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NVIDIA Corporation (NVDA-US)

Semiconductors & Semiconductor Equipment

- We reiterate our Buy rating on NVDA as Business Performance continues to accelerate driven by strong results across all platforms especially in gaming and crypto currency specific GPUs.
- NVDA continues to show strong Business Performance driven by strong gaming results and new innovative applications of its GPUs.
- NVDA's market-leading and high-speed GPUs are taking it beyond gaming into new emerging industries.
- NVDA's ability to incorporate AI technology in cloud computing services, self-driving vehicles and home automation will continue to drive new opportunities for growth
- NVDA's emphasis on GRID computing will increase GPU data center adoption further creating significant growth opportunities.
- NVDA is evolving into becoming a major technology supplier to the automotive industry.



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Company Report – Research Update

Company Note

Ivan Feinseth Director of Research (646) 780-8901 Direct ifeinseth@tigressfp.com

Research Action:	
Reiterate rating	
Rating:	Buy
Prior Rating:	Buy
Price 08/22/2017:	\$162.55
52 Week High / Low:	\$174.56 \$57.32
Key Data: (TTM as of Jul-17)	
Excess Cash per Share:	\$9.15
Annual Dividend:	\$0.56
Dividend Yield:	0.34%
Avg. Volume (30 Day):	17.3M
Shares Outstanding:	595.0M
Float:	565.8M
Equity MV:	\$96,717.3M
Sales TTM:	\$8,344.0M
Beta:	2.20
EBITDAR:	\$4,081.8M
NOPAT:	\$2,062.6M
Total Invested Capital:	\$8,659.9M
Return on Capital:	32.32%
Cost of Capital:	11.93%
Economic Profit:	\$1,170.8M
Market Value Added:	\$90,399.3M
Current Operations Value:	\$18,474.5M
Future Growth Value:	\$80,584.7M

NVIDIA Corporation (NVDA-US)

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We reiterate our Buy rating on NVDA as Business Performance continues to accelerate driven by strong results across all platforms especially in gaming and crypto currency specific GPUs. NVDA's advanced, high speed GPUs continue to drive its increasing leadership in key emerging applications including artificial intelligence (AI), deep learning, and self-driving cars continue to create accelerating demand. NVDA's emphasis on GRID computing will further increase its GPU data center adoption. NVDA leadership position in visual data processing and increasing opportunities in AI, deep learning and ongoing datacenter adoption will continue to drive greater Return on Capital, increasing Economic Profit and greater shareholder value creation. We believe significant upside in the shares still exists from current levels.

NVDA continues to show strong Business Performance driven by strong gaming results and new innovative applications of its GPUs. For the LTM ending July 2017, Net Sales Revenue increased 53.4% Y/Y from \$5.44 billion to \$8.34 billion driven by strong gaming results and significant increases in Tegra processor and crypto currency specific GPUs revenue growth. We forecast an increase of 12.6% to \$9.4 billion over the NTM and believe further upside exists to NVDA's growth trend. Economic Operating Cash Flow (EBITDAR) increased 62.5% Y/Y from \$2.78 billion to \$4.51 billion over the LTM. We forecast an increase of 12.6% to \$5.08 billion over the NTM. Net Operating Profit After Tax (NOPAT) increased 138% Y/Y from \$1.01 billion to \$2.39 billion over the LTM. We forecast an increase of 11.3% to \$2.66 billion over the NTM. Return on Capital increased from 15.86% to 32.32% over the LTM. We forecast a further increase to 41.67% over the NTM. Economic Profit increased 404% Y/Y from 299.2 million to \$1.51 billion over the LTM. We forecast an increase of 29% to \$1.95 billion over the NTM. We believe increasing demand in Al, crypto currency data mining and other emerging technologies will continue to drive results that could well exceed our current expectations.

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- NVDA's market-leading and high-speed GPUs are taking it beyond gaming into new emerging industries. As computer interaction continues to become more visual, NVDA's innovative ability and powerful GPUs are continuing to create new opportunities for its growth. More complex software is in turn creating the need for a more sophisticated visual user interface rather than just textual information. NVDA's GPU ability to process visual data is creating new opportunities in desktops, workstations and data centers along with AI, data mining and autonomous vehicle applications. Moreover, Windows 8 uses significantly more GPU resources than prior versions as it leverages improved graphics capabilities to create a richer more interactive user experience. High Performance Computing (HPC) and data centers will continue to experience tremendous growth as processing demand continues to increase. NVDA consistently launches new products that can process greater amounts of data with lower energy and operating costs. Recently introduced GPU's including Tesla P100 GPU Accelerator offers higher efficiency and performance with 70% lower operating costs. NVDA's Tesla M10 GPU enables enterprises to connect up to 64 users per board or up 228 users per server with two boards. Increasing computing demands continue to drive greater demand for NVDA's GPUs.
- NVDA's ability to incorporate AI technology in cloud computing services, self-driving vehicles and home automation will continue to drive new opportunities for growth. NVDA's Volta-Based Tesla V100 Data Center GPU is the world's most powerful GPU computing architecture which will drive the next wave of advancement in artificial intelligence and high performance computing. NVDA's Volta GPUs high speeds and scalability better meet the demands of AI inferencing and learning, as well as, for accelerating HPC and graphics workloads. Volta's speed enables real-time understanding of images, speech, text and video. NVDA recently announced alliance with Baidu (BIDU-US, Non-rated) to use its Volta GPUs in its cloud services and AI framework Paddle for data analysis and product development. Baidu will use NVDA's DRIVE PX 2 AI supercomputer for its self-driving car initiative called Apollo. NVDA will use Baidu's DuerOS AI assistants in its Shield TV. The partnership will help both companies develop new products and increased their capabilities in AI development, cloud computing and autonomous vehicle development.

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- NVDA's emphasis on GRID computing will increase GPU data center adoption further creating significant growth opportunities. NVIDIA GRID is a powerful GPU-based that powers virtual desktops in data centers, cloud platforms and design software-as-a-service (SaaS) applications providing a high-quality, visually rewarding graphics experience that in the past was only available from a very high-powered and expensive dedicated PC. NVDA has partnered with Vmware (VMW-US, Strong Buy rated) to run NVIDIA GRID on the VMware Horizon Desktop-as-a-Service (DaaS) Platform enabling it to offer its highpowered graphics technology on a virtual cloud-based platform. NVDA is currently offering a trial of its GRID technology enabling customers to test its GRID-backed VDI (virtual desktop infrastructure) and has attracted significant interest, which is helping to generate additional demand for its graphics technology. NVDA will introduce new GRID based enabled devices that will drive increasing adoption. NVDA will also expand its GRID for enterprise virtualization targeting a market of over 50 million enterprise workers globally, as well as emphasizing the availability on over 50 different server platforms. We believe the improved visual effects and broad adoption of NVDA's GRID enterprise virtual graphics will drive significant future revenue growth.
- NVDA is evolving into becoming a major technology supplier to the automotive industry. In 2016, NVDA introduced NVIDIA DRIVE™ PX an extremely powerful processor for in vehicle AI. NVIDIA DRIVE™ PX it is an open AI car computing platform enabling auto manufacturers and component suppliers to accelerate the production of automated and autonomous vehicles. It can scale from a module for auto cruise capabilities to an AI powerful supercomputer capable of autonomous driving. NVIDIA DRIVE[™] PX is the open AI car computing platform that enables automakers and tier 1 suppliers to accelerate production of automated and autonomous vehicles. It scales from a palm-sized, energy efficient module for AutoCruise capabilities, to a powerful AI supercomputer capable of autonomous driving. NVDA also introduced Xavier an AI supercomputer chip design for self-driving cars. DRIVE PX can process ambient vehicle information and GPS data in real time to provide autonomous vehicle guidance. It is an extremely advanced selfdriving car platform that combines deep learning, sensor fusion and surround vision. NVDA currently has development agreements with component and manufacturers including Bosch, HERE and ZENRIN. In April 2017, NVDA made in equity investment in Beijing based autonomous driving startup TuSimple. TuSimple uses deep learning detection algorithms enabling cameras to perceive surrounding just like a human eve.

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NVDA is currently an OEM supplier to many leading auto and component manufacturers including BMW, Dahmer AG, Delphi automotive, Fiat Chrysler, Ford, Hyundai Peugeot, Rolls-Royce Toyota and, Volkswagen. We believe NVDA powerful visual data processing GPUs will position it as a leading developer and supplier of autonomous vehicle empowering technology.

Investment Thesis

NVDA's ability to process digital data into visual data and visual data into digital data will continue to drive new growth opportunities. Applications for crypto currency mining, artificial intelligence, machine learning and data center processing will continue to drive increasing demand for NVDA's advanced high-speed GPUs. Increasing gaming demand and product development for new markets will continue to drive greater Return on Capital, increasing Economic Profit and greater shareholder value creation.

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NVIDIA Corporation (NVDA-US)

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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 Graphic Processing Unit (GPU). NVDA develops three-dimensional (3D) graphics processors and software for use on visual computing platforms. It enables 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. NVDA's processors are used in applications for creating digital content, digital image editing and industrial applications.

NVDA's technologies enable visual machine learning that power artificial intelligence (AI) applications such as crypto currency mining and autonomous driving. Its GPU's are used in video cards for used in many PCs and in gaming consoles. Its GPU's also power applications for autonomous vehicles and deep learning uses in data centers for scientists and researchers. NVDA's product line includes its GeForce for game consoles. Quadro for desktops and workstations for use in computer-aided design, video editing and other visual applications. NVDA's Tesla and DGX datacenter GPU's for use by scientists and researchers. Its Tegra processor is a line of system-on-a-chip devices for mobile gaming and entertainment, as well as autonomous robots, drones, and cars. Its Tegra line includes DRIVE PX, 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, AI, and gaming. NVIDIA GRID provides virtual desktops.

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Company Report – Research Update

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NVIDIA Corporation (NVDA-US)

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Financial Data

Report Basis Reported Period Ending	LTM 07/29/2012	LTM 07/28/2013	LTM 07/27/2014	LTM 07/26/2015	LTM 07/31/2016	LTM 07/30/2017	NTM 07/31/2018	5 Yr Average	3 Yr Average	Current Trend
Net Sales Revenue	\$3,988.5	\$4,243.0	\$4,403.8	\$4,779.9	\$5,439.0	\$8,344.0	\$9,396.4	\$5,441.9	\$6,187.6 25.25%	\$8,870.2
Sales Growth Sales Growth Trend	7.54% 4.63%	6.38% 6.84%	3.79% 4.83%	8.54% 6.64%	13.79% 11.69%	53.41% 37.56%	12.61% 28.93%	17.18% 13.51%	25.25% 18.63%	33.01% 33.25%
Operating Cash Flow (EBITDAR)	\$1,894.6	\$2,166.6	\$2,295.9	\$2,466.9	\$2,777.4	\$4,512.8	\$5,081.9	\$2,843.9	\$3,252.4	\$4,797.3
EBITDAR Margin	47.50%	51.06%	52.13%	51.61%	51.07%	54.08%	54.08%	51.99%	52.25%	54.08%
EBITDAR Growth	10.77%	14.35%	5.97%	7.45%	12.59%	62.48%	12.61%	20.57%	27.51%	37.55%
Net Operating Profit Before Tax (NOPBT)	\$566.1	\$649.9	\$675.5	\$859.7	\$1,177.4	\$2,686.8	\$3,025.6	\$1,209.9	\$1,574.6	\$2,856.2
NOPBT Margin	14.19%	15.32%	15.34%	17.99%	21.65%	32.20%	32.20%	20.50%	23.94%	32.20%
NOPBT Growth	-2.92%	14.81%	3.94%	27.27%	36.95%	128.19%	12.61%	42.23%	64.14%	70.40%
Cash Operating Income Tax	\$79.9	\$83.6	\$105.5	\$195.5	\$171.7	\$293.1	\$361.7	\$169.9	\$220.1	\$327.4
Economic Tax Effective Rate	14.12%	12.86%	15.62%	22.74%	14.58%	10.91%	11.95%	15.34%	16.08%	11.43%
Net Operating Profit After Tax (NOPAT)	\$486.2	\$566.4	\$570.0	\$664.2	\$1,005.7	\$2,393.7	\$2,663.9	\$1,040.0	\$1,354.6	\$2,528.8
NOPAT Margin	12.19%	13.35%	12.94%	13.90%	18.49%	28.69%	28.35%	17.47%	20.36%	28.52%
NOPAT Growth	-4.32%	16.50%	0.64%	16.53%	51.41%	138.01%	11.29%	44.62%	68.65%	74.65%
Cash & Equivalents	\$3,278.1	\$2,935.9	\$4,386.1	\$4,505.0	\$4,879.0	\$5,877.0	\$7,577.3	\$4,516.6	\$5,087.0	\$6,727.2
Total Assets	\$5,891.9	\$5,569.6	\$6,933.7	\$6,979.0	\$7,461.0	\$9,402.0	\$12,122.1	\$7,269.1	\$7,947.3	\$10,762.1
Non - Interest Bearing Liabilities (NIBLs)	\$1,323.6	\$1,275.0	\$1,130.8	\$1,272.0	\$1,383.0	\$1,358.0	\$1,750.9	\$1,283.8	\$1,337.7	\$1,554.4
Net Assets	\$4,568.3	\$4,294.6	\$5,802.9	\$5,707.0	\$6,078.0	\$8,044.0	\$10,371.3	\$5,985.3	\$6,609.7	\$9,207.6
Economic Asset Adjustments	\$251.3	\$259.6	\$404.4	\$472.8	\$623.3	\$155.9	\$201.0	\$383.2	\$417.3	\$178.4
Net Operating Assets	\$4,819.5	\$4,554.2	\$6,207.3	\$6,179.8	\$6,701.3	\$8,199.9	\$10,572.2	\$6,368.5	\$7,027.0	\$9,386.1
Debt & Debt Equivalents	\$163.4	\$173.9	\$1,649.5	\$1,633.8	\$1,680.3	\$2,197.9	\$2,833.8	\$1,467.1	\$1,837.3	\$2,515.8
Equity & Equivalents	\$4,453.7	\$4,172.2	\$4,304.8	\$4,185.0	\$4,552.0	\$5,973.0	\$7,701.1	\$4,637.4	\$4,903.3	\$6,837.0
Total Capital - Financing Sources	\$4,617.1	\$4,346.1	\$5,954.3	\$5,818.8	\$6,232.3	\$8,170.9	\$10,534.8	\$6,104.5	\$6,740.7	\$9,352.9
Capital Adjustments	\$108.1	\$103.4	\$141.0	\$250.0	\$379.0	\$29.0	\$37.4	\$180.5	\$219.3	\$33.2
Net Capital Financing Sources	\$4,725.2	\$4,449.5	\$6,095.3	\$6,068.8	\$6,611.3	\$8,199.9	\$10,572.2	\$6,284.9	\$6,960.0	\$9,386.1
Net Working Capital	\$222.4	\$382.6	\$470.0	\$534.0	\$671.0	\$1,675.2	\$2,159.9	\$746.5	\$960.0	\$1,917.5
Cost of Net Working Capital	\$21.0	\$37.5	\$46.6	\$53.3	\$67.1	\$140.1	\$180.6	\$68.9	\$86.8	\$160.4
% of Revenue	0.53%	0.88%	1.06%	1.11%	1.23%	1.68%	1.92%	1.19%	1.34%	1.80%
Operational Capital	\$939.7	\$1,117.7	\$1,290.3	\$1,253.8	\$1,400.3	\$2,380.1	\$3,068.7	\$1,488.4	\$1,678.1	\$2,724.4
Cost of Operational Capital	\$101.2	\$127.6	\$131.6	\$135.0	\$147.9	\$225.7	\$291.1	\$153.6	\$169.5	\$258.4
% of Revenue	2.54%	3.01%	2.99%	2.82%	2.72%	2.71%	3.10%	2.85%	2.75%	2.90%
Productive Capital	\$1,927.6	\$2,081.3	\$2,194.1	\$2,061.8	\$2,156.3	\$3,074.1	\$3,963.5	\$2,313.5	\$2,430.7	\$3,518.8
Cost of Productive Capital	\$210.3	\$248.7	\$233.7	\$225.8	\$235.0	\$312.3	\$402.7	\$251.1	\$257.7	\$357.5
% of Revenue	5.27%	5.86%	5.31%	4.72%	4.32%	3.74%	4.29%	4.79%	4.26%	4.01%
Total Operating Capital	\$1,740.9	\$1,830.4	\$2,041.4	\$1,913.8	\$2,094.3	\$2,740.1	\$3,532.8	\$2,124.0	\$2,249.4	\$3,136.5
Cost of Total Operating Capital	\$191.6	\$221.5	\$211.6	\$209.8	\$223.3	\$288.7	\$372.2	\$231.0	\$240.6	\$330.5
% of Revenue	4.80%	5.22%	4.80%	4.39%	4.11%	3.46%	3.96%	4.40%	3.99%	3.71%
Non - Operating Capital	\$3,078.7	\$2,723.7	\$4,165.9	\$4,266.0	\$4,607.1	\$5,459.8	\$7,039.4	\$4,244.5	\$4,777.6	\$6,249.6
Cost of Non - Operating Capital	\$301.8	\$359.9	\$376.5	\$447.3	\$494.4	\$601.2	\$775.1	\$455.9	\$514.3	\$688.1
% of Revenue	7.57% \$4,819.5	8.48% \$4,554.2	8.55% \$6,207.3	9.36% \$6,179.8	9.09% \$6,701.3	7.20% \$8,199.9	8.25%	8.54%	8.55% \$7,027.0	7.73% \$9,386.1
Total Capital Cost of Total Capital	\$493.4	\$581.5	\$588.1	\$657.2	\$717.7	\$889.8	\$10,572.2 \$1,147.3	\$6,368.5 \$686.9	\$754.9	\$9,300.1 \$1,018.6
% of Revenue	12.37%	13.70%	13.35%	13.75%	13.20%	\$009.0 10.66%	12.21%	\$080.9 12.93%	\$754.9 12.54%	11.44%
Cost of Capital (WACC)	11.25%	12.41%	10.93%	10.61%	11.14%	11.94%	11.94%	11.41%	11.23%	11.94%
Consider Structure										
Capital Structure	¢400.4	\$470 C	\$4 C40 F	¢4 coo c	£4 COO C	\$0.407.C	¢0.000.0	¢4 407 4	£4 007 0	¢0 545 0
Debt & Debt Equivalents	\$163.4	\$173.9 2.08%	\$1,649.5 14.25%	\$1,633.8 13.52%	\$1,680.3	\$2,197.9 2.20%	\$2,833.8	\$1,467.1 <i>4.4</i> 6%	\$1,837.3 3.82%	\$2,515.8 2.20%
Debt & Debt Equivalents % of Market Value Preferred Equity	1.92% \$0.0	2.08% \$0.0	14.25% \$0.0	13.52% \$0.0	5.21% \$72.0	2.20% \$0.0	2.20% \$0.0	4.40% \$14.4	3.82% \$24.0	2.20% \$0.0
Preferred Equity % of Market Value	\$0.0 0.00%	\$0.0 0.00%	30.0 0.00%	0.00%	0.22%	\$0.0 0.00%	0.00%	\$14.4 0.04%	\$ 24.0 0.05%	0.00%
Market Value of Common Equity	\$8,338.4	\$8,206.4	\$9,926.2	\$10,448.0	\$30,491.4	\$97,812.0	\$126,110.6	\$31,376.8	\$46,250.5	\$111,961.3
Common Equity % of Market Value	98.08%	97.92%	85.75%	86.48%	94.57%	97.80%	97.80%	95.49%	96.13%	97.80%
Total Economic Market Value (MV)	\$8,501.8	\$8,380.3	\$11,575.7	\$12,081.8	\$32,243.7	\$100,009.9	\$128,944.3	\$32,858.3	\$48,111.8	\$114,477.1
Total %	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Excess Cash	\$3,078.7	\$2,723.7	\$4,165.9	\$4,266.0	\$4,607.1	\$5,459.8	\$7,039.4	\$4,244.5	\$4,777.6	\$6,249.6
Economic Enterprise Value	\$5,423.1	\$5,656.6	\$7,409.9	\$7,815.8	\$27,636.7	\$94,550.1	\$121,904.9	\$28,613.8	\$43,334.2	\$108,227.5
Average Capital	\$4,306.7	\$4,587.3	\$5,272.4	\$6,082.0	\$6,340.1	\$7,405.6	\$9,386.1	\$5,937.5	\$6,609.2	\$8,395.8
	\$836.9	(\$275.7)	\$1,645.8	(\$26.4)	\$542.5	\$1,588.6	\$2,372.3	\$694.9	\$701.5	\$1,980.5
Source: Company Data, Financial statements and Tigress R										

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NVIDIA Corporation (NVDA-US)

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Financial Analysis

Return om Ashed Yalam (ILOPAT / AVY) S. 77% 0. 77\% 0. 77\%	Report Basis Reported Pariod Ending	LTM	LTM	LTM	LTM 07/26/2045	LTM	LTM	NTM 07/24/2049	5 Yr	3 Yr	Current
Balan an Sintegritar Xalas (DICPAT, (SV) Balan an Sintegritar Xala	Reported Period Ending Return on Market Value (NOPAT / MV)	07/29/2012	07/28/2013	07/27/2014	07/26/2015	07/31/2016	07/30/2017	07/31/2018	Average	Average 3.67%	Trend 2.74%
Return on Capital (100 PAT / Average Capital) 11.29% 12.29% 10.03% 10.85											2.90%
Card of Capial (V/ACC) 11.20x 12.41% 10.21% 11.42% 11.42% 11.42% 11.42% 11.42% 11.42% 11.42% 11.44% 11.42% 11.44% 11.42% 11.44% 11.42% 11.44% 11.42% 11.44%											37.00%
Sonemic Return Spreid 0.04%<											11.94%
Edename Prefs Eff Edename Prefs Eff Edename Prefs <			-0.06%		0.31%	4.72%	20.38%	26.28%		8.47%	23.33%
Ean number Profit Improvement (FF) (#12 2.6) (#13 2.6)	Capital Charge	\$484.3	\$569.1	\$576.3	\$645.3	\$706.5	\$884.5	\$1,140.4	\$676.3	\$745.4	\$1,012.4
EF Constrin Hogo no Dates -98 252 -742 775 4964 250 282 255 282 257 752											\$1,727.6
Economic Profit Margin or Sales 0.005 -0.045 0.414 0.405 5.502 1.609 20.715 1.745 7.875 7.845 Constant Profit Prison 5.502 1.600 5.502 5.502 1.600 5.50											\$823.3
Economic Profit For Bare 60.00 (60.00)<											216.65%
GAAP Examings Per Share 50.77 80.91 80.93 50.96 51.66 51.00 53.63 51.70 53.63 51.70 53.63 51.70 53.63 51.70 53.63 51.70 53.63 51.70 53.63 51.70 53.63 51.70 53.63 51.70 53.63 51.70 53.63 51.70 53.63 51.70 53.63 51.70 53.63 51.70 53.63 51.70 53.63 51.70 53.63 51.70 53.63 50.64 51.70 53.63 50.64 51.77 53.75 53.77 73.75 53.77 73.75 53.77 73.75 53.77 73.75 53.77 73.75 53.77 73.75 73.7											19.40%
Excess Call Performance Drivers St.63 St.64 St.74 St.75 St.75 <thst.75< th=""> St.</thst.75<>											\$3.19
Sale Growth 7 443 5 544 13.79% 5.044 12.014 17.1% 22.20% 53.23 Biel Growth 47.05% 51.05% 62.13% 51.01% 51.05% 52.25% 53.23 51.01% 51.01% 51.01% 52.25% 52.2											\$10.47
Sake 3 Grawth Trend (F) C Sake 3 Grawth) 4.80% 6.84% 11.80% 27.85% 29.85% 13.51% 18.80% 33.2 Bitlics M Mayn 4.00% 5.10% 16.27% 10.07% 5.00% 22.20% 23.20% 2	Performance Drivers										
Sake 3 Grawth Trend (F) C Sake 3 Grawth) 4.80% 6.84% 11.80% 27.85% 29.85% 13.51% 18.80% 33.2 Bitlics M Mayn 4.00% 5.10% 16.27% 10.07% 5.00% 22.20% 23.20% 2											
EBITLAR Hargin 47 50% 510% 510% 5213% 510% 510% 6408% 6408% 6408% 5109% 5225% 540 532 BETTLAR Strong 40 512 512 512 512 512 512 512 512 512 512											33.01%
EBITDAR Grewint EBITDAR EBITS EBITDAR EBITS EBITSAR EB											33.25%
NOPET Margin 14, 195 15, 32% 11, 54% 17, 99% 21, 20% 32, 20% 32, 20% 23, 20% 24, 24% 44, 23% 24, 24% 40, 23% 24, 24% 60, 20% 44, 23% 24, 24% 60, 20% 44, 23% 24, 24% 60, 20% 44, 23% 24, 24% 60, 20% 44, 23% 24, 24% 60, 20% 44, 23% 24, 24% 60, 20% 44, 23% 24, 24% 60, 20% 44, 23% 24, 24% 60, 20% 44, 23% 24, 24% 60, 20% 25, 20% 34, 34% 44, 23% 24, 24% 60, 20% 60, 25% 34, 34% 44, 23% 24, 25% 44, 23% 24, 25% 44, 23% 24, 25% 34, 25% 14, 25% 36, 25% 34, 5% 44, 25% 24, 25% 34, 25% 14, 25% 36, 25% 46, 5% 46, 5% 46, 5% 46, 5% 46, 5% 46, 5% 46, 5%											54.08%
NOPET forwinh -2.22% 14.81% 3.84% 27.27% 30.89% 12.81% 12.81% 42.23% 64.14% 70.20% Economic Profit Nargon osales (EP / Sales) 0.05% -0.04% 0.04% 0.04% 12.01% 13.09% 20.81% 20.05% <											37.55%
NDPAT Growth 12.94% 13.95% 12.94% 13.96% 12.94% 13.96% 12.94% 13.96% 12.94% 13.96% 12.94% 13.96% 12.94% 13.96% 12.94% 13.96% 12.94% 13.96% 14.97% 14.97% 44.93% 14.97% 44.93% 14.97% 44.93% 14.97% 44.93% 14.97% 44.93% 14.97% 44.93% 14.97% 44.93% 14.97% 44.93% 14.97% 17.7% 20.95% 6.05% 6.17% 44.93% 14.97% 44.93% 14.97% 44.93% 14.97% 44.93% 14.97% 17.7% 20.95% 6.05% 9.41% 24.24% 14.97% 44.97% 44.93% 14.97% 44.97%<											70.40%
NDPAT Growth 4.22% 16.80% 0.64% 10.83% 61.41% 138.01% 11.28% 44.02% 0.80% 7.16% Common Forth Margin on Sile (PC / WACD) 0.05% -0.12% 0.01% -1.27% 40.05% 20.17% 470.05% 20.77% 13.4 Economic Return Spreau (PC - WACD) 0.03% 9.82% 9.81% 142.37% 27.04% 38.05% 14.27% 4.05% 20.77% 30.87% 142.37% 27.04% 38.05% 142.37% 27.05% 30.05% 4.17% 4.13% 5.05% 4.07% 30.05% 4.07% 4.05% 20.94% 4.25% 20.95% 4.17% 4.13% 5.05% 4.77% 30.87% 2.05% 4.17% 4.10% 4.12% 4.05% 4.17% 4.10% 4.12% 4.05% 4.12% 4.05% 4.12% 4.05% 4.12% 4.05% 4.12% 4.05% 4.12% 4.05% 4.12% 4.05% 4.12% 4.05% 4.12% 4.05% 4.05% 4.12% 4.05% 4.12% <											28.52%
Economic Profit Margin on Sales (EP / Sales) 0.05% -0.014% 0.40% 5.05% 1.00.7% 0.207.1% 4.75% 7.95% 114. Economic Profit Gravith											74.65%
Economic Fruit Growth											19.40%
Economic Return Spread (ROC-WACC) 0.04% -0.05% -0.12% 0.13% 4.72% 223.3% 227.3% 6.05% 8.47% 725.3% 300.3% 300.3% 423.3% 223.3% 1.42.3% 220.3% 4.45.3% 44.33% 220.3% 4.45.3%											216.65%
Economic Return Ratio (RGC / WACC) 100, 38% 98.62% 98.91% 102.83% 142.25% 270.44% 348.94% 142.87% 147.97% 308.7 Economic Print Momentum Lagin (ΔEP/Sates) 3.07% -0.10% -0.05% 0.41% 4.24% 14.75% 4.24% 14.75% 4.25% 0.50% 4.00% 0.75% 9.5 Economic Print Momentum Margin (ΔEP/Sates) 3.07% -0.11% -0.08% 0.55% 0.55% 14.05% 4.05%											25.06%
Economic Profit Momentum M agin (aEP/Sales) -0.07% -0.08% 0.08% 0.63% 5.15% 14.60% 4.60% 4.00% 0.72% 0.93% 0.63											309.79%
Capital Torwith 21.62% -5.84% 38.99% -0.43% 8.94% 24.03% 22.83% 12.74% 0.84% 0.88% 0. EVC Acceleration Spread 3.35% -0.11% -0.02% 0.57% 0.62% 1.02% 1.02% 2.02% 3.21% 5.26% 0.88% 0. EVC Acceleration Spread 3.35% -0.11% -0.02% 0.57% 5.66% 22.25% 5.23% 3.21% 5.26% 1.25% 1.24% Risk Factors F Free Cash Flow Forder Car Capital (\$10,07% 0. Free Cash Flow Forder Car Capital 3.46% 8.03% -17.65% 11.95% 7.01% 5.85% 2.25% 5.23% 1.24% 5.26% 5.25% 5											9.44%
Capital Turna 0.84X 0.98X 0.72X 0.73X 0.82X 1.02X 0.88X 0.88X 0.88X 0.75 EVC Acceleration Margin 3.37K 0.11% 0.08% 0.87K 5.62X 25X 5.22X											9.57%
EVC Acceleration Margin -3.31% -0.11% -0.08% 0.57% 5.66% 2.22% 5.22% 3.21% 9.28% 13.3 Bisk Factors											26.48%
EVC Acceleration Spread 3.55% -0.11% -0.08% 0.48% 4.61% 19.05% 5.90% 3.21% 8.51% 12.4 Risk Factors Free Cash Flow (NDPAT - 4 Capital) -7.42% 18.93% -11.06% 11.38% 7.01% 8.2218 5.2016 5.905%											0.95X
Free Cash Flow (NOPAT - 4 Capital) (\$3360.7) \$942.1 (\$1.075.6) \$980.7 \$443.2 \$00.51 \$291.6 \$345.1 \$653.0 \$545.1 Free Cash Flow Rate (FCF / Capital) -7.42% 10.03% -7.176.5% 11.38% 7.01% 9.22% 2.76% 5.50% 9.40% 6.2 Total Datk / Total Capital 3.40% 3.91% 27.00% 26.52% 2.64.2% 2.6.90% 22.60% 2.20% 2.6.35% 2.6.4% 2.6.90% 2.6.20% 2.2.4% 2.6.90% 2.6.20% 2.2.4% 2.6.90% 2.6.20% 2.2.4% 2.6.90% 2.6.20% 2.2.4% 2.6.90% 2.6.20% 2.2.4% 2.6.90% 2.6.20% 2.2.4% 2.2.00% 2.2.02% 2.4.20% 3.4.6% 0.0.0%											13.31% 12.46%
Free Cash Flow Faste (CF / Capital) -7,42% 18.93% -17.65% 11.33% 7.01% 8.82% 2.76% 5.80% 8.40% 0.23% Total Det / Total Capital 3.46% 3.91% 27.06% 26.82% 22.42% 28.80% 22.02% 23.84% 20.83% 22.02% 23.84% 20.83% 22.02% 23.84% 20.83% 22.02% 23.84% 20.83% 22.02% 23.84% 20.83% 22.02% 23.84% 20.83% 22.02% 23.84% 20.83% 22.02% 23.84% 20.83% 22.02% 23.84% 20.83% 22.02% 23.84% 20.84% 20.84% 20.84% 20.84% 20.84% 20.84% 20.84% 20.84% 20.85% 20.24% 22.02 2.010 20.00% <	Risk Factors										
Free Cash Flow Pate (CF / Capital) -7.42% 18.93% -17.65% 11.38% 7.01% 8.82% 2.76% 5.80% 8.40% 0.23% Total Det / Total Capital 3.46% 3.91% 2.70% 2.62% 2.84% 2.80%		(00.50.7)		(04.075.0)			0005 4	0004.0	00454		
Free Cash Flow Yield (FCF / MV) -1.12% 10.05% -9.29% 5.72% 1.44% 0.81% 0.23% 1.74% 2.68% 0.5 Total Det / Total Capital 3.43% 3.91% 27.05% 26.82% 00.60% 48.70% 65.76% 51.00% 58.48% 52.02% 22.02% 22.02% 22.02% 22.03% 22.02% 22.03% 22.02% 22.03% 22.04% 22.											\$548.3
Total Det/ / Total Capital 3.40% 3.91% 27.00% 26.82% 25.42% 20.80% 22.02% 20.39% 20.8 Excess Cash \$3.078.7 \$2.723.7 \$4.105.9 \$4.208.0 \$4.407.1 \$5.499.8 \$0.0 \$4.445.5 \$4.777.6 \$2.723.7 \$4.105.9 \$4.208.0 \$4.407.1 \$5.499.8 \$0.0 \$4.244.5 \$4.777.6 \$2.723.7 \$4.105.9 \$4.208.0 \$4.407.1 \$5.499.8 \$0.00% \$4.208.0 \$4.208.0 \$4.208.0 \$4.208.0 \$0.00%											6.29%
Total Detr / EBITDAR 8.63% 8.03% 71.85% 60.23% 60.50% 48.70% 55.75% 51.00% 58.4246 54.271 Financial Levarage (Total Debt - Excess Cash) / -34.23% -30.43% -21.74% -21.73% -30.08% -3.23% 22.00% -17.23% -11.137% -0.05% 0.00% 0											0.52%
Excess Cash \$3,078.7 \$2,723.7 \$4,106.9 \$4,200.0 \$4,007.1 \$5,459.8 \$0.00 \$4,244.5 \$4,777.6 \$2,723.7 Penaion Laverage (Not Penaion Lability / MV) 0.00%											52.23%
Financial Leverage (Nt Prancic Lability MV) -04.29% -21.74% -21.74% -21.74% -20.69% -2.20% -17.29% -11.37% -0.5 Pension Laverage (Nt Prancin Lability MV) 0.00% <											\$2,729.9
Pension Leverage (Net Pension Lability / MV) 0.00% 0.0											-0.53%
Equity Risk Index (S&P 500 = 1.00) 2.15 2.16 2.16 2.24 2.20 2.28 2.00 2.18 2.20 2.18 2.20 2.18 2.20 2.18 2.20 2.18 2.20 2.18 2.20 2.18 2.20 2.18 2.20 2.18 2.20 2.18 2.20 2.18 2.20 2.18 2.20 2.18 2.20 4.70 5.10 6.09 6.09 8.05 8.03 8.16 8.67 8.70 9.9 Market Value Index (NL Sales: MV) 8.07 8.09 8.27 2.73 2.26 2.79 2.77 2.79 2.77 2.79 2.77 2.79 2.70											0.00%
Sales Index (NL Sales) 8.29 8.36 8.39 8.47 8.00 9.03 9.15 8.67 8.70 9. Market Value Index (NL Market Value) 9.05 9.03 9.36 8.40 10.38 11.51 11.77 9.94 10.43 11. Size Index (NL Sales: MV) 8.07 8.09 8.87 8.94 9.49 10.27 10.46 9.25 9.57 10. Beta 2.72 2.72 2.73 2.73 2.85 2.79 2.77 2.79 2.2 2.20 2.20 2.18 2.20 2.20 2.18 2.20 2.20 2.18 2.20 2.20 2.18 2.20 2.20 2.18 2.20 2.20 2.18 2.20 2.20 2.18 2.20 2.20 2.18 2.20 2.20 2.18 5.20 5.10 6.00 6.09 4.70 5.10 6.10 5.10 6.10 5.10 6.10 5.11.90 5.28.91.810 5.12.91.91 5.28.91.810 5.12.91.91 5.28.91.810 5.12.91.91 5.28.91.810 5.12.91.91 5.28.91.810 5.12		2.15	2.15	2.16	2.16	2.24	2.20	2.20	2.18	2.20	2.20
Market Value index (viL Market Value) 9.05 9.03 9.36 9.40 10.38 11.51 11.77 9.94 10.43 11.51 Size Index (NLL Sales: MV) 8.07 8.09 8.94 9.49 10.27 10.46 9.25 9.57 10.0 Beta 2.72 2.73 2.73 2.85 2.79 2.27 2.77 2.79 2.0 2.18 2.20 2.18 2.20 2.18 2.20 2.18 2.20 2.18 2.20 2.18 2.20 2.18 2.20 2.18 2.20 2.18 2.20 2.18 2.20 2.18 2.20 2.18 2.20 2.18 2.20 2.18 2.20 2.18 2.20 2.18 2.20 2.2 10.46 9.20 11.41 11.41 11.41 2.114.41 2.114.41 2.212 2.21 2.21 2.21 2.21 2.21 2.21 2.21 2.21 2.21 2.21 2.21 2.21 2.21 2.21 2.21 <t< td=""><td>Stock Price Volatility</td><td></td><td></td><td></td><td></td><td></td><td></td><td>6.09</td><td></td><td></td><td>6.09</td></t<>	Stock Price Volatility							6.09			6.09
Size Index (NL Sales: MV) 8.67 8.69 8.87 8.94 9.49 10.27 10.46 9.25 9.57 10. Beta 2.72 2.73 2.73 2.85 2.79 2.77 2.77 2.73 2.85 2.79 2.77 2.73 2.80 2.20 2.18 2.00 2.25 2.11.490.48 3.22.43.7 \$100.09.9 \$12.89.44.3 \$32.86.13 \$44.114.47 510.60.27 530.84 528.60.1 \$12.190.49 \$28.613.8 \$44.20.50.5 \$111.90.57 \$12.98.4 \$50.07.1 \$31.81.98 \$14.20.27.0 \$30.89 \$11.87											9.09
Beta 2.72 2.73 2.73 2.86 2.79 2.77 2.79 2. Stock Price Volatility 7.02 4.92 3.28 4.05 5.15 0.09 0.09 4.70 5.10 6. Valuation Measures 7.02 4.92 3.28 4.05 5.15 0.09 6.09 4.70 5.10 6. Valuation Measures 7.02 4.92 3.28 4.05 5.15 0.09 \$128.944.3 \$32.858.3 \$48.111.8 \$114.477 Economic Enterprise Value \$8.384.4 \$8.20.44 \$9.920.2 \$10.442.0 \$30.471.4 \$97.816.8 \$27.030.7 \$94.560.1 \$121.904.9 \$28.813.8 \$43.334.2 \$108.21 \$2.641.4 \$97.816.8 \$27.030.7 \$94.560.1 \$121.904.9 \$28.813.8 \$40.250.5 \$11.446.7 \$104.400.5 \$10.449.0 \$118.91.1 \$114.947 Total Economic Market Value \$4.819.5 \$4.564.2 \$9.20.7.3 \$6.701.3 \$81.99.9 \$10.572.2 \$0.368.85 \$77.0.0 \$9											11.64
TFP Adjusted Beta 2.15 2.16 2.16 2.24 2.20 2.20 2.18 2.20 2.10 4.00 5.15 6.09 4.00 5.10 6.09 4.00 5.10 6.09 4.00 5.10 5.12,944.3 5.22,858.3 540,111.8 511.474.7 531.376.8 540,250.5 511.948.0 530,491.4 597,912.0 512.6,100.572.2 583,686.57,027.0 531.376.8 540,250.5 511.948.0 531.48.3 5129,914.3 532.861.8 541.20.0 531.376.8 540,201.3 512.941.3 510.57.7 531.376.8 540.70.1 58.319.8 54.013 510.57.7 530.3817.8 58.71.3 580.67.1 <td></td> <td>10.36</td>											10.36
Stock Price Volatility 7.02 4.92 3.28 4.05 5.15 6.09 4.70 5.10 6. Valuation Measures Total Economic Market Value (MV) \$8.501.8 \$8.380.3 \$11.575.7 \$12.081.8 \$32.243.7 \$100.009.9 \$128.944.3 \$32.858.3 \$48.111.8 \$114.477 Economic Enterprise Value \$8.334.4 \$8.00.4 \$99.92.5 \$10.440.0 \$30.491.4 \$97.812.0 \$122.101.0 \$22.813.8 \$44.251.00 \$111.905.7 \$121.904.9 \$22.813.440.0 \$30.491.4 \$97.812.0 \$12.101.0 \$12.949.9 \$3.137.8 \$44.251.00 \$3.137.8 \$44.251.00 \$3.137.8 \$44.251.00 \$3.137.8 \$44.251.00 \$3.137.8 \$44.251.00 \$3.137.8 \$44.251.90 \$3.137.8 \$44.251.90 \$3.137.8 \$44.251.90 \$3.137.8 \$44.251.90 \$3.137.8 \$44.251.90 \$3.137.8 \$44.251.90 \$3.137.8 \$44.251.90 \$3.137.8 \$44.251.90 \$3.137.8 \$44.251.90 \$3.119.95 \$111.905 \$111.905 \$111.905 \$3.118.20 \$3.429.9 \$											2.79
Valuation Measures Valuation Measures Total Economic Market Value (MV) \$8.501.8 \$8.300.3 \$111.675.7 \$12.081.8 \$32.243.7 \$100.009.9 \$128.944.3 \$32.858.3 \$48.111.8 \$114.477 Economic Enterprise Value \$5.423.1 \$5.666.6 \$7,409.9 \$7,815.8 \$27,036.7 \$94,550.1 \$121,904.9 \$22.8613.8 \$43.334.2 \$100.270 Equity Market Value \$8.338.4 \$8.206.4 \$9.926.2 \$10,448.0 \$30.491.4 \$97.812.0 \$128,110.6 \$31.376.8 \$44.250.5 \$111.967 Total Capital \$4.819.5 \$4,5654.2 \$8.020.4 \$25,542.4 \$91.810.0 \$118.372.1 \$26,488.8 \$41.044.8 \$1105.097 MVC Margin (MVC / Capital) 78.40% \$4.01% \$86.49% \$5.50% 381.16% 1119.85% \$118.372.1 \$26,488.8 \$41.044.8 \$1106.07 Current EVC Value (EP / WACC) \$16.4 \$(\$21.9) \$23.876.8 \$5.50%.3 \$11.18.05% \$119.85% \$119.85% \$119.85% \$119.85% \$12.88.3 \$34.22.9 <											2.20
Total Economic Market Value (MV) \$8,501.8 \$8,303 \$11.575.7 \$12.081.8 \$32.243.7 \$100.009.9 \$128,944.3 \$32.2858.3 \$44,111.8 \$114,477 Economic Enterprise Value \$5,423.1 \$5,656.6 \$7,409.9 \$7,815.8 \$27,636.7 \$94,550.1 \$121,904.9 \$28,013.8 \$44,334.2 \$100.227 Equity Market Value \$8,338.4 \$8,200.4 \$9,926.2 \$10,448.0 \$30,491.4 \$97,812.0 \$128,110.6 \$13,376.8 \$44,050.5 \$111,907 Total Capital \$4,819.5 \$4,654.2 \$60,207.3 \$81,799.8 \$60,701.3 \$8,199.9 \$10,672.2 \$6,368.5 \$7,027.0 \$93.88 MVC M argin (MVC / Capital) \$3,862.3 \$3,826.1 \$5,388.4 \$5,902.0 \$25,542.4 \$91,810.0 \$118,372.1 \$26,489.8 \$41,084.8 \$105.09 MVC Margin (MVC / Capital) 76,40% 84,01%.4 \$66,9% \$31,16% \$1119,65% \$119,65% \$416,95% \$84,7% \$119,97 Gurrent Operations Value (COV \$44,655.5 \$5,516.1 \$23,	Stock Price Volatility	7.02	4.92	3.28	4.05	5.15	6.09	6.09	4.70	5.10	6.09
Economic Enterprise Value \$6,423.1 \$5,666.6 \$7,409.9 \$7,815.8 \$27,636.7 \$94,560.1 \$121,904.9 \$28,613.8 \$43,334.2 \$106,227 Equity Market Value \$8,338.4 \$8,206.4 \$9,926.2 \$10,448.0 \$30,491.4 \$97,812.0 \$126,110.6 \$31,376.8 \$46,250.5 \$111,961 Market Value Created MVC (MV - Capital) \$3,862.3 \$3,828.1 \$5,388.4 \$5,902.0 \$25,542.4 \$91,810.0 \$118,372.1 \$26,499.8 \$41,094.8 \$105,077.0 \$93,386 \$77,004.8 \$105,077.0 \$480.77% 663,38% \$119,67% 448.77% 663,38% \$118,477% 663,38% \$118,77% 448,77% 663,38% \$119,67% 448,77% 663,38% \$119,67% 448,77% 663,38% \$118,47% \$119,65% \$14,47% \$119,65% \$14,47% \$126,318.3 \$126,318.5 \$12,638.6 \$119,25% \$44,632.2 \$113,83 \$16,22 \$52,678.6 \$31,16% \$119,65% \$14,454.65% \$52,678.6 \$31,263.6 \$31,263 \$22,868.5 \$12,638.6 \$31,263	Valuation Measures										
Economic Enterprise Value \$6,423.1 \$5,666.6 \$7,409.9 \$7,815.8 \$27,636.7 \$94,560.1 \$121,904.9 \$28,613.8 \$43,334.2 \$106,227 Equity Market Value \$8,338.4 \$8,206.4 \$9,926.2 \$10,448.0 \$30,491.4 \$97,812.0 \$126,110.6 \$31,376.8 \$46,250.5 \$111,961 Total Capital \$4,819.5 \$46,564.2 \$8,207.3 \$8,179.8 \$8,701.3 \$8,199.9 \$10,572.2 \$8,388.6 \$7,027.0 \$9,388 Market Value Created MVC (MV - Capital) \$3,862.3 \$3,881.4 \$5,388.4 \$5,500.0 \$25,542.4 \$91,810.0 \$118,372.1 \$26,499.8 \$41,084.8 \$105,097.0 MVC Margin (MVC / Capital) 70.40% 84.01% 121,90% 123,48% 469,62% 1100,31% 1259,77% 488,77% 663,98% 1184.7 Current EVC Value (EP / WACC) \$18.4 \$62.5 \$178.1 \$8,200.2 \$9,025.3 \$20,042.2 \$23,732.6 \$318,18.3 \$5,422.9 \$14,464 Current Operations Value Per Share \$7.16 \$7.37	Total Economic Market Value (MV)	\$8 501 9	\$8,390.2	\$11 575 7	\$12 091 9	\$32 243 7	\$100.009.9	\$128 944 2	\$32,859.2	\$48 111 9	\$114 477 4
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Market Value (COV + FGV %) 100.00% 100.00% 100.00% 100.00% 100.00% 100.00% 100.00% 100.00% 100.00% 100.00%											19.97%
											100.00%
	Basic Shares Outstanding	603.6	619.3	587.9	552.3	543.0	541.0	568.7	568.7	545.4	554.9

Tigress Financial Partners LLC - Member of FINRA / MSRB / SIPCResearch: (646) 780-8880research@tigressfp.com40 Wall Street New York NY, 10005(212) 430-8700www.tigressfinancialpartners.com



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NVIDIA Corporation (NVDA-US)

Semiconductors & Semiconductor Equipment

Ratings History

	Corporation (NV				\$200 -	- NVIDIA Corpo	Jiadon			
ltem #	Date	Research Action	Rating	Price	A			#4	#6 #7	
#7	08/18/2016	Reiterate Rating	Buy	\$62.10	\$150 -	#1	#3	<u>#4</u>		
#6	02/26/2016	Reiterate Rating	Buy	\$31.60	\$100 -			#5		ma
#5	08/13/2015	Reiterate Rating	Buy	\$23.52		#2				-
#4	06/17/2015	Upgrade Rating	Buy	\$21.58	\$50 -		4			
#3	11/14/2014	Reiterate Rating	Neutral	\$19.55	\$0 -			and the second		
#2	08/02/2013	Reiterate Rating	Neutral	\$14.76	4 0 -	01/2013	01/2014	01/2015	01/2016	01/2017
#1	03/18/2013	Initiation of Coverage	Neutral	\$12.55						

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.

For more information on our research methodology, please review the Tigress Investment Research Guide to Company Valuation and Analysis.

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 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
For more information on the	key terms and measures, please review the Tigress Investment Research Guide to Company Valuation and Analysis.

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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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universe. The pote	sociated with owning the common equity of rated firms within our research ential return is measured on a relative basis to the general market which is a S&P 500 and to the subject company's industry peer group as indicated.	_	Companie Under Co	Companie	elationship ompanies Inder Coverage*				
Rating:	Meaning:		#	%	#	%			
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