

## VALUE BASED MANAGEMENT

### ROIC versus EVA®

In preparing the “Financials” for new Business Plans, two of the best ratios that I use to provide simple indication if a firm is really performing the business with the scope of increasing its economic value are **ROIC** and **EVA**, defined as following:

**ROIC: Return On Invested Capital**

**EVA®: Economic Value Added**

Throughout this paper EVA® will be written without the ® symbol but will still be understood as a registered trademark

We start defining both **ROIC** and **EVA** through their respective formula:

$$a) \quad ROIC = \frac{NOPAT}{Invested\ Capital}$$

$$b) \quad EVA = NOPAT - Invested\ Capital \times WACC$$

Where:

- **NOPAT** is the Net Operating Profit After Taxes = EBIT x (1 – tax rate).
- **Invested Capital** is the sum of Total Equity and Net Financial Position (= Net Debt, see NOTE 1 at page 4) or, alternatively, from an operative point of view, is the sum of these two bullets:
  - Net Working Capital (NWC, see NOTE 2 at page 4) = Current Assets (less Cash) minus Current Liabilities (less Debts).
  - Net fixed and intangible assets (goodwill included).

- **WACC** is the Weighted Average Cost of Capital (weighted cost between the Cost of Debt and the Cost of Equity).

Now, putting together a) and b) we get:

$$EVA = Invested\ Capital \times ROIC - Invested\ Capital \times WACC$$

And finally:

$$3) EVA = (ROIC - WACC) \times Invested\ Capital$$

**Therefore, looking at the formula in 3) it is easy to understand why, to create “value”, ROIC has to be higher than WACC, otherwise, should ROIC be lower than WACC, we would destroy “value” (= EVA becomes negative).**

The difference between ROIC and WACC (when ROIC is > than WACC) is sometimes referred to as a firm's “excess return” or “economic profit”.

Notwithstanding what just written, in practice a common benchmark for evidence of value creation is ROIC in excess of 2% of the firm's WACC. Otherwise, it is considered a value destroyer.

Both ROIC (see NOTE 3 at page 4) and EVA are defined using inputs provided by P&L Statement (NOPAT) and Balance Sheet (Invested Capital). Therefore, to calculate appropriately the two formulas for a specific year “t” we have to use NOPAT @t and Invested Capital @(t-1) (= @Dec 31st of the (t-1) year).

In this way everything is working perfectly from a financial point of view, looking how the Invested Capital is spreading its economic effect (= NOPAT) in the following year through appropriate operative and business management.

I always use all the 3 formulas a), b), c) to check the correctness of the overall calculus.

But there is a problem: **ROIC, in few rare specific circumstances, could become negative!** When? When NOPAT is positive, but the available cash is so high that the "Net Debt + Equity" becomes negative and therefore the ROIC is no more effective because the "invested capital" denominator is negative (see note 4 in the next page).

Therefore, I always keep EVA as prime index for measuring the Economic Value Added and keep ROIC as a parallel useful financial ratio for a direct measure of the % of the return on total invested capital whenever the value is positive. The visualization of the ROIC % graph in the BP forecasted years provides an immediate understanding of its quantitative value versus the WACC % horizontal line.

Therefore, all the investors, both Shareholders (people willing to buy shares of the company) and Debtholders (banks willing to purchase bonds or just providing loans) pay high attention not only to EVA but also to the ROIC trend, both ratios included in the financials of a Business Plan.

Investors utilize the ROIC ratio trend to assess the efficiency with which the Business Plan management team think to create value for them and for all the stakeholders.

Finally, **ROIC is important because NOPAT assumes no financial leverage. NOPAT is the same whether a company is highly levered or free of debt.**

**I would also like to notice that ROIC and ROCE (Return On Capital Employed) are different ratios. The scope of ROCE (and ROACE, defined as Return On Average Capital Employed) is much broader than that of ROIC.** The detailed explanation of the differences between the two ratios is not part of the scope of this document.

## NOTES:

1. NFP (Net Financial Position) or Net Debt = ST Debt + LT Debt – Cash and Cash Equivalents.  
A negative net debt means a company has little debt and more cash, while a company with a positive net debt means it has more debt on its balance sheet than liquid assets. This is the rule I work with. However, this is not 100% world-wide accepted. In fact, few firms apply the concept that a negative net debt means a company has little cash and more debts, while a company with positive net debt it has more cash than debts.
2. NWC (Net Working Capital): there are different versions of what is the content of NWC moving from a very general definition as  $NWC = \text{Current Assets} - \text{Current Liabilities}$  to a very reductive one as  $NWC = \text{Account Receivable} + \text{Inventory} - \text{Account Payables} - \text{Advance from Customers}$ . I use one of the most popular definition in the financial community, that is to say:  $NWC = \text{Current Assets (less cash)} - \text{Current Liabilities (less total debts)}$ .
3. In the ROIC ratio you can find in literature very few publications where the numerator is defined as = Net Profit less Dividends. The majority of the firms define the numerator as NOPAT, and this is also my rule.
4. A negative ROIC caused by negative Invested Capital (rather than negative NOPAT) means very good news. In fact, it means that the firm is earning positive NOPAT without any additional Invested Capital required from the markets. This means that the firm not only regularly provides revenues that exceed expenses, including taxes, but it also doesn't require new investors to invest in the business.