



the **CAPITAL LIST**

Capital InFocus

NVIDIA: The Only Game in Town

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NVIDIA *InFocus*

NVIDIA Corporation, launched in 1993, focused on gaming.

In 1999, it revolutionized the industry with its GeForce 256 graphics processing unit, the world's first GPU.

The GPU offloaded complex graphics computations from the CPU, significantly enhancing gaming performance.

Gaming remained the central focus, but in 2006, NVIDIA recognized the potential of its GPU technology in other areas.

This awareness led to the development of CUDA (Compute Unified Device Architecture), a parallel computing platform and programming model that retooled their GPUs for general-purpose computing tasks. CUDA opened up new markets for NVIDIA in scientific research, artificial intelligence (AI), and data centers.

This ability to repurpose their chips, plus a process that brings chips from the “design stage” to “on the market” **twice to four times as fast as the competition** sets NVIDIA apart.

The rise of crypto-mining, AI, and machine learning in the 2010s was a game-changer for NVIDIA. The company's GPUs were well-suited for the parallel processing required for AI computations, making them the hardware of choice for researchers and companies developing AI applications.

NVIDIA capitalized on this trend by investing heavily in AI research and development, acquiring key companies, and forming strategic partnerships. Its GPUs became integral to AI frameworks such as TensorFlow and PyTorch, further cementing its dominance in this sector.

Finally, there's the ecosystem that has emerged around NVIDIA's dominance.

The company's software stack optimizes the performance of its hardware, and developers find it easy to adopt NVIDIA's technology and ensure seamless integration with various applications and platforms.

NVIDIA built its dominant position over three decades.

And once ChatGPT got unleashed on the world, NVIDIA was positioned to capitalize.

The Only Game in Town

The semiconductor industry has been turned on its head in the last two years.

The catalyst was OpenAI's release of ChatGPT. But were it not for NVIDIA's ability to capitalize on that catalyst, the incumbent leaders would not have ceded so much ground in terms of market share to NVIDIA.

May 2023 was the first full quarter for companies to report following ChatGPT's release. That date marked Nvidia's rise to the top.

As of the most recent, profits doubled at what is once again the world's most valuable company. Microsoft, Google, Meta, and xAI count among Nvidia's customers. They are going all in on superclusters or server racks with 100,000 Blackwell chips (several times more powerful than previous chips).

And with a backlog of over 12-months, consensus estimates of \$185 billion in revenue over the next year look well within reach.

Data Center Revenue more than doubled to a record \$30.8 billion and now accounts for over 85% of total revenue.

Nvidia shipped 13,000 samples of its new Blackwell AI chip last quarter, which are now in full production. Reports of overheating caused some concern, but they have since been addressed.

Supply chain issues are the only real hurdle to Nvidia hitting revenue targets. But the 12-month backlog in orders shows that their Blackwell chips are the only game in town.

Despite the 25% rally from September, valuations based on Future Growth Reliance remain at 80%. Competitive profit margins increased to compensate for the higher price. And though the profit growth rate has slowed they are still growing at a stunning 87% over the prior year.

I'll walk you through the details in this report, including comparing that 87% growth to the 32% growth rate required to justify the \$139 price and it's clear Nvidia's stock still has plenty of room to surprise on the upside.

Let's begin.

Value Fundamentals

Competitive Profit Determination, Company Valuation, and Key Metrics

You can approach a company's value from two directions:

- 1) **Fundamental Value** – a company's capital plus the value of its competitive profit
- 2) **Market Value** – a company's **market capitalization** plus the value of its **debt**

This section first takes you through **Nvidia's** fundamental value starting from revenue.

It then compares that fundamental value to market value to see how much competitive profits must grow to justify the market value implied by the stock price.

The first step towards **Nvidia's** fundamental value is calculating competitive profits.

Getting Technical

Market capitalization

(Market Cap) is the stock's price multiplied by shares outstanding.

Debt is the total value of the company's bonds plus the present value of other liabilities.

Revenue to Operating Profit

We consider two costs when calculating competitive profit.

The first is operating cost

Operating costs include expenses like sales, general and administrative, wages, cost of goods sold, etc. Then you include taxes.

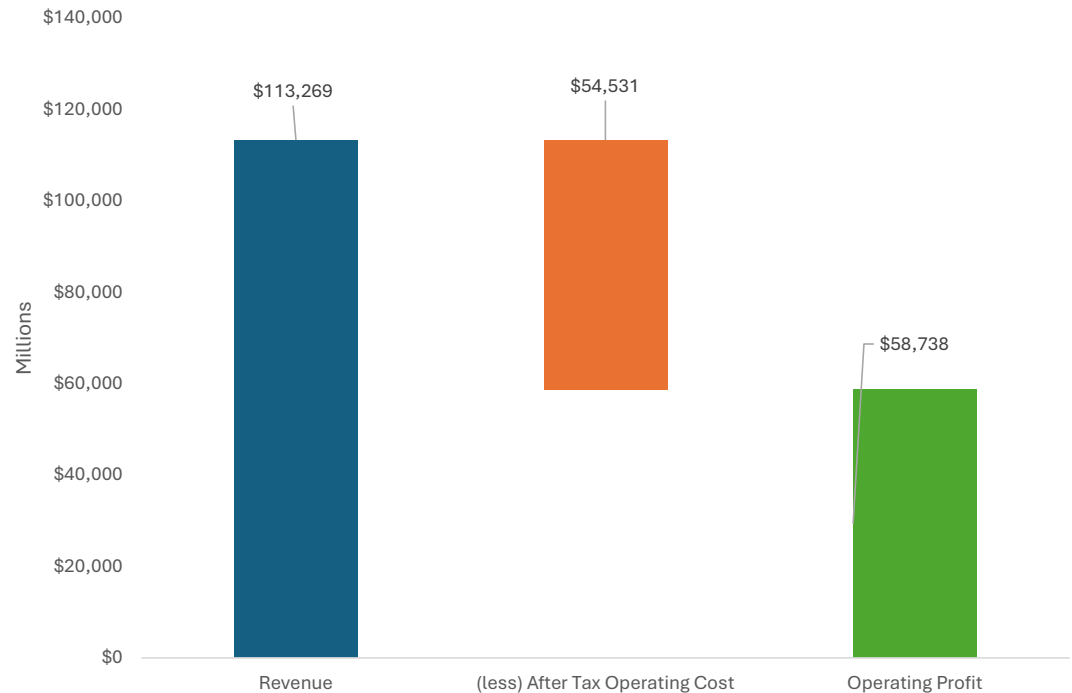
Deducting these costs from revenue gives you operating profits.

Nvidia generated \$35.08 billion in revenue last quarter (up 93.6% over the prior quarter) and \$113.27 over the last 12 months(a152.4% increase from the prior 12 months.

After deducting \$54,531 billion in annual operating costs and taxes, we get an operating profit of \$58.74 billion.

Metric That Matters: Operating Profit Margin

Operating profits as a percent of revenue equals 51%

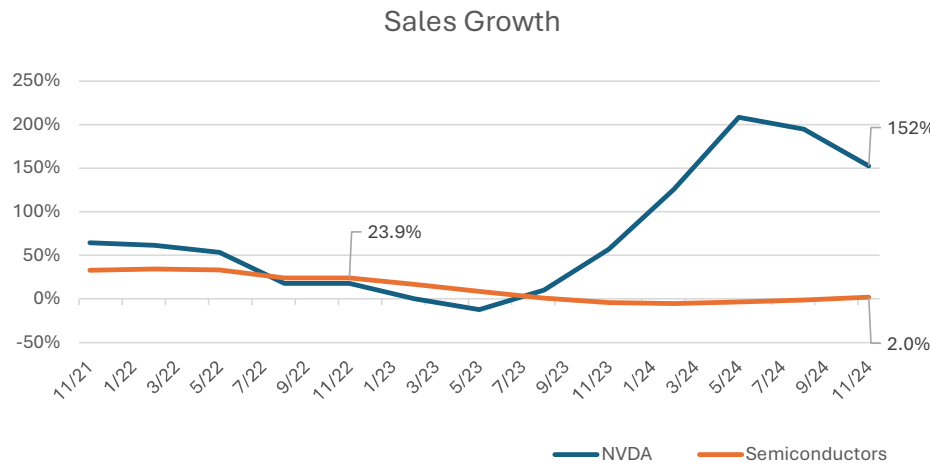


Source: ISS EVA Express, The Capital List

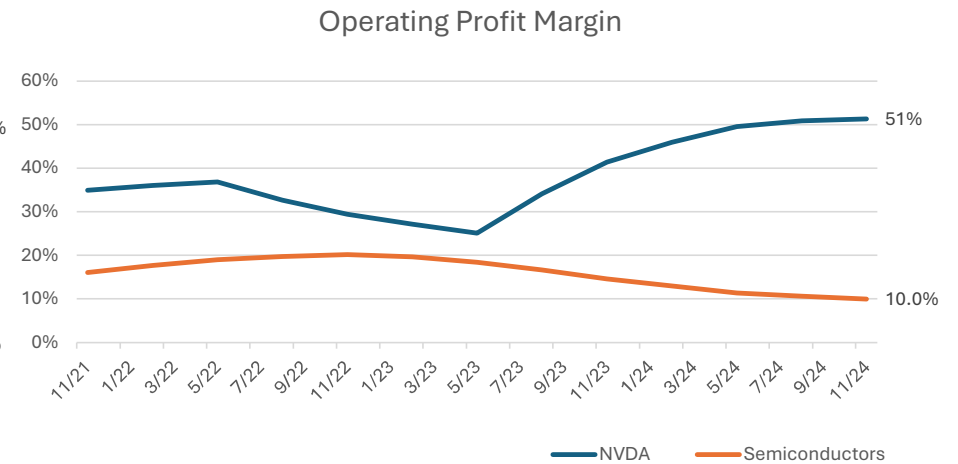
Sales and Operating Profit Comparison

Sales for Nvidia have grown 152% over the past year. This compares to an average 2% sales growth for semiconductor stocks. Moreover, sales growth at the average semiconductor company have declined from 24%, suggesting that Nvidia's revenue growth has come at the expense of the market share of all other semiconductor companies.

Operating profits as a percent of sales are 51% for Nvidia compared to 10% for other semiconductor companies, a five-fold better margin than its competitors.



Source: ISS EVA Express, The Capital List



Source: ISS EVA Express, The Capital List

Determining the Capital Charge

The second cost to consider is **Nvidia's** capital charge.

That capital charge reflects the return **Nvidia** should have earned on its capital base had it performed as well as the average company, with adjustments for debt levels and risk.

This return is the minimum required return to be considered competitive. We call this the cost of capital.

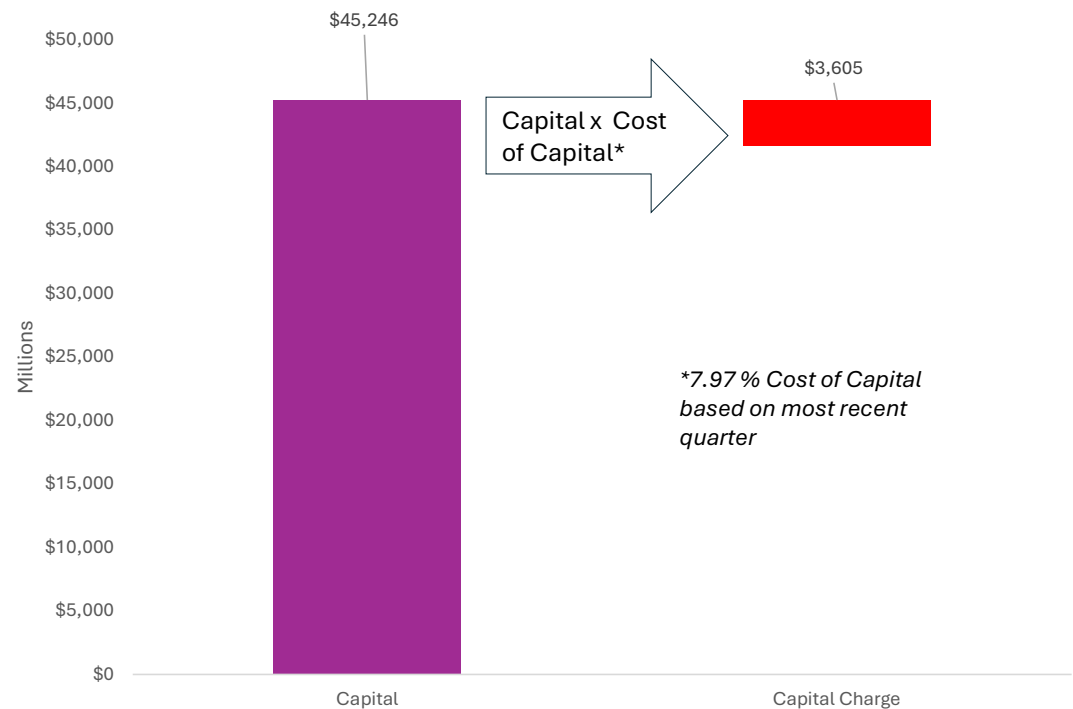
Nvidia's cost of capital over the past 12 months averaged 7.97%. Multiply that times Nvidia's \$45.2 billion capital base, and you get a \$3.6 billion capital charge.

Nvidia's operating profits must exceed \$3.6 billion to be considered **competitive profits**.

Metric That Matters: Return on Capital (ROC)

Operating Profit (\$58.7 bn) divided by capital (\$45.2 bn) yields 130% ROC based on the most recent quarter.

The average ROC over the past year is 153%.



Source: ISS EVA Express, The Capital List

Operating Profit to Competitive Profit

Getting Technical

Competitive Profit: Competitive profit represents positive return on capital (ROC). A company is only worth more than its capital when earns a positive ROC.

To calculate competitive profit, we deduct **Nvidia's** \$3.6 billion capital charge from its \$58.7 billion operating profit.

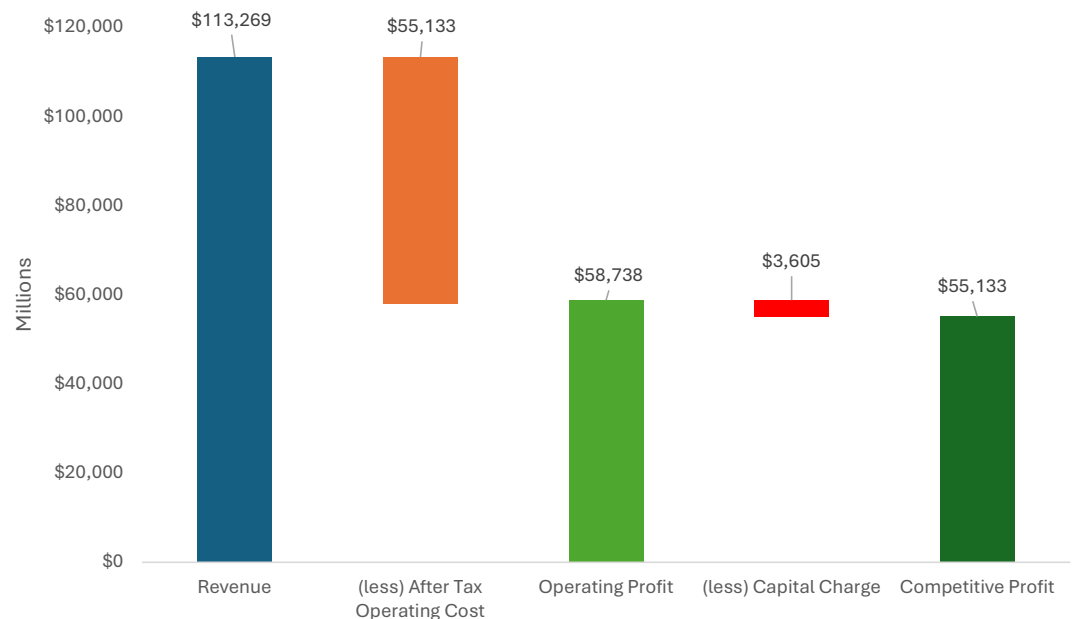
This shows a \$55.1 billion competitive profit for **Nvidia** over the past twelve months, which is an increase of 87.2% from the same period a year ago.

We are now going to use **Nvidia's** competitive profit and capital base to determine its fundamental value.

We already know its capital, so we just need to determine the value of its \$55.1 bn competitive profit.

Metric That Matters: Competitive Profit Margin

Competitive profits as a percent of revenue equals 49%.



Source: ISS EVA Express, The Capital List

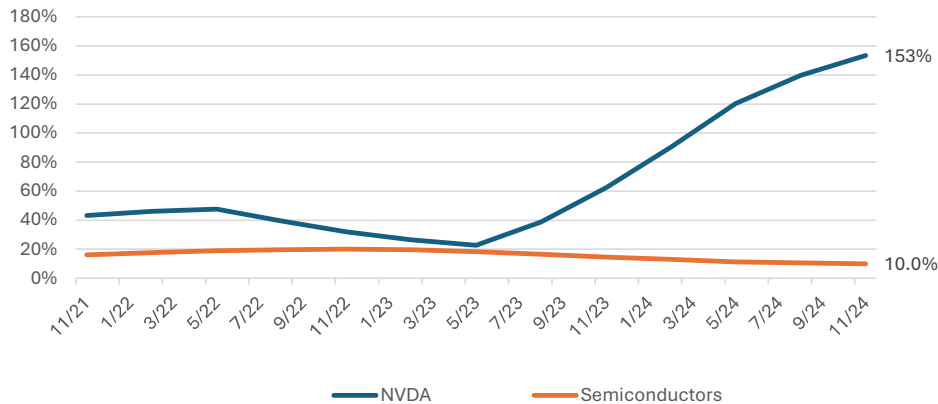
Return on Capital and Capital Spread

To add value and get a rising stock price over time, profits must exceed the cost of maintaining a company's capital base. Capital costs apply to all companies, depending mostly on debt service costs and the riskiness of the company's stock.

NVIDIA's low capital base and rapidly expanding profit margins have allowed it to add more value each quarter consistently.

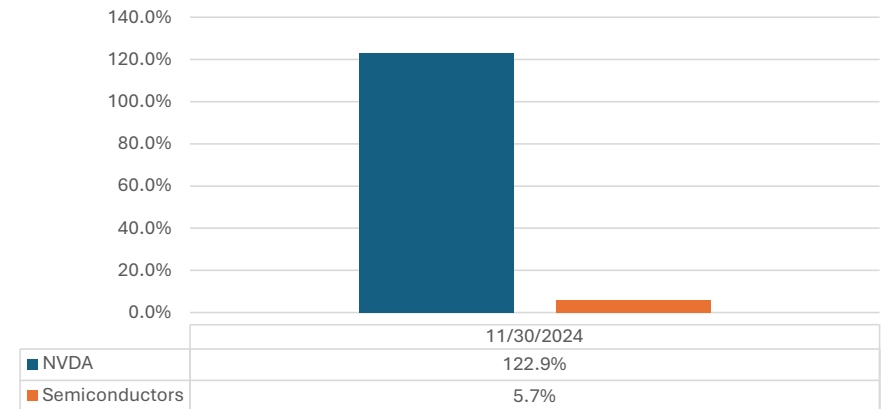
Nvidia's return on capital has reached a phenomenal 153% and its competitive profits (\$55.1 bn) exceed its capital base (45.2 bn) by 123% compared to 10% and 5.7% for the average semiconductor company.

Return on Capital



Source: ISS EVA Express, The Capital List

Competitive Profit Spread to Capital



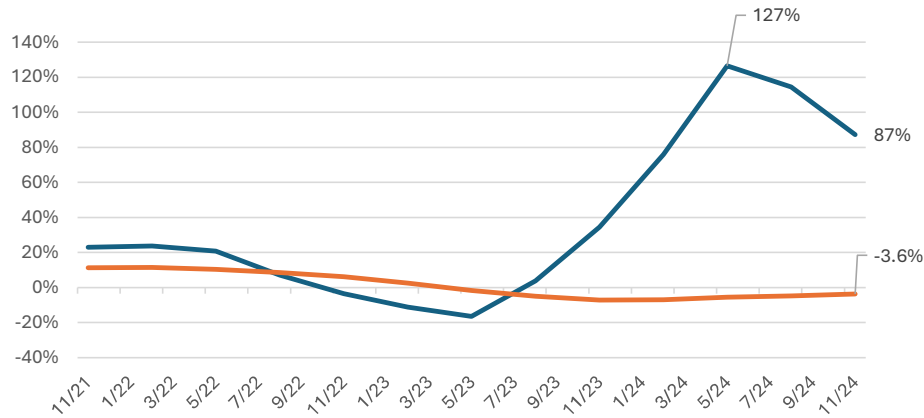
Source: ISS EVA Express, The Capital List

Competitive Profit Margins and Growth

Nvidia grew competitive profits 87% over the past year compared a 3.6% decline for the semiconductor stocks. That's down from the 127% peak rate from two quarters ago, which is due, in part, to supply chain and manufacturing bottlenecks. Once manufacturing scales to demand, that growth rate could increase.

As a percent of sales, its \$55.1 billion in competitive profits were 49% of sales compared to negative 7% for competitors due to negative competitive profits.

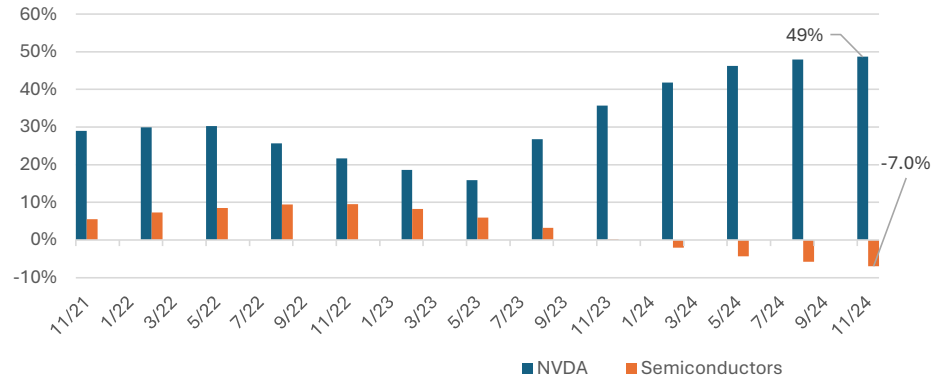
Competitive Profit Growth Rate



Source: ISS EVA Express, The Capital List

— NVDA — Semiconductors

Competitive Profit Margin
(Profits Net of Capital Charge as % of Sales)



Source: ISS EVA Express, The Capital List

■ NVDA ■ Semiconductors

Fundamental Value

To calculate the value of **Nvidia's** competitive profit to shareholders, we treat it like an annuity.

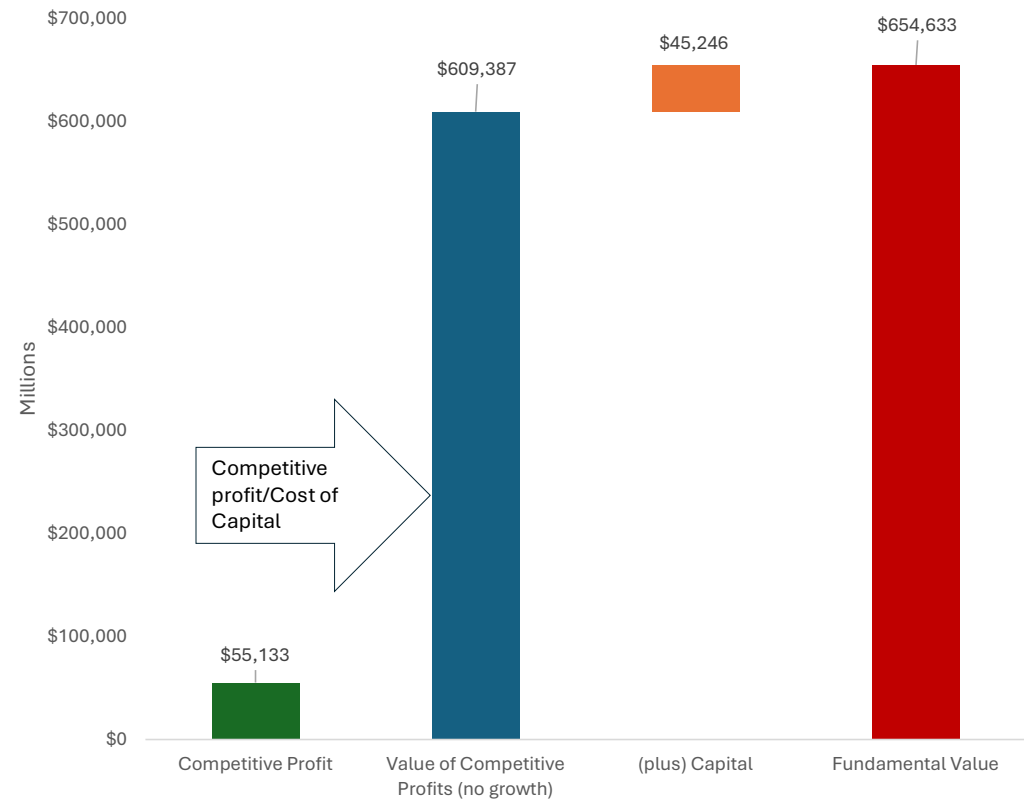
We want to know how much its \$55.1 billion profit is worth if **Nvidia** produced that same profit every year for many years out. Meaning we assume no growth or decline in profit.

We get this value by dividing competitive profits of \$55.1 billion by **Nvidia's** current 9.04% cost of capital.

Assuming no growth, **Nvidia's** current competitive profit is worth \$609.4 billion.

Add to that its \$45.2 billion capital base and you get a fundamental value of \$654.6 billion for **Nvidia**.

Now, we compare this fundamental value to **Nvidia's** market value to see how much that market value relies on future growth in profits.



Source: ISS EVA Express, The Capital List

Breaking Down Market Value

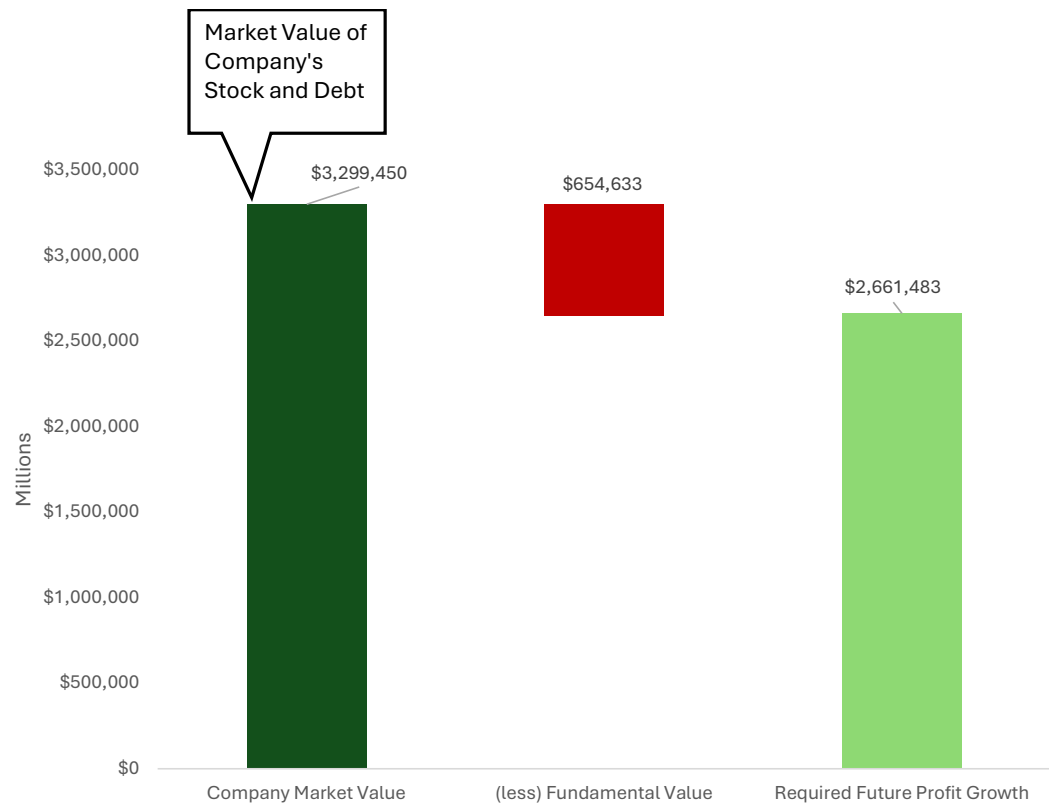
Up to this point, all of the data I have shown you have been strictly accounting measures. They involve corporate performance derived from income statements and balance sheets without any reference to the company's stock price.

Based on **Nvidia's** \$138 stock price, its market value (market cap plus debt) is \$3.3 trillion.

Deduct its \$654.6 billion fundamental value from its \$3.3 trillion market value and you're left with \$2.67 trillion of market value that relies on future profit growth, or 80.7% of market value.

Metric That Matters: Future Growth Reliance

Required future profit growth as a percent of market value equals 81%.



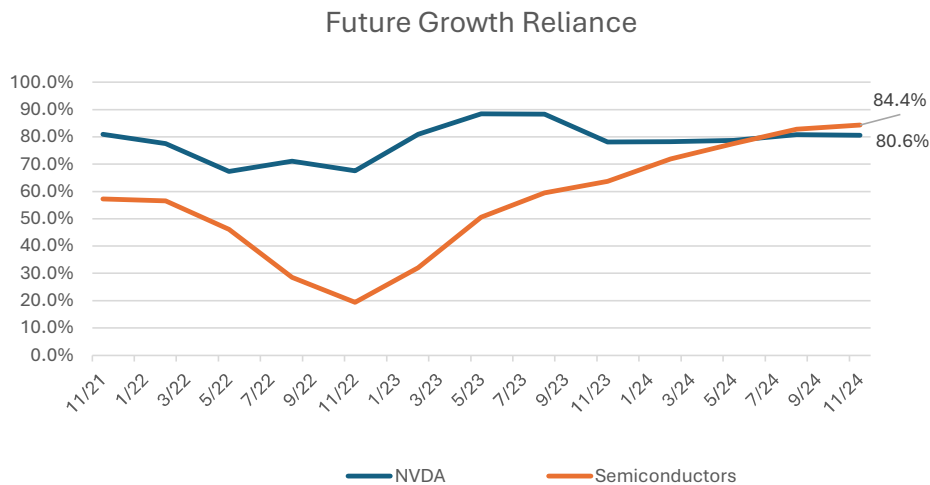
Source: ISS EVA Express, The Capital List

Paying for Growth

At 81%, Nvidia's market value relies less on future growth than its competitors (due to negative competitive profits).

We can also see how much competitive profits must grow to justify its \$138 stock price.

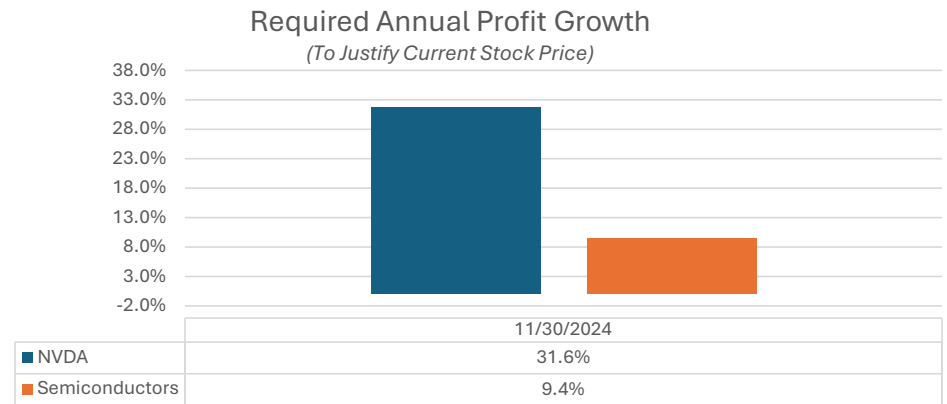
The company must grow competitive profits at 32% per year, which. Given that it grew them at 87% over the past year and that the company has a 12-month backlog (they are the only game in town) you can expect the stock to continue to appreciate.



Source: ISS EVA Express, The Capital List

Metric That Matters: Market Implied Profit Growth

Market implied profit growth is the annual growth in competitive profits required to justify the Nvidia's stock price. That rate is currently 32%.



Source: ISS EVA Express, The Capital List

Profit Quality

It's also important to gauge the quality of a company's value-added cashflows.

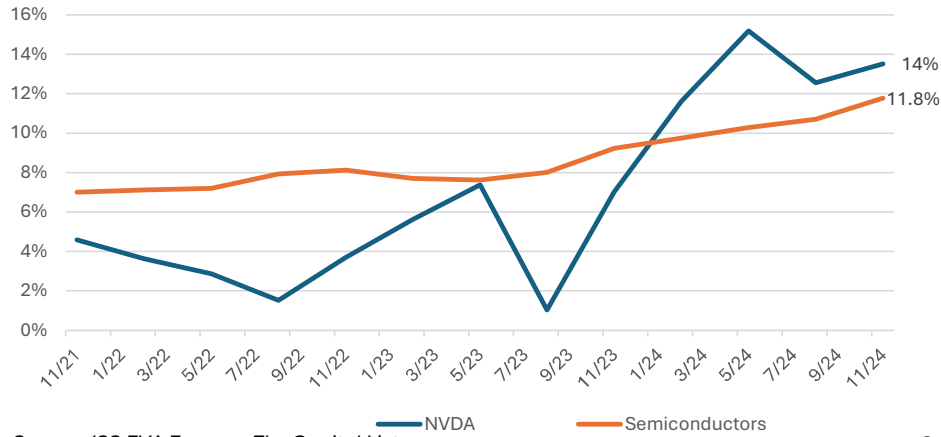
Profits are low quality when they are volatile, depend on leverage, or don't cover the capital needed to generate them.

Nvidia's 123% competitive profit spread to capital shows that it easily covers capital costs.

In terms of volatility, NVIDIA's profit volatility is just slightly higher than the average semiconductor company.

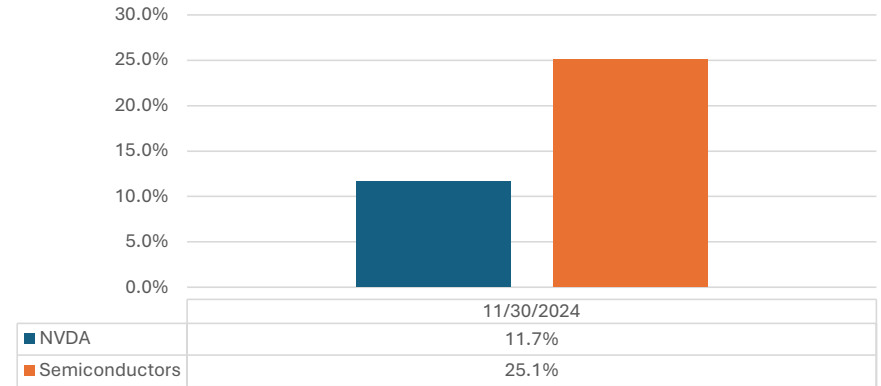
Finally, for a more traditional measure, NVIDIA has the much lower Debt-to-Capital Ratio (11.7% vs. 25.1%) meaning it relies less on debt for funding its business.

Competitive Profit Volatility



Source: ISS EVA Express, The Capital List

Debt to Capital Ratio



Source: ISS EVA Express, The Capital List

Price Compared to Consensus

Consensus estimates have sales growing 33% per year over the next 5 years.

Nvidia's market implied profit growth is 32% which, assuming no change in operating profit margins of 49%, puts revenue well above consensus estimates in 5 years.

There are many of scenarios regarding costs, competition, and sales growth to consider, but given Nvidia's excellent operational history and the insatiable demand for its chips, I see \$200 per share as a viable target for the stock over the next year.

Think Free, Be Free

Don Yocham, CFA

