

Is DCF the most popular method for valuation - Issues and Challenges in DCF Valuation



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Introduction

The blockbuster IPOs of new-age tech companies such as Nykaa, Zomato, Paytm, show that the valuation game has changed, and the focus has shifted from earnings to super normal growth potential. Who would have thought a year ago amid global crisis that these tech unicorns would raise funds in the range of Rs. 5,300cr to Rs.18,300cr from the Indian primary market, successfully? The question one might have here is that are these valuations sustainable, how long a company can survive with negative earnings and cash flows? Well, the established valuation methods focused on earnings and cash flows are unable to aid in justifying such higher valuation and only time will tell whether these Hi-tech unicorns with huge negative reserves can sustain such valuations in future. Let's deflect our attention from these startups to relatively more matured companies, which form majority in Indian equity market. Such companies are assumed to be *going concern* and can be valued using the below two commonly used valuation methods:

- i) Income approach – Discounted cash flow method (the intrinsic value approach); and
- ii) Market approach – Public company comparable and precedent transaction approach

While the Discounted Cash Flow method (“DCF”) is the most popular method of valuation, the DCF values are often corroborated with the market approach as the later reflects the current market/industry condition.

What Is Discounted Cash Flow method?

Discounted cash flow (DCF) is a valuation method used to estimate the value of an investment/business based on its expected future cash flows. DCF analysis attempts to figure out the value of an investment today, based on projections of how much money it will generate in the future.

Why is Discounted Cash Flow method the most popular method of valuation?

DCF is practically the most widely applied valuation methodology as it attempts to measure the value created by a business directly and precisely through its net cash inflows. It makes sense theoretically, as the value of a firm ultimately derives from the inherent value of its future cash flows to its stakeholders. We will now understand the basics of DCF and each of its components.

Basics of Discounted Cash Flow method

In DCF, the valuer estimates the cash flow of any business after all operating expenses, taxes and the necessary investments in capital expenditure and working capital is being met. DCF method can result in either Enterprise Value or the Equity Value based on the type of cash flows considered i.e., Free cash to the firm (“FCFF”) will result in Enterprise Value and free cash flows to equity (“FCFE”) will result in Equity Value. The FCFF is discounted at the Weightage Average Cost of Capital (“WACC”) and FCFE is discounted at Cost of Equity (“Ke”) to arrive at Enterprise or Equity Value, respectively.

Key components of Discounted Cash Flow method

Step 1 - Forecasting unlevered free cash flows:

We need to forecast the cash flows a company generates from its core operations after accounting for all operating expenses and investments in working capital and capital expenditure. These cash flows are called unlevered free cash flows. Unlevered free cash flow is used to remove the impact of capital structure on a firm's value and to make companies Enterprise Value more comparable.

Step 2 – Computing the Terminal Value

The unlevered free cash flows are projected for a finite number of years depending on the underlying asset under valuation (*more often than not - 5 years*) and to capture the remaining value at the end of FCFF projection period we calculate the Terminal Value (“TV”). Terminal Value is one of the most important variable in the DCF calculation as it contributes roughly about 60%-70% of the total Enterprise Value. The major inputs required to compute the Terminal Value are long term growth rate required to calculate the maintainable FCFF and long term WACC required to discount the maintainable FCFF in the terminal year.

Step 3 – Computing the Discount rate

The discount rate refers to the interest rate used to determine the present value of the FCFF and TV. We use WACC to calculate the appropriate discount rate. Simply stated, WACC is the “cost” of each form of capital the company has, weight them by their percentages, and then add them up. The two major inputs in calculating WACC are (i) cost of equity - Risk-Free Rate (Rf) + Equity Risk Premium (ERP) * Levered Beta and (ii) cost of debt – It represents the returns on the company's debt, mostly from interest, but also from the changes in market value of the debt. The WACC computed can be different for the FCFF projection period and terminal year depending on the riskiness of the cashflows and other macro-economic risks namely country risk premium, size premium, default risk, etc. higher the risks higher the discount rate and vice versa. To summarize, the WACC computed represents what one would earn each year, over the long term, if invested proportionally in the company's entire capital structure.

Step 4 – Computing the present values

By discounting each year FCFF and terminal year cash flows with the appropriate discount rate we arrive at the present values of FCFF and terminal year cash flows. The method of discounting cash flows we studied theoretically is end-period discounting however, it is incorrect as it discounts the future value of cash flow too aggressively by assuming that the total value of the cash flow in each year is calculated at the end of that year. Therefore, it is advisable to use the mid-period discounting which considers that the flow of cash is distributed throughout that year (uniform cash flows).

Step 5 – Computing the Enterprise Value and Equity Value

Enterprise Value - Aggregating the present value of each year FCFF and the present value of terminal year cash flows we arrive at the Enterprise Value. Enterprise Value represents the total value of the business. Along with the equity value it also includes short-term and long-term debt.

Equity Value - To calculate the Equity Value from Enterprise Value, add non-operating assets and subtract financial liabilities. In simple terms, add cash and cash equivalents and subtract short-term/long-term debt, preferred stock, and minority interest as applicable.

Major advantages of using DCF method of valuation

- DCF techniques are considered superior to other methods since they consider the earnings of a project over its entire economic life, and the time value of money flows;
- The DCF method automatically gives more weight to units of money, which are nearer than those, which are distant. But other methods treat distant units of money unrealistically with the same weight as present units;
- The DCF method allows a ready comparison to be made between projects having different lives and different timings of each flow by facilitating comparison at the same point of time;
- It can be used to calculate the Internal Rate of Return (“IRR”) (by using goal seek) given that we have information about the Enterprise and/or Equity Value; and
- It is useful to determine the intrinsic value of the business.

Major disadvantages of using DCF method of valuation

- DCF method is extremely sensitive to the inputs assumed. Any incorrect assumption will lead to distorted equity value. As said - Garbage in, Garbage out;
- The DCF method does not account for the current market scenario and it is highly dependent on the quality of forecast used by the preparer; and
- It does not take into account the relative valuations of the competitors.

To mitigate the above cons, preparers generally corroborate the DCF value with the market approach of precedent transaction analysis or comparable companies' analysis.

Conclusion

When you buy a stock, you trade cash for a portion of the future cash flows of a business. When you sell a stock, you trade the future cash flows for current cash. It's a form of time travel: if you buy a stock at a price less than its perceived value, you are essentially traveling into the future and judging that today's expectations for future cash flows are too low. Selling stock that is perceived to be overvalued is a symmetrical move. In essence “Everything is a DCF model” as quoted by *Michael J. Mauboussin and Dan Callahan*.

To conclude, the intrinsic value determined by the present value of future cash flows is useful to understand the valuation of a cash generating asset.

