

## How NPV Works & Why an NPV Analysis is Critical for Investors

January 30, 2025

**Net Present Value (NPV)** is one of the most important tools for evaluating whether a stock is **overvalued, undervalued, or fairly priced**.

It helps investors determine whether they are buying a stock with a high probability of profit—or one that is overpriced and likely to decline.

We'll use an example to illustrate how NPV works and its value.

### 1. Apple's NPV Calculation

- We projected Apple's **net profits to grow at 5% per year** for the next five years.
- We assumed a **terminal value of 2 times Apple's revenue at the end of year five**—a reasonable assumption for a mature company.
- Using an **8% discount rate**, the calculated **NPV, including net tangible equity, is \$1.17 trillion**.

### 2. Comparing NPV to Market Cap

- If Apple's market capitalization is **lower** than its NPV, the stock is likely **undervalued**, meaning investors have a higher probability of **profiting** from the purchase.
- If the market cap is **much higher** than the NPV, the stock is likely **overvalued**, meaning investors are **paying too much** relative to its expected future profits.
- Apple's market cap today is over \$3.5 trillion, or **three times** its calculated NPV.

### 3. The Most Important Rule for Investors

- **Buying stocks where NPV is higher than the market cap** increases the probability of strong returns.
- **Buying stocks with a market cap much greater than NPV** significantly increases the risk of losses, as future profits do not justify the price being paid.

### Key Takeaways for Investors:

By using **NPV as a guide**, investors can avoid overpaying for hype-driven stocks and focus on companies where the **expected future profits and terminal value actually support the price they are paying today**.

## Apple NPV Example

### Current Metrics – January 30, 2025

Market Cap	Revenue	Assumed Revenue Growth Rate	Profit Margin	Net Income	P/S	P/E	Tangible Equity
\$3.57 tril.	\$391 bil.	5%	24%	\$94 bil.	9.1	38	\$57 bil.

### 5-Year Revenue Projections

Year	Revenue (\$ billion)	Net Income (\$ billion)	NPV of Net Income (\$ billion)
0	\$391	\$93.7	—
1	\$411	\$98.4	\$91.1
2	\$431	\$103.3	\$88.6
3	\$453	\$108.5	\$86.1
4	\$475	\$113.9	\$83.7
5	\$499	\$119.6	\$81.4
<b>5-Year Total</b>	<b>\$2,269</b>	<b>\$543.8</b>	<b>\$431.0</b>

### Terminal Value Calculation

5 <sup>th</sup> -Year Revenue	\$499 billion
Terminal Value: 2 x 5 <sup>th</sup> -Year Revenue	\$998 billion
Discount Rate	8%
<b>NPV of Terminal Value</b>	<b>\$679 billion</b>

### Net Present Value Calculation

NPV of 5 Years' Income	\$431 billion
Current Tangible Equity	\$57 billion
NPV of Terminal Value	\$679 billion
<b>Net Present Value</b>	<b>\$1.17 trillion</b>
Market Cap	\$3.57 trillion
<b>Market Cap as % of NPV</b>	<b>306%</b>

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