Business Valuation IV.

Income Statement

Revenues

Only revenues from sales during the period should be included in revenues (i.e., not cash revenues). Thus, cash received from sales made in previous periods is not included in sales, and sales from the current period, even if not collected, is included.

(minus) Operating Expenses

(not including depreciation) Only those expenses incurred to create revenues in the current period should be included as part of operating expenses. Labor, material, marketing and general and administrative costs are all operating expenses. If material purchased in the current period is not used in production, it is carried over as inventory into the next period.
Inventory has to be valued to estimate operating expenses, and firms can choose to value inventory based upon what they paid for the material bought at the end of the period (FIFO), at the beginning of the period (LIFO) or an average price.

(minus) Depreciation and Amortization
Any expense that is expected to generate income over multiple periods is called a capital expense. A capital expense is written off over its lifetime, and the write-off each year is called depreciation (if it is a tangible asset like machinery) or amortization (if it is an intangible asset such as a copyright).
Since the value that an asset loses each period is subjective, depreciation schedules are mechanized. They can broadly be classified into two groups — straight line depreciation, where an equal amount gets written off each period, and accelerated, where more of the asset gets written off in the earlier years and less in later years.

= Operating Income (EBIT)
When operating expenses and depreciation are subtracted from revenues, we estimate operating income. This is designed to measure the income generated by a firm’s assets in place.

(minus) Interest Expenses

The most direct source of interest expenses is debt taken on by the firm either from a direct lender (such as a bank) or from bonds issued to the public. Interest expenses also include imputed interest computed on leases that qualify as capital leases.
If firms have substantial interest income from cash and marketable securities that they hold, it is usually shown at this point.

= Taxable Income

If the depreciation reported is the tax depreciation, netting the interest expenses from the operating income should yield the taxable income.

(minus) Taxes

These are the taxes due and payable on income in the current period. Generally speaking, it can be computed as
Tax = Taxable Income * Tax Rate

= Net Income

The income after taxes and interest is the net income.

(minus) Losses (+ Profits) not associated with operations These are expenses (or income) not associated with operations.

(minus) Profits or Losses associated with Accounting Changes

Changes in accounting methods (such as how inventory is valued) can result in earnings effects.

/ Number of Shares outstanding The actual number of shares outstanding is referred to as primary shares. When there are options and convertibles outstanding, the shares embedded in these options is sometimes added on to arrive at fully diluted shares.

= Earnings per Share The earnings per share can be computed on a primary or fully diluted basis.

How to measure profitability

Return on Capital

EBIT (1- tax rate) / (Book Value of Debt + Book Value of Equity)

- If operating income is used (rather than after-tax operating income, this becomes a pre-tax return on capital
- The book value of capital is used as a measure of capital invested in the firm. To the extent that the book value is not a reasonable estimate of this value, the return on capital will be mis-estimated.

Return on Assets
EBIT (1- tax rate) / (Book Value of Assets)

- The distinction between assets and capital lies in current liabilities, since the latter does not include it.
- In finance, the return on capital can be compared to the cost of capital but the return on assets cannot.

Return on Equity

Net Income / Book Value of Equity

- This becomes a measure of the profitability of the equity invested in the firm.
- A firm can increase its return on equity by raising net income or lowering the book value of equity. (The latter can happen when stock is bought back)
- In some cases, the book value of equity can become negative (after extended losses). The return on equity can no longer be computed for these firms.

Net Margin Net Income / Sales

- This measures the average profit earned by a firm on a dollar of sales.
- Since it is after financial expenses, it will be lower for highly levered firms.

Operating Margin

EBIT (1- tax rate) / Sales

- This ratio, since it is based upon income prior to interest expenses, is much more comparable across firms of different leverage.

How to measure leverage

Debt/Capital Book Value of Debt / (Book Value of Debt + Book Value of Equity)

Debt/Equity Book Value of Debt / Book Value of Equity

- Both these ratios are designed to measure the degree of leverage that a firm has, but both will be heavily influenced by how different book value is from market value.
- In general, since the market value of equity is much higher than book value of equity for firms, while the market value of debt is comparable to book value, these ratios will overstate leverage.
- Finally, these ratios will be affected by what gets defined as debt. Thus, operating leases will not show up as debt and affect leverage.

Cash Fixed Charges Coverage Ratio EBITDA / Cash Fixed Charges

Interest Coverage Ratio EBIT / Interest Expenses

- These ratios measure the capacity of a firm to meet its cash flow obligations. To the extent that the ratios are low, and/or there is variability in the earnings, a firm's default risk will increase.
- Note that the fixed charges do not include discretionary expenses such as capital expenditures, which might be essential to the firm's long term survival. (Damodaran, 2010)