Terminal Value (TV)

Terminal value (TV), or horizon value, determines the value of a business or project beyond the forecast period when future cash flows can be estimated.

This allows financial models to value a business with a greater degree of accuracy. As such, TV often comprises a large percentage of the total assessed value.

The Gordon Growth Model, discounted cash flow, and residual earnings use terminal values that can be calculated with perpetuity growth, while an alternative exit valuation approach employs relative valuation methods.

Understanding Terminal Value (TV)

Forecasting gets murkier (darker) as the time horizon grows longer. This holds true in finance as well, especially when it comes to estimating a company's cash flows well into the future. At the same time, businesses need to be valued. To "solve" this, analysts use financial models, such as discounted cash flow (DCF), along with certain assumptions to derive the total value of a business or project.

Discounted cash flow (DCF) is a popular method used in feasibility studies, corporate acquisitions, and stock market valuation. This method is based on the theory that an asset's value is equal to all future cash flows derived from that asset. These cash flows must be discounted to the present value at a discount rate representing the cost of capital, such as the interest rate.

DCF has two major components: **forecast period** and **terminal value**. The forecast period is usually about five years. Anything longer than that and the accuracy of the projections suffers. This is where calculating terminal value becomes important.

There are two commonly used methods to calculate terminal value: "perpetual growth" (Gordon Growth Model) and "exit multiple". The former assumes that a business will continue to generate cash flows at a constant rate forever while the latter assumes that a business will be sold for a multiple of some market metric. Investment professionals prefer the "exit multiple" approach while academics favor the "perpetual growth" model.

Perpetuity Method

Discounting is necessary because the time value of money creates a discrepancy between the current and future values of a given sum of money. In business valuation, free cash flow or dividends can be forecast for a discrete period of time, but the performance of ongoing concerns becomes more

challenging to estimate as the projections stretch further into the future. Moreover, it is difficult to determine the precise time when a company may cease operations.

To overcome these limitations, investors can assume that cash flows will grow at a stable rate forever, starting at some point in the future. This represents the terminal value, and it is calculated by dividing the last cash flow forecast by the difference of the discount rate and the stable growth rate.

Consider the valuation of Facebook Inc. as of July 2016. The summed present value of analyst consensus future cash flow falls in the $18 to $20 per share range, meaning the terminal value is implicitly $100, based on DCF and $118 share prices.

Exit Multiple Method

If investors assume a finite window of operations, there is no need to use the perpetuity growth model. Instead, the terminal value must reflect the net realizable value of a company's assets at that time. This often implies that the equity will be acquired by a larger firm, and the value of acquisitions are often calculated with exit multiples.

Exit multiples estimate a fair price by multiplying financial statistics, such as sales, profits, or earnings before interest, taxes, depreciation, and amortization (EBITDA) by a factor that is common for similar firms that were recently acquired. Investment banks often employ this valuation method, but some detractors hesitate to use intrinsic and relative valuation techniques simultaneously.

There are 3 methods for terminal value calculation, they are as follows:-

1. Perpetuity Growth Method
2. Exit Multiple Growth Method
3. No growth perpetual model

#1 – Perpetuity Growth Method

Perpetual Growth Method is also known as the Gordon Growth Perpetual Model, This is the most preferred method. In this method, the assumption is made that the growth of the company will continue and return on capital will be more than the cost of capital.

If we simplify the Terminal Value formula it will be,

Terminal Value Formula = $FCFF_6$ / (WACC – Growth Rate)

$FCFF_6$ can be written as, **$FCFF_6 = FCFF_5 * (1 + \text{Growth Rate})$**

Now, use Terminal Value Formula in the above equation given,

Terminal Value Formula = $FCFF_5$ * (1 + Growth Rate) / (WACC – Growth Rate)

This method is used for companies which are mature in the market and have stable growth company Eg. FMCG companies, Automobile companies.

2 – Exit Multiple Method

Exit Multiple Method is used with assumptions that market multiple bases to value a business. The terminal multiple can be the enterprises' value/ EBITDA or enterprises value/EBIT, which are the usual multiples used in financial valuation. The projected statistic is the relevant statistic projected in the previous year.

Terminal Value Formula = Last Twelve months Terminal Multiple * Projected Statistic

3 – No Growth Perpetuity Model

No growth perpetuity formula used in industry where a lot of competition is there and the opportunity to earn excess return tend to move to zero. In this formula assumption is the growth rate is equal to zero, this means that the return on investment will be equal to the cost of capital.

Terminal Value Formula = $FCFF_6$ / WACC

Eg. It is useful to calculate the GDP of the country.