

Company Note	2
Investment Thesis	6
Company Overview	7
Financial Data	8
Financial Analysis	9
Ratings History	10
Tigress Research Investment Rating Meanings and Distribution	10
Contacts	11
Analyst Certification	11
Research Disclosures	11
Tigress Research Methodology Overview	12
Glossary of Key Terms and Measures	12
Specific Disclosures for the companies that are the subject of this Report	13
Research Report Disclaimer	14
About Tigress Financial Partners LLC	14

NVIDIA Corporation (NVDA-US)**Semiconductors**

- We reiterate our Buy rating on NVDA as strong business trends in Data Center and gaming demand combined with a new product introduction cycle drive a reacceleration of growth.
- 2020 will be a return to growth driven by new Data Center opportunities, a recovery in gaming, and expansion into new markets that will all drive a reacceleration of Business Performance.
- The Mellanox acquisition will be a major growth catalyst by increasing NVDA's Data Center capabilities, providing increased speed between GPU processing and network connectivity.
- NVDA is dominating the resurgence in gaming growth and new gaming opportunities.
- NVDA's high-speed GPU capabilities are creating revolutionary opportunities in healthcare and helping to solve the COVID-19 pandemic.
- NVDA's strong balance sheet and cash flow enable it to fund ongoing innovation and strategic acquisitions.
- NVDA is on our Research Focus List and is in our Focused Opportunity Portfolio.

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Company Note
NVIDIA Corporation (NVDA-US)
 Semiconductors

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Research Action:

Reiterate rating

Rating: Buy

Prior Rating: Buy

Price 04/21/2020: \$269.51

52 Week High /

Low: \$316.32 / \$132.60

Key Data: (TTM as of Jan-20)

Excess Cash per Share: \$16.91

Annual Dividend: \$0.64

Dividend Yield: 0.24%

Avg. Volume (30 Day): 16.6M

Shares Outstanding: 612.5M

Float: 586.4M

Short Interest: 11.5M

SI % / Float 1.95%

Equity MV: \$165,071.1M

Sales TTM: \$10,918.0M

Beta: 1.18

EBITDAR: \$6,365.1M

NOPAT: \$2,862.9M

Total Invested Capital: \$14,889.8M

Return on Capital: 21.58%

Cost of Capital: 5.87%

Economic Profit: \$2,084.5M

Market Value Added: \$114,368.0M

Current Operations Value: \$48,798.2M

Future Growth Value: \$80,459.6M

- We reiterate our Buy rating on NVDA as strong business trends in Data Center and gaming demand combined with a new product introduction cycle drive a reacceleration of growth.** After a slowing in its core and profitable Data Center chip demand in 2019, NVDA continues to see strong increases in demand driven by increasing opportunities in all key secular leading-edge technology demands. NVDA's strong business trends for 2020 should also overcome any COVID-19 pandemic related economic weakness, especially as shelter-in-place mandates are driving increasing gaming play and demand for gaming products, which are experiencing robust online ordering trends. NVDA recently launched new notebook versions of its high-speed RTX 2080 Super and RTX 2070 Super GPUs, incorporating its revolutionary Turing architecture. Many leading PC OEMs are offering over 100 new laptop models featuring NVDA's GeForce GPUs. NVDA is evolving into a platform provider with expertise in graphics processing, computing, and deep learning. GPUs for gaming, as well as artificial intelligence for high-performance computing and cloud data centers, are NVDA's key growth drivers due to growing speed needs for e-sports and ongoing cloud migration. New innovations and applications for NVDA's industry-leading GPUs will drive further growth potential. NVDA is branching out into additional growth channels, including expanded Data Center capabilities, and into the science and medical fields which are also benefiting from the strength and speed of NVDA's GPUs. Contributions from the upcoming Mellanox (MLNX-US, Non-Rated) acquisition closure will increase NVDA's Data Center capabilities, and will be a major catalyst for Data Center connectivity applications and new growth opportunities. NVDA's leadership position in visual data processing, combined with the acceleration of opportunities in AI and deep learning, along with ongoing Data Center adoption, will continue to drive greater Return on Capital, increasing Economic Profit and greater shareholder value creation. We believe significant upside exists from current levels and continue to recommend purchase.

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- **2020 will be a return to growth driven by new Data Center opportunities, a recovery in gaming, and expansion into new markets that will all drive a reacceleration of Business Performance.** For the 12 months ending January 2020, Net Sales Revenue declined 6.81% Y/Y from \$11.72 billion to \$10.92 billion. We forecast a turnaround this year with revenue increasing 24.89% to \$13.64 billion over the NTM. Economic Operating Cash Flow (EBITDAR) declined 4.59% Y/Y from \$6.67 billion to \$6.37 billion over the LTM. We forecast an increase of 21.53% to \$7.74 billion over the NTM. Net Operating Profit After Tax (NOPAT) declined 31.64% Y/Y from \$3.82 billion to \$3.04 billion over the LTM. We forecast an increase of 36.64% to \$3.91 billion over the NTM. Return on Capital (ROC) declined from 35.49% to 21.58% over the LTM. We expect Return on Capital to increase to 25.07% over the NTM. Economic Profit declined 30.21% Y/Y from \$2.99 billion to \$2.08 billion over the LTM. We forecast an increase of 12.21% to \$2.34 billion over the NTM. NVDA's reacceleration of growth, driven by gains in Data Center demand along with other verticals, should provide further upside to our forward-looking expectations.
- **The Mellanox acquisition will be a major growth catalyst by increasing NVDA's Data Center capabilities, providing increased speed between GPU processing and network connectivity.** The acquisition will further accelerate NVDA's integration of its GPUs in data centers, driving faster innovation and data processing, as well as the integration of AI capabilities in large databases. Data centers of the future will function as a single giant computer with tens of thousands of computer nodes requiring interconnection to drive parallel processing, thus increasing applications for NVDA's GPUs. The combined company's products are used in all of the industry's leading supercomputers, and both companies supply every major cloud service provider and computer maker. Mellanox is the market share leader in high-performance network connectivity with over 90% share of InfiniBand networking connectivity and over 75% share in Ethernet network adapter cards supporting up to 100GB speeds. The two companies have a long working history. NVDA currently uses Mellanox InfiniBand and Ethernet products in its DGX-2 artificial intelligence computing platform. The integration on the two companies enhances NVDA's ability to combine compute offload/acceleration, which is NVDA's core expertise, with high-speed interconnectivity, which is Mellanox's expertise, to meet the needs of high-performance applications used in AI, machine learning, and data analytics. The long-term synergy of network and GPU architecture is the key driver of the deal and new growth opportunities.

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- **NVDA is dominating the resurgence in gaming growth and new gaming opportunities.** NVDA recently launched its GeForce Now cloud gaming service. NVDA has launched a free version of its long-tested GeForce Now cloud gaming service along with a beta premium version for \$5 a month with access to RTX-based graphics. The previously-launched service had a limit of 300K gamers, but now NVDA has opened up unlimited availability. NVDA also partnered with Tencent (TCEHY-US, Non-Rated) to launch START, a cloud-based gaming service in China. Tencent will use NVDA's GPU technology to power its cloud-based gaming service, which they began testing last year. START enables gamers to access AAA-rated games on low-power devices, such as smartphones and tablets, anytime, anywhere, giving players an experience that is consistent with a traditional gaming console. The combination of Tencent's gaming platform with NVDA's GPU technology will provide a world-class gaming experience. The partnership leverages each company's strengths to create a comprehensive cloud-based gaming service platform. The platform aims to provide significant speed and compatibility, providing gamers access to an extensive library of gaming titles. The partnership will also create an innovation lab focusing on the research and development of video games as well as the potential to integrate AI (Artificial Intelligence) into gaming engine and videogame development. Tencent's START platform is expected to be compatible with Windows and Mac OS for desktops and Android and iOS on mobile platforms.
- **NVDA's high-speed GPU capabilities are creating revolutionary opportunities in healthcare and helping to solve the COVID-19 pandemic.** NVDA has recently opened access to its genome-sequencing software for COVID-19 analysis free of cost. NVDA opened access to its Parabricks genome-sequencing software that uses NVDA's high-power GPUs for researchers trying to sequence the COVID-19 genomes and genomes of those suffering from the virus. Parabricks can significantly cut time for variant calling on the entire human genome from two days to just one hour on a single server, providing researchers with a powerful tool. NVDA is providing any researcher a 90-day license at no charge. Genome-sequencing is the most important tool in understanding viruses as they go through genetic changes. Understanding the changes increases the ability to know which vaccines will work and whether there have been mutations. NVDA is partnering with leading medical research providers to create synthetic brain scans to detect brain cancer. Data and medical scientists from NVDA, the Mayo Clinic, and the partnership between Massachusetts General Brigham Hospital and the Women's Hospital Center for Clinical Data Science, are working together to detect and study brain tumors.

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This collaboration harnesses NVDA's GPUs' visual analysis and artificial intelligence (AI) capabilities to create synthetic brain MRI images using Generative Adversarial Networks (GANs) to detect and study brain tumors. GANs are two concurrent AI systems that mirror each other to create synthetic results within a category and identify fake results by working against one another to improve both. It provides similar capabilities to that of a neural network to measure wrong data versus predictive data. NVDA is powering a way to generate large data sets for training AI systems to analyze brain tumors. AI can provide a significant number of new capabilities for medical professionals to understand medical imaging better. However, when it comes to studying brain tumors, there is not a large data set of abnormal brain images to use for comparison. New research from NVDA is working to provide a solution to this problem. This research provides an additional facet to its product line and GPU capabilities. The research team uses NVDA's DGX-system with the cuDNN-accelerated PyTorch deep learning framework to train the GAN on data from two publicly-available data sets of brain MRIs -- one with images of brains with Alzheimer's disease, and the other with images of brains with tumors.

- **NVDA's strong balance sheet and cash flow enable it to fund ongoing innovation and strategic acquisitions.** As of January 2020, NVDA had \$10.35 billion, \$16.91 per share, in excess cash, which along with our expected Economic Operating Cash Flow (EBITDAR) generation of \$7.74 billion over the NTM, will enable it to continue to fund R&D and strategic acquisitions. Last month, NVDA announced the acquisition of software-defined storage solution provider SwiftStack as an example of strategic acquisitions to extend its product line and enhance its product portfolio. NVDA should close its \$6.9 billion cash acquisition of Israeli-based high-speed network equipment provider Mellanox (MLNX-US, Non-Rated) within the next few months as scheduled. NVDA recently received China antitrust approval and has already received approval from the U.S. and the European Commission. Once the Mellanox acquisition is completed, NVDA has said it would resume share repurchases. NVDA had repurchased \$909 million worth of stock in FY 2018 and \$1.58 billion in FY 2019 before committing to the acquisition of Mellanox. NVDA currently has approximately \$5 billion in available purchase capacity from the \$7 billion-dollar open market purchase it announced in November 2018.

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- **NVDA is on our Research Focus List and is in our Focused Opportunity Portfolio.** NVDA's innovative ability and industry-leading position will continue to increase market penetration in many secular technology trends, including artificial intelligence, autonomous vehicle technology, and emerging opportunities in healthcare, along with increasing graphical and data visualization opportunities and Data Center growth. Our expectations for 2020, marking a significant turnaround in NVDA's business trends, will create further gains in shareholder value creation.

Investment Thesis

NVDA's dominance in Data Center processing, gaming, artificial intelligence, machine learning, and autonomous vehicle technology will, along with new areas in science and medicine, continue to drive increasing demand for NVDA's advanced high-speed GPUs. NVDA's emerging applications in key areas of healthcare, such as applying AI analysis for brain scan imaging to create baseline analysis patterns, will create significant future opportunities for its GPUs. NVDA's innovative capabilities and market-leading position will drive new product development and increasing demand for its GPUs, which will continue to drive higher Returns on Capital, increasing Economic Profit, and greater shareholder value creation.

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Company Overview

NVIDIA Corp. (NVDA-US) is the world's leading developer of visual computing technologies and the creator of the Graphics Processing Unit (GPU). NVIDIA develops three-dimensional (3D) graphics processors and software for use on visual computing platforms. NVIDIA GPUs enable the conversion of digital data into visual data and also can convert visual data into digital data for a wide range of applications used to generate visually realistic interactive graphics for workstations, personal computers, game consoles, and mobile devices. NVIDIA's processors are used in applications for creating digital content, digital image editing, and industrial applications.

NVIDIA's technologies enable visual machine learning that power artificial intelligence (AI) applications such as cryptocurrency mining and autonomous driving. Its GPUs are used in many PCs and gaming consoles. Its GPUs also power applications for autonomous vehicles and deep learning uses in data centers for scientists and researchers.

NVIDIA's customers include all of the major OEMs (Original Equipment Manufacturers) original device manufacturers, system builders, integrated circuits, and add-in board makers, along with electronic distributors and retailers. NVIDIA's GPUs power the world's biggest data centers and are used by all of the leading cloud hosting environment operators.

NVIDIA operates and reports revenue in two Business Segments:

Graphics Processing Unit - (87% of revenue) consists primarily of its GeForce line of high-end Graphics Processing Units (GPUs) for use in desktop and portable computers. NVIDIA's GPUs can be part of a video card or can be directly integrated into a computer's motherboard. NVIDIA's GeForce for PC graphics and GeForce NOW line of GPUs for cloud-based computing services and in data centers include Quadro for desktops and workstations for use in computer-aided design, video editing, and other visual applications. NVIDIA's Tesla and DGX Data Center GPUs are for use by scientists, researchers, and medical applications.

Tegra Processor - (13% of revenue) includes its Tegra line of system-on-a-chip CPUs for use in mobile applications, including mobile gaming and entertainment, as well as autonomous robots, drones, and cars. NVIDIA's Tegra line includes its DRIVE PX2 automotive chip systems that provide self-driving capabilities, and SHIELD, which includes a family of devices and services for cloud-based mobile applications for home entertainment including TV, along with AI and gaming. NVIDIA GRID provides virtual desktops.

NVIDIA reports revenue in six Geographic Segments: Taiwan (28% of revenue); China (25% of revenue); Other Asia-Pacific (25% of revenue); Europe (9% of revenue); United States (8% of revenue); and Other Countries (5% of revenue).

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NVIDIA Corporation (NVDA-US)

Semiconductors

Financial Data

Report Basis	LTM	LTM	LTM	LTM	LTM	LTM	NTM	5 Yr	3 Yr	Current
Reported Period Ending	01/25/2015	01/31/2016	01/29/2017	01/28/2018	01/27/2019	01/26/2020	01/31/2021	Average	Average	Trend
Net Sales Revenue	\$4,681.5	\$5,010.0	\$6,910.0	\$9,714.0	\$11,716.0	\$10,918.0	\$13,635.5	\$8,853.6	\$10,782.7	\$12,276.8
Sales Growth	13.35%	7.02%	37.92%	40.58%	20.61%	-6.81%	24.89%	19.86%	18.13%	9.04%
Sales Growth Trend	6.61%	9.55%	25.56%	39.52%	28.60%	4.16%	12.21%	21.48%	24.09%	8.18%
Economic Operating Cash Flow (EBITDAR)	\$2,460.9	\$2,562.8	\$3,716.9	\$5,338.1	\$6,671.1	\$6,365.1	\$7,735.5	\$4,930.8	\$6,124.8	\$7,050.3
EBITDAR Margin	52.57%	51.15%	53.79%	54.95%	56.94%	58.30%	56.73%	55.03%	56.73%	57.51%
EBITDAR Growth	14.41%	4.14%	45.03%	43.62%	24.97%	-4.59%	21.53%	22.63%	21.33%	8.47%
Net Operating Profit Before Tax (NOPBT)	\$833.7	\$988.8	\$2,020.9	\$3,288.1	\$3,955.1	\$3,042.1	\$4,339.3	\$2,659.0	\$3,428.4	\$3,690.7
NOPBT Margin	17.81%	19.74%	29.25%	33.85%	33.76%	27.86%	31.82%	28.89%	31.82%	29.84%
NOPBT Growth	56.67%	18.60%	104.37%	62.71%	20.28%	-23.08%	42.64%	36.58%	19.97%	9.78%
Cash Operating Income Tax	\$137.2	\$171.9	\$274.8	\$152.4	\$132.5	\$179.2	\$427.4	\$182.2	\$154.7	\$303.3
Economic Tax Effective Rate	16.46%	17.39%	13.60%	4.63%	3.35%	5.89%	9.85%	8.97%	4.63%	7.87%
Net Operating Profit After Tax (NOPAT)	\$696.5	\$816.9	\$1,746.1	\$3,135.8	\$3,822.6	\$2,862.9	\$3,911.9	\$2,476.8	\$3,273.7	\$3,387.4
NOPAT Margin	14.88%	16.31%	25.27%	32.28%	35.86%	26.22%	28.69%	27.19%	31.45%	27.46%
NOPAT Growth	51.78%	17.29%	113.75%	79.58%	33.97%	-31.85%	36.64%	42.55%	27.23%	2.39%
Cash & Equivalents	\$4,623.3	\$5,037.0	\$6,798.0	\$7,108.0	\$7,422.0	\$10,897.0	\$12,227.5	\$7,452.4	\$8,475.7	\$11,562.2
Total Assets	\$7,201.4	\$7,370.0	\$9,841.0	\$11,241.0	\$13,292.0	\$17,315.0	\$19,429.1	\$11,811.8	\$13,949.3	\$18,372.0
Non - Interest Bearing Liabilities (NIBLs)	\$1,272.8	\$1,312.0	\$1,122.0	\$1,593.0	\$1,752.0	\$2,283.0	\$2,561.7	\$1,612.4	\$1,876.0	\$2,422.4
Net Assets	\$5,928.6	\$6,058.0	\$8,719.0	\$9,648.0	\$11,540.0	\$15,032.0	\$16,867.3	\$10,199.4	\$12,073.3	\$15,949.7
Economic Asset Adjustments	\$380.4	\$547.3	\$267.6	\$235.1	\$499.9	(\$142.2)	(\$159.5)	\$281.5	\$197.6	(\$150.9)
Net Operating Assets	\$6,309.0	\$6,605.3	\$8,986.6	\$9,883.1	\$12,039.9	\$14,889.8	\$16,707.8	\$10,480.9	\$12,271.0	\$15,798.8
Debt & Debt Equivalents	\$1,620.4	\$1,753.3	\$2,946.6	\$2,222.1	\$2,561.9	\$3,338.8	\$3,746.5	\$2,564.5	\$2,707.6	\$3,542.6
Equity & Equivalents	\$4,418.0	\$4,469.0	\$5,762.0	\$7,471.0	\$9,342.0	\$12,204.0	\$13,694.1	\$7,849.6	\$9,672.3	\$12,949.0
Total Capital - Financing Sources	\$6,038.4	\$6,222.3	\$8,708.6	\$9,693.1	\$11,903.9	\$15,542.8	\$17,440.5	\$10,414.1	\$12,380.0	\$16,491.7
Capital Adjustments	\$158.4	\$304.0	\$141.0	\$18.0	(\$74.0)	(\$838.0)	(\$940.3)	(\$89.8)	(\$298.0)	(\$889.2)
Net Capital Financing Sources	\$6,196.8	\$6,526.3	\$8,849.6	\$9,711.1	\$11,829.9	\$14,704.8	\$16,500.2	\$10,324.3	\$12,082.0	\$15,602.5
Net Working Capital	\$557.2	\$418.5	\$1,245.5	\$1,684.7	\$2,603.8	\$1,832.9	\$2,056.7	\$1,557.1	\$2,040.5	\$1,944.8
Cost of Net Working Capital	\$38.8	\$42.0	\$64.0	\$120.5	\$166.3	\$130.1	\$146.0	\$104.6	\$139.0	\$138.1
% of Revenue	0.83%	0.84%	0.93%	1.24%	1.42%	1.19%	1.07%	1.12%	1.28%	1.13%
Operational Capital	\$1,308.8	\$1,115.8	\$1,864.1	\$2,867.8	\$4,474.7	\$4,500.7	\$5,050.2	\$2,964.6	\$3,947.8	\$4,775.5
Cost of Operational Capital	\$106.0	\$104.5	\$114.6	\$194.6	\$284.8	\$263.3	\$295.4	\$192.4	\$247.6	\$279.4
% of Revenue	2.26%	2.09%	1.66%	2.00%	2.43%	2.41%	2.17%	2.12%	2.28%	2.29%
Productive Capital	\$2,148.7	\$1,899.8	\$2,586.1	\$3,537.8	\$5,137.7	\$5,167.7	\$5,798.7	\$3,665.8	\$4,614.4	\$5,483.2
Cost of Productive Capital	\$183.0	\$174.5	\$172.5	\$251.9	\$336.5	\$302.3	\$339.2	\$247.5	\$296.9	\$320.8
% of Revenue	3.91%	3.48%	2.50%	2.59%	2.87%	2.77%	2.49%	2.84%	2.74%	2.63%
Total Operating Capital	\$1,919.7	\$1,818.8	\$2,534.1	\$3,260.8	\$5,203.7	\$4,538.7	\$5,092.9	\$3,471.2	\$4,334.4	\$4,815.8
Cost of Total Operating Capital	\$160.9	\$161.1	\$167.4	\$238.3	\$328.3	\$285.8	\$320.7	\$236.2	\$284.2	\$303.2
% of Revenue	3.44%	3.22%	2.42%	2.45%	2.80%	2.62%	2.35%	2.70%	2.62%	2.48%
Non - Operating Capital	\$4,389.3	\$4,786.5	\$6,452.5	\$6,622.3	\$6,836.2	\$10,351.1	\$11,614.9	\$7,009.7	\$7,936.5	\$10,983.0
Cost of Non - Operating Capital	\$383.2	\$395.5	\$432.2	\$537.8	\$522.0	\$504.2	\$565.7	\$478.3	\$521.3	\$534.9
% of Revenue	8.19%	7.89%	6.25%	5.54%	4.46%	4.62%	4.15%	5.75%	4.87%	4.38%
Total Capital	\$6,309.0	\$6,605.3	\$8,986.6	\$9,883.1	\$12,039.9	\$14,889.8	\$16,707.8	\$10,480.9	\$12,271.0	\$15,798.8
Cost of Total Capital	\$544.1	\$556.6	\$599.6	\$776.1	\$850.4	\$790.0	\$886.4	\$714.5	\$805.5	\$838.2
% of Revenue	11.62%	11.11%	8.68%	7.99%	7.26%	7.24%	6.50%	8.45%	7.49%	6.87%
Cost of Capital (WACC)	8.66%	8.62%	7.69%	8.23%	7.76%	5.87%	5.87%	7.63%	7.28%	5.87%
Capital Structure										
Debt & Debt Equivalents	\$1,620.4	\$1,753.3	\$2,946.6	\$2,222.1	\$2,561.9	\$3,338.8	\$3,746.5	\$2,564.5	\$2,707.6	\$3,542.6
Debt & Debt Equivalents % of Market Value	12.58%	10.01%	4.66%	1.48%	2.56%	2.13%	2.13%	2.63%	2.00%	2.13%
Preferred Equity	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Preferred Equity % of Market Value	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Market Value of Common Equity	\$11,256.7	\$15,758.0	\$60,244.0	\$147,458.0	\$97,691.5	\$153,293.8	\$172,010.3	\$94,889.1	\$132,814.4	\$162,652.0
Common Equity % of Market Value	87.42%	89.99%	95.34%	98.52%	97.44%	97.87%	97.87%	97.37%	98.00%	97.87%
Total Economic Market Value (MV)	\$12,877.1	\$17,511.3	\$63,190.6	\$149,680.1	\$100,253.4	\$156,632.6	\$175,756.7	\$97,453.6	\$135,522.0	\$166,194.7
Total %	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Excess Cash	\$4,389.3	\$4,786.5	\$6,452.5	\$6,622.3	\$6,836.2	\$10,351.1	\$11,614.9	\$7,009.7	\$7,936.5	\$10,983.0
Economic Enterprise Value	\$8,487.8	\$12,724.8	\$56,738.1	\$143,057.8	\$93,417.2	\$146,281.5	\$164,141.8	\$90,443.9	\$127,585.5	\$155,211.6
Average Capital	\$6,175.4	\$6,361.5	\$7,687.9	\$9,280.3	\$10,770.5	\$13,267.4	\$15,602.5	\$9,473.5	\$11,106.1	\$14,434.9
Capital Δ	\$42.8	\$329.4	\$2,323.3	\$861.6	\$2,118.8	\$2,874.9	\$1,795.4	\$1,701.6	\$1,951.8	\$2,335.1

Source: Company Data, Financial statements and Tigress Research

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Company Report – Research Update

NVIDIA Corporation (NVDA-US)

Semiconductors

Financial Analysis

Report Basis	LTM	LTM	LTM	LTM	LTM	LTM	NTM	5 Yr	3 Yr	Current
Reported Period Ending	01/25/2015	01/31/2016	01/29/2017	01/28/2018	01/27/2019	01/26/2020	01/31/2021	Average	Average	Trend
Return on Market Value (NOPAT / MV)	5.41%	4.67%	2.76%	2.09%	3.81%	1.83%	2.05%	3.03%	2.58%	1.94%
Return on Enterprise Value (NOPAT / EV)	8.21%	6.42%	3.08%	2.19%	4.09%	1.96%	2.20%	3.55%	2.75%	2.08%
Return on Capital (NOPAT / Average Capital)	11.28%	12.84%	22.71%	33.79%	35.49%	21.58%	25.07%	25.28%	30.29%	23.33%
Cost of Capital (WACC)	8.66%	8.62%	7.69%	8.23%	7.76%	5.87%	5.87%	7.63%	7.28%	5.87%
Economic Return Spread	2.62%	4.22%	15.02%	25.56%	27.73%	15.71%	17.63%	17.65%	23.00%	16.67%
Capital Charge	\$534.5	\$548.4	\$591.3	\$763.4	\$835.6	\$778.4	\$873.4	\$703.4	\$792.4	\$825.9
Economic Profit (EP)	\$162.0	\$268.6	\$1,154.8	\$2,372.4	\$2,987.0	\$2,084.5	\$2,339.0	\$1,773.4	\$2,481.3	\$2,211.8
Economic Profit Improvement (EPI)	\$208.1	\$106.6	\$886.3	\$1,217.5	\$614.6	(\$902.5)	\$254.5	\$384.5	\$309.9	(\$324.0)
EP Growth	451.45%	65.78%	330.02%	105.43%	25.91%	-30.21%	12.21%	99.38%	33.71%	-9.00%
Economic Profit Margin on Sales	3.46%	5.36%	16.71%	24.42%	25.50%	19.09%	17.15%	18.22%	23.00%	18.12%
Economic Profit Per Share	\$0.29	\$0.49	\$2.13	\$3.96	\$4.91	\$3.42	\$3.84	\$2.99	\$4.10	\$3.63
GAAP Earnings Per Share	\$1.14	\$1.12	\$3.02	\$5.07	\$6.81	\$4.58	\$7.83	\$4.12	\$5.49	\$6.21
Excess Cash Per Share	\$8.07	\$8.88	\$11.67	\$10.93	\$11.23	\$16.91	\$18.98	\$11.92	\$13.02	\$17.95
Performance Drivers										
Sales Growth	13.35%	7.02%	37.92%	40.58%	20.61%	-6.81%	24.89%	19.86%	18.13%	9.04%
Sales Growth Trend (ROC Sales Growth)	6.61%	9.55%	25.56%	39.52%	28.60%	4.16%	12.21%	21.48%	24.09%	8.18%
EBITDAR Margin	52.57%	51.15%	53.79%	54.95%	56.94%	58.30%	56.73%	55.03%	56.73%	57.51%
EBITDAR Growth	14.41%	4.14%	45.03%	43.62%	24.97%	-4.59%	21.53%	22.63%	21.33%	8.47%
NOPBT Margin	17.81%	19.74%	29.25%	33.85%	33.76%	27.86%	31.82%	28.89%	31.82%	29.84%
NOPBT Growth	56.67%	18.60%	104.37%	62.71%	20.28%	-23.08%	42.64%	36.58%	19.97%	9.78%
NOPAT Margin	14.88%	16.31%	25.27%	32.28%	35.86%	26.22%	28.69%	27.19%	31.45%	27.46%
NOPAT Growth	51.78%	17.29%	113.75%	79.58%	33.97%	-31.85%	36.64%	42.55%	27.23%	2.39%
Economic Profit Margin on Sales (EP / Sales)	3.46%	5.36%	16.71%	24.42%	25.50%	19.09%	17.15%	18.22%	23.00%	18.12%
Economic Profit Growth	451.45%	65.78%	330.02%	105.43%	25.91%	-30.21%	12.21%	99.38%	33.71%	-9.00%
Economic Return Spread (ROC-WACC)	2.62%	4.22%	15.02%	25.56%	27.73%	15.71%	19.21%	17.65%	23.00%	17.46%
Economic Return Ratio (ROC / WACC)	130.31%	148.97%	295.30%	410.76%	457.48%	367.81%	427.36%	336.07%	412.02%	397.58%
Economic Profit Momentum (ΔEP/Capital)	3.36%	1.63%	10.01%	12.54%	5.20%	-6.14%	1.54%	4.65%	3.87%	-2.30%
Economic Profit Momentum Margin (ΔEP/Sales)	4.44%	2.13%	12.83%	12.53%	5.25%	-8.27%	1.87%	4.89%	3.17%	-3.20%
Capital Growth	0.70%	5.32%	35.60%	9.74%	21.82%	24.30%	12.21%	19.35%	18.62%	18.26%
Capital Turns	0.76X	0.77X	0.78X	1.00X	0.99X	0.74X	0.83X	0.86X	0.91X	0.78X
EVC Acceleration Margin	5.04%	2.28%	17.69%	17.62%	6.33%	-7.70%	2.33%	2.82%	3.50%	-3.00%
EVC Acceleration Spread	3.70%	1.73%	13.93%	15.84%	6.62%	-8.38%	1.92%	2.46%	3.27%	-2.92%
Risk Factors										
Free Cash Flow (NOPAT - Δ Capital)	\$653.7	\$487.5	(\$577.2)	\$2,274.2	\$1,703.8	(\$12.0)	\$2,116.5	\$775.3	\$1,322.0	\$1,052.2
Free Cash Flow Rate (FCF / Capital)	10.55%	7.47%	-6.52%	23.42%	14.40%	-0.08%	12.83%	7.74%	12.58%	6.37%
Free Cash Flow Yield (FCF / MV)	5.08%	2.78%	-0.91%	1.52%	1.70%	-0.01%	1.20%	1.02%	1.07%	0.60%
Total Debt / Total Capital	26.15%	26.86%	33.30%	22.88%	21.66%	22.71%	22.71%	25.48%	22.41%	22.71%
Total Debt / EBITDAR	65.85%	68.41%	79.27%	41.63%	38.40%	52.45%	48.43%	56.03%	44.16%	50.44%
Excess Cash	\$4,389.3	\$4,786.5	\$6,452.5	\$6,622.3	\$6,836.2	\$10,351.1	\$0.0	\$7,009.7	\$7,936.5	\$5,175.6
Financial Leverage ((Total Debt - Excess Cash) / Pension Leverage (Net Pension Liability / MV))	-21.50%	-17.32%	-5.55%	-2.94%	-4.26%	-4.48%	2.13%	-6.91%	-3.89%	-1.17%
Equity Risk Index (S&P 500 = 1.00)	1.67	1.63	1.20	1.20	1.18	1.11	1.11	1.26	1.16	1.11
Stock Price Volatility	3.39	4.84	5.96	5.62	6.18	6.17	6.17	5.76	5.99	6.17
Sales Index (NL Sales)	8.45	8.52	8.84	9.18	9.37	9.30	9.52	9.04	9.28	9.41
Market Value Index (NL Market Value)	9.46	9.77	11.05	11.92	11.52	11.96	12.08	11.24	11.80	12.02
Size Index (NL Sales: MV)	8.96	9.14	9.95	10.55	10.44	10.63	10.80	10.14	10.54	10.71
Beta	1.99	1.94	1.30	1.30	1.27	1.17	1.17	1.40	1.24	1.17
TFP Adjusted Beta	1.67	1.63	1.20	1.20	1.18	1.11	1.11	1.26	1.16	1.11
Stock Price Volatility	3.39	4.84	5.96	5.62	6.18	6.17	6.17	5.76	5.99	6.17
Valuation Measures										
Total Economic Market Value (MV)	\$12,877.1	\$17,511.3	\$63,190.6	\$149,680.1	\$100,253.4	\$156,632.6	\$175,756.7	\$97,453.6	\$135,522.0	\$166,194.7
Economic Enterprise Value	\$8,487.8	\$12,724.8	\$56,738.1	\$143,057.8	\$93,417.2	\$146,281.5	\$164,141.8	\$90,443.9	\$127,585.5	\$155,211.6
Equity Market Value	\$11,256.7	\$15,758.0	\$60,244.0	\$147,458.0	\$97,691.5	\$153,293.8	\$172,010.3	\$94,889.1	\$132,814.4	\$162,652.0
Total Capital	\$6,309.0	\$6,605.3	\$8,986.6	\$9,883.1	\$12,039.9	\$14,889.8	\$16,707.8	\$10,480.9	\$12,271.0	\$15,798.8
Market Value Created MVC (MV - Capital)	\$6,568.1	\$10,906.0	\$54,204.0	\$139,797.0	\$88,213.5	\$141,742.8	\$159,048.9	\$86,972.7	\$123,251.1	\$150,395.9
MVC Margin (MVC / Sales)	140.30%	217.69%	784.43%	1439.13%	752.93%	1298.25%	1166.43%	982.34%	1143.05%	1225.05%
MVC Spread (MVC / Capital)	104.11%	165.11%	603.17%	1414.50%	732.67%	951.94%	951.94%	829.82%	1004.41%	951.94%
Current EVC Value (EP / WACC)	\$1,871.5	\$3,115.5	\$15,014.4	\$28,839.9	\$38,502.8	\$35,530.8	\$39,869.0	\$23,235.9	\$34,067.1	\$37,699.9
Current Operations Value COV	\$8,047.0	\$9,477.1	\$22,702.4	\$38,120.3	\$49,273.3	\$48,798.2	\$55,471.5	\$32,709.5	\$45,173.2	\$52,134.8
Current Operations Value Per Share	\$14.57	\$17.45	\$41.96	\$63.64	\$61.04	\$80.13	\$95.64	\$56.40	\$74.63	\$87.70
Future Growth Value (MVC - EVA Value)	\$4,830.1	\$8,034.2	\$40,488.2	\$111,559.3	\$50,980.1	\$107,834.4	\$120,285.3	\$64,744.1	\$90,348.8	\$114,059.8
Future Growth Value Reliance (FGV / MV)	37.51%	45.88%	64.07%	74.53%	50.85%	68.85%	68.44%	66.44%	66.67%	68.63%
Share Price	\$18.48	\$29.29	\$70.56	\$201.86	\$198.29	\$204.54	\$204.54	\$140.91	\$201.56	\$204.54
Dividend Yield	1.84%	1.35%	0.69%	0.28%	0.31%	0.31%	0.00%	-31.11%	43.05%	1.48%
Total Shareholder Return (TTM)	23.10%	59.84%	141.59%	186.37%	-1.46%	3.46%	0.00%	-31.11%	43.05%	1.48%
MV to IC Ratio	2.04X	2.65X	7.03X	15.15X	8.33X	10.52X	10.52X	9.30X	11.04X	10.52X
EV / EBITDAR Multiple	3.45X	4.97X	15.26X	26.80X	14.00X	22.98X	21.22X	18.34X	20.83X	22.01X
EV / NOPBT Multiple	10.18X	12.87X	28.08X	43.51X	23.62X	48.09X	37.83X	34.01X	37.21X	42.05X
EV / NOPAT Multiple	12.19X	15.58X	32.49X	45.62X	24.44X	51.10X	41.96X	36.52X	38.97X	45.82X
EV / EP Multiple	52.40X	47.38X	49.13X	60.30X	31.27X	70.18X	70.18X	51.00X	51.42X	70.18X
Future Growth Value (% of MV)	37.51%	45.88%	64.07%	74.53%	50.85%	68.85%	68.44%	66.44%	66.67%	68.63%
Current Operations Value (% of MV)	62.49%	54.12%	35.93%	25.47%	49.15%	31.15%	31.56%	33.56%	33.33%	31.37%
Market Value (COV + FGV %)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Basic Shares Outstanding	552.3	543.0	541.0	599.0	608.0	609.0	580.0	580.0	605.3	594.5

Source: Company Data, Financial statements and Tigress Research

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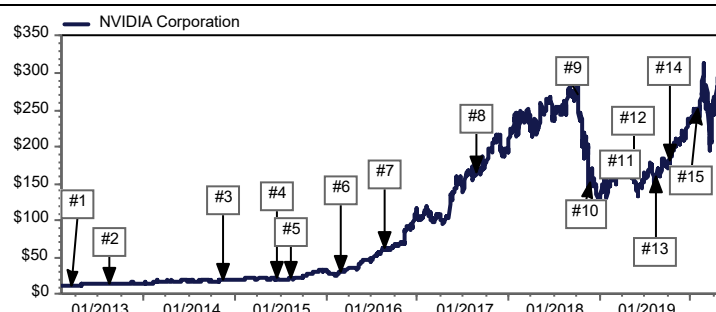
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NVIDIA Corporation (NVDA-US)
Semiconductors
Ratings History

NVIDIA Corporation (NVDA-US)				
Item #	Date	Research Action	Rating	Price
#15	01/24/2020	Reiterate Rating	Buy	\$250.48
#14	10/04/2019	Reiterate Rating	Buy	\$181.97
#13	08/16/2019	Reiterate Rating	Buy	\$159.56
#12	05/17/2019	Reiterate Rating	Buy	\$156.53
#11	03/20/2019	Reiterate Rating	Buy	\$174.40
#10	11/26/2018	Reiterate Rating	Buy	\$153.05
#9	10/05/2018	Reiterate Rating	Buy	\$269.86
#8	08/23/2018	Reiterate Rating	Buy	\$165.80
#7	08/18/2016	Reiterate Rating	Buy	\$62.10
#6	02/26/2016	Reiterate Rating	Buy	\$31.60
#5	08/13/2015	Reiterate Rating	Buy	\$23.52
#4	06/17/2015	Upgrade Rating	Buy	\$21.58
#3	11/14/2014	Reiterate Rating	Neutral	\$19.55
#2	08/02/2013	Reiterate Rating	Neutral	\$14.76
#1	03/18/2013	Initiation of Coverage	Neutral	\$12.55


Tigress Research Investment Rating Meanings and Distribution

Tigress Research employs a five-tier rating system for evaluating the investment opportunity and potential return associated with owning the common equity of rated firms within our research universe. The potential return is measured on a relative basis to the general market which is represented by the S&P 500 and to the subject company's industry peer group as indicated.

Rating Distribution (04/21/2020)

Rating:	Meaning:	Companies Under Coverage		Relationship Companies Under Coverage*	
		#	%	#	%
Strong Buy:	Expect significant price gains in the price of the stock relative to its industry peer group and general market over the next 12 months.	17	14%	1	15%
Buy:	Expect out-performance for the price of the stock relative to its industry peer group and general market over the next 12 months.	56	46%	5	70%
Neutral:	Expect little or no outperformance opportunity over the next 12 months.	44	36%	1	15%
Underperform:	Expect underperformance for the price of the stock relative to its industry peer group and general market over the next 12 months.	5	4%	0	0%
Sell:	Expect price decline or significant relative market and industry underperformance over the next 12 months.	0	0%	0	0%
Not Rated	No Current Research Rating	NA	NA	65	NA

*Relationship Companies under research coverage are companies in which Tigress Financial Partners LLC or one of its affiliates has received compensation for investment banking or non-investment banking services from the company, affiliated entities and / or its employees within the past twelve months or expects to do so within the next three months.

Total	122	100%	72	100%
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Analyst Certification

I, Ivan Feinseth, hereby certify that the views expressed herein accurately reflect my personal views about the subject company and their securities and that I have not been and will not be directly or indirectly compensated for expressing specific recommendations or views in the report.

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Tigress Research Methodology Overview

We employ proprietary quantitative valuation models combined with dynamic fundamental analysis based on the principles of Economic Profit to formulate timely and insightful investment ratings, analysis, strategies, and recommendations.

We make key adjustments to reported financial data eliminating GAAP-based accounting distortions and measuring all companies on a cash operating basis.

Our proprietary research framework is a multi-factor model that scores and ranks companies based on their risk-adjusted ability to create Economic Profit relative to their current market value focusing on three key components:

Business Performance: Measuring economic profitability, growth, and operating efficiency.

Risk: Measuring business sustainability, volatility, strength, and consistency.

Valuation: Linking business performance to market value. Measuring value created relative to capital employed and enterprise multiples of economic profit and cash flow.

We score and rank 24 key measurements of performance, risk, and value into relative market and industry investment recommendations.

Glossary of Key Terms and Measures

Excess Cash per Share: Excess Cash per Share is the amount of excess cash divided by basic shares outstanding. Excess Cash consists of all cash and short-term securities less operating cash needed to run the business. Operating Cash is 5% of TTM net sales revenue.

EBITDAR: Earnings Before Interest, Taxes, Depreciation, Amortization, and Restructuring, and Rent Costs. This is especially important when comparing companies that use a significant amount of leased assets like restaurants and retailers.

NOPAT: Net Operating Profit After Tax represents a company's after-tax cash operating profit excluding financing costs.

Total Invested Capital: Total Invested Capital the total cash investment that shareholders and debt holders have made during the life of the company.

Return on Capital: Return on Capital equals NOPAT divided by Total Invested Capital. It is a key measure of operating efficiency. ROC quantifies how well a company generates cash flow relative to the capital invested in its business.

Cost of Capital: Is the proportionately weighted cost of each category of capital – common equity, preferred equity, and debt.

Economic Profit: Economic Profit is the net operating income after tax less the opportunity cost of the total capital invested. It is the most important driver of shareholder value.

Current Operations Value: Current Operations Value is the portion of market value based on the discounted present value of the current earnings stream, assuming it remains constant forever.

Future Growth Value: Future Growth Value is the portion of market value based on un-earned Economic Profit

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Specific Disclosures for the companies that are the subject of this Report

Company:	Disclosure:
VMware, Inc. Class A (VMW-US)	14
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2. The Analyst or a household member responsible for the production of this report beneficially owns one percent or more in securities of the company that is the primary subject of this report in a personal, related, or beneficial account.
3. Tigress Financial Partners LLC together with its affiliates beneficially owns one percent or more of the security that is the primary subject of this report.
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