

Business Valuation Untangled



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“Business valuation is appraising an entity for appraising oneself”

Business valuation is a systematic process undertaken with an objective in mind to evaluate and appraise an entity’s overall position from financial perspective. Valuation essentially involves a set of prudent procedures employed to derive the intrinsic worth of an entity to assist in decision making. One of the essential posits of valuation is that one should not be paying more for a business than the value that will be provided by it. However before coming to a conclusion, one must consider the ramifications of various other interrelated factors since knowing partial information could be detrimental.

In essence, business valuation is a concatenation of multifarious elements, including:

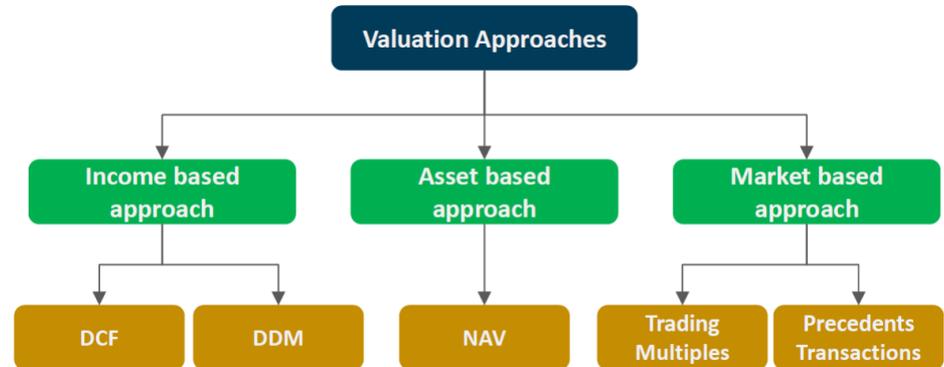
- company’s historical performance and long range plans (LRP)
- management stability and its commitment to support company’s vision
- industry outlook and government policies
- macro-economic environment, et al.

The above calls for a SWOT analysis of the company which has a special bearing on the way the valuation is done.

Valuation Approaches:

There are wide array of approaches for valuing a business ranging from income based methods to asset based methods and are influenced by the business being valued, the industry and to some extent by the availability of information.

The figure below encapsulates some of the prominent valuation methodologies:



This approach of valuing the company calls for the preparation of projected financial statements for the company being valued. One must consider the following while preparing the projections for the company:

- The company's business and the dynamics of the relevant industry must be properly understood to take a deep dive in to the company's growth prospects. An industry specific government policy might sway off the entire strategic plan of the company.
- Company's historical financials must be analyzed to identify the trends in various line items; e.g. company's G&A expenses might be increasing in the vicinity of 7% Y-o-Y or might be forming a specified proportion of company's revenue. Remember that reading the financial statements and analyzing it are two different things and the job of analyzing the historic numbers and deriving some meaning out of it is a big task.
- Management's discussion of operations and plans should be analyzed to understand the company's view on its operating environment.

- Apart from the publicly available information, personal interview with the company's management can be a very robust source for calibrating the operating assumptions.

After setting down the assumptions in place, the projected financials for the company are prepared which include an entire set of balance sheet, income statement and cash flow statement which are backed by detailed debt maturity, depreciation and investment schedules.

The following method may be used to value the company based on its projected income:

- 1) Discounted Cash Flow (DCF)
- 2) Dividend Discount Model (DDM)

While DCF approach values a company by discounting the future expected cash flows, which could be free cash flows to firm (FCFF) or free cash flows to equity (FCFE), DDM approach, on the other hand, values a company on the basis of present value of future expected dividends from the company.

Discounted Cash Flow (DCF) Methodology

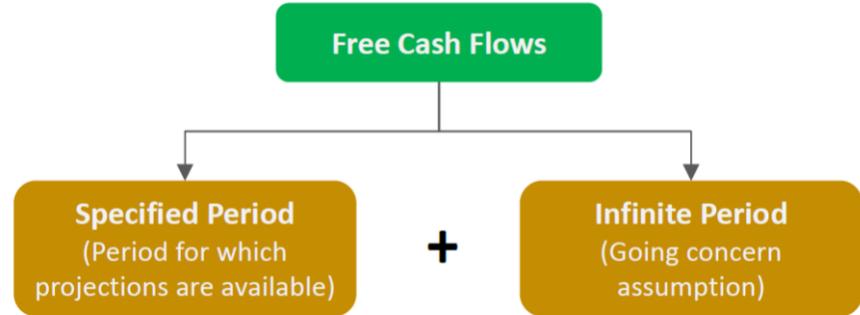


This is one of the most popular approaches employed having its roots in the time value of money concept. DCF approach values a company by discounting the future expected cash flows, which could be free cash flows to firm (FCFF) or free cash flows to equity (FCFE). These approaches have been discussed below:

FCFF approach: The cash flows for the projected period under FCFF are computed as under:

$$\begin{aligned} \text{FCFF} = & \text{Net income after tax} \\ & + \text{Interest} * (1 - \text{tax rate}) \\ & + \text{Non cash expenses (incl. depreciation \& amortization)} \\ & - \text{Increase in working capital} \\ & - \text{Capital expenditure} \end{aligned}$$

Usually the company's valuation is done on going concern assumption; but the projections are prepared for a specified period (say 5-7 years or may be extended if warranted on account of instability in company's future cash flows) and are supplemented by incorporating a terminal value for the period thereafter.



The cash flows for the specified period under FCFF approach are discounted at weighted average cost of capital (WACC) which is computed as:

$$\text{WACC} = K_e * (1 - \text{DR}) + K_d * \text{DR}$$

where,

K_e represents cost of equity,

K_d represents cost of debt, and

DR is the debt proportion in the company.

Discounted Cash Flow (DCF) Methodology ... cont'd



And cost of equity may be computed by using the capital asset pricing model (CAPM) as:

$$K_e = R_f + \beta * (R_m - R_f)$$

where,

R_f represents risk free rate,

R_m represents market rate of return, and

β represents the systematic risk.

After discounting the specific period cash flows, terminal value needs to be computed. One of the popular ways of calculating the terminal value is the following:

$$TV_n = CF_n * (1 + g) / (WACC - g)$$

where,

TV_n represents terminal value at the end of specific period

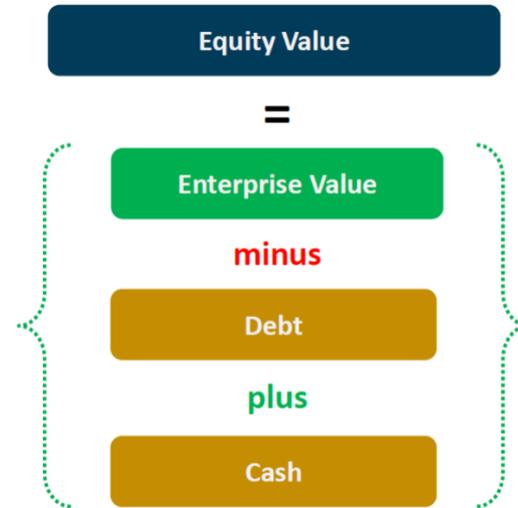
CF_n represents cash flow of last year of the specific period, and

g represents the terminal growth rate of the company (usually taken in line with the country's GDP long term growth rate)

Finally, all the numbers are added to arrive at the enterprise value as under:

$$\text{Enterprise Value} = \text{PV of the } (CF_1, CF_2, \dots, CF_n) + \text{PV of the TV}_n$$

And accordingly, the equity value is computed as under:



Discounted Cash Flow (DCF) Methodology ... cont'd



FCFE approach: The cash flows for the projected period under FCFE are computed as under:

$$\begin{aligned} \text{FCFE} &= \text{FCFF} \\ &\quad - \text{Interest} * (1 - \text{tax rate}) \\ &\quad - \text{Net repayments of debt} \end{aligned}$$

The above cash flows for the specified period are discounted at the cost of equity (K_e) and then, the terminal value is computed as under:

$$\text{TV}_n = \text{CF}_n * (1 + g) / (K_e - g)$$

Finally, all the numbers are added to arrive at the equity value as under:

$$\text{Equity Value} = \text{PV of the } (\text{CF}_1, \text{CF}_2, \dots, \text{CF}_n) + \text{PV of the } \text{TV}_n$$

One must note that FCFE model yields the equity value directly since it adjusts for the debt components in the free cash flows computation itself.

The below table gives a brief summary of both FCFF and FCFE approaches and key differences between them around computation mechanism and discount rate to be used for arriving at present values:

Particulars	Free Cash Flow to Firm (FCFF)	Free Cash Flow to Equity (FCFE)
Approach	Net income after tax + Interest * (1-tax rate) + Non cash expenses (incl. depreciation & provisions) - Increase in working capital - Capital expenditure	Net income after tax + Non cash expenses (incl. depreciation & provisions) - Increase in working capital - Capital expenditure - Net repayments of debt
Discounting Factor	Weighted average cost of capital (WACC)	Cost of Equity (K_e)
Terminal Value	$\text{TV}_n = \text{CF}_n * (1+g) / (\text{WACC} - g)$ where, TV_n - terminal value CF_n - cash flow of last year of the specific period, and g - terminal growth rate	$\text{TV}_n = \text{CF}_n * (1+g) / (K_e - g)$ <i>The only difference is in relation to discount rate used while other factors are same as used in FCFF</i>
Result	Enterprise Value	Equity Value

Dividend Discount Method (DDM)



A company, as per this model, is valued as the present value of future expected dividends from the company discounted at the cost of equity. Mathematically, equity value is calculated as:

Equity Value = Per share value * Number of outstanding shares, where per share value is the PV of $(DPS_1, DPS_2, DPS_3, \dots, \infty)$. Here DPS implies dividend amount per share.

Under DDM approach, there can be multiple variations as described below:

Case 1: If DPS amount is assumed to be constant forever (Dividend capitalization)

Suppose a company is assumed to pay a dividend of Rs.10 per share throughout its life and its cost of equity is 10% p.a., then value per share is given as:

$$\text{Value per share} = \text{Rs.10} / 10\% = 10 / 0.10 = \text{Rs.100}$$

Assuming total number of shares to be 1 million, the equity value of the company would be Rs.100 million.

Case 2: If DPS amount increases at a constant growth rate forever (Gordon model)

Suppose a company has recently paid a dividend of Rs.10 per share and this is expected to increase at 4% going forward every year, then value per share is given as:

$$\text{Value per share} = \text{Rs.10} * (1+4\%) / (10\% - 4\%) = \text{Rs.173}$$

Another variation of this model could be a two-stage or multi-stage discount model wherein the dividend growth rates change for the various time spans.

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Dividend Discount Method (DDM) ... cont'd



A brief illustration for a two-stage growth model is given below:

Two-stage growth model: An illustration		
t=0	DPS (Rs.)	10
t=1-5	Stage 1 growth rate (g_1)	8%
t=6 onwards	Stage 2 i.e. perpetuity growth (g_2)	4%
	Cost of equity (K_e)	12%
t	Dividend amount	Discounted value @ 12%
1	$10.00 * (1 + 8\%) = 10.80$	9.64
2	$10.80 * (1 + 8\%) = 11.66$	9.30
3	$11.66 * (1 + 8\%) = 12.60$	8.97
4	$12.60 * (1 + 8\%) = 13.60$	8.65
5	$13.60 * (1 + 8\%) = 14.69$	8.34
Total		44.89
	For t=6, DPS amount = $14.69 * (1 + 4\%)$	15.28
	Thus, terminal value = $15.28 / (12\% - 4\%)$	191.01
	Present value of the terminal value:	108.39
Per share value of the company (44.89 + 108.39):		Rs. 153.28

The two-stage model can be suitably adjusted for multi-stage growth rates across the business life span to cater to the changing cycles. In a multi-stage model, the growth rate for a high growth company usually stabilizes over a period of time in a uniform descendant mode.

Case 3: If DPS amount is sporadic/ irregular (Specific discounting)

In this case, the estimated dividend for each year of the specified period is discounted at the cost of equity and then the terminal value is estimated based on certain assumptions which could be a mix and match of any of the above variants.

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Asset-based Approach

In this approach, the business valuation is based on the estimated value of the business assets. This approach is generally used for the companies which have quality assets and their earnings are dependent on the value of the asset itself. For instance, the land bank forms an important basis for the valuation of real estate companies. Under asset-based approach, one way is to adopt the liquidation value of the assets to arrive at the business valuation. Another and widely used approach under asset-based valuation model is the “Net Asset Value (NAV)” based valuation. In NAV model, the various assets of an entity are independently valued at their fair prices.

NAV based valuation model	
Assets [A]	
Fixed asset	
- For regular use	Replacement value (with suitable adjustments for life differences)
- Held for disposal	Liquidation value
Investments	
- Quoted	Market value
- Unquoted	Book value subject to suitable adjustments based on the perception regarding its fair value
Actively managed investments, including associates and subsidiaries	Intrinsic value (or) Market value for quoted investments supplemented by suitable control premium
Current assets	Realizable value after incorporating the provisions for doubtful assets
Less: Liabilities [B]	
Debentures and bonds	Redeemable value
Other debts, including current liabilities	Book value
Net Asset Value	[A - B]

Practically most of the valuations are validated through the relative valuation approach by using the market multiples. This is quite often used to have a fair estimate of an entity's worth based on the market perception. The broad algorithm followed for relative valuation approach is given below:

- Identify the peer set, i.e. the comparable companies. The peer set should be preferably similar in most of the aspects to the company being valued otherwise the valuation might be deceptive.
- Take out the market multiples of the peers which could be any of the following:
 - Price to Earnings (P/E)
 - Price to Book Value (P/B)
 - Enterprise Value (EV) to Sales
 - EV to EBITDA
 - EV to EBIT, among others.
- Now, a question arises as to which multiple should be used. Ideally the coefficient of variation (CV) for all these multiples should be used for the identified peer set and the one with the

lowest CV should be selected; however practically the multiples to be used for business valuation are dependent on the nature of the industry the company is in to.

- One should be cautious in using the above multiples since an average of the above multiples could be influenced by the outliers having an out-of-the-range multiples. Ideally these outliers should either be adjusted by normalizing them or removed from the peer set altogether.
- The final average of the above multiples is then multiplied with the company's relevant indicator. If P/E is being used, then company's EPS should be multiplied with the average P/E of the industry and so is the case with other multiples.

The market-based valuation presumes that the market is efficient and hence the market multiples are the true indicators for the valuing any company. However an entity may apply a control premium to the above value for acquiring a controlling stake. Further, under market-based approach, one may use trading multiples of listed peers or deal multiples of precedent transactions which may have taken place in the industry.

Valuation is both a science and an art, usually called an artistic science. It is a science because it employs certain predefined and systematic procedures and methods to value a company and an art because valuation largely depends on the perception about the company. Hence there are certain loose ends and grey areas in almost every valuation approach like the ones given below:

- **Normalization of financial statements:** While valuing a company, it is important to normalize the financial statements for the impact of restructuring and one-offs, among others. One must make sure that the financial statements are adjusted for these abnormalities.
- **Impact of accounting policies:** The analyst must be fully aware of the relevant accounting policies while studying the financial statements of the company, including the Accounting Standards issued by the accounting body and the related interpretations issued on various topics.
- **Industry knowledge:** Few people tend to value companies purely on mathematical basis without even knowing the industry dynamics. It is crucial that the analyst must be fully conversant with the industry so that the projections may be suitably aligned to the level of industry dynamics.
- **Premise audit:** Prior to finalizing the projections, the assumptions taken for the projections must be validated and preferably audited by a third person who has not worked on that financial model. The premise audit is an effective way to taper off any loose ends in the assumptions which provide the foundation stone for any valuation model.
- **Estimation of terminal value:** Terminal value may account for as much as 65-75% of the firm's value and thus warrants due attention. Terminal value is mostly based on the terminal year cash flows; hence it should be adjusted for any one-off items. Terminal year depreciation, capex and working capital requirement garner specific attention in this regard. Moreover the terminal growth should not be significantly high since a company cannot practically sustain a high growth rate forever. It is also advisable to avoid using a multiple-based approach for the terminal year valuation and should use this method only as a last resort.
- **Value of company's debt:** Since FCFF provides the enterprise value, one must deduct the value of net debt from it to reach at the equity value. Any short term liability which carries an interest must be deducted while the non-interest bearing liabilities must be incorporated in the working capital.

- **Beta for a non-traded stock or a private company:** In this case the beta for relevant peers in the industry may be taken, while one must pay due heed to the leverage differences. Hence, a proper approach is to unlever beta values using their respective debt to equity ratios and then take an average of the unlevered beta. This average number is then relevered by employing debt to equity ratio of the company under valuation.

One may calculate the unlevered beta as:

$$\beta_U = \beta_L / [1 + (1 - \text{tax rate}) * D/E]$$

where,

β_L represents levered beta, and

D/E is the debt to equity ratio

Further, to cater to the changes in the business cycle, beta value must be adjusted and thus different beta values need to be applied for varying periods.

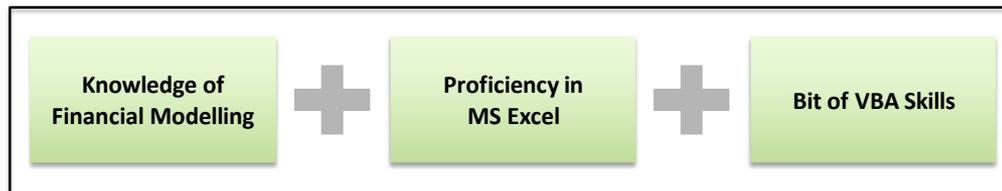
- **Illiquidity premium:** For an illiquid stock or a privately held company, one must apply a premium to the cost of capital. Accordingly the discounted cash flows would automatically decrease and take care of the unavailability of the regular market for sale of stake.

- **Control premium:** For buying a controlling stake, a control premium should be applied to the value of the company. The control premium depends on the attractiveness of the company and other value drivers. However, it is also argued that DCF valuation already implicitly assumes impact of control premium; nevertheless this is a contentious subject amongst the valuation experts.

- **Choice of weights for WACC computation:** One may use either market value weights or estimated value weights. We must be careful in using current book value as weights as these may not be aligned to future expected position of the company being valued. Especially for valuing the start-up firms or companies in the mode of adjusting their leverage position, the debt-equity weights and cost of funds should be appropriately altered to reflect the true and fair position.

Conclusion: “Exact estimate” is an oxymoron by English rules and excessively misused in the analyst community. Business valuation is essentially an estimate of the company’s intrinsic value colored by the analyst’s perspective. The intended user of the valuation should be fully aware regarding the underlying assumptions to assess the real value from the exercise.

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