

NVIDIA Corporation (NVDA)



Industry Overview

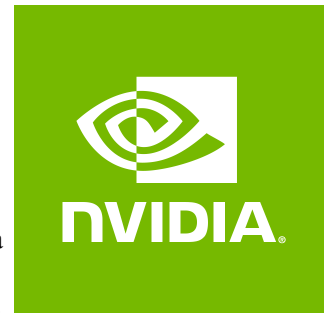
NVIDIA Corporation is a part of the technology industry and specifically specializes in semiconductors and computer systems design. There definitely is competition in the industry with well-established and large companies such as Intel, Microsoft, AMD, and Qualcomm. Because these competitors are strong and have a lot of influence, Nvidia must maintain strong research and development, corporate managerial structure, lasting partnerships, and uniqueness of products to stay ahead and keep up with main competitors. Even though these companies are direct competitors, they are also business partners because in the past Nvidia has collaborated with these companies on products. Computers of all sorts combine different GPUs, graphics cards, and processing devices from an array of these different companies, and they do rely on each other to build up together.

Because the potential profitability of these new technologies is so large with the recent trends in the technology sector, including the prevailing growth in automation and rapid development of AI, which Nvidia is a leader in production for, many technology companies are starting up to get a piece of the market. Although there are relatively high barriers to entry, which include the capital, knowledge base, and years of development, now venture capitalists and investors are buying into new tech and so Nvidia may see some potential new entrants within this industry. However, we won't know which ones will last and compete, since Nvidia has seen stable growth for nearly 30 years and has seen relative exponential growth this past year from 2020-2021 throughout the pandemic, with virtual reliance on computing technologies such as gaming and remote work and education prevailing. Although many new entrants are trying, not many are expected to grow to be a strong direct competitor to Nvidia, leaving Nvidia's business model unique. Also, many of these startups may be using Nvidia's products themselves in their businesses. The diversity of products and uses of these products allow Nvidia to cater to many different business types in every industry, including higher education, retail, consumer internet, energy, manufacturing, transportation, telecommunications, public sector (US and Global), healthcare and life science, media and entertainment, financial services, and supercomputing. This lies as an advantage to the company because the powers of the buyers aren't as constraining as if Nvidia relied on only a few buyers. The diversity of industry means that if one industry is during a time of high growth, it means that Nvidia has the chance to be in high demand as well, because other industries' reliance on it.

However the influence from the power of the supplier is vastly different from that of the power of the buyer as seen recently with the energy shortage that is increasing the price of manufacturing and is resulting in the semiconductor and microchip shortage, which Nvidia is a part of. The reliance on energy and suppliers is seen around the world as not enough chips are able to be made and many companies like Tesla are on backorder. However, this is another sign for Nvidia's business to be a growth business, because other new technologies are relying on Nvidia for its growth to the point where the chips are on backorder. There is and will continue to be an increasing demand for Nvidia's products. And the reason for this is because of the lack of substitutes. Computer chips and semiconductors are essential parts of so many industries and because these products have no other substitutes besides from other companies, this will probably mean that the world will continue to stay reliant on Nvidia's products.

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Company Overview



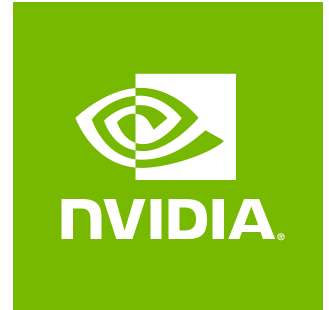
Nvidia Corporation is a multi technology company that is most known for designing and manufacturing graphics processing units (GPU) for gaming and professional markets and a system on a chips unit (SoCs) for the mobile computing and automotive industries. Its products range from gaming and entertainment to laptops and workstations, cloud and data center servers, networking, GPUs, and embedded systems. In gaming, Nvidia has expanded product lines with its newer products including Shield Tablet, Shield Portable, Shield Android TV, and GeForce Now, which is a cloud gaming service. Their GPUs used in professional lines have been made essential towards the architecture, engineering, construction, media, automotive, entertainment, scientific research, and manufacturing and design industries. In addition to GPUs, Nvidia provides an application programming interface (API) named CUDA that enables users to massively create parallel programs that utilize GPUs, which are used in supercomputing. Also, Nvidia has branched into mobile computing with its Tegra mobile processors for smartphones, tablets, vehicle navigation, and entertainment systems.

What sets Nvidia apart from other tech companies is its diversity in products that are related and complementary in the way that they are able to grow from each other. This vertical integration in its production with research and development allows their products to be integrated well into specific consumers' preferences and further its growth in contrast to its competitors. Its main competitors include Intel, AMD, and Qualcomm. With High Power Computing, AI and Data Science, EdgeCloud Computing, and Design and visualization modeling that cater to every industry, this allows Nvidia to stay ahead of the game and in great shape for expansion depending on which industries allow for certain opportunities at different times.

For example in higher education, Nvidia's high performance computing and AI capabilities with its cloud computing is perfect for this consumer base like that of University of Florida. In financial services, new AI deep learning, machine learning, and natural language processing is the frontier technology for banking, risk management, and massive data management. Other industries that are Nvidia's consumers are Retail, Consumer Internet, Energy, Manufacturing, Transportation, Telecommunications, Public Sector (US and Global), Healthcare and Life Science, Media and Entertainment, and Supercomputing. This business model is a strength for Nvidia because of its potential uses in every capacity and it increases its probability of becoming a growth company. As certain industries grow larger and reliant on Nvidia to stay competitive, Nvidia will grow as well. Current expenses included in the past have mainly been for graphics, compute and networking, and all other managerial expenses. In 2021, net income was up 54.9% compared to the previous year. Revenue grew 52.7%, reaching an annual record of \$16.7 billion for the year.

Nvidia is incorporated in Delaware and based in Santa Clara, California. The company was founded in 1993 by Jensen Huang, Chris Malachowsky, and Curtis Priem and Jensen Huang is now its CEO. As it grew in sales over the late 90s and early 2000s, Nvidia was named America's fastest growing company in 2002 and in 2007 it was named company of the year. In 2003, Nvidia acquired Media Q and in 2020, Nvidia had acquired Mellanox Technologies and had announced plans to acquire Arm Ltd, from Softbank for \$40 billion in stock and cash and is waiting for regulatory approval, but it would be the largest semiconductor acquisition to date. In the last 5 years, Nvidia's stock price has been increasing steadily and in 2020-2021, it had risen 61.9% from \$134.98 to \$218.62.

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Competitor Overview

The overview has 2 parts:

1. Company description
 - a. What does the company do
 - b. What good(s) or service(s) does it provide
 - i. Where are they provided
 - c. Market cap
2. Implications for your company
 - a. What makes them unique/different from your company
 - i. Competing products
 - b. Recent news that affects your company
 - i. Any plans that will help increase market share
 - ii. Any issues that caused lowered market share

Competitor	Company Description	Implications for NVIDIA
Intel Corporation (INTC)	Intel Corporation conceptualizes, creates, and sells technological products, including platform and non-platform products, which allow cloud and smart devices to operate. Some of the company's platform products are central processing units and chipsets, whereas the non-platform products include accelerators, boards, systems, and memory/storage products. In addition, Intel Corporation creates and sells Internet of Things products such as machine learning-based sensing, data analysis, and driving policy technology. These products are provided to equipment and design manufacturers as well as cloud service	NVIDIA's announcement to create its first CPU for supercomputers spells trouble for Intel and AMD. The idea of a supercomputer means that there might be consumer and enterprise computing solutions in NVIDIA's pipeline. Making CPUs will be a direct encroachment of Intel and AMD's CPU manufacturing market.

	providers. Market Cap: \$220.94 billion	
Advanced Micro Devices, Inc. (AMD)	Advanced Micro Devices, Inc. is a global semiconductor company that creates high-performance computing and visualization products. Some of the company's products include x86 microprocessors as an accelerated processing unit, graphics processing units (GPUs), and technology for game consoles. These products are provided to original equipment and design manufacturers, public cloud service providers, online retailers, and add-in-board manufacturers. Market Cap: \$136.00 billion	NVIDIA's announcement to create its first CPU for supercomputers spells trouble for Intel and AMD. The idea of a supercomputer means that there might be consumer and enterprise computing solutions in NVIDIA's pipeline. Making CPUs will be a direct encroachment of Intel and AMD's CPU manufacturing market. AMD makes GPUs, which are in direct competition in both the consumer hardware space and the enterprise hardware space. However, AMD makes CPU's as well that are not impacted by NVIDIA yet.
Qualcomm Incorporated (QCOM)	Qualcomm Incorporated is a technology company that creates foundational technologies that allow mobile and wireless devices to operate. The three segments of the company are Qualcomm CDMA Technologies (QCT); Qualcomm Technology Licensing (QTL); and Qualcomm Strategic Initiatives (QSI). The company serves other technology companies, early-stage startups, the US government, and its contractors. Market Cap: \$146.87 billion	NVIDIA announces it's going to acquire ARM mobile chip company, which Qualcomm leans on as a base. NVIDIA poses a serious threat to Qualcomm if the merger with ARM goes through because Qualcomm licenses ARM's technology to build their mobile chips.

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Investment Opportunities and Risks



Investment Opportunities

Strategic Mergers & Acquisitions

Since its founding in 1993, Nvidia Corporation has been innovative in both product development and management. In the next year, Nvidia had reached its first strategic partnership with SGS-Thompson Microelectronics in order to create a single chip graphical-user interface accelerator. Since then, Nvidia has spent over \$47.75 billion on 14 acquisitions with the strategy in mind to diversify their portfolio in multiple sectors such as digital ICs, enterprise networking, and analog and mixed signal ICs. Additionally, it has made 38 notable investments. Its most recent announcement is its planned acquisition of Arm Limited for \$40 billion from SoftBank Group Corp. This acquisition has the potential to be a game-changer for Nvidia's line of products. Arm's ecosystem of products such as central processing units would be enhanced with Nvidia's Artificial Intelligence and together they could advance in cloud computing, smartphones, PCs, self-driving cars, robotics, edge IoT, and expand AI to universal usage. This means that there is high growth potential and Nvidia could expand its market reach throughout numerous industries such as healthcare, life sciences, and more.

New and Innovative Products

Nvidia Corporation has continuously focused many of their efforts on research and development to develop new and innovative products. In their recent fiscal year, they spent 3,924 million dollars on research and development, 1095 million dollars up from the previous financial year, and currently focus their efforts in 23 different areas of interest. Some of their biggest research sections include AI, self-driving cars, high-performance computing, graphics, VR, and augmented reality. For example, their research in AI has resulted in breakthroughs in RTX technologies, a sector that has generated \$3.06 billion in the last quarter, and has contributed to their release in their GeForce RTX 3080 for gaming.

Consistent Revenue Growth

Due to Nvidia's focus on products and expansion into new sectors, their revenue has seen consistent growth per quarter. The majority of segments in Nvidia saw a revenue increase. Nvidia's revenue for this quarter is \$6.5 billion, an increase of 68% from the previous year and an increase of 15% from the prior quarter. Despite the automotive segment seeing a decrease in revenue from the previous quarter, there was an overall increase of 37% from the previous year. As Nvidia continues to hone in on new technologies, such as artificial intelligence and data centers, we can expect to see their revenue increase in those segments as well.

Investment Risks

Supply Chain Issues

Many investors were concerned about the supply chain issues that would impact the semiconductor industry and contribute to the ongoing microchip shortage. The issue with the supply chain is a result of higher demand across all industries in the economic recovery of the Covid-19 pandemic. This, in turn, resulted in higher energy costs such as the price of oil, higher costs in shipping and distribution, and higher costs, and a shortage in other manufacturing and industrial products. This lack of supply was expected to impact the performance of microchip corporations such as Nvidia this year. The higher cost of inputs meant that Nvidia would most likely have to slow down production and decrease its output, therefore decreasing profit margins as a portion of orders may not be filled. This would mean a restriction in the potential growth for Nvidia corporation.

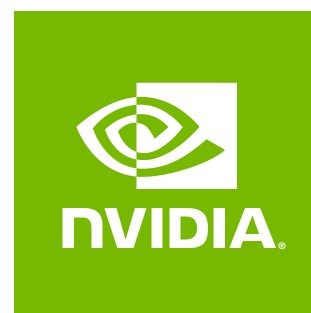
High Price to Earnings Ratio

Compared to other technology companies in the market, Nvidia has a relatively high PE ratio -- their trailing PE being 81.31. This high PE ratio is likely due to the significant growth that Nvidia has experienced in the last 12 months; however, it is uncertain that this growth will hold and continue to be strong, as indicated by their forward PE ratio (48.78). The current high PE ratio is speculation that their current stock is overvalued.

Competitors and Debt

Nvidia has strong competitors in many aspects, some of which are Intel, Mobileye, Amazon, Facebook, Google, and Advanced Micro Devices. With strong competition, it is hard to predict how Nvidia's future growth will be impacted by these companies that may have a stronger foothold on the market. Although Nvidia's financial position is strong at the current moment, how they will pay off future debts with the advent of stronger competition is yet to be seen.

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Financials

Income Statement

Overall, it seems that Nvidia's revenue and net income have been on an upward growth trajectory over the past 5 years. Over the past 5 years, revenue has more than tripled. The one anomaly to keep in mind is 2020's downturn in revenue, net income, and earnings per share. However, this phenomenon can be attributed to the Covid-19 pandemic and its effects on manufacturing and shipping that has been widespread across all industries and can be expected to subside in the future. This is the main reason why 2021's year-over-year growth in revenue and earnings per share was able to increase at a rate of 53% and is the overlying indicator of Nvidia's adaptability to new challenges and its ability to continue growing going forward, even more so than pre-pandemic times. Another note is research and development expenses have increased steadily over the past 5 years and by about 50% in 2021 and expenses overall have increased by about 41% in 2021. This is reasonable with the context of its net income increasing by about 54% in 2021. Additionally, this research and development expense also can indicate Nvidia's potential growth in scale in the future as it is investing more in its own technologies.

NVIDIA CORPORATION AND SUBSIDIARIES CONSOLIDATED STATEMENTS OF INCOME (In millions, except per share data)						
	Year Ended					
	January 31, 2021	January 26, 2020	January 27, 2019	January 28, 2018	January 29, 2017	January 31, 2016
Revenue	\$ 16,675	\$ 10,918	\$ 11,716	9714	6910	5010
yoy growth	53%	-7%	21%	41%	38%	7%
Cost of revenue	6,279	4,150	4,545	3892	2847	2199
Gross profit	10,396	6,768	7,171	5822	4063	2811
Operating expenses						
Research and development	3,924	2,829	2,376	1797	1463	1331
administrative	1,940	1,093	991	815	666	733
expenses	5,864	3,922	3,367	2612	2129	2064
Income from operations	4,532	2,846	3,804	3210	1934	747
Interest income	57	178	136	69	54	39
Interest expense	-184	-52	-58	-61	-58	-47
Other, net	4	-2	14	-22	-25	4
(expense), net	-123	124	92	-14	-29	-4
Income before income tax	4,409	2,970	3,896	3196	1905	743
Income tax expense (benefit)	77	174	-245	149	239	129
Net income	\$ 4,332	\$ 2,796	\$ 4,141	3047	1666	614
Net income per share:						
Basic	\$ 7.02	\$ 4.59	\$ 6.81	5.09	3.08	1.13
Diluted	\$ 6.90	\$ 4.52	\$ 6.63	4.82	2.57	1.08
Weighted average shares used in per share computation:						
Basic	617	609	608	599	541	543
Diluted	628	618	625	632	649	569
Cash dividends declared and paid per common share				\$ 0.570	\$ 0.485	\$ 0.395
EPS	1.76	1.15	1.7	1.27	0.77	0.28
yoy growth	53%	-32%	34%	65%	175%	

Balance Sheet

NVIDIA's balance sheet demonstrates that it is in a good financial position. NVIDIA's total assets are listed at \$28,791. NVIDIA's total liabilities are listed at \$11,898. The total assets are more than double the total liabilities portraying NVIDIA's solid financial position. This means that NVIDIA is in a good place to cover any debts and shows that they are profitable. Furthermore, it demonstrates that they are a good potential for investors because they can produce a better ROI. Furthermore, the balance sheet illustrates that the total stockholder equity is positive at the end and it is not in a deficit. This further demonstrates the potential for NVIDIA as an investment opportunity.

NVIDIA CORPORATION AND SUBSIDIARIES CONSOLIDATED BALANCE SHEETS (In millions, except par value)

	January 31, 2021	January 26, 2020
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 847	\$ 10,896
Marketable securities	10,714	1
Accounts receivable, net	2,429	1,657
Inventories	1,826	979
Prepaid expenses and other current assets	239	157
Total current assets	16,055	13,690
Property and equipment, net	2,149	1,674
Operating lease assets	707	618
Goodwill	4,193	618
Intangible assets, net	2,737	49
Deferred income tax assets	806	548
Other assets	2,144	118
Total assets	\$ 28,791	\$ 17,315
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 1,201	\$ 687
Accrued and other current liabilities	1,725	1,097
Short-term debt	999	—
Total current liabilities	3,925	1,784
Long-term debt	5,964	1,991
Long-term operating lease liabilities	634	561
Other long-term liabilities	1,375	775
Total liabilities	11,898	5,111
Commitments and contingencies - see Note 13		
Shareholders' equity:		
Preferred stock, \$0.001 par value; 2 shares authorized; none issued	—	—
Common stock, \$0.001 par value; 2,000 shares authorized; 965 shares issued and 620 outstanding as of January 31, 2021; 955 shares issued and 612 outstanding as of January 26, 2020	1	1
Additional paid-in capital	8,721	7,045
Treasury stock, at cost (345 shares in 2021 and 342 shares in 2020)	(10,756)	(9,814)
Accumulated other comprehensive income	19	1
Retained earnings	18,908	14,971
Total shareholders' equity	16,893	12,204
Total liabilities and shareholders' equity	\$ 28,791	\$ 17,315

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Valuation

Nvidia's current P/E Ratio is at a peak of 97.25 which is the highest it has been. From 2012 to 2018 this ratio has been steadily increasing and in 2019-2020 it has remained at about 50 until it shot up to around 80 in October 2020. Since then, it has consistently grown to its current PE Ratio. This is a good indicator of investors' confidence in Nvidia as a growth stock. As more and more investors buy into Nvidia as a company, the PE ratio will continue rising. Especially, as it has become a more mainstream investment in the news and public eye, Nvidia is more appreciated is why it has been such an in-demand stock in these past few months. The reason more are investing is because of Nvidia's uptick in research and development, diverse business model, and its new possible acquisitions. There is extreme growth potential in Nvidia, which is why PE has been on the rise and will continue to do so in the short term. By 2022, there is a forward PE multiple of 72.79, however, this is because investors expect Nvidia to continue outperforming itself in earnings and therefore decreasing its current PE ratio.

Its earnings per share price this quarter 3 was reported to be \$1.17 which is up 63% from last quarter. Additionally, in 2020, earnings per share had grown 53% also. This was post-Covid-19 and was reasonable since there was a downturn in the overall economy, however, Nvidia's maintenance & acceleration in earnings per share in 2021 means profitability remains strong and will continue to do so.

The most recent development with the Fed's announcement to start tapering has led to a slight downturn in pricing for Nvidia as higher interest rates aren't well suited for growth stocks, however, it still remains relatively stable as small investors are still buying into Nvidia. We recommend actually capitalizing on this downturn and buying lower while there is still a chance. Additionally, investors do tend to overreact as macroeconomic announcements are being made so we predict, even if higher interest rates may affect Nvidia's future development structure, there is already a lot of investments currently being underway so there is already a clear trajectory for growth, regardless of any future need for capital Nvidia may need.

