether the valuation process is a circular one as stated below. The purchase consideration/ cost of investment in subsidiary are determined on the basis of valuation of business or valuation of share of transferor/subsidiary. The purchase consideration/cost of investment determines value of goodwill in amalgamation in the nature of purchase or in consolidation of financial statements. Thus in the above mentioned situations value of goodwill is the resultant figure derived from purchase consideration or cost of acquisition. Then this purchase consideration/cost of acquisition cannot again be derived from the valuation of goodwill. This inconsistency can be removed if we recognize that goodwill has no identity separable from the business and there need be no separate valuation of goodwill. The valuation of business as a whole would automatically include the value of goodwill. The fact that purchase consideration in excess of net asset value of business taken over is recorded as goodwill also suggests that goodwill value should not be a part of net asset value of business.

However, for the purpose of management information brand valuation and goodwill valuation may be done by applying any of the alternative methods available although that may not be in line with the requirements of Accounting Standards.

3.5 Valuation of Goodwill

There are basically two accounting methods for goodwill valuation. These are:

(i) Capitalisation Method and (ii) Super Profit Method. A third method called annuity method is a refinement of the super profit method of goodwill valuation.

3.5.1 Capitalisation method

Under this method future maintainable profit is capitalised applying normal rate of return to arrive at the normal capital employed. Goodwill is taken as the excess of normal capital employed over the actual capital employed.

$$\text{Normal Capital employed} = \frac{\text{Future maintainable profit}}{\text{Normal rate of return}}$$

$$\text{Goodwill} = \text{Normal Capital Employed} - \text{Actual Closing Capital Employed}$$

Factors considered in this method are:

- (i) Future maintainable profit;
- (ii) Actual capital employed in the business enterprise for which goodwill is to be computed;
- (iii) Normal rate of return in the industry to which the business enterprise belongs.

For example, Capital employed in X Ltd. is ₹ 17,00,000, future maintainable profit is ₹ 3,00,000 and normal rate of return is 15%.

$$\text{So goodwill} = \frac{\text{₹ } 3,00,000}{0.15} - \text{₹ } 17,00,000 = \text{₹ } 3,00,000$$

Naturally, if normal capital employed becomes less than actual capital employed there arises *negative goodwill*.

3.5.2 Super profit method

Excess of future maintainable profit over normally expected profit is called super profit. Under this method goodwill is taken as the aggregate super profit of the future years for which such super profit is expected to be maintained.

Factors considered in this method are:

- (i) Future maintainable profit;
- (ii) Actual capital employed;
- (iii) Normal rate of return;
- (iv) Period for which super profit is projected.

$$\text{Super profit} = \text{Future maintainable profit} - (\text{Actual Capital employed} \times \text{Normal rate of return})$$

$$\text{Goodwill} = \text{Super profit} \times \text{No. of years for which Super Profit can be maintained.}$$

Example

Capital employed by X Ltd. ₹ 17,00,000, Future maintainable profit ₹ 3,50,000, Normal rate of return 15%, Super profit can be maintained for 5 years.

Future maintainable profit	₹ 3,50,000
Less: Normal Profit $\left[\text{₹ } 17,00,000 \times \frac{15}{100} \right]$	<u>(₹ 2,55,000)</u>
Super Profit	<u>₹ 95,000</u>

$$\text{Goodwill} = \text{Super profit} \times \text{No. of years for which the super profit can be maintained.}$$

$$= \text{₹ } 95,000 \times 5 = \text{₹ } 4,75,000$$

3.5.3 Annuity method

It is a refinement of the super profit method. Since super profit is expected to arise at different future time periods, it is not logical to simply multiply super profit into number of years for which that super profit is expected to be maintained. Further future values of super profits should be discounted using appropriate discount factor. The annuity method got the nomenclature because of suitability to use annuity table in the discounting process of the uniform super profit. In other words, when uniform annual super profit is expected, annuity factor can be used for discounting the future values for converting into the present value. Here in addition to the factors considered in super profit method, appropriate discount rate is to be chosen for discounting the cash flows.

Example

Super Profit of X Ltd. ₹ 95,000 p.a. can be maintained for 5 years. Discount rate is 15%.

Goodwill = ₹ 95,000 × 3.352 = ₹ 3,18,440

There are atleast two frequently used approaches for arriving at the Capital employed: (i) based on a particular Balance Sheet and (ii) average of Capital employed at different balance sheet dates.

Capital employed is determined using historical cost values available at the balance sheet date. However, if revalued figures are given that should be considered.

3.6 Determination of Capital Employed

Conventionally 'Capital Employed' means Total Assets *Minus* non-trading assets i.e. assets not used in the business *Minus* miscellaneous expenditure and losses *Minus* all outside liabilities.

As per this concept capital employed becomes equivalent to net worth less non-trading assets. But this concept has its own shortcomings:

- (i) This approach ignores other long term fund in the business;
- (ii) On the other hand, it considers preference share capital which bears fixed rate of dividend.

The argument in favour of adopting this approach is to count only such fund which is attributable to the shareholders. Alternatively, by capital employed one can mean long term capital employed. However, leverage gives some advantage as well as riskiness. Use of lower amount of owned fund results in higher return because of using borrowed fund advantageously. This is called leverage effect. By taking only 'shareholders fund' as capital employed, one can give weightage to leverage while calculating goodwill.

Example

Balance Sheet of X Ltd.

<i>Liabilities</i>	<i>₹ in lakhs</i>	<i>Assets</i>	<i>₹ in lakhs</i>
<i>Share Capital</i>	80	<i>fixed assets</i>	1,80
<i>P & L A/c</i>	20	<i>Inventory</i>	40
<i>13% Debentures</i>	1,20	<i>Trade receivables</i>	20
<i>Trade payables</i>	<u>40</u>	<i>Cash & Bank</i>	<u>20</u>
	<u>2,60</u>		<u>2,60</u>

Capital employed (shareholders' fund approach)

₹ 260 lakhs – ₹ 160 lakhs outside liabilities = ₹ 100 lakhs.

Capital employed (long term fund approach):

₹ 260 Lakhs – ₹ 40 lakhs Trade payables = ₹ 220 lakhs

Suppose normal return on shareholders' fund is 20% and normal return on long term fund is 18%

Also suppose Future Maintainable Profit (before interest) of X Ltd. is ₹ 38.4 lakhs.

Future Maintainable Profit (after interest) of X Ltd. is

₹ 22.8 lakhs i.e. (₹ 38.4 lakhs – ₹ 15.6 lakhs debenture interest)

If long term fund approach is followed value of goodwill as per Capitalisation method is i.e.,

$$\frac{38.4 \text{ lakhs}}{0.18} - 220 \text{ lakhs}$$

₹ 213.33 lakhs – ₹ 220 lakhs

i.e., (-) ₹ 6.67 lakhs, negative goodwill.

If shareholders' fund approach is followed, value of goodwill as per capitalisation method is,

$$\frac{22.8 \text{ lakhs}}{0.20} - 100 \text{ lakhs} = ₹ 114 \text{ lakhs} - ₹ 100 \text{ lakhs}$$

i.e., ₹ 14 lakhs, positive goodwill.

In this example, when long term capital employed was considered there was negative goodwill, but it became positive when shareholders' fund was considered. In the second approach leverage advantage has been taken into consideration. Thus, in goodwill valuation generally shareholders' fund approach is preferred.

Non-trading assets are ignored while computing capital employed. This is because surplus fund invested outside does not influence the future maintainable profit. Particularly, Non-trade investments are not counted while computing capital employed, but trade investments should be taken into consideration.

9.23 Financial Reporting

Another important aspect is often discussed regarding valuation of capital employed. What value should the accountant put for fixed assets and inventory. Since historical cost is not true indicator of the value of these assets, then it is suggested to take current cost of such assets. Current cost represents the cost for which asset can be replaced at its present state. However, if the asset cannot be replaced at its present state because of obsolescence, then cost at which its best substitute is available may be taken as current cost.

Capital employed may be determined using the value given by the latest balance sheet or taking simple average of the capitals employed at the beginning of the accounting period as well as at the end.

Illustration 1

Balance Sheets of X Ltd.
As on 31st March 2x16 and 31st March 2x17

<i>Liabilities</i>	<i>31.3.16</i>	<i>31.3.17</i>	<i>Assets</i>	<i>31.3.16</i>	<i>31.3.17</i>
<i>Share Capital</i>	18,00	18,00	<i>Fixed assets</i>	24,00	26,00
<i>General Reserve</i>	6,00	6,00	<i>Investments</i>	1,00	2,00
<i>Profit & Loss A/c</i>	6,80	9,40	<i>Inventory</i>	6,00	5,50
<i>12% Debentures</i>	2,00	2,00	<i>Trade receivables</i>	3,00	3,50
<i>18% Term Loan</i>	3,00	3,20	<i>Cash and Bank</i>	4,00	3,40
<i>Cash Credit</i>	1,20	80			
<i>Trade payables</i>	70	60			
<i>Tax Provision</i>	<u>30</u>	<u>40</u>			
	<u>38,00</u>	<u>40,40</u>		<u>38,00</u>	<u>40,40</u>

Non-trade investments were 75% of the total investments. Find capital employed as on 31.3.16 and as on 31.3.17 and average capital employed.

Solution

Computation of capital employed

	<i>(₹ in lakhs)</i>			
		<i>31.3.16</i>		<i>31.3.17</i>
Total Assets as per Balance Sheet		38,00		40,40
Less: Non-trade Investments		<u>(75)</u>		<u>(1,50)</u>
		37,25		38,90
Less: Outside Liabilities:				
12% Debentures	2,00		2,00	
18% Term Loan	3,00		3,20	

Cash Credit	1,20		80	
Trade payables	70		60	
Tax Provision	<u>30</u>	<u>7,20</u>	<u>40</u>	<u>7,00</u>
Capital employed		<u>30,05</u>		<u>31,90</u>

$$\text{Average capital employed} = \frac{30,05 \text{ lakhs} + 31,90 \text{ lakhs}}{2} = ₹ 3,097.5 \text{ lakhs.}$$

Illustration 2*Balance Sheet of AP Ltd. as on 31st March, 2017*

Liabilities	₹ in lakhs	Assets	₹ in lakhs
Share Capital		Land & Building	51,20
Equity Shares of ₹ 10 each	90,00	Plant & Machinery	108,70
8½% Preference Shares	20,00	Furniture	27,00
General Reserve	30,20	Vehicles	2,00
Profit & Loss A/c	30,00	Inventory	7,00
18% Term Loan	45,00	Trade receivables	4,50
Cash Credit	5,60	Cash & Bank	23,40
Trade payables	2,00		
Provision for Taxation (net of advance tax)	<u>1,00</u>		
	<u>223,80</u>		<u>223,80</u>

Other information

Balance as on 1.4.16

Profit and Loss A/c	₹ 4,80 Lakhs
Reserve	₹ 4,50 Lakhs

Find out average capital employed of AP Ltd.

Solution**Computation of Average Capital Employed**

	₹ in lakhs	₹ in lakhs
Total of Assets as per Balance Sheet as on 31.3.2017		223,80
Less: Outside Liabilities:		
18% Term Loan	45,00	
Cash Credit	5,60	
Trade payables	2,00	

9.25 Financial Reporting

Provision for Taxation	<u>1,00</u>	<u>(53,60)</u>
Capital employed as on 31.3.17		170,20
Less: 1/2 of profit earned:		
Increase in Reserve balance	25,70	
Increase in Profit & Loss A/c	<u>25,20</u>	
	<u>50,90</u>	
		<u>25,45</u>
Average capital employed		<u>144,75</u>

3.7 Future Maintainable Profit

We have seen earlier while discussing various methods of goodwill valuation that estimation of average maintainable profit is another important step in goodwill valuation. Future maintainable profit is ascertained taking either simple or weighted average of the past profits or by fitting trend line. Generally, profits of past three to five years are considered.

(i) Simple Average of Past Profits: If the past profits do not have any definite trend, average is taken to arrive at the future maintainable profit.

Example

Profits of the past five years of XX Ltd. are given below:

Year	₹ '000
2013	71,20
2014	87,20
2015	75,70
2016	82,70
2017	78,90

In this case no trend of past profit is available. So, simple average is best suitable method to arrive at a figure which may be taken as future maintainable profit.

$$\text{Future maintainable profit (₹ in '000)} = \frac{71,20 + 87,20 + 75,70 + 82,70 + 78,90}{5} = 79,14$$

(ii) Trend Equation: If the past profits show increasing or decreasing trend, linear trend equation gives better estimation of the future maintainable profit.

Example

B K Ltd. gives the following profit figures for the last five years:

Year	Profits ₹ '000
2013	37,20
2014	42,00

2015	47,50
2016	53,50
2017	57,20

Since, past profits show increasing trend, time series trend may be used to determine future maintainable profit. Applying Linear trend equation three to five years profit may be predicted and average of such future profits may be taken as future maintainable profit.

Year	X	Y	XY	X ²
2013	-2	37,20	-74,40	4
2014	-1	42,00	-42,00	1
2015	0	47,50	0	0
2016	1	53,50	53,50	1
2017	2	57,20	114,40	4
	<u>0</u>	<u>237,40</u>	<u>51,50</u>	<u>10</u>

$$A = \frac{\sum Y}{n} = \frac{237,40}{5} = 47,48$$

$$b = \frac{\sum XY}{\sum X^2} = \frac{51,50}{10} = 5,15$$

Trend Equation is given by:

$$Y = 4748 + 515 X$$

Alternatively, using trend equation, estimated profit will be:

Estimated Profit:

$$2018 \quad 4748 + 515 (3) = \quad \quad \quad \text{₹ } 62,93$$

$$2019 \quad 4748 + 515 (4) = \quad \quad \quad \text{₹ } 68,08$$

$$2020 \quad 4748 + 515 (5) = \quad \quad \quad \text{₹ } 73,23$$

$$\text{Average of the Future Profit} \quad \quad \quad \text{₹ } 68,08$$

$$\text{i.e., Future Maintainable Profit} \quad \quad \quad \text{₹ } 68,00 \text{ (say)}$$

(iii) Weighted average of past profits: If the past profits show increasing or decreasing trend, then more weights are given to the profit figures of the immediate past years and less weight to the profit figures of the furthest past.

Example

Profits of the past five years of BB Ltd. are given below:

Year	Profits (₹ '000)
2013	71,20
2014	82,50
2015	87,00
2016	92,00
2017	95,00

In this example past profits showed an increasing trend. Weighted average of past profits may be used in such cases to arrive at future maintainable profit.

Derivation of weighted average of the past profits:

Year	Profits (P) '000 ₹	Weight (W)	PW
2013	71,20	1	71,20
2014	82,50	3	247,50
2015	87,00	5	435,00
2016	92,00	7	644,00
2017	95,00	<u>9</u>	<u>855,00</u>
		<u>25</u>	<u>22,52,70</u>

$$\text{Weighted average profit} = \frac{\sum PW}{\sum W} = \frac{22,52,70}{25}$$

i.e. ₹ 9010.80 thousand.

Illustration 3

PPX Ltd. gives the following information about past profits:

Year	Profits (₹ '000)
2013	21,70
2014	22,50
2015	23,70
2016	24,50
2017	21,10

On scrutiny it is found (i) that upto 2015, PPX Ltd. followed FIFO method of finished inventory valuation thereafter adopted LIFO method, (ii) that upto 2016 it followed straight line depreciation and thereafter adopted written down value method.

Given below the details of Inventory valuation: (Figures in ₹ '000)

Year	Opening Inventory		Closing Inventory	
	FIFO	LIFO	FIFO	LIFO
2013	40,00	39,80	46,00	41,20
2014	46,00	41,20	49,20	47,90
2015	49,20	47,90	38,90	39,10
2016	38,90	39,10	42,00	38,50
2017	42,00	38,50	45,00	43,10

Straight line and written down value depreciation were as follows:

Year	Straight Line (₹ '000)	W.D. V (₹ '000)
2013	12,10	17,00
2014	14,15	18,10
2015	15,00	19,25
2016	16,70	19,60
2017	18,00	19,40

Determine future maintainable profits that can be used for valuation of goodwill.

Solution

Past profits of PPX Ltd. showed an increasing trend excepting in year 2017. But the effects of changes in accounting policies should be eliminated to ascertain the true nature of trend. Since the company has adopted LIFO method of Inventory valuation and W.D.V method of depreciation, profits may be recomputed applying these policies consistently in all the past years. Recomputation of profits following uniform accounting policies are shown below:

(Figures in ₹ '000)

Year	Book Profits	Effect of LIFO Effect of Valuation of Inventory W.D. V Depn.	Profits after elimination of the effect of change in Accounting policies	
2013	21,70	- 4,60	- 4,90	12,20
2014	22,50	+ 3,50	- 3,95	22,05
2015	23,70	+ 1,50	- 4,25	20,95
2016	24,50	-20	- 2,90	21,40
2017	21,10	—	—	21,10

9.29 Financial Reporting

After elimination of the effect of change in accounting policies, increasing trend disappeared. Rather profits were oscillating during the last four years excepting 2013. So a simple average may be taken of the last 4 years profits to arrive at the future maintainable profits:

$$\text{Future Maintainable Profit ('000 ₹)} = \frac{22,05 + 20,95 + 21,40 + 21,10}{4} = 21,37.50$$

Working Note:

Effect of LIFO Valuation:

2013:	Increase in Inventory as per FIFO valuation	6,00
	Less: Increase in Inventory per LIFO valuation	<u>(1,40)</u>
	Reduction in profit	<u>4,60</u>
2014:	Increase in Inventory as per FIFO valuation	3,20
	Increase in Inventory as per LIFO valuation	<u>6,70</u>
	Increase in profit	<u>3,50</u>
2015:	Decrease in Inventory as per FIFO valuation	10,30
	Decrease in Inventory as per LIFO valuation	<u>8,80</u>
	Increase in profit	<u>1,50</u>
2016:	Opening Inventory as per FIFO valuation	38,90
	Opening Inventory as per LIFO valuation	<u>39,10</u>
	Reduction in profit	<u>20</u>

3.7.1 Adjustments needed with past profits

Since past profits are used to make an estimation about the future maintainable profit, it is necessary to make appropriate adjustments for better projection. The following adjustments generally become necessary:

- (i) Elimination of abnormal loss arising out of strikes, lock-out, fire, etc. Profit/loss figures which contain abnormal loss should either be ignored or eliminated. Similarly, if there is any abnormal gain included in past profits that needs elimination.
- (ii) Interest/dividend or any other income from non-trading assets needs elimination because 'capital employed' used for valuation of goodwill comprises only of trading assets.
- (iii) If there is a change in rate of tax, tax charged at the old rate should be added back and tax should be charged at the new rate.
- (iv) Effect of change in accounting policies should be neutralised to have profit figures which are arrived at on the basis of uniform policies.

3.8 Normal Rate of Return

Apart from capital employed and future maintainable profit, the third important step in valuation of goodwill is determination of normal rate of return. It comprises of:

- (i) the risk-free rate, i.e., the pure interest rate prevailing in the concerned economy; (the rate of return on long term government securities or fixed deposit in bank may be taken as risk-free rate)
- (ii) the premium for business risks appropriate for the industry to which the firm/company belongs.

If the industry is well established and yielding profits steadily the rate of return that will satisfy entrepreneurs will be rather low though higher than the risk-free rate. Higher the business risk, higher will be the normal rate of return.

For practical purposes industry average return is taken as normal rate of return.

Illustration 4

On the basis of the following information, calculate the value of goodwill of Gee Ltd. at three years' purchase of super profits, if any, earned by the company in the previous four completed accounting years.

Summarised Balance Sheet of Gee Ltd. as at 31st March, 2017

Liabilities	₹ in lakhs	Assets	₹ in lakhs
Share Capital:		Goodwill	310
Authorised	7,500	Land and Buildings	1,850
Issued and Subscribed		Machinery	3,760
5 crore equity shares of ₹ 10 each, fully paid up	5,000	Furniture and Fixtures	1,015
Capital Reserve	260	Patents and Trade Marks	32
General Reserve	3,293	9% Non-trading Investments	600
Surplus i.e. credit balance of Profit and Loss (appropriation) A/c	457	Inventory	873
Trade payables	568	Trade receivables	614
Provision for Taxation (net)	22	Cash in hand and at Bank	546
	<u>9,600</u>		<u>9,600</u>

The profits before tax of the four years have been as follows:

Year ended 31st March	Profit before tax in lakhs of Rupees
2013	3,190
2014	2,500
2015	3,108
2016	2,900

The rate of income tax for the accounting year 2012-2013 was 40%. Thereafter it has been 38% for all the years so far. But for the accounting year 2016-2017 it will be 35%.

In the accounting year 2012-2013, the company earned an extraordinary income of ₹ 1 crore due to a

9.31 Financial Reporting

special foreign contract. In August, 2013 there was an earthquake due to which the company lost property worth ₹ 50 lakhs and the insurance policy did not cover the loss due to earthquake or riots.

9% Non-trading investments appearing in the above mentioned Balance Sheet were purchased at par by the company on 1st April, 2014.

The normal rate of return for the industry in which the company is engaged is 20%. Also note that the company's shareholders, in their general meeting have passed a resolution sanctioning the directors an additional remuneration of ₹ 50 lakhs every year beginning from the accounting year 2016-2017.

Solution

(1) Capital employed as on 31st March, 2017 (Refer to 'Note')

		₹ in lakhs
Land and Buildings		1,850
Machinery		3,760
Furniture and Fixtures		1,015
Patents and Trade Marks		32
Inventory		873
Trade receivables		614
Cash in hand and at Bank		<u>546</u>
		8,690
Less: Trade payables	568	
Provision for taxation (net)	<u>22</u>	<u>590</u>
		<u>8,100</u>

(2) Future maintainable profit

(Amounts in lakhs of rupees)

	2012-2013 ₹	2013-2014 ₹	2014-2015 ₹	2015-2016 ₹
Profit before tax	3,190	2,500	3,108	2,900
Less: Extraordinary income due to foreign contract	(100)			
Add: Loss due to earthquake		50		
Less: Income from non-trading investments			<u>(54)</u>	<u>(54)</u>
	<u>3,090</u>	<u>2,550</u>	<u>3,054</u>	<u>2,846</u>

As there is no trend, simple average profits will be considered for calculation of goodwill.

Total adjusted trading profits for the last four years = ₹ (3,090 + 2,550 + 3,054 + 2,846)

= ₹ 11,540 lakhs

Average trading profit before tax = $\left(\frac{\text{₹ } 11,540 \text{ lakhs}}{4} \right) =$	₹ 2,885 lakhs
Less: Additional remuneration to directors	<u>(50)</u> Lakh
	2,835 Lakh
Less: Income tax @ 35% (approx.)	<u>(992)</u> (Approx)
	<u>1,843</u> Lakh

(3) Valuation of Goodwill on Super Profits Basis

	₹ in lakh
Future maintainable profits	1,843
Less: Normal profits (20% of ₹ 8,100 lakhs)	<u>(1,620)</u>
Super profits	<u>223</u>

Goodwill at 3 years' purchase of super profits = 3 x ₹ 223 lakhs = ₹ 669 lakhs

3.9 Brand Valuation

In modern competitive environment, the corporate value and earning power are decided and generated by both the classes of assets, often more by intangibles than tangibles. In a turbulent marketing environment, brand gives tremendous competitive advantage to corporate. It can be said that rather than product selling itself, it is brand that sells the product. Vast sums are being spent by corporate to propagate and perpetuate the brand identity among product or service users. Brands are strategic assets. The key to survival of companies is their brands in the modern world of complex and competitive business environment.

3.9.1 Concept of Brand

According to American Marketing Association, brand means a name, term, sign, symbol or design or a combination of these intended to identify the goods or services of one seller or group of sellers and to differentiate them from those of competitors.

Corporate branding can be taken to mean the strategic exercise, by managerial decision making, of creating, developing, maintaining and monitoring the identity, image and ownership of a product corporate entity. Among various intangibles such as goodwill, patents, copyrights, brands etc., brands comprise an important item in that they greatly determine the corporate market value of a firm.

Brand achieves a significant value in commercial operation through the tangible and intangible elements. Brands may be that which is acquired from outside source while acquiring business or may also be nurtured internally by a company, which are known as 'Home-grown brands'. By assigning a brand name to the product, the manufacturer distinguishes it from rival products and helps the customers to identify it while going in for it. The necessity of branding of products has increased enormously due to influence of various factors like growth of competition, increasing importance of advertising etc.

Power brands make such a lasting impact on the consumers that it is almost impossible to change his preferences even if cheaper and alternative products are available in the market. Brands have major influence on takeover decisions as the premium paid on takeover is almost always in respect of the strong brand portfolio of the acquired company and of its long-term effect on the profits of the acquiring company in the post-acquisition period.

Brands should be considered as an asset. The sole purpose of establishing brand names is to incur future economic benefits, through increased sale to loyal customers or through an increased sale price of the brand itself or the business that owns the brand.

The companies with valuable brands register those names and are legally entitled to sole ownership and use of them. Brands are created through marketing efforts over time, they are the result of several past transactions and events.

A brand is a trademark (or combination of trademarks) that, through promotion and use, has acquired significance in distinguishing the source or origin of the goods or services offered under the trademark from those offered by others in the marketplace. Trademarks can take a variety of forms. While a trademark is often thought of as a word, phrase or logo, trademarks can also consist of numbers, designs, stylized lettering, colors, sounds, smells and any combination thereof, among various other possibilities such as the appearance or shape of the goods or their packaging. Brands are intellectual property and, as such, are part of the assets or "goodwill" of a company, and may be bought or sold like any other asset or property

The value of a brand is often defined as the amount of money another party is prepared to pay for it. Sometimes this is readily ascertainable after a company purchases a brand and the associated goodwill without any other assets; however, in many situations, determining a value for a brand can be significantly more complicated. Another readily identified value of a brand, or brands, is the difference between the amount paid to buy a company and the value of the fixed assets of that company. That difference represents the "goodwill" being purchased, and this goodwill is usually reflected in the brands of the company. The true value of a brand is ascertainable only when there is a willing purchaser and willing seller who reach to an agreement in the marketplace. A much more difficult question is how to value a brand when there is no current offer to sell or purchase.

3.10 Objectives of Corporate Branding

A strong corporate branding strategy can add significant value in terms of helping the entire corporation and the management team to implement the long-term vision, create unique positions in the market place of the company and its brands, and not the least to unlock the leadership potential within the organization. Hence, a corporate branding strategy can enable the corporation to further leverage on its tangible and non-tangible assets leading to branding excellence throughout the corporation.

The important objectives of corporate branding are as follows:

1. **Corporate Identity:** Brands help companies in creating and maintaining an identity for them in the market place. This is chiefly facilitated by brand popularity and the eventual customer loyalty attached to the brands.

2. **TQM:** By building brand image, it is possible for a body corporate to adopt and practice Total Quality Management (TQM). Brands help in building a lasting relationship between the brand owner and the brand user.
3. **Customer Preference:** The need for branding a product or service arises on account of the perceived choice and preferences which are built up psychologically by the customers. In fact, branding gives them the advantage of status fulfillment.
4. **Market Segmentation:** Segmenting a market requires classification of markets into more strategic areas on a homogeneous pattern for efficient operations to enable firms to effectively target consumers and to meet the competition. This segmenting of a market is facilitated through the built-up strong brand values.
5. **Strong Market:** By building strong brands, firms can enlarge and strengthen their market base. This would also facilitate programmes, designed to achieve maximum market share.

3.11 Corporate Brand Accounting

The term brand accounting refers to “the practice of valuation and reporting of the value of brand of a product or service in the financial statements of a corporate entity, the value of a brand being ascertained either as a result of revaluation in the case of home-grown brands or as a result of acquisition/ merger in the case of newly acquired brands.

Accounting is basically a measurement and communication system. Corporate brand accounting can be defined as a process of identification, measurement and communication of brand value and brand equity to permit informed judgment and decisions by the users of the information.

It is a system designed to determine the brand value with a view to reflect the brands as assets in the corporate balance sheet. However, brand accounting goes beyond valuation of corporate brand. It is the process of total brand management through accounting information.

3.12 Objectives of Brand Accounting

The accounting for brands is motivated by the following reasons:

1. **Real Economic Value:** By showing brand value in the Balance Sheet of a firm, an objective and realistic assessment of the company's real economic value could be made possible. This would facilitate the ascertainment of correct Net Asset Value (NAV) which would be useful in times of business acquisitions and mergers.
2. **Future Profitability:** A brand generated or purchased, could be very useful for ascertaining the future income making ability of companies. In fact, enormous sums of money spent on promoting and supporting brands would go to appreciate the value of the firm. Companies which enjoy brand equity will have the market value of their share enhanced. Brand equity refers to the value added to the equity of a firm by the brand popularity and loyalty.

3. **Preventing Predation:** By building and explicitly disclosing brands in financial statements, companies could put up a powerful defense against potential predators and thereby ward off possible acquisition and take-over bids.
4. **Leverage Benefits:** By enhancing the NAVs through brand disclosure separately in the Balance sheet, it is possible for companies to resort to easy debt borrowings as this causes an increase in NAV. In fact, the borrowing limits a firm enhances with the increase in NAV. This ultimately paves the way for sound capital structure and an improved gearing ratio.
5. **Quality Decisions:** Inclusion of brand values not only enhances NAV, ensure fair valuation of the firm. This promotes quality managerial decision making. Brand valuation may help managers in placing importance on brand promotion and strategic brand positioning which hold the key for corporate marketing success.
6. **Quality Accounting:** Brand value inclusion enhances the quality of accounting practice since the value added by corporate brands are considered significant in financial statements. This could ultimately improve the financial accounting system and management control.
7. **Social Obligation:** Brand valuation and its disclosure would help managers and shareholders alike appreciate the significant role of brands in maintaining and enhancing the market value of firms. This could help especially the shareholders in making an objective evaluation of companies (rating) before investing their money. This exercise, in a way, helps firms fulfill their social obligations.
8. **Other Benefits:** Brand accounting provides a strong basis for self-evaluation of its value by corporate. This could help firms in making a perfect estimate of the ability to take on the competitors. It not only helps in tackling competitors locally, but could be of much greater advantage to the foreign joint ventures and collaborations.

3.13 Difficulties in Brand Accounting

Intangibles are not easily measurable and it poses severe challenges in valuation of brands also. Some of the difficulties faced by the accountants in brand valuation are as follows:

1. **Distinctiveness:** Brands need to be valued distinctively as different from other intangibles such as Goodwill etc. For instance, any attempt to commonly treat brand as a part of Goodwill as is done at present may create serious distortions in accounting position. Besides, this would create handicaps in brand accounting. This is because, a brand cannot be treated like any other item such as patents and copyrights. In fact, a brand needs to be separately disclosed in the Balance sheet, because of its significant contribution to corporate image and identity.
2. **Disclosure:** There is always a problem of making disclosure of brand values in financial statements. This is because, there is no standard accounting practice requiring statement and disclosure of brand values in a particular way.

3. **Uncertainty:** The problem that is associated with the brand, as an item of intangibles, is that its possible returns are uncertain, immeasurable and non-current in nature. Any expected on such intangibles are usually either written off or treated as Deferred Revenue Expenditure.
4. **The Dilemma:** Another area of challenge posing brand accounting is whether to amortise or capitalise the value of brand. There is no question of amortising brand values as either the economic life of the brand cannot be determined in advance or its value depreciates over time. In fact, it is "to be noted that a brand can be purchased or generated and maintained, thus enhancing the corporate future income earnings capacity. The challenge could, however, be overcome by categorising the brand expenditure into Maintenance and Investment. Whereas the maintenance expenditure could be charged to Profit and Loss Account and the Capital Expenditures be shown in the Balance Sheet and where the brand value is shown separately and explicitly in the Balance Sheet, the leverage position of the company can be shown enhanced.
5. **No Market:** The prevailing practice is that the intangibles are not required to be revalued according to some accounting standards on account of the non-existence of an active secondary market for them. In fact, the need for brand accounting arises mainly on account of conditions warranted by acquisition and merger.
6. **New Brands:** A related problem, in accounting for such intangibles as brands is that it is often difficult to determine whether a new one is being gradually substituted for an existing brand. This raises the issue as to how to account for it in subsequent years. In such case, the relevant question is: Should the original cost of brand be written-down as it erodes? It may be difficult to determine whether a brand remains the same asset overtime as it is subtly reshaped to meet new market opportunities.
7. **Joint Costs:** The contribution to the value of a brand is made not simply by investing a desirable product with a customer seductive name, but by building market share by the skilful exploitation of the product in a whole host of ways of general efficiency with which a business is conducted by expending money on a joint cost basis. It is very difficult to segregate and account for joint costs that are incurred and the cost of brand developed as a result of general operations of the business.

3.14 Valuation of Brands

The methods of brand valuation would depend on one or more of the following variables:

1. Exclusive earning power of brand.
2. Product as a brand and hence, product life cycle.
3. Separating a brand from other less important value drivers
4. Cost of acquisition of brand.
5. Expenses incurred on nurturing a home grown brand.
6. Impact of other brands as new entrants to the market.

7. Intrinsic strength of the people and process handling the brand.
8. Accuracy in projecting the super or extra earnings offered by a brand and rate of discounting such cash flows.
9. The cost of withdrawing or replacing the brand.
10. Internationalisation of a brand and therefore, local earning power of a brand in various countries or markets.

The valuation of brands is discussed from the angle of (i) Acquired brands, and (ii) Self generated brands.

Valuation of Acquired Brands: A purchased brand is one, which is acquired from other existing concerns. The acquiring company may acquire only the brand name(s). The value of acquired brands is given below:

$$\text{Brand value} = \text{Price paid for acquisition}$$

On the other hand, a company may acquire an existing business concern along with its brands. These are the cases of business mergers and amalgamations. The sum involved in these transactions provides an indication of the financial value of the brands. At the maximum this value is equal to the difference between the price and the value of the net assets indicated on the acquired company's balance sheet.

$$\text{Brand value} = \text{Purchase consideration} - \text{Net assets taken over}$$

However, it is questionable to say that the excess price paid always represents the brand value. The excess is only an amount of purchased goodwill and the acquiring company may have paid the excess price for varied factors also, location of the factory, long term contracts with suppliers, better employee morale, better manufacturing technology etc. besides for brands.

It would be difficult to say what part of the excess price paid is attributable to brands. Besides, the price payable is always decided by forces of demand and supply conditions of mergers and amalgamations in the market. Competitive force may make the acquirer to increase the bid price thereby increasing the amount of purchased goodwill. This inseparability of brand from other intangible assets makes it difficult to value the brands.

Valuation of Self-generated Brands: Several approaches have been evolved over a period of time for determining the brand values. The important methods in valuation of self-generated brands are discussed below:

Historical Cost Model – According to this approach, the valuation of a brand is determined by taking into account the actual expenses incurred in the creation, maintenance and growth of corporate brands. The value of the brand computed as follows:

Brand value = Brand Development Cost + Brand Marketing and Distribution Cost + Brand Promotion Costs including advertising and other costs.

The historical cost method is specifically applicable to home-grown brands for which various costs like development costs, marketing costs, advertising and general communication costs

etc. are incurred. The sum total of all these costs would represent the value of brands. However, the entire advertisement costs cannot be regarded as incurred for brand. Further, several heavily advertised brands today show hardly any value or presence.

The chief advantage of this model is that the various types of costs that are actually incurred are considered. This facilitates easy computation of brand values. However, it does not explain the impact of brand value on the profitability of a firm.

Replacement Cost Model – Under this model, the brands are valued at the costs, which would be required to recreate the existing brands. The method is based on the assumption that the existing brands can be recreated exactly by new brands. It is the opportunity cost of investments made for the replacement of the brand.

$$\text{Brand value} = \text{Replacement Brand Cost}$$

The main disadvantage with this model is that this model gives an estimation of brand value but it is near impossible to replace the existing brands by new brands. Further, such values are only subjective ones.

Market Price Model – The probable value that a company would get for sale of its brands is taken as the value of the brands under this model. Therefore, the brand value is given by:

$$\text{Brand value} = \text{Net Realisable Value}$$

However, this value is only an assumed value because there exists no ready-made market for many brands. Further, brands are created or bought by corporate not for sale or resale. Value payable by the purchaser depends upon the benefits expected from the purchase of brand. But the method determines the value from the seller's point of view.

Current Cost Model – According to this approach, the current corporate brands are valued at the current value (current costs) to the Group, which is reviewed annually and is not subject to amortisation. This basis of valuation ignores any possible alternative use of brand, any possible extension to the range of products currently marketed under a brand, any element of hope value and any possible increase in value of a brand due to either a special investment or a financial transaction (e.g. licensing) which would leave the Group with different interest from the one being valued.

Potential Earning Model – The Potential Earnings (PE) model is based on the estimated potential earnings that would be generated by a brand and their capitalisation by using appropriate discount rate, the volume of revenues raised by a brand in the market, determines its value. Accordingly, the value of a brand at any one point of time is given by:

$$\text{Total Market value of brand} = \text{Net Brand Revenue} / \text{Capitalisation Rate}$$

Where

$$\text{Net Brand Revenues} = (\text{Brand units} \times \text{Unit brand price}) - (\text{Brand units} \times \text{Unit brand cost}) \\ (\text{Marketing cost} + \text{R \& D cost} + \text{Tax costs}).$$

Though the model sounds objective, problem lies in ascertaining the actual marketing cost incurred for a particular brand of a product. Moreover, it is difficult to select an appropriate capitalisation rate.

Present Value Model – According to present value model, the value of a brand is the sum total of present value of future estimated flow of brand revenues for the entire economic life of the brand plus the residual value attached to the brand. This model is also called Discounted Cash Flow model which has been widely used by considering the year wise revenue attributable to the brand over a period of 5, 8 or 10 years. The discounting rate is the weighted average capital cost, this being increased where necessary to account the risks arising out of a weak brand. The residual value is estimated on the basis of a perpetual income, assuming that such revenue is constant or increased at a constant rate.

$$\text{Brand value} = \frac{R_t}{(1+r)^t} + \frac{\text{Residual value}}{(1+r)^N}$$

Where,

R_t = Anticipated revenue in year t, attributable to the brand.

t = Discounting rate

Residual value beyond year N

Brands supported by strong customer loyalty, may be visualised as a kind of an 'annuity', since, mathematically, an annuity is a series of equal payments made at equal intervals of time. Brands backed by the loyalty of hard-core customers offer strong probability of having steady long-term incomes. Great care must be taken to estimate as much correctly as possible, the future cash flow likely to emanate from a strongly positioned specific brand. A realistic present value of a particular brand having strong loyalty of customers can thus be obtained from summation of discounted values of the expected future incomes from it.

The DCF model for evaluating brand values has got three sources of failure: (i) Anticipation of cash flow, (ii) Choice of period, and (iii) Discounting rate.

Sensitivity Model – According to this approach, the brand revenues are determined as a functional inflow of such market factors as level of awareness of brand (AB), level of customer influence (P) and level of brand autonomy (BA) in the market, all these factors in the first place predominating the sales revenues and then the brand revenues or the brand value. In other words, sensitivity of each of the above forces determines the brand value.

$$\text{Brand value} = (\text{Brand units sold} \times \text{Unit Brand price}) \times AB \times BI \times BA$$

$$\begin{aligned} & (-) \\ & (\text{BDC} + \text{BMDC} + \text{BPC}) \end{aligned}$$

Where,

AB, BI and BA are sensitivity index of brand values

BDC = Brand Development Cost

BMD = Brand Marketing and Distribution Cost

BPC = Brand Promotion Cost

The demerit of this model is that it gives more importance to subjective variables in the estimation of brand value and this renders the whole exercise less reliable.

Life Cycle Model – Under this approach, the brand value is indicated by means of relating the brand dimensions to the brand strength. This model is applicable to home-grown brands, where the brands are generated, nurtured and developed throughout their life which resembles a product life cycle. The model is so called because the various brand dimensions behave in a way over a period of time thus forming the brand value, to its life. This results in the formation of S-curve. The model merely gives diagrammatic representation of formation and behaviour of brand strength. The various dimension assumed in this approach are difficult to be quantified. The figure depicts the life cycle model of corporate brand strength

Incremental Model – Under this approach, the value of a brand is measured in terms of incremental benefits accruing to a firm on account of additions made to the brand value as a result of acquisition or revaluation of brands. The brand value is computed as follows:

Brand value

= Total expected benefits after acquiring or revaluing brands – Total benefits of brands owned

Super Profits Model – This is the most commonly used method for brand valuation. The simple formula of valuation under this method is as follows:

Brand value = Discounting Factor x (Total profit of an enterprise in 'n' years x Profit of an enterprise without the brand in 'n' years)

The disadvantages in this method are as follows:

1. How many years ('n') profits to be considered?
2. What should be the discounting rate?
3. How do we decide the profit of an enterprise without the brand?

Market Oriented Approach – This method is much outward looking and emphasises on the market forces and competition, to arrive at a brand's value. The method requires very good understanding of the market, new entrants, exit of old competitors, market expansion and shrinkage and impact of other macro-level variables on the market. The valuation process demands due amount of conservatism in projecting the market-size and the company's share in the market.

Brand value = Discounting Factor × Company's profitability ratio × (Cumulative market's size in next ten years - Cumulative total of market share enjoyed by other branded and non-branded products in next 10 years)

The advantage of this method is, it looks at macro aspects governing the brand's growth or shrinkage. It also takes the cognizance of non-branded products and their threat to the company's brand. Company's profitability ratio and the accounting factor are a matter of strategic benchmarking.

Whole Organisation as a brand: Normally one cannot identify a product or process or program as an exclusive brand. All the value drivers bring together and make the enterprise a big integrated brand, the premium enjoyed by such enterprise becomes the value of the brand.

9.41 Financial Reporting

Brand value = Intrinsic value of an enterprise - Net asset value of the assets of an enterprise

This method is useful under the following circumstances:

1. The buyer acquires the whole of the enterprise.
2. A going concern values itself and exhibits such premium enjoyed by it, in its Balance Sheet.
3. One company becomes the brand equity or brand name for whole of the group.
4. Valuation of an enterprise as a brand is to be used as a base for computing the brand value of each value driver in the value chain of the enterprise.

This method is a very accurate choice of performance indicators and their weight ages which together decide the intrinsic value of the enterprise.

Which brand valuation method to use?

It is generally best to value brands using all appropriate brand valuation methods and synthesise the results to arrive at a conclusion.

3.15 Human Resources as a Brand

Defining or recognising human resources as a brand could be a very complex process. The leading value drivers in an organisation could effectively be the brand. These value drivers may be the top executives or divisional heads. They could be from the most sensitive division of the organisation. Such sensitive division may also be the brand for the whole of the organisation. For example, many CEOs of most profitable corporations who enjoy the maximum brand value in the market.

The valuation of entrepreneurial employees goes parallel with the intrinsic valuation of the enterprise, for an obvious reason that most of the value addition is done by these employees. The approaches to valuation may be as follows:

- (a) **Cost Approach:** The total cost incurred on developing these key employees may be capitalised as an 'asset' and shown in the Balance sheet with yearly alternations on account of recurring development costs incurred further.
- (b) **Compensation Approach:** Discounted value of the total future compensation payable to the key employees for their remaining tenure with the organisation may be the ultimate valuation. The main drawback of this approach is that employees of a high profile organisation may be unnecessarily valued at a much higher price. Hence, it may not be a genuine representation of the employees brand-equity enjoyed by the organisation.
- (c) **Intrinsic Approach:** The total discounted value of future compensation payable is further increased (or decreased) by the 'performance index' of the enterprise. This performance index explains the overall intrinsic value of an enterprise's potentials.
- (d) **Remainder Approach:** This approach would be very notional and subjective, as it depends upon, the computation of 'non-branded employees' in an organization

Brand value = Discounting Factor × (Total profits of the organisation in next 10 years -

Profit of the organisation without the branded employees in next 10 years)

Assuming that the branded employees are not there and then notionally computing the 'non-branded employees' performance' would require accurate benchmarking. Treating key employees as brands and valuing them, has some good advantages:

1. Entrepreneurial wages can be determined, based on 'brand value'.
2. Strategy of taking over an enterprise with branded employees can be better handled, if such valuation is done.
3. Empowerment for growth and diversification becomes easy, when different benchmarks are available on the valuation of the employees to be empowered.
4. Branded employees and their valuation make the enterprise's Balance sheet distinctive strong and much more transparent.
5. Products, processes and programmes can be distinguished from the important value driven employees, valuation becomes easy. Exclusively of the products and processes from the employees becomes clear, when the branding of employees is done.

- (e) **Value Chain Approach:** The outsourcing approach can be used considerably to find out the cost and contribution associated with every value driver or factor of production. The sum total of such contributions, if deducted from the total contribution achieved by the organisation should give the brand value of the organisation. The surplus offered by the brand for ten years may be discounted at rate applicable to average market conditions.

3.16 Corporate Brand Strength

The brand valuation models lay emphasis on methods of ascertaining the 'Brand Strength' product or service of a corporate entity, which is defined as the sum total of all benefits flowing from different dimensions of a brand such as quality of market leadership (ML) of the brand, relative stability* of market (SM) enjoyed by the brand, the extent of market share (MS) of the brand, the levels of international acceptance (IA) of the brand, ability of the brand to meet the changing modern marketing trends (MT), the extent of strategic support (SS) provided by the brand to the corporate's survival and growth, competitive strength (CS) offered by the brand and above all the legal and social brand protection (BP). The composition of corporate brand strength is shown in the following figure

Thus, the brand value/strength can be stated as follows:

Brand value = (ML + MS + SM + IA + MT + SS + CS + BP)

Illustration 5

From the following information, determine the possible value of brand as per potential earning model:

		₹ in lakhs
(i)	Profit After Tax (PAT)	₹ 2,500
(ii)	Tangible fixed assets	₹ 10,000

9.43 Financial Reporting

(iii)	Identifiable intangible other than brand	₹ 1,500
(iv)	Weighted average cost of capital (%)	14%
(v)	Expected normal return on tangible assets [weighted average cost (14%) + normal spread 4%]	18%
(vi)	Appropriate capitalization factor for intangibles	25%

Solution

Calculation of Possible Value of Brand

	₹ in lakhs
Profit after Tax (PAT)	2,500
Less: Profit allocated to tangible assets [18% of ₹ 10,000]	<u>1,800</u>
Profit allocated to intangible assets including brand	<u>700</u>
Capitalisation factor 25%	
Capitalised value of intangibles including brand $\left[\frac{700}{25} \times 100 \right]$	2,800
Less: Identifiable intangibles other than brand	<u>1,500</u>
Brand value	<u>1,300</u>

Illustration 6

Rough-use Ltd. has hired a Marketing Consultancy Firm for doing market research and provide data relating to Tyre Industry for the next 10 years. The following were the observations and projections made by the consultancy firm:

- The Tyre Industry in the target area i.e. whole of India, is expected to grow at 5% per annum for the next 3 years, and thereafter at 7% per annum over the subsequent seven years.*
- The market size in terms of unencumbered basic sales of tyres was estimated at ₹ 8,000 crores in the last year, dominated by medium and large players. This includes roughly 10% of fake brands and locally manufactured tyres. Market share of this segment is expected to increase by 0.5% over the decade.*
- Cheap Chinese Imports accounted for 40% of the business (but 60% of the volume) last year. This is expected to be increase by 0.25% over the next decade.*
- The other large players accounted for roughly 34% of the business value last year, which is expected to go down by 0.5% over the next ten years, due to expansion of Rough-use Ltd.'s product portfolio.*
- The Company is in the process of business process re-engineering, which will start yielding results in 2 years time, and increase its profitability by 3% from its existing 8%.*

What is the Brand Value of Rough-use Ltd., under Market Oriented Approach, if the appropriate discount rate is 10%?

Solution**Market Share of Rough-use Ltd.**

- (a) Last year's market share = 100% – Fake Brands 10% - Chinese Imports 40% - Other Domestic Brands (large players) 34% = 16%
- (b) Increase or decrease in market share: Chinese Imports 0.25% + Local Brands 0.5% - Other Domestic Brands (large players) 0.5% = 0.25% i.e. increase in others' market share. Hence, market share of Rough-use Ltd. is expected to fall by 0.25% every year over the decade, from the current level of 16%. Therefore, this year it will be 15.75%, next year 15.50%, the year after 15.25% etc.

Brand Valuation under Market Approach

Year	Market Size (₹ in Crores)	Market Share of Rough-use Ltd.	Market Share (₹ in Crores)	Expected Profit (₹ in Crores)	Discount Factor @ 10%	Discounted Cash Flow (₹ in Crores)
1	8,000.00 + 5% = 8,400.00	15.75%	1,323.00	@ 8% = 105.84	0.909	96.22
2	8,400.00 + 5% = 8,820.00	15.50%	1,367.10	@ 8% = 109.37	0.826	90.34
3	8,820.00 + 5% = 9,261.00	15.25%	1,412.30	@11% = 155.32	0.751	116.65
4	9,261.00 + 7% = 9,909.27	15.00%	1,486.39	@11% = 163.50	0.683	111.67
5	9,909.27 + 7% = 10,602.92	14.75%	1,563.93	@11% = 172.03	0.621	106.83
6	10,602.92 + 7% = 11,345.12	14.50%	1,645.04	@ 11% = 180.95	0.564	102.06
7	11,345.12 + 7% = 12,139.28	14.25%	1,729.85	@11% = 190.28	0.513	97.62
8	12,139.28 + 7% = 12,989.03	14.00%	1,818.46	@11% = 200.03	0.467	93.41
9	12,989.03 + 7% = 13,898.26	13.75%	1,911.01	@11% = 210.21	0.424	89.13
10	13,898.26 + 7% = 14,871.14	13.50%	2,007.60	@11% = 220.84	0.386	85.24
	Brand Value					<u>989.17</u>

Brand Value of Rough-use Ltd. under Market Oriented Approach is 989.17 crores.

Illustration 7

During the financial year 2016-2017, Smart Ltd. had the following transactions:

- (i) On 1st April 2016, Smart Ltd. purchased new asset of Ok Ltd. for ₹ 7,20,000. The fair value of Ok Ltd.'s identifiable net assets was ₹ 3,44,000. Smart Ltd. is of the view that due to popularity of Ok Ltd.'s products, the life of resulting goodwill is unlimited.
- (ii) On May 2016, Smart Ltd., purchased a franchise to operate boating service from the State Government for ₹ 1,20,000 and at an annual fee of 1% of boating revenues. The franchise expires after 5 years. Boating revenues were ₹ 40,000 during financial year 2016-2017. Smart Ltd. projects future revenue of ₹ 80,000 in 2017-2018 and ₹ 1,20,000 per annum for 3 years thereafter.
- (iii) On 5th July 2016, Smart Ltd. was granted a patent that had been applied for by Ok Ltd. During 2016-17, Smart Ltd. incurred legal costs of ₹ 1,02,000 to register the patent and an additional ₹ 1,70,000 to successfully prosecute a patent infringement suit against a competitor. Smart Ltd. expects the patents economic life to be 10 years. Smart Ltd. follows an accounting policy to amortize all intangibles on straight line basis over the maximum period permitted by accounting standard taking a full year amortization in the year of acquisition.

Prepare

- (a) A schedule showing the intangible section in Smart Ltd. balance sheet at 31st March 2017.
- (b) A schedule showing the related expenses that would appear in the Statement of Profit and Loss of Smart Ltd. for 2016-2017.

Solution

(a)

Smart Ltd.
Balance Sheet (Extract)
(Extract relating to intangible asset)
as on 31st March 2017

	Note No.	₹
Assets		
(1) Non- current asset		
Intangible assets	1	6,79,200

(b)

Statement of Profit and Loss (Extract)
for the year ended 31st March 2017

	Note No.	₹
Revenue from Operations		40,000
Total Revenue		_____?
Expenses:		
Amortization	2	88,800
Other expenses	3	_____400
Total Expenses		_____?

Notes to Accounts (Extract)

		₹	₹
1.	Intangible assets		
	Goodwill (Refer to note 1)	3,38,400	
	Franchise (Refer to Note 2)	96,000	
	Patents	<u>2,44,800</u>	6,79,200
2.	Amortization expenses		
	Goodwill	37,600	
	Franchise	24,000	
	Legal Cost	<u>27,200</u>	88,800
3.	Other expenses		
	Franchise for 1% of 40,000		400

Working Notes:

		₹
(1)	Cash Paid	7,20,000
	Less: Fair value of net assets	<u>(3,44,000)</u>
	Goodwill	3,76,000
	Less: Amortisation (over 10 years as per SLM)	<u>(37,600)</u>
	Balance to be shown in the balance sheet	<u>3,38,400</u>
(2)	Franchise	1,20,000
	Less: Amortisation (over five years)	<u>(24,000)</u>
	Balance to be shown in the balance sheet	<u>96,000</u>
(3)	Legal Costs (1,02,000 + 1,70,000)	2,72,000
	Less: Amortisation (over ten years as per SLM)	<u>(27,200)</u>
	Balance to be shown in the balance sheet	<u>2,44,800</u>

- (4) As per para 63 of AS 26, 'Intangible Assets', there is a rebuttable presumption that useful life of an intangible asset will not exceed ten years. If life is taken for more than 10 years, then company will have to disclose the significant reasons for the assumption. Here, Smart Ltd. has simply stated that life is unlimited by saying that Ok Ltd.'s products are popular. However, this cannot be constituted as significant reason. Therefore, this assumption has not been taken into consideration.

UNIT 4 : VALUATION OF LIABILITIES

4.1 Introduction

Proper valuation of all assets and liabilities is required to ensure true and fair financial position of the business entity. In other words, all matters which affect the financial position of the business has to be disclosed. Under- or over-valuation of liabilities may not only affect the operating results and financial position of the current period but will also affect these for the next accounting period. The present unit deals with different principles involved in the valuation of different types of liabilities.

4.2 Base of Valuation

The different bases of valuation of liabilities are depicted below:

- (a) *Historical cost.* Liabilities are recorded at the amount of proceeds received in exchange for the obligation, or in some circumstances (for example, income taxes), at the amounts of cash or cash equivalents expected to be paid to satisfy the liability in the normal course of business.
- (b) *Current cost.* Liabilities are carried at the undiscounted amount of cash or cash equivalents that would be required to settle the obligation currently.
- (c) *Realisable (settlement) value.* Liabilities are carried at their settlement values, that is, the undiscounted amounts of cash or cash equivalents expected to be required to settle the liabilities in the normal course of business.
- (d) *Present value.* Liabilities are carried at the present value of the future net cash outflows that are expected to be required to settle the liabilities in the normal course of business. (Framework, Issued 2000)

4.3 Carrying Value

The liability items of the balance sheet are generally carried at the settlement values. However for shares and debentures if the book value is measured including the premium or loss on issue, that comprehensive book value should match with the historical cost value. For certain items like income received in advance, liability for tax the historical cost basis is generally applicable. In such cases the historical cost and settlement value should be similar. Liabilities may be carried at the present value in case of finance lease.

4.4 Leases

In case of a finance lease, the lessee should recognize a liability equal to the fair value of the leased asset at the inception of the lease.

If the fair value of the leased asset exceeds the present value of the minimum lease payments from the standpoint of the lessee, the amount recorded as an asset and a liability should be

the present value of the minimum lease payments from the standpoint of the lessee. In calculating the present value of the minimum lease payments the discount rate is the interest rate implicit in the lease, if this is practicable to determine; if not, the lessee's incremental borrowing rate should be used. (AS 19 Para 11)

4.5 Provisions

In regard provision, the valuation is based on settlement value and not on present value. AS 29 states in para 35 that the amount recognised as a provision should be the best estimate of the expenditure required to settle the present obligation at the balance sheet date. The amount of a provision should not be discounted to its present value.

UNIT 5 : VALUATION OF SHARES

5.1 Introduction

The considerations governing share valuation are varied, intricate and numerous of which some are accounting and others non-accounting; some are objective, others are subjective. As a result, very often accountants fail to come to agreement on the valuation to be placed on shares. Valuation calls for judicious assessment of the rights, advantages, interests, expectations, hazards and difficulties of the parties involved in it, having conflicting interests. If the purpose of valuation is known, the valuer should arrive at the same value whether he is appointed by the seller or the buyer. However, the valuer's approach to the question is influenced by the purpose for which the valuation is requested. For example, though the underlying principles are the same, a valuer may apply them in a liberal way in cases of valuation for compensation purposes, while a more conservative test may be applied in valuation for tax-purposes.

5.2 Purposes of Valuation

Purposes of share valuation can be given as follows:

- (i) Assessments under the Wealth Tax Act.
- (ii) Purchase of a block of shares which may or may not give the holder thereof a controlling interest in the company.
- (iii) Purchase of shares by employees of the company where the retention of such shares is limited to the period of their employment.
- (iv) Formulation of schemes of amalgamation, absorption, etc.
- (v) Acquisition of interest of dissenting shareholders under a scheme of reconstruction.
- (vi) Compensating shareholders, on the acquisition of their shares, by the Government under a scheme of nationalization.
- (vii) Conversion of shares, say, preference into equity shares.
- (viii) Advancing a loan on the security of shares.
- (ix) Resolving a deadlock in the management of a private limited company on the basis of the controlling block of shares given to either of the parties.

5.3 Relevance of Valuation

Valuation by an expert is generally called for when parties involved in the transaction/deal/scheme, etc. fail to arrive at a mutually acceptable value or agreement or when the Articles of Association etc. provide for valuation by experts. For transactions concerning relatively small blocks of shares which are quoted on the Inventory exchange, generally the ruling Inventory exchange price (average price) provides the basis. But valuation, by a valuer becomes necessary when:

- (i) shares are not quoted;
- (ii) shares relate to private limited companies;
- (iii) the court so directs;
- (iv) Articles of Association or relevant agreements so provide;
- (v) a large block of shares is under transfer; and
- (vi) Statutes so require (like Wealth Tax Act, Income Tax Act and FEMA Regulations).

5.4 Limitation of Stock Exchange Price as a Basis for Valuation

A rough classification of buyers at the stock exchange may be made as: (a) informed or analytical investors; (b) informed speculators; and (c) the un-informed. Similarly, a rough classification of sellers is: (a) informed; and (b) those with an urgent need to sell. It is sufficient to say that in a stock exchange numerous people collect-some to deal, some to watch and some to rig. Consequently, depending on the motivation they react and the result of such reactions come out as the market price, which is partly an outcome of reasoned investments or sales policy, partly embodying the effect of speculative motives. Thus it is not reasonable to use stock exchange price as share value - one should consider other factors too. The Council of the London Stock Exchange has opined: "We desire to state authoritatively that stock exchange quotations are not related directly to the value of a company's assets, or to the amount of its profits and consequently these quotations, no matter what date may be chosen for reference, cannot form a fair and equitable, or rational basis for compensation. The stock exchange, does not determine the prices of which the official list is the record. The stock exchange may be likened to a scientific recording instrument which registers, not its own actions and opinions, but the actions and opinions of private and institutional investors all over the country and, indeed the world. These actions and opinions are the results of hope, fear, guesswork, intelligent or otherwise, good or bad investment policy and many other considerations. The quotations that result definitely do not represent a valuation of a company by reference to its assets and its earning potential".

On a summarisation, it may be stated that stock exchange price is mostly determined by bull and bear effects rather than fundamental factors like net assets, earnings, yield, etc. Stock exchange price is basically determined on the inter-action of demand and supply and may not reflect a true value of shares.

Factors: Two factors stand out to be basically important: assets employed and the profit earned; mostly both are considered. The following has general acceptance:

- (i) For a company destined to be liquidated, assets will constitute the basis for valuing the shares of the company.
- (ii) Where assets play a relatively unimportant role, for example in the case of professional practice of architects and engineering consultants, valuation may depend wholly on the earning capacity.

- (iii) Earning power and assets both may be considered in valuation of the shares of a going concern, earning power playing a major role while assets are considered only to indicate safety margin i.e. asset backing.

5.5 Methods

Principally two basic methods are used for share valuation; one on the basis of *net assets* and the other on the basis of *earning capacity* or yield (which, nevertheless, must take into consideration net assets used).

5.5.1 Net Asset Basis

According to this method, value of equity share is determined as follows:

$$\frac{\text{Net assets available to equity shareholders}}{\text{Number of equity shares}}$$

The following important aspects are to be considered while arriving at the net assets available to the equity shareholders:

- (i) *Value of tangible fixed assets*: Tangible fixed assets like plant, machinery, building, land, furniture, etc. should be taken at their current cost. Current cost implies current entry price, i.e., the price to be paid by the enterprise if it wants to acquire such assets at their present locations and conditions.
- (ii) *Value of intangibles*: Intangibles like goodwill, patents and know-how should also be taken at their current cost. Inherent goodwill is not shown in the books of accounts. For asset based valuation of share, valuation of goodwill is essential and valuation should be made following any of the methods (depending upon the circumstances) discussed in Unit 3. If purchased goodwill appears in the books of account it should be eliminated and new valuation should be taken into consideration.
- (iii) *Investments*: Shares and securities which are quoted in the stock exchange and traded on a regular basis, market price of them should be used as current value of investments. For other investments book value may be taken after adjustments for known loss or gain.
- (iv) *Inventories*: The Inventory of finished goods may be taken at the market price. But other Inventories like raw material, stores and work-in-progress should be taken at cost following conservative approach. Due allowance should be made for any obsolete, unusable or unmarketable Inventories held by the company.
- (v) *Trade receivables*: Appropriate allowance should be made for bad and doubtful debts.
- (vi) *Development expenses*: These arise (i) in the case of a new company, when it is in the process of executing its project and (ii) in the case of an old company, when either there is an expansion of the existing production lines or diversifications with a view to entering new lines.

Such expenses generally appear in the balance sheet as Capital Work-in-Progress. It may not be advisable to take whole of the expenses as asset while valuing equity shares.

Rather a conservative approach may be followed to assess the current 'entry' value of such Capital Work-in-Progress.

(vii) *Miscellaneous expenditure and losses*: All fictitious assets appearing under this head should not be taken into consideration.

(viii) *Unrecorded assets and liabilities*: If there is any unrecorded asset which can be realised, it should be considered. In the same way, all unrecorded liabilities should also be provided for.

From the value of assets arrived at as per the criteria discussed above the liabilities are deducted to arrive at net assets. These liabilities are:

- ◆ All short term and long term liabilities including outstanding and accrued interest;
- ◆ Tax provisions;
- ◆ All liabilities not provided for in the account;
- ◆ All prior period adjustments which would reduce profit of the earlier years net of items which would increase profit;
- ◆ Preference share capital including arrear of dividends.

However, if some shares are partly paid up, a notional call equivalent to the calls unpaid added with the net assets. And value of shares is determined taking partly paid up shares as notionally fully paid up. Thereafter value of partly paid up shares is arrived at after deducting unpaid call or uncalled amount from value of fully paid up shares.

Net Asset Method can be fairly used to value shares when the firm is liquidated. This method takes into account the real worth of the business and is also related to the market value of assets. But it is difficult to estimate the realisable value of shares in case of going concern. This method does not give any weight to earning capacity of the company. This method is suitably applicable when two or more companies are going to be amalgamated or merged and also when controlling shares are being acquired.

5.5.2 Yield Basis

Yield based valuation may take the form of valuation based on rate of return. The rate of return may imply rate of earning or rate of dividend. If a block of shares is sufficiently large, so as to warrant virtual control over the company the rate of earning should be the basis; for small blocks the rate of dividend basis will be appropriate. It is necessary to determine (i) the (after tax) maintainable profit or dividend for the company in the foreseeable future, and (ii) the normal rate of yield or earning of dividend, as the case may be, for the company. After the rate of yield or earning of dividend has been determined, the capitalisation factor, or the multiplier, should be determined for applying the same to the adjusted maintainable profit of business to arrive at the total value. If the yield expected in the market is 8% the capitalisation factor would be $100/8$ or 12.5. On this basis the value of an undertaking earning ₹ 4,00,000 p.a. would be ₹ 4,00,000 × 12.5 or ₹ 50,00,000. Total value of the undertaking divided by the number of equity shares gives the value for each equity share. Similar is the process for

dividend yield basis.

Stages for yield-based Valuation: Broadly, the following steps are envisaged in a yield based valuation considering the rate of return:

- (i) Determination of future maintainable profit;
- (ii) Ascertaining the normal rate of return;
- (iii) Finding out the capitalisation factor or the multiplier;
- (iv) Multiplying the future maintainable profit, by the multiplier; and
- (v) Dividing the results obtained in (iv) by the number of shares.

5.5.3 Determination of the normal rate of return and capitalisation factor

This obviously has tremendous bearing on the ultimate result but, unfortunately, it is subjective and therefore, valuers differ more widely in this area than in any other in the whole valuation process.

As a general rule, the nature of investment would decide the rate of return. Companies, investment in which is more risky, would call for a higher rate of return and consequently they will have lower capitalisation factor and lower valuation than companies with assured profits. For investment in government securities, the risk is least and consequently, the investor would be content with a very low rate of return.

In a logical order, we find that mortgage debentures, being riskier than government paper, require slightly higher rate of return. Preference shares are less risky than equity shares but more risky than mortgage debentures; preference shares rank in between debentures and equity shares in the matter of rate of return. Equity shares are exposed to the highest risk and, consequently, the normal rate of return is highest in the case of equity shares, though, in the case of equity shares of progressive and efficiently managed companies, such a risk is rather low. In fact, shares of such companies provide a safeguard against inflation - equity share prices are likely to rise sufficiently high to counteract the effect of a rise in prices.

The above also applies to companies and industries—the normal rate of return will always depend on the attendant risk. In this respect, net tangible asset backing is also relevant. The higher the net tangible asset backing for each share, the greater would be the confidence of the investor. Normally 1.5 to 2 times backing is considered satisfactory. This ratio should be reviewed carefully to ascertain whether shares are adequately covered or too much covered which may indicate over-capitalisation in the form of idle funds or inadequate use of productive resources. Symptoms suggesting idle assets would be holding of large cash and bank balances, high current ratio, unutilised land and machinery, etc. The normal rate of return should be increased suitably in either case.

5.5.4 Adjustment necessary for the determination of future maintainable profit

The steps necessary to arrive at the future maintainable profits of a company are: (a) calculation of past average taxed earnings, (b) projection of the future maintainable taxed profits, and (c) adjustment of preferred rights.

(a) Calculation of past average earnings: In order to calculate the past average earnings, it is necessary to decide upon the number of years whose results should be taken for averaging. Whether a 3-yearly, 5-yearly or longer average would reflect the correct future earnings of a company depend upon the nature of concerned industry. Select the years and adjust their profits to make them acceptable for averaging.

The following are some items which generally require adjustment in arriving at the average of the past earnings:

- (i) Elimination of material non-recurring items such as loss of exceptional nature through strikes, fires, floods and theft, etc., profit and loss of any isolated transaction not being part of the business of the company, lump-sum compensation or retiring allowances and cost in legal actions, abnormal repair charges in a particular year, etc.
- (ii) Elimination of income and profits and losses from non-trading assets.
- (iii) Elimination of any capital profit or loss or receipt or expense included in the profit and loss account.
- (iv) Adjustment for any interest, remuneration, commission, etc., foregone or overcharged by directors and any other managerial personnel.
- (v) Adjustment for any matters suggested by notes, appended to the accounts, or by qualification in the auditor's report such as provisions for taxation and gratuities, bad debts, under or over provision for depreciation, inconsistency in the valuation of Inventories, etc.
- (vi) *Taxation:* The tax rates may be such as were ruling for the respective years or the latest ruling rate may be deducted from the average profit. However, the consensus of opinion is for adjusting tax payable rather than tax paid because so many short-term reliefs and tax holidays might have temporarily reduced the effective tax burden.
- (vii) *Depreciation:* The valuer may adopt book depreciation provided he is satisfied that the rate was realistic and the method was suitable for the nature of the company and they were consistently applied from year to year. But imbalances do arise in cases where consistently written down value method was in use and heavy expenditure in the recent past has been made in rehabilitating or expanding fixed assets, since the depreciation charges would be unfairly heavy and would prejudice the seller. Under such circumstances, it would be desirable to readjust depreciation on a straight line basis to bring a more equitable charge on the profits meant for averaging.

Averaging the past earnings

In averaging past earnings, another important factor comes up for consideration and that is the trend of profits earned. It is indeed imperative that estimation of maintainable profits be based on the only available record, i.e., the record of past earnings. But indiscreet use of past results may lead to an entirely fallacious and unrealistic result. In this regard, three situations may have to be faced.

1. Where the past profits of a company are widely fluctuating from year to year, the average fails to aid future projection. In such cases, a study of the whole history of the company and

of earnings of a fairly long period may be necessary.

2. If the profits of a company do not show a regular trend upward or downward, the average of the cycle can usefully be employed for projection of future earnings.

3. In some companies, profits may record a distinct rising or falling trend, from year to year; in these circumstances, a simple average fails to consider the significant factor, namely trend in earning. The share of a company which records a clear upward trend of past profits would certainly be more valuable than that of a company whose trend of past earnings indicate a static or down-trend. In such cases, a weighted average, giving more weight to the recent years than to the past, is appropriate. A simple way of weighting is to multiply the profits by the respective number of the years arranged chronologically so that the largest weight is associated with the most recent past year and the least for the remotest (If net worth is under consideration, the respective years' average net worth may be weighted in a similar way). However, if the profits have been consistently coming down, even weighted average may be misleading-fitting a trend line may be more appropriate.

(b) Projection of future maintainable taxed profits: Projection is more a matter of intelligent guess work since it is essentially an estimation of what will happen in the risky and uncertain future. The average profit earned by a company in the past could be normally taken as the average profit that would be maintainable by it in the future, if the future is considered basically as a continuation of the past. If future performance of the company is viewed as departing significantly from the past, then appropriate adjustment will be called for before accepting the past average profit as the future maintainable profit of the company. The factors requiring consideration may be as stated below:

- (i) Discontinuance of a part of the business;
- (ii) Under-utilisation of installed capacity;
- (iii) Expansion programmes;
- (iv) Major change in the policy of the company; and
- (v) Adjustment for rehabilitation and replacement.

(c) Adjustment of Preferred Rights: *In arriving at the average profits and their future projection all charges including interest on debentures and other borrowings are deducted. But the dividend on preference shares depends upon the availability of divisible profits and, therefore, should be considered after the estimate of future profits has been arrived at. Dividends payable to preference shareholders, according to the terms of their issue, should be deducted from the maintainable profit.*

Illustration 1

The following information is available from Tina Ltd. as at 31st March, 2017:

Capital :	
1,000, 5% Preference Shares of ₹ 100 each fully paid	₹ 1,00,000
2,000 Equity Shares of ₹ 100 each fully paid	₹ 2,00,000
Reserve and Surplus	₹ 2,00,000

6% Debentures	₹ 1,00,000
Current Liabilities	₹ 1,00,000
Assets: Fixed Assets	₹ 4,00,000
Current Assets	₹ 3,00,000

For the purpose of valuation of shares, fixed assets and current assets are to be depreciated by 10%; Interest on debentures is due for six months; preference dividend is also due for the year. Neither of these has been provided for in the balance sheet.

Calculate the value of each equity share under Net Asset Method.

Solution

Note: Since there is only one class of equity shares and all the shares are fully paid up, the value of each equity share will be ascertained as under:

Value of one equity share = Net Assets available for equity shareholders ÷ Number of equity shares

Net Assets Available to Equity Shareholders:		₹
Assets		
Fixed Assets (4,00,000 – 10% on ₹ 4,00,000)		3,60,000
Current Assets (3,00,000 – 10% on ₹ 3,00,000)		<u>2,70,000</u>
Value of Assets		<u>6,30,000</u>
Less: Liabilities:		
Current Liabilities		1,00,000
6% Debentures	1,00,000	
Add: Interest Outstanding (₹ 1,00,000 × 6/100 × 6/12)	<u>3,000</u>	1,03,000
5% Preference Share Capital	1,00,000	
Add: Arrear Dividend (₹ 1,00,000 × 5%)	<u>5,000</u>	<u>1,05,000</u>
		<u>3,08,000</u>
Net Assets available to Equity Shareholders		3,22,000
No. of equity shares	2,000	

Value of each share under Net Assets Method:

Value per share = Net Assets available to Equity Shareholders / No. of Equity Shares

$$= ₹ 3,22,000 / 2,000 = ₹ 161$$

Illustration 2

Sailee Ltd has a paid up capital of ₹ 3,00,000 divided into 20,000 Equity shares of ₹ 10 each and 5%, 1,000 Preference Shares of ₹ 100 each. The company has ₹ 1,00,000 debentures; the interest payable is 10% p.a. During the year 2016-17 the company earned a profit of ₹ 1,60,000 before charging interest. The company declared dividend at the rate of ₹ 4 per share for the last year. The normal rate of return is 20%. Assume tax rate of 30%.

Calculate value per share under Earning Yield method and Dividend Yield Method.

Solution

	₹
Profits before interest and Tax	1,60,000
Less: Interest 10% on ₹ 1,00,000	<u>10,000</u>
Profit after interest	1,50,000
Less: Tax 30% on ₹ 1,50,000	<u>45,000</u>
Profit after Tax	1,05,000
Less: Preference Dividend @ 5% on ₹ 1,00,000	<u>5,000</u>
Profit available to Equity share holders	<u>1,00,000</u>

Earning Yield method: Value of each equity share is calculated as under:

Rate of Earnings ÷ Normal rate of return x Paid up value of a share.

Rate of Earnings = ₹ 1,00,000 ÷ ₹ 2,00,000 x 100 = 50%

Value of each equity share = (50% ÷ 20%) x ₹ 10 = ₹ 25

Dividend Yield method: Under this method value of each equity share is calculated as under:

Rate of Dividend ÷ Normal rate of return x Paid up value of a share.

Rate of Dividend = ₹ 4 per share or 4 ÷ 10 x 100 = 40%

Value of each equity share = (40% ÷ 20%) x ₹ 10 = ₹ 20

5.5.3 Factors having a bearing on valuation

In addition to what has already been stated, consideration of the following factors is also necessary in a valuation:

- (a) Nature of industry, its history and risks to which it is subject;
- (b) Prospects of the industry in the future;
- (c) The company's history, its past performance and its record of past dividends;
- (d) The basis of valuation of assets of the company and their value;
- (e) The ratio of liabilities to capital;
- (f) The nature of management and chance for its continuation;
- (g) Capital structure or gearing;
- (h) Size, location and reputation of the company's products;
- (i) Incidence of taxation;
- (j) The number of shareholders;
- (k) Yield on shares of companies engaged in the same industry, which are listed on the stock exchanges;

- (l) Composition of purchasers of the products of the company; and
- (m) Size of the block of shares offered for sale since, for large blocks, very few buyers would be available and that has a depressing effect on the valuation. Question of control, however, may become important when large blocks are involved.

Special Factors: Valuation of equity shares must take note of special features in the company or in the particular task. These are briefly stated below:

- (a) *Importance of the size of the block of shares:* Valuation of the identical shares of a company may vary quite significantly at the same point of time on a consideration of the size of the block of shares under negotiation. It is common knowledge that the holder of 75% of the voting power in a company can always alter the provisions of the articles of association to suit himself; a holder of voting power exceeding 50% and less than 75% can substantially influence the operations of the company even to alter the articles of association or comfortably pass a special resolution.

Even persons holding much less than 50% of the total voting strength in a public limited company may control the affairs of the company, if the shares carrying the rest of the voting power are widely scattered; such shareholders rarely combine to defeat a determined block. Usually a person holding 50% of the total voting power is in a position to have his way in the company, even to change the provision of the articles of association or pass any special resolution. A controlling interest, according to most authorities, carries a separate substantial value.

- (b) *Restricted transferability:* Along with principal consideration of yield and safety of capital, another important factor is easy exchangeability or liquidity. Shares of reputed companies generally enjoy the advantage of easy marketability which is of great significance to the holder. At the time of need, he may get cash in exchange of shares without being required to hunt out a willing buyer or without being required to go through a process of protracted negotiation and valuation. Generally, quoted shares of good companies are preferred for the purpose. On the other hand, holders of shares of unquoted public companies or of private companies do not enjoy this advantage; therefore, such shares, however good, are discounted for lack of liquidity at rates which may be determined on the basis of circumstances of each case. The discount may be either in the form of a reduction in the value otherwise determined or an increase in the normal rate of return. Generally, the articles of private companies contain provision for offering shares to one who is already a member of the company and this necessarily restricts the ready market for the shares. These are discounted for limited transferability. But exceptions are also there; by acquisition of a small block, if one can extend his holding in the company to such an extent as to effectively control the company, the share values may not be discounted in that case.
- (c) *Dividends and Valuation:* Generally, companies paying dividends at steady rates enjoy greater popularity and the prices of their shares are high while shares of companies with unstable dividends do not enjoy confidence of the investing public as to returns they expect to get and, consequently, they suffer in valuation. For companies paying dividends at unsteady rates, the question of risk also becomes great and it depresses the

price. The question of risk may be looked upon from another angle. A company which pays only a small proportion of its profits as dividend and thus builds up reserves is less risky than the one which has a high pay-out ratio. The dividend rate is also likely to fluctuate in the latter case. Investors, however, do not like a company whose pay-out ratio is too small.

Shares are generally quoted high immediately before the declaration of dividend if the dividend prospect is good; or immediately after the declaration of dividend to take care of the dividend money that the prospective holder would get.

- (d) *Bonus and Right Issue:* Shares values have been noticed to go up when bonus or right issues are announced, since they indicate an immediate prospect of gain to the holder although in the ultimate analysis, it is doubtful whether really these can alter the valuation. Bonus issues are made out of the accumulated reserves in the employment of the business. Such shares in no way contribute to the increased earning capacity of the business and ultimately depress the dividend rate since the same quantum of profit would be distributed over a large number of shares which in turn also would depress the market value of the shares. A progressive company may sometimes pick up the old rate of dividend after a short while but this is in no way a result of the bonus issue; it is the contribution of natural growth potential of the company. Good companies, however, try to maintain the rate of dividend even after the bonus issue. In such a case, the total holdings of shareholders will increase in value.

In the case of right issues, existing holders are offered shares forming part of a new issue; more funds flow into the company for improving the earning capacity. Share value will naturally depend on the effectiveness with which new funds will be used.

5.5.4 Mean between asset and yield based valuation

This is, in fact, no valuation, but a compromise formula for bringing the parties to an agreement. This presents averaging two results obtained on quite different basis. It is argued that average of book value and yield based value incorporates the advantages of both the methods. That is why such average is called the fair value of share.

5.6 Statutory Valuation

Valuation of shares may be necessary under the provision of Wealth tax Act, Companies Act and Income-tax Act. Excepting the Companies where valuation may be called for on amalgamation, and such other purposes and the Income-tax Act for capital gains the other enactments, as mentioned above, have laid down rules for valuation of shares. The rules generally imply acceptance of open market price (i.e., Stock exchange price) for quoted shares and asset based valuation for unquoted equity shares and average of yield and asset methods in valuing shares of investment companies. In the Companies (Central Government's) General Rules and Forms, 1956 methods of determining break-up value of share and yield based valuation have been illustrated.

Illustration 3

Summarised Balance Sheet of John Engg. Ltd. as on 31.12.2017 is given below:

Summarised Balance Sheet

(Figures in 000)

Liabilities	₹	Assets	₹
Share Capital -			
1,50,000 Equity Shares of ₹ 10 each	15,00	Fixed Assets	22,00
2,00,000 Equity Shares of ₹ 10		Investments	4,00
each ₹ 6 paid up	12,00	Inventory	8,00
9% Cumulative Preference Shares	6,00	Trade receivables	4,00
18% Term Loan	14,00	Cash & Bank	4,00
Trade payables	<u>8,00</u>	P & L A/c	<u>13,00</u>
	<u>55,00</u>		<u>55,00</u>

Other Information:

- (1) Current Cost of Fixed Assets ₹ 37,00 thousand and Inventory ₹ 10,00 thousand,
- (2) Investments could fetch only ₹ 100 thousand,
- (3) 50% Trade receivables are doubtful,
- (4) Preference dividend was in arrear for the last five years.

Find out the intrinsic value per share of John Engg. Ltd.

Solution

(i) Net assets available to the equity shareholders

	Amount in ₹ '000	
Fixed assets	37,00	
Investments	1,00	
Inventory	10,00	
Trade receivables	2,00	
Cash & Bank	<u>4,00</u>	54,00
Less: Outside liabilities & 9% cumulative preference shares:		
Trade payables	8,00	
18% Term Loan	14,00	
9% Cumulative Preference Shares	6,00	
Arrear Preference Dividend	<u>2,70</u>	<u>(30,70)</u>
Net Assets		<u>23,30</u>

9.61 Financial Reporting

(ii) Valuation of Equity Shares

Net assets as per (i) above	23,30
Add: Notional call on 2,00,000 partly paid up equity shares @ ₹ 4 each	<u>8,00</u>
	<u>31,30</u>

Number of equity shares 350 thousand

Value per fully paid up equity share = ₹ 31,30 thousand / 3,50 thousand = ₹ 8.94

Value per partly paid up equity share = ₹ 8.94 – ₹ 4 = ₹ 4.94

Illustration 4

Balance Sheet of Mcneil Ltd.

as on 31.3.2017

(Figure in ₹ '000)

Liabilities	₹	Assets	₹
Share Capital		Fixed assets	280,20
5,00,000 Equity Shares		Investments in subsidiaries	60,40
of ₹ 10 each fully paid up	50,00	Non-trade investments	50,00
8,00,000 Equity Shares		Inventory	80,60
of ₹ 10 each ₹ 8 paid up	64,00	Trade receivables	80,40
10,00,000 Equity Shares		Advances	50,60
of ₹ 5 each fully paid up	50,00	Cash & Bank	16,60
Share suspense A/c	20,00		
General reserve	102,00		
P & L A/c	83,60		
13% Debentures	60,00		
(50% Convertible at the beginning of next year)			
18% Term Loan	40,00		
Trade payables	20,00		
Tax Provision	80,00		
Dividend payable	<u>49,20</u>		
	<u>618,80</u>		<u>618,80</u>

Other Information:

- (1) Profit before tax (and before deducting interest on convertible debentures) of Mcneil Ltd. for the last five years ended on 31st March were as follows ('000 ₹): 2013 – 132,00, 2014 – 244,00, 2015 – 274,00, 2016 – 315,00, 2017 – 332,00.
- (2) Non-trade investments earned @ 20% on an average.
- (3) Expected increase in expenditure without commensurate increase in selling price ₹ 60,000.

- (4) Annual R & D expenses in future ₹ 1,00,000.
 (5) Expected foreign currency loss in future (annualised) ₹ 120,000.
 (6) Expected tax rate 45%. Tax rate in 2016-2017: 52%
 (7) Normal return 15% (on the basis of closing capital employed)

Required:

- (1) Find out intrinsic value for different categories of equity shares. For this purpose, goodwill may be taken as 3 years' purchase of super profit.
 (2) Value of share as per dividend yield. Normal dividend in the industry is 18%.
 (3) Value of share as per EPS. Average EPS is ₹ 3 for ₹ 10 share.

Solution

Calculation of intrinsic value of equity shares of Mcneil Ltd.

I. Calculation of Goodwill:

	₹ in '000	₹ in '000
(i) Capital Employed:		
Total of asset side of the Balance-Sheet		6,18,80
Less: Investment in subsidiaries	6,040	
Non-trade investment	<u>50,00</u>	<u>(1,10,40)</u>
		5,08,40
Less: Outside liabilities:		
Trade payables	20,00	
18% Term loan	40,00	
Tax provision	80,00	
13% Debenture – net of conversion	<u>30,00</u>	<u>(1,70,00)</u>
Capital employed		<u>3,38,40</u>

(ii) Future Maintainable Profit:

Year	Profit Before Tax (in '000 ₹)	Weight	Product (in '000 ₹)
2013	1,32,00	1	1,32,00
2014	2,44,00	2	4,88,00
2015	2,74,00	3	8,22,00
2016	3,15,00	4	12,60,00
2017	3,32,00	<u>5</u>	<u>16,60,00</u>
		<u>15</u>	<u>43,62,00</u>

9.63 Financial Reporting

	₹ in '000	₹ in '000
Weighted average profit before tax = 43,62,00 /15		2,90,80.00
Less : Income from non-trade investments	10,00	
Expected increase in expenditure	60	
Annual R & D expenses	1,00	
Expected increase in Foreign currency liability	1,20	
Interest of non-convertible debentures	<u>390</u>	<u>(1670.00)</u>
		2,74,10.00
Less : Tax @ 45%		<u>1,23,34.50</u>
Expected Profit After Tax		<u>1,50,75.50</u>

(iii) Normal Return:

15% on capital employed

i.e. 15% on ₹ 3,98,80 thousand = ₹ 59,82 thousand

(iv) Super profit:

Expected profit - normal profit

₹ 1,50,75.50 thousand – ₹ 59,82 thousand = ₹ 90,93.50 thousand

(v) Goodwill:

3 years' purchase of super profit

₹ 90,93.50 thousand × 3 = ₹ 272,80.50 thousand

II. Net assets available to equity shareholders

	Amount in ₹ '000
Goodwill as calculated in I (v) above	2,72,80.50
Fixed assets	2,80,20.00
Investment in subsidiaries	60,40.00
Non-trade investment	50,00.00
Inventory	80,60.00
Trade receivables	80,40.00
Advances	50,60.00
Cash & Bank	<u>16,60.00</u>
	8,91,60.50
Less: Outside liabilities	<u>(1,70,00.00)</u>
	<u>7,21,60.50</u>

III. Valuation of equivalent number of equity shares:

	<i>No. in '000</i>
5,00,000 equity shares of ₹ 10 each fully paid up	5,00
8,00,000 equity shares of ₹ 10 each ₹ 8 paid up (notional call to be adjusted)	8,00
10,00,000 equity shares of ₹ 5 each fully paid up	5,00
Share suspense A/c equivalent shares for ₹ 20,00 thousand	2,00
Shares for convertible debenture amounting to ₹ 30,00 thousand	<u>3,00</u>
	<u>23,00</u>

IV. Valuation of equity shares

Net assets as per (II) above + Notional call on 8,00,000 equity shares @ ₹ 2 each i.e. ₹ 16,00 thousand = 7,37,60.50 thousand

Value per equivalent share of ₹ 10 = ₹ 7,37,60.50 thousand / 23,00 thousand = ₹ 32.07

Value per share of ₹ 10 ₹ 8 paid up = ₹ 32.07 – ₹ 2 = ₹ 30.07

Value per share of ₹ 5 fully paid up = ₹ 32.07 × 1/2 = ₹ 16.04

V. Valuation of equity shares on dividend yield basis

Dividend payable for the year ended 31.3.2017 ₹ 49,20 thousand

Paid up value of equity share ₹ 1,64,00 thousand

Rate of dividend $49,20 / 164,00 \times 100$ 30%

Value per fully paid up share of ₹ 10

$$\frac{30\%}{18\%} \times ₹ 10 = ₹ 16.67$$

Value per share of ₹ 5

$$\frac{30\%}{18\%} \times ₹ 5 = ₹ 8.33$$

Value per share of ₹ 10, ₹ 8 paid up

$$\frac{30\%}{18\%} \times ₹ 8 = ₹ 13.33$$

Note: It has been assumed that the company will be able to maintain 30% dividend in future despite an increase in the number of equity shares arising out of share suspense account and conversion of debentures.

VI. Valuation of equity shares as per EPS yield

	Amount in ₹
Profit before tax	3,32,00,000
Less: Interest on convertible debentures	<u>3,90,000</u>
	3,28,10,000
Less: Tax @ 52%	<u>1,70,61,200</u>
Profit after tax	<u>1,57,48,800</u>
Equity Share Capital (in thousands 50,00 + 64,00 + 50,00)	1,64,00,000

$$\begin{aligned} \text{Earning per rupee of share capital} &= ₹ \frac{1,57,48,800}{1,64,00,000} \\ &= ₹ 0.96 \end{aligned}$$

(i) EPS during 2016-2017:

$$\text{Share of ₹ 10 fully paid up } 0.96 \times 10 = ₹ 9.60$$

$$\text{Share of ₹ 10, ₹ 8 paid up } 0.96 \times 8 = ₹ 7.68$$

$$\text{Share of ₹ 5 fully paid up } 0.96 \times 5 = ₹ 4.80$$

(ii) Value of shares:

Value per share of ₹ 10 fully paid up

$$₹ \frac{9.6}{3} \times ₹ 10 = ₹ 32$$

Value per share of ₹ 10, ₹ 8 paid up

$$₹ \frac{7.68}{3} \times ₹ 10 = ₹ 25.6$$

Value per share of ₹ 5 fully paid up

$$₹ \frac{4.8}{3} \times ₹ 10 = ₹ 16$$

Illustration 5

From the following figures calculate the value of the share of ₹ 100 on (i) yield on capital employed basis, and (ii) dividend basis, the market expectation being 12%.

Year	Capital employed (₹)	Profit (₹)	Dividend %
2013	5,50,000	88,000	12
2014	8,00,000	1,60,000	15
2015	10,00,000	2,20,000	18
2016	15,00,000	3,75,000	20

Solution

The dividend rate on the simple average is 65/4 or 16¼%. But since the dividend has been rising it would be better to take the weighted average which comes to 17.6%:

Year	Rate	Weight	Product
2013	12	1	12
2014	15	2	30
2015	18	3	54
2016	20	<u>4</u>	<u>80</u>
		<u>10</u>	<u>176</u>

The value of the share on the basis of dividend (weighted average) should be $17.6/12 \times ₹ 100$ or ₹ 146.67

The yield on capital employed for each year and its weighted average is as follows:

Year	Yield or capital employed (%)	Weight	Product
2013	16	1	16
2014	20	2	40
2015	22	3	66
2016	25	<u>4</u>	<u>100</u>
		<u>10</u>	<u>222</u>

Weighted average is 22.2%: on this basis the value should be $22.2/12 \times ₹ 100 = ₹ 185$.

5.7 Valuation of Preference Shares

For valuation of preference shares the following factors are generally considered:

- (i) Risk free rate plus small risk premium (i.e. market expectation rate).
- (ii) Ability of the company to pay dividend on a regular basis.
- (iii) Ability of the company to redeem preference share capital.

Market expectation about return from preference shares and equity shares cannot be identical because nature of these financial instruments are altogether different. Preference shares are fixed dividend bearing instruments whereas equity shares bear residual right on company's profit. The market expectation rate for preference shares may be influenced by the ability of the company to pay preference dividend. Ability to pay preference dividend may be judged by using the following ratio:

$$\frac{\text{Profit after tax}}{\text{Preference dividend}}$$

The value of each preference shares can be derived as below:

$$\frac{\text{Preference dividend rate}}{\text{Market expectation rate}} \times 100$$

5.8 Miscellaneous Problems for Practice

Illustration 6

Capital structure of Lot Ltd. as at 31.3.2017 as under:

	(₹ in lakhs)
Equity share capital	10
10% preference share capital	5
15% debentures	8
Reserves	4

Lot Ltd. earns profits of ₹ 5 lakhs annually on an average before deduction of interest on debentures and income tax which works out to 40%.

Normal return on equity shares of companies similarly placed is 12% provided:

- Profit after tax covers fixed interest and fixed dividends at least 3 times.
- Capital gearing ratio is 0.75.
- Yield on share is calculated at 50% of profits distributed and at 5% on undistributed profits.

Lot Ltd. has been regularly paying equity dividend of 10%.

Find out the value of an equity share of the Company.

Solution

(i)	Profit for calculation of interest and fixed dividend coverage:	₹
	Average profit of the Company (before interest and taxation)	5,00,000
	Less: Debenture interest (15% on ₹ 8,00,000)	<u>(1,20,000)</u>
		3,80,000
	Less: Tax @ 40%	<u>(1,52,000)</u>
	Profit after interest and taxation	2,28,000
	Add back: Debenture interest	<u>1,20,000</u>
	Profit before interest but after tax	<u>3,48,000</u>
(ii)	Calculation of interest and fixed dividend coverage:	₹
	Fixed interest and fixed dividend:	
	Debenture interest	1,20,000
	Preference dividend	<u>50,000</u>
		<u>1,70,000</u>

$$\text{Fixed interest and fixed dividend coverage} = \frac{3,48,000}{1,70,000} = 2.05 \text{ times}$$

Interest and fixed dividend coverage 2.05 times is less than the prescribed three times.

(iii) **Capital gearing ratio:**

$$\text{Equity share capital + reserves} = ₹ 10,00,000 + ₹ 4,00,000 = ₹ 14,00,000$$

$$\text{Preference share capital + debentures} = ₹ 5,00,000 + ₹ 8,00,000 = ₹ 13,00,000$$

$$\text{Capital Gearing Ratio} = \frac{13,00,000}{14,00,000} = 0.93 \text{ (approximately)}$$

Ratio 0.93 is more than the prescribed ratio of 0.75.

(iv)	Yield on equity shares:		₹
	Average profit after interest and tax		2,28,000
	Less: Preference Dividend	50,000	
	Equity Dividend (10% on ₹ 10,00,000)	<u>1,00,000</u>	<u>(1,50,000)</u>
	Undistributed profit		<u>78,000</u>
	50% of distributed profit (50% of ₹ 1,00,000)		50,000
	5% of undistributed profit (5% of ₹ 78,000)		<u>3,900</u>
			<u>53,900</u>

$$\text{Yield on equity shares} = \frac{53,900}{10,00,000} \times 100 = 5.39\%$$

(v) **Expected yield of equity shares:**

	%
Normal return	12.00
Add: For low coverage of fixed interest and fixed dividends (2.05 < 3)	0.50*
Add: For high capital gearing ratio (0.93 > 0.75)	<u>0.50**</u>
	<u>13.00</u>

(vi) **Value per equity share:**

$$= \frac{5.39}{13.00} \times ₹ 100^{***} = ₹ 41.46$$

Notes: * When interest and fixed dividend coverage is low, riskiness of equity investors is high. So they should claim additional risk premium over and above the normal rate of return. Here, the additional risk premium is assumed to be 0.50%. Students may make any other reasonable assumption.

** Similarly, higher the ratio of fixed interest and dividend bearing capital to equity share capital plus reserves, higher is the risk and so higher should be risk premium. Here also the additional risk premium has been taken as 0.50%. The students may make any other reasonable assumption.

***Paid up value of a share has been taken as ₹ 100.

Illustration 7

The Capital Structure of M/s XYZ Ltd., on 31st March, 2017 was as follows:

	₹
Equity Capital 18,000 Shares of ₹ 100 each	18,00,000
12% Preference Capital 5,000 Shares of ₹ 100 each	5,00,000
12% Secured Debentures	5,00,000
Reserves	5,00,000
Profit earned before Interest and Taxes during the year	7,20,000
Tax Rate	40%
Generally, the return on equity shares of this type of Industry is 15%.	

Subject to:

- (a) The profit after tax covers Fixed Interest and Fixed Dividends at least 4 times.
 (b) The Debt Equity ratio is at least 2;
 (c) Yield on shares is calculated at 60% of distributed profits and 10% of undistributed profits;

The Company has been paying regularly an Equity dividend of 15%.

The risk premium for Dividends is generally assumed at 1%.

Find out the value of Equity shares of the Company.

Solution

Calculation of profit after tax (PAT)		₹
Profit before interest & tax (PBIT)		7,20,000
Less: Debenture interest (₹ 5,00,000 × 12/100)		<u>(60,000)</u>
Profit before tax (PBT)		6,60,000
Less: Tax @ 40%		<u>(2,64,000)</u>
Profit after tax (PAT)		3,96,000
Less: Preference dividend $\left(₹ 5,00,000 \times \frac{12}{100} \right)$	60,000	
Equity dividend $\left(₹ 18,00,000 \times \frac{15}{100} \right)$	<u>2,70,000</u>	<u>(3,30,000)</u>
Retained earnings (undistributed profit)		<u>66,000</u>

Calculation of Interest and Fixed Dividend Coverage

$$= \frac{\text{PAT} + \text{Debenture interest}}{\text{Debenture interest} + \text{Preference dividend}} = \frac{₹ 3,96,000 + ₹ 60,000}{₹ 60,000 + ₹ 60,000} = \frac{₹ 4,56,000}{₹ 1,20,000} = 3.8 \text{ times}$$

Calculation of Debt Equity Ratio

$$\begin{aligned} \text{Debt Equity Ratio} &= \frac{\text{Debt (long term loans)}}{\text{Equity (shareholders' funds)}} \\ &= \frac{\text{Debentures}}{\text{Preference share capital} + \text{Equity share capital} + \text{Reserves}} \\ &= \frac{₹ 5,00,000}{₹ 5,00,000 + ₹ 18,00,000 + ₹ 5,00,000} \\ \text{Debt Equity Ratio} &= \frac{₹ 5,00,000}{₹ 28,00,000} = 0.179 \end{aligned}$$

The ratio is less than the prescribed ratio.

Calculation of Yield on Equity Shares

Yield on equity shares is calculated at 60% of distributed profits and 10% of undistributed profits:

60% of distributed profits (60% of ₹ 2,70,000)	1,62,000
10% of undistributed profits (10% of ₹ 66,000)	<u>6,600</u>
	<u>1,68,600</u>

$$\text{Yields on equity shares} = \frac{\text{Yield on shares}}{\text{Equity share capital}} \times 100 = \frac{₹ 1,68,600}{₹ 18,00,000} \times 100 = 9.37\%$$

Calculation of Expected Yield on Equity Shares	
Normal return expected	15%
Add: Risk premium for low interest and fixed dividend coverage (3.8 < 4)	1%*
Risk for debt equity ratio not required	<u>Nil**</u>
	<u>16%</u>
Value of an Equity Share	
= $\frac{\text{Actual yield}}{\text{Expected yield}} \times \text{Paid up value of a share}$	
= $\frac{9.37}{16} \times 100 = ₹ 58.56$	

* When interest and fixed dividend coverage is lower than the prescribed norm, the riskiness of equity investors is high. They should claim additional risk premium over and above the normal rate of return. Hence, the additional risk premium of 1% has been added.

** The debt equity ratio is lower than the prescribed ratio that means outside funds (Debts) are lower as compared to shareholders' funds. Therefore, the risk is less for equity shareholders. Therefore, no risk premium.

9.71 Financial Reporting

Illustration 8

Prosperous Ltd. belongs to an industry in which equity shares are sold at par on the basis of 18% yield provided, the net assets of the company are 250% of the paid up equity capital and the total distribution of profits does not exceed 50% of the profits. The dividend rate fluctuates from year to year in the industry. The balance sheet of Prosperous Ltd. stood as follows on 31st March, 2017:

Liabilities	₹	Assets	₹
6,000, 14% Preference shares of ₹ 100 each, fully paid up	6,00,000	Tangible fixed assets less depreciation	16,00,000
10,000 Equity shares of ₹ 100 each, ₹ 80 paid up	8,00,000	Government securities	1,50,000
General reserve	2,80,000	Current assets	11,30,000
12% Debentures	4,00,000		
Current liabilities and provisions	<u>8,00,000</u>		
	<u>28,80,000</u>		<u>28,80,000</u>

The company has been earning on an average ₹ 8,00,000 as profit after interest but before taxation which is 50%. The rate of dividend on equity shares has been maintained at 25% in the past years and is expected to be maintained.

Determine the probable market value of the equity shares of the company based on actual dividend. The tangible assets may be taken to be worth ₹ 17,20,000.

Solution

Computation of probable market price based on actual dividend

Actual dividend per share	₹ 25
Adjusted yield (W.N.3)	17.98%
Market price for shares of ₹ 100 paid up	₹ 139.04
Market price for shares of ₹ 80 paid up	₹ 111.23

Working Notes:

1. Asset backing position of Prosperous Ltd

Particulars	₹
Tangible fixed assets	17,20,000
Government securities	1,50,000
Current assets	<u>11,30,000</u>
Total assets	30,00,000
Less: Liabilities	
12% Debentures	(4,00,000)
Current liabilities and provisions	<u>(8,00,000)</u>
Net assets	18,00,000
Less: Preference share capital	<u>(6,00,000)</u>
Net assets available to equity share holders	<u>12,00,000</u>

$$\text{Ratio of net asset to equity share capital} = \left[\frac{12,00,000}{8,00,000} \times 100 \right] = 150\%$$

2. Payout ratio

<i>Particulars</i>	₹
Profit available for distribution	
Profit before tax	8,00,000
Less: Tax @ 50%	<u>(4,00,000)</u>
Profit after tax	4,00,000
Total dividend paid	
Preference shareholders (14% of ₹ 6,00,000)	84,000
Equity shareholders (25% of ₹ 8,00,000)	<u>2,00,000</u>
Total dividend paid	<u>2,84,000</u>
Pay-out ratio $\left[\frac{2,84,000}{4,00,000} \times 100 \right]$	71%

3. Computation of adjusted yield

	<i>Asset backing ratio</i>	<i>Pay-out ratio</i>
Representative Company	250%	50%
Prosperous Ltd. (W.N.1 and 2)	150%	71%
Variation	100%	(21%)
Degree of variation	$\left[\frac{100}{250} \times 100 \right] = 40\%$	$\left[\frac{(21)}{50} \times 100 \right] = (42\%)$
Nature of adjustment to yield	May increase	May decrease
Quantum of adjustment (Assuming 100% variance = 1% risk)	0.40	(0.42)

$$\text{Adjusted yield} = 18\% + 0.40\% - 0.42\% = 17.98\%$$

UNIT 6 : VALUATION OF BUSINESS

6.1 Introduction

Business valuation is a process and a set of procedures used to estimate the economic value of an owner's interest in a business. Valuation is used by financial market participants to determine the price they are willing to pay or receive to consummate a sale of a business. In addition to estimating the selling price of a business, the same valuation tools are often used by business appraisers to resolve disputes related to estate and gift taxation, divorce litigation, allocate business purchase price among business assets, establish a formula for estimating the value of partners' ownership interest for buy-sell agreements, and many other business and legal purposes.

6.2 Need for Valuation of Business

The following represent the need for business valuation:

- (i) *Merger and Take-over*: Companies in merger need *valuation of business as a going concern* to settle the purchase consideration. In case of take-over also the acquirer needs the information about total value of the business such that he can determine the value of the proportion which he intends to buy.
- (ii) *Sale of Business*: For selling the whole business or any division of it, both the seller and buyer want to know the value of business to fix up the bargaining limit.
- (iii) *Liquidation*: In case of liquidation, the shareholders want to know the value of business from the liquidator to understand how much they would get by liquidation.

6.3 Valuation Approaches

Two alternative approaches are available for business valuation: (i) going concern and (ii) liquidation. Under the first approach, it is important to understand what benefit the business is able to generate in future out of its existing Inventory of assets although value of existing assets is not ignored by the accountants. But in liquidation approach, the emphasis is what can be fetched by selling the assets either on piecemeal basis or taking as a whole.

6.4 Valuation Methods

The following methods are used for business valuation taking it as a going concern:

- (i) Historical cost valuation
- (ii) Current cost valuation
- (iii) Economic valuation
- (iv) Asset valuation.

For piecemeal sale of the business, only 'net realisable value' basis is appropriate.

- ◆ **Historical cost valuation**: It is also called book value method. All assets are taken at

their respective historical cost. Value of goodwill is ascertained and added to such historical cost of assets.

Historical cost value of business = Historical cost of all assets + Value of goodwill.

- ◆ **Current cost valuation:** Current cost of assets are taken for this purpose instead of historical cost. Current cost of various assets can be ascertained as follows:
 - Tangible fixed Assets: Price to be paid to replace such assets at their present condition. If replacement price of the same type of tangible assets is not available, then replacement price of the next best substitute may be taken.
 - Investments: Quoted investments are valued at current market price. Unquoted investments are taken at cost unless the available information is sufficient to determine their current market value.
 - Inventory: Current market value of the Inventory-in-hand is taken up.
 - Trade receivables: At their net collection amount.
 - Intangibles: Trademarks, Patents, Copyright, etc. are valued at current acquisition price less the proportionate value already expired.
- ◆ **Economic valuation:** Under this method value of the business is given by the sum of discounted value of future earnings or cash flows.

(i) *Capitalisation of Future Maintainable Profit:* Value of business as a going concern is dependent on its future earnings. By earning we may mean 'earnings before interest but after tax'.

$$\text{Value of Business} = \frac{\text{Future Maintainable Profit}}{\text{Capitalisation rate}}$$

In case of listed company inverse of the price-earning ratio may be used for determining capitalisation rate. For example, if P/E ratio is 12, Capitalisation rate becomes 8.33%, i.e. 100/12

(ii) *Present value of future earnings:* Under this approach,

$$V_0 = \sum_{t=1}^{\infty} \frac{E_t}{(1+k)^t} \text{ Where } V_0 = \text{Value of business at the present time or zero time,}$$

E_t is the Earnings at time t , k = appropriate discount factor, $t = 1, 2, \dots, \infty$

$$\text{Thus } V_0 = \frac{E_1}{(1+k)^1} + \frac{E_2}{(1+k)^2} + \dots + \frac{E_n}{(1+k)^n} + \dots$$

(iii) *Present value of future cash flows:* Frequently in valuation model cash flows from operations are used instead of earnings. Under this approach value of business is given by

9.75 Financial Reporting

$$\frac{C_1}{(1+k)^1} + \frac{C_2}{(1+k)^2} + \dots + \frac{C_n}{(1+k)^n} + \dots$$

Where V_0 = Value of business.

C_1, C_2, C_n etc. are cash flows from operations at different point of time.

k = Discount rate.

6.5 Book Value

NAV (book value) / break up value of business share are computed as below:

When the calculation starts from the liability side:

Paid up value of equity and preference shares		*****
Add: Reserves (excluding reserves not created out of Revenue profit or not realized in cash)		*****
Less: Miscellaneous expenditure not written off	*****	
Accumulated losses	*****	
Arrears of depreciation	*****	
<u>Contingent liabilities</u>	*****	*****
Net Asset Value of the business (A)		*****

When the calculation starts from the asset side the balance sheet values are considered:

Tangible fixed assets		*****
Intangible assets		*****
Trade investments		*****
Non-trade investments		*****
Net current assets		*****
Less: Secured and unsecured loans		
Unrealised reserves	*****	
Contingent liabilities	*****	
Arrears of depreciation	*****	*****
Net Asset Value of the business (A)		*****

NAV of equity is NAV of business less preference share capital.

6.6 Fair Value

NAV on the basis of fair value of assets and liabilities is computed in the same way as computed on the basis of book value except that the fair values of assets and liabilities are

considered instead of balance sheet values. The implication of fair value also varies with the objective of valuation, whether the objective is to find the going concern value or the liquidation value. The methods of computation are shown in the following table:

	Going concern basis	Liquidation basis		
Tangible fixed assets	Current cost	NRV		*****
Intangible assets	Cost	NRV		*****
Trade investments	Cost	NRV		*****
Non-trade investment	Market value if quoted, otherwise book value	NRV		
Finished goods	Market value	NRV		
WIP	Cost	NRV		
Raw Materials	Cost	NRV		
Trade receivables	NRV	NRV		
Other assets	Cost/book value	NRV		*****
Fictitious assets	NIL	NIL		
Less: Secured and unsecured loans	Actual amount payable	Actual amount payable	*****	
Other liabilities (Including current liabilities)	Actual amount payable	Actual amount payable	*****	
Contingent liabilities	Actual amount payable	Actual amount payable	*****	*****
Net Asset Value of the business (A)			-----	----- *****
Preference share capital (B)	Book value	Book value		----- *****
Net Asset Value of equity (A - B)				----- *****

Here cost means historical cost based value and book value means balance sheet value. NRV means Net Realisable Value which is market value less further costs to be incurred including cost of disposal.

6.7 Earning Based Valuation of Business

Earning based valuation of business = Earning capacity value per share X number of equity shares + Preference share capital + Debt capital.

(Book values of preference capital and debt capital should be taken)

6.8 Market Value Model

This is simply the aggregate of the market capitalization and market value of preference capital and debt capital. Market capitalization means market value of equity multiplied by the number of outstanding share. The quoted price of the stock exchanges provides the market value of equity at any moment.

When valuation is done in the field of financial management, present value of future net cash flows is generally taken as the valuation basis. Based on going concern assumption the cash flows are assumed to generate for infinite time in future and the value of the firm is calculated by finding the present value of future cash flows. The discounting rate applied to find the present value is the weighted average cost of capital to the firm (cost of equity in certain cases).

6.9 Valuation of Investments

Part I of Schedule III to the Companies Act, 2013 requires classification of investments into trade investments and other investments and further to be classified as:

- (a) Investments in Property
- (b) Investments in Equity instruments
- (c) Investments in Preference shares
- (d) Investments in Government or trust securities
- (e) Investments in Debentures or Bonds
- (f) Investments in Mutual funds
- (g) Investments in Partnership firms
- (h) Others (specify nature)

Under each classification, details shall be given of names of the bodies corporate [indicating separately whether such bodies are (i) subsidiaries, (ii) associates, (iii) joint ventures, or (iv) controlled special purpose entities] in whom investments have been made and the nature and extent of the investment so made in each such body corporate (showing separately investments which are partly-paid). In regard to investments in the capital of partnership firms, the names of the firms (with the names of all their partners, total capital and the shares of each partner) shall be given.

A "trade investment" means an investment by a company in the shares or debentures of another company, not being its subsidiary, for the purpose of promoting the trade or business of the first company.

AS 13 on Accounting for Investment contains explanation relating to classification of investments, determination of cost of investments, carrying amount of investments, disposal of investments and disclosure requirements.

6.10 Valuation of Current Assets, Loans and Advances

The conservatism principle is applied in valuation of current assets, loans and advances. By this principle, lower of the cost or market value is preferred. This means if the realisable value of these assets is lower than cost, such value is preferred. In other words, all possible losses are accounted for but no estimated profit is taken until it is realised. So in case of current assets like Trade receivables, loans and advances, adequate provision is necessary for doubtful debts. Here cost means current dues from Trade receivables or amount of loans and advances given.

Inventory is an important component of current assets which needs elaboration. The basic principle of inventory valuation is valuation at lower of the cost and net realisable value. Students are advised to refer AS 2 (Revised).

As per AS 2, both fixed and variable overheads that are incurred in converting materials into finished goods are to be allocated.

Rational for using historical cost: Inventories are held for deriving revenue directly or indirectly from their sale or use.

In historical cost accounting system 'cost' means acquisition cost. Although the value of inventories is more than acquisition cost, by following conservative path, no profit is taken until it is realised.

Techniques of determining historical cost: As per AS 2 (Revised) the cost of inventories should be assigned by using only first-in-first-out or weighted average cost formula where the specific identification of cost of inventories is not possible.

Valuation of inventories at net realisable value: If the cost of inventories is higher than net realisable value, the inventories should be valued at lower than cost. Such circumstances may occur due to decline in selling price or obsolescence of the inventory items. Moreover, in some cases inventory piling up may be of high is not possible to be sold within the normal turnover period. That apart there may be risk of physical deterioration of inventory items.

Sometimes by-product cost cannot be determined separately. In such circumstances by-products are valued at their net realisable value.

Inclusion of overheads in Inventory Cost: Production overheads are part of the inventory cost. Since as per AS 2, absorption costing method is followed, fixed as well as variable production overheads become part of inventory cost. Fixed production overheads are absorbed on the basis of normal capacity of the production facilities.

General administration overheads, selling and distribution overheads, and interest are not usually treated as expenses related to putting the inventories to their present location and condition. So these are excluded while computing inventory cost. The abnormal amounts of wasted materials, labour, or other production costs and storage costs, unless these costs are necessary in the production process prior to a further production stage, are also excluded.

But overheads other than production overheads should be included as part of the inventory cost only to the extent they are clearly related to put the inventories to their present location and condition.

9.79 Financial Reporting

Comparison of cost and net realisable value: Comparison of historical cost and net realisable value should be made for each item or a group of items separately. Comparison of aggregate values of dissimilar items may lead to setting off loss against unrealised profit.

Example

Given cost and net realisable value of five groups of inventory items:

Group	Cost (₹)	Net realisable Value (₹)	Valuation (₹)
A	15,000	5,000	5,000
B	27,000	52,000	27,000
C	54,000	74,000	54,000
D	1,10,000	85,000	85,000
E	68,000	62,000	62,000
	2,74,000	2,78,000	2,33,000

If aggregate values are taken, inventories should be valued at ₹ 2,74,000 instead of ₹ 2,33,000 which would overvalue the inventories. Prudence suggests elimination of all sorts of overvaluation.

Illustration 1

MICO Ltd. gives the following cash flows estimate:

2009 ₹ 20,00 lakhs

2010 to 2012 Compound Growth Rate 6.5%

2013 to 2016 Compound growth rate 9.5%

Apply 20% discount rate and determine the value of business.

Solution

Year	Cash Flows ₹ in lakhs	Discount factor	Discounted cash flows (₹)
2009	20,00.00	0.8333	16,66.60
2010	21,30.00	0.6944	14,79.07
2011	22,68.45	0.5787	13,12.75
2012	24,15.90	0.4823	11,65.19
2013	26,45.41	0.4019	10,63.19
2014	28,96.72	0.3349	9,70.11
2015	31,71.91	0.2791	8,85.28
2016	34,73.24	0.2326	8,07.88
			<u>93,50.07</u>

Value of Business ₹ 93,50.07 lakhs based on discounted value of eight years' cash flows.

The deficiencies of economic valuation are

- (i) difficulties involved in estimating future cash flows;

- (ii) subjectivity involved in choice of the future period for which cash flows to be estimated;
- (iii) subjectivity involved in the selection of discount rate.

Asset valuation method: It may be argued that if a business is acquiring or retaining an asset, the value of that asset to the business must, in the case of acquisition of the asset, be greater than the cost of that asset and, in the case of retention of the asset, be greater than the net realisable value of the asset. If, therefore, all the assets of the business are valued at their net realisable value, the aggregate will be clearly less than value of the business as a whole.

Thus under asset valuation approach, one can get lower bound of the business value using net realisable value of the assets and the upper bound by the current costs of the assets including goodwill.

Valuation of business for amalgamation with another: The valuation of business which is to be amalgamated with another business is a more complex process because it cannot be made in isolation. From the point of view of the potential purchaser, the maximum price that he will be prepared to pay is the difference between the value of the combined business and the value of his existing business.

If the amalgamation gives rise to positive synergy, the value of the amalgamated business will be greater than the sum of the values of the individual business taken in isolation. The purchaser will usually not only have to consider the tangible assets, which can be valued with relative ease, but also the intangible assets which may be particularly influenced by the synergical effect of the amalgamation.

In many amalgamations, all the assets of the acquired business are not retained in the new business. So, the first step in valuing business for acquisition will be to determine the asset structure of the business and to identify the assets which will not be required in the future. Such assets must be valued at their net realisable value at the time at which they are expected to be sold and these figures discounted to the present time to ascertain the present value of the superfluous assets. In many cases, the sale of the superfluous assets will take place immediately and therefore, no discounting becomes necessary and the value of these may be considered to be a deduction from the purchase price of the business.

In practice, the valuation figure is the net realisable value of the surplus assets which are to be sold plus the present value of the additional earnings which will accrue to the acquirer of the business as a result of the acquisition. It is of course, apparent that a major problem arises in determining the rate of interest at which the earnings of the business should be discounted as well as the period for which such earning of estimation should be considered. Also it is possible to take cash flows instead of earnings as discussed earlier.

Illustration 2

Shyam Garments Ltd. is a company which produces and sells to retailers a certain range of fashion clothings. They have made the following estimates of potential cash flows for the next 10 years.

9.81 Financial Reporting

Year	1	2	3	4	5	6	7	8	9	10
Cash flows (₹ in lacs)	15,00	17,00	20,00	25,00	30,00	34,00	38,00	45,00	50,00	60,00

Kiddies Wear Ltd. is a company which owns a series of boutiques in a certain locality. The boutiques buy clothes from various suppliers and retail them. Each boutique has a manager and an assistant but all purchasing and policy decisions are taken centrally. Independent cash flow estimates of Kiddies

Wear Ltd. was as follows:

Year	1	2	3	4	5	6	7	8	9	10
Cash flows (₹ in lacs)	1,20	1,60	2,00	2,80	3,40	4,60	5,20	6,00	6,60	8,00

Shyam Garments Ltd. is interested in acquiring Kiddies Wear Ltd. in order to get some additional retail outlets. They make the following cost-benefit calculations:

(i) Net value of assets of Kiddies Wear Ltd.

	₹ in lacs
Fixed Assets	800
Investments	200
Inventory	<u>400</u>
	1400
Less: Trade payables	<u>400</u>
Net Assets	<u>1000</u>

- (ii) Fixed Assets amounting to ₹ 50 lacs cannot be used and their net realisable value is ₹ 45 lacs.
- (iii) Inventory can be realised immediately at ₹ 470 lacs.
- (iv) Investments can be disposed off for ₹ 212 lacs.
- (v) Some workers of Kiddies Wear Ltd. are to be retrenched for which estimated compensation is ₹ 1,30 lacs.
- (vi) Trade payables are to be discharged immediately.
- (vii) Liabilities on account of retirement benefits not accounted for in the Balance Sheet by Kiddies Wear Ltd. is ₹ 48 lacs.
- (viii) Expected cash flows of the combined business will be as follows:

Year	1	2	3	4	5	6	7	8	9	10
Cash flow (₹ in lacs)	18,00	19,00	23,00	29,50	35,00	40,00	45,00	53,00	58,00	69,00

Find out the maximum value of Kiddies Wear Ltd. which Shyam Garments Ltd. can quote. Also show the difference in valuation had there been no merger. Use 20% as discount factor.

Solution**(1) Calculation of operational synergy expected to arise out of merger**

Year (₹ in lacs)	1	2	3	4	5	6	7	8	9	10
Projected cash flows of Shyam Garments after merger with Kiddies Wear Limited	18,00	19,00	23,00	29,50	35,00	40,00	45,00	53,00	58,00	69,00
Less: Projected cash flows of Shyam Garments Ltd. without merger	(15,00)	(17,00)	(20,00)	(25,00)	(30,00)	(34,00)	(38,00)	(45,00)	(50,00)	(60,00)
	<u>3,00</u>	<u>2,00</u>	<u>3,00</u>	<u>4,50</u>	<u>5,00</u>	<u>6,00</u>	<u>7,00</u>	<u>8,00</u>	<u>8,00</u>	<u>9,00</u>

(2) Valuation of Kiddies Wear Ltd. ignoring merger

Year	Cash Flows (₹ in lacs)	Discount Factor	Discounted Cash Flow (₹ in lacs)
1	120	0.8333	99.996
2	160	0.6944	111.104
3	200	0.5787	115.740
4	280	0.4823	135.044
5	340	0.4019	136.646
6	460	0.3349	154.054
7	520	0.2791	145.132
8	600	0.2326	139.560
9	660	0.1938	127.908
10	800	0.1615	<u>129.200</u>
			<u>1294.384</u>

(3) Valuation of Kiddies Wear Ltd. in case of merger

Year	Cash Flows From operations (₹ in lacs)	Discount Factor	Discounted Cash Flow (₹ in lacs)
1	300	0.8333	249.990
2	200	0.6944	138.880

9.83 Financial Reporting

3	300	0.5787	173.610
4	450	0.4823	217.035
5	500	0.4019	200.950
6	600	0.3349	200.94
7	700	0.2791	195.370
8	800	0.2326	186.080
9	800	0.1938	155.040
10	900	0.1615	<u>145.350</u>
			<u>1863.245</u>

(4) Maximum value to be quoted

	₹ in. lacs	₹ in lacs
Value as per discounted cash flows from operations		1863.245
<i>Add:</i> Cash to be collected immediately by disposal of assets:		
Fixed Assets	45.000	
Investments	2,12.000	
Inventory	<u>4,70.000</u>	<u>7,27.000</u>
		25,90.245
<i>Less:</i> Trade payables	400.000	
Provision for retirement benefits	48.000	
Retrenchment compensations	<u>130.000</u>	<u>(5,78.000)</u>
		<u>20,12.245</u>

So, Shyam Garments Ltd. can quote as high as ₹ 20,12,24,500 for taking over the business of Kiddies Wear Ltd. Here value arrived at in isolation i.e. ₹ 12,94,38,400 is not providing reasonable value estimate.

6.11 Value of Control of the Business

The main difference between the value of a business compared with a minority holding of shares is the value of voting control. The value of control is the present value of the change in cash flows which will be realised from exercising control. The main obvious reason for this higher valuation is that the controlling interest enables the owner of that interest to arrange the affairs of the business in a way that best suits his own circumstances. If a company is efficiently managed at present, the value of control may be very low. However, it is thought that the company is inefficiently managed, then, obtaining control may enable operations and financing to be changed thereby substantially increasing the present value of cash flows generated by a firm.