

## FREQUENTLY ASKED QUESTIONS

# BUSINESS VALUATION, CORPORATE RESTRUCTURING, MERGERS AND ACQUISITIONS

## BUSINESS VALUATION

### *What do we mean by business valuation?*

According to the definition in *The International Glossary of Business Valuation Terms*, business valuation is the act or process of determining the value of a business, business ownership interest, security, or intangible asset”.

### *What is termed as “Value” under the Valuation process?*

As per ICAI Valuation Standards 2018 adopted by ICAI RVO, the term “value” is defined as follows:

A value is an estimate of the value of a business or business ownership interests, arrived at by applying the valuation procedures appropriate for a valuation engagement and using professional judgment as to the value or range of values based on those procedures.

### *What is meant by Fair Value?*

According to IFRSs and US GAAP fair value is defined as “the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date”.

### *What is meant by Fair Market Value?*

Fair market value as defined under international glossary of business valuation terms (IGBVT) is “The price expressed in terms of cash equivalents, at which property would change hands between a hypothetical willing and able buyer and a hypothetical willing and able seller, acting at arm’s length in an open and unrestricted market, when neither is under compulsion to buy or sell when both have reasonable knowledge of the relevant facts.

### *What is investment value?*

As defined by IGBVT, “it is the value to a particular investor based on individual investment requirements and expectations” In this case synergies are considered to be specific to purchaser and hence this value may be higher than FMV.

### *What is intrinsic value?*

Intrinsic value: As per IGBVT, “it is the value that an investor considers, on the basis of an evaluation or available facts to be the “true” or “real” value that will become the market value when other investors reach the same conclusion”. There are four major components of intrinsic value of a going concern:

- (a) level of normal earning power and profitability in the employment of assets as distinguished from reported earnings
- (b) dividends paid or the capacity to pay such dividends currently and, in the future,
- (c) a realistic expectation about the trend line growth of earning power
- (d) stability and predictability of those quantitative and qualitative projections of the future economic value of the enterprise.

### *What is termed as black hole of business valuation?*

The term black hole has been taken from the world of cosmos to identify the area of the unknown. In business valuation the term black hole is usually termed as a perception gap of the opportunity placed on the table by the seller versus the opportunity visualized by the buyer. If the gap is minimal both the parties can reach a consensus to close in on the deal value. However, if this gap is large then there could be a wide gap between the valuation done by the seller and the buyer and this could result in a potential failure of the deal.

## REGISTERED VALUER

### ***Who is a registered valuer?***

A registered valuer is a person having such qualifications and experience and registered as a Valuer in such a manner, on such terms and conditions as may be prescribed under sec 247 of Companies Act 2013 and Rules made thereunder.

### ***Who is the authority for administering the Registered Valuers?***

The Central Government has delegated its powers and functions under Section 247 of the Companies Act, 2013 to the Insolvency and Bankruptcy Board of India (IBBI) and specified the IBBI as the Authority under the Companies (Registered Valuers and Valuation) Rules, 2017.

### ***What are the qualifications and experience required to register as a Registered Valuer for securities class or financial assets?***

In India, an individual shall have the following qualifications and experience to be eligible for registration under Companies (Registered Valuers and Valuation) Rules, 2017:

- Chartered Accountant, Cost Accountant, Company Secretary, MBA/PGDBM in Finance and an individual having post-graduate degree in finance and
- Having at least three years' experience after possessing qualification as mentioned above.

### ***What kind of valuations a Registered Valuer can undertake as per Section 247 of the Companies Act, 2013?***

Where a valuation is required to be made in respect of any property, stocks, shares, debentures, securities or goodwill or any other assets or net worth of a company or its liabilities under the provision of this Act, it shall be valued by a person having such qualifications and experience and registered as a valuer and being a member of an Organization recognised, in such manner, on such terms and conditions as may be prescribed and appointed by the audit committee or in its absence by the Board of Directors of that company.

### ***What are the duties of a Registered Valuer as per Section 247 of the Companies Act, 2013?***

The valuer appointed under Section 247 shall—

- make an impartial, true, and fair valuation of any assets which may be required to be valued.
- exercise due diligence while performing the functions as valuer,
- make the valuation in accordance with such Rules as may be prescribed; and
- not undertake valuation of any assets in which he has a direct or indirect interest or becomes so interested at any time during a period of three years prior to his appointment as valuer or three years after the valuation of assets was conducted by him.

### ***What is the Code of Conduct for Registered Valuers?***

As per r 7 (g) and r 12 (2) (d) of the Companies (Registered Valuers and Valuation) Rules, 2017, the Registered Valuers are required to follow the Code of Conduct available at: <http://www.icairvo.in/laws-policies/code-conduct/>

### ***Enumerate the requirement of Valuation by a registered valuer under various provisions of the Companies Act 2013.***

- Section 62 (c) – Issue of shares on rights basis
- Section 192 (2) – Non-cash transactions with Directors
- Section 230 – Compromise or arrangement with creditors and members
- Section 236 – Purchase of minority shareholding
- Section 247- Registered Valuer
- Section 260- Valuation in respect of Shares and Assets to arrive at the Reserve Price for Company Administrator
- Section 281- Valuing assets for submission of the report by Company Liquidator
- Section 305- Report on Assets for declaration of solvency in case of the proposal to wind up voluntarily
- Section 319- Valuing interest of any dissenting member under Power of Company Liquidator to accept shares etc., as consideration for sale of the property of the company

***What are the fundamental ethical premises that the valuer needs to observe?***

The Indian Valuation Standards 2018 issued by ICAI stipulates that while issuing the Valuation Report the valuer needs to observe certain ethical principles which are highlighted as under:

- (a) Integrity and Fairness.
- (b) Objectivity without bias, conflict of interest or undue influence of others
- (c) Professional Competence and Due Care
- (d) Respect for Confidentiality
- (e) Ensure Professional Behaviour by complying with relevant laws and regulations and avoid any conduct that disrepute to the profession.

## **VALUATION APPROACHES**

***What are the Valuation approaches stated under the ICAI Valuation Standard – 103***

The ICAI Valuation Standard 103 provides guidance for following three main valuation approaches:

- Market approach.
- Income approach.
- Cost approach.

***What is cost (net assets) approach to valuation?***

This approach is also called Asset based approach, which is synonymous to asset accumulation approach, net asset value approach, the adjusted book value method and the asset build up method.

***What is replacement cost method of valuation?***

This method also known as ‘Depreciated Replacement Cost Method’ involves valuing an asset based on the cost that a market participant shall have to incur to recreate an asset with substantially the same utility (comparable utility) as that of the asset to be valued, adjusted for obsolescence.

***What is reproduction cost method of valuation?***

This method involves valuing an asset based on the cost that a market participant shall have to incur to recreate a replica of the asset to be valued, adjusted for obsolescence.

***What is summation method of valuation?***

International Valuation Standards 2017 has added one more method which is called the Summation method also referred to as the underlying asset method, which is typically used for investment companies or other types of assets or entities for which value is primarily a factor of the values of their holdings.

***What is market-based approach in valuation?***

This approach determines enterprise value by comparing one or more aspects of the subject enterprise to the similar aspects of other entities which have established market value.

***What is meant by Comparable Companies Multiple Method of valuation?***

Comparable Companies Multiple Method, also known as Guideline Public Company Method, involves valuing an asset based on market multiples derived from prices of market comparables traded on active market.

***What is meant by Comparable Transaction Multiple Method of valuation?***

Comparable Transaction Multiple Method, also known as ‘Guideline Transaction Method’ involves valuing an asset based on transaction multiples derived from prices paid in transactions of asset to be valued /market comparables (comparable transactions).

***What is Guideline publicly traded method of valuation?***

International Valuation Standards 2017 has added one more method, which is similar to Comparable transactions method mentioned above.

The guideline publicly traded method utilises information on publicly traded comparables that are the same or similar to the subject asset to arrive at an indication of value.

### ***What is income-based approach in valuation?***

This approach is commonly called Discounted Cash flow approach. It is universally accepted as by far the most appropriate method used for business valuations. According to the income-based approach the business valuer must make estimation of the following elements highlighted below:

- (a) Estimation of business life expectancy
- (b) Estimation of future income flows that a business will generate during its life expectancy
- (c) Estimation of discount rate in order to calculate the present value of the estimated income flows.

Indian Valuation Standards 102, 2018 published by the ICAI corroborates the above approach.

## **VALUATION METHODS**

### ***What is the equity value?***

Equity Value is the value of the business attributable to equity shareholders. It can also be formulated as:

Equity value = Market capitalization

*Add:* fair value of all stock options (in the money and out of the money)

*Add:* Value of convertible securities in excess of what the same securities would be valued without the conversion attribute.

### ***What is enterprise value?***

Enterprise Value is the value attributable to the equity shareholders plus the value of debt and debt like items, minority interest, preference share less the amount of non-operating cash and cash equivalents. It can also be formulated as:

Enterprise value = Common equity at equity value

- + Debt at market value
- + Minority Interest at market value if any
- Short term and long-term investments
- Associate company at market value if any
- + Preference capital at book value
- Cash and cash-equivalents.

### ***What is market-based valuation model?***

This is the simplest way to value an enterprise traded publicly in a stock exchange. The company's stock can be bought and sold in that exchange. This method indicates the value of the subject company by comparing it to publicly traded companies in similar lines of business.

### ***What is the dividend discount model of valuation?***

From the standpoint of the shareholder who buys and holds stocks, the cash flows received at any point in time, are the dividends paid on it and the market price of the share at that point. The present value of a share is nothing but the future value of dividends receivable on that share.

### ***What is net asset value method of valuation?***

The net asset value method estimates value as the net cash remaining if all assets are disposed of to get the best possible price for each asset and all liabilities are paid with the proceeds. Assets and liabilities are adjusted to their individual appraised values. The net result is the value arrived at for the total enterprise.

### ***What is earnings method of valuation?***

The earnings method includes capitalization of earnings. the most popular methods of valuation approaches

### ***What is relative valuation method of valuation?***

This method estimates the value of an asset by looking at the pricing of comparable Assets relative to a common variable such as earnings, cash flows, book value or sales.

### ***What is contingent claim method of valuation?***

This is a revolutionary valuation model used to value assets the cash flows of which are contingent on occurrence of a future event. The examples are, an unknown oil rig, development of pharmaceutical drug, development of new product, innovation. In each of these cases there is high risk and uncertainty involved.

This method uses option pricing models to measure the value of assets that have share option characteristics also. Some of these assets are traded financial assets like warrants and some of these options are not traded and are based on real assets e.g. projects, patents and oil reserves as mentioned above.

### ***How are real options valued?***

Options are financial instruments that convey the right, but not the obligation, to engage in a future transaction on some underlying security at a pre negotiated price.

These options are valued as managerial rights and not obligations connected with projects to ensure that grow and expand with time and also abandon projects or assets after the investments are made.

### ***What are the various option pricing models?***

Binomial Model – It is a discrete-time model for pricing option in which it is assumed that price change in the underlying asset occurs only after a regular time interval.

Black Scholes Model – This model was designed to value European options, which were dividend-protected. Thus, neither the possibility of early exercise nor the payment of dividend affects the value of options in this model.

### ***What are “off balance sheet” items?***

Off-balance sheet (OBS) items are assets or liabilities that do not appear on a company’s balance sheet. Although not recorded on the balance sheet, they are still assets and liabilities of the company.

Off balance sheet items are typically those not owned by or are a direct obligation of the company. It is necessary for the valuer to value the off-balance sheet items to arrive at a fair value of the business as a whole.

For example, when loans are securitized and sold off as investments, the secured debt is often kept off the bank’s books. An operating lease is one of the most common off-balance items.

### ***What is the valuation method to preferred stock?***

A preferred stock has the characteristics of both equity as well as debt. Preferred stockholders have preferential rights over common stockholders in right to dividend, and advantages in the event of dissolution, liquidation or bankruptcy. Since preference shares generally pay a constant dividend over its lifetime the value of a preferred stock is equivalent to preference dividend.

### ***What is meant by Discounted Cash Flow method?***

Discounted Cash Flow method has its foundation in the present value concept and the time value of money. In this method the value of any asset is the present value of expected future cash flows that the asset generates.

To carry out valuation in this method, we need to

- (a) Estimate the life of the asset,
- (b) Estimate the cash flows during the life of the asset,
- (c) Estimate the discount rate to apply to these cash flows to get present value

### ***What is the process followed under the Discounted Cash Flow Technique?***

The process followed under the Discounted Cash Flow technique is as under:

- Operating results and free cash flows of the business over the forecast period is estimated.
- The exit multiple and/or growth rate in perpetuity of the business at the end of the estimated period is predicted.
- Appropriate discount rate range is ascertained, and company’s weighted average cost of capital is estimated.
- The projected free cash flows and terminal value of the business/firm is discounted to the present to determine a range of values.
- The resulting valuation for all the assets and liabilities that have not been accounted for in the cash flow projections are adjusted.

### ***When we do not use Discounted Cash Flow technique of valuation?***

We do not use a DCF if the company has unstable or unpredictable cash flows (tech or bio-tech startup) or when debt and working capital serve a fundamentally different role.

For example, banks and financial institutions do not re-invest debt and working capital is a huge part of their Balance Sheets – so it is may not be right to use DCF method of valuation for such companies.

### ***What is going concern versus asset-based valuation?***

Valuation of business based on going concern, is done based on financial statements of an entity. In going concern valuation, best judgement is applied not only on existing investments but also on expected future investments and their profitability as well.

On the other hand, on asset-based valuation the focus is primarily on the assets in place and value of each asset is estimated separately. For entities with lucrative growth opportunities, asset-based valuation will yield lower values whereas based on going concern the values will be higher.

### ***When we use liquidation-based valuation method?***

This is most common in bankruptcy scenarios and is used to see whether equity shareholders will receive any capital after the company's debts have been paid off. It is often used to advise struggling businesses on whether it's better to sell off assets separately or to try and sell the entire company.

### ***When we use sum of parts valuation?***

This is most often used when a company has completely different, unrelated divisions – a conglomerate like General Electric, for example.

In a large have a plastics division, a TV and entertainment division, an energy division, a consumer financing division and a technology division, you should not use the same set of Comparable Companies and Precedent Transactions for the entire company.

Instead, you should use different sets for each division, value each one separately, and then add them together to get the Combined Value.

### ***What is equity-based valuation versus firm valuation?***

The cash flows which remain after debt payments and reinvestment needs are called free cash flows and this relates to equity holders. The discount rate that reflects just the cost of equity financing is called the cost of equity. Hence, valuation of equity stake in the business is referred to as equity valuation.

Whereas the firm valuation comprises discounting of future cash flows approach generated from both the assets-in-place and growth assets. The discount rate is the weighted average cost of equity and debt which is called the weighted average cost of capital (WACC).

### ***What is Net Present Value?***

The concept of Net Present Value centres around the time value of money. In simple words it states that the value of Rupee today is worth more than value of Rupee say a year from now. The basic reason is that a Rupee today can be invested in risk-free interest like Government securities and can earn a return.

A rupee a year down the road is worth less today as it has not earned interest it would have earned had it been invested today.

Thus, Net Present Value (NPV) is calculated by applying appropriate discount rate using either the APV method or the WACC method on future cash flows to determine the present values of future cash flows and the sum-total of all those values is termed as Net Present Value (NPV) of the business/enterprise.

### ***What is Free Cash Flows to Firm (FCFF):***

Free Cash Flows to Firm refers to cash flows that are available to all the providers of capital, i.e. equity shareholders, preference shareholders and lenders. Therefore, cash flows required to service lenders and preference shareholders such as interest, dividend, repayment of principal amount and even additional fund raising are not considered in the calculation of FCFF.

***What are Free Cash Flows to Equity (FCFE):***

Free Cash Flow to Equity refers to cash flows available to equity shareholders and therefore, cash flows after interest, dividend to preference shareholders, principal repayment and additional funds raised from lenders/preference shareholders are considered.

***What is meant by Capital Asset Pricing Model (CAPM)?***

This is a model used to calculate expected return on investment also referred to as the expected return on equity. This is a linear model with one independent variable called Beta.

Beta represents relative volatility of the investment in question vis-à-vis the market. This means if Beta is 1, it means the degree of volatility of the investment is identical to that of the market returns. If Beta is less than 1 then the return on the investment (say a utility company), is less volatile than the market. Conversely, if Beta is greater than 1, then the return on the target investment (say a dot.com company) is more volatile than that of the market.

***What are the commonly used discount rates?***

The following discount rates are commonly used depending upon the nature of the asset:

- (a) cost of equity
- (b) weighted average cost of capital
- (c) Internal Rate of Return ('IRR');
- (d) cost of debt; or
- (e) yield.

***What is meant by Weighted Average Cost of Capital (WACC)?***

Weighted Average Cost of Capital is the weighted average cost of equity and debt calculated as under:

Market value of debt

Market value of equity

Discount rate for rate (average long-term debt)

Discount rate for leveraged equity (calculated using CAPM)

WACC approach assumes leveraged beta, which signifies leveraged (historical) discount rate.

***What is meant by Adjusted Present Value (APV) Method?***

This signifies that in case of APV approach we assume the unlevered beta approach, which assumes unleveraged equity discount rate, meaning that debt is zero.

***What are the major steps involved in deriving a value using DCF method?***

The International Valuation Standards 2020 provides the following guideline related to key steps under Discounted Cash Flow method:

- (a) choose the most appropriate type of cash flow for the nature of the subject asset and the assignment (i.e. pre-tax or post-tax, total cash flows or cash flows to equity, real or nominal, etc),
- (b) determine the most appropriate explicit period, if any, over which the cash flow will be forecast,
- (c) prepare cash flow forecasts for that period,
- (d) determine whether a terminal value is appropriate for the subject asset at the end of the explicit forecast period (if any) and then determine the appropriate terminal value for the nature of the asset,
- (e) determine the appropriate discount rate, and
- (f) apply the discount rate to the forecasted future cash flow, including the terminal value, if any.

***What is Terminal Value?***

Terminal value represents the present value at the end of explicit forecast period of all subsequent cash flows to the end of the life of the asset or into perpetuity if the asset has an indefinite life.

***What are different methods for estimating the terminal value?***

There are different methods for estimating the terminal value. The commonly used methods are:

- Gordon (Constant) Growth Model,

- Variable Growth Model,
- Exit Multiple; and
- Salvage/Liquidation value

### ***What is Gordon (Constant) growth model of calculating Terminal Value?***

The terminal value under this method is computed by dividing the perpetuity maintainable cash flows with the discount rate as reduced by the stable growth rate. Here it is assumed that the assets grow or decline at constant rate beyond the forecast period.

### ***What is Variable Growth Method of calculating Terminal Value?***

This method assumes that the asset grows (or declines) at variable rate beyond the forecast period.

### ***What is Exit Multiple Method of calculating Terminal Value?***

This method involves application of a market-evidence based capitalisation factor or a market multiple (for example, Enterprise Value (EV)/Earnings before Interest, Tax, Depreciation and Amortisation (EBITDA), EV/Sales) to the perpetuity earnings/income.

### ***What is Salvage / Liquidation value Method of calculating Terminal Value?***

This method is used in cases, such as mine or oil fields, the terminal value has limited or no relationship with the cash flows projected for the forecast period. For these assets, the terminal value is calculated as the salvage or realisable value less costs to be incurred for disposing of such asset.

### ***When do we use LBO analysis as part of our valuation?***

We use LBO analysis whenever we are looking at a Leveraged Buyout – but it is also used to establish how much a private equity firm could pay, which is usually lower than what companies will pay.

It is often used to set a “floor” on a possible Valuation for the company the valuer is looking at.

### ***Would an LBO or DCF giver higher valuation?***

Technically it could go either way, but in *most* cases the LBO will give us a lower valuation.

Here is the simplest way to think about it: with an LBO, we do not get any value from the cash flows of a company in between Year 1 and the final year – we are only valuing it based on its terminal value.

With a DCF, by contrast, we are taking into account *both* the company’s cash flows in between and its terminal value, so values tend to be higher.

**Note:** Unlike a DCF, an LBO model by itself does not give a specific valuation. Instead, we set a desired IRR and determine how much we could pay for the company (the valuation) based on that.

### ***When we do valuation how do we present valuation methodologies to the company or its investors?***

We generally use the concept of a “football field” chart where we show the valuation range implied by each methodology.

A range is *always* shown rather than one specific number.

### ***How do we know if our DCF valuation is too dependent on future assumptions?***

If DCF value is significantly more than 50% of the company’s Enterprise Value comes from its Terminal Value, the DCF value is probably too dependent on future assumptions.

In reality, almost all DCFs are “too dependent on future assumptions” – it’s actually quite rare to see a case where the Terminal Value is *less* than 50% of the Enterprise Value.



But when it gets to be in the 80-90% range, you know that we may need to revisit our assumptions.

***In calculating WACC for an organization – will it be higher for a \$5 billion or \$500 million company?***

It actually depends on whether or not the capital structure of the two companies is similar. If the capital structure is the same in terms of percentages and interest rates and such, then WACC should be similar for both the companies for the same reasons as mentioned above.

However, if the capital structure is *not* the same, then it could go either way depending on how much debt/preferred stock each one has and what the interest rates are.

***What is the relationship between debt and cost of equity?***

More debt signifies that the company is riskier, so the company's Levered Beta will be higher – all else being equal, additional debt would raise the Cost of Equity, and less debt would lower the Cost of Equity.

***How can we calculate Cost of Equity WITHOUT using CAPM?***

There is an alternate formula:

$$\text{Cost of Equity} = (\text{Dividends per Share} / \text{Share Price}) + \text{Growth Rate of Dividends}$$

This is less common than the “standard” formula but sometimes you use it for companies where dividends are more important or when you lack proper information on Beta and the other variables that go into calculating Cost of Equity with CAPM.

***In a hypothetical case two companies are exactly the same, but one has debt and one does not – which one will have the higher WACC?***

The one without debt will generally have a higher WACC because debt is “less expensive” than equity. This is because of the following:

- Interest on debt is tax-deductible (hence the  $(1 - \text{Tax Rate})$  multiplication in the WACC formula).
- Debt is senior to equity in a company's capital structure – debt holders would be paid first in a liquidation or bankruptcy scenario.
- Intuitively, interest rates on debt are usually lower than the Cost of Equity numbers you see (usually over 10%). As a result, the Cost of Debt portion of WACC will contribute less to the total figure than the Cost of Equity portion will.

Theoretically if the company had a lot of debt, the Cost of Debt might increase and become greater than the Cost of Equity but that is extremely rare – the company without debt has a higher WACC in 99% of all cases.

***Which has a greater impact on a company's DCF valuation – a 10% change in revenue or a 1% change in the discount rate?***

Actually, most of the time the 10% difference in revenue will have more of an impact as it will impact cash flows of the target organization. That change in revenue does not affect only the current year's revenue, but also the revenue/EBITDA far into the future, its impact on the free cash flows and finally even the terminal value.

***A target company has a high debt load and is paying off a significant portion of its principal each year. How do we account for this in DCF valuation?***

We need to be clear that, we do not account for this at all in an Unlevered DCF, because paying off debt principal shows up in Cash Flow from Financing on the Cash Flow Statement – but we only take into account  $EBIT * (1 - \text{Tax Rate})$ , and then a few items from Cash Flow from Operations, and then subtract Capital Expenditures to get to Unlevered Free Cash Flow.

If we were looking at Levered Free Cash Flow, then our interest expense would decline in future years due to the principal being paid off – the mandatory debt repayments would also reduce Levered Free Cash Flow (**note:** some people define Levered FCF differently).

However, if we reflect on it, repaying debt really does reduce the cash flow that can go to equity investors so it should be subtracted out here).

***How do we carry out valuation under Dividend Discount Model (DDM) that we would use in place of a normal DCF for financial institutions?***

The mechanics of Dividend Discount Model (DDM) are the same as a DCF, but we use dividends rather than free cash flows:

- Project the company's earnings, down to earnings per share (EPS).
- Assume a dividend payout ratio – what percentage of the EPS actually gets paid out to shareholders in the form of dividends – based on what the firm has done historically and how much regulatory capital it needs.
- Use this to calculate dividends over the next 5-10 years.
- Perform a check to make sure that the firm still meets its target Tier 1 Capital and other capital ratios – if not, reduce dividends.
- Discount the dividend in each year to its present value based on **Cost of Equity** – NOT WACC – and then sum these up.
- Calculate terminal value based on P / BV and Book Value in the final year, and then discount this to its present value based on **Cost of Equity**.
- Sum the present value of the terminal value and the present values of the dividends to get the company's net present per-share value.

***When we calculate WACC, for a target company which has convertible debt, how do we count this as debt when calculating Levered Beta for the company?***

If the convertible debt is **in-the-money** then you do not count it as debt but instead assume that it contributes to dilution, so the company's Equity Value is higher. If it's **out-of-the-money** then you count it as debt and use the interest rate on the convertible for Cost of Debt.

## **VALUATION OF TANGIBLE ASSETS**

***What are the valuation approaches related to Tangible Assets?***

Valuation approaches and methodologies prescribed under Indian Valuation Standard 103 Valuation Approaches and Methods are applicable under Tangible assets are:

Cost approach

Income approach

Market approach

Liquidation approach

Rule of Thumb or benchmark approach

***What are the valuation approaches under cost approach related to Tangible Assets?***

Valuation approaches under cost approach are:  
Replacement Cost Method; and  
Reproduction Cost Method.

***What are the valuation approaches under income approach related to Tangible Assets?***

Valuation approach under Income approach would cover Discounted cash flow model.

***What are the valuation approaches under market approach related to Tangible Assets?***

Valuation approach under market approach would cover:  
Comparable Companies Multiple Method; and  
Comparable Transaction Multiple Method.

***What is the valuation approach used under liquidation related to Tangible Assets?***

Liquidation value is the amount that will be realized on sale of an asset or a group of assets when an actual/hypothetical termination of the business is contemplated/assumed.

***What is the valuation approach used under Rule of Thumb or benchmark indicator related to Tangible Assets?***

Rule of thumb or benchmark indicator is used as a reasonable check against the values determined using other valuation approaches in a valuation engagement.

***How do we carry out valuation of tangible assets?***

**Initial measurement:**

Purchase price.

Costs directly attributable to bringing the asset to its location and in the condition to make it available for its intended use.

Initial estimate of the costs of dismantling and removing the item and restoration of site on which it is located.

**Subsequent measurement.**

At cost model less depreciation and impairment, or  
Revaluation model.

***How do we carry out valuation of tangible assets under revaluation model?***

IAS 16 provides guidance on how to determine the fair value:

(a) If there is market-based evidence:

Land & Buildings – derived from market-based values as appraised by professionally qualified valuers

Plant & Equipment - based on market value determined by experts

(b) If there is no market-based evidence:

– estimate fair value using an income or a depreciated replacement cost method

– Frequency of valuation should be annual in those class of assets where the fair value is materially different from carrying value based on volatile conditions – otherwise every three to five years would be sufficient

***How do we carry out valuation of inventories?***

In accordance with IAS 2 Inventories are valued at lower of cost and net realisable value.

According to para 10, the cost of inventories shall comprise all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition.

***How do we carry out valuation of investment properties?***

**Initial measurement:**

Investment property is initially recognised at cost comprising the purchase price and directly attributable transaction costs (e.g. legal services, transfer services)

**Subsequent measurement:**

At cost less accumulated depreciation and accumulated impairment losses.

When measuring the fair value of investment property in accordance with IFRS 13, an entity shall ensure that the fair value reflects, among other things, rental income from current leases and other assumptions that market participants would use when pricing investment property under current market conditions.

***How are assets valued which are discontinued and held for sale?***

Pursuant to IFRS 5, Assets discontinued and held for sale, valuation of assets held for sale is at lower of:

Carrying amount (CA)

Fair value less costs of disposal (FVLCD)

***How are agricultural assets valued?***

According to IAS 41:

A biological asset shall be measured on initial recognition and at the end of each reporting period at its fair value less costs to sell, except for the case described in paragraph 30 where the fair value cannot be measured reliably.

Para 13 Agricultural produce harvested from an entity's biological assets shall be measured at its fair value less costs to sell at the point of harvest. Such measurement is the cost at that date when applying Ind AS 2 Inventories or another applicable Standard.

There is a presumption that fair value can be measured reliably for a biological asset. However, that presumption can be rebutted only on initial recognition for a biological asset for which quoted market prices are not available and for which alternative fair value measurements are determined to be clearly unreliable.

In such a case, that biological asset shall be measured at its cost less any accumulated depreciation and any accumulated impairment losses.

***How do we value a mango orchard?***

We use the same logic as we use to value a company: by looking at what comparable mango orchards are worth (relative valuation) and the value of the mango orchard's cash flows (intrinsic valuation).

We could do a DCF analysis on the free cash flows generated out of the mango orchard.

## VALUATION OF INTANGIBLE ASSETS

***What are the methods of valuation of intangible assets?***

The methods of valuation of intangible assets are:

**Cost approach:** A valuation approach that reflects the amount that would be required currently to replace the service capacity of an asset (often referred to as current replacement cost).

**Market value approach:** Intangible assets are valued with reference to transactions involving similar assets recently in similar markets. The approach is possible when there is an active market in which arm's length transactions have occurred recently involving comparable intangible assets and adequate information in terms of transactions is available.

**Economic value approach:** This approach is based on cash flows or earnings attributable to those assets and capitalization thereof at an appropriate discount rate or multiple. Some of the key parameters used in this approach are: projected revenue, projected earnings, rate of return, discount rate etc.

***What are the valuation methods under cost approach?***

The methods used are as under:

(a) **Replacement Cost Method**

This Method involves valuing an asset based on the cost that a market participant shall have to incur to recreate an asset with substantially the same utility (comparable utility) as that of the asset to be valued, adjusted for obsolescence.

**(b) Reproduction Cost Method**

This method involves valuing an asset based on the cost that a market participant shall have to incur to recreate a replica of the asset to be valued, adjusted for obsolescence.

***What are the valuation methods under market value approach?***

The methods used are:

**Price/Valuation multiples/Capitalisation rates**

This method considers certain multiples/ capitalisation rates to arrive at the valuation of a comparable intangible asset. The multiples shall be adjusted appropriately to factor in any differences between the intangible asset to be valued and comparable intangible asset.

**Guideline pricing method**

This method determines the value of an intangible asset by considering the price paid in an orderly transaction for a comparable intangible asset (called as the guideline intangible asset which is similar to the intangible asset to be valued).

***What are the valuation methods under economic value approach?***

The methods used are as under:

- (a) Relief-from-royalty-method,
- (b) Multi-period Excess Earnings Method (MEEM),
- (c) With-and-Without method or premium profit method,
- (d) Greenfield method; and
- (e) Distributor method

***What is Relief-from-royalty valuation method?***

This is a method in which the value of the asset is estimated based on the present value of royalty payments saved by owning the asset instead of taking it on lease. It is generally adopted for valuing intangible assets that are subject to licensing, such as trademarks, patents, brands, etc.

***What is Multi-period Excess Earnings Method (MEEM)?***

This method is generally used for valuing intangible asset that is leading or the most significant intangible asset out of group of intangible assets being valued. The value under this method is equal to the present value of the incremental after-tax cash flows ('excess earnings') attributable to the intangible asset to be valued over its remaining useful life.

***What is with-and-without method or premium profit method?***

Under this method, the value of the intangible asset to be valued is equal to the present value of the difference between the projected cash flows over the remaining useful life of the asset:

***What is Greenfield method of valuation?***

This method is usually used to value franchise agreements and certain licenses.

***What is Distributor method of valuation?***

This is a variant of MEEM and is used to value customer based intangible assets.

***What are the areas where Valuation needs to be done for intangible assets and intellectual property?***

Acquisitions particularly where a significant portion of the value of the acquisition is intangible assets.

Bankruptcy where claims may be made as to the significant value of intangibles.

Licensing Arrangements where the relationship between existing intangibles and future income is determined.

Infringement Lawsuits where value must be attributed because of infringement of intellectual property.

Joint Ventures where contributions to the venture may be a mix of tangible and intangible assets.  
Financing where intellectual property can be used as loan collateral or as the basis for a financing structure.  
Income Tax where the foreign subsidiaries of parent companies gain income using intellectual property of the parent.  
Tax Assessments covering a range of taxation considerations including capital gains tax, stamp duty etc.

### ***How do we value internally generated intangible assets?***

Internally generated brands, mastheads, publishing titles, customer lists and items similar in substance should not be recognized as intangible assets (para 50)

- (a) Intangible assets arising from research (or research phase of an internal project) should not be recognized (para 41) and
- (b) Intangible assets arising from development (or from development phase of an internal project) should be recognized, if and only if, all the conditions satisfied therein are met (para 44)
  - If not recognized – treated as expense
  - if recognized - the intangible item would be capitalized
- (c) Subsequent expenditure on an intangible asset to be added only if –  
it is probable that the expenditure would generate future economic benefits in excess of its originally assessed standard of performance and the expenditure can be measured and attributed to the asset reliably.

### ***What are the models used in valuing intellectual capital?***

Models used in valuation of intellectual capital are,

- (a) Market-to-book ratios: The value of intellectual capital is commonly expressed as the difference between the market value of the company and its book (equity) value.  
The difference between market value (MV) and book value (BV) is largely attributable to the intangibles of the business providing the foundation for future growth. The largest delta occurs in high-tech and knowledge-intensive industries, where investment is heavily weighted in intangible assets such as R&D and brands.
- (b) Tobin's Q: Tobin's Q compares the market value of a company with the replacement cost of its assets. It uses the ratio (the "Q") to predict the investment decisions of the firm, independent of macroeconomic conditions such as interest rates. The replacement cost of fixed assets can be calculated as the reported value of a company's fixed assets plus the accumulated depreciation and adjusted for inflation.
- (c) Calculated Intangible value (CIV):  
This method allows us to calculate the fair value of the intangible asset.  
CIV computes the value of intangible assets by comparing the firm's performance with an average competitor that has similar tangible assets. An advantage of the CIV approach is that it allows firm-to-firm comparisons using audited financial data and, as such, CIV can be used as a tool for benchmarking.

### ***How are intangible assets valued under IAS 38?***

#### **Initial valuation**

Intangible assets are to be valued through initial measurement if the following conditions are satisfied-

- (i) The asset is identifiable, if it is,
  - (a) is separable or
  - (b) arises from contractual or other legal rights, regardless of whether those rights are transferable or separable from the entity or from other rights and obligations.
- (ii) There must be adequate control over the concerned item. This would be represented by
  - power to obtain future economic benefits and
  - power to restrict access of others to those benefits
- (iii) Existence of future economic benefits. This could be substantiated by
  - revenue from sale of products/services
  - cost savings or
  - other benefits resulting from use of an asset

#### **Subsequent valuation**

Subsequent expenditure on an intangible asset after its purchase or its completion should be recognised as an expense when it is incurred unless:

- (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.

### ***What are the discount rates used under the Valuation of the Intangible assets?***

The following discount rates are most commonly used:

- weighted average cost of capital (WACC) of the company or market participants,
- cost of equity for the company using the intangible assets or the participants,
- cost of debt having maturity similar to the economic life of the intangible asset to be valued,
- risk-free interest rates which have a maturity similar to the economic life of the intangible asset to be valued; or
- internal rate of return of the transaction for the intangible asset.

## **VALUATION OF GOODWILL**

### ***How is goodwill valued?***

Under IFRS 3, Business Combinations,

Internally generated goodwill is not recognized or valued.

Purchased goodwill is recognized and valued.

Calculation of purchased goodwill is the difference between the amount paid by the acquirer plus value of non-controlling interest and net assets (assets less liabilities).

### ***What are the steps followed to value goodwill?***

The steps followed are as under:

- Calculate future maintainable profit
- Calculate average profit
- Calculate average capital employed
- Calculate normal profit (normal rate of return)
- Calculate valuation of goodwill.

### ***What are the methods used to value goodwill?***

Calculate valuation of goodwill under:

- Capitalisation method
- Super profit method - ((future maintainable profit - normal profit) x number of years purchase of super profit
- Annuity method

### ***What are the steps followed to value goodwill under Capitalization method?***

The steps are as under:

- Calculate average future maintainable profits
- Calculate normal capital employed, which is capitalised value of average profits:  
**Normal capital employed**  
= [(Average Future maintainable profit)/Normal rate of return] × 100
- Calculate the value of actual closing capital employed as on date of valuation of goodwill:  
**Net assets** = All assets (other than goodwill, fictitious assets and non - Trade Investments) at their current values  
Less Outsiders liabilities
- Calculate of value of goodwill  
Goodwill = Normal capital employed - Actual closing capital employed

***What are the steps followed to value goodwill under Super profits method?***

The steps to be followed are as under:

- Calculate average capital employed, where capital employed = all assets (minus goodwill, fictitious assets and non-trade investments) less outsiders' liabilities
- Calculate normal profit, where normal profit = average capital employed × normal rate of return
- Calculate average future maintainable profit (as discussed in step 1A above)
- Calculate Super profit Super profit = Average Future maintainable profit – (average capital employed × normal rate of return)
- Calculate goodwill = Super profit x No. of years for which super profit can be maintained

***What are the steps followed to value goodwill under Annuity method?***

Steps to be followed in valuation of goodwill under Annuity method are as under:

- Calculate future super profit
- Select appropriate rate of interest/discount
- Calculate present value factors as under:  
P.V. for 1<sup>st</sup> year =  $1/(1+r)^1$   
P.V. for 2<sup>nd</sup> year =  $1/(1+r)^2$
- Calculate present value of super profits of each year by multiplying the amount of future super profit with the present value factor
- Calculate value of goodwill by aggregation of all present value of super profits derived as per step 4.

## **VALUATION OF SHARES**

***What are the bases of valuing equity shares?***

The bases of valuation of equity shares are:

- Net asset basis (net book value) -mainly for liquidating companies
- Yield basis – earnings yield (where large block of shares is under transfer)
- Yield basis – dividend yield (where small block of shares is under transfer)
- Fair value basis
- Price-earnings multiple

***How do we value Preference shares?***

Value of preference shares is calculated taking care of the following steps:

- Calculation of Risk-free rate plus small risk premium (i.e. market expectation rate)
- Ability of the Co to pay dividend on a regular basis
- Ability of the Co to redeem preference share capital
- Ability to pay preference dividend may be judged by using the ratio as under:

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

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

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



### ***What are the commonly used indices to analyse capital market information?***

Some of the commonly used indices to analyse capital market information are summarized below.

- Price-earnings ratio
- Yield ratio
- Market value/Book value per share

## **VALUATION OF BRAND**

### ***What are the salient features of valuation of brand?***

Salient features of valuation of brand are as follows:

- No valuation shall be made for internally generated brand
- When the brand is acquired separately, the valuation would be made at initial cost of acquisition (with subsequent addition to cost, if any)
- All identifiable intangible assets including patents, copyrights, know-how and designs which are acquired separately, valuation would be made at initial cost of acquisition (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.
- Amortization should commence when the asset is available for use.

### ***How do we value acquired brand?***

When a brand is acquired, then the excess of purchase consideration over the net assets taken over is considered as representing goodwill. This includes various factors like brands, locational advantage, raw material availability at competitive prices, however, it is difficult to segregate value of brand from other factors.

### ***What are the models used to value self-generated brands?***

Models used to value self-generated brand are:

- Historical cost model
- Replacement cost model
- Market price model
- Current cost model
- Present value model
- Potential earning model
- Sensitivity model
- Life cycle model
- Incremental mode
- Market oriented approach model
- Value chain approach Model
- Whole organization as a brand model
- Human resources as a brand

## **VALUATION OF LIABILITIES**

### ***What are the different bases on valuation of liability?***

- Historical cost
- Current cost
- Realizable (settlement) value:

Liabilities are carried at their settlement values i.e. the undiscounted amounts of cash or cash equivalents expected to be required to settle the liabilities in the normal course of business.

- Present value
  - (a) The liability items of the balance sheet are generally carried at the settlement values
  - (b) In case of finance lease liabilities may be carried at the present value
  - (c) The lessee should recognize a liability equal to be fair value of the leased asset at the inception of the lease – in case of finance lease

### ***What is the fair value of liabilities?***

The fair value of liabilities is the value at which

- (a) Liability could be settled
- (b) Between able and willing parties
- (c) Based on an arm's length transaction

### ***How do we value provisions?***

According to para 14 of IAS 37, a provision is recognized when

- (a) an entity has a present obligation (legal or constructive) as a result of a past event
- (b) it is probable that an outflow of economic benefits will be required to settle the obligation, and
- (c) a reliable estimate can be made of the obligation.

### ***How is present value used to value provisions?***

Present value is used in valuation of provisions:

- (a) Where the effect of the time value of money is material, the amount of a provision shall be the present value of the expenditures expected to be required to settle the obligation.
- (b) The discount rate (or rates) shall 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) shall not reflect risks for which future cash flow estimates have been adjusted.

### ***How are onerous contracts valued?***

Onerous contracts are valued whereby,

value of contract includes unavoidable costs of meeting obligations which exceed economic benefits expected to be received.

Liabilities derived from onerous contract and valued as above must be provided for as they fulfil all the three recognition criteria related to provisions.

### ***How are future operating losses valued?***

Provisions related to future operating losses are not recognized, hence not valued.

Future operating losses do not meet the definition of a liability and the general recognition criteria set out for provisions

However, an expectation of future operating losses is an indication that certain assets of the operation may be impaired. Hence, the relevant assets need to be tested for impairment under IAS 36, *Impairment of Assets*.

### ***How are restructuring costs valued?***

According to Para 71 of the IAS 37, a provision for restructuring costs is recognised and valued only when the general recognition criteria for provisions set out in the IAS are met.

While valuing a restructuring provision only the direct expenditures arising from the restructuring, which are those that are both:

- (a) necessarily entailed by the restructuring; and
- (b) not associated with the ongoing activities of the entity.

Valuation of restructuring provision does not include such costs as:

- (a) retraining or relocating continuing staff;
- (b) marketing; or
- (c) investment in new systems and distribution networks.

## **VALUATION OF LEASES**

### ***How do we value lease transactions from the lessee's side?***

According to IFRS 16, valuation of lease transactions from the lessee's side is as follows:

#### **Right-of-use-asset**

- Initial measurement
- At cost
- Subsequent measurement
- Cost model – carrying cost less depreciation and impairment cost

#### **Lease liability**

- Initial measurement
- At present value of future lease payments
- Subsequent measurement
- Carrying amount
  - Add interest
  - Less payment
  - Remeasure to reflect reassessment of lease

### ***How do we value lease transactions from the lessor's side?***

#### **Finance lease**

##### ***Initial measurement***

Recognize the assets as a receivable at an amount equal to the *net investment in the lease*.

##### ***Subsequent measurement***

Recognize finance income over the lease term, based on a pattern reflecting a constant periodic rate of return on the lessor's net investment in the lease.

#### **Operating lease**

Recognize lease payments from operating leases as income on either a straight-line basis or another systematic basis.

## VALUATION OF FINANCIAL ASSETS AND LIABILITIES

### ***What are the methods of valuation of financial assets and liabilities?***

The methods used for the valuation of financial assets and liabilities are based on

- Market approach,
- Income approach and
- Cost approach

as described in Indian Valuation Standard 103.

### ***What is meant by market approach valuation related to financial assets and liabilities?***

In market approach, the value of the financial asset and liability is determined by considering traded prices of such instrument in an active market; or prices and other relevant information generated by market transactions involving identical or comparable (similar) assets.

### ***What is meant by income approach valuation related to financial assets and liabilities?***

In income approach, value of a financial asset and liability is determined based on the expected economic benefits by way of -

- income,
- cash flows or
- cost savings

generated by such financial asset or liability and level of risk associated with it. It generally involves discounting future amounts to a single present value after adjusting inherent risks.

### ***What is meant by cost approach valuation related to financial assets and liabilities?***

Under the cost approach of valuation, the price that would be received from the perspective of a market participant seller, for the asset is based on the cost to a market participant buyer to acquire or construct a substitute asset of comparable utility.

### ***How do we carry out initial valuation and measurement of financial assets and liabilities?***

Initial valuation and measurement of financial assets and liabilities would be as under:

- (a) An entity shall measure a financial asset or financial liability at its fair value,
- (b) in the case of a financial asset or financial liability not at fair value through profit or loss, transaction costs that are directly attributable to the acquisition or issue of the financial asset or financial liability.
- (c) When an entity uses settlement date accounting for an asset that is subsequently measured at amortised cost, the asset is recognised initially at its fair value on the trade date.
- (d) An entity shall measure trade receivables at their transaction price (as defined in IFRS 15) if the trade receivables do not contain a significant financing component in accordance with IFRS 15 (or when the entity applies the practical expedient in accordance with paragraph 63 of IFRS 15).

### ***How do we carry out subsequent valuation and measurement of financial assets?***

Subsequent valuation and measurement of financial assets is enumerated below:

- (a) An entity shall measure a financial asset at:
  - (a) Amortised cost,
  - (b) fair value through other comprehensive income; or

- (c) fair value through profit or loss.
- (b) An entity shall apply the impairment requirements to financial assets that are measured at amortised cost and to financial assets that are measured at fair value through other comprehensive income
- (c) An entity shall apply the hedge accounting requirements to a financial asset that is designated as a hedged item.

### ***How do we carry out subsequent valuation and measurement of financial liabilities?***

Subsequent valuation and measurement of financial liabilities is enumerated below:

- (a) An entity shall measure a financial liability at:
  - (a) Amortised cost,
  - (b) fair value through other comprehensive income; or
  - (c) fair value through profit or loss.
- (b) An entity shall apply the hedge accounting requirements to a financial liability that is designated as a hedged item.

### ***How are bonds valued?***

The value of any financial instrument like bonds is equal to the present value of the expected cash flows from the financial instrument. Therefore, determining the value requires,

- (a) An estimate of the expected cash flows. This is worked out based on
  - The present value of the semi-annual coupon payments and
  - The present value of the par or maturity value at the maturity date
- (b) An estimate of the appropriate required yield.

### ***How are zero coupon bonds valued?***

There are certain bonds which do not make periodic coupon payments. Instead the investor realises interest as the difference between the purchase price and the maturity value. These kinds of bonds are called zero coupon bonds. The price of zero-coupon bonds is calculated as under:

$$P = \frac{M}{(1+r)^n}$$

Where,

P = Price of the bond

M = Maturity value

r = Rate

n = Period

### ***How are expected credit losses valued?***

An entity shall measure and value expected credit losses of a financial instrument in a way that reflects:

- (a) an unbiased and probability-weighted amount that is determined by evaluating a range of possible outcomes.
- (b) the time value of money; and
- (c) reasonable and supportable information that is available without undue cost or effort at the reporting date about past events, current conditions and forecasts of future economic conditions.

***How are derivatives measured and valued?***

All derivatives including those linked to unquoted equity investments, are measured at fair value. Value changes are recognized in profit or loss unless the entity has elected to treat the derivative as a hedging instrument in accordance with Ind AS 109, in which case the requirements of Ind AS 109 apply.

***How are embedded derivatives measured and valued?***

An embedded derivative is a component of a hybrid contract that also includes a non-derivative host, with the effect that some of the cash flows of the combined instrument vary in a way similar to stand-alone derivative.

A derivative that is attached to a financial instrument but is contractually transferable independently of that instrument or has a different counter party is not an embedded derivative but separate financial instrument

***How are investments held to maturity valued under Reserve Bank of India Master Circular dated July 1, 2015 on prudential norms on classification and valuation of investments by Financial Institutions?***

**Investments held to maturity**

Investments classified under Held to Maturity category need not be marked to market and will be carried at acquisition cost unless it is more than the face value, in which case the premium should be amortized over the period remaining to maturity.

FIs should recognize any diminution, other than temporary, in the value of their investments in subsidiaries/joint ventures, which are included under Held to Maturity category and provide therefor. Such diminution should be determined and provided for each investment individually.

***How are investments available for sale valued under Reserve Bank of India Master Circular dated July 1, 2015 on prudential norms on classification and valuation of investments by Financial Institutions?***

**Investment available for sale**

The individual scrips in the available for Sale category will be marked to market at the year-end or at more frequent intervals. The net depreciation under each classification mentioned below should be recognised and fully provided for, the net appreciation under these classifications should be ignored. The book value of the individual securities would not undergo any change after the revaluation.

The classification of investment will be

- (i) Government securities
- (ii) Other approved securities
- (iii) Shares
- (iv) Debentures & Bonds
- (v) Subsidiaries/joint ventures
- (vi) Others (CP, Mutual Fund Units, etc.).

***How are investments held for trading valued under Reserve Bank of India Master Circular dated July 1, 2015 on prudential norms on classification and valuation of investments by Financial Institutions?***

**Investments held for trading**

The individual scrips in the Held for Trading category will be revalued at monthly or at more frequent intervals and the net appreciation/depreciation under each of the six classifications referred to above will be recognised in the income account. The book value of the individual scrip will change with the revaluation.

***How are Central Government securities valued under Reserve Bank of India Master Circular dated July 1, 2015 on prudential norms on classification and valuation of investments by Financial Institutions?***

**Central Government Securities**

- (i) The FIs should value the unquoted Central Government Securities on the basis of the prices/YTM rates put out by the PDAI/FIMMDA at periodical intervals.
- (ii) Treasury Bills should be valued at carrying cost.
- (iii) For the limited purpose of valuation, all special securities issued by the Government of India, directly to the beneficiary entities, which do not carry SLR status, may be valued at a spread of 25 bps above the corresponding yield on Government of India securities. At present, such special securities comprise: Oil Bonds, Fertilizer Bonds, bonds issued to Unit Trust of India, IFCI Ltd., Food Corporation of India, Industrial Investment Bank of India Ltd., the erstwhile Industrial Development Bank of India and the erstwhile Shipping Development Finance Corporation.

***How are State Government securities valued under Reserve Bank of India Master Circular dated July 1, 2015 on prudential norms on classification and valuation of investments by Financial Institutions?***

**State Government Securities**

Unquoted State Government securities will be valued applying the YTM method by marking it up by 25 basis points above the yields of the Central Government Securities of equivalent maturity put out by PDAI/FIMMDA periodically.

***How are Debentures/Bonds valued under Reserve Bank of India Master Circular dated July 1, 2015 on prudential norms on classification and valuation of investments by Financial Institutions?***

**Debentures/Bonds**

All debentures/bonds other than debentures/bonds which are in the nature of advance should be valued on the YTM basis. Such debentures may be of different companies having different ratings. These will be valued with appropriate mark-up over the YTM rates for Central Government securities as put out by PDAI/FIMMDA periodically.

***How are Equity shares valued under Reserve Bank of India Master Circular dated July 1, 2015 on prudential norms on classification and valuation of investments by Financial Institutions?***

**Equity Shares not in the Nature of Advance**

In respect of other investments in equity shares valuation should be done as per the market value which would be the market price of the scrip as available from the trades/quotes on the stock exchange.

Those scrips for which current quotations are not available or where the shares are not quoted on Stock Exchange, should be valued at break-up value (without considering revaluation reserves, if any) which is to be ascertained from the company's latest balance sheet. In case the latest balance sheet is not available the shares are to be valued at rupee one per company.

### **Equity Shares in the Nature of Advance**

The equity holdings in the nature of advance should be compulsorily placed in the 'Available For Sale' category. The equity shares should be considered to be in the nature of advances if the equity shares were issued as part of a proposal for project finance.

Such equity should be valued by notionally extending to it the asset-classification of the outstanding loans of the issuing company and provision for depreciation in the value of equity made accordingly.

In case the said loans are in the standard category, provision as applicable to the standard loan assets would be required for the depreciation in the equity value but in case the loans are in the doubtful category, the equity held should be treated as an unsecured facility and fully provided for.

The equity shares in the nature of advance, in cases where no loan against the company issuing the shares was outstanding, should be valued at market price, if listed and quoted, provided the latest market quotation was not more than 30 day-olds as on the date of valuation.

### ***How are Preference shares valued under Reserve Bank of India Master Circular dated July 1, 2015 on prudential norms on classification and valuation of investments by Financial Institutions?***

#### **Tax-free Preference Shares**

When the dividend on the preference shares is tax-free under the Income Tax Act, the guidelines framed by FIMMDA for valuation of tax-free bonds should be followed for valuation of unquoted tax-free preference shares, other than those kept in the HTM category.

#### **Preference Shares with Taxable Dividend**

The following valuation methodology for the unquoted preference shares should be adopted:

- (a) Determine the YTM of the preference shares as per its cash flow profile;
- (b) Determine the YTM for GOI security of equal residual maturity and add the applicable credit spread/risk premium, as per the rating of the preference share by the rating agencies subject to the following:
  - (i) The rate used for the YTM for unrated preference shares should not be less than the rate applicable to rated preference shares of equivalent maturity. The mark-up for the unrated preference shares should appropriately reflect the credit risk borne by the FI.
  - (ii) Where investment in preference shares is as part of rehabilitation, the YTM rate should not be lower than 1.5% above the coupon rate/YTM for GOI loan of equal maturity.
- (c) Value the preference share as per the following formula:

$$(\text{YTM of the preference share}) \times 100$$

Rate arrived at step (b) above subject to following conditions:

- (i) Where preference dividends are in arrears, no credit should be taken for accrued dividends (the period of pendency should be reckoned as per the extant prudential norms) and the value determined on YTM should be discounted by at least 15% if arrears are for one year, and more if arrears are for more than one year. The depreciation/provision requirement arrived at in the above manner in respect of non-performing shares where dividends are in arrears shall not be allowed to be set-off against appreciation against other preference shares.



- (ii) When a preference share has been traded on stock exchange within 15 days prior to the valuation date, the value should not be higher than the price at which the share was traded.

### **Preference Shares in the Nature of Advance**

This instrument should be valued by notionally extending to them the asset-classification of the outstanding loans of the issuing company and provision for depreciation in the value of preference shares made accordingly. In case the said loans are in the standard category, provision as per norms applicable to the standard loan assets would be required for the depreciation in the value of these shares. In case the loans are in the doubtful category, the preference shares held should be treated as an unsecured facility and fully provided for.

The preference shares acquired by conversion of loans/debentures in the nature of advance could be viewed as loan equivalent. Such shares would also carry an obligation of dividend payment.

Hence, in cases where there was no loan outstanding against a borrower company which had issued the shares, the record of dividend receipt on the preference shares should be looked into to determine the asset classification of the preference shares, as per record of recovery. For the purpose of asset classification, the due date of dividend payment on preference shares should be reckoned as the date of the closing of annual accounts of the company concerned.

Accordingly, if the dividend on preference shares is not received within 90 days from the date of closing of annual accounts of the issuing company, the shares should be treated as NPI and provided for accordingly.

### **Non-Project Related and Redeemable Preference Shares**

Such preference shares being eligible to be kept in the HTM category, within the 25% ceiling, could be valued at acquisition cost/amortized cost subject to provisioning for permanent diminution, if any, in value - for which payment of dividend would also be a relevant factor.

### ***How are Mutual Fund Units valued under Reserve Bank of India Master Circular dated July 1, 2015 on prudential norms on classification and valuation of investments by Financial Institutions?***

#### **Mutual Funds Units**

Investment in quoted Mutual Fund Units should be valued as per Stock Exchange quotations. Investment in non-quoted Mutual Fund Units is to be valued on the basis of the latest re-purchase price declared by the Mutual Fund in respect of each particular Scheme. In case of funds with a lock-in period, where repurchase price/market quote is not available, Units could be valued at NAV. If NAV is not available, then these could be valued at cost, till the end of the lock-in period.

### ***How are Equity-settled share-based payment transaction valued?***

In accordance with IFRS 2, Equity-settled share-based payment transactions are valued as under:

For equity-settled share-based payment transactions, the entity shall measure the goods or services received, and the corresponding increase in equity, directly, at the fair value of the goods or services received, unless that fair value cannot be estimated reliably.

If the entity cannot estimate reliably the fair value of the goods or services received, the entity shall measure their value, and the corresponding increase in equity, indirectly, by reference to the fair value of the equity instruments granted. (Para 10)

### ***How are Cash-settled share-based payment transaction valued?***

According to Para 30 of IFRS 2, for cash-settled share-based payment transactions, the entity shall measure the goods or services acquired and the liability incurred at the fair value of the liability.

Until the liability is settled, the entity shall re-measure the fair value of the liability at the end of each reporting period and at the date of settlement, with any changes in fair value recognised in profit or loss for the period.

## FAIR VALUE

### *Define Fair value?*

IFRS-13 on Fair Value Measurement defines 'Fair Value' as "The price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date."

### *What is meant by orderly transaction?*

A transaction that assumes exposure to the market for a period before the measurement date to allow for marketing activities that are usual and customary for transactions involving such assets or liabilities; it is not a forced transaction (e.g. a forced liquidation or distress sale).

### *What is meant by exit price? How is it different from entry price?*

Exit price is the price that would be received to sell an asset or paid to transfer a liability.

Entry price is the price paid to acquire an asset or received to assume a liability in an exchange transaction.

### *What is meant by principal market?*

Principal market is the market with the greatest volume and level of activity for the asset or liability.

### *Who are identified as market participants?*

Market participants are buyers and sellers in the principal (or most advantageous) market for the asset or liability that have all of the following characteristics:

- (a) They are independent of each other, i.e. they are not related parties as defined in Ind AS 24, although the price in a related party transaction may be used as an input to a fair value measurement if the entity has evidence that the transaction was entered into at market terms.
- (b) They are knowledgeable, having a reasonable understanding about the asset or liability and the transaction using all available information, including information that might be obtained through due diligence efforts that are usual and customary.
- (c) They are able to enter into a transaction for the asset or liability.
- (d) They are willing to enter into a transaction for the asset or liability, i.e. they are motivated but not forced or otherwise compelled to do so.

### *What is the Fair Value hierarchy for inputs in relation to valuation?*

IFRS-13 establishes a Fair Value hierarchy that categorizes valuation related inputs into three levels, namely:

**Level 1 input** - These inputs are quoted prices (unadjusted) in active markets for identical assets/liabilities that the entity can access at the measurement date.

**Level 2 inputs** - These inputs are other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.

**Level 3 inputs** - These inputs are unobservable inputs for assets/liabilities. Unobservable inputs are used to measure Fair Value to the extent that relevant observable inputs are not available.

### *What are observable inputs? How different these are from unobservable inputs?*

Observable inputs are those inputs that are developed using market data, such as publicly available information about actual events or transactions, and that reflect the assumptions that market participants would use when pricing the asset or liability.

Unobservable inputs are those Inputs for which market data are not available and that are developed using the best information available about the assumptions that market participants would use when pricing the asset or liability.

***What is the market approach in valuation?***

The market approach is a valuation technique that uses prices and other relevant information generated by market transactions involving identical or comparable (i.e. similar) assets, liabilities or a group of assets and liabilities, such as a business.

***What is the income approach in valuation?***

These are valuation techniques that convert future amounts (e.g. cash flows or income and expenses) to a single current (i.e. discounted) amount. The fair value measurement is determined based on the value indicated by current market expectations about those future amounts. The Income Approach includes several methods, such as

Discounted Cash Flow (DCF) Method, Relief from Royalty (RFR) Method, Multi-Period Excess Earnings Method (MEEM), With and Without Method (WWM) and Option pricing models such as Black- Scholes - Merton formula or binomial (lattice) model.

***What is the cost approach in valuation?***

This is a valuation technique that reflects the amount that would be required currently to replace the service capacity of an asset (often referred to as current replacement cost).

***What is meant by the term “Participants Specific Value”?***

Participant specific value” is the estimated value of an asset or liability considering specific advantages or disadvantages of either of the owner or identified acquirer or identified participants.

Participant specific value may be measured for an existing owner or for an identified acquirer or for a transaction between two identified parties and consider factors which are specific to such party(ies) and which may not be applicable to market participants in general.

For example, a participant specific value for a potential acquirer in connection with acquisition of a manufacturing facility will consider aspects which have location and business specific advantages or synergies which may not be available to market participants in general.

***What is meant by transaction cost?***

The costs to sell an asset or transfer a liability in the principal (or most advantageous) market for the asset or liability that are directly attributable to the disposal of the asset or the transfer of the liability and meet both of the following criteria:

- (a) They result directly from and are essential to that transaction.
- (b) They would not have been incurred by the entity had the decision to sell the asset or transfer the liability not been made (similar to costs to sell, as defined in Ind AS 105).

***What are the most common multiples used in Valuation?***

The most common multiples are EV/Revenue, EV/EBITDA, EV/EBIT, P/E (Share Price / Earnings per Share), and P/BV (Share Price / Book Value per Share).

***What could be some examples of the industry specific multiples?***

Some examples could be as follows:

Technology (Internet): EV / Unique Visitors, EV / Pageviews

Retail / Airlines: EV / EBITDAR (Earnings Before Interest, Taxes, Depreciation, Amortization & Rental Expense)

Energy: EV / EBITDAX (Earnings Before Interest, Taxes, Depreciation, Amortization & Exploration Expense), EV / Daily Production, EV / Proved Reserve Quantities

Real Estate Investment Trusts (REITs): Price / FFO per Share, Price / AFFO per Share (Funds from Operations, Adjusted Funds from Operations)

Technology and Energy should be straightforward – we look at traffic and energy reserves as value drivers rather than revenue or profit.

For Retail / Airlines, we add back Rent because some companies own their own buildings and capitalize the expense whereas others rent and therefore have a rental expense.

***In general, why do we use Enterprise Value / EBITDA as a multiple rather than Equity Value / EBITDA?***

EBITDA is available to all investors in the company – rather than just equity holders. Similarly, Enterprise Value is also available to all shareholders so it makes sense to pair them together.

Equity Value / EBITDA, however, is comparing apples to oranges because Equity Value does not reflect the company's entire capital structure – only the part available to equity investors.

***When would a Liquidation Valuation produce the highest value?***

This can happen in rare cases, like if a company had substantial hard assets but the market was severely undervaluing it for a specific reason (such as an earnings miss or cyclical).

As a result, the company's Comparable Companies and Precedent Transactions would likely produce lower values as well – and if its assets were valued highly enough, Liquidation Valuation might give a higher value than other methodologies.

***What do we use in conjunction of free cash multiples – equity value or enterprise value?***

For *Unlevered* Free Cash Flow, we would use Enterprise Value, but for *Levered* Free Cash Flow we would use Equity Value.

Unlevered Free Cash Flow excludes Interest and thus represents money available to *all* investors, whereas Levered FCF already includes the effects of the Interest expense (and mandatory debt repayments) and the money is therefore only available to *equity* investors.

Debt investors have already “been paid” with the interest payments and principal re payments they received.

### ***What are the circumstances we might use Equity Value / Revenue?***

It is actually very rare to see this, but sometimes large financial institutions with big cash balances have negative Enterprise Values – so we might use Equity Value / Revenue instead.

We might use Equity Value / Revenue if we have listed a set of financial institutions and non-financial institutions on a downward trend, we show Revenue multiples for the nonfinancial institutions, and we want to show something similar for the financial institutions.

Note, however, that in most cases we would be using other multiples such as P/E and P/BV with banks anyway.

### ***How do we select comparable companies / precedent transactions?***

The three main ways to select companies and transactions:

- Industry classification
- Financial criteria (Revenue, EBITDA, etc.)
- Geography

For Precedent Transactions, we often limit the set based on date and only look at transactions within the past 1-2 years.

The most important factor is industry – that is *always* used to screen for companies/transactions, and the rest may or may not be used depending on how specific you want to be.

### ***How do we apply the three valuation methodologies to actually get a value for the company we're looking at?***

We take the median multiple of a set of companies or transactions, and then multiply it by the relevant metric from the company you're valuing.

**Example:** If the median EBITDA multiple from our set of Precedent Transactions is 8x and target entity's EBITDA is \$500 million, the implied Enterprise Value would be \$4 billion.

To get the “football field” valuation graph we look at the minimum, maximum, 25<sup>th</sup> percentile and 75<sup>th</sup> percentile in each set as well and create a range of values based on each methodology.

### ***The EV / EBIT, EV / EBITDA, and P / E multiples all measure a company's profitability. What is the difference between them, and when do we use each one?***

P / E depends on the company's **capital structure** whereas EV / EBIT and EV / EBITDA are **capital structure-neutral**. Therefore, you use P / E for banks, financial institutions, and other companies where interest payments / expenses are critical.

EV / EBIT includes Depreciation & Amortization whereas EV / EBITDA excludes it – you're more likely to use EV / EBIT in industries where D&A is large and where capital expenditures and fixed assets are important (e.g. manufacturing), and EV / EBITDA in industries where fixed assets are less important and where D&A is comparatively smaller (e.g. Internet companies).

### ***How do we value a private company?***

We use the same methodologies as with public companies: public company comparables, precedent transactions, and DCF.

But there are a few differences as highlighted below:

- One might apply a 10-15% (or more) **discount** to the public company comparable multiples because the private company we are valuing is not as “liquid” as the public comps.
- We cannot use a **premiums analysis** or **future share price analysis** because a private company doesn’t have a share price.
- Our valuation shows the **Enterprise Value** for the company as opposed to the **implied per-share price** as with public companies.
- A DCF valuation gets tricky because a private company does not have a market capitalization or Beta – we would need to probably **estimate WACC** based on the public comps’ WACC rather than trying to calculate it.

### ***How do we carry out valuation of banks and financial institutions differently from other companies?***

For **relative valuation**, the methodologies (public companies and precedent transactions) are the same but the metrics and multiples are different:

- We screen based on assets or deposits in addition to the normal criteria.
- We consider metrics like ROE (Return on Equity, Net Income / Shareholders’ Equity), ROA (Return on Assets, Net Income / Total Assets), and Book Value and Tangible Book Value rather than Revenue, EBITDA, and so on.
- We use multiples such as P / E, P / BV, and P / TBV rather than EV / EBITDA.

Rather than a traditional DCF, we use 2 different methodologies for **intrinsic valuation**:

- In a **Dividend Discount Model (DDM)** we sum up the present value of a bank’s dividends in future years and then add it to the present value of the bank’s terminal value, usually basing that on a P / BV or P / TBV multiple.
- In a **Residual Income Model** (also known as an Excess Returns Model), we take the bank’s current Book Value and simply add the present value of the excess returns to that Book Value to value it. The “excess return” each year is  $(ROE * Book Value) - (Cost of Equity * Book Value)$  – basically how much the returns exceed your expectations.

We need to use these methodologies and multiples because interest is a critical component of a bank’s revenue and because debt is a “raw material” rather than just a financing source; also, banks’ book values are usually very close to their market caps.

### ***How do we carry out IPO valuation for a company which is about to go public?***

- Unlike conventional valuation exercise, in an IPO valuation we look at public company comparables.
- After picking the public company comparables we decide on the most relevant multiple to use and then estimate our company’s Enterprise Value based on that.
- Once we have the Enterprise Value, we work backward to get to Equity Value and also subtract the IPO proceeds because this is “new” cash.

- Then we divide by the total number of shares (old and newly created) to get its per-share price. When people say “An IPO *priced* at...” this is what they’re referring to.

If we were using P / E or any other “Equity Value-based multiple” for the multiple in bullet 2 above, then we would get to Equity Value instead and then subtract the IPO proceeds from there.

### ***How do we value Net Operating Losses and consider them in valuation exercise?***

We consider valuation of Net Operating Losses based on how much they will save the company in taxes in future years, and then take the present value of the sum of tax savings in future years.

We may *look* at NOLs in a valuation but we rarely add them in – if we did, they would be similar to cash and you would subtract NOLs to go from Equity Value to Enterprise Value, and vice versa.

### ***We are asked to carry out valuation of one company with a 30% EBITDA margin trading at 6x EBITDA, and another company with a 10% EBITDA margin trading at 12x EBITDA. What is the problem with comparing these two valuations directly?***

There is no fixed rule that says this is incorrect or not allowed, but it can be misleading to compare companies with dramatically different margins. The 30% margin company will usually have a lower multiple – whether or not its actual value is lower.

In such a situation, we might consider screening based on margins and remove the outliers – we would never try to “normalize” the EBITDA multiples based on margins.

## **ECONOMIC VALUE ADDED**

### ***What is Economic Value Added?***

Economic Value Added (EVA) is defined as the surplus available after applying an appropriate charge for the capital employed in the business. As a residual income measure of financial performance is simply the operating profit after tax less a charge for the capital equity as well as debt, used in the business.

### ***What are the steps involved to calculate EVA?***

The steps in calculation of EVA are as under:

- (a) Calculate Net Operating Profit after Tax (NOPAT)
- (b) Calculate Total Invested Capital (TC)
- (c) Determine Weighted Average Cost of Capital (WACC)
- (d) Calculate  $EVA = NOPAT - TC \times WACC$

### ***What is meant by Market Value Added (MVA)?***

MVA is the difference between the current market value of a firm and the capital contributed by Investors. If MVA is positive the firm has added value. If it is negative the Firm has destroyed value.

### ***What is meant by Shareholder Value Added (SVA)?***

**Shareholders Value Added** is a value-based performance measure of a company’s worth to shareholders. It is measured by:

Net Operating Profit after tax (NOPAT) – Weighted Average cost of capital (WACC)

### ***What are the benefits of EVA?***

The benefits of EVA may be summarised as under:

- (a) Common language and focus for planning and managing
- (b) More accountability for delivering value
- (c) Greater concern for managing assets
- (d) Stronger emphasis on continuous improvement
- (e) Greater willingness to rationalise and redirect resources
- (f) Better bridge linking operations and strategy with financial results
- (g) Higher market value

## **CORPORATE RESTRUCTURING**

### ***How does Corporate Restructuring take form and shape?***

Corporate Restructuring process takes shape and form through mergers, acquisitions, takeovers, collaborations, consolidation, diversification etc. Domestic firms have taken steps to consolidate their position to face increasing competitive pressures and transnationals have taken this opportunity to enter Indian corporate sector.

### ***What are the drivers of Corporate Restructuring?***

The forces that drive corporate restructuring and consequent Merger & Acquisition activities are as under:

- (i) Rapid pace of technological change.
- (ii) Low costs of communication and transportation.
- (iii) Globalization and global markets.
- (iv) Nature of competition in terms of forms, sources, and intensity.
- (v) Emergence of new types of industries.
- (vi) Regulation in some industries and sectors.
- (vii) Liberalization in some industries and sectors.
- (viii) Growing inequalities in incomes and wealth.

### ***What are the forms of Corporate Restructuring?***

The forms of Corporate Restructuring are as follows:

- Expansion
- Contraction
- Corporate Control

### ***What are the modes of Corporate Restructuring under Expansion?***

The modes of Corporate Restructuring under Expansion are:

#### **Amalgamation**

This involves fusion of one or more companies where the companies lose their individual identity and a new company comes into existence to take over the business of companies being liquidated.

#### **Absorption**

This involves fusion of a small company with a large company where the smaller company ceases to exist after the merger.



### **Tender offer**

This involves making a public offer for acquiring the shares of a target company with a view to acquire management control in that company.

### **Asset acquisition**

This involves buying assets of another company. The assets may be tangible assets like manufacturing units or intangible like brands.

### **Joint venture**

This involves two companies coming whose ownership is changed

## ***What are the modes of Corporate Restructuring under Contraction?***

The modes of Corporate Restructuring under Contraction are:

### **Demerger-spin off**

This type of demerger involves division of company into wholly owned subsidiary of parent company by distribution of all its shares of subsidiary company on Pro-rata basis. By this way, both the companies i.e. holding as well as subsidiary company exist and carry on business.

### **Demerger - Equity carve out**

This is similar to spin offs, except that same part of shareholding of this subsidiary company is offered to public through a public issue and the parent company continues to enjoy control over the subsidiary company by holding controlling interest in it.

### **Demerger – Split-up**

This type of demerger involves the division of parent company into two or more separate companies where parent company ceases to exist after the demerger.

### **Asset sale**

This involves sale of tangible or intangible assets of a company to generate cash. A partial sell off, also called slump sale, involves the sale of a business unit or plant of one firm to another. It is the mirror image of a purchase of a business unit or plant. From the seller's perspective, it is a form of contraction and from the buyer's point of view it is a form of expansion.

### **Divestiture**

These are sale of segment of a company for cash or for securities to an outside party. Divestitures, involve contraction.

## ***What are the modes of Corporate Restructuring under Corporate Control?***

The modes of Corporate Restructuring under Corporate Control are:

### **Going private**

This involves converting a listed company into a private company by buying back all the outstanding shares from the markets.

### **Equity buy back**

This involves the company buying its own shares back from the market. This results in reduction in the equity capital of the company. This strengthens the promoter's position by increasing his stake in the equity of the company.

### **Leveraged buy-outs**

This involves raising of capital from the market or institutions by the management to acquire a company on the strength of its assets.

### **Anti – takeover defences**

With the incidence of high value of hostile takeover activity in recent years, takeover defences both premature and reactive have been restored by the companies.

### ***What's the difference between a merger and an acquisition?***

There is always a buyer and a seller in any M&A deal – the difference between “merger” and “acquisition” is more semantic than anything else. In a merger the companies are close to the same size, whereas in an acquisition the buyer is significantly larger.

### ***How would be a basic merger model look like?***

A basic merger model is used to analyze the financial profiles of two companies, the purchase price and how the purchase is made, and determines whether the buyer's EPS increases or decreases.

First step is making assumptions about the acquisition – the price and whether it was cash, stock or debt or some combination of those.

Next step would be to determine the valuations and shares outstanding of the buyer and seller and project out an Income Statement for each one.

Finally, the Income Statements are combined, adding up line items such as Revenue and Operating Expenses, and adjusting for Foregone Interest on Cash and Interest Paid on Debt in the Combined Pre-Tax Income line.

Then we apply the buyer's Tax Rate to get the Combined Net Income, and then divide by the new share count to determine the combined EPS.

### ***What are the basic reasons a company would like to acquire another company?***

The basic reasons are as follows:

- The buyer wants to gain market share by buying a competitor.
- The buyer needs to grow more quickly and sees an acquisition as a way to do that.
- The buyer believes the seller is undervalued.
- The buyer wants to acquire the seller's customers so it can up-sell and cross-sell to them.
- The buyer thinks the seller has a critical technology, intellectual property or some other “secret sauce” it can use to significantly enhance its business.
- The buyer believes it can achieve significant synergies and therefore make the deal accretive for its shareholders.

### ***What are the complete effects of acquisition?***

The complete effects of acquisition are as follows:

- Foregone Interest on Cash – The buyer loses the Interest it would have otherwise earned if it uses cash for the acquisition.
- Additional Interest on Debt – The buyer pays additional Interest Expense if it uses debt.
- Additional Shares Outstanding – If the buyer pays with stock, it must issue additional shares.
- Combined Financial Statements – After the acquisition, the seller's financials are added to the buyer's.
- Creation of Goodwill & Other Intangibles – These Balance Sheet items that represent a “premium” paid to a company's “fair value” also get created.

### ***Why do Goodwill & Other Intangibles get created in an acquisition?***

Goodwill and other intangibles represent the value over the “fair market value” of the seller that the buyer has paid. You calculate the number by subtracting the book value of a company from its equity purchase price.

More specifically, Goodwill and Other Intangibles represent things like the value of customer relationships, brand names and intellectual property – valuable, but not true financial Assets that show up on the Balance Sheet.

### ***What is the difference between Purchase Accounting and Pooling Accounting in an M&A deal?***

In purchase accounting the seller’s shareholders’ equity number is wiped out and the premium paid over that value is recorded as Goodwill on the combined balance sheet post-acquisition.

In pooling accounting, one simply combines the two shareholders’ equity numbers rather than worrying about Goodwill and the related items that get created.

There are specific requirements for using pooling accounting, so in 99% of M&A deals you will use purchase accounting.

### ***Why do deferred tax liabilities (DTLs) and deferred tax assets (DTAs) get created in M&A deals?***

Deferred tax liabilities and deferred tax assets get created when we write up assets – both tangible and intangible – and when we write down assets in a transaction based on fair value. An asset write-up creates a deferred tax liability, and an asset write-down creates a deferred tax asset.

We write down and write up assets because their book value – what appears on the balance sheet – often differs substantially from their “fair value.”

An asset write-up creates a deferred tax *liability* because we will have a higher depreciation expense on the new asset, which means we save on taxes in the short-term – but eventually we will have to pay them back, hence the liability. The opposite applies for an asset write-down and a deferred tax *asset*.

### ***How do DTLs and DTAs affect the Balance Sheet Adjustment in an M&A deal? Please explain with an example.***

We consider DTLs and DTAs with everything else when calculating the amount of Goodwill & Other Intangibles to create a pro-forma balance sheet. The formulae are as follows:

Deferred Tax Asset = Asset Write-Down x Tax Rate

Deferred Tax Liability = Asset Write-Up x Tax Rate

#### **Example**

Say we were buying a company for \$1 billion with half-cash and half-debt, and we had a \$100 million asset write-up and a tax rate of 40%. In addition, the seller has total assets of \$200 million, total liabilities of \$150 million, and shareholders’ equity of \$50 million.

The treatment on the combined company’s balance sheet (ignoring transaction/financing fees) will be as follows:

- First, we add the seller's Assets and Liabilities (but NOT Shareholders' Equity – it is wiped out) to the buyer's to get our "initial" balance sheet. Assets are up by \$200 million and Liabilities are down by \$150 million.
- Then, cash on the Assets side goes down by \$500 million.
- We have an asset write-up of \$100 million, so Assets go up by \$100 million.
- Debt on the Liabilities & Equity side goes up by \$500 million.
- We get a new Deferred Tax Liability of \$40 million ( $\$100 \text{ million} * 40\%$ ) on the Liabilities & Equity side.
- Assets are down by \$200 million total and Liabilities & Shareholders' Equity are up by \$690 million ( $\$500 + \$40 + \$150$ ).
- So, we would require Goodwill & Intangibles of \$890 million on the Assets side to make both sides balance.

### ***What is an exchange ratio and when would companies use it in an M&A deal?***

An exchange ratio is an alternate way of structuring a 100% equity M&A deal, or any M&A deal with a portion of equity involved.

For example, if we were going to buy a company for \$100 million in an all-equity deal. Normally we would determine how much equity to issue by dividing the \$100 million by the buyer's share price, and using that to get the new share count.

With an exchange ratio, by contrast, we would tie the number of new shares to the buyer's own shares – so the seller might receive 1.5 shares of the buyer's shares for each of its shares, rather than shares worth a specific amount.

### ***How do we handle options, convertible debt, and other dilutive securities in a merger model?***

The treatment depends on the terms of the Purchase Agreement – the buyer might assume them or it might allow the seller to "cash them out" assuming that the per-share purchase price is above the exercise prices of these dilutive securities.

If we assume they are exercised, then we calculate dilution to the equity purchase price in the same way we normally would – Treasury Stock Method for options, and assume that convertibles convert into normal shares using the conversion price.

## **LEVERAGED BUY OUT**

### ***How does a basic leveraged buyout model work?***

In a LBO Model the steps are as follows:

- making assumptions about the Purchase Price, Debt/Equity ratio, Interest Rate on Debt and other variables; we may also assume something about the company's operations, such as Revenue Growth or Margins, depending on how much information you have.
- to create a Sources & Uses section, which shows how you finance the transaction and what you use the capital for; this also tells you how much Investor Equity is required.

- to adjust the company's Balance Sheet for the new Debt and Equity figures, and also add in Goodwill & Other Intangibles on the Assets side to make everything balance.
- To project the company's Income Statement, Balance Sheet and Cash Flow Statement, and determine how much debt is paid off each year, based on the available Cash Flow and the required Interest Payments.
- making assumptions about the exit after several years, usually assuming an EBITDA Exit Multiple, and calculate the return based on how much equity is returned to the firm.

### ***How does the Balance Sheet get adjusted in an LBO model?***

The adjustments are as under:

First, the Liabilities & Equities side is adjusted – the new debt is added on, and the Shareholders' Equity is “wiped out” and replaced by however much equity the private equity firm is contributing.

On the Assets side, Cash is adjusted for any cash used to finance the transaction, and then Goodwill & Other Intangibles are used as a “plug” to make the Balance Sheet balance.

Depending on the transaction, there could be other effects as well – such as capitalized financing fees added to the Assets side.

### ***How could a private equity firm boost its return in an LBO?***

This can be done as follows:

- Lower the Purchase Price in the model.
- Raise the Exit Multiple / Exit Price.
- Increase the Leverage (debt) used.
- Increase the company's growth rate (organically or via acquisitions).
- Increase margins by reducing expenses (cutting employees, consolidating buildings, etc.).

### ***What is meant by tax shield in an LBO?***

This means that the interest a firm pays on debt is tax-deductible – so they save money on taxes and therefore increase their cash flow as a result of having debt from the LBO.

Note, however, that their cash flow is still **lower** than it would be without the debt – saving on taxes helps, but the added interest expense still reduces Net Income over what it would be for a debt-free company.

### ***What is dividend recapitalization? How does it impact financial statements?***

In a dividend recap, the company takes on new debt solely to pay a special dividend out to the PE firm that bought it.

On the impact on financial statements,

There will be no changes to the Income Statement.

On the Balance Sheet, Debt would go up and Shareholders' Equity would go down and they would cancel each other out so that everything remained in balance.

On the Cash Flow Statement, there would be no changes to Cash Flow from Operations or Investing, but under Financing the additional Debt raised would cancel out the Cash paid out to the investors, so Net Change in Cash would not change.

### ***How would an asset write-up or write-down through fair value impact the financial statements in an LBO model?***

The treatment is similar to what we see in a merger model –

we calculate Goodwill, Other Intangibles, and the rest of the write-ups in the same way, and then the Balance Sheet adjustments (e.g. subtracting cash, adding in capitalized financing fees, writing up assets, wiping out goodwill, adjusting the deferred tax assets / liabilities, adding in new debt, etc.) are almost the same.

However, the key differences are as follows:

- In an LBO model you assume that the existing Shareholders' Equity is wiped out and replaced by the equity the private equity firm contributes to buy the company; you may also add in Preferred Stock, Management Rollover, or Rollover from Option Holders to this number as well depending on what you're assuming for transaction financing.
- In an LBO model we'll usually be adding a lot more tranches of debt vs. what we would see in a merger model.
- In an LBO model we are not combining two companies' Balance Sheets.

### ***How would an income statement be adjusted under LBO model?***

The adjustments are as follows:

- **Cost Savings** – Often we assume the PE firm cuts costs by laying off employees, which could affect COGS, Operating Expenses, or both.
- **New Depreciation Expense** – This comes from any PP&E write-ups in the transaction.
- **New Amortization Expense** – This includes both the amortization from written-up intangibles and from capitalized financing fees.
- **Interest Expense on LBO Debt** – We need to include both cash and PIK (payment in kind) interest here.
- **Sponsor Management Fees** – Sometimes PE firms charge a “management fee” to a company to account for the time and effort they spend managing it.
- **Common Stock Dividend** – Although private companies don't pay dividends to shareholders, they *could* pay out a dividend recap to the PE investors.
- **Preferred Stock Dividend** – If Preferred Stock is used as a form of financing in the transaction, you need to account for Preferred Stock Dividends on the Income Statement.

Cost Savings and new Depreciation / Amortization hit the Operating Income line; Interest Expense and Sponsor Management Fees hit Pre-Tax Income; and you need to subtract the dividend items from your Net Income number.