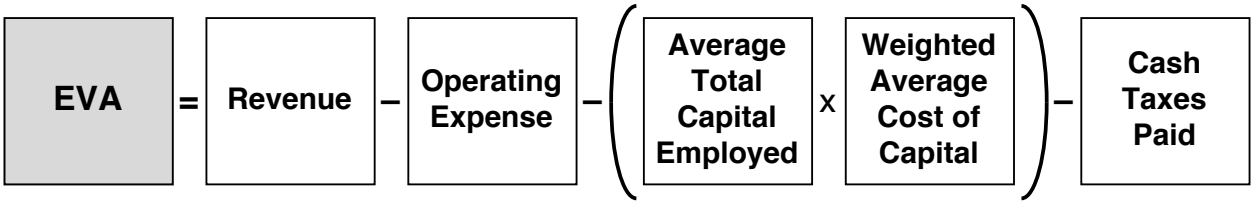
Stock Prices, Operating Targets, and Acquisitions

At too many companies, stock prices and operating targets seem to exist in parallel but unconnected worlds; at best, employees acknowledge that they are both important, without clearly understanding the links between them. This working paper will attempt to clarify these linkages, and show how ignoring them can have disastrous consequences in the market for corporate control. But first, a caveat: in this paper, we use a detailed quantitative example to help illustrate the logic that leads to our conclusions. While at first this may seem a bit difficult to follow, please bear with us, because the underlying mathematics are central to the management challenges we describe.

Our starting point is the market value of a company's equity, or its current share price times the number of shares outstanding. The market value of equity can be thought of as being composed of two parts: the book value of the equity capital initially provided by investors plus an additional amount that represents the value that management's efforts are expected to add to that capital. This "management value added" can be estimated by subtracting the book value of equity from its market value.

However, Management Value Added (or MVA) is a "present value" measure; in other words, it represents the discounted amount of value that management is expected to add to investors capital in all future years. On an annual basis, management's value added can be measured by the excess of cash profits over investors' minimum required return on the capital they have provided. Traditionally, this measure was called "economic profit"; more recently, it has become better known as "economic value added", or EVA, which (in simplified form), can be expressed as follows:



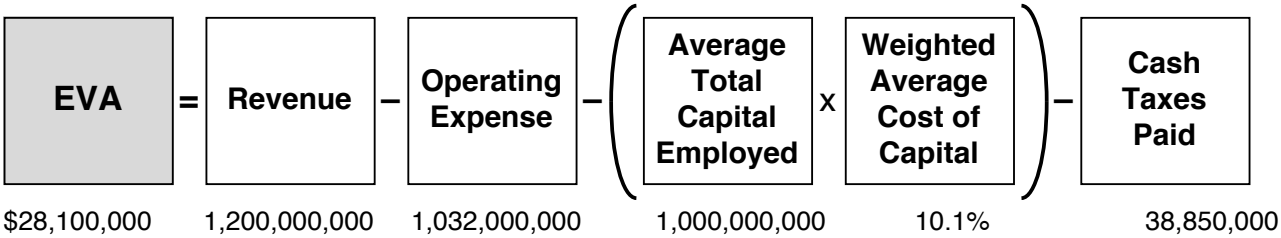
Algebraically, Management Value Added equals the present value of expected future EVA (note: for further background on MVA and EVA, see Quest for Value by Bennett Stewart).

Using this framework, one can decipher from a company's stock price investors' expectations for its future operating performance. Consider the case of The XYZ Company:

The current market value of XYZ's equity is $1 billion dollars, while its book value is only $400 million dollars; Market Value Added is therefore $600 million dollars. XYZ's most recent annual operating data are as follows:

Revenue:	$1,200,000,000
Operating Expense:	(1,032,000,000)
Interest Expense:	(57,000,000)
Profit Before Tax:	111,000,000
Taxes (all cash):	(38,850,000)
Profit After Tax:	$ 72,150,000
Average Total Capital:	$1,000,000,000
Operating Margin:	86.0%
Sales/Total Assets:	1.2x
Debt/Total Capital:	60.0%
Weighted Cost of Capital	10.1%

Given these data, XYZ's Economic Value Added for the previous year was $28,100,000:



Since MVA by definition equals the capitalized value of expected future EVA, it appears that in this case, investors expect XYZ's EVA to grow by 5.4% per year [expected growth = Cost of Capital - (EVA/MVA), or 5.4% = 10.1% - (28.1/600)].

At the broadest level, these increases in EVA can come from three sources:

- Improvements in operating efficiency;
- Improvements in financial efficiency; and/or
- Revenue growth.

Some simple benchmarking against a firm's competitors can quickly suggest how much additional EVA might be generated from the first two sources. Again, let us return to XYZ. Assume top quartile firms in XYZ's industry have an average operating expense/sales ratio of 85%, compared to XYZ's 86%. Using the EVA equation, one can see how, if nothing else changes, this improvement in operating efficiency could generate a $12 million improvement, and bring EVA up to $40.1 million. However, this gain would still leave a need for a further 3.4% per year increase in EVA to justify today's MVA of $600 million [3.4% = 10.1% - (40.1/600)].

Some of this additional EVA might come from improvements in asset efficiency. For example, assume top quartile firms in XYZ's industry have an average sales/capital ratio of 1.3x compared to XYZ's 1.2. Achieving top quartile performance would add a further $7.7 million in EVA, and reduce required growth from other sources still further.

Finally, it also may be possible for a firm to increase its EVA by changing its capital structure so as to reduce its weighted cost of capital. In this case, however, we have assumed that, at 60% of total capital, XYZ's use of debt is already at or above the average level for the top quartile of its industry, so no additional EVA can be generated from this source.

In summary, The XYZ Company may be able to increase its EVA to as much as $47.8 million per year by increasing its operating and asset efficiency, while increases driven by improvements in financial efficiency do not seem to be possible. Where does that leave them? After realizing the targeted operating improvements, nominal revenues still must increase by a further 2.1% each year to satisfy investors' expectations for EVA growth and justify their current valuation of the company [2.1% = 10.1% - (47.8/600)]. This revenue growth, in turn, must come from some combination of expected growth in industry volumes and average prices, and/or improvements in XYZ's market share and relative prices, and/or from XYZ expanding into new industries. Assuming continued real economic growth of around 2.5% per year in the developed country economies, this revenue growth target seems achievable, even in the absence of inflation.

Now let's look at three factors that could change this picture for the worse. First, what happens if organizational obstacles delay the achievement of the targeted improvements in operating efficiency? The minimum acceptable level of revenue growth sharply increases. Let's return to our XYZ example. If the expected improvement in EVA to $47.8 million isn't realized for two years, its present value falls to $39.4 million [$47.8/(1+10.1\%)^2$]. This, in turn, raises the required annual increase in revenues to 3.5%

[= 10.1% - (39.4/600)]. If this is not achieved, XYZ's stock price will become overvalued, and (assuming some degree of investor rationality) it will eventually fall. If the decline is severe enough, this may expose XYZ's management to the unwanted attentions of potential acquirors.

Second, what happens if such a takeover occurs, and the ABC company pays a 40% premium over market value to acquire XYZ? This raises XYZ's de facto MVA to $1 billion. Assuming that the expected improvements in operating efficiency that were already priced into XYZ's pre-acquisition share remain unchanged, its revenues now must increase by 5.3% per year in order to justify the bid premium paid by ABC. If investors' don't think this will happen, the price of ABC's shares will fall.

Third, what happens if, after the acquisition, realization of XYZ's expected EVA improvement is delayed for two years by "organizational integration problems"? The minimum required revenue growth needed to justify the bid premium now rises to 6.2% per year. In an era of stable (if not declining) prices in many industries, permanently increasing the target for annual revenue growth from 2.1% to 6.2% seems likely to substantially decrease the probability that it will be met.

This brief analysis suggests five important points to keep in mind:

- Market Value Added and the EVA equation (even in its simplified form) are powerful tools for estimating the operating performance expectations that are implicit in investors' valuation of a company. They are also very useful for evaluating potential acquisitions and bid premia.

- For many, if not most companies, revenue growth is likely to be critical to meeting investors' expectations.

- Delays in realizing the benefits from operating, asset, and financial efficiency improvement programs only serve to put further upward pressure on minimum revenue growth targets. Extended delays may cause the latter to become unachievable, and the company's equity overvalued. In the worst case, the resulting fall in a company's share price can expose it to unwanted attention from potential acquirors.

- On the other side of the same coin, paying a high acquisition premium for a company substantially increases the risk that the expected economic benefits from the deal won't be realized by the acquiring company's shareholders. The combination of a high bid premium and subsequent delay in achieving expected operating improvements (a fairly common scenario) is deadly to acquisition economics.

- It is critically important that analyses of potential acquisitions go beyond simple projections of financial variables, such as revenues, operating and overhead costs,

and capital requirements. The competitive and organizational targets that underlie them also should be made explicit, along with the probabilities they will be achieved in the required timeframes. This type of analysis has two key benefits. First, it more accurately quantifies the maximum acquisition premium that should be considered. Second, it highlights the variables that are critical to earning back any acquisition premium that is paid. Armed with this information, it is much easier to define the "critical path" for the post-acquisition integration program, and ensure that resources are focused on the factors that are most important to value creation.