

Company Note	2
Investment Thesis	4
Financial Data	5
Tigress Research Methodology Overview	7
Glossary of Key Terms and Measures	7
Contacts	8
Analyst Certification	8
Research Disclosures	8
Tigress Research Investment Rating Meanings and Distribution	8
Specific Disclosures for the companies that are the subject of this Report	9
Research Report Disclaimer	10
About Tigress Financial Partners LLC	10

Microsoft Corporation (MSFT-US)**Software**

- We reiterate our buy rating on MSFT and believe further upside in the shares exists.
- Business Performance continues to accelerate, driven by continued strength in Office 365, growth of Azure, the integration of LinkedIn and its dominant enterprise position.
- Sales of cloud-based products continue to be the primary driver of MSFT's revenue growth.
- MSFT will continue to expand its cloud platform to support the Internet of Things (IoT).
- MSFT continues to focus on incorporating Artificial Intelligence (AI) across its product lines.
- MSFT's Bing search engine continues to gain market share.
- MSFT's Strong balance sheet and cash flow will continue to drive greater cash to shareholders.

Research
(646) 780-8880
research@tigressfp.com

Trading
(646) 780-8890
trading@tigressfp.com

Tigress Financial Partners LLC

Member of FINRA / MSRB / SIPC
40 Wall Street
New York, NY 10005
(212) 430-8700
www.tigressfinancialpartners.com

Tigress financial partners seeks to do business with companies that are the subject of these reports. Please refer to the last three pages of this report for important certification, disclosure and disclaimer information. © 2017 Tigress Financial Partners LLC. No part of this report may be reproduced or redistributed in any form.

Company Note

Microsoft Corporation (MSFT-US)
 Software

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

Research Action:
Rating Upgrade

Rating:	Buy
Prior Rating:	Buy
Price 05/05/2017:	\$69.00
52 Week High / Low:	\$69.71 / \$48.04

Key Data: (TTM as an of Mar-17)

Excess Cash per Share:	\$18.38
Annual Dividend:	\$1.56
Dividend Yield:	2.26%
Ave. Volume (30 Day):	23.9M
Shares Outstanding:	7,720.5M
Float:	7,530.0M
Equity MV:	\$532,715.9M
Sales TTM:	\$86,833.0M
Beta:	1.13
EBITDAR:	\$41,645.8M
NOPAT:	\$18,237.4M
Total Invested Capital:	\$161,572.0M
Return on Capital:	13.15%
Cost of Capital:	6.72%
Economic Profit:	\$8,917.1M
Market Value Added:	\$411,104.4M
Current Operations Value:	\$271,403.1M
Future Growth Value:	\$301,273.4M

- We reiterate our buy rating on MSFT and believe further upside in the shares exists.** Business Performance continues to accelerate, driven by continued strength in Office 365, growth of Azure, the integration of LinkedIn and its dominant enterprise position. MSFT's acquisition of LinkedIn will expand its corporate focused social media presence. Its dominant position in gaming and Bing search engine along with its Cortina personal assistant and cloud platform will help expand its presence in the Internet of things. MSFT is well-positioned to continue to grow Economic Profit along with its ongoing return of capital will continue to drive increasing shareholder value creation.
- Business Performance continues to accelerate, driven by continued strength in Office 365, growth of Azure, the integration of LinkedIn and its dominant enterprise position.** Y/Y revenue growth increased only slightly from \$86.43 billion to \$86.83 billion over the LTM. Increases in cloud services and office 365 subscriptions were offset by the decline in personal computing and Surface sales. We estimate an increase of 17% to \$101.6 billion over the NTM driven by increases in Office 365 subscriptions, increasing cloud services and the integration of LinkedIn. Economic Operating Cash Flow (EBITDAR) increased Y/Y 3.9% from \$43.2 billion to \$44.9 billion over the LTM. Contributions from higher margin cloud services and LinkedIn will increase EBITDAR 15.2% to \$51.7 billion over the NTM. Net Operating Profit After Tax (NOPAT) increased 16.2% from \$16.373 billion to \$19.43 billion over the LTM driven by growth of higher margin businesses and greater operating efficiencies. We forecast an increase of 13% to \$22 billion over the NTM. Y/Y Return on Capital increased from 13.07% to 13.31% and see a further increase to 14.7% over the NTM. Economic Profit increased 9.82% Y/Y from \$9.46 billion to \$10.34 billion over the LTM. We forecasted increase of 10.4% to \$11.46 billion over the NTM. The increase in Economic Profit, along with MSFT's ongoing return of capital to shareholders should continue to drive a significant increase in shareholder value.

Tigress Financial Partners LLC - Member of FINRA / MSRB / SIPC

 Research: (646) 780-8880 research@tigressfp.com

 40 Wall Street New York NY, 10005 (212) 430-8700 www.tigressfinancialpartners.com

Tigress Financial Partners seeks to do business with the companies that are the subject of these reports. Please refer to the last three pages of this report for important certification, disclosure and disclaimer information.

© 2017 Tigress Financial Partners LLC. No part of this report may be reproduced or redistributed in any form.

- **Sales of cloud-based products continue to be the primary driver of MSFT's revenue growth.** Azure currently has an annual run rate of over \$15 billion and is growing more than 100% a year. MSFT's hybrid cloud strategy is a major differentiator against Amazon's (AMZN-US, Buy rated) Web services (AWS) currently the largest public cloud operator. MSFT's Azure Stack will continue to accelerate the adoption of hybrid clouds. MSFT is focusing on large enterprise corporate operators with current on premise architecture that are slowly moving applications to the cloud. MSFT is focusing on engaging companies that are in the process of moving to the cloud but still maintain their own in-house server platform. Currently 85% of the Fortune 500 companies are now using some form of MSFT's cloud services.
- **MSFT will continue to expand its cloud platform to support the Internet of Things (IoT).** MSFT has partnered with a number of auto manufacturers to provide a cloud-based information services platform for the connected car as auto manufacturers continue to expand its infotainment systems and create a more personalized in-car experience. By increasing connectivity to the car, auto manufacturers diagnose problems in real time and push upgrades to a car's onboard computer reducing the need for expensive recalls and alert drivers of potential problems.
- **MSFT continues to focus on incorporating Artificial Intelligence (AI) across its product lines.** MSFT launched its personal assistant Cortina with Windows 10. Cortina has cognitive abilities so it learns user behavior to improve its results. Cortina's features are increasingly being used across MSFT's product line. MSFT is offering a platform for clients to build cognitive capabilities using the Cortina Intelligence suite. This provides data management, machine learning, visualization, and preconfigured algorithms to clients looking to develop AI-based solutions. This also helps MSFT expand its Azure cloud infrastructure platform.
- **MSFT's Bing search engine continues to gain market share.** Bing is gaining market share from smaller search rivals and is also benefiting from strategic partnerships including Yahoo (YHOO-US, Neutral Rated), HP (HPQ-US, Neutral Rated) and Facebook (FB-US, Strong Buy Rated). HP incorporates Bing in its PCs as the default search engine and FB uses Bing to support its graph search. Bing is also the default search engine for the world's largest and dominant operating system, Microsoft Windows. Bing is also the default engine for Apple's (AAPL-US, Strong Buy rated) personal assistant Siri.

- **MSFT's Strong balance sheet and cash flow will continue to drive greater cash to shareholders.** MSFT currently has \$129 billion, \$16.71 a share, in excess cash and we expect it to generate \$51.7 billion of Economic Operating Cash Flow (EBITDAR) over the NTM which will continue to fund acquisitions and return cash to shareholders through ongoing dividend increases and share repurchases. MSFT currently yields 2.27% which is slightly below the S&P average and has increased its dividend 15.8% over the past five years. In September 2016, MSFT announced an open market purchase of \$40 billion worth of stock. This comes after it announced a \$40 billion repurchase in October 2013. Since 1993, MFST has announced repurchases of over \$342 billion worth of shares including a \$155 billion Dutch Auction in 2006.

Investment Thesis

MSFT continues to drive greater revenue through an evolving software as a service (SaaS) model through the launch of Office 365 and its Azure cloud platform. MSFT continues to expand its innovative capabilities to drive greater enterprise and in-home presence. MSFT is increasing margins through service-based offerings which will continue to drive greater economic profit and increasing shareholder value creation.



Company Report – Research Update

Microsoft Corporation (MSFT-US)

Software

Financial Data

Report Basis	LTM	LTM	LTM	LTM	LTM	LTM	LTM	NTM	5 Yr	3 Yr	Current
Reported Period Ending	03/31/2012	03/31/2013	03/31/2014	03/31/2015	03/31/2016	03/31/2017	03/31/2018	Average	Average	Trend	
Net Sales Revenue	\$73,229.0	\$75,841.0	\$83,193.0	\$94,463.0	\$86,425.0	\$86,833.0	\$101,568.2	\$85,351.0	\$89,240.3	\$94,200.6	
Sales Growth	7.16%	3.57%	9.69%	13.55%	-8.51%	0.47%	16.97%	3.75%	1.84%	8.72%	
Sales Growth Trend	10.68%	5.01%	7.24%	12.01%	0.31%	-3.12%	10.37%	4.29%	3.07%	3.63%	
Operating Cash Flow (EBITDAR)	\$41,851.2	\$42,034.9	\$44,291.5	\$48,202.0	\$43,198.3	\$44,861.7	\$51,689.9	\$44,517.7	\$45,420.7	\$48,275.8	
EBITDAR Margin	57.15%	55.43%	53.24%	51.03%	49.98%	51.66%	50.89%	52.27%	50.89%	51.28%	
EBITDAR Growth	4.79%	0.44%	5.37%	8.83%	-10.38%	3.85%	15.22%	1.62%	0.77%	9.54%	
Net Operating Profit Before Tax (NOPBT)	\$28,857.2	\$27,604.9	\$28,086.5	\$29,047.0	\$24,068.3	\$22,847.7	\$28,747.4	\$26,330.9	\$25,321.0	\$25,797.6	
NOPBT Margin	39.41%	36.40%	33.76%	30.75%	27.85%	26.31%	28.30%	31.01%	28.30%	27.31%	
NOPBT Growth	4.51%	-4.34%	1.74%	3.42%	-17.14%	-5.07%	25.82%	-4.28%	-6.26%	10.38%	
Cash Operating Income Tax	\$4,992.0	\$6,308.7	\$5,087.5	\$7,402.4	\$7,343.1	\$3,422.1	\$6,800.8	\$5,912.8	\$6,055.9	\$5,111.4	
Economic Tax Effective Rate	17.30%	22.85%	18.11%	25.48%	30.51%	14.98%	23.66%	22.39%	23.66%	19.32%	
Net Operating Profit After Tax (NOPAT)	\$23,865.2	\$21,296.3	\$22,999.0	\$21,644.5	\$16,725.2	\$19,425.6	\$21,946.6	\$20,418.1	\$19,265.1	\$20,686.1	
NOPAT Margin	32.59%	28.08%	27.65%	22.91%	19.35%	22.37%	21.61%	24.07%	21.55%	21.99%	
NOPAT Growth	10.15%	-10.76%	8.00%	-5.89%	-22.73%	16.15%	12.98%	-3.05%	-4.16%	14.56%	
Cash & Equivalents	\$68,597.0	\$85,676.0	\$103,217.0	\$107,457.0	\$116,867.0	\$133,399.0	\$147,233.3	\$109,323.2	\$119,241.0	\$140,316.1	
Total Assets	\$118,010.0	\$134,105.0	\$156,119.0	\$176,683.0	\$181,869.0	\$225,017.0	\$248,352.6	\$174,758.6	\$194,523.0	\$236,684.8	
Non - Interest Bearing Liabilities (NIBLs)	\$32,461.0	\$37,828.0	\$39,816.0	\$48,266.0	\$53,560.0	\$61,878.0	\$68,295.1	\$48,269.6	\$54,568.0	\$65,086.6	
Net Assets	\$85,549.0	\$96,277.0	\$116,303.0	\$128,417.0	\$128,309.0	\$163,139.0	\$180,057.5	\$126,489.0	\$139,955.0	\$171,598.2	
Economic Asset Adjustments	(\$134.1)	\$625.5	\$3,290.3	\$5,234.4	\$7,404.8	\$7,848.4	\$8,662.4	\$4,880.7	\$6,829.2	\$8,255.4	
Net Operating Assets	\$85,414.9	\$96,902.5	\$119,593.3	\$133,651.4	\$135,713.8	\$170,987.4	\$188,719.9	\$131,369.7	\$146,784.2	\$179,853.6	
Debt & Debt Equivalents	\$13,707.9	\$16,010.5	\$24,856.3	\$35,838.4	\$51,074.8	\$91,424.4	\$100,905.7	\$43,840.9	\$59,445.9	\$96,165.1	
Equity & Equivalents	\$68,659.0	\$76,688.0	\$87,424.0	\$90,132.0	\$74,806.0	\$69,729.0	\$76,960.3	\$79,755.8	\$78,222.3	\$73,344.7	
Total Capital - Financing Sources	\$82,366.9	\$92,698.5	\$112,280.3	\$125,970.4	\$125,880.8	\$161,153.4	\$177,866.0	\$123,596.7	\$137,668.2	\$169,509.7	
Capital Adjustments	(\$1,904.0)	(\$1,190.0)	\$1,113.0	\$1,264.0	\$2,724.0	\$2,218.0	\$2,448.0	\$1,225.8	\$2,068.7	\$2,333.0	
Net Capital Financing Sources	\$80,462.9	\$91,508.5	\$113,393.3	\$127,234.4	\$128,604.8	\$163,371.4	\$180,314.0	\$124,822.5	\$139,736.9	\$171,842.7	
Net Working Capital	\$96.5	(\$1,189.0)	(\$707.3)	(\$2,155.9)	(\$4,195.8)	(\$11,578.4)	(\$12,779.1)	(\$3,965.3)	(\$5,976.7)	(\$12,178.7)	
Cost of Net Working Capital	\$4.5	(\$31.3)	(\$62.4)	(\$86.7)	(\$179.6)	(\$486.4)	(\$536.9)	(\$169.3)	(\$250.9)	(\$511.6)	
% of Revenue	0.01%	-0.04%	-0.08%	-0.09%	-0.21%	-0.56%	-0.53%	-0.20%	-0.29%	-0.54%	
Operational Capital	\$10,091.4	\$9,830.5	\$13,241.0	\$16,189.6	\$17,316.0	\$16,014.1	\$17,674.9	\$14,518.2	\$16,506.6	\$16,844.5	
Cost of Operational Capital	\$583.3	\$570.4	\$759.6	\$891.2	\$947.5	\$1,027.8	\$1,134.4	\$839.3	\$955.5	\$1,081.1	
% of Revenue	0.80%	0.75%	0.91%	0.94%	1.10%	1.18%	1.12%	0.98%	1.07%	1.15%	
Productive Capital	\$32,545.4	\$27,752.5	\$30,893.0	\$44,880.6	\$39,723.0	\$61,229.1	\$67,578.9	\$40,895.6	\$48,610.9	\$64,404.0	
Cost of Productive Capital	\$1,640.9	\$1,726.3	\$1,930.7	\$2,294.5	\$2,392.4	\$3,113.0	\$3,435.8	\$2,291.4	\$2,600.0	\$3,274.4	
% of Revenue	2.24%	2.28%	2.32%	2.43%	2.77%	3.59%	3.38%	2.68%	2.93%	3.48%	
Total Operating Capital	\$20,479.4	\$15,018.5	\$20,536.0	\$30,917.6	\$23,168.0	\$41,930.1	\$46,278.5	\$26,314.0	\$32,005.2	\$44,104.3	
Cost of Total Operating Capital	\$925.7	\$1,016.3	\$1,170.5	\$1,558.1	\$1,529.4	\$2,007.4	\$2,215.5	\$1,456.3	\$1,698.3	\$2,111.5	
% of Revenue	1.26%	1.34%	1.41%	1.65%	1.77%	2.31%	2.18%	1.70%	1.91%	2.25%	
Non - Operating Capital	\$64,935.6	\$81,884.0	\$99,057.4	\$102,733.9	\$112,545.8	\$129,057.4	\$142,441.4	\$105,055.7	\$114,779.0	\$135,749.4	
Cost of Non - Operating Capital	\$3,611.5	\$4,203.4	\$5,957.0	\$6,110.6	\$6,087.6	\$7,450.1	\$8,222.7	\$5,961.7	\$6,549.4	\$7,836.4	
% of Revenue	4.93%	5.54%	7.16%	6.47%	7.04%	8.58%	8.10%	6.96%	7.36%	8.34%	
Total Capital	\$85,414.9	\$96,902.5	\$119,593.3	\$133,651.4	\$135,713.8	\$170,987.4	\$188,719.9	\$131,369.7	\$146,784.2	\$179,853.6	
Cost of Total Capital	\$4,537.2	\$5,219.7	\$7,127.6	\$7,668.6	\$7,617.0	\$9,457.5	\$10,438.3	\$7,418.1	\$8,247.7	\$9,947.9	
% of Revenue	6.20%	6.88%	8.57%	8.12%	8.81%	10.89%	10.28%	8.65%	9.27%	10.58%	
Cost of Capital (WACC)	5.90%	5.73%	6.58%	6.06%	5.66%	6.17%	6.17%	6.04%	5.96%	6.17%	
Capital Structure											
Debt & Debt Equivalents	\$13,707.9	\$16,010.5	\$24,856.3	\$35,838.4	\$51,074.8	\$91,424.4	\$100,905.7	\$43,840.9	\$59,445.9	\$96,165.1	
Debt & Debt Equivalents % of Market Value	4.82%	6.26%	6.81%	9.80%	10.47%	15.23%	15.23%	10.57%	12.27%	15.23%	
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	\$270,644.3	\$239,602.5	\$340,246.7	\$329,834.0	\$436,830.8	\$508,935.1	\$561,714.7	\$371,089.8	\$425,200.0	\$535,324.9	
Common Equity % of Market Value	95.18%	93.74%	93.19%	90.20%	89.53%	84.77%	84.77%	89.43%	87.73%	84.77%	
Total Economic Market Value (MV)	\$284,352.3	\$255,612.9	\$365,103.0	\$365,672.5	\$487,905.6	\$600,359.6	\$662,620.4	\$414,930.7	\$484,645.9	\$631,490.0	
Total %	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
Excess Cash	\$64,935.6	\$81,884.0	\$99,057.4	\$102,733.9	\$112,545.8	\$129,057.4	\$142,441.4	\$105,055.7	\$114,779.0	\$135,749.4	
Economic Enterprise Value	\$219,416.7	\$173,729.0	\$266,045.7	\$262,938.6	\$375,359.8	\$471,302.2	\$520,179.0	\$309,875.1	\$369,866.9	\$495,740.6	
Average Capital	\$72,288.0	\$85,985.7	\$102,450.9	\$120,313.9	\$127,919.6	\$145,988.1	\$171,842.7	\$116,531.6	\$131,407.2	\$158,915.4	
Capital Δ	\$16,349.8	\$11,045.5	\$21,884.9	\$13,841.1	\$1,370.3	\$34,766.7	\$16,942.6	\$16,581.7	\$16,659.4	\$25,854.6	

Source: Company Data, Financial statements and Tigress Research

Tigress Financial Partners LLC - Member of FINRA / MSRB / SIPC

Research: (646) 780-8880 research@tigressfp.com

40 Wall Street New York NY, 10005 (212) 430-8700 www.tigressfinancialpartners.com

Tigress Financial Partners seeks to do business with the companies that are the subject of these reports. Please refer to the last three pages of this report for important certification, disclosure and disclaimer information.

© 2017 Tigress Financial Partners LLC. No part of this report may be reproduced or redistributed in any form.

Microsoft Corporation (MSFT-US)
Software

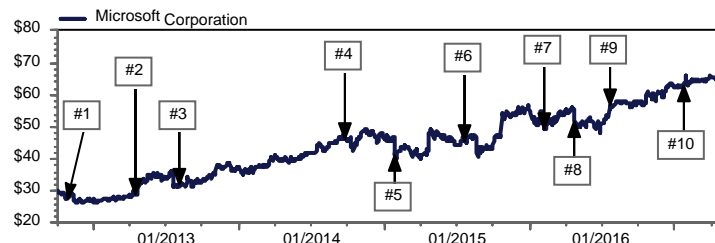
Report Basis	LTM	LTM	LTM	LTM	LTM	LTM	NTM	5 Yr	3 Yr	Current
Reported Period Ending	03/31/2012	03/31/2013	03/31/2014	03/31/2015	03/31/2016	03/31/2017	03/31/2018	Average	Average	Trend
Return on Market Value (NOPAT / MV)	8.39%	8.33%	6.30%	5.92%	3.43%	3.24%	3.57%	5.44%	4.19%	3.40%
Return on Enterprise Value (NOPAT / EV)	10.88%	12.26%	8.64%	8.23%	4.46%	4.12%	4.55%	7.54%	5.60%	4.34%
Return on Capital (NOPAT / Average Capital)	33.01%	24.77%	22.45%	17.99%	13.07%	13.31%	14.69%	18.32%	14.79%	14.00%
Cost of Capital (WACC)	5.90%	5.73%	6.58%	6.06%	5.66%	6.17%	6.17%	6.04%	5.96%	6.17%
Economic Return Spread	27.11%	19.04%	15.86%	11.93%	7.42%	7.14%	7.88%	12.28%	8.83%	7.51%
Capital Charge	\$4,265.3	\$4,923.5	\$6,745.9	\$7,286.6	\$7,234.5	\$9,003.4	\$9,937.1	\$7,038.8	\$7,841.5	\$9,470.3
Economic Profit (EP)	\$19,599.9	\$16,372.8	\$16,253.2	\$14,357.9	\$9,490.7	\$10,422.2	\$11,503.1	\$13,379.4	\$11,423.6	\$10,962.7
Economic Profit Improvement (EPI)	\$2,034.3	(\$3,227.2)	(\$119.6)	(\$1,895.2)	(\$4,867.2)	\$931.5	\$1,080.8	(\$1,835.5)	(\$1,943.6)	\$1,006.2
EP Growth	11.58%	-16.47%	-0.73%	-11.66%	-33.90%	9.81%	10.37%	-10.59%	-11.91%	10.09%
Economic Profit Margin on Sales	26.77%	21.59%	19.54%	15.20%	10.98%	12.00%	11.33%	15.86%	12.73%	11.66%
Economic Profit Per Share	\$2.31	\$1.95	\$1.94	\$1.73	\$1.16	\$1.32	\$1.45	\$1.62	\$1.40	\$1.38
GAAP Earnings Per Share	\$2.78	\$1.95	\$2.69	\$2.43	\$1.29	\$2.29	\$3.19	\$2.13	\$2.00	\$2.74
Excess Cash Per Share	\$7.73	\$9.79	\$11.96	\$12.58	\$14.26	\$16.71	\$18.44	\$13.06	\$14.51	\$17.57
Performance Drivers										
Sales Growth	7.16%	3.57%	9.69%	13.55%	-8.51%	0.47%	16.97%	3.75%	1.84%	8.72%
Sales Growth Trend (ROC Sales Growth)	10.68%	5.01%	7.24%	12.01%	0.31%	-3.12%	10.37%	4.29%	3.07%	3.63%
EBITDAR Margin	57.15%	55.43%	53.24%	51.03%	49.98%	51.66%	50.89%	52.27%	50.89%	51.28%
EBITDAR Growth	4.79%	0.44%	5.37%	8.83%	-10.38%	3.85%	15.22%	1.62%	0.77%	9.54%
NOPBT Margin	39.41%	36.40%	33.76%	30.75%	27.85%	26.31%	28.30%	31.01%	28.30%	27.31%
NOPBT Growth	4.51%	-4.34%	1.74%	3.42%	-17.14%	-5.07%	25.82%	-4.28%	-6.26%	10.38%
NOPAT Margin	32.59%	28.08%	27.65%	22.91%	19.35%	22.37%	21.61%	24.07%	21.55%	21.99%
NOPAT Growth	10.15%	-10.76%	8.00%	-5.89%	-22.73%	16.15%	12.98%	-3.05%	-4.16%	14.56%
Economic Profit Margin on Sales (EP / Sales)	26.77%	21.59%	19.54%	15.20%	10.98%	12.00%	11.33%	15.86%	12.73%	11.66%
Economic Profit Growth	11.58%	-16.47%	-0.73%	-11.66%	-33.90%	9.81%	10.37%	-10.59%	-11.91%	10.09%
Economic Return Spread (ROC-WACC)	27.11%	19.04%	15.86%	11.93%	7.42%	7.14%	8.52%	12.28%	8.83%	7.83%
Economic Return Ratio (ROC / WACC)	559.52%	432.54%	340.94%	297.05%	231.19%	215.76%	238.13%	303.49%	248.00%	226.95%
Economic Profit Momentum (ΔEP/Capital)	2.53%	-3.53%	-0.11%	-1.49%	-3.78%	0.57%	0.60%	-1.67%	-1.57%	0.58%
Economic Profit Momentum Margin (ΔEP/Sales)	2.78%	-4.26%	-0.14%	-2.01%	-5.63%	1.07%	1.06%	-2.19%	-2.19%	1.07%
Capital Growth	25.50%	13.73%	23.92%	12.21%	1.08%	27.03%	10.37%	15.59%	13.44%	18.70%
Capital Turns	0.91X	0.83X	0.73X	0.74X	0.67X	0.53X	0.56X	0.70X	0.65X	0.55X
EVC Acceleration Margin	2.98%	-4.41%	-0.16%	-2.28%	-5.15%	1.08%	1.24%	-1.81%	-2.28%	1.13%
EVC Acceleration Spread	3.53%	-4.46%	-0.14%	-1.85%	-4.05%	0.73%	0.74%	-1.07%	-1.67%	0.77%
Risk Factors										
Free Cash Flow (NOPAT - Δ Capital)	\$7,515.4	\$10,250.8	\$1,114.1	\$7,803.4	\$15,354.9	(\$15,341.0)	\$5,004.0	\$3,836.4	\$2,605.8	(\$5,168.5)
Free Cash Flow Rate (FCF / Capital)	9.34%	11.20%	0.98%	6.13%	11.94%	-9.39%	2.78%	4.17%	2.89%	-3.31%
Free Cash Flow Yield (FCF / MV)	2.64%	4.01%	0.31%	2.13%	3.15%	-2.56%	0.76%	1.41%	0.91%	-0.90%
Total Debt / Total Capital	17.04%	17.50%	21.92%	28.17%	39.71%	55.96%	55.96%	32.65%	41.28%	55.96%
Total Debt / EBITDAR	32.75%	38.09%	56.12%	74.35%	118.23%	203.79%	195.21%	98.12%	132.13%	199.50%
Excess Cash	\$64,935.6	\$81,884.0	\$99,057.4	\$102,733.9	\$112,545.8	\$129,057.4	\$0.0	\$105,055.7	\$114,779.0	\$64,528.7
Financial Leverage ((Total Debt - Excess Cash) / Pension Leverage (Net Pension Liability / MV))	-18.02%	-25.77%	-20.32%	-18.29%	-12.60%	-6.27%	15.23%	-16.65%	-12.39%	4.48%
Pension Leverage (Net Pension Liability / MV)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Equity Risk Index (S&P 500 = 1.00)	0.92	0.92	0.92	0.93	0.94	0.94	0.94	0.93	0.94	0.94
Stock Price Volatility	3.23	3.03	3.11	3.63	3.60	2.77	2.77	3.23	3.33	2.77
Sales Index (NL Sales)	11.20	11.24	11.33	11.46	11.37	11.37	11.53	11.35	11.40	11.45
Market Value Index (NL Market Value)	12.56	12.45	12.81	12.81	13.10	13.31	13.40	12.89	13.07	13.35
Size Index (NL Sales: MV)	11.88	11.84	12.07	12.13	12.23	12.34	12.47	12.12	12.23	12.40
Beta	0.88	0.88	0.89	0.90	0.92	0.92	0.92	0.90	0.91	0.92
TFP Adjusted Beta	0.92	0.92	0.92	0.93	0.94	0.94	0.94	0.93	0.94	0.94
Stock Price Volatility	3.23	3.03	3.11	3.63	3.60	2.77	2.77	3.23	3.33	2.77
Valuation Measures										
Total Economic Market Value (MV)	\$284,352.3	\$255,612.9	\$365,103.0	\$365,672.5	\$487,905.6	\$600,359.6	\$662,620.4	\$414,930.7	\$484,645.9	\$631,490.0
Economic Enterprise Value	\$219,416.7	\$173,729.0	\$266,045.7	\$262,938.6	\$375,359.8	\$471,302.2	\$520,179.0	\$309,875.1	\$369,866.9	\$495,740.6
Equity Market Value	\$270,644.3	\$239,602.5	\$340,246.7	\$329,834.0	\$436,830.8	\$508,935.1	\$561,714.7	\$371,089.8	\$425,200.0	\$535,324.9
Total Capital	\$85,414.9	\$96,902.5	\$119,593.3	\$133,651.4	\$135,713.8	\$170,987.4	\$188,719.9	\$131,369.7	\$146,784.2	\$179,853.6
Market Value Created MVC (MV - Capital)	\$198,937.3	\$158,710.5	\$245,509.7	\$232,021.0	\$352,191.8	\$429,372.1	\$473,900.5	\$283,561.0	\$337,861.6	\$451,636.3
MVC Margin (MVC / Sales)	271.66%	209.27%	295.11%	245.62%	407.51%	494.48%	466.58%	332.23%	378.60%	479.44%
MVC Spread (MVC / Capital)	232.91%	163.78%	205.29%	173.60%	259.51%	251.11%	251.11%	215.85%	230.18%	251.11%
Current EVC Value (EP / WACC)	\$332,181.5	\$285,939.3	\$246,840.7	\$237,074.0	\$167,813.5	\$168,994.1	\$186,519.7	\$221,589.9	\$191,681.9	\$177,756.9
Current Operations Value COV	\$404,469.6	\$371,925.0	\$349,291.6	\$357,387.9	\$295,733.2	\$314,982.2	\$358,362.5	\$338,121.5	\$323,089.1	\$336,672.3
Current Operations Value Per Share	\$47.64	\$44.30	\$41.71	\$43.06	\$36.17	\$39.75	\$43.52	\$41.06	\$39.72	\$41.67
Future Growth Value (MVC - EVA Value)	(\$120,117.3)	(\$116,312.1)	\$15,811.4	\$8,284.5	\$192,172.4	\$285,377.4	\$304,257.9	\$76,809.2	\$161,556.7	\$294,817.6
Future Growth Value Reliance (FGV / MV)	-42.24%	-45.50%	4.33%	2.27%	39.39%	47.53%	45.92%	18.51%	33.34%	46.69%
Share Price	\$32.26	\$28.61	\$40.99	\$40.66	\$55.23	\$65.86	\$65.86	\$46.27	\$53.92	\$65.86
Dividend Yield	2.36%	3.11%	2.61%	2.98%	2.52%	2.32%	0.00%	-29.75%	16.53%	22.16%
Total Shareholder Return (TTM)	29.39%	-8.20%	45.91%	2.16%	38.37%	21.57%	0.00%	-29.75%	16.53%	22.16%
MV to IC Ratio	3.33X	2.64X	3.05X	2.74X	3.60X	3.51X	3.51X	3.16X	3.30X	3.51X
EV / EBITDAR Multiple	5.24X	4.13X	6.01X	5.45X	8.69X	10.51X	10.06X	6.96X	8.14X	10.27X
EV / NOPBIT Multiple	7.60X	6.29X	9.47X	9.05X	15.60X	20.63X	18.09X	11.77X	14.61X	19.22X
EV / NOPAT Multiple	9.19X	8.16X	11.57X	12.15X	22.44X	24.26X	23.70X	15.18X	19.20X	23.96X
EV / EP Multiple	11.19X	10.61X	16.37X	18.31X	39.55X	45.22X	45.22X	23.16X	32.38X	45.22X
Future Growth Value (% of MV)	-42.24%	-45.50%	4.33%	2.27%	39.39%	47.53%	45.92%	18.51%	33.34%	46.69%
Current Operations Value (% of MV)	142.24%	145.50%	95.67%	97.73%	60.61%	52.47%	54.08%	81.49%	66.66%	53.31%
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	8,490.0	8,396.0	8,375.0	8,299.0	8,177.0	7,925.0	8,234.4	8,234.4	8,133.7	8,079.7

Source: Company Data, Financial statements and Tigress Research

Tigress Financial Partners LLC - Member of FINRA / MSRB / SIPC
Research: (646) 780-8880 research@tigressfp.com
40 Wall Street New York NY, 10005 (212) 430-8700 www.tigressfinancialpartners.com
Tigress Financial Partners seeks to do business with the companies that are the subject of these reports. Please refer to the last three pages of this report for important certification, disclosure and disclaimer information.
© 2017 Tigress Financial Partners LLC. No part of this report may be reproduced or redistributed in any form.

Microsoft Corporation (MSFT-US)
Software
Ratings History

Microsoft Corporation (MSFT-US)				
Item #	Date	Research Action	Rating	Price
#10	01/23/2017	Upgrade Rating	Buy	\$62.96
#9	07/22/2016	Reiterate Rating	Neutral	\$56.57
#8	04/25/2016	Reiterate Rating	Neutral	\$52.11
#7	02/09/2016	Reiterate Rating	Neutral	\$49.28
#6	07/22/2015	Reiterate Rating	Neutral	\$45.54
#5	01/28/2015	Reiterate Rating	Neutral	\$41.19
#4	09/23/2014	Reiterate Rating	Neutral	\$46.56
#3	08/02/2013	Reiterate Rating	Neutral	\$31.89
#2	04/16/2013	Reiterate Rating	Neutral	\$28.97
#1	10/25/2012	Initiation of Coverage	Neutral	\$26.43


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*.

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

Tigress Financial Partners seeks to do business with the companies that are the subject of these reports. Please refer to the last three pages of this report for important certification, disclosure and disclaimer information.

© 2017 Tigress Financial Partners LLC. No part of this report may be reproduced or redistributed in any form.

Contacts

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

Michael Naidrich
 Capital Markets / Sales & Trading
 (646) 780-8902 Direct
mnaidrich@tigressfp.com

Peter Bergen
 Institutional Sales and Trading
 (646) 780-8915 Direct
mnaidrich@tigressfp.com

Christofer Dolis
 Institutional Sales & Trading
 (646) 780-8914 Direct
cdolis@tigressfp.com

Eric Kushner
 Institutional Sales & Trading
 (646) 780-8886 Direct
ekushner@tigressfp.com

Mario LoGrande
 Institutional Sales & Trading
 (646) 780-8905
mlogrande@tigressfp.com

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.

Research Disclosures

Employees, officers, directors and shareholders of Tigress Financial Partners LLC and of any of Tigress Financial Partners LLC affiliated entities that are not directly involved with the production of any Tigress Research report (s) and / or their family members may buy / sell or hold securities for their own accounts contrary to the current recommendation expressed in any report published by Tigress Research.

Tigress Financial Partners LLC as well as affiliates of Tigress Financial Partners LLC provide or may seek to provide investment banking, consulting and / or other services to the companies and / or the officers, directors, and employees of the companies that are the subject of research reports published by Tigress Research.

Tigress Financial Partners research personnel, including the analyst(s) responsible for the production of this report receive compensation based upon the overall profitability of the entire firm including profits derived from investment banking revenues.

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:	Meaning:	Rating Distribution (05/05/2017)				
		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.	16	13%	0	0%	
Buy:	Expect out-performance for the price of the stock relative to its industry peer group and general market over the next 12 months.	54	45%	4	80%	
Neutral:	Expect little or no outperformance opportunity over the next 12 months.	44	37%	1	20%	
Underperform:	Expect underperformance for the price of the stock relative to its industry peer group and general market over the next 12 months.	6	5%	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	62	NA	
		Total	120	100%	67	100%

*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.

Tigress Financial Partners LLC - Member of FINRA / MSRB / SIPC

Research: (646) 780-8880 research@tigressfp.com

40 Wall Street New York NY, 10005 (212) 430-8700 www.tigressfinancialpartners.com

Tigress Financial Partners seeks to do business with the companies that are the subject of these reports. Please refer to the last three pages of this report for important certification, disclosure and disclaimer information.

© 2017 Tigress Financial Partners LLC. No part of this report may be reproduced or redistributed in any form.

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

Company:	Disclosure:
Apple Inc. AAPL-US	14

Key	Disclosure:
1.	The Analyst or a household member responsible for the production of this report currently holds a position in securities of the company that is the primary subject of this report in a personal, related or beneficial account.
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.
4.	The Analyst or a household member responsible for the production of this report currently serves as an officer, director or advisory board member of the company that is the primary subject of this report.
5.	An employee of Tigress Financial Partners LLC, its affiliates or subsidiaries currently serves as an officer, director or advisory board member of the company that is the primary subject of this report.
6.	Tigress Financial Partners LLC, its affiliates or subsidiaries is acting as manager/co-manager, underwriter, selling group member, placement or sales agent in regard to an offering of securities of this subject company/entity or one of its affiliates.
7.	Tigress Financial Partners LLC, its affiliates or subsidiaries has acted as manager/co-manager, underwriter, selling group member, placement or sales agent in regard to an offering of securities of this subject company/entity or one of its affiliates within the past 12 months.
8.	Tigress Financial Partners LLC or an affiliated entity currently receives compensation for non-investment banking services from the company and / or employees and / or affiliated persons of the company that is the primary subject of this report.
9.	Within the last 12 months, Tigress Financial Partners LLC, or an affiliated entity has received compensation for investment banking services from the company that is the primary subject of this report.
10.	Within the last 12 months, Tigress Financial Partners LLC, or an affiliated entity has received compensation for non-investment banking services from the company that is the primary subject of this report.
11.	Within the last 12 months, Tigress Financial Partners LLC, or an affiliated entity has received compensation for non-investment banking services from employees and / or affiliated persons of the company that is the primary subject of this report.
12.	In the next 3 months, Tigress Financial Partners LLC, or an affiliated entity, expects to receive compensation for investment banking services from the company that is the primary subject of this report.
13.	In the next 3 months, Tigress Financial Partners LLC, or an affiliated entity, expects to receive compensation for non-investment banking services from the company that is the primary subject of this report.
14.	Accounts managed by Tigress Financial Partners LLC, and / or an employee or an affiliated entity currently hold a position in the security that is the primary subject of this report.
15.	Tigress Financial Partners LLC and /or an affiliated entity currently has contracted the products and / or services of the company that is the primary subject of this report.

Tigress Financial Partners LLC - Member of FINRA / MSRB / SIPC

Research: (646) 780-8880 research@tigressfp.com

40 Wall Street New York NY, 10005 (212) 430-8700 www.tigressfinancialpartners.com

Tigress Financial Partners seeks to do business with the companies that are the subject of these reports. Please refer to the last three pages of this report for important certification, disclosure and disclaimer information.

© 2017 Tigress Financial Partners LLC. No part of this report may be reproduced or redistributed in any form.

Research Report Disclaimer

This report is produced for informational purposes only and is not a solicitation to buy or sell any securities or services from any companies or issuers mentioned herein or to participate in any particular trading strategy or in any jurisdiction in which such an offer or solicitation would violate applicable laws or regulations.

Tigress research is distributed in the United States by Tigress Financial Partners LLC a registered broker dealer with the Securities and Exchange Commission (SEC) and a member of the Financial Industry Regulatory Authority (FINRA).

The information contained herein has been obtained or derived from sources believed to be reliable but its accuracy and completeness is not guaranteed and should not be the sole basis of any investment decision but only to be used as a factor in the investment decision process.

This report does not provide individually tailored investment advice and has been prepared without regard to the individual financial circumstances and investment objectives of any person(s) receiving it. The analysis and conclusions herein are not a complete analysis of every material fact respecting any company, industry, or security. The opinions expressed in this report reflect the judgment of the author(s) at this date and are subject to change without further notice. Tigress Financial Partners is under no obligation to provide updates to recipients of any previously issued reports or recommendations.

The market value and expected income from any investment may vary because of changes in interest rates or foreign exchange rates, securities prices or market indexes, operational or financial conditions of the underlying companies or other factors. Past performance is not indicative of future performance. Estimates of future performance, research ratings and target prices are based on assumptions that may not be realized. Unless otherwise stated, the cover page provides the most recently available closing price on the primary exchange for the subject company's securities/instruments.

Securities are offered through Tigress Financial Partners LLC a SEC Registered Broker Dealer and registered investment advisor and a member of FINRA/MSRB/SIPC which clears its securities transactions and provides custody of client accounts on a fully disclosed basis through Pershing LLC, a subsidiary of The Bank of New York Mellon.

Securities in your account are protected up to \$500,000 of which \$250,000 can be for claims for cash awaiting reinvestment. Please note that SIPC does not protect against loss due to market fluctuation. For additional information please go to www.sipc.org.

In addition to SIPC protection, Pershing provides Tigress Financial Partners LLC client accounts coverage in excess of SIPC limits from Lloyd's of London, in conjunction with other insurance companies. The excess of SIPC coverage provides an aggregate loss limit of \$1 billion for eligible securities over all client accounts and a per-client loss limit of \$1.9 million for cash awaiting reinvestment within the aggregate loss limit of \$1 billion. The excess of SIPC coverage does not protect against loss due to market fluctuation. For additional information please go to www.lloyds.com.

Pershing's excess of SIPC coverage is provided by Lloyd's of London in conjunction with XL Specialty Insurance Co., Axis Specialty Europe Ltd., Great Lakes Reinsurance (UK) PLC and Ironshore Specialty Insurance Co.

About Tigress Financial Partners LLC

Tigress Financial Partners is a specialized financial services firm providing expertise and services in investment banking, investment research, asset management, corporate advisory and trade execution services.

Tigress Financial Partners provides its services to corporate entities, institutional investors, high-net worth individual investors, public and private pensions, federal, state and municipal governments.

Tigress Financial Partners LLC is a registered broker dealer and registered investment advisor with the Securities and Exchange Commission (SEC) and a member of the Financial Industry Regulatory Authority (FINRA), the Municipal Securities Rulemaking Board (MSRB) and a member of the Securities Investor Protection Corporation (SIPC).

Tigress Financial Partners LLC is a Woman-Owned Business Enterprise (WBE) and is nationally certified by WBENC, the Women's Business Enterprise National Council.

Tigress Financial Partners LLC is a wholly-owned subsidiary of Tigress Holdings LLC.

For further information please go to www.tigressfinancialpartners.com.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, scanning or otherwise without prior expressed permission in writing from Tigress Financial Partners LLC.

All trademarks, service marks and logos used in this report are trademarks or service marks or registered trademarks or service of their respective owners.

© 2017 Tigress Financial Partners LLC. All Rights reserved.

Tigress Financial Partners LLC - Member of FINRA / MSRB / SIPC

Research: (646) 780-8880 research@tigressfp.com

40 Wall Street New York NY, 10005 (212) 430-8700 www.tigressfinancialpartners.com

Tigress Financial Partners seeks to do business with the companies that are the subject of these reports. Please refer to the last three pages of this report for important certification, disclosure and disclaimer information.

© 2017 Tigress Financial Partners LLC. No part of this report may be reproduced or redistributed in any form.