Erasmus School of Economics

Economic Value Added

1 Definition and Interpretation

The economic value added (EVA) measures the value creation from the funds invested into the business. EVA can be estimated by multiplying the incremental difference between the company's return on capital ($ROCB$) and the cost of capital ($WACC$) by the company's operating capital. It is a useful measure as it shows that growth, by itself, does not create value. It is growth, with investments in excess return projects, that generates value. Therefore, a positive EVA implies that a firm creates value from the invested funds, while a negative EVA implies that the firm is not generating any value.

2 Calculation

You can apply two different formulas to estimate the EVA. The first method is by multiplying the difference between the return on the capital base ($ROCB$) and the weighted average cost of capital ($WACC$) by the firm's operating capital:

$$EVA = (ROCB - WACC) \times Operating\,Capital,$$

where the $ROCB$ is defined as the return on the firm's operating capital ($\frac{NOPLAT}{Operating\,Capital}$), the $WACC$ as the average rate of return investors demand ($R_d \times (1 - \tau_c) \times \frac{D}{V} + R_e \times \frac{E}{V}$) and the $Operating\,Capital$ as the firm's invested capital (i.e. the sum of all operating working capital (current operating assets minus current operating liabilities), fixed assets, intangible assets, and net other long-term operating assets (net of long-term operating liabilities)).

The second method is based on the $NOPLAT$ and the capital charge:

$$EVA = NOPLAT - Capital\,Charge,$$

where $NOPLAT$ is defined as the operating profits after taxes ($EBIT \times (1 - \tau_c)$), and the $Capital\,Charge$ as the return investors demand on the firm's operating capital ($Operating\,Capital \times WACC$).

Both formulas yield the same result, since the second formula can be derived from the first:

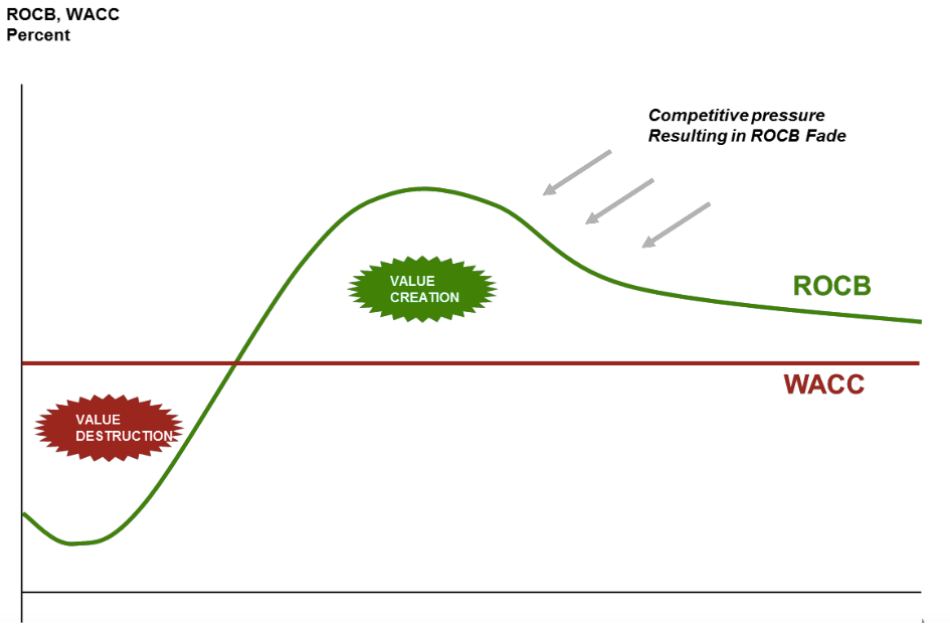
$$\begin{aligned} EVA &= (\frac{NOPLAT}{Operating\,Capital} - WACC) \times Operating\,Capital \\ &= NOPLAT - Capital\,Charge \end{aligned}$$

3 Analysis over time

In a firm's early development stage, its *ROCB* is generally lower than its *WACC*. Value destruction is typical for this stage, as it involves firms that have just penetrated the market and thus generate low returns while their investors demand high compensation for the company's risk. After a certain period, a firm gains market power and establishes a stable investment pattern, increasing its *ROCB* while lowering its *WACC*. In this late development stage, the firm creates value as its operations grow.

However, as the economic profits rise, competitors are attracted to the market. As a result, the firm's *ROCB* fades and its value creation decreases. In some steady state situations, the *ROCB* declines until it equals the *WACC*, implying no value creation at all. However, if a firm is able to maintain a strong competitive advantage, the incremental difference between the *ROCB* and *WACC* can stay positive.

Figure 1: **Value Creation Over Time**



4 Advantages and Disadvantages

The benefit of the EVA method is that it provides a clear indication of whether a firm creates value from the capital invested in the business. Furthermore, managers are forced to take both the firm's assets and expenses into account, since the firm's balance sheet items are included in the measure's computation.

A disadvantage of the EVA method is that it is difficult to apply to companies with intangible assets, such as companies with patents or a rich technology base. This is because these assets are hard to value, while a large part of the EVA calculation is based on the firm's operating capital. Another disadvantage is that the company's operating capital is derived from the book value of the assets, which might give a distorted picture due to different accounting treatments.