

Relative Valuation – Based on Multiples



Bharti Airtel and Zain Africa recently announced signing of the definitive merger agreement, wherein Bharti will acquire African operations of Zain Group. The deal was valued at an enterprise value of USD 10.7 billion or on an 8.2x EBITDA Multiple. Goldman Sachs has invested USD 450 million in online social networking portal Facebook, which is valued as the number one social networking network at USD 50 billion. At an enterprise value of USD 50 billion, Facebook is trading at a multiple of about 100 times of its earnings. Newspapers and television channels make it their headlines whenever a major deal (private equity, acquisition, etc.) happens. And we normally wonder how these valuations or multiples were calculated. “What is the worth of my company?” “How much funds can I raise *via* private placements, and how much stake I have to dilute?” “How much can I raise from the market if I decide to take my company public?” So, whatever the purpose is (acquisitions, private equity, joint ventures, IPOs, etc.), valuation remains the centre of the talks. The two most common valuation methodologies include (1) Discounted Cash Flows, and (2) Relative Valuation (Valuation Based on Multiples). Read on to know more...



Illustration: Purpose of Valuation

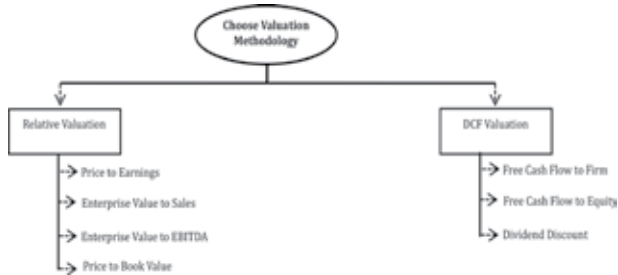
There is no one way to establish what a business is worth. That's because business value means different things to different people. There are numerous ways to value a company. In determining value, there are several basic analytical tools that are commonly used by financial analysts. The methods, to value a company, have been developed over several years of research and refinement and are based on financial theory and market reality. However, these tools/methods are just the tools/methods and should not



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be viewed as final judgement, but rather, as a starting point to determination of value. The two most common valuation methodologies include (1) Discounted Cash Flows, and (2) Relative Valuation (Valuation Based on Multiples).



Relative Valuation

Relative Valuation or Comparable Company Analysis or Valuation based on multiples is the most common valuation tool used by analysts, fund managers, investment bankers and consultants while making a deal happen. The end objective is to drive equity based and enterprise based multiples so that two companies can be compared to each other, as its very difficult to tell which company is a good investment and which is not, just on basis of absolute numbers. For example consider the two companies A and B having net sales of ₹10,000 and ₹15,000 respectively. Just looking at these numbers we cannot pass a judgement as to which company is a better investment. However, with multiples like EV/Sales, it becomes easy to make analysis and passing a judgment. If company A has EV/Sales multiple of 3x and Company B has multiple of 4x, it tells that Company A is a cheaper buy compared to company B as for every rupee of sales of A, one has to pay ₹3 while for B one has to pay ₹4.

When someone talks of valuation, we tend to focus most on DCF valuation. However, the reality is that most valuations are relative valuations. The value of most assets, from the house you buy to the stocks that you invest in, are based upon how similar assets are priced in the market place.

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Relative valuation or the analysis of selected publicly traded companies is basically the multiples comparisons with other similar or comparable companies in the same sector. This valuation methodology values a target company based on the operating multiples and financial ratios of its industry peer group. Simply, it gives us a means to compare a company's current valuation to that of its peer group and determine if it is over or under valued in the market. The simple fact why relative valuation is appealing is because the idea makes some intuitive sense – why should we pay more for every dollar earned by company A, compared with company B?

Relative valuation, estimates the value of a company by looking at the pricing of 'comparable' companies relative to a common variable such as earnings, cash flows, book value or sales.

Compared to the Discounted Cash Flow (DCF) Method, Comparable Analysis is elegantly simplistic because it does not require analysts to make wild assumptions such as those regarding the company's future growth rate. To perform a Comparable Analysis, the first step is to identify companies similar to the one being analysed and to obtain their values. Since the absolute prices cannot be compared directly, they must be converted into standardised values (commonly known as valuation multiples – such as earnings to operating profits before depreciation and amortisation – EV/EBITDA and price to earnings – P/E), which will be used to value the target company. As the last step, valuation derived from the analysis is compared to judge whether it is undervalued or overvalued.

Trading comps methodology is mostly used for:

- Comparison purposes (where company A standing compared to company B or C or the industry).
- For IPO (Initial Public Offering) valuation
- For Valuation of private companies

Step-by-Step Approach for Relative Valuation

- 1) Selection of Right Set of Peer Group Companies.
- 2) Calculation of Enterprise Value.
- 3) Calculate Multiples.

I. Selection of Right Set of Peer Group Companies

The starting point for performing a relative valuation is the selection of a universe of comparable companies for the target company. One has to gain a sound understanding of the target company to identify the companies with similar and financial characteristics. The catch here is that companies have to be in same sector. One cannot compare a telecom company with a technology company e.g. Bharti Airtel cannot be compared with Infosys. Further if possible, the

companies should be in same sub-industry/sector. For example, though both Idea Cellular and BSNL are operating in telecom sector, we cannot compare these two companies as Idea is deriving its revenues only from wireless (mobile) services while BSNL generates maximum revenues from fixed line (land line) mobile services.

Another important factor is the comparable companies should be in the same region/geography because different geographies/countries have different economic environment. Comparison of Bharti Airtel (India) with AT&T (USA) will give the wrong picture if selected in the universe of sample. However, if we are not able to find any comparable company in the same region, only in that case, we choose companies out of that particular region, so as to make some comparison. One has to study the target company in depth for making decisions regarding the selection of appropriate comparable companies. The study starts with browsing the company website. Annual reports, quarterly reports, investors presentations and research reports provide the necessary information (business and financial) to understand the company. In case of a private company, one has to understand the business of the company and then identify the peers as annual/quarterly reports, research reports, investors presentations will not be available for private companies.

Key Characteristics of the target company looked upon while comparing the companies for right set of peers

- (a) The Sector/Industry in which the target company operates.
- (b) Products and Services offered by the company — Dell and Microsoft, though are in same industry (Technology), and cannot be compared as they offer different set of products and services. Dell is more into hardware while Microsoft is more into software.
- (c) Geographical Concentration — Different countries have different macroeconomic environment, demographics, rules and regulations, and consumers buying behaviour, etc. So, the companies in the same geography/country are first taken into consideration before moving the international peers. An analyst seeking peers for a UK retailer would focus primarily on UK companies with relevant foreign companies providing peripheral guidance. Tesco, the retail giant of UK, will be first compared with Sainsbury, Morrison's of UK, as these are the domestic peers. Comparison with Wal-Mart of USA or Carrefour of France will be done later on.
- (d) Size of the company (Revenues and Market Cap)

— The companies of the approximate of same size are considered fit for comparison purposes. Comparison of a USD 15 million revenues company may not give much sense when compared with USD 10 billion company. Such a comparison like comparing a startup firm with established firm. Say comparing ARC Financial Services, a startup investment bank, with Goldman Sachs, one of the oldest investment banks. Difference in the size may lead to totally different valuation. Analysts can categorise the peers on the basis of size. Say companies with sales of up to USD1 billion in Group C, USD1 billion to USD5 billion in Group B and those with above USD 5 billion in Group A.

II. Calculation of Enterprise Value

Enterprise Value (EV) is a measure of actual economic value of the company at a given point of time i.e. it reflects the actual cost of a company if someone were to acquire it. Enterprise value is simply the market value of a company from the point of view of the aggregate of all the financing sources: debt holders, preference shareholders and equity shareholders. Simply, it measures how much you need to fork out to buy an entire company Enterprise value is one of the fundamental metrics used in business valuation, financial modeling, accounting, portfolio analysis, etc.

Enterprise value is what it would cost you to buy every single share of a company's common stock, preferred stock, and outstanding debt. The reason the cash is subtracted is simple: once you have acquired complete ownership of the company, the cash becomes yours. Debt and cash are economic realities and must be factored into the purchase price an acquirer pays for a company. Enterprise value is not a valuation, meaning the theoretical price at which a company should trade, but a value, meaning the current, real price as definite as if stuck on with a pricing gun.

Enterprise value can be calculated as below

	Components of EV*	Amount
	Market Capitalisation	xxx
Add	Total Debt	xxx
Add	Non Controlling Interest	xxx
Add	Preferred Stock	xxx
Less	Cash & Cash Equivalents	xxx
	Enterprise Value	xxx

*All components of EV are taken at market, not book values, reflecting an opportunistic nature of the EV metric

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EV is a capital structure-neutral metric; it is useful when comparing companies with diverse capital structures. Using EV instead of market capitalisation to calculate valuation statistics provides significant value, because it penalises companies with a lot of debt and low cash balances, while rewarding companies with low debt and lots of cash. These low-debt, high-cash companies are of higher quality as they can more easily survive an economic downturn or business problem, and have more flexibility in how to reward shareholders. With lots of cash and little debt, the company can pursue growth through new business lines or acquisitions, and can afford to buy back more shares or pay a higher dividend. On the other hand, those with high debt and low cash suffer the loss of profits through interest payments, and are also at risk of bankruptcy if business goes south and they can no longer afford to cover interest obligations.

Market Capitalisation

Market capitalisation is nothing but market value of the equity capital of the company. It is calculated by taking the number of outstanding shares of common stock multiplied by the current market price-per-share e.g. The IB Company has 10 million shares of stock outstanding and the current stock price is ₹50 per share, the company's market capitalisation would be ₹500 million.

This number tells you what you would have to pay to buy every share of the company. Therefore, rather than telling you the company's value, market cap simply represents the company's price tag.

$$\boxed{\text{Market Capitalisation}} = \boxed{\text{No. of shares outstanding}} \times \boxed{\text{Current Market Price per share}}$$

Number of basic outstanding shares is taken from latest 10K (Annual Report) or 10Q (Quarterly Report) as the case may be. US companies provide outstanding shares figure on the first page of 10K and 10Q, while for Indian companies no. of issued shares (after deducting treasury shares) is taken as number of outstanding shares. This number is cross checked with the number available on data bases like Bloomberg and Thomson

or with the number given on finance websites like Google Finance, Bloomberg, Reuters, Yahoo Finance, etc. to find if there has been stock split/bonus issue/stock dividend/fresh issue, etc.

Total Debt

Total debt includes interest bearing liabilities, primarily the liabilities relating to the debt capital providers. It will include all types of debt irrespective of their tenure i.e. both short-term and long-term debt.

		Amount
Add	Secured Loans	xxx
Add	Un-Secured Loans	xxx
Add	Notes Payable	xxx
Add	Working Capital Loans	xxx
Add	Long Term Borrowings	xxx
Add	Debentures/Bonds	xxx
Add	Senior Notes	xxx
Add	Capital Lease Obligations	xxx
	Total Debt	xxx

Debt does not include the liabilities like creditors for the simple reason that creditors have not provided any capital. In fact the liability towards them is from the operations of the business i.e. for the goods supplied by them.

When you acquire The IB Company buying the equity of the company, debt will come as a baggage in the deal.

If you purchased all of the outstanding shares of The IB Company for ₹500 million (the market capitalisation), yet the business had ₹50 million in debt, you would actually have expended ₹550 million; ₹500 million may have come out of your pocket today, but you are now responsible for repaying the ₹50 million debt out of the cash flow of the business, cash flow that otherwise could have gone to other things.

Non Controlling Interest

Non Controlling interest represents that portion of the capital of a subsidiary company, which is invested by outsiders in subsidiary's company's equity capital. For example if company A has 80% stake in Company B, then the non controlling interest of 20% held by others represent 20% of the share capital and reserves and surplus of company B. Non controlling interest is added in calculation of enterprise value as it represents the capital held by minority stakeholders. And we have already discussed that enterprise value is the value of all capital providers.

Cash and Cash Equivalents (CCE)

Once you've purchased The IB Company, you own the cash that is sitting in the bank. After acquiring complete ownership, you can simply take this cash

and put it in your pocket, replacing some of the money you expended to buy the business. In effect, it serves to reduce your acquisition price; for that reason, it is subtracted from the other components when calculating enterprise value.

	Amount
Cash in Hand	xxx
Add: Cash at Bank	xxx
Add: Marketable Securities	xxx
Add: Short-term Investments	xxx
Cash & Cash Equivalents	xxx

Why Debt and Cash to be taken into consideration

Think of two companies that have equal market caps. One has zero debt on its statement of financial position while the other one is debt heavy. The debt-laden company will be making interest payments on debt over the years. So, even though the two companies have equal market caps, the company with debt is worth more.

By the same token, imagine two companies with equal market caps of ₹250 and no debt. One has negligible cash and cash equivalents on hand, and the other has ₹250 in cash. If you bought the first company for ₹250, you will have a company worth, presumably, ₹250. But if you bought the second company for ₹500, it would have cost you just ₹250, since you instantly get ₹250 in cash.

If a company with a market cap of ₹250 carries ₹150 as long-term debt, an acquirer would ultimately pay a lot more than ₹250 if he or she were to buy the company's entire stock. The buyer has to assume ₹150 in debt, which brings the total acquisition price to ₹400. Long-term debt serves effectively to increase the value of a company, making any assessments that take only the stock into account preliminary at best.

Cash and short-term investments, by contrast, have the opposite effect. They decrease the effective price an acquirer has to pay. Let's say a company with a market cap of ₹25 has ₹5 of cash in the bank. Although an acquirer would still need to fork out ₹25 to get the equity, it would immediately recoup ₹5 from the cash reserve, making the effective price only ₹20.

III. Calculation of Key Multiples

Once peer group is selected and enterprise value is calculated, it's the final step – Drive Multiples. A valuation multiple is simply an expression of market value relative to a key statistic that is assumed to relate to that value. Valuation multiples are the quickest way to value a company. There are two basic types of multiples – EV Multiples and Equity Multiples.

Enterprise value multiples are better than equity value multiples because EV allows for direct comparison of

different firms, regardless of capital structure. Equity value multiples, on the other hand, are influenced by leverage. For example, highly levered firms generally have higher P/E multiples because their expected returns on equity are higher. Additionally, EV multiples are typically less affected by accounting differences, since the denominator is computed higher up on the income statement.

One very important point to note about multiples is the connection between the numerator and denominator. Since EV equals equity value plus net debt, EV multiples are calculated using denominators relevant to all stakeholders (both stock and debt holders). Therefore, the relevant denominator must be computed before interest expense, preferred dividends, and non controlling interest expense. On the other hand, equity value multiples are calculated using denominators relevant to equity holders, only. Therefore, the relevant denominator must be computed after interest, preferred dividends and non controlling interest expense.

For example, an EV/Net Income multiple is meaningless because the numerator applies to shareholders and creditors, but the denominator accrues only to shareholders. Similarly, an Equity Value/EBITDA multiple is meaningless because the numerator applies only to shareholders, while the denominator accrues to all holders of capital.

The choice of multiple(s) in valuing and comparing companies depends on the nature of the business or the industry in which the business operates. For example, EV/(EBITDA–CapEx) multiples are often used to value capital-intensive businesses like cable companies, but would be inappropriate for consulting firms.

The important multiples an analyst looks at includes:

Equity Multiples	Enterprise Multiples
Price to Earnings	Enterprise Value to EBITDA
Price Earnings to Growth	Enterprise Value to Sales
Price to Book Value	Enterprise Value to Key Operating Metrics*

* Operating metrics vary from industry to industry. E.g. for telecom sector operating metric will be no. of subscribers, and for retail sector it is number of the retail stores.

Enterprise Value to Sales (EV/Sales)

EV/Sales is a valuation metric that compares the enterprise value of a company to its sales. It gives investors an idea as to how many times of the sales they have to pay to buy that company. Generally the lower the EV/sales the more attractive or undervalued

the company is believed to be. However, a lower EV/sales can signal that the future sales prospects are not very attractive. On the other side, a high EV/Sales is not always a bad thing as it can be a sign that investors believe the future sales will greatly increase.

EV/Sales play a vital role in valuation in case of the companies having operating and net losses (negative EBITDA and negative net income). E.g. EV/sales may be used to value an early stage company that is aggressively growing sales, but has yet to achieve profitability.

EV/Sales is an expansion of the price-to-sales valuation, which uses market capitalisation instead of enterprise value. EV/sales is more accurate because market capitalisation does not take into account as well as enterprise value the amount of debt a company has, which needs to be paid back at some point.

EV/Sales is comparatively less relevant to other multiples as sales though provide an indication of the size of the business, but does not reflect the profitability, which is the key value driver. It will be difficult to make valuation decision based only on EV/Sales. Two companies might have identical sales, but one with 15% EBIT Margin and the other with 30% EBIT Margin.

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Sales: Also known as revenues/top line, sales represent the total amount realised by the company via sale of its products and services in that given period of time.

Enterprise Value to EBIT (EV/EBITDA)

Many an analyst prefer using EV/EBITDA or enterprise multiple compared to other multiples. As EBITDA is treated as operating cash flows, EV/EBITDA states how much the buyer has to pay to acquire the proxy cash flows of the company. The main advantage of EV/EBITDA over the PE ratio is that it is unaffected by a company's capital structure.

EV/EBITDA is affected by a firm's level of capital intensity (measured as depreciation as a percentage of EBITDA). All things being equal, higher capital intensity results in a lower EV/EBITDA multiple.

EBITDA: EBITDA (Earnings Before Interest Taxes, Depreciation & Amortisation) is the most important profitability factor for analysts as it is not impacted by the change in the capital structure (no impact of interest expenses). EBITDA is treated as proxy of operating cash flows. It strips out any distortions that may arise from differences in D&A among different companies. For example, one company may have spent heavily on new machinery and equipment in recent years, resulting in increased D&A for the current and future years, while another company may have deferred its

capital spending until a future period.

However, EBITDA multiple has its own drawbacks. To see this, consider two companies, who differ only in outsourcing policies.

	Comp A	Comp B
Company A manufactures product with their own equipment		
Revenues	100	100
Raw materials	(10)	(35)
Operating costs	(40)	(40)
EBITDA	50	25
Company B outsources manufacturing to another company		
Depreciation	(30)	(5)
EBIT	20	20

Because they produce identical products at the same costs, their valuations are identical (₹150). Yet, the EV/EBITDA ratios differ. Company A trades at 3x EBITDA (150/50), while Company B trades at 6x EBITDA (150/25).

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Multiples

	150.0	150.0
Enterprise value (₹ Million)		
Enterprise value/EBITDA	3.0	6.0
Enterprise value/EBIT	7.5	7.5

When computing the enterprise-value-to-EBITDA multiple, we failed to recognise that Company A (the company that owns its equipment) will have to expend cash to replace aging equipment.

Since capital expenditures are recorded as an investing cash flow they do not appear on the income statement, causing the discrepancy.

Determine Valuation of the Target

After the multiples and other ratios are benchmarked, one moves to the valuation of the company. An analyst typically starts with the taking the median multiple for valuation purposes. In case, the relevant multiple for the sector is EV/EBITDA, analyst will use the median EV/EBITDA multiple of the sector and will apply it to the EBITDA of the target company. Generally, one year

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The multiples calculated are useful while comparing companies in the same sector i.e. it tells if company A is expensive to company B. But multiples based valuation tool fails to take in to the consideration the situation where the entire industry is overvalued.

forward multiple is used for valuation purposes. The highest and lowest of the multiples is used as reference to find out the lowest to highest range of valuation.

Valuation using EV/EBITDA multiple

Let's get the valuation with EV/EBITDA with the help of an example. Let's assume that 2012e EBITDA of the target company is ₹50,000 and 2012e median EV/EBITDA for the sector is 10x. It implies that valuation of the target company is ₹500,000 (₹50,000 multiplied by 10x). In case the target company is publically listed company, we can get the implied share price by deriving equity value from enterprise value. Dividing equity value with the number of shares outstanding, analyst gets the implied share price.

Period	EBITDA	Multiple	Implied EV	Net Debt*	Implied Equity Value	No. of Shares	Implied share price
2012e	₹50,000	10x	₹500,000	₹200,000	₹300,000	10,000	₹300

* Net Debt means Total of debt, non controlling interest, and preferred stock less cash and cash equivalents.

Understanding the Multiples

There has been an ongoing debate as to which multiple is used in which situation. There is no fixed answer to it. However, we can make a note of the following:

- EV/Sales multiple is a preferred multiple in case of the young companies, which do not have an established history of profits. For example while comparing the start-up companies, multiples based on EBIT or EBITDA might be meaningless if the companies are reporting losses. In such cases, one is left with two multiples – EV/Sales and EV/Operating Metric.
- Amongst profit multiples (EV/EBIT and EV/EBITDA), the multiple of EBITDA has preference in case of capital intensive industries like manufacturing, oil & gas, industrial goods, telecom, etc., as the amount of depreciation and amortisation figure will have an huge impact on EBIT. And in case of service industry companies, one can use EBIT based multiples.

Limitations of Multiples:

- The multiples calculated are useful while comparing companies in the same sector i.e. it tells if company

A is expensive to company B. But multiples based valuation tool fails to take in to consideration the situation where the entire industry is overvalued. Let's say, if the entire industry is overvalued, the derived multiples from trading companies will also be overvalued. This situation happens in case a new industry comes into existence. If an industry is overvalued, the extent to which it is overvalued cannot be determined with the help of trading multiples. In such a case, this tool might not represent the true value of the company. In such cases, one can derive the value (intrinsic) value with the help of discounted cash flows valuation tool, where the market value of the equity will be least impacted and so will be the enterprise value.

Conclusion

Using different multiples, analysts get the different valuation numbers. These different valuations help analysts to make a range of implied valuation that the target company can achieve. As we have seen the valuation figures differ with use of different multiples.

In case, analyst is using only comparable company analysis, he should use the valuation derived by using the most suitable multiple for that sector. However, analysts normally compare the valuation achieved using comparable company analysis with valuations derived from other valuation methodologies like DCF Valuation and Precedent Transaction Analysis. Significant differences in the valuation under different methods may signal the errors in assumptions, wrong selection of peers, mathematical errors, etc.

Analysts normally use the median of the different valuation techniques to give the suggested valuation for any target company. ■

Using different multiples, analysts get the different valuation numbers. These different valuations help analysts to make a range of implied valuation that the target company can achieve. As we have seen the valuation figures differ with use of different multiples. In case, analyst is using only comparable company analysis, he should use the valuation derived by using the most suitable multiple for that sector.