

# Equity Research Report: NVIDIA Corporation

FinRobot

<https://ai4finance.org/>

<https://github.com/Al4Finance-Foundation/FinRobot>

Report date: 2024-02-21

## Business Overview

Founded in 1993, NVIDIA Corporation is a leading technology company that provides accelerated computing solutions, primarily through its GPU architecture. Its core strengths include a robust software ecosystem, extensive R&D investment, and a strong foothold in AI and deep learning applications. NVIDIA serves various end markets, including Data Center, Gaming, Professional Visualization, and Automotive, with significant revenue from major customers like cloud service providers and enterprises globally. The company holds a dominant market share in GPUs and AI computing. Current industry trends highlight a surge in AI demand, presenting opportunities for growth, yet challenges arise from geopolitical tensions and export restrictions. Recent strategic initiatives include launching the NVIDIA DGX Cloud and expanding partnerships in the automotive sector, positioning NVIDIA to leverage market conditions. In summary, NVIDIA's innovative product offerings and strategic partnerships enhance its competitive edge in the rapidly evolving tech landscape.

## Market Position

NVIDIA's Compute & Networking segment achieved a remarkable revenue growth of 215% in fiscal year 2024, driven primarily by the strong demand for data center products, especially in AI applications. This surge reflects the increasing reliance of enterprises and cloud service providers on NVIDIA's advanced computing solutions for AI training and inference. The Graphics segment experienced a 14% revenue increase, reaching \$13.5 billion, largely due to higher sales of gaming GPUs and the normalization of channel inventory levels. This growth indicates a rebound in demand for NVIDIA's gaming products as gamers and content creators increasingly adopt advanced graphics technologies. Professional Visualization revenue saw a modest increase of 1%, totaling \$1.6 billion, as the segment continued to benefit from the adoption of NVIDIA RTX technology in design and content creation workflows. This slight growth suggests stable demand for NVIDIA's visualization solutions amidst a competitive landscape. The Automotive segment reported a 21% revenue growth, reaching \$1.1 billion, primarily driven by advancements in self-driving platforms and partnerships with major automotive manufacturers. This growth highlights NVIDIA's strategic positioning in the rapidly evolving automotive market, focusing on AI-driven solutions for autonomous vehicles.

## Operating Results

In fiscal year 2024, NVIDIA's revenue surged to \$60.9 billion, a remarkable 126% increase from \$26.9 billion in fiscal year 2023, driven primarily by a 217% rise in Data Center revenue. Cost of Goods Sold (COGS) improved significantly, with a gross margin of 72.7%, up from 56.9% the previous year, indicating enhanced cost efficiency. Operating income skyrocketed by 681% to \$32.97 billion, with an operating margin of 54.1%, reflecting operational effectiveness and strong demand for NVIDIA's products. Diluted EPS increased to \$11.93, up 586% from \$1.74, showcasing substantial profitability growth and positive investor sentiment. NVIDIA's robust financial performance, driven by AI and Data Center demand, positions it favorably amid increasing competition and macroeconomic challenges.

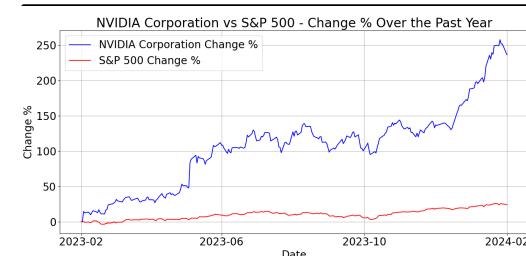
## Financial Metrics

FY (USD mn)	2021	2022	2023	2024	2025
Revenue	16675	26914	26974	60922	130497
Revenue Growth	-38.0%	-0.2%	-55.7%	-53.3%	682.6%
Gross Revenue	10396	17475	15356	44301	97858
Gross Margin	0.62	0.65	0.57	0.73	0.75
EBITDA	5691	11351	5986	35583	86137
EBITDA Margin	0.34	0.42	0.22	0.58	0.66
FCF	5822	9108	5641	28090	64089
FCF Conversion	1.34	0.93	1.29	0.94	0.88
ROIC	17.1%	24.6%	11.7%	51.3%	75.3%
EV/EBITDA	58.62	54.72	81.05	43.45	33.78
PE Ratio	75.43	62.68	109.09	51.83	39.9
PB Ratio	19.34	22.97	21.56	35.89	36.66

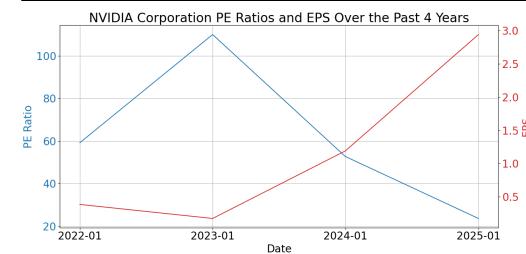
## Key data

Rating	buy
Target Price	90.0 - 1400.0 (md. 250.0)
6m avg daily vol (USDmn)	462.83
Closing Price (USD)	69.41
Market Cap (USDmn)	1661111.40
52 Week Price Range (USD)	21.08 - 72.46
BVPS (USD)	1.74

## Share Performance



## PE & EPS



## Risk Assessment

NVIDIA Corporation operates in a highly dynamic and competitive industry, primarily focused on semiconductor manufacturing and accelerated computing platforms. The top three key risks identified from the company's 10-K report are: competition and market share erosion, dependency on third-party suppliers, and regulatory and compliance challenges. The first key risk, competition and market share erosion, is a significant concern for NVIDIA as the semiconductor industry is characterized by rapid technological advancements and evolving customer demands. Compared to other industries, the semiconductor sector experiences heightened volatility due to the constant influx of new entrants and innovations. This competitive landscape is exacerbated by the presence of companies with more extensive resources and established market positions. The cyclical nature of the technology sector means that during economic downturns, demand for consumer electronics and data center products may decline, adversely affecting NVIDIA's revenues. The company has historically faced challenges in maintaining its market share against competitors that may offer similar products at lower prices or with superior features. The risk quantification in this area is evident from the fluctuating sales figures and the dependency on a limited number of key customers for a significant portion of revenue. If NVIDIA fails to innovate or capture emerging market trends, its financial performance could suffer considerably. The second key risk, dependency on third-party suppliers, presents a unique challenge for NVIDIA. The company's reliance on external foundries for semiconductor manufacturing limits its control over production quality and timelines. Compared to other sectors, where companies might have more direct control over their supply chains, NVIDIA's model is susceptible to disruptions caused by supplier issues, geopolitical tensions, or natural disasters. The cyclicity of the semiconductor industry can lead to supply shortages or excess inventory, depending on demand fluctuations. The quantification of this risk can be observed in the company's past experiences with mismatches between supply and demand, which have resulted in both product shortages and excess inventory. Such occurrences have led to significant financial repercussions, including lost sales and increased costs. To mitigate this risk, NVIDIA has engaged in long-term contracts with suppliers and diversified its supplier base, but the inherent risks associated with third-party dependencies remain a critical concern. The third key risk revolves around regulatory and compliance challenges. NVIDIA operates in a heavily regulated environment, particularly concerning data privacy, export controls, and environmental regulations. Compared to other industries, the semiconductor sector faces stringent compliance requirements that can vary significantly across jurisdictions. The cyclical nature of regulatory scrutiny can lead to sudden changes that impact operational capabilities and costs. The quantification of this risk is reflected in the potential fines and operational disruptions that may arise from non-compliance with evolving regulations. Furthermore, the increasing focus on sustainability and responsible technology use adds another layer of complexity, as stakeholders demand transparency and accountability. NVIDIA's proactive approach to compliance and its investment in sustainable practices serve as downside protections, but the ever-changing regulatory landscape poses a persistent threat. In conclusion, NVIDIA Corporation navigates a complex risk landscape characterized by intense competition, reliance on third-party suppliers, and regulatory challenges. Each of these risks presents unique challenges that can significantly impact the company's performance. While NVIDIA has implemented various strategies to mitigate these risks, such as diversifying its supplier base and investing in compliance, the inherent volatility of the semiconductor industry and the rapid pace of technological change create an environment of uncertainty. The company's ability to adapt and respond to these challenges will be crucial in sustaining its market position and achieving long-term growth.

## Competitors Analysis

In this analysis, we will evaluate NVIDIA (NVDA) and its competitors—Apple (AAPL), Alphabet (GOOGL), Microsoft (MSFT), and Meta (META)—across multiple years (2023 to 2020) based on several key financial metrics: EBITDA Margin, EV/EBITDA, FCF Conversion, Gross Margin, ROIC, Revenue, and Revenue Growth. Starting with year 2023, NVDA's EBITDA Margin stands at 0.66, significantly higher than AAPL's 0.35, GOOGL's 0.45, MSFT's 0.57, and META's 0.52. This indicates NVDA's strong profitability relative to its peers. In comparison to the previous year, 2022 (EBITDA Margin of 0.58), NVDA shows a decline, while AAPL and GOOGL also experienced slight reductions in their margins, indicating a challenging profitability environment across the board. However, MSFT and META have shown slight improvements in their margins. In terms of EV/EBITDA, NVDA is valued at 33.78 in 2023, which is relatively high compared to AAPL's 26.97, GOOGL's 21.3, MSFT's 23.27, and META's 16.38. This suggests that NVDA is potentially overvalued in relation to its earnings before interest, taxes, depreciation, and amortization. Over the years, NVDA's EV/EBITDA has fluctuated, peaking at 81.05 in 2021, which raises concerns about its valuation sustainability. Meanwhile, AAPL and GOOGL maintained more stable valuations, with GOOGL showing a consistent decline in EV/EBITDA, indicating improved valuation attractiveness over time. When assessing FCF Conversion, NVDA's figure of 0.88 in 2023 demonstrates solid cash flow efficiency, though it lags behind AAPL's 1.0 and META's impressive 1.92. AAPL and META have consistently outperformed NVDA in this metric over the years, which suggests they are better at converting earnings into free cash flow. NVDA's FCF Conversion has seen fluctuations, dropping from 0.94 in 2022 to 0.88 in 2023, indicating a potential area for improvement. Evaluating Gross Margin, NVDA maintains a strong position at 0.75 in 2023, outperforming AAPL (0.47), GOOGL (0.6), MSFT (0.69), and META (0.82). This metric reflects NVDA's efficiency in managing its production costs relative to its sales. However, it is noteworthy that while NVDA has a solid gross margin, META's gross margin of 0.82 indicates its superior cost management efficiency in recent years. In terms of ROIC, NVDA's return on invested capital is exceptionally high at 75.3% in 2023, suggesting remarkable efficiency in generating returns from its capital investments. This positions NVDA as a leader in this regard, significantly ahead of AAPL (52.0%), GOOGL (21.8%), MSFT (22.0%), and META (18.0%). Over the years, NVDA's ROIC has demonstrated volatility, dropping to 51.3% in 2022, but it has rebounded strongly in 2023. Regarding Revenue, NVDA reported \$130.497 billion in 2023, which is lower than AAPL's \$416.161 billion and GOOGL's \$402.963 billion, but higher than MSFT's \$281.724 billion and META's \$200.966 billion. The revenue growth trajectory for NVDA has been inconsistent, with no significant growth indicated in the past years. AAPL and GOOGL also show stagnant revenue growth, while MSFT and META exhibit a slight decline. In conclusion, NVDA showcases a strong financial health profile with impressive EBITDA Margin, ROIC, and Gross Margin metrics relative to its competitors. However, its high EV/EBITDA ratio raises concerns regarding its valuation, while its FCF Conversion and Revenue growth indicate areas for potential improvement. The combination of high profitability and efficient capital utilization positions NVDA favorably, but the sustainability of its valuation and cash flow efficiency will be crucial for its future performance. Overall, while NVDA's metrics support its strong market position, the high valuation relative to its cash flow

efficiency may warrant caution for potential investors.