

Research on Nvidia Investment Strategies and Analysis

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Abstract. Under the background of macroeconomic factors such as the global economic downturn and imperfect trade policies, sound investment decisions and risk management are all important. This research paper takes Nvidia as an investment sample for investors to conduct a comprehensive analysis and complete overview. Based on an analysis of Nvidia's annual reports and market value from 2021 to 2023, the study found that Nvidia has shown amazing income growth and profitability, solidifying what is happening as a precursor in the advancement and semiconductor industry. This shows significant growth potential in investment return. The organization's predominance in GPUs, artificial intelligence, and data centers adds to its venture appeal. Moreover, the paper also compared and discussed various investment strategies such as hedging and diversification strategies, which provide investors with more financial risk avoidance suggestions. All in all, Nvidia's investment potential is promising, but investors should assess their risk tolerance and employ risk mitigation strategies to navigate the dynamic tech landscape.

Keywords: Financial analysis, Investment Attractiveness, Nvidia, technology and semiconductor.

1. Introduction

Nvidia Corporation, a prominent player in the technology and semiconductor industry, is synonymous with innovation and investment potential. This American tech company specializes in visual computing technologies and is acknowledged as the inventor of the graphics processing unit (GPU), a high-performance processor that revolutionized graphics on various platforms, from workstations to mobile devices. Headquartered in Santa Clara, California, Nvidia was founded in 1993 by Jensen Huang, Chris Malachowsky, and Curtis Priem during a period of intense competition in the graphics chip market. They had targeted personal computers for gaming and multimedia applications [1].

Nvidia's journey from inception to market leadership exemplifies its unwavering commitment to technological advancement. Its GPUs not only power cutting-edge gaming but also underpin AI applications, from autonomous vehicles to deep learning. Nvidia's disruptive impact on industries has solidified its reputation. This paper aims to provide investors and risk managers with comprehensive insights into Nvidia's investment potential. It analyzes historical financial performance, market valuation, and analyst recommendations, as well as factors shaping Nvidia's appeal, such as its product portfolio, competition, and macroeconomic variables. Practical financial risk management strategies for navigating uncertainties in this tech powerhouse's investments are also offered.

2. Nvidia's Financial Performance and Investment Attractiveness

2.1. Historical Financial Performance Analysis

2.1.1. Revenue growth trends

Nvidia's revenue growth had reliably been in a vertical direction, displaying amazing patterns. In 2021, Nvidia had reported exceptional second-quarter execution, with income having surged by a great 68% year-over-year, arriving at a record-breaking \$6.5 billion [2]. This growth exceeded analysts' expectations and was fueled by an 85% YoY growth in gaming-related earnings, totaling \$3.06 billion, and a 35% raised in data center income, amounting to \$2.37 billion. Notably, there was a substantial 15% sequential increase in overall revenue, underlining the company's robust market presence and continuous technological innovation. Nvidia's financial achievements had reached a

historic pinnacle in the second quarter ended of July 30, 2023, with the company having achieved a remarkable revenue milestone of \$13.51 billion [3]. This accomplishment denoted an amazing 88% boost from the past quarter and an unprecedented 101% surge contrasted with a similar period in the past year. Moreover, Nvidia's data farm revenue had reached an untouched high of \$10.32 billion, mirroring an exceptional 141% increment from the past quarter and a great 171% ascent from a similar period in the previous year [3]. These extraordinary figures highlight Nvidia's consistent growth and its dominant position in the technology and semiconductor industry.

2.1.2. Profitability Metrics

Regarding profitability metrics, Nvidia has maintained robust profitability metrics. High gross margins, driven by premium pricing for GPUs, have contributed to its overall profitability. The company's ability to efficiently manage costs while delivering cutting-edge technology has translated into healthy operating margins. In mid-November 2021, Nvidia unveiled its financial outcomes for the third quarter of its 2022 fiscal year, covering the three months ending on October 31, 2021. During this period, the organization disclosed a net income of \$2.5 billion, reflecting an impressive 84.4% increase in comparison to the same quarter in the previous year. Additionally, the company had achieved a noteworthy year-over-year revenue growth of 50.3%, reaching a record high of \$7.1 billion [4]. Nvidia had also reported a 91.1% year-over-year growth in operating income, which had served as a key measure of profitability for its various business segments, amounting to \$2.7 billion [5].

2.1.3. Cash flow analysis

Regarding cash flow analysis for the company, Nvidia's cash flow analysis underscores its financial stability. Nvidia's operating cash flow for the fiscal year 2022 had reached \$5,641 million, investing cash flow for the same period had been \$7,375 million, and financing cash flow, on the other hand, had been -\$11,617 million [6]. Net cash flow for the company for the fiscal year 2022 had been \$1,399 million, while the free cash flow for the same period had been 3,808 million [6]. The strong cash generation reflects the sustainability of Nvidia's business model and its ability to weather economic downturns.

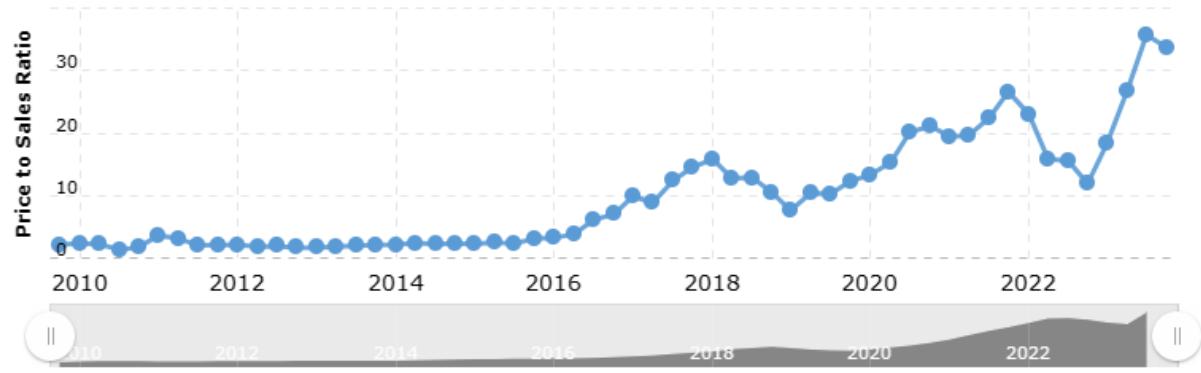
2.2. Market Valuation

2.2.1. P/E ratio

Regarding the P/E ratio and industry comparisons, Nvidia's price-to-earnings (P/E) ratio, when contrasted to industry peers, often reflects the company's premium status in the technology and semiconductor sector. Over the past decade, Nvidia has maintained an average historical PE ratio of 47.421. Presently, the company's PE ratio had stood at 117.86, marking a substantial 149% increase over this historical average [7]. Looking back over the last ten years, Nvidia's highest PE ratio had been recorded in the April 2023 quarter, reaching 143.04, at which point the stock had been priced at \$277.49 with earnings per share (EPS) of \$1.941 [7].

2.2.2. Price-to-sales ratio

Nvidia's price-to-sales (P/S) ratio is 35.72 which is above the past year's price to sales which was 19.22. this reflects investor sentiment about the company's revenue generation relative to its market capitalization. As of September 8, 2023, based on information provided by MacroTrends, Nvidia's price-to-sales (P/S) ratio had stood at 35.72 [8]. This implies that the market assigns a value of \$35.72 to each dollar of Nvidia's sales. As shown in the figure 1 below it is evident that the price-to-sales for Nvidia has been growing tremendously over the past years.

**Figure 1.** Price to sale ratio

2.2.3. Dividend yield and share buyback programs

Nvidia traditionally had a relatively low dividend yield, as it reinvested most of its earnings into research and development. However, the company's commitment to returning capital to shareholders has led to the introduction of dividend payments and share buyback programs. NVIDIA currently had an active share repurchase initiative at the time, and they had just revealed that their Board of Directors had given the green light to add an extra \$25 billion to this program [9]. NVIDIA intends to carry on with its share buybacks throughout its 2024 fiscal year. In the second quarter of fiscal 2024, the company had provided back \$3.38 billion to its shareholders, which had included the repurchase of 7.5 million shares worth \$3.28 billion, as well as cash dividends [9]. As of the conclusion of the second quarter, NVIDIA still had \$3.95 billion available within its share repurchase authorization.

2.3. Analyst Recommendations and Consensus Estimates

Analysts regularly provide earnings forecasts for Nvidia, projecting the company's future financial performance. These forecasts take into account various factors, including market trends, product launches, and macroeconomic conditions. For instance, according to Brock's article on Forbes, analysts anticipate substantial growth in both revenue and earnings per share (EPS) for Nvidia. The consensus estimate for revenue had been is \$11.1 billion, a significant increase from the \$6.7 billion reported in the corresponding quarter of the year before [10]. This would represent a remarkable 65% year-over-year growth in sales. As for EPS, the consensus estimate for the second quarter had been \$2.07, reflecting a substantial 305% surge compared to the second quarter of 2023, when the EPS had been \$0.51 [10]. Regarding the target price range for the company, the mean twelve-month price projection for NVIDIA had stood at \$555.70, encompassing a high target of \$780.00 and a low target of \$185.00 [11].

Investment grade ratings assigned by analysts and rating agencies provide additional guidance for investors. These ratings assess the overall investment quality of Nvidia's stock, considering factors like financial stability, growth prospects, and industry competition. According to the data on [12], NVIDIA had garnered 43 "Buy" ratings, 5 "Overweight" ratings, and 3 "Hold" ratings from analysts. The average consensus rating score for NVIDIA had been 2.95, surpassing the typical consensus rating score of 2.55 for companies in the computer and technology sector [11]. These high investment grade ratings imply lower risk and greater investment appeal. Consensus investment grade ratings can influence investor sentiment and impact trading activity.

3. Factors Influencing Nvidia's Investment Prospects

3.1. Technology and Product Portfolio Analysis

Nvidia's dominance in the GPU market remains a key factor influencing its investment prospects. At present, NVIDIA had held a commanding share of the global discrete GPU market [13]. This

revenue stream requires minimal intervention to thrive. The company's GPUs are at the core of many cutting-edge technologies, from gaming to AI and scientific computing. As GPUs continue to gain prominence in various industries, Nvidia's innovation and market leadership in this segment position it favorably for sustained growth. Investors look closely at GPU sales, technological advancements, and market penetration to gauge Nvidia's potential to capture new opportunities.

The strategic emphasis Nvidia has placed on AI and data center solutions is a key factor in the company's investment appeal. Applications powered by AI, including deep learning and autonomous cars, are in increasingly high demand. For these applications, Nvidia's GPUs are crucial, making it a top option for businesses looking for AI solutions. Investors evaluating this industry's long-term potential must take into account Nvidia's collaborations, R&D initiatives, and market dominance. The possibilities for Nvidia's investments are highly dependent on its position in the gaming sector. The gaming industry accounts for a substantial percentage of Nvidia's income, and the company's ability to capitalize on new gaming platforms, supply high-performance GPUs, and keep up with changing gaming trends may have a big influence on its bottom line. With more than 50% of its income having stemmed from product sales within the sector of gaming, NVIDIA had effectively solidified its presence in the gaming industry as a dependable and self-sustaining source of revenue, often referred to as the "cash cow" [13]. Investors analyze Nvidia's competitiveness in this sector by constantly monitoring data linked to gaming, such as game launches, gaming GPU sales, and market share.

3.2. Competitive Landscape

3.2.1. Major competitor and their strengths

Nvidia faces competition from notable players in the technology and semiconductor industry. Key rivals include AMD (Advanced Micro Devices) and Intel. AMD, known for its Radeon GPUs and Ryzen processors, competes fiercely with Nvidia in the GPU market. Intel, a dominant force in CPUs, is also making strides in the GPU space. These competitors possess their strengths, such as AMD's strong performance in certain GPU segments and Intel's well-established presence in data centers.

3.2.2. Market share analysis

Nvidia has traditionally held a substantial share of the GPU market, particularly in high-performance computing and gaming. It is a prominent firm specializing in the development of processors and chipsets, particularly in the realm of GPUs tailored for both gaming and professional markets. In Q3 2022, Nvidia's share of the discrete GPU market surged to 88%, while AMD's market share had dwindled to merely 8%, falling into the single-digit range [14]. Intel, on the other hand, had maintained a steady market share of 4% [14].

3.2.3. Barriers to entry

Barriers to entry in the semiconductor business are formidable, serving as a benefit for laid-out players like Nvidia. High innovative work costs, complex manufacturing processes, and the requirement for protected innovation security make critical obstacles for new participants. Nvidia's proprietary technologies and patents also contribute to these barriers. Investors should assess the sustainability of these barriers and their impact on Nvidia's competitive position.

3.3. Macroeconomic Factors

3.3.1. Economic conditions and GDP growth

Macroeconomic conditions play a significant role in influencing Nvidia's investment prospects. The organization's revenue and profitability are closely attached to more extensive financial patterns. A healthy and growing worldwide economy can drive expanded interest in Nvidia's items in different areas, while monetary slumps might diminish spending on innovation and affect the organization's financial performance. Investors need to monitor GDP growth and economic indicators to gauge Nvidia's potential for revenue expansion.

3.3.2. Trade policies and tariffs

International trade policies and tariffs can affect Nvidia's operations and profitability. As a worldwide organization with supply chains spreading over the globe, exchange pressures and taxes between significant economies like the US and China can disrupt Nvidia's creation and inflate costs. For instance, during the intense trade tension between the U.S. and China, import tariffs on graphic cards and other electronic products imported from China had been implemented under the previous Trump Administration [15]. Nvidia, HP, Zotac, and various other entities had been pushing for the Biden Administration to grant an exemption from the existing 25% import tariffs on graphics cards and other electronic products imported from China [15]. Investors should keep a watchful eye on trade developments and their potential impact on Nvidia's supply chain and profitability.

3.3.3. Global semiconductor supply chain challenges

The semiconductor business is subject to worldwide supply chain challenges, including deficiencies of key elements and semiconductor manufacturing disturbances. These challenges can influence Nvidia's capacity to satisfy needs and may prompt higher production costs. Investors must assess how Nvidia manages these supply chain issues and its resilience in the face of disruptions, which can have implications for the company's financial performance and stock valuation.

4. Risk Management Strategies for Nvidia Investors

4.1. Identification of Financial Risks

Investors in Nvidia should be aware of and manage market risk, notably volatility in stock price. To distribute risk, methodologies incorporate enhancing portfolios among various resource classes and utilizing choices or prospect contracts for hedging. Notwithstanding Nvidia's standing for financial stability, credit risk management is as yet vital. Financial investors ought to screen the organization's credit rating and debt levels. Diversifying investments past a solitary organization can likewise lessen credit risk. For those with a lower risk tolerance, investing in Nvidia through financial instruments like exchange-traded funds (ETFs) or mutual funds can provide exposure to the stock while spreading credit risk across multiple holdings. Liquidity risk arises when investors cannot readily convert their investments into cash without significant loss of value. To manage this risk, Nvidia investors should maintain an emergency fund separate from their investments, ensuring they have readily available cash for unexpected expenses.

4.2. Risk Mitigation Techniques

4.2.1. Diversification strategies and hedging

Diversification is a fundamental risk mitigation technique. Nvidia investors could spread risk by holding a diversified portfolio of stocks across various industries and asset classes. By not putting all their eggs in one basket, investors can mitigate the influence of negative occurrences impacting an individual company or industry. Investors can utilize derivatives like options or futures to hedge their assets if they are concerned about Nvidia-specific risks. For instance, they may buy put options on the stock of Nvidia to hedge against prospective price drops. Investors can preserve their stock investments while limiting possible losses with the help of this method. When having a concentrated investment in Nvidia or during times of market instability, hedging is very helpful.

4.2.2. Portfolio rebalancing

Regularly reviewing and rebalancing a portfolio is another risk management technique. If Nvidia's stock appreciates significantly and becomes an outsized portion of the portfolio, rebalancing involves selling some Nvidia shares to bring the portfolio back in line with the desired asset allocation. This reduces the risk associated with having an imbalanced portfolio heavily influenced by a single stock.

4.3. Long-term vs. Short-term Risk Management Approaches

Investors often employ tactical asset allocation strategies for both short-term and long-term risk management. In the short term, tactical allocation may involve adjusting the allocation of assets based on current market conditions and near-future expectations. For example, reducing Nvidia exposure temporarily during periods of heightened market volatility. In the long term, tactical allocation involves keeping a diverse portfolio in line with long-term financial objectives while making occasional adjustments as market conditions change.

Assessing risk tolerance is a crucial step in both short-term and long-term risk management. Short-term investors with low-risk tolerance may opt for safer assets or more aggressive hedging strategies. Long-term investors, on the other hand, can take a more balanced approach, as they have time to weather market fluctuations. Regularly reassessing risk tolerance ensures that the chosen investment strategy aligns with individual financial goals and the investment horizon.

Stress testing and scenario analysis are vital tools for both short-term and long-term risk management. Short-term investors may employ these tools to assess how particular events could affect their investment portfolios and promptly adapt their strategies. In contrast, long-term investors can utilize stress tests and scenario analysis to guarantee the resilience of their portfolios in challenging circumstances, ensuring they remain aligned with their long-range goals. This approach offers peace of mind and helps curb impulsive decision-making when market turbulence occurs.

5. Conclusion

5.1. Summary of Key Findings

In summary, this research paper has delved into the multifaceted landscape of Nvidia's financial performance, investment prospects, and financial risk management strategies. Key findings show that Nvidia has reliably exhibited robust revenue growth and profitability. Its dominance in the GPU market, key accentuation on artificial intelligence and data center solutions, and commitment to problematic advances have reinforced its venture offer. For investors contemplating Nvidia, this research provides valuable insights into the company's historical performance, market positioning, and potential future developments. Nvidia's strong presence in gaming, AI, and data centers makes it an attractive investment option. However, the elevated PE ratio suggests that investors should carefully assess their risk tolerance and investment horizon.

5.2. Potential Future Developments and Challenges for Nvidia

Investors and financial risk managers ought to think about diversification, hedging techniques, and regular portfolio audits to oversee Nvidia-explicit risks. Long-term investors can adjust their portfolios while remaining fixed on their financial goals. Short-term investors might investigate tactical asset allotment and stress testing to adjust to changing economic situations. Nvidia's continued growth relies on its ability to navigate macroeconomic factors, supply chain challenges, and international trade dynamics. Future developments may include innovations in AI, gaming platforms, and deep learning applications. Challenges could arise from increased competition and market volatility. Nvidia's case serves as a benchmark for the broader technology industry, highlighting the importance of innovation, market leadership, and risk management in today's dynamic landscape.

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