Enhancing Shareholder Value with Net Present Value (NPV)

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If I were asked to select just one essential piece of knowledge for finance professionals, my answer would be Net Present Value (NPV). NPV serves as a cornerstone for investment decision-making, influencing a company's viability and survival. Furthermore, NPV plays a crucial role in evaluating business value and stock prices.

While the concept of NPV appears straightforward, I have observed that many individuals misunderstand its application. This can lead to flawed decision-making and ultimately eliminate shareholder value. This article aims to foster a correct understanding of this critical financial tool.

The NPV Concept: A Detailed Examination

NPV is calculated as the sum of the present values of all future cash flows arising from an investment decision. The basic decision rule is simple: invest in projects with a positive NPV. Therefore, the NPV formula depends on three key factors:

1. Future Cash Flows: The stream of cash inflows and outflows expected from the investment.

2. Discount Rate: Used to convert future cash flows to their present-day equivalent.

3. Project Life: The duration over which the investment generates cash flows.

Let's dissect NPV by exploring how to determine appropriate values for each of these components.

Determining Future Cash Flows

Future cash flows represent the net cash generated by the investment. In its simplest form, it can be considered as Earnings Before Interest and Taxes (EBIT) less taxes, plus depreciation. This is because tax is an actual cash outflow whereas depreciation is a non-cash expense.

Since this value is a forecast of future earnings, accuracy in prediction is paramount. Drilling down further, the primary component of earnings is revenue, which can be broken down into unit price and sales volume. A closer look reveals that the nature of the business significantly influences these components.

For example, when analyzing an investment in a waste-to-energy power plant, the sales volume is often secured with buyers beforehand, with pre-determined prices and volumes. Additionally, there may be provisions for price increases linked to inflation. This contrasts sharply with investments in general consumer products, where prices are determined by market competition. Analyzing projects with decades-long lifespans necessitates forecasting rapidly changing technology and competitor actions, a challenging task.

For investments in rapidly evolving industries, such as technology or startups, determining accurate future cash flows becomes particularly challenging. These often involve novel business models, making it difficult to

gauge consumer demand, resulting in high risk.

Determining the Discount Rate

Finance textbooks generally state that the discount rate should be "appropriate," which provides little practical guidance. Some use the company's borrowing rate or the rate of return from other company's investments as a benchmark. I propose that the discount rate represents the actual cost we must pay to the capital providers, specifically shareholders and lenders.

From an investor's perspective, investing in a project means buying the future stream of dividends from the profitable execution of the project. Therefore, the return is not set by the company but rather the expected rate required by investors. Some textbooks suggest complex formulas like the Capital Asset Pricing Model (CAPM) to calculate the expected return for shareholders. However, I often recommend using an annual rate of 10% instead of the complex CAPM. The source of this 10% rate is the average rate of return of the Stock Exchange of Thailand index over the past 10 years. We consider investing in the stock market is risky and can comparable to our project. This 10% should, therefore, reflect investor expectations from investing in the project likewise.

The rate of return for debt is fixed in the loan agreement, so it is less of a problem. However, debt also has an advantage of the interest rate being a tax deductible expense, so the actual cost is (1-Tax Rate)*Interest Rate. However, one of the mistakes when calculating the discount rate, or Weighted Average Cost of Capital (WACC), is to include the debt that doesn't require interest payments. We should only consider the ones that do.

One thing that is often confused is that WACC is constant throughout the company. This is true if all funding is sourced from a central point, but if each project raises their own source of capital (such as for infrastructure projects), then the discount rate should reflect the capital structure of the project.

In the case of choosing whether to invest in a project, and we have to change the capital structure (such as getting more debt or equity) then we should use the WACC that we calculate from the new capital structure.

What happens if we calculate WACC lower than it actually is? The return to shareholders may not be sufficient and cause the stock to drop in value, or in worst case cause bankruptcy.

Determining Project Life

The project life should be assessed based on the asset that has the highest value, which is often the core of the project. We may need to consider an additional investment if a certain machine expires before the end of the project. In the case that the cashflow on that year is negative, NPV calculation will not be affected. However another financial instrument, the Internal Rate of Return or IRR, which is usually used to supplement the NPV in decision-making will be misled since there might be two positive solutions that shall be handled cautiously.

Conclusion

The ideas presented in this article provide insights into the application of NPV for investment evaluation and business valuation. By understanding how to apply NPV accurately, companies can make informed decisions that drive shareholder value.