VALUATION

Discounted Cash Flow Methodology – Adjusted Present Value

The Adjusted Present Value approach (APV) is an alternative valuation methodology to the general Discounted Cash Flow (DCF) approach whereby the value generated through the capital structure of the target asset is assessed separately.

The rationale behind this approach is the fact that adding debt to fund an asset or a firm generates value. This is due to the cost of debt being lower than the cost of equity and in addition that interest paid for debt can be deducted for tax purposes, thereby lowering the tax a company has to pay.

The cash flow basis is the same in both, the APV approach and the general DCF approach: In both cases, unlevered free cash flows are used, a theoretical concept assuming that the valuation target being funded by equity only.

Now, in the general DCF approach the WACC is applied as discount factor, in the APV approach the cost of equity is applied. Therefore, in the DCF approach a long term stable funding structure composed of equity and debt is re-introduced to derive an enterprise value. The APV approach, on the other hand, follows a different concept: In a first step, the genuine value of the equity by applying the cost of equity as discount factor is calculated. However, this step does not account for the fact that most firms are actually levered. This aspect is then corrected in a subsequent step by adding the value contribution generated by the tax shield to the genuine value of the equity. The value of the tax shield is derived by discounting the product of the firm´s marginal tax rate and interest expenses paid with the (pre-tax) cost of debt. Therefore, the APV is especially effective when tax implications substantially affect a firm value, such as in leveraged buyouts.

Following additional observations are important to achieve correct results: First, in valuing the unlevered firm the expected unlevered free cash flows to the firm have to be discounted with the unlevered cost of equity. And, to correctly calculate the unlevered cost of equity, the beta of the firm has to be adjusted accordingly: It has to be unlevered.

Second, in assessing the expected tax benefit (value of the tax shield) the cash flows of the tax savings have to be calculated: Thereby, the marginal – and not the firm´s average - tax rate has to be applied.

Third, as the APV is foremost used in assessing the value creation in the course of LBO transactions, the initial (possibly – excessively - high) leverage structure of the firm may be assumed to normalize to industry standards over time. As the APV approach takes into account cash flows over the long-term, one may therefore adjust the (assumed de-levering of the) capital structure over the planning horizon. And, after this period of de-levering, a long-term stable capital structure may be applied.

Therefore, the advantage of the APV approach can be seen in the enhanced transparency to track the origins of value creation. – Having said this, the APV is not widely used, except in LBO constellations.

STANDARD DCF   APV

$$\frac{UFCF}{WACC}$$ $$\frac{UFCF}{COE} + \frac{TAX\ SHIELD}{COD}$$

                          $\frac{p}{o}$ UNLEVERED $\frac{p}{o}$ MARGINAL
                              BETA   TAX RATE

ASSUMING STABLE   ASSUMING CHANGING
CAPITAL STRUCTURE   CAPITAL STRUCTURE