

Basics of Valuation
Expressions of Value
Models of Valuation
in
Mergers and Acquisitions

- Although evidence clearly indicates that the shareholders of a target profit from a merger or acquisition, the same cannot be said for the shareholders of the acquirer.
- An abundance of studies show that the share price of almost all targets increases around the announcement of a merger or an acquisition

- However, the share price of acquirers rarely follows the same trend; the average share price performance of acquirers around the announcement of a merger or an acquisition is slightly negative, and acquirers commonly experience a significant decrease in share price after announcing their intention to merge with or acquire another company.

Valuation process

- Analysts frequently refer to five types of value: book value, breakup value, liquidation value, fundamental value, and market value.
- **Book value** refers to the accounting value of a company—that is, the value reported in the balance sheet. The book value of equity, also referred to as the company's net worth, is equal to its total assets minus its total liabilities.

- It represents a company's residual value, assuming that assets can be sold for their reported values and that the proceeds are used to satisfy all liabilities at their recorded values.

- **Break-up value** refers to the amount that could be realized if a company were split into saleable units that could be disposed of in a negotiated transaction. This concept is especially relevant for companies composed of a variety of individual business units, divisions, or segments.

- **Liquidation value** refers to the amount that could be realized if a company were liquidated in a distress sale. A company's liquidation value is usually lower than its book and break-up values because assets that must be disposed of quickly are usually sold at a discount.

- **Fundamental value** , also called intrinsic value, refers to the value based on the after-tax cash flows that the company is expected to generate in the future, discounted at an appropriate rate that reflects the riskiness of those cash flows. It is a forward-looking concept and requires an assessment of a company's potential future cash flows

- **Market value** refers to the value established in an orderly marketplace such as a securities market. For example, the market value of equity, also called the market capitalization, is equal to the share price multiplied by the number of shares outstanding.

- Thus, the value of a company basically is defined with reference to the future cash flows that a company is expected to generate.
- The process of valuing a company usually involves five steps:

- Identify and screen potential target candidates thoroughly to ensure that the proposed transaction is appropriate from a strategic standpoint.
- Analyze the historical performance of the target to ensure that it is an appropriate partner from a financial standpoint, as well as to gain a thorough understanding of the target's business model, operations, and capital structure.

- Forecast the future performance of the target by preparing pro forma financial statements. Nothing is more important in assessing a target's value than a complete and accurate modeling of the company's operations.
- This critical step requires a fine-grained understanding of the target's environment, its business model (including its revenue and cost drivers) and realistic assumptions about the target's future operations and, potentially, capital structure.

- Apply one or several valuation methods to get an estimate or estimates of the target's value.
- Assess the sensitivity of the key pro forma and valuation assumptions on the target's value. Step 4 requires the analyst to select one or several valuation methods.

Valuation methods

- Several valuation methods are available, depending on a company's industry, its characteristics (for example, whether it is a start-up or a mature company), and the analyst's preference and expertise.

- These methods are classified into four categories, based on two dimensions. The first dimension distinguishes between direct (or absolute) valuation methods and indirect (or relative) valuation methods; the second dimension separates models that rely on cash flows from models that rely on another financial variable, such as sales (revenues), earnings, or book value.

- As their name indicates, direct valuation methods provide a direct estimate of a company's fundamental value. In the case of public companies, the analyst can then compare the company's fundamental value obtained from that valuation analysis to the company's market value.

- The company appears fairly valued if its market value is equal to its fundamental value, undervalued if its market value is lower than its fundamental value, and overvalued if its market value is higher than its fundamental value. In contrast, relative valuation methods do not provide a direct estimate of a company's fundamental value:

- They do not indicate whether a company is fairly priced; they indicate only whether it is fairly priced relative to some benchmark or peer group. Because valuing a company using an indirect valuation method requires identifying a group of comparable companies, this approach to valuation is also called the comparables approach

Overview of Valuation Methods

	Direct (or Absolute) Valuation Methods	Relative (or Indirect) Valuation Methods
Valuation methods that rely on cash flows	Discounted cash flow models: Free cash flow to the firm model Free cash flow to equity model Adjusted present value model Option-pricing models: Real option analysis	Price multiples: Price-to-cash-flow ratio
Valuation methods that rely on a financial variable other than cash flows	Economic income models: Economic value analysis	Price multiples*: Price-to-earnings ratios (P/E ratio, P/EBIT ratio, and P/EBITDA ratio) Price-to-sales ratio Price-to-book ratio Enterprise value multiples: EV/EBITDA multiple EV/Sales multiple

Relative Valuation Methods

- The notion that “time is money” or, stated alternatively, that “time is an expensive and limited commodity” is one of the principal reasons for relative valuation methods.
- Other reasons are that they are simple to apply and easy to understand.
- In essence, relative valuation methods give corporate executives and analysts a “quick and dirty” way to estimate the value of a company.

- Relative valuation methods rely on the use of multiples.
- A multiple is a ratio between two financial variables.
- In most cases, the numerator of the multiple is either the company's market price (in the case of price multiples) or its enterprise value (in the case of enterprise value multiples).

- The enterprise value of a company is typically defined as the market value of its capital (debt and equity), net of cash.
- The denominator of the multiple is an accounting metric, such as the company's earnings, sales, or book value

- Multiples can be calculated from per-share amounts (market price per share, earnings per share, sales per share, or book value per share) or total amounts.
- Note that whether the analyst uses per-share amounts or total amounts does not affect the multiple, as long as the same basis is used in both the numerator and the denominator.

Price Multiples – Price earning valuation model

- The most popular price multiples are earnings multiples.
- The price-to-earnings (P/E) ratio , which is equal to a company's market price per share divided by its earnings per share (EPS), is the most widely used earnings multiple
- It provides an indication of how much investors are willing to pay for a company's earnings

- **The Price/Earnings ratio or P/E ratio or PER is a ratio for valuing a company that measures its current share price, relative to its per share net earnings. This method is often used to value companies with an established profitable history.**

- Another price multiple is the price-to-book (P/Book) ratio. It indicates the relative premium that investors are willing to pay over the book value of their equity investment in a company. Unfortunately, a company's book value is highly sensitive to accounting standards and management's accounting decisions.

- For this reason, the P/B ratio is used selectively; realistically, it is neither a valid nor viable valuation method for most companies, except perhaps for financial institutions and insurance companies. These companies have highly liquid assets and liabilities on their balance sheets, which makes book values more realistic proxies for market values

Enterprise Value Multiples

- Price multiples are popular with buy-side and sell-side analysts interested in valuing a company's price per share—that is, the company's equity value per share.
- In the context of M&As, however, corporate executives and analysts are often interested in assessing a target's total value, reflecting both debt and equity. In this case, the enterprise value is a better basis for the valuation, hence the reason enterprise value multiples are widely used when valuing an acquisition target.

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- The most popular enterprise value multiple is the EV/EBITDA multiple, although the EV/Sales multiple can be used for unprofitable companies.
- For example, an EV/EBITDA multiple of 8 indicates that the acquirer is willing to pay eight times the target's current or future EBITDA.

Direct Valuation Methods

- Unlike the relative valuation methods, direct valuation methods give investors an explicit equity value per share or share price objective. Preeminent among the group of direct valuation methods are the discounted cash flow (DCF) models.

Discounted Cash Flow Models

- DCF models are premised on one of the most fundamental tenets of corporate finance: The value of a company today is equal to the present value of the future (but uncertain) cash flows to be generated by the company's operations, discounted at a rate that reflects the riskiness (or uncertainty) of those cash flows.

- The most widely used version of the DCF model is sometimes referred to as the free cash flow to the firm model , or weighted average cost of capital model. It provides an estimation of the company's total value, based on its free cash flows (FCFs) to the firm discounted at the weighted average cost of capital (WACC).

- The FCFs of the firm are the cash flows from operations available to all capital providers, net of the required capital investments necessary to maintain the company as a going concern.
- The WACC reflects the hurdle rate that providers of capital require, based on the risk they face from investing in the company

- The equity value per share—that is, the value accruing to the common (or voting) shareholders—is given by the operating value of the company minus the value of any claims on the company's cash flows by debt holders, preferred shareholders, noncontrolling (minority) interest shareholders, and any contingent claimants

- A variant is the free cash flow to equity model , which provides a direct estimate of a company's equity value per share.
- Instead of relying on the FCFs available to all capital providers, it considers the FCFs available to equity holders: the FCFs to the firm minus all the cash flows owed to claimants other than common shareholders.
- Because the focus is on equity holders, the discount rate is the cost of equity, or the hurdle rate for common shareholders.

- The FCF to the firm and FCF to equity models are highly effective valuation methods, particularly when the capital structure of a target is expected to remain stable over time.
- Some acquisitions, however, are predicated on material changes in capital structure, as in the case of an LBO. In these situations, the adjusted present value (APV) model is easier to implement than the other DCF models. Under the APV model, the value of a target is decomposed into two components:

- the value of the company assuming that it is financed entirely with equity, and the value of the tax shield (benefits) provided by a company's actual (or expected) debt financing.
- Because interest is tax deductible, using financial leverage increases a company's value by reducing its cash outflow for income taxes.

- As a company's capital structure changes over time, the first component (the unleveraged, or unlevered, value) is unaffected; the change in financial leverage affects only the second component (the interest tax shield), which is relatively straightforward to estimate.

Non Discounted Cash Flow Models

- Real option analysis is another valuation method that relies on cash flows, although it is grounded in option-pricing models instead of DCF models.
- Analysts rarely use real option analysis to value an entire company

- However, this valuation method proves useful when a company has investment opportunities that have option-like features; these features are usually difficult, if not impossible, to capture using DCF models.
- For example, a company might have rights (but not obligations) to delay investments, expand into new markets, redeploy resources between projects, or exit investments.

- These rights are valuable options, particularly in an uncertain environment.
- Real option analysis, which applies to real assets some of the techniques used for valuing financial options, enables analysts to value the wide range of rights a company has

- **Economic income models** , also called residual income models, differ from DCF models and real option analysis, in that they rely not on cash flows, but on earnings to estimate a company's fundamental value.
- However, in contrast with price and enterprise value multiples that are based on accounting earnings, economic income models rely on economic income

Why valuation is important ?

- When a Business or Shares are transferred from one party to another, it becomes very important for both buyer as well as seller to know what is the worth of that particular asset which is being transferred.
- The process which is undertaken to know the worth is nothing but "Valuation". It is popularly said that "Price" is what you pay and "Value" is what you get.

- "Value" refers to the worth of an asset, whereas "Price" is the result of a negotiation process between a willing but not an overeager buyer and a willing but not an overeager seller.
- In simple terms, valuation is a process of determining value of a company or an asset. Valuation is an art and not exact science.

- What the buyer thinks is whether the product is "worth the price" he has paid, this "worth" itself is the value of the product.
- Depending on the structure of the transaction, the management may want to value the entire business or a component of a business - such as division, a brand, distribution network, etc

- The importance of intangible assets such as brands, patents, intellectual property rights, human resources, etc. is increasing and the valuation of such assets is also becoming a more common phenomenon. Some of the instances for which valuation is called for are listed below:
 - Purchase/Sale of Business / Shares
 - Corporate Restructuring such as Merger / Demerger
 - Purchase/Sale of Equity stake by joint venture partners
 - Family Settlement

- To comply with the requirements of Accounting Standards issued by the ICAI - Impairment testing
- Purchase price allocation
- Determining the Portfolio Value of investments
- To comply with certain statutory requirements e.g. Transfer Pricing, Reserve Bank of India
- Other instances as required under the Companies Act, 2013

NET ASSET VALUE ("NAV") METHOD

- The Net Assets Method represents the value of the business with reference to the asset base of the entity and the attached liabilities on the valuation date. The Net Assets Value can be calculated using one of the following approaches, viz.:
- At Book Value

While valuing the Shares/Business of a Company, the valuer takes into consideration the last audited financial statements and works out the net asset value.

- This method would only give the historical cost of the assets and may not be indicative of the true worth of the assets in terms of income generating potential.
- Also, in case of businesses which are not capital intensive viz. service sector companies or trading companies this method may not be relevant.

- **At Intrinsic Value**

At times, when a transaction is in the nature of transfer of asset from one entity to another, or when the intrinsic value of the assets is easily available, the valuer would like to consider the intrinsic value of the underlying assets.

- The intrinsic value of assets is worked out by considering current market/replacement value of the assets.

- Some of the common adjustments that the valuer takes into account while valuing the Shares/Business of a Company are contingent liabilities, appreciation/depreciation in the value of investments, surplus assets, etc.
- In case of revaluation of surplus assets, the effect of tax outgo in the event of transfer of the assets should also be considered.

- **NET ASSET VALUE METHOD: WHEN TO USE IT IN BUSINESS VALUATIONS**
- The company holds significant tangible assets, and there are no significant intangible assets.
- There is little or no value added to the company's products or services from labor.
- The balance sheet reflects all the company's tangible assets; that is, the company has not expensed any tangible assets that continue to benefit the company.
- The company is expected to continue as a going concern.
- The ownership interest being valued is either a controlling interest or has the ability to cause the sale of the company's assets.

- The company has no established earnings history or a volatile earnings/cash now history.
- A significant portion of the company's assets are composed of liquid assets or other investments (such as marketable securities, real estate investments, mineral rights).
- The business depends heavily on competitive contract bids, and there is no consistent, predictable customer base.
- It is relatively easy to enter the company's industry (for example, small machine shops and retail shops).
- The company is a start-up business.

Q Ratio (Tobin's Q Ratio)

THE TOBIN Q MODEL

- **What Is Q Ratio (Tobin's Q)?**
- The Tobin's Q ratio equals the market value of a company divided by its assets' replacement cost.
- Thus, equilibrium is when market value equals replacement cost.
- The Tobin's Q ratio is a ratio popularized by James Tobin of Yale University, Nobel laureate in economics

What Tobin's Q Ratio Tells You

- Often, the assumption is made the market value and the book value of a company's liabilities are equivalent. This reduces this version of the Tobin's Q ratio to the following:
- **Tobin's Q = Equity Market Value / Equity Book Value**