| HOLD | NIVIDA CORPORATION (NVDA) | 04.26.2024 |
| --- | --- | --- |

## INVESTMENT THESIS

I recommend a hold on NVIDIA Corporation (NVDA). The Wisman Fund has held NVDA for over 4.6 years and seen a return of 1,706.6%. In comparison, the average annual return for large cap stocks is 10%, and the average annual return for small caps is 12%.

### *DRIVERS OF THESIS*

- The stock price is fairly valued in absolute valuation. According to both:
  - 3-stage FCFE model used in this report.
  - Morningstar Analysts.
- The stock price is undervalued in relative valuation.
- Artificial Intelligence is in its infancy.
- NVIDIA holds 80% of the market share.
  - Further solidified dominance with release of Blackwell Platform.
- The diversification of markets. Growth potential in:
  - Automotive via autonomous vehicles.
  - Professional visualization via NVIDIA Omniverse.
  - Gaming via the expected gaming market increase.
- The exponential growth of data center revenues.
- Current market conditions:
  - The Fed is stabilizing interest rates.
  - Unemployment remains low.

- Market projections:
  - Cooling inflationary environment.
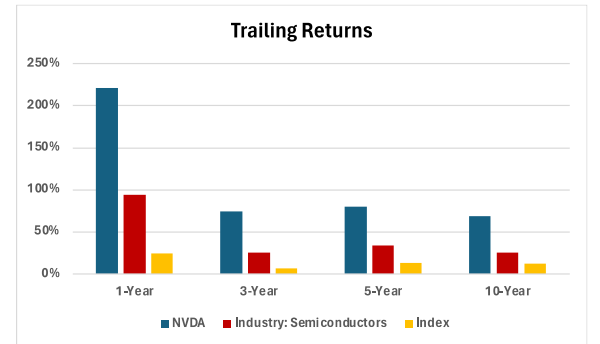  - FOMC meeting projections for GDP, Interest, and Unemployment.

## FIVE YEAR PERFORMANCE



Source: Yahoo Finance

### NVIDIA Corporation

| NYSE | NVDA |
| --- | --- |
| Price | $877.35 |
| Fair Value | $963.37 |
| Sector | Information Technology |
| Industry | Semiconductor |

**Trailing Returns**



### Wisman Fund Characteristics

| Shares | 75 |
| --- | --- |
| Holding Period | 4.6 Years |
| Holding Period Return | 1706.6% |
| YTD Return | 77.2% |

### Key Statistics

| Market Cap | $2.193T |
| --- | --- |
| Shares Outstanding (B) | 2.464 |
| EBITDA (TTM) | $34.48B |
| Five Year Beta | 1.74 |
| Forward Dividend Yield | 0.02% |
| Price/Earnings | 73.54 |
| Price/Sales | 35.92 |
| Price/Book | 50.30 |
| Price/Cash Flow (TTM) | 68.78 |

**Important Annotation**: NVIDIA's fiscal years are one calendar year ahead of the actual dates they cover (e.g., FY24 spans the entirety of 2023).

## COMPANY SUMMARY

NVIDIA Corporation (NVDA) is the pioneer of graphics processing unit (GPU)-accelerated computing. Based out of Santa Clara, California and founded in 1993, NVIDIA's original "vision [was] to bring 3D graphics to the gaming and multimedia markets."[1] Upon succeeding in their first venture, in 2006 the company began to utilize the untapped potential of the GPU with the conception of CUDA, a parallel processing platform and programming model. "In GPU-accelerated applications, the sequential part of the workload runs on the CPU – which is optimized for single-threaded performance – while the compute intensive portion of the application runs on thousands of GPU cores in parallel."[2] Through the use of leveraging crucial computing power, NVIDIA has transformed its reach far beyond the original PC graphics market. It now has expanded into providing some of the most advanced computing solutions in the world. NVIDIA who holds 80% of the global GPU semiconductor chip market is well positioned to benefit as a result of the increase in demand for more computational power.[3]
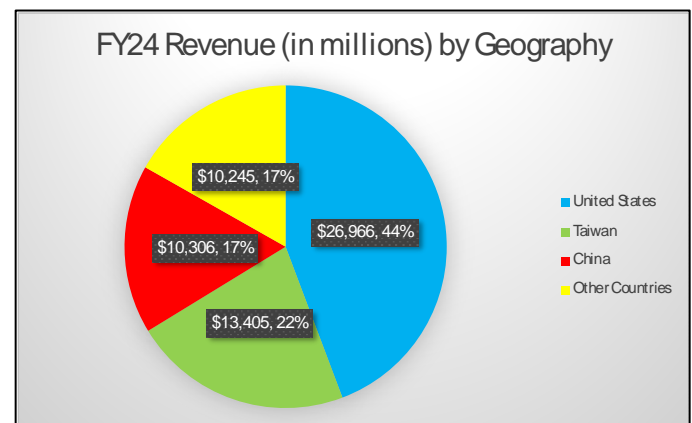
### *BUSINESS MODEL*

NVIDIA is in the business of designing graphics processing units. They are not in the foundry industry. Thus, this means the corporation does not manufacture the chips they design. They "utilize a fabless and contracting manufacturing strategy, whereby [they] employ and partner with key suppliers for all phases of the manufacturing process, including wafer fabrication, assembly, testing, and packaging."[4] NVIDIA utilizes the foundries of both Taiwan Semiconductor Manufacturing Company Limited and Samsung.[4] Due to the outsourcing of

manufacturing, NVIDIA can put extensive focus into the design and development of their technologies without having to bear capital-intensive production costs. The company also has a spectrum of product offerings across two business segments: compute and networking, and graphics. The firm also states they have four diverse markets (data center, gaming, professional visualization, and automotive) that "incorporate processors, interconnects, software, algorithms, systems, and services to deliver unique value."[5] Ultimately, NVIDIA earns profit via its business model: designing GPU architecture and software platforms; a fabless manufacturing model; direct sales of GPUs; and selling products through original equipment manufacturers (OEMs).

**Geography**

NVIDIA has an international presence. Their supply chain is concentrated in the Asia-Pacific region. With respect to FY24 revenue streams, the United States accounted for 44.2%, Taiwan 22%, and China 16.9% of the total revenue. The company's long-lived assets can be found in three countries in descending order in terms of value (USA, Taiwan, and Israel).



FY24 Revenue (in millions) by Geography

- United States: $26,966, 44%
- Taiwan: $13,405, 22%
- China: $10,306, 17%
- Other Countries: $10,245, 17%

Source: NVIDIA 10-Ks filed on 2/21/2024

## *BUSINESS SEGMENTS – COMPUTE & NETWORKING*

As revealed, NVIDIA Corporation is diversified in terms of markets and geography. This section will examine the various specialized markets their GPUs serve.

**Automotive**

The "automotive market is comprised of platform solutions for automated driving and in-vehicle cockpit computing. . . [NVIDIA's] delivering a complete end-to-end solution for the AV market under the DRIVE Hyperion brand. [Having] demonstrated multiple applications of AI within the car: AI can drive the car itself as a pilot in fully autonomous mode or it can also be a co-pilot, assisting the human driver while creating a safer driving experience."[6]
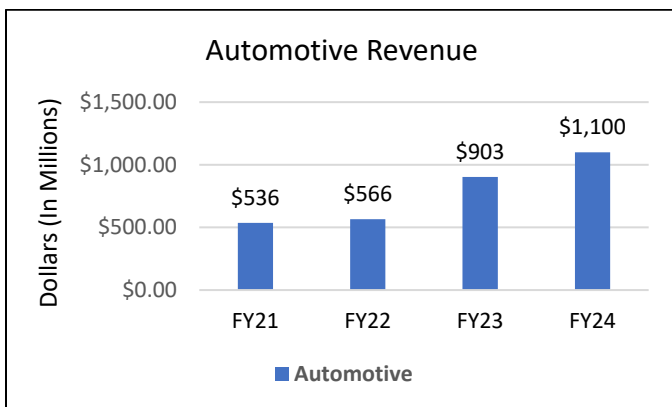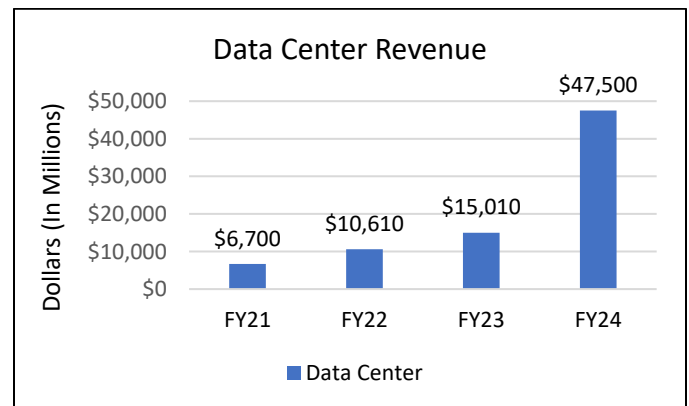


SOURCE: NVIDIA 10-KS FILED ON 2/21/2024 AND 2/24/2023

**Data Center**

"The NVIDIA Data Center platform is focused on accelerating the most compute-intensive workloads, such as AI, data analytics, graphics, and scientific computing, delivering significantly better performance and power efficiency relative to conventional CPU-only approaches. It is deployed in cloud, hyperscale, on-premises and edge data centers. [Their] end customers include the world's leading public cloud and consumer internet companies, thousands of enterprises and startups, and public sector entities. At the foundation of the NVIDIA accelerated computing platform are [the] GPUs, which excel at parallel workloads such as the training and inferencing of neural networks. Beyond GPUs, [their] data center platform expanded to include DPUs in fiscal year 2022 and CPUs in fiscal year 2024."[7] The revenue being captured from this segment is not the company allowing outsiders to use NVIDIA's own data centers, but more so external organizations integrating NVIDIA hardware whether they're trying to build and operate their own data center or upgrade their current infrastructure. The data center market is where the extreme growth has stemmed from in the company. The chart below shows FY24 data center revenue grew 216.5% YoY.
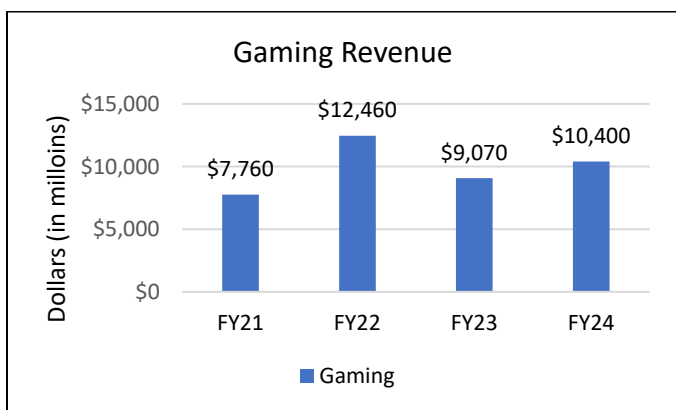


SOURCE: NVIDIA 10-KS FILED ON 2/21/2024 AND 2/24/2023

## *BUSINESS SEGMENTS - GRAPHICS*

**Gaming**

The gaming segment lies at the historic roots of the company. It was NVIDIA's largest contributor in revenue until fiscal year 2023 when it was surpassed by the data center segment. "Gaming is the largest entertainment industry, with PC gaming as the predominant platform . . . [NVDA] gaming platforms leverage [their] GPUs and sophisticated software to enhance the gaming experience with smoother, higher quality graphics. [They] developed NVIDIA RTX to bring next generation graphics and AI to games. NVIDIA RTX features ray tracing technology for real-time, cinematic-quality rendering. Ray tracing . . . is a computationally intensive technique that simulates the physical behavior of light to achieve greater realism in computer-generated scenes. NVIDIA RTX also features deep learning super sampling . . . AI technology that boosts frame rates while generating . . . sharp images for games. RTX GPUs will also accelerate a new generation of AI applications. With an installed base of over 100 million AI capable PCs, more than 500 RTX AI-enabled applications and games, and a robust suite of development tools, RTX is already the AI PC leader. [Their] products for the gaming market include GeForce RTX and GeForce GTX GPUs for gaming desktop and laptop PCs."[6]

It's expected in 2024 that the gaming market size will be $272.9 billion and expected to reach $426.02 billion by 2029. That's a CAGR of 9.32% from 2024-2025.[23]

**Professional Visualization**

NVIDIA's professional visualization business focuses on providing high-performance graphics solutions tailored for professionals in various industries, including architecture, engineering, manufacturing, media, and entertainment. This segment offers GPUs, software, and related technologies designed to accelerate workflows, enhance visualization, and streamline complex tasks such as 3D rendering, virtual prototyping, and simulation. NVIDIA's professional visualization products, such as Quadro GPUs and NVIDIA RTX technology, deliver cutting-edge graphics capabilities, real-time ray tracing, and AI-enhanced workflows to enable professionals to create, simulate, and visualize intricate designs and animations with unprecedented realism and efficiency. This segment caters to a diverse range of applications, from architectural design and automotive engineering to film production and scientific visualization, empowering professionals to achieve breakthroughs and innovations in their respective fields.



Source: NVIDIA 10-Ks filed on 2/21/2024 and 2/24/2023
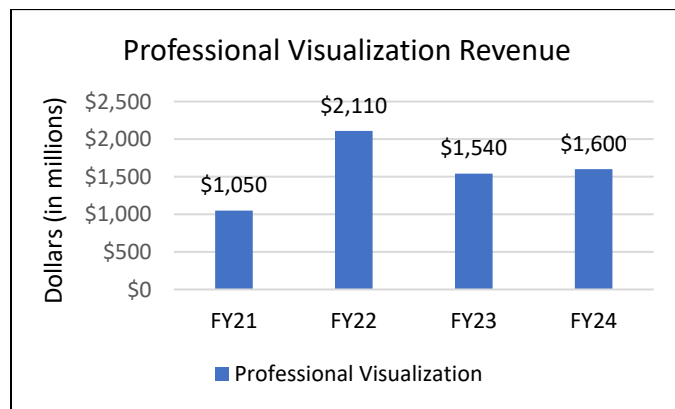


SOURCE: NVIDIA 10-KS FILED ON 2/21/2024 AND 2/24/2023

## *STOCK PERFORMANCE*

NVIDIA's stock return has outperformed the S&P 500 index, and semiconductor industry over the past 1, 3, 5, and 10 years. YTD, NVIDIA has a return of 77.16%, outperforming the S&P 500 (4.14%), semiconductor industry (20.40), and information technology sector (8.31%).[7]
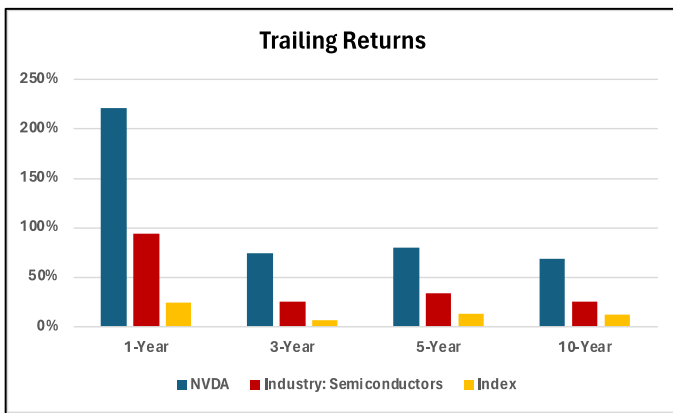


SOURCE: MORNINGSTAR

## *RECENT DEVELOPMENTS*

**News**

*Super Micro Computer*:

In recent news, NVIDIA's April 19, 2024, 10% drop is the largest single day percentage drop since March 16, 2020, when the stock fell 18.5%. This price action mainly can be attributed to Super Micro Computer (SMCI) "not [giving] its customary preliminary revenue report, possibly implying that its quarterly results were weaker than expected."[8] The lack of news impacted NVIDIA because SMCI's high-performance servers and storage systems are highly complementary to NVDA's GPUs in building the infrastructure needed for cloud computing, data centers, and AI processes.

*Blackwell*:

NVIDIA's Blackwell GPU represents a significant advancement in GPU technology, specifically tailored for generative AI and high-performance computing tasks. Blackwell GPUs will allow "organizations everywhere to build and run real-time generative AI on trillion-parameter large language models at up to 25x less cost and energy consumption than its predecessor (Hopper GPU). . . AWS, Google Cloud, Microsoft Azure and Oracle Cloud Infrastructure will be among the first cloud service providers to offer Blackwell-powered instances."[16] "For example, Huang said it would take only 2,000 Blackwells and 4 megawatts of energy to train a version of the GPT model that powered ChatGPT, versus 8,000 Hoppers and 15 megawatts to do the same training for the same amount of time."[21]

*6G Research Cloud Platform*:

The NVIDIA 6G Research Cloud platform is open, flexible, and interconnected, offering researchers a comprehensive suite to advance AI for radio access network (RAN) technology. The platform allows organizations to accelerate the development of 6G technologies that will connect trillions of devices with the cloud infrastructures, laying the foundation for a hyper-intelligent world supported by autonomous vehicles, smart spaces and a wide range of extended reality and immersive education experiences and collaborative robots.[17]

*Google's Gemma*:

NVIDIA, in collaboration with Google . . . launched optimizations across all NVIDIA AI platforms for Gemma — Google's state-of-the-art new lightweight 2 billion– and 7 billion-parameter open language models that can be run anywhere, reducing costs, and

speeding innovative work for domain-specific use cases.[18]

## INVESTMENT THESIS

My investment thesis is based on an analysis of economic drivers, financial analysis, and the three-stage free cash flow to equity (FCFE) model to calculate fair value.

### *ECONOMIC DRIVERS*

#### Unemployment

As of March 2024, the unemployment rate in the United States stands at 3.8%, showing little change from previous months where it has fluctuated between 3.7% and 3.9% since August 2023. This stability reflects a broader pattern in which various sectors such as health care, government, and construction continue to experience job gains. For example, in March alone, the nonfarm payroll employment increased by 303,000, continuing a trend of positive job growth across these industries.[10]

#### Core PCE Inflation

Core PCE inflation has been on the decline since February 2022. The United States is approaching the FOMC's 2% target, however the road there has proven to be bumpy. The Federal Reserve is reluctant to cut rates when the economy has not showed signs of slowing down. They also are hesitant to lower interest rates in fear that inflation will take off and all the progress they've made would be lost.
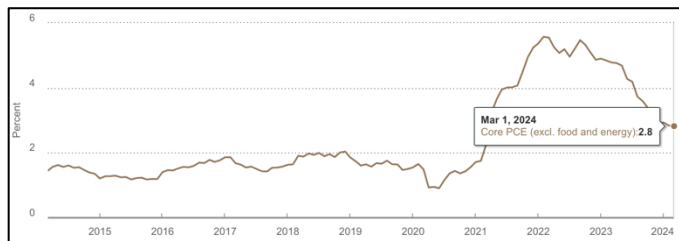


Source: Federal Reserve Bank of Cleveland

#### Federal Funds Rate

The federal funds rate is one of the Fed's main tools in the fight against inflation. The effective federal funds target rate range has been 5.25% - 5.50% since August 2023 and has remained unchanged.[13] The outlook for the first rate cut of 2024 happening in June seems dim. Per the CME FedWatch Tool the probability the target range will remain unchanged is currently 88.2%. A month ago, the probability of staying at our current range was 39.6%.[9]
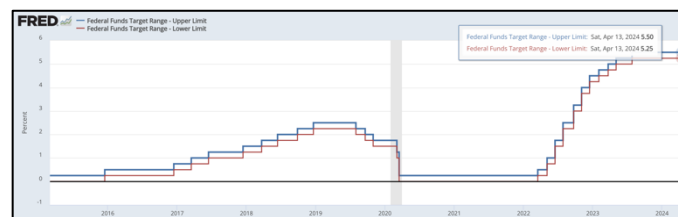


Source: Federal Reserve Bank of St. Louis

### The Yield Curve

The United States current treasury yield curve consisting of the 2-year treasury note and the 10-year treasury note has been inverted for a historical length of time.[14]
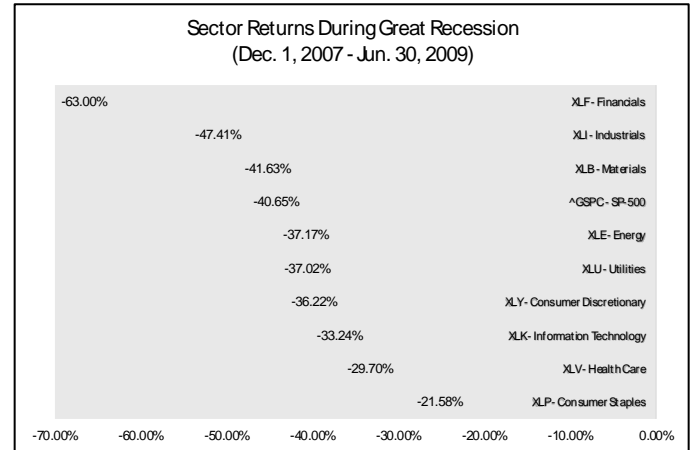


The inverted yield curve is a predominant indicator of recessionary periods. Specifically, the treasury term spread of the 10-year bond rate and the 3-month bill rate. With respect to the treasury term spread, the United States has been inverted since November 2022. As of March 2024, the spread was -1.17%, and had a corresponding probability of recession in 12 months is 58.31%.[15] It's important to recognize the current state of the curve. As well as to examine past performance of the I.T. sector when such a principal

indicator is flashing warning signs of economic downturn.

## Information Technology Sector

The information technology sector has emerged over the last two decades as a high growth, volatile, and innovative area in the market. The sector's momentum has continued to be fueled by the likes of cloud computing, e-commerce, digital transformation, and artificial intelligence (AI). Looking back at the most recent recession during COVID–19, I.T. (-3.9%) withstood the economic downturn better than many traditional defensive sectors such as consumer staples (-8.91%) and utilities (-18.99%) while also beating the S&P 500 Index (-12.24).



Source: Yahoo Finance (February 2020 – April 2020)

Not only did the sector show resistance toward the COVID-19 Recession, but it also performed relatively well in the Great Recession of 2007–2009. In the following graph it can be observed that it was the third best performing sector. The specified dates were identified via the National Bureau of Economic Research (NBER) business cycle dating webpage.[11] Note that the Real Estate (XLRE) and the Communication Services (XLC) sectors are not included on the graph below due to being created in 2015 and 2018 respectively.



Source: Yahoo Finance

Information technology stocks have been posting respectable annual returns for the better part of the last decade. In 2023, I.T. had the largest return (56.39%) of any sector, and is currently outperforming the S&P 500 YTD by 1.39%. The information technology sector has historically outperformed the broader market which is evident on the five-year chart shown below.
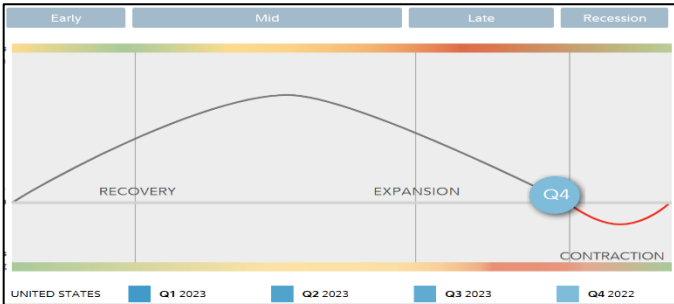


Source: Yahoo Finance (5Y)

Fidelity expresses that the United States is currently in the late expansion phase of the business cycle. During this phase, the I.T. sector tends to earn an average period return of 10.1%.[12]

Source: Fidelity.com (both)

## Semiconductor Industry

NVIDIA is the predominant firm in the semiconductor industry. The semiconductor industry is pivotal in driving modern technology, encompassing the design, manufacture, and supply of semiconductors or integrated circuits used across various sectors. This industry is marked by rapid technological advances, high capital expenditures, and cyclical market conditions. NVIDIA's distinction in the industry is emphasized by its calculated initiatives that enhance its technology stack and market reach. NVIDIA's strategic acquisitions, such as its purchase of Mellanox in 2019, have broadened its capabilities in data center and networking technology, further solidifying its market position. Despite facing competition from other tech giants and specialized semiconductor firms, NVIDIA continues to be a leader due to its innovative product pipeline and its ability to enter and create new markets, demonstrating a forceful business model that adapts to the evolving demands of technology. Thus, NVIDIA is not just a participant

in the semiconductor industry; it is a critical driver of its expansion and transformation.

The following table shows the performance of the individual industries within the Information Technology sector. The semiconductor and semiconductor equipment industry are the best performing industry on every single time period excluding the one-month.[7]

| Industries | Today* | 5-day | 1-month | 3-month | YTD | 1-year | 5-year | 10-year |
|---|---|---|---|---|---|---|---|---|
| Information Technology | +1.85% | +5.11% | -4.43% | +1.18% | +8.31% | +45.87% | +165.89% | +527.93% |
| Communications Equipment | -0.43% | +1.13% | -5.30% | -4.50% | +1.18% | +15.16% | +15.79% | +119.07% |
| Electronic Equipment, Instruments & Components | +0.45% | +3.29% | -1.69% | +5.02% | +4.78% | +20.90% | +49.28% | +160.02% |
| IT Services | -0.56% | -4.09% | -8.79% | -14.29% | -7.42% | +19.29% | +37.47% | +186.44% |
| Semiconductor & Semiconductor Equipment | +4.02% | +11.60% | -5.54% | +18.87% | +34.37% | +111.53% | +301.54% | +904.42% |
| Software | +1.51% | +2.05% | -4.74% | -2.14% | +4.80% | +43.67% | +169.85% | +674.16% |
| Technology Hardware, Storage & Peripherals | -0.17% | +2.90% | -1.25% | -12.50% | -11.72% | +4.09% | +209.30% | +597.47% |

Source: Fidelity.com

## ESG Rating
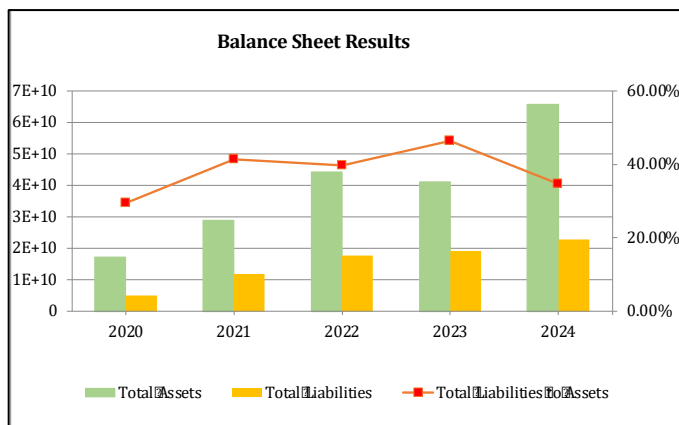


Source: Morningstar.com

ESG stands for environmental, social, and governance factors. This rating helps investors understand certain nonfinancial aspects of a company that may make it an attractive investment. As of April 3, 2024, NVIDIA had an ESG rating of 13.45, which is a low level on the risk scale. The top three ESG issues are product governance, business ethics, and human capital.

## FINANCIAL ANALYSIS

Financial analysis is crucial for assessing a company like NVIDIA, especially within the highly competitive and capital-intensive semiconductor industry. NVIDIA needs to strategically allocate capital for research and development to stay ahead in technological innovations, such as graphic and data center solutions. Furthermore, it helps determine how effectively the company uses its resources and whether it's generating sufficient

returns on its investments. Consequently, it's critical to observe past trends to see the direction of the company. This not only is revealing of NVIDIA's strategy or their relative position to competitors, but also investor confidence. The ensuing section of the report will concentrate on key financial indicators derived from the income statement, balance sheet, and statement of cash flows providing insights into the financial health of materials sector entities.

## Balance Sheet Analysis



Source: Morningstar.com

The balance sheet data indicates a trend of consistent growth in total assets over the five periods, starting at $17,315 million in 2020 and reaching $65,728 million in fiscal year 2024. Concurrently, total liabilities have also increased, rising from $5,111 million in 2020 to $22,750 million. The 2023 decline in assets can be associated to a large decrease, $9.3B or -48.4%, in NVIDIA's marketable securities. This action most likely occurred to fund R&D expenses or to aid in increasing growth opportunities. The total liabilities to assets ratio provide insights into the company's leverage, showing a slight increase from 29.52% to 34.61% during the five-year range. It is clear to see that there is a slight trendline upward. However, due to the recent success of the company and the net

profit that has been generated, there is a high probability that the most recent data point of decreasing total liabilities to assets will be the start of a reversal to the existing trend. The declining ratio implies that a smaller portion of the company's assets is financed by liabilities, reflecting greater financial stability. Overall, the balance sheet is a depiction of growing assets, controlled liabilities, and improving financial health.

## Statement of Cash Flows Analysis
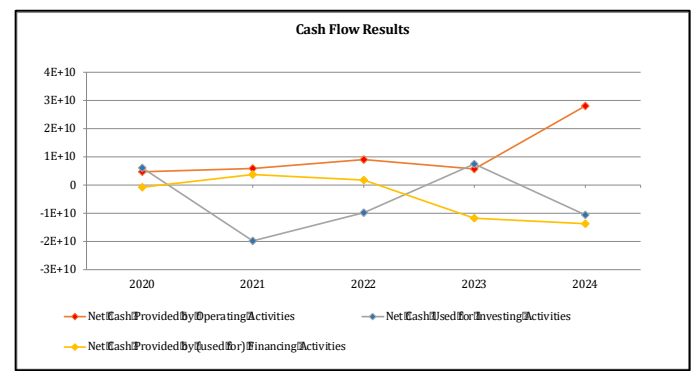


Source: Morningstar.com

The cash flow data reveals a positive trendline in the net cash provided by operating activities from 2020 until 2023, growing from $4,761 million to $5,641 million. Then an exponential increase occurs in 2024 where operating activities generated $28,090 million. Net income boosted 681% from $4,368 million in FY23 to $29,760 million in FY24. Again, data center revenue was the prime contributor to the exponential development. The positive operating cash flow indicates that NVIDIA is generating sufficient cash from its core business operations to cover its expenses and invest in growth opportunities.

Negative investing cash flow occurs when a company spends more cash on its investing activities than it receives from them. The net cash used for investing activities shows to be inconsistent. The major drop from 2020 to 2021

was the result of two major events: the acquisition of Mellanox Technologies; and a $19,308 million purchase of marketable securities. Proceeding to 2022, NVIDIA purchased $24,787 million in marketable securities, but offset it by receiving almost double (172%) in proceeds than the previous fiscal year from maturities of marketable securities, totaling $15,197 million. Notably, the large decrease in fiscal year 2024 followed a significant loss in proceeds from maturities of marketable securities and an increase in the purchase of marketable securities YoY. Also, NVIDIA in FY24 saw its largest investments in non-affiliated entities ($985 million) in the past five years compared to the average of 36.25 million between 2020 and 2023.

The net cash provided by (used for) financing activities also have some variation to it as well. In 2021 and 2022, cash was provided primarily via the issuance of debt. The slight decrease in 2022 was the result of the repayment of debt and tax on restricted stock units. The large drop in 2023 is a product of NVIDIA spending $10,039 million on repurchases of common stock. Similarly, the continued drop into 2024 was also a byproduct of $9,533 million spent on share buybacks and $1,250 million of debt repayment. The firm's change from cash be provided by financing activities to being used for those activities suggests a modification of relying on external funding for cash generation. Overall, the company demonstrates a strong ability to generate cash from its operations, with variations in investing and financing activities possibly tied to strategic investment decisions and capital structure adjustments.

**Company Reported Revenue**

The following segment will highlight NVIDIA's revenue stated in their fourth quarter presentation encompassing the results of the past five quarters. Starting with Q4FY23 and finishing with Q4FY24.
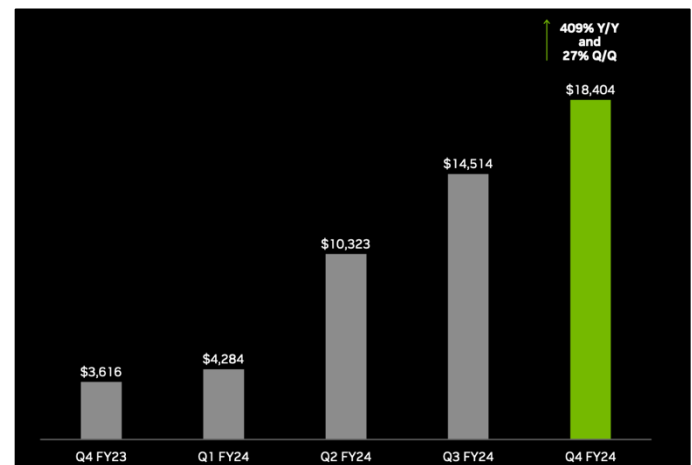
*Overall Revenue (In $millions):*
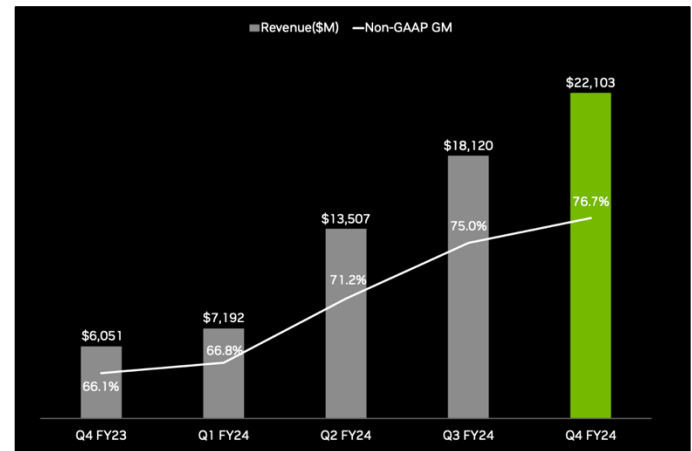


Source: NVDA-F4Q24-Quarterly-Presentation

The quarterly revenue data illustrates strong and steady financial progression over the five periods.
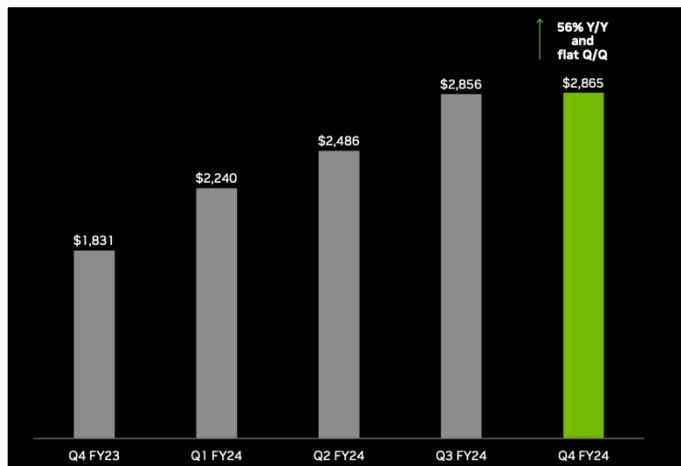
*Data Center Revenue (In $millions):*



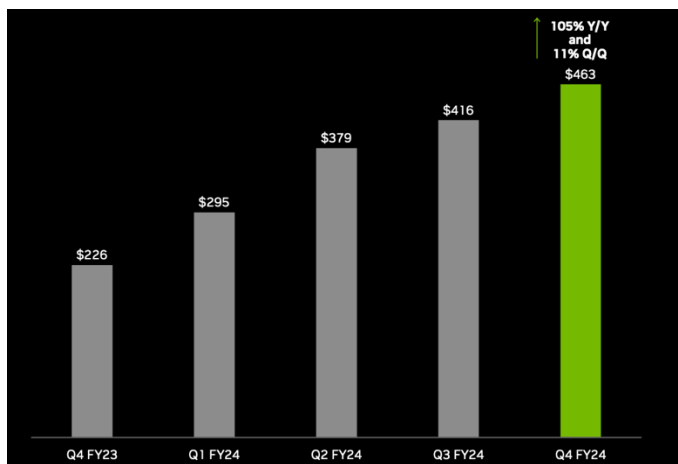Source: NVDA-F4Q24-Quarterly-Presentation

Data center demand consistently grew throughout FY24. "Expect next-generation products to be supply-constrained as demand far exceeds supply."[19]
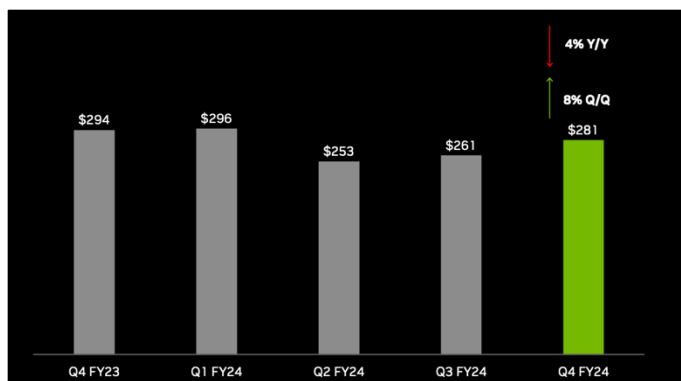
*Gaming Revenue (In $millions):*



Source: NVDA-F4Q24-Quarterly-Presentation

*Professional Visualization Revenue (In $millions):*
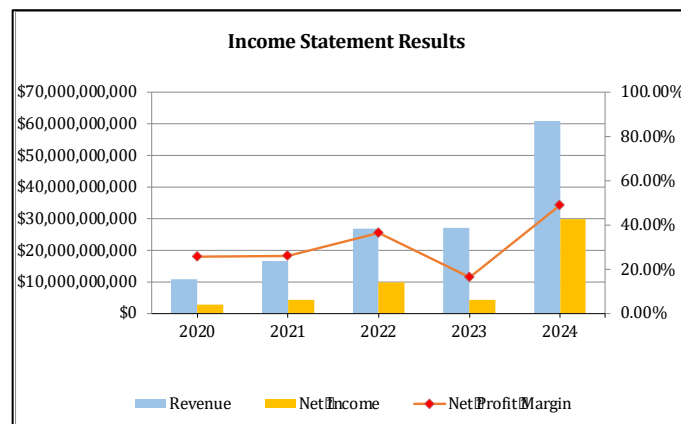


Source: NVDA-F4Q24-Quarterly-Presentation

*Automotive Revenue (In $millions):*



Source: NVDA-F4Q24-Quarterly-Presentation

## Income Statement Analysis



Source: Morningstar.com

The income statement data illustrates a steady increase in revenue over the five-year period, growing from $10,918 million in 2020 to $60,922 million in 2024, representing a cumulative growth of approximately 557%. Despite this vigorous revenue growth, the net income experienced a blow in 2023. The FY2023 relatively poor performance compared to other years was due to the underperformance of NVIDIA's gaming and professional visualization markets. The reason the two previous markets suffered losses was from NVIDIA deciding to undergo a channel inventory correction.[20] This strategy is impactful in the short term by reducing revenue, but is often employed to stabilize market conditions and prepare for future product launches or demand increases. Therefore, NVIDIA likely reduced the supply of its products to allow channel partners to clear out existing stock, aligning inventory levels more closely with actual market demand.

## EPS Analysis
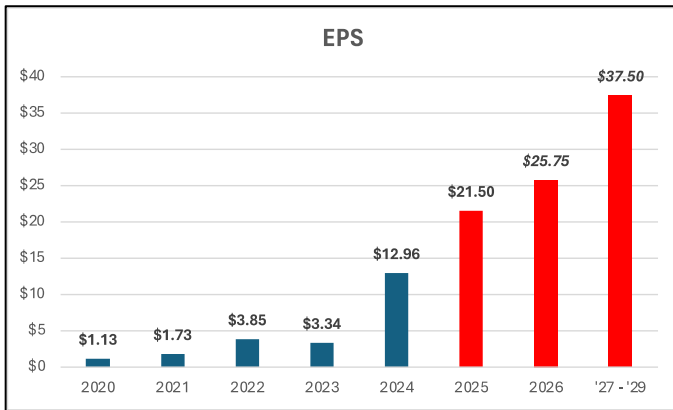


Source: Value Line

This EPS data was sourced through NVIDIA's Value Line investment survey. Be aware that the 2025, 2026, 2007 – 2009 values are estimates of the Value Line investment survey. The EPS data reveals a positive trajectory for the company's profitability from $1.13 in 2020 to the most recent $12.96 in 2024. There's an extensive increase from 2023 to 2024, indicating forceful earnings and effective operational strategies. Monitoring the company's response to market conditions, competition, and industry trends will be crucial for assessing its continued financial strength and future growth potential.

The following are five-year EPS growth estimates from three different sets of financial analysts.

| Zacks | Yahoo Finance | Finviz |
|---|---|---|
| 30.90% | 35.55% | 37.90% |

## Profit Margin Analysis
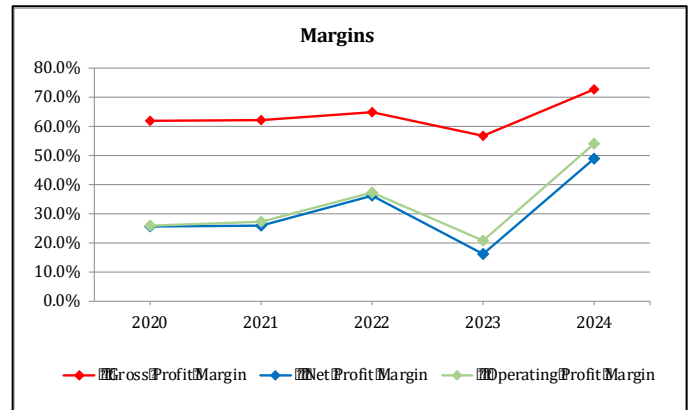


Source: Morningstar.com

The profit margin data demonstrates an overall positive trend in the company's profitability ratios over the five-year period. The gross profit margin consistently increased from 62.0% in 2020 to 72.7% in 2024, besides 2023 being the outlier. As previously mentioned, in fiscal year 2023, NVIDIA had inventory write-downs and channel inventory corrections, increased costs of revenue, and significantly higher research and development expenses compared to 2022. This improvement suggests effective cost management and increased efficiency in the production process. The operating profit margin aligns very closely with the net profit margin with respect to the historical trends from 2020. Since it too has a positive trendline, it indicates enhanced operational efficiency and cost control at the operating level. The net profit margin, representing the percentage of profit a firm produces from its total revenue, saw magnificent growth from 16.2% in 2023 to 48.8% in 2024.These percentages collectively suggest an improving trend in the company's profitability metrics, reflecting effective management and operational performance over the five-year period.

## Management Effectiveness
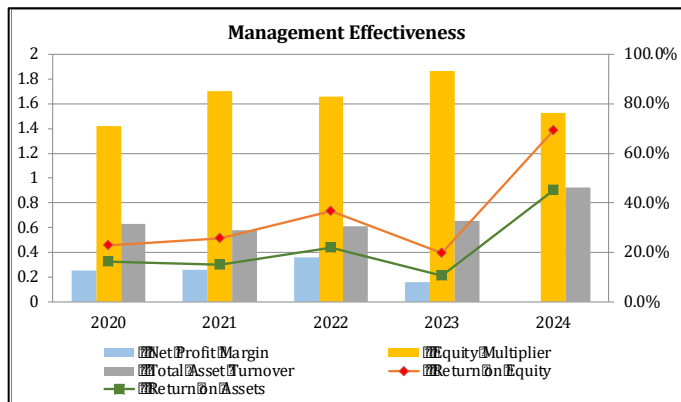


Source: Morningstar.com

The management effectiveness, also known as profitability ratios, provides insights into the company's operational and financial performance over the five-year period. The net profit margin reflects the company's ability to convert revenue into profit, showing a positive trend with 2020 at 25.6% through 2022 at 36.2%. 2023 then became an outlier as the trend continued in 2024 reaching a net profit of 48.8%. This indicates effective cost control and improved profitability. Total asset turnover showed small variation for the years 2020 – 2023, as the average was 0.62. Then like many other ratios, in 2024 saw a significant increase to 0.93. This is suggesting that the company has become more efficient at generating more revenue relative to its total assets. It's indicative of improved asset utilization. ROA also shows positive a positive trend, reaching 45.3% in 2024, demonstrating efficient use of assets to generate profits.The equity multiplier had slight deviation indicating a higher use of financial leverage. However, this is not always a bad sign, because it can be seen as a strategic move for the company. It can be a less expensive way compared to issuing equity to fund the buying of assets. Return on equity ROE increased from 22.9% in 2020 to 69.2% in 2024, indicating that the company/management team is delivering more efficiency with the profitability

being generated via shareholders' equity. Overall, these metrics suggest effective management in terms of profitability, asset utilization, and shareholder value creation over the analyzed period.

## Growth Rates

*Revenue & Income:*
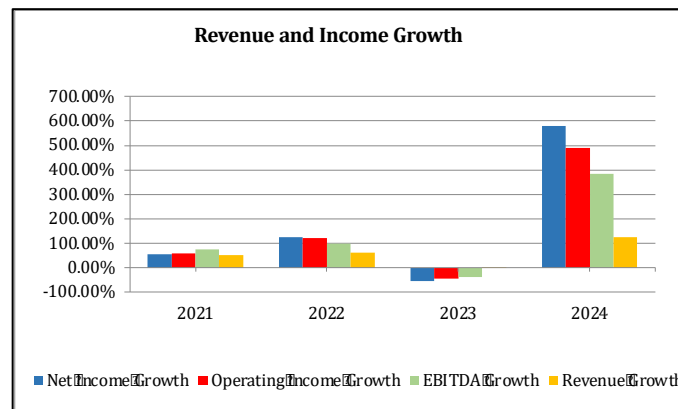


Source: Morningstar.com

The growth data reflects a dynamic performance for the company across various financial indicators over the four-year period. It's clear to see there has been sustained growth in both revenue and income. Albeit, in FY2023 (calendar year 2022) the entire information technology sector was hit extremely hard with a return on the year of -27.71%.[22] EBITDA growth exhibited positive momentum, with successive increases from 54.94% in 2021 to 99.20% in 2022, prior to the explosive growth of 384.20% in 2024. This indicates consistent operational improvement. Net income growth demonstrated similar movements but more extreme in both directions. In 2024, net income increased by 581.32%. Revenue growth remained positive on all time frames, but in 2024 saw an increase of 125.85%. Operating income growth also showed positive trends, consistently increasing from 59.24% in 2021 and 121.56% in 2022, with a slight decrease to -44.46% in 2023. Then rebounded 491.21% in 2024. Overall, these growth metrics

depict a company experiencing varying degrees of expansion and stabilization across key financial indicators before catapulting in the recent fiscal year over the analyzed period.

*Cash Flow:*



**Cash Flow Growth**

Legend:
- Operating Cash Flow Growth
- Free Cash Flow Growth
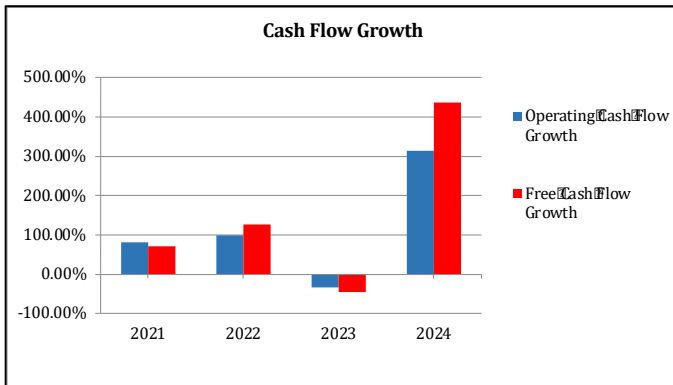
Source: Morningstar.com

The cash flow data presents the same overlying concept as all the other financial analysis charts. That is, NVIDIA having a trend of growth, downturn in FY23, and then significantly outperforming past data in the most recent year. Operating cash flow growth exhibited positive trends indicating an improving ability to generate cash from day-to-day business operations. Free cash flow (FCF) growth, on the other hand, displayed even more substantial progression. In 2021, FCF growth was 71.35%, and then in 2024 saw an increase of 436.20%. What this shows is NVIDIA increasing its ability to generate liquid cash that it can then reinvest into the growth of their business, repay creditors, or acquire another company. Overall, both operating cash flow and free cash flow exhibited strong linear expansion albeit 2023, indicating the company's ability to capture profits from their core business operations but also how efficiently they are converting profits into available cash they can draw on.

## FAIR VALUE

### Absolute Stock Valuation

For NVIDIA's absolute stock valuation, it seemed the most appropriate to utilize a three-stage free cash flow to equity discount model. The model's assumptions are that the firm is in an extraordinary growth phase, that growth is expected to continue, and then there is a transition stage (where competition enters the market) and finally a stable growth phase occurs. Using a required return of 10.26% (S&P500 annualized average return), a EPS growth rate of 35.43% (weighted average of three groups of analysts) during the initial high growth phase of 5 years, dedicating 3 years to the transition phase with a stable beta, and finally using 7% (nominal economic growth rate) for stable growth we can arrive to the current intrinsic value. I chose three years for the transition period to be more aggressive in the assumption that other market participants will attempt to capture the value of the semiconductor industry. Therefore, it could be argued this is a conservative estimate due to the model assuming that NVIDIA won't dominate the market in 8 years. The fair value of NVIDIA following this model is $963.37. When applying a margin of safety of 20%, then the upper and lower bounds can be established. The upper bound is $1,156.05, meanwhile the lower bound is $770.70. The price of NVIDIA as of close on Friday April 29, 2024, was $877.35, thus according to the model, NVIDIA is currently trading within its fair value range.

Morningstar currently holds their fair valuation of NVIDIA at $910.00. Their 1-star price (upper bound) lies at $1,592.50 and the 5-star price (lower bound) at $455.00.

## Relative Stock Valuation

A relative valuation model is different from an absolute valuation model in that it refers to other companies and benchmarks. Relative valuation looks at valuation ratios like price-to-earnings (P/E), price-to-sales (P/S), price-to-cash flow (P/CF), and price-to-book (P/B). P/B, for example, shows a company's share price as a multiple of its book value, and P/E shows a company's share price as a multiple of its earnings per share, etc. Higher relative valuation ratios than peers may suggest that a company is overvalued or vice versa. Regarding NVIDIA, the following relative valuation involves competitors relating to GPUs, and suppliers of hardware/software for SoC – system on chips – products. The companies NVIDIA is compared to are the respective giants of the industry: Advanced Micro Devices (AMD), Broadcom (AVGO), Intel (INTC), and Qualcomm (QCOM). The method used was to rank all the companies in order from the largest P/E to the smallest. Then the financial fundamentals of each company were ranked. With respect to the financial fundamentals, scores were split between four categories: profitability, efficiency, financial leverage, and growth rank. Financial ratios by themselves can be misleading or not cover a certain aspect of the business. Keeping the latter thought in mind, this relative valuation did a further break down of each category in an attempt to see the full picture.

| Financial Fundamental Scores | | Further breakdown of each fundamental | | |
|---|---|---|---|---|
| Profitability | 30% | ROE: 10% | ROA: 2% | NPM: 18% |
| Efficiency | 25% | TA Turnover: 12.5% | | OPM: 12.5% |
| Financial Leverage | 15% | D/E: 5% | | Equity Multiplier: 10% |
| Growth Rank | 30% | P/S: 10% | | EPS Growth Projections: 20% |
| Total | 100% | | | |

Source: Morningstar

### The Results

| Company (Rank) | Profitability | Efficiency | Financial Leverage | Growth | Total FM Score |
|---|---|---|---|---|---|
| Advanced Micro Devices (3) | 1.30 | 0.88 | 0.15 | 0.90 | 3.23 |
| Broadcom (5) | 0.72 | 0.75 | 0.75 | 1.20 | 3.42 |
| Intel (4) | 1.40 | 1.25 | 0.45 | 0.30 | 3.40 |
| NVIDIA (1) | 0.30 | 0.25 | 0.30 | 0.90 | 1.75 |
| Qualcomm (2) | 0.78 | 0.63 | 0.60 | 1.20 | 3.21 |

Source: Morningstar

| Company (FM score) | FM Ranking | P/E (Ranking) | Relative Valuation |
|---|---|---|---|
| NVIDIA (1.75) | 1 | 73.54 (3) | Undervalued |
| Qualcomm (3.21) | 2 | 23.05 (5) | Undervalued |
| Advanced Micro Devices (3.23) | 3 | 287.3 (1) | Overvalued |
| Intel (3.40) | 4 | 85.7 (2) | Overvalued |
| Broadcom (3.42) | 5 | 46.51 (4) | Overvalued |

Source: Morningstar

The tables above show the final outcome. Although NVIDIA is ranked 3rd in P/E ratio to its competitors. It is ranked number one in the financial fundamental scores. Consequently, NVIDIA can be considered undervalued to their peers.

## RISKS

*Supply Chain Risks:*

NVIDIA's supply chain is mainly in Asia-Pacific region (Taiwan Semiconductor Manufacturing - TSMC). This risk also ties into China, because of the small (but present) possibility of an invasion of Taiwan. However, TSMC are building foundries in both Japan and Arizona, USA. These additional plants will mitigate some of the current risks in their supply chain.

*Government Regulations:*

NVIDIA, due to the power of their GPUs and what they provide to high performance computing, are at increased risks of government regulations. It can be in the form of limitations in exportations (already an established barrier with China concerning NVIDIA's most powerful hardware/software stacks) or limitations to the ethical use of artificial intelligence.

*Geopolitical Risks:*

NVIDIA's revenue is highly derived from China (16.9%). The U.S. government, as noted, has already placed export bans to China on certain products. Further regulation resulting from geopolitical tensions could inversely impact the firm's business.

## RECOMMENDATION

I recommend a **hold** on NVIDIA Corporation. (NVDA). My recommendation is based on an analysis of economic drivers, financial analysis, and the three-stage free cash flow to equity discount (FCFE) model, which generated a fair value of $963.37 when provided with the appropriate inputs. Holding NIVIDA aligns with the Wisman Fund's objectives to sell securities that are deemed overvalued by the fund's analysts. We should not sell when the security is fairly valued. This recommendation comes from a highly weighted analysis on the financials of the company, absolute, and relative valuations. It is also important for the fund to not prematurely collect their gains on this mega-cap that is not showing any signs of slowing down, as it has been undeniably important for the Wisman Fund portfolio returns in both 2023 and 2024.

## REFERENCES

1. https://docs.google.com/spreadsheets/d/17aQD9xqpSIl3_qlwIP7R39SeTyLVC2e7ge1ZpYonyBI/edit#gid=0

## DISCLOSURES