

Company Report – Research Update

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

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Apple Inc. (AAPL-US)

Technology Hardware, Storage & Peripherals

- We reiterate our Strong Buy rating on AAPL as increasing demand for the new iPhone 8 and X together with accelerating Services segment results, and a pickup in demand for iPads and Macs continue to drive strong Business Performance.
- A strong reception for the new iPhone 8 and X together with a pickup in iPad and iMac sales are driving gains in Business Performance, and we expect of further acceleration in 2018.
- The iPhone continues to be AAPL's number one product and leading driver of growth.
- AAPL will drive future growth with new product developments and the ongoing introduction of new and innovative technologies.
- AAPL reported a significant reacceleration in iPad and Mac sales in its most recent quarter.
- AAPL continues to develop new AI technologies and AR/VR capabilities for use in existing and future products.
- AAPL plans on being a major provider of autonomous and connected vehicle technology.
- AAPL will continue to target emerging markets, specifically China and India for new growth opportunities.
- AAPL's massive cash position and cash flow continue to fund growth driving initiatives, along with the return of capital to enhance shareholder returns.

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Company Note
Apple Inc. (AAPL-US)

Technology Hardware, Storage & Peripherals

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Research Action:

Reiterate rating

Rating: Strong Buy

Prior Rating: Strong Buy

Price 12/01/2017: \$171.05

52 Week High / \$176.24

Low: \$108.25

Key Data: (TTM as of Sep-17)
Excess Cash per Share: \$50.00

Annual Dividend: \$2.52

Dividend Yield: 1.47%

Avg. Volume (30 Day): 29.1M

Shares Outstanding: 5,134.3M

Float: 5,127.3M

Equity MV: \$878,223.8M

Sales TTM: \$228,577.0M

Beta: 1.08

EBITDAR: \$85,894.8M

NOPAT: \$47,572.3M

Total Invested Capital: \$289,769.9M

Return on Capital: 17.69%

Cost of Capital: 6.65%

Economic Profit: \$29,704.5M

Market Value Added: \$716,572.6M

Current Operations Value: \$715,888.5M

Future Growth Value: \$290,454.0M

- We reiterate our Strong Buy rating on AAPL as increasing demand for the new iPhone 8 and X together with accelerating Services segment results, and a pickup in demand for iPads and Macs continue to drive strong Business Performance.** AAPL reported a significant reacceleration in China and due to India iPhone and Mac sales along with a big increase in Services revenue. AAPL will continue to drive revenue growth through increasing market share penetration in China, India and other emerging markets. We also expect accelerating Business Performance in 2018 driven by growing iPhone sales along with AAPL's focus on new innovative technologies including automotive integration, home automation, healthcare and other IoT applications all integrating greater levels of AI and AR/VR capabilities. AAPL will also benefit significantly with the passing of the tax reform bill and the lower repatriation tax rate. AAPL will continue to drive increasing Return on Capital, greater Economic Profit and accelerating shareholder value creation. AAPL will also continue to enhance shareholder returns with its increasing return of cash to shareholders. We believe further upside in the shares exists from current levels.
- A strong reception for the new iPhone 8 and X together with a pickup in iPad and iMac sales are driving gains in Business Performance, and we expect of further acceleration in 2018.** For the 12 months ending September 2017, AAPL reported another fiscal year of record revenue and saw strength in many of its key regions. Net Sales Revenue increased 6.7% Y/Y from \$240.2 billion to \$228.6 billion. We forecast an increase of 19.5% to \$273.1 billion over the NTM. Economic Operating Cash Flow (EBITDAR) increased 2% from \$84.16 billion to \$85.89 billion over the LTM. We forecast a further increase of 22.6% to \$205.3 billion over the NTM. Net Operating Profit After Tax (NOPAT) increased 2% Y/Y from \$46.7 billion to \$47.6 billion over the LTM. We forecast a further increase of, 22% to \$59 billion over the NTM. Return on Capital (ROC) declined from 20.5% to 17.7% over the LTM. We forecast an increase to 20.3% over the NTM. Economic Profit declined 6.5% from \$31.7 billion to \$29.7 billion over the LTM. We forecast an increase of 14% to \$34 billion over the NTM.

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- **The iPhone continues to be AAPL's number one product and leading driver of growth.** AAPL continues to report sequential increases with every new iPhone release. The newly introduced iPhone 8, iPhone 8 Plus and iPhone X are the most technologically advanced, feature rich and innovative in the series to date. The new iPhone X includes the TrueDepth camera which not only takes pictures but is used for Face ID authentication. The TrueDepth is a seven pixel traditional camera with a number of additional sensors including ambient light, flood illuminator, proximity, microphone, and speaker together with a dot projector (which projects up to 30,000 points of light for a facial recognition scan). The iPhone X also includes a Super Retina Display and the A11 Bionic chip with a neural engine to focus on deep machine learning. The iPhone X uses Face ID for greater security to unlock the phone and make secure payments with ApplePay. The iPhone X takes the highest quality pictures of any prior phone and also enables the playing of immersive augmented reality content. The iPhone X offers wireless charging and is water and dust resistant. AAPL will experience strong iPhone sales due to increased demand that new features drive along with the fact that Apple is entering into an upgrade "Super Cycle" where the largest pool of contract holders are up for renewal.
- **AAPL will drive future growth with new product developments and the ongoing introduction of new and innovative technologies.** AAPL continues to expand its ecosystem with new product introductions and upgrades to its expanded product line that includes the Apple Watch, AppleMusic and Apple TV along with ApplePay. The increases in high-margin Services revenues which include its App Store, AppleMusic, AppleCare, and licensing continue to drive a significant increase in profitability. Services revenue grew 34% Y/Y to \$8.5 billion in the most recent quarter. AAPL is expected to double its 2016 \$24 billion in service revenues by 2020. For 2017, AAPL's services revenue was \$30 billion. This is already greater than most Fortune 100 companies. To drive its content growth, AAPL is developing original programming. AAPL has already committed to investing \$1 billion in content creation. AAPL will focus on the growth of the wearables market with ongoing upgrades of the Apple Watch. The new Apple Watch with Watch OS 4.1 features the ability to integrate with AppleMusic and includes a Siri-integrated watch face and its GymKit fitness app. The new Apple Watch enables you to stream music to your AirPods for iPhone connectivity. In September, AAPL introduced Apple TV 4K enabling 4K HRD content viewing.

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- **AAPL reported a significant reacceleration in iPad and Mac sales in its most recent quarter.** AAPL reported its second consecutive quarter double-digit unit growth for its iPad. AAPL is seeing increases in demand for its new iPads with iOS 11 which is the most powerful iPad ever made with new apps and multitasking capabilities making it more powerful than most PC notebooks. The launch of iOS 11 makes the new iOS 11 the world's largest platform for augmented reality content. There are currently over 1,000 apps with AR features available in the App Store. FY 2017 that ended this September was a record year for Mac sales. It was also the best September quarter in AAPL's history. Mac sales revenue grew 25% driven by new notebooks that were launched in June along with the strong back-to-school season. The Mac experience has become even better with the integration of AAPL's new Mac OS High Sierra.
- **AAPL continues to develop new AI technologies and AR/VR capabilities for use in existing and future products.** AI and AR/VR technologies continue to improve features and capabilities of many of AAPL's products along with the ability to increase security and efficiency and predictive capabilities. Combined with internal development efforts, AAPL continues to make strategic acquisitions of companies with expertise AI and VR/AR hardware along with 3D gaming and virtual reality software. AAPL introduced its third-party developer ARKit to create AR experiences on its iOS platform. AAPL will continue to develop new products to increase its participation in the fast growing Internet of things (IoT) market of connected and automated devices, appliances and automobiles. AAPL it is expected to introduce its Siri-enabled home audio interface HomePod sometime later this month to compete with Amazon's Echo and Google Home.
- **AAPL plans on being a major provider of autonomous and connected vehicle technology.** This past summer, AAPL announced its development of self-driving AI technology. Apple recently invested \$1 billion in Chinese ridesharing company Didi Chuxing enabling it to collect data and develop connected car technology while gaining a foothold in the large Chinese ridesharing and automobile market. AAPL also recently received a permit for testing self-driving car technology from the California Department of Motor Vehicles. Self-driving technology has the potential for extremely profitable business for AAPL which will be a component and license supplier.

- **AAPL will continue to target emerging markets, specifically China and India for new growth opportunities.** China and India represent AAPL's fastest growing markets driven by their growing middle-classes and increasing investment in 4G and 5G networks. AAPL has recently experienced a reacceleration of growth in these countries. Fourth quarter iPhone shipments to China increased significantly driven by iPhone 8 demand. AAPL reported a 25% increase in iPad shipments in China in the most recent quarter as well. AAPL's feature rich products and strong brand equity are enabling it to gain share over lower-priced local product offerings.
- **AAPL's massive cash position and cash flow continue to fund growth driving initiatives, along with the return of capital to enhance shareholder returns.** AAPL currently has \$257 billion, \$50 a share, in excess cash, along with our projected \$105 billion in Economic Operating Cash Flow. Apple will benefit significantly from lower tax rates that will allow it to repatriate a good portion of its excess cash held overseas. The repatriation of AAPL's excess cash will increase its ability to return a significant amount of cash to its shareholders. In May 2017, AAPL increased its dividend 10.5% from \$0.57 per share to \$0.63. From 2012 to 2016, AAPL repurchased \$175 billion worth of stock. In May 2017 Apple announced an additional open market purchase of \$35 billion of common stock. We believe that newly passed the tax bill when finalized, will enable the repatriation of a significant portion of AAPL's excess cash, enabling it to pay a combination of it one-time dividend and make an additional share repurchase announcement.

Investment Thesis

AAPL remains a significantly undervalued stock relative to its economic earnings power, brand equity, loyal customer base, cash generation ability, incredibly strong balance sheet, and ability to innovate to create new products as it continue to expand its ecosystem. We believe AAPL's ongoing ability to grow the iPhone user base globally along with its ever-expanding ecosystem, which will eventually include the connected home and connected car, together with its ability to continually return large amounts of cash to shareholders and continue to drive greater shareholder value creation.

Company Overview

Apple Inc. (AAPL-US) is the world's leading designer, manufacturer, and marketer of personal computers and mobile communication and media devices along with related software, services, peripherals, and networking solutions. Apple has also expanded into new markets of connected devices and services that compile its connected ecosystem including the Apple Watch, Apple TV, Apple Music, HomeKit, HealthKit, and CareKit. Apple recently announced the introduction of a Siri-integrated home control interface speaker called HomePod to compete with Amazon's Alexa based Echo and Google Home. Apple also operates iTunes which is the world's largest application and content distribution and management platforms and iCloud which is its cloud storage and computing service. Apple sells its products worldwide through a combination of its retail and online stores along with its direct sales force, retailers, and third-party wholesalers.

Apple reports its revenue by Business Segments including iPhone (62% of revenue), Services which is iTunes and iCloud (13% of revenue), Mac (11% of revenue), iPad (8% of revenue) and Other Products (6% revenue).

Apple also reports its revenue by Geographic Segments including: The United States (37% of revenue), Europe (24% revenue), greater China (20% of revenue), Japan (8% of revenue), Rest of Asia Pacific (7% of revenue) and the Americas (5% of revenue).

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Financial Data

Report Basis Reported Period Ending	LTM 09/29/2012	LTM 09/28/2013	LTM 09/27/2014	LTM 09/26/2015	LTM 09/24/2016	LTM 09/30/2017	NTM 09/30/2018	5 Yr Average	3 Yr Average	Current Trend
Net Sales Revenue	\$155,971.0	\$170,866.0	\$183,244.0	\$231,283.0	\$214,226.0	\$228,577.0	\$273,104.9	\$205,639.2	\$224,695.3	\$250,840.9
Sales Growth	43.62%	9.55%	7.24%	26.22%	-7.37%	6.70%	19.48%	8.47%	8.51%	13.09%
Sales Growth Trend	52.93%	23.18%	8.17%	18.63%	6.06%	1.07%	14.37%	11.42%	8.59%	7.72%
Operating Cash Flow (EBITDAR)	\$63,020.0	\$61,961.0	\$69,279.3	\$89,836.3	\$84,157.2	\$85,894.8	\$105,332.0	\$78,225.7	\$86,629.4	\$95,613.4
EBITDAR Margin	40.40%	36.26%	37.81%	38.84%	39.28%	37.58%	38.57%	37.96%	38.57%	38.07%
EBITDAR Growth	58.84%	-1.68%	11.81%	29.67%	-6.32%	2.06%	22.63%	7.11%	8.47%	12.35%
Net Operating Profit Before Tax (NOPBT)	\$55,874.0	\$50,084.0	\$54,575.3	\$69,718.3	\$62,668.2	\$63,056.8	\$79,186.0	\$60,020.5	\$65,147.8	\$71,121.4
NOPBT Margin	35.82%	29.31%	29.78%	30.14%	29.25%	27.59%	28.99%	29.22%	28.99%	28.29%
NOPBT Growth	59.21%	-10.36%	8.97%	27.75%	-10.11%	0.62%	25.58%	3.37%	6.08%	13.10%
Cash Operating Income Tax	\$14,057.9	\$13,099.4	\$14,258.4	\$18,383.6	\$16,016.3	\$15,484.5	\$20,187.7	\$15,448.4	\$16,628.1	\$17,836.1
Economic Tax Effective Rate	25.16%	26.15%	26.13%	26.37%	25.56%	24.56%	25.49%	25.75%	25.49%	25.03%
Net Operating Profit After Tax (NOPAT)	\$41,816.1	\$36,984.5	\$40,316.9	\$51,334.7	\$46,652.0	\$47,572.3	\$58,998.3	\$44,572.1	\$48,519.7	\$53,285.3
NOPAT Margin	26.81%	21.65%	22.00%	22.20%	21.78%	20.81%	21.60%	21.69%	21.59%	21.21%
NOPAT Growth	57.23%	-11.55%	9.01%	27.33%	-9.12%	1.97%	24.02%	3.53%	6.73%	13.00%
Cash & Equivalents	\$121,251.0	\$146,761.0	\$155,239.0	\$205,666.0	\$237,585.0	\$268,895.0	\$307,529.5	\$202,829.2	\$237,382.0	\$288,212.3
Total Assets	\$176,064.0	\$207,000.0	\$231,839.0	\$290,479.0	\$321,686.0	\$375,319.0	\$429,244.4	\$285,264.6	\$329,161.3	\$402,281.7
Non - Interest Bearing Liabilities (NIBLs)	\$57,119.0	\$65,532.0	\$83,788.0	\$106,662.0	\$106,405.0	\$125,592.0	\$143,636.9	\$97,595.8	\$112,886.3	\$134,614.5
Net Assets	\$118,945.0	\$141,468.0	\$148,051.0	\$183,817.0	\$215,281.0	\$249,727.0	\$285,607.5	\$187,668.8	\$216,275.0	\$267,667.2
Economic Asset Adjustments	\$15,552.0	\$17,414.2	\$19,077.7	\$23,351.4	\$32,711.9	\$40,042.9	\$45,796.3	\$26,519.6	\$32,035.4	\$42,919.6
Net Operating Assets	\$134,497.0	\$158,882.2	\$167,128.7	\$207,168.4	\$247,992.9	\$289,769.9	\$331,403.7	\$214,188.4	\$248,310.4	\$310,586.8
Debt & Debt Equivalents	\$3,950.0	\$21,064.2	\$39,709.7	\$69,987.4	\$93,709.9	\$124,010.9	\$141,828.7	\$69,696.4	\$95,902.7	\$132,919.8
Equity & Equivalents	\$118,210.0	\$123,549.0	\$111,547.0	\$119,355.0	\$128,249.0	\$134,047.0	\$153,306.7	\$123,349.4	\$127,217.0	\$143,676.9
Total Capital - Financing Sources	\$122,160.0	\$144,613.2	\$151,256.7	\$189,342.4	\$221,958.9	\$258,057.9	\$295,135.4	\$193,045.8	\$223,119.7	\$276,596.7
Capital Adjustments	\$11,602.0	\$13,310.0	\$14,663.0	\$17,826.0	\$26,034.0	\$31,712.0	\$36,268.3	\$20,709.0	\$25,190.7	\$33,990.2
Net Capital Financing Sources	\$133,762.0	\$157,923.2	\$165,919.7	\$207,168.4	\$247,992.9	\$289,769.9	\$331,403.7	\$213,754.8	\$248,310.4	\$310,586.8
Net Working Capital	(\$1,386.5)	(\$1,316.7)	(\$3,228.8)	(\$10,187.9)	(\$16,922.7)	(\$16,390.2)	(\$18,745.1)	(\$9,609.2)	(\$14,500.2)	(\$17,567.6)
Cost of Net Working Capital	(\$133.0)	(\$97.5)	(\$149.2)	(\$431.4)	(\$886.9)	(\$1,106.9)	(\$1,265.9)	(\$534.4)	(\$808.4)	(\$1,186.4)
% of Revenue	-0.09%	-0.06%	-0.08%	-0.19%	-0.41%	-0.48%	-0.46%	-0.24%	-0.36%	-0.47%
Operational Capital	\$18,015.5	\$19,384.5	\$21,809.9	\$17,808.6	\$16,765.2	\$25,723.8	\$29,419.8	\$20,298.4	\$20,099.2	\$27,571.8
Cost of Operational Capital	\$801.7	\$1,348.4	\$1,352.3	\$1,274.0	\$1,131.0	\$1,411.7	\$1,614.6	\$1,303.5	\$1,272.3	\$1,513.2
% of Revenue	0.51%	0.79%	0.74%	0.55%	0.53%	0.62%	0.59%	0.64%	0.57%	0.60%
Productive Capital	\$23,374.5	\$25,140.5	\$30,567.9	\$26,817.6	\$25,385.2	\$33,738.8	\$38,586.3	\$28,330.0	\$28,647.2	\$36,162.6
Cost of Productive Capital	\$1,108.4	\$1,749.1	\$1,828.7	\$1,845.3	\$1,707.8	\$1,964.5	\$2,246.7	\$1,819.1	\$1,839.2	\$2,105.6
% of Revenue	0.71%	1.02%	1.00%	0.80%	0.80%	0.86%	0.82%	0.90%	0.82%	0.84%
Total Operating Capital	\$21,044.5	\$20,664.5	\$21,051.9	\$13,066.6	\$21,119.2	\$32,303.8	\$36,945.2	\$21,641.2	\$22,163.2	\$34,624.5
Cost of Total Operating Capital	\$961.0	\$1,503.7	\$1,369.4	\$1,097.1	\$1,118.3	\$1,775.0	\$2,030.1	\$1,372.7	\$1,330.2	\$1,902.6
% of Revenue	0.62%	0.88%	0.75%	0.47%	0.52%	0.78%	0.74%	0.68%	0.59%	0.76%
Non - Operating Capital	\$113,452.5	\$138,217.7	\$146,076.8	\$194,101.9	\$226,873.7	\$257,466.2	\$294,458.6	\$192,547.2	\$226,147.2	\$275,962.4
Cost of Non - Operating Capital	\$5,937.9	\$9,073.3	\$9,332.5	\$10,939.0	\$13,771.7	\$16,092.7	\$18,404.9	\$11,841.8	\$13,601.2	\$17,248.8
% of Revenue	3.81%	5.31%	5.09%	4.73%	6.43%	7.04%	6.74%	5.72%	6.07%	6.89%
Total Capital	\$134,497.0	\$158,882.2	\$167,128.7	\$207,168.4	\$247,992.9	\$289,769.9	\$331,403.7	\$214,188.4	\$248,310.4	\$310,586.8
Cost of Total Capital	\$6,898.9	\$10,577.0	\$10,702.0	\$12,036.2	\$14,890.1	\$17,867.7	\$20,434.9	\$13,214.6	\$14,931.3	\$19,151.3
% of Revenue	4.42%	6.19%	5.84%	5.20%	6.95%	7.82%	7.48%	6.40%	6.66%	7.65%
Cost of Capital (WACC)	6.26%	7.21%	6.57%	6.43%	6.54%	6.65%	6.65%	6.68%	6.54%	6.65%
Capital Structure										
Debt & Debt Equivalents	\$3,950.0	\$21,064.2	\$39,709.7	\$69,987.4	\$93,709.9	\$124,010.9	\$141,828.7	\$69,696.4	\$95,902.7	\$132,919.8
Debt & Debt Equivalents % of Market Value	0.63%	4.58%	6.18%	9.66%	13.37%	13.48%	13.48%	10.11%	12.27%	13.48%
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	\$625,348.2	\$438,576.9	\$603,277.6	\$654,159.3	\$607,331.4	\$796,064.9	\$910,442.5	\$619,882.0	\$685,851.9	\$853,253.7
Common Equity % of Market Value	99.37%	95.42%	93.82%	90.34%	86.63%	86.52%	86.52%	89.89%	87.73%	86.52%
Total Economic Market Value (MV)	\$629,298.2	\$459,641.2	\$642,987.3	\$724,146.7	\$701,041.3	\$920,075.9	#####	\$689,578.5	\$781,754.6	\$986,173.5
Total %	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Excess Cash	\$113,452.5	\$138,217.7	\$146,076.8	\$194,101.9	\$226,873.7	\$257,466.2	\$294,458.6	\$192,547.2	\$226,147.2	\$275,962.4
Economic Enterprise Value	\$515,845.7	\$321,423.5	\$496,910.5	\$530,044.8	\$474,167.6	\$662,609.7	\$757,812.7	\$497,031.2	\$555,607.4	\$710,211.2
Average Capital	\$109,475.7	\$145,842.6	\$161,921.5	\$186,544.1	\$227,580.6	\$268,881.4	\$310,586.8	\$198,154.0	\$227,668.7	\$289,734.1
Capital Δ	\$48,572.5	\$24,161.3	\$7,996.5	\$41,248.7	\$40,824.5	\$41,777.1	\$41,633.8	\$31,201.6	\$41,283.4	\$41,705.4

Source: Company Data, Financial statements and Tigress Research

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Financial Analysis

Report Basis	LTM	LTM	LTM	LTM	LTM	LTM	LTM	NTM	5 Yr	3 Yr	Current
Reported Period Ending	09/29/2012	09/28/2013	09/27/2014	09/26/2015	09/24/2016	09/30/2017	09/30/2017	09/30/2018	Average	Average	Trend
Return on Market Value (NOPAT / MV)	6.64%	8.05%	6.27%	7.09%	6.65%	5.17%	5.91%	5.91%	6.65%	6.30%	5.54%
Return on Enterprise Value (NOPAT / EV)	8.11%	11.51%	8.11%	9.68%	9.84%	7.18%	8.21%	8.21%	9.26%	8.90%	7.70%
Return on Capital (NOPAT / Average Capital)	38.20%	25.36%	24.90%	27.52%	20.50%	17.69%	20.23%	20.23%	23.19%	21.90%	18.96%
Cost of Capital (WACC)	6.26%	7.21%	6.57%	6.43%	6.54%	6.65%	6.65%	6.65%	6.68%	6.54%	6.65%
Economic Return Spread	31.93%	18.15%	18.33%	21.09%	13.96%	11.05%	12.63%	12.63%	16.51%	15.36%	11.84%
Capital Charge	\$6,857.4	\$10,515.9	\$10,630.8	\$11,997.3	\$14,890.1	\$17,867.7	\$20,434.9	\$20,434.9	\$13,180.4	\$14,918.4	\$19,151.3
Economic Profit (EP)	\$34,958.6	\$26,468.7	\$29,686.2	\$39,337.4	\$31,761.9	\$29,704.5	\$33,972.5	\$33,972.5	\$31,391.7	\$33,601.3	\$31,838.5
Economic Profit Improvement (EPI)	\$13,044.5	(\$8,490.0)	\$3,217.5	\$9,651.3	(\$7,575.5)	(\$2,057.3)	\$4,267.9	\$4,267.9	(\$1,050.8)	\$6.1	\$1,105.3
EP Growth	59.53%	-24.29%	12.16%	32.51%	-19.26%	-6.48%	14.37%	14.37%	-1.07%	2.26%	3.95%
Economic Profit Margin on Sales	22.41%	15.49%	16.20%	17.01%	14.83%	13.00%	12.44%	12.44%	15.30%	14.94%	12.72%
Economic Profit Per Share	\$5.34	\$4.09	\$4.88	\$6.84	\$5.81	\$5.69	\$6.51	\$6.51	\$5.46	\$6.11	\$6.10
GAAP Earnings Per Share	\$6.38	\$5.70	\$6.47	\$9.25	\$8.32	\$9.25	\$11.38	\$11.38	\$7.80	\$8.94	\$10.32
Excess Cash Per Share	\$17.27	\$21.84	\$24.62	\$34.37	\$42.27	\$50.00	\$57.18	\$57.18	\$34.62	\$42.21	\$53.59
Performance Drivers											
Sales Growth	43.62%	9.55%	7.24%	26.22%	-7.37%	6.70%	19.48%	19.48%	8.47%	8.51%	13.09%
Sales Growth Trend (ROC Sales Growth)	52.93%	23.18%	8.17%	18.63%	6.06%	1.07%	14.37%	14.37%	11.42%	8.59%	7.72%
EBITDAR Margin	40.40%	36.26%	37.81%	38.84%	39.28%	37.58%	38.57%	38.57%	37.96%	38.57%	38.07%
EBITDAR Growth	58.84%	-1.68%	11.81%	29.67%	-6.32%	2.06%	22.63%	22.63%	7.11%	8.47%	12.35%
NOPBT Margin	35.82%	29.31%	29.78%	30.14%	29.25%	27.59%	28.99%	28.99%	29.22%	28.99%	28.29%
NOPBT Growth	59.21%	-10.36%	8.97%	27.75%	-10.11%	0.62%	25.58%	25.58%	3.37%	6.08%	13.10%
NOPAT Margin	26.81%	21.65%	22.00%	22.20%	21.78%	20.81%	21.60%	21.60%	21.69%	21.59%	21.21%
NOPAT Growth	57.23%	-11.55%	9.01%	27.33%	-9.12%	1.97%	24.02%	24.02%	3.53%	6.73%	13.00%
Economic Profit Margin on Sales (EP / Sales)	22.41%	15.49%	16.20%	17.01%	14.83%	13.00%	12.44%	12.44%	15.30%	14.94%	12.72%
Economic Profit Growth	59.53%	-24.29%	12.16%	32.51%	-19.26%	-6.48%	14.37%	14.37%	-1.07%	2.26%	3.95%
Economic Return Spread (ROC-WACC)	31.93%	18.15%	18.33%	21.09%	13.96%	11.05%	13.59%	13.59%	16.51%	15.36%	12.32%
Economic Return Ratio (ROC / WACC)	609.79%	351.70%	379.25%	427.89%	313.31%	266.25%	304.50%	304.50%	347.68%	335.81%	285.37%
Economic Profit Momentum (ΔEP/Capital)	9.75%	-5.38%	1.94%	4.66%	-3.05%	-0.71%	1.29%	1.29%	-0.51%	0.30%	0.29%
Economic Profit Momentum Margin (ΔEP/Sales)	8.36%	-4.97%	1.76%	4.17%	-3.54%	-0.90%	1.56%	1.56%	-0.70%	-0.09%	0.33%
Capital Growth	57.02%	18.06%	5.06%	24.86%	19.71%	16.85%	14.37%	14.37%	16.91%	20.47%	15.61%
Capital Turns	1.17X	1.08X	1.10X	1.12X	0.86X	0.79X	0.82X	0.82X	0.99X	0.92X	0.81X
EVC Acceleration Margin	12.01%	-5.44%	1.88%	5.27%	-3.28%	-0.96%	1.87%	1.87%	-0.38%	0.00%	0.49%
EVC Acceleration Spread	18.94%	-7.76%	2.21%	5.96%	-4.06%	-0.90%	1.59%	1.59%	-0.34%	0.00%	0.49%
Risk Factors											
Free Cash Flow (NOPAT - Δ Capital)	(\$6,756.4)	\$12,823.3	\$32,320.5	\$10,086.0	\$5,827.5	\$5,795.2	\$17,364.5	\$17,364.5	\$13,370.5	\$7,236.2	\$11,579.8
Free Cash Flow Rate (FCF / Capital)	-5.05%	8.12%	19.48%	4.87%	2.35%	2.00%	5.24%	5.24%	7.36%	3.07%	3.62%
Free Cash Flow Yield (FCF / MV)	-1.07%	2.79%	5.03%	1.39%	0.83%	0.63%	1.65%	1.65%	2.13%	0.95%	1.14%
Total Debt / Total Capital	2.95%	13.34%	23.93%	33.78%	37.79%	42.80%	42.80%	42.80%	30.33%	38.12%	42.80%
Total Debt / EBITDAR	6.27%	34.00%	57.32%	77.91%	111.35%	144.38%	134.65%	134.65%	84.99%	111.21%	139.51%
Excess Cash	\$113,452.5	\$138,217.7	\$146,076.8	\$194,101.9	\$226,873.7	\$257,466.2	\$0	\$0	\$192,547.2	\$226,147.2	\$128,733.1
Financial Leverage ((Total Debt - Excess Cash) / Pension Liability (Net Pension Liability / MV))	-17.40%	-25.49%	-16.54%	-17.14%	-19.00%	-14.50%	13.48%	13.48%	-18.53%	-16.88%	-0.51%
Equity Risk Index (S&P 500 = 1.00)	1.04	1.03	1.03	1.02	1.04	1.05	1.05	1.05	1.03	1.04	1.05
Stock Price Volatility	4.02	4.16	3.72	3.32	3.69	3.21	3.21	3.21	3.62	3.40	3.21
Sales Index (NL Sales)	11.96	12.05	12.12	12.35	12.27	12.34	12.52	12.52	12.23	12.32	12.43
Market Value Index (NL Market Value)	13.35	13.04	13.37	13.49	13.46	13.73	13.87	13.87	13.42	13.56	13.80
Size Index (NL Sales: MV)	12.65	12.54	12.75	12.92	12.87	13.04	13.19	13.19	12.82	12.94	13.11
Beta	1.06	1.05	1.04	1.03	1.06	1.08	1.08	1.08	1.05	1.06	1.08
TFP Adjusted Beta	1.04	1.03	1.03	1.02	1.04	1.05	1.05	1.05	1.03	1.04	1.05
Stock Price Volatility	4.02	4.16	3.72	3.32	3.69	3.21	3.21	3.21	3.62	3.40	3.21
Valuation Measures											
Total Economic Market Value (MV)	\$629,298.2	\$459,641.2	\$642,987.3	\$724,146.7	\$701,041.3	\$920,075.9	#####	#####	\$689,578.5	\$781,754.6	\$986,173.5
Economic Enterprise Value	\$515,845.7	\$321,423.5	\$496,910.5	\$530,044.8	\$474,167.6	\$662,609.7	\$757,812.7	\$757,812.7	\$497,031.2	\$555,607.4	\$710,211.2
Equity Market Value	\$625,348.2	\$438,576.9	\$603,277.6	\$654,159.3	\$796,331.4	\$796,064.9	\$910,442.5	\$910,442.5	\$619,882.0	\$685,851.9	\$853,253.7
Total Capital	\$134,497.0	\$158,882.2	\$167,128.7	\$207,168.4	\$247,992.9	\$289,769.9	\$331,403.7	\$331,403.7	\$214,188.4	\$248,310.4	\$310,586.8
Market Value Created MVC (MV - Capital)	\$494,801.2	\$300,758.9	\$475,858.6	\$516,978.3	\$453,048.4	\$630,305.9	\$720,867.5	\$720,867.5	\$475,390.0	\$533,444.2	\$675,586.7
MVC Margin (MVC / Sales)	317.24%	176.02%	259.69%	223.53%	211.48%	275.75%	263.95%	263.95%	231.18%	237.41%	269.33%
MVC Spread (MVC / Capital)	367.89%	189.30%	284.73%	249.54%	182.69%	217.52%	217.52%	217.52%	221.95%	214.83%	217.52%
Current EVC Value (EP / WACC)	\$558,097.1	\$367,088.3	\$452,161.2	\$611,651.3	\$485,450.6	\$447,007.0	\$511,232.5	\$511,232.5	\$470,004.5	\$513,799.0	\$479,119.8
Current Operations Value COV	\$667,572.9	\$512,930.9	\$614,082.7	\$798,195.4	\$713,031.2	\$715,888.5	\$821,819.3	\$821,819.3	\$668,158.5	\$741,467.7	\$768,853.9
Current Operations Value Per Share	\$79.19	\$79.19	\$100.91	\$138.73	\$130.33	\$137.22	\$141.67	\$141.67	\$115.18	\$135.29	\$139.56
Future Growth Value (MVC - EVA Value)	(\$38,274.7)	(\$53,289.7)	\$28,904.7	(\$74,048.7)	(\$11,990.0)	\$204,187.4	\$230,451.9	\$230,451.9	\$21,420.0	\$40,286.9	\$217,319.7
Future Growth Value Reliance (FGV / MV)	-6.08%	-11.59%	4.50%	-10.23%	-1.71%	22.19%	21.90%	21.90%	3.11%	5.15%	22.04%
Share Price	\$83.43	\$56.65	\$91.98	\$126.75	\$93.40	\$154.12	\$154.12	\$154.12	\$104.58	\$124.76	\$154.12
Dividend Yield	0.45%	2.87%	1.97%	1.56%	2.33%	1.56%	0.00%	0.00%	-32.14%	19.29%	23.54%
Total Shareholder Return (TTM)	79.40%	-29.23%	64.34%	39.36%	-23.98%	66.57%	0.00%	0.00%	-32.14%	19.29%	23.54%
MV to IC Ratio	4.68X	2.89X	3.85X	3.50X	2.83X	3.18X	3.18X	3.18X	3.22X	3.15X	3.18X
EV / EBITDAR Multiple	8.19X	5.19X	7.17X	5.90X	5.63X	7.71X	7.19X	7.19X	6.35X	6.41X	7.43X
EV / NOPBIT Multiple	9.23X	6.42X	9.11X	7.60X	7.57X	10.51X	9.57X	9.57X	8.28X	8.53X	9.99X
EV / NOPAT Multiple	12.34X	8.69X	12.33X	10.33X	10.16X	13.93X	12.84X	12.84X	11.15X	11.45X	13.33X
EV / EP Multiple	14.76X	12.14X	16.74X	13.47X	14.93X	22.31X	22.31X	22.31X	15.83X	16.54X	22.31X
Future Growth Value (% of MV)	-6.08%	-11.59%	4.50%	-10.23%	-1.71%	22.19%	21.90%	21.90%	3.11%	5.15%	22.04%
Current Operations Value (% of MV)	106.08%	111.59%	95.50%	110.23%	101.71%	77.81%	78.10%	78.10%	96.89%	94.85%	77.96%
Market Value (COV + FGV %)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Basic Shares Outstanding	6,543.7	6,477.3	6,085.6	5,753.4	5,470.8	5,217.2	5,800.9	5,800.9	5,800.9	5,480.5	5,509.1

Source: Company Data, Financial statements and Tigress Research

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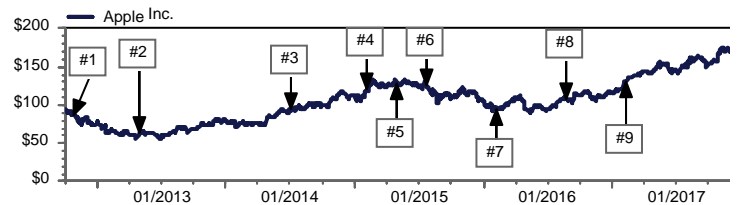
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Apple Inc. (AAPL-US)
Technology Hardware, Storage & Peripherals
Ratings History

Apple Inc. (AAPL-US)				
Item #	Date	Research Action	Rating	Price
#8	02/07/2017	Reiterate Rating	Strong Buy	\$131.53
#8	08/22/2016	Reiterate Rating	Strong Buy	\$108.51
#7	02/08/2016	Reiterate Rating	Strong Buy	\$95.01
#6	07/22/2015	Reiterate Rating	Strong Buy	\$125.22
#5	05/01/2015	Reiterate Rating	Strong Buy	\$128.95
#4	02/04/2015	Reiterate Rating	Strong Buy	\$119.56
#3	07/07/2014	Reiterate Rating	Strong Buy	\$95.97
#2	03/18/2013	Reiterate Rating	Strong Buy	\$65.10
#1	10/25/2012	Initiation of Coverage	Strong Buy	\$87.08


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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 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

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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Rating:	Meaning:	Rating Distribution (12/01/2017)				
		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	14%	1	17%	
Buy:	Expect out-performance for the price of the stock relative to its industry peer group and general market over the next 12 months.	52	44%	4	66%	
Neutral:	Expect little or no outperformance opportunity over the next 12 months.	44	38%	1	17%	
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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	
		Total	117	100%	71	100%

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Company:	Disclosure:
Apple Inc. (AAPL-US)	14
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