VALUATION

Discounted Cash Flow Methodology – About Cash Flows

In the Discounted Cash Flow (DCF) valuation approach, future unlevered free cash flows are discounted to estimate the present value of an investment proposition, the enterprise value.

When referring to Cash Flow (CF) only, then it is actually not clear what is meant: Is it the Cash Flow from Operations (OCF), the Free Cash Flow (FCF), the Unlevered Free Cash Flow (UFCF) or another form of cash flow.

Frequently, the EBITDA – which can be either directly found in or easily derived from the income statement - is referred to as a rough proxy for CF: However, this is only valid for stable, mature firms, when capital expenditures – alas: investments in fixed assets – broadly match the level of depreciation.

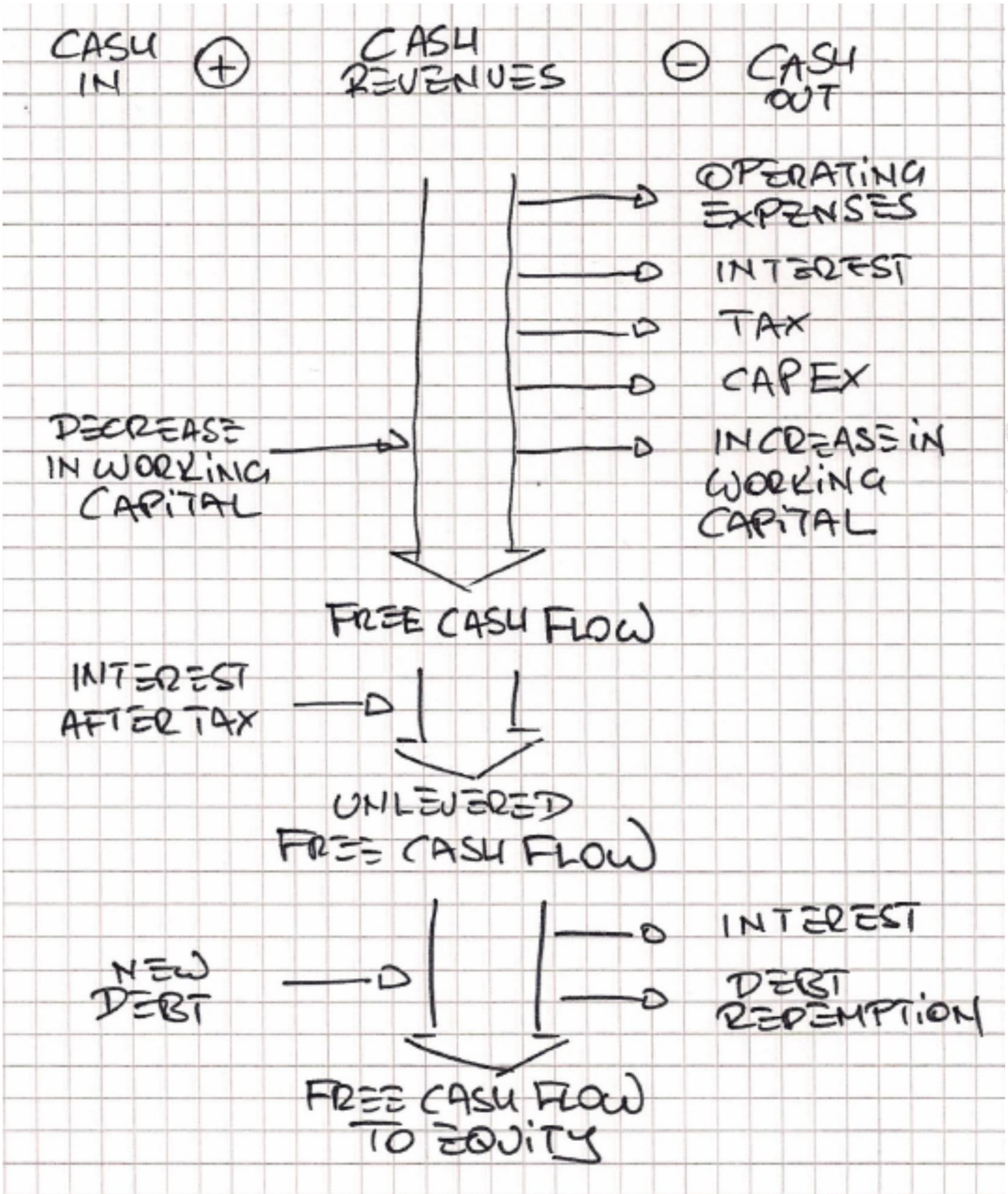
Technically, OCF is generated from a firm´s ordinary business operations. OCF indicates whether sufficient positive cash flow is available to maintain or grow operations, or whether external financing for capital expansion may be required. Therefore, OCF focuses on cash inflows and outflows related to a company's main business activities: Selling and purchasing inventory, providing services, paying salaries. Any investing or financing transactions are excluded from OCF and reported separately. - One may interpret OCF as a cash version of a company's net income: Accounting standards require net income to be reported on an accrual basis which also accounts for various non-cash items, like depreciation, amortization or expenses that were incurred but not paid for. Hence, in deriving OCF from net income, adjustments have to be made, such as for changes in the working capital accounts (foremost for increases or decreases in receivables, payables or inventory).

FCF is in essence the OCF minus capital expenditures required and committed to maintain or grow business operations. Therefore, the term free refers to a measure of cash flow which is available for discretionary spending. But also to meet commitments in redeeming debt principal – if and when due - towards creditors and bondholders. – Hence, any cash raised or redeemed in financing transactions (for example: share capital increases, debt redemptions) are not part of the FCF. However, a negative FCF may point towards capital raising requirements.

The calculation of an UFCF – a theoretical CF figure - is required to eventually arrive at the enterprise value of a firm by applying the DCF methodology. Starting with net income, one may calculate the UFCF by adding back all non-cash cost items and deducting any increase in the net working capital as well as capital expenditures. Further, however, the UFCF – fictionally - assumes that the underlying firm did not use any debt funding to support its balance sheet and operations. Consequently, under this assumption the firm would therefore not pay any interest expenses either. However, assuming this, the firm would now pay higher taxes, as interest expenses reduce a firm´s tax base and therefore also its tax payments. This is also referred to as the tax shield. This assumption – removing any CF impact caused by a firm´s capital structure - is undertaken to make firms´ CFs more comparable in estimating their respective values.

However, as most firms actually do have some debt on their balance sheets, such leverage would subsequently be accounted for in assessing a firm´s value by de-facto re-introducing leverage through the discount factor, the WACC. Therefore, in the DCF the future expected UFCFs are discounted by the WACC to derive the enterprise value.

Hence, just referring to CF is not sufficient. - Also, in calculating any of the CFs above, it is important what one is looking for: OCF indicates the soundness of a firm´s operation, but in essence ignores the required fixed asset base (which is more relevant in production-leaning operations, lesser so in the service sector). FCF is a good indicator of flexibility enabling to either further grow a firm or reward its investors. And the hypothetical figure of the UFCF is applied in assessing the value of a firm through the DCF valuation approach.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CASH OUT
OPERATING EXPENSES
INTEREST
TAX
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DECREASE IN WORKING CAPITAL
INCREASE IN WORKING CAPITAL
FREE CASH FLOW
INTEREST AFTER TAX
UNLEVERED FREE CASH FLOW
INTEREST
NEW DEBT
DEBT REDEMPTION
FREE CASH FLOW TO EQUITY