Apple Inc.

Recommendation BUY ★★★★☆

Equity Analyst Angelo Zino, CFA

Price	12-Mo. Target Price	Report Currency	Investment Style
USD 170.41 (as of Feb 08, 2019 4:00 PM ET)	USD 195.00	USD	Large-Cap Value

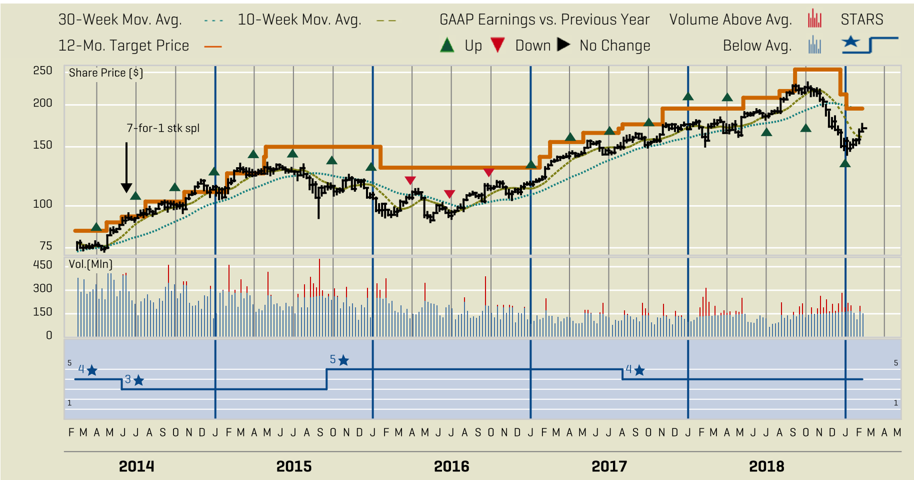
GICS Sector Information Technology
Sub-Industry Technology Hardware, Storage & Peripherals

Summary This company is a prominent provider of consumer computing devices, including the iPhone, iPad tablets, Mac computers and wearables.

Key Stock Statistics (Source: CFRA, S&P Global Market Intelligence (SPGMI), Company Reports)

52-Wk Range	**USD 233.47 - 142.00**	Oper. EPS 2019**E**	**USD 11.90**	Market Capitalization[B]	**USD 803.5**	Beta	**1.11**
Trailing 12-Month EPS	**USD 12.12**	Oper. EPS 2020**E**	**USD 13.52**	Yield [%]	**1.71**	3-Yr Proj. EPS CAGR[%]	**10**
Trailing 12-Month P/E	**14.06**	P/E on Oper. EPS 2019**E**	**14.32**	Dividend Rate/Share	**USD 2.92**	SPGMI's Quality Ranking	**B+**
$10K Invested 5 Yrs Ago	**$25,088**	Common Shares Outstg.[M]	**4,715.3**	Institutional Ownership [%]	**56**		

Price Performance



Source: CFRA, S&P Global Market Intelligence
Past performance is not an indication of future performance and should not be relied upon as such.
Analysis prepared by Equity Analyst **Angelo Zino** on Jan 30, 2019 01:14 PM, when the stock traded at **USD 156.30.**

Highlights

- We expect revenue to decline 2.7% in FY 19 (Sep.) and rebound 5% in FY 20. We see iPhone revenue declining 15% in FY 19, largely hurt by lower demand in China (down 27% in the December quarter), but stabilizing in FY 20. We believe Services grew 19% in the December quarter, benefiting from a higher installed base and significant growth in paid subscriptions. While we expect iPhone demand to be challenged by lengthening replacement cycles until a 5G device is launched in calendar year 2020, we are encouraged by recent growth in wearables, specifically the Apple Watch.
- We see the gross margin steady at 38% through the end of FY 20. We expect component costs to ease in the coming quarters and see robust growth from AAPL's higher-margin Services business supporting margins. Services gross margin was recently 62.8% versus 34.3% for Hardware.
- We like free cash flow potential (about $60 billion annual pace over the next three years), which should result in aggressive share repurchases (we estimate a 2%-3% run rate quarterly reduction in the share count over the next two years). AAPL aims to be net cash neutral (currently $130 billion net cash) over time.

Investment Rationale/Risk

- We like AAPL's superior ecosystem, high customer retention rates and free cash flow generation. While we acknowledge iPhone replacement cycles are extending, we think a rising and older installed phone base of over 900 million (1.4 billion total active base) creates the potential for stabilization/growth in this category given a likely 5G launch in calendar year 2020. In addition, we think potential new service offerings across a number of areas (e.g. video streaming, magazine subscription, gaming, healthcare) could help support multiple expansion.
- Risks to our recommendation and target price include weaker end-market demand, pricing pressures, competitive handset and tablet offerings gaining traction, less success with product launches/innovations and longer-than-expected hardware replacement cycles.
- Our 12-month target of $195 is based on a P/E of 14.4x our FY 20 EPS estimate of $13.52, above peers but below the three-year forward historical average of 14.8x. We see sales from AAPLâs hardware businesses fueling free cash flow. We would view an easing of trade tension between China-U.S. and more aggressive share repurchases as potential catalysts.

Analyst's Risk Assessment

LOW | **MEDIUM** | HIGH

Our risk assessment reflects our view of a seemingly ever-evolving market for consumer-oriented technology products, potential challenges associated with the company's growing size and offerings and possible changes in the pace or success of product innovations as the smartphone space matures. These concerns are partly offset by AAPL's significant cash position and free cash flow potential.

Revenue/Earnings Data

Revenue (Million USD)

	1Q	2Q	3Q	4Q	Year
2019	84,310	--	--	--	--
2018	88,293	61,137	53,265	62,900	265,595
2017	78,351	52,896	45,408	52,579	229,234
2016	75,872	50,557	42,358	46,852	215,639
2015	74,599	58,010	49,605	51,501	233,715
2014	57,594	45,646	37,432	42,123	182,795

Earnings Per Share (USD)

	1Q	2Q	3Q	4Q	Year
2020	**E** 4.67	**E** 3.03	**E** 2.64	**E** 3.19	**E** 13.52
2019	4.18	**E** 2.58	**E** 2.26	**E** 2.89	**E** 11.90
2018	3.89	2.73	2.34	2.92	11.91
2017	3.36	2.10	1.67	2.07	9.21
2016	3.28	1.90	1.42	1.68	8.31
2015	3.06	2.33	1.85	1.96	9.22

Fiscal year ended Sep 30. EPS Estimates based on CFRA's Operating Earnings; historical GAAP earnings are as reported in Company reports.

Dividend Data

Amount (USD)	Date Decl.	Ex-Div. Date	Stk. of Record	Payment Date
0.73	Jan 29	Feb 08	Feb 11	Feb 14 '19
0.73	Nov 01	Nov 08	Nov 12	Nov 15 '18
0.73	Jul 31	Aug 10	Aug 13	Aug 16 '18
0.73	May 01	May 11	May 14	May 17 '18
0.63	Feb 01	Feb 09	Feb 12	Feb 15 '18

Dividends have been paid since 2012. Source: Company reports.

Past performance is not an indication of future performance and should not be relied upon as such.
Forecasts are not reliable indicator of future performance.

Apple Inc.

Business Summary January 30, 2019

CORPORATE OVERVIEW. Apple makes smartphones, tablet devices, computers and portable digital media players, and sells a variety of related software, services, and accessories.

AAPL's iPhone directly accounted for 63% of FY 18 revenues, with over 217 million units sold. AAPL sold over 216 million iPhones in FY 17, contributing 62% of revenues. We note that iPhone sales grew 18% in FY 18, largely reflecting a 17% increase in average selling prices, after witness a 3.4% rise in FY 17. While we expect the rate of growth to slow in the coming years as the business becomes larger and more mature, we still see substantial opportunities related to international, enterprise and education markets. We note the fall 2018 introductions of the next generation On September 12, 2018, AAPL unveiled its three next generation iPhones (XS, XS Max and XR). The iPhone XR started shipping on 10/26 (pre-orders 10/19) while all other devices began shipping 9/21. The iPhone XS and XS Max (price options start at $999 and $1,099) come with an OLED display (5.8" and 6.5"), Facial ID/AR support, an A12 Bionic chip and gigabit LTE. The iPhone XR possesses a 6.1" LCD display with more color options and starts at $749.

Released in April 2010, the iPad quickly became the best-selling tablet computer by far. Before the iPad, unit sales for similar computing devices were less than 200,000 units, according to market researchers. In FY 10, the first year of availability, AAPL sold over 7 million iPads, accounting for around 8% of total revenues. During FY 18, iPad sales (7% of revenue) declined an 2%, as shipments were relatively flat (43.5 million in FY 18 versus 43.8 million in FY 17) but selling prices fell 2%.

Sales of AAPL's computers, commonly known as Macs, made up 10% of revenues in FY 18 with revenue falling 1%. Shipments during FY 18 fell 5% to 18.2 million units but benefited from a 4% increase in selling prices. On a unit shipment basis, we expect Macs to perform better than the overall PC industry, which we think is in the midst of a secular decline.

Revenue from Services and other hardware products comprised for about 21% of sales in FY 18 versus 19% in FY 17. Other hardware products (7% of FY 18 revenue and grew 35%) includes sales of the Apple TV, Apple Watch, AirPods, Beats products, iPod and Apple-branded and third-party accessories. We note Services alone was 14% of FY 18 sales and grew an impressive 24%. Services includes revenue from the App Store, iCloud, AppleCare, licensing and other services.

COMPETITIVE LANDSCAPE. The company primarily competes in the handset, tablet, computer and media player markets. We think AAPL uses its ability to design and develop its own operating system, hardware, application software and services to differentiate itself from competitors. We see the appeal behind the products having a lot to do with its stated goal of providing customers with products that have superior ease of use, seamless integration and innovative industrial design. Reflecting what we view as AAPL's perceived quality and notable cachet, the company is able to compete in the middle to high-end segments of its target markets, and charge above-average prices for its products.

AAPL has a substantial hardware presence across key categories, and we think this helps garner interest from third-party application developers who continue to produce content and applications for the iPhone and iPad. We think AAPL's application business is one of the key elements that helps differentiate its devices from other products, and is very important to future sales growth and pricing power. Further, we view the App Store as an effective way of not only distributing content effectively, but also keeping the customer base entrenched. We think iCloud functionality encourages customers to buy more AAPL products and use them more regularly.

FINANCIAL TRENDS. Although AAPL's sales are affected by broader macroeconomic conditions, we think the company has generally been less cyclical than peers, given its strong brand, innovative and high-quality products, loyal customer base and exposure to fast-growing markets. Considering the maturity of the computer and tablets markets, we expect unit shipments and average selling prices for Macs and iPads to trend down over time but note quarterly mix and new product releases could result in volatility. We anticipate stable iPhone shipments amid a maturing smartphone landscape but see substantial growth potential within AAPL's wearables business for years to come.

AAPL has what we view as a very strong balance sheet, with about $245 billion in cash and investments, and about $115 billion in debt as of the end of December 2018. AAPL boasts return metrics, such as return on equity (49% in FY 18), that are relatively high compared with other large/mega-cap hardware and software companies. In March 2012, AAPL announced a dividend and a share repurchase plan. As of September 2018, we believe AAPL has returned over $300 billion of cash to shareholders and note the company began returning cash in calendar year 2012. On May 1, 2018, Apple announced a new $100 billion share authorization program and hiked its dividend by 16%.

In early November 2018, AAPL announced its decision to stop providing unit data for iPhones/iPads/Macs. We had already assumed a no growth environment for units over the next two years (through FY 20) and see greater expected transparency around Services as a potential positive.

In June 2014, a 7-for-1 stock split was implemented.

Corporate Information

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Officers

Vice President of Technology
K. M. Lynch

CEO & Director
T. D. Cook

Senior VP, General Counsel & Secretary
K. L. Adams

CFO & Senior VP
L. Maestri

Chief Operating Officer
J. E. Williams

Non-Executive Chairman of the Board
A. D. Levinson

Senior Director of Corporate Accounting
C. Kondo

Board Members

A. A. Gore
A. D. Levinson
A. Jung
J. A. Bell
R. A. Iger
R. D. Sugar
S. L. Wagner
T. D. Cook

Domicile
California

Founded
1977

Employees
132,000

Stockholders
23,712

Auditor
Ernst & Young LLP

Apple Inc.

Quantitative Evaluations

Fair Value Rank	**5**	1 (LOWEST) · 2 · 3 · 4 · 5 (HIGHEST) — Based on CFRA's proprietary quantitative model, stocks are ranked from most overvalued (1) to most undervalued (5).
Fair Value Calculation	**USD 198.01**	Analysis of the stock's current worth, based on CFRA's proprietary quantitative model suggests that AAPL is slightly undervalued by USD 27.60 or 16.2%.
Volatility		LOW · AVERAGE · HIGH
Technical Evaluation	**NEUTRAL**	Since January, 2019, the technical indicators for AAPL have been NEUTRAL.
Insider Activity		UNFAVORABLE · NEUTRAL · FAVORABLE

Expanded Ratio Analysis

	2018	2017	2016	2015
Price/Sales	4.25	3.53	2.87	2.84
Price/EBITDA	13.80	11.32	8.79	8.06
Price/Pretax Income	15.48	12.63	10.10	9.16
P/E Ratio	18.95	16.73	13.56	12.44
Avg. Diluted Shares Outsg.(M)	5000	5252	5500	5793

Figures based on fiscal year-end price

Key Growth Rates and Averages

Past Growth Rate (%)	1 Year	3 Years	5 Years
Sales	15.86	4.35	9.22
Net Income	23.12	3.69	9.96
Ratio Analysis (Annual Avg.)			
Net Margin (%)	NM	NM	NM
% LT Debt to Capitalization	42.29	NA	NA
Return on Equity (%)	49.36	NA	NA

Company Financials Fiscal year ending Sep. 30

Per Share Data (USD)	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Tangible Book Value	22.53	26.15	22.42	19.78	17.52	18.71	17.17	11.10	7.28	4.95
Free Cash Flow	12.94	9.92	9.78	12.13	8.20	6.88	6.33	4.65	2.59	1.43
Earnings	11.91	9.21	8.31	9.22	6.45	5.68	6.31	3.95	2.16	1.30
Earnings (Normalized)	9.11	7.62	6.97	7.82	5.46	4.81	5.27	3.26	1.79	1.19
Dividends	2.72	2.40	2.18	1.98	1.82	1.64	0.38	NA	NA	NA
Payout Ratio (%)	23	26	27	22	28	29	6	NA	NA	NA
Prices: High	229.67	164.94	123.82	134.54	103.74	96.68	100.72	60.41	41.93	26.99
Prices: Low	150.24	104.08	89.47	92.00	67.77	55.01	50.61	39.29	25.81	11.17
P/E Ratio: High	20.7	18.6	13.8	18.4	NM	NM	NM	NM	NM	NM
P/E Ratio: Low	16.0	12.7	9.9	11.9	15.1	62.0	83.8	97.8	NM	NM

Income Statement Analysis (Million USD)										
Revenue	265,595	229,234	215,639	233,715	182,795	170,910	156,508	108,249	65,225	42,905
Operating Income	70,898	61,344	60,024	71,230	52,503	48,999	55,241	33,790	18,385	11,740
Depreciation + Amortization	10,903	10,157	10,505	11,257	7,946	6,757	3,277	1,814	1,027	709
Interest Expense	3,240	2,323	1,456	733	384	136	NA	NA	NA	NA
Pretax Income	72,903	64,089	61,372	72,515	53,483	50,155	55,763	34,205	18,540	12,066
Effective Tax Rate	18.3	24.6	25.6	26.4	26.1	26.2	25.2	24.2	24.4	31.8
Net Income	59,531	48,351	45,687	53,394	39,510	37,037	41,733	25,922	14,013	8,235
Net Income (Normalized)	45,552	39,994	38,358	45,322	33,427	31,347	34,852	21,378	11,588	7,541

Balance Sheet and Other Financial Data (Million USD)										
Cash	66,301	74,181	67,155	41,995	25,158	40,590	29,129	25,952	25,620	23,464
Current Assets	131,339	128,645	106,869	89,378	68,531	73,286	57,653	44,988	41,678	31,555
Total Assets	365,725	375,319	321,686	290,345	231,839	207,000	176,064	116,371	75,183	47,501
Current Liabilities	116,866	100,814	79,006	80,610	63,448	43,658	38,542	27,970	20,722	11,506
Long Term Debt	93,735	97,207	75,427	53,329	28,987	16,960	NA	NA	NA	NA
Total Capital	221,630	249,727	215,281	183,696	146,842	140,509	118,210	76,615	47,791	31,640
Capital Expenditures	13,313	12,451	12,734	11,247	9,571	8,165	8,295	4,260	2,005	1,144
Cash from Operations	77,434	64,225	66,231	81,266	59,713	53,666	50,856	37,529	18,595	10,159
Current Ratio	1.12	1.28	1.35	1.11	1.08	1.68	1.50	1.61	2.01	2.74
% Long Term Debt of Capitalization	42.3	38.9	35.0	29.0	19.7	12.1	NA	NA	NA	NA
% Net Income of Revenue	22.4	21.1	21.2	22.8	21.6	21.7	26.7	23.9	21.5	19.2
% Return on Assets	12.0	11.0	12.3	17.1	15.0	16.0	23.6	22.0	18.7	17.5
% Return on Equity	49.4	36.9	36.9	46.2	33.6	30.6	42.8	41.7	35.3	30.5

Source: S&P Global Market Intelligence. Data may be preliminary or restated; before results of discontinued operations/special items. Per share data adjusted for stock dividends; EPS diluted. E-Estimated. NA-Not Available. NM-Not Meaningful. NR-Not Ranked. UR-Under Review.

Sub-Industry Outlook

Our fundamental outlook for the technology hardware, storage & peripherals sub-industry for the next 12 months is positive. The 2019 calendar year is shaping up to be another exciting year, we think, for the technology hardware space given anticipated next generation devices from the largest manufacturers in the world. We believe the hardware space is well positioned to witness growth across most end markets over the next year.

We expect the smartphone space to see a slight decline 2% in 2019, after our projection for a similar decline in 2018. While recent commentary across the supply chain likely reflects a softer-than-expected iPhone upgrade cycle, we see this partly offset by higher selling prices. We expect both Samsung and Huawei to unveil 5G enabled devices in calendar year 2019, while Apple waits until the fall of 2020. While we see a no growth environment for iPhones until late 2020, we believe 5G will help support a boost in demand and improve replacement cycles within the broader smartphone space. We expect average selling prices for smartphones to be relatively flat in 2019, as the ongoing shift by high-end phone manufacturers to offer consumers more features is offset by greater demand for lower priced devices in emerging markets.

We expect a 1% to 2% revenue increase for Personal Computers in 2019 after our anticipated 1% drop in 2018 and a 1% decline in 2017. We see stable revenue as a positive phenomenon given that PC shipments have fallen 30% from peak levels in 2011. We expect demand to be sustained through 2019 from the ongoing enterprise transition to Windows 10, with commercial notebooks seen as the biggest beneficiary. While we see areas of growth related to thinner and lighter devices as well as opportunities from gaming, we think longer replacement cycles will likely hinder growth for the space. Wearables shipment growth will likely be 15% to 20% in 2019, by our estimates. While adoption rates have risen, we expect growth to remain healthy, driven by the emergence of untethered devices into the market and greater focus towards healthcare features.

Demand for data storage will be driven by content digitization of old media, such as paper and film, the growing popularity of social networking websites and longer record retention for compliance with government regulations, in our view. We think the storage software market will be driven by business continuity and disaster recovery efforts, compliance and risk management activities and the increasing prevalence of data mining and related analytics. We see demand for traditional storage offerings declining in the foreseeable future, while products related to all-flash arrays are seeing growing momentum within the data center space.

We foresee growing demand for Internet-based computing solutions because they offer companies opportunities to reduce costs and improve customer service. Accordingly, servers and data-center computing hardware should benefit from rising demand. However, we also see price competition in servers. We think that hardware vendors have been seeking to offset the negative impact on profits by offering higher-margin services, software and storage products.

For the twelve months through 2018, the S&P 1500 Technology Hardware, Storage & Peripherals Index declined 8%, while the S&P 1500 fell 6.8%. The S&P 1500 Technology Hardware, Storage & Peripherals Index increased 41.3% in 2017, while the S&P 1500 rose 18.8%.

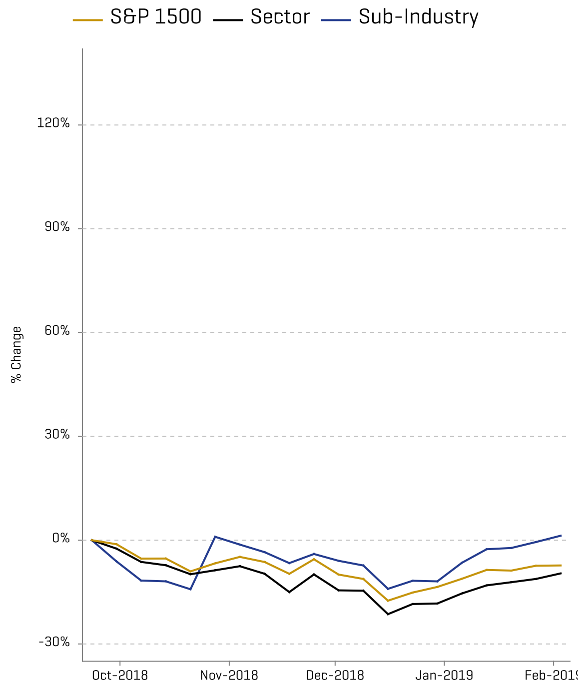
/Angelo Zino, CFA

Industry Performance

GICS Sector: **Information Technology**

Based on S&P 1500 Indexes

Five-Year market price performance through Feb 09, 2019



NOTE: A sector chart appears when the sub-industry does not have sufficient historical index data.

All Sector & Sub-Industry information is based on the Global Industry Classification Standard (GICS).

Past performance is not an indication of future performance and should not be relied upon as such.

Source: S&P Global Market Intelligence

Sub-Industry: Technology Hardware, Storage & Peripherals   Peer Group*: Technology Hardware, Storage & Peripherals

Peer Group	Stock Symbol	Exchange	Currency	Recent Stock Price	Stk. Mkt. Cap. (M)	30-Day Price Chg. (%)	1-Year Price Chg. (%)	P/E Ratio	Fair Value Calc.	Yield (%)	Return on Equity (%)	LTD to Cap (%)
Apple Inc.	**AAPL**	**NasdaqGS**	**USD**	**170.41**	**803,531**	**11.2**	**9.8**	**14**	**198.01**	**1.7**	**49.4**	**42.3**
Canon Inc.	CAJ	NYSE	USD	28.69	30,901	2.2	-21.2	14	NA	5.1	8.4	13.6
Dell Technologies Inc.	DELL	NYSE	USD	51.49	36,992	9.7	NM	NM	NA	Nil	-22.7	63.6
FUJIFILM Holdings Corporation	FUJI.Y	OTCPK	USD	43.79	18,015	7.9	3.2	15	NA	1.6	6.3	15.0
HP Inc.	HPQ	NYSE	USD	22.92	35,606	8.1	15.1	7	21.97	2.8	NM	84.7
Hewlett Packard Enterprise Company	HPE	NYSE	USD	15.92	22,267	13.2	5.9	13	16.25	2.8	9.0	30.3
Lenovo Group Limited	LNVG.Y	OTCPK	USD	14.91	8,957	9.2	41.9	NM	NA	4.5	-2.9	31.7
NetApp, Inc.	NTAP	NasdaqGS	USD	66.00	16,624	9.7	18.2	60	41.30	2.4	3.1	38.6
Ricoh Company, Ltd.	RICO.Y	OTCPK	USD	9.924	7,197	-0.6	-0.4	NM	NA	1.6	-12.3	35.2
Seagate Technology plc	STX	NasdaqGS	USD	45.02	12,684	12.2	-5.1	8	50.66	5.6	78.0	66.6
Western Digital Corporation	WDC	NasdaqGS	USD	46.71	13,586	17.4	-41.7	17	46.36	4.3	5.9	48.4

*For Peer Groups with more than 10 companies or stocks, selection of issues is based on market capitalization.
NA-Not Available NM-Not Meaningful.
Note: Peers are selected based on Global Industry Classification Standards and market capitalization. The peer group list includes companies with similar characteristics, but may not include all the companies within the same industry and/or that engage in the same line of business.

Analyst Research Notes and other Company News

January 30, 2019

10:04 am ET... CFRA Maintains Buy Opinion on Shares of Apple Inc. (AAPL 161.4****): We keep our 12-month target at $195 on a P/E of 14.4x our FY 20 view, below AAPL's three-year historical forward average of 14.8x. We adjust our FY 19 (Sep.) EPS estimate to $11.90 from $11.96 and FY 20's to $13.52 from $13.78. We believe AAPL's Dec-Q results last night largely alleviates our concerns about an inventory overhang and pricing issues for iPhones given softness was almost entirely concentrated in China (sales grew 1.1% ex. China). While we acknowledge replacement cycles for iPhones are extending, we think a rising and older installed phone base of over 900M creates the potential for stabilization/growth in this category given a potential 5G launch in calendar year 2020. In addition, we think potential new service offerings across a number of areas (e.g. video streaming, magazine subscription, gaming, healthcare) could help support multiple expansion. We would view an easing of trade tension between China-U.S. and more aggressive share repurchases as additional catalysts. /Angelo Zino, CFA

January 29, 2019

05:39 pm ET... CFRA Maintains Buy Opinion on Shares of Apple Inc. (AAPL 163.5****): AAPL posts Dec-Q EPS of $4.18 vs. $3.89, beating the $4.17 consensus after providing preliminary guidance in early January. Sales from iPhones fell 15%, below our view, and represented 62% of sales. However, we note that iPad and Mac sales, up 17% and 9%, were well above our expectation following product releases in both categories last fall. Services growth of 19% to $10.9B on an adjusted basis was near AAPL's previous outlook. Wearable, Home and Accessories grew 33%. Although Mar-Q guidance of $55B to $59B was slightly below our outlook, we think it alleviates concerns about a significant inventory overhang for iPhones and protracted weakness in China (down 27% in Dec-Q). Gross margin guidance of 37%-38% is also narrower than our view; we note Products/Services breakdown of 34.3%/62.8%. We positively view growth for AAPL's active installed base, now 1.4B, which we forecast will continue to support growth for its higher-margin Services offerings. We note a net cash position of $130B. /Angelo Zino, CFA

January 03, 2019

01:07 pm ET... CFRA Maintains Buy Opinion on Shares of Apple Inc. (AAPL 145.11****): We cut our 12-month target to $195 from $215 on a lower P/E of 14.1X our FY 20 view, below its three-year historical forward average of 14.8X. We adjust our FY 19 (Sep.) EPS estimate to $11.96 from $12.82 and FY 20's to $13.78 from $14.31. AAPL provides preliminary Dec-Q revenue of $84.5B, below consensus at $91B, largely due to lower-than-expected demand for iPhones in China. While we think this is partly due to macro issues (e.g. China-U.S. trade issues and a stronger dollar), we also highlight AAPL-specific items (e.g. replacement cycles extending and tougher comps due to timing of product launches). Yet, we note installed base and Services (+27%) growth as positives. We think another round of consensus EPS cuts is likely, but see this largely discounted in its valuation (trading 10.5X our FY 20 EPS with a $130B net cash position). We note a number of potential catalysts, including the release of a video streaming offering, 5G iPhones in CY 20 and more aggressive share repurchases. /Angelo Zino, CFA

December 20, 2018

10:50 am ET... CFRA Maintains Buy Opinion on Shares of Apple Inc. (AAPL 160.93****): We cut our 12-month target to $215 from $255, on lower P/E of 15X our FY 20 view, above peers to reflect AAPL's potential in services and free cash flow. We adjust our FY 19 (Sep.) EPS estimate to $12.82 from $13.55 and FY 20 to $14.31 from $15.05. We acknowledge that consensus estimates are too elevated (revenue growth estimated at 4.5% vs. flat more likely) as we forecast lower iPhone units in emerging markets/China. Despite iPhone replacement cycles extending, AAPL's installed base is growing, helping support our positive stance on Services (we see 20% growth in FY 19) and wearables. While we see a change in AAPL's reporting as a near-term headwind, we think it will help change the narrative towards a firm focused on subscription revenue/higher margins and away from hardware. We view a 30% pullback as an enhanced buying opportunity for long-term investors, with execution in Services, penetration into TV streaming and potentially more aggressive share repurchases as catalysts ahead. /Angelo Zino, CFA

November 02, 2018

08:58 am ET... CFRA MAINTAINS BUY OPINION ON SHARES OF APPLE INC. (AAPL 208.4****): We hold our 12-month target at $255, on 16.9X our FY 20 view, above peers to reflect AAPL's potential in services and free cash flow. We adjust our FY 19 (Sep.) EPS estimate to $13.55 from $13.77 and FY 20 to $15.05 from $15.20. Last night, AAPL reported Sep-Q results that exceeded revenue/EPS expectations but offered Dec-Q guidance slightly below expectations. We attribute the lower outlook to foreign currency headwinds (almost $2B) and uncertainty in emerging markets (e.g. India, Brazil and Turkey) while comparisons get more difficult. While we view AAPL's decision to stop providing unit data for iPhones/iPads/Macs as a negative, we had already assumed a no-growth environment for units over the next two years and see greater expected transparency around Services as a positive. We see AAPL benefiting from a growing installed base, higher priced devices across all platforms and more consumer dollars gravitating towards Services/wearables. We see valuation as attractive (14X FY '20). /Angelo Zino, CFA

November 01, 2018

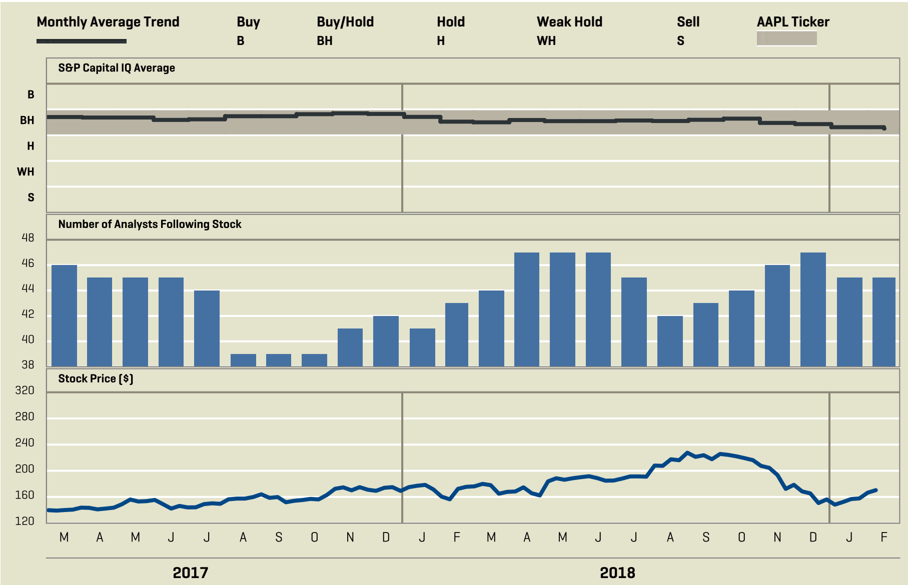
05:27 pm ET... CFRA MAINTAINS BUY OPINION ON SHARES OF APPLE INC. (AAPL 222.22****): AAPL posts Sep-Q EPS of $2.91 vs. $2.07, beating the $2.78 S&P Capital IQ consensus. Revenue rose 20% to $62.9B, exceeding our view of $61.5B, led by 29% in iPhone sales. While we were encouraged by better-than-expected iPhone average selling prices (+28%), we note unit shipments of 46.9M (+0.5%) missed expectations. Although Mac sales grew 3% and

iPad sales declined 15%, we see better results in the Dec-Q given announced product refreshes earlier this week. Services grew 17%, but decelerated from recent quarters on tougher comparisons given one-time benefits a year ago. Other hardware sales grew an impressive 31%. We view China growth of 16% as a positive and note share repurchases of $19.1B. Although Dec-Q revenue guidance ($89B-$93B) was a disappointment versus consensus at $92.9B, we are optimistic about AAPL's ability to generate substantial free cash flow via stable iPhone sales, see healthy Services growth and like its ongoing intent to return significant cash to shareholders. /Angelo Zino, CFA

Note: Research notes reflect CFRA's published opinions and analysis on the stock at the time the note was published. The note reflects the views of the equity analyst as of the date and time indicated in the note, and may not reflect CFRA's current view on the company.

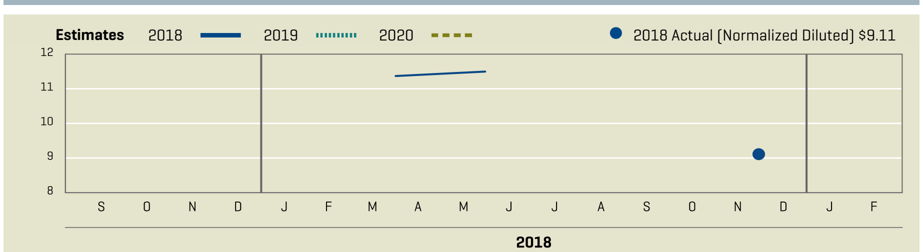
Apple Inc.

Analysts' Recommendations



	No. of Recommendations	% of Total	1 Mo.Prior	3 Mos.Prior
Buy	15	33	15	19
Buy/Hold	5	11	6	5
Hold	19	42	20	17
Weak Hold	0	0	0	0
Sell	2	4	1	1
No Opinion	4	9	3	4
Total	**45**	**100**	**45**	**46**

Wall Street Consensus Estimates



Fiscal Years	Avg Est.	High Est	Low Est.	# of Est.	Est. P/E
2020	12.93	14.83	10.62	37	13.2
2019	11.43	11.88	10.12	37	14.9
2020 vs. 2019	**▲13%**	**▲25%**	**▲5%**	**0%**	**▼-11%**
Q2'20	2.82	3.07	2.41	19	60.5
Q2'19	2.38	2.50	2.15	34	71.5
Q2'20 vs. Q2'19	**▲18%**	**▲23%**	**▲12%**	**▼-44%**	**▼-15%**

Wall Street Consensus Opinion

BUY/HOLD

Wall Street Consensus vs. Performance

For fiscal year 2019, analysts estimate that AAPL will earn USD $11.43. For the 1st quarter of fiscal year 2019, AAPL announced earnings per share of USD $4.18, representing 36.6% of the total revenue estimate. For fiscal year 2020, analysts estimate that AAPL's earnings per share will grow by 13% to USD $12.93.

Forecasts are not reliable indicator of future performance.

Note: A company's earnings outlook plays a major part in any investment decision. S&P Global Market Intelligence organizes the earnings estimates of over 2,300 Wall Street analysts, and provides their consensus of earnings over the next two years, as well as how those earnings estimates have changed over time. Note that the information provided in relation to consensus estimates is not intended to predict actual results and should not be taken as a reliable indicator of future performance.

Note: For all tables, graphs and charts in this report that do not cite any reference or source, the source is S&P Global Market Intelligence.

Glossary

STARS

Since January 1, 1987, CFRA Equity and Fund Research Services, and its predecessor S&P Capital IQ Equity Research has ranked a universe of U.S. common stocks, ADRs (American Depositary Receipts), and ADSs (American Depositary Shares) based on a given equity's potential for future performance. Similarly, we have ranked Asian and European equities since June 30, 2002. Under proprietary STARS (Stock Appreciation Ranking System), equity analysts rank equities according to their individual forecast of an equity's future total return potential versus the expected total return of a relevant benchmark (e.g., a regional index (S&P Asia 50 Index, S&P Europe 350® Index or S&P 500® Index)), based on a 12-month time horizon. STARS was designed to meet the needs of investors looking to put their investment decisions in perspective. Data used to assist in determining the STARS ranking may be the result of the analyst's own models as well as internal proprietary models resulting from dynamic data inputs.

S&P Global Market Intelligence's Quality Ranking

(also known as **S&P Capital IQ Earnings & Dividend Rankings**) - Growth and stability of earnings and dividends are deemed key elements in establishing S&P Global Market Intelligence's earnings and dividend rankings for common stocks, which are designed to capsulize the nature of this record in a single symbol. It should be noted, however, that the process also takes into consideration certain adjustments and modifications deemed desirable in establishing such rankings. The final score for each stock is measured against a scoring matrix determined by analysis of the scores of a large and representative sample of stocks. The range of scores in the array of this sample has been aligned with the following ladder of rankings:

A+	Highest	B	Below Average
A	High	B-	Lower
A-	Above Average	C	Lowest
B+	Average	D	In Reorganization
NR	Not Ranked		

EPS Estimates

CFRA's earnings per share (EPS) estimates reflect analyst projections of future EPS from continuing operations, and generally exclude various items that are viewed as special, non-recurring, or extraordinary. Also, EPS estimates reflect either forecasts of equity analysts; or, the consensus (average) EPS estimate, which are independently compiled by S&P Global Market Intelligence, a data provider to CFRA. Among the items typically excluded from EPS estimates are asset sale gains; impairment, restructuring or merger-related charges; legal and insurance settlements; in process research and development expenses; gains or losses on the extinguishment of debt; the cumulative effect of accounting changes; and earnings related to operations that have been classified by the company as discontinued. The inclusion of some items, such as stock option expense and recurring types of other charges, may vary, and depend on such factors as industry practice, analyst judgment, and the extent to which some types of data is disclosed by companies.

12-Month Target Price

The equity analyst's projection of the market price a given security will command 12 months hence, based on a combination of intrinsic, relative, and private market valuation metrics, including Fair Value.

CFRA Equity Research

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Abbreviations Used in Equity Research Reports

CAGR - Compound Annual Growth Rate
CAPEX - Capital Expenditures
CY - Calendar Year
DCF - Discounted Cash Flow
DDM - Dividend Discount Model
EBIT - Earnings Before Interest and Taxes
EBITDA - Earnings Before Interest, Taxes, Depreciation & Amortization
EPS - Earnings Per Share
EV - Enterprise Value
FCF - Free Cash Flow
FFO - Funds From Operations
FY - Fiscal Year
P/E - Price/Earnings
P/NAV - Price to Net Asset Value PEG Ratio - P/E-to-Growth Ratio PV - Present Value
R&D - Research & Development ROCE - Return on Capital Employed ROE - Return on Equity
ROI - Return on Investment
ROIC - Return on Invested Capital
ROA - Return on Assets
SG&A - Selling, General & Administrative Expenses
SOTP - Sum-of-The-Parts
WACC - Weighted Average Cost of Capital

Dividends on American Depository Receipts (ADRs) and American Depository Shares (ADSs) are net of taxes (paid in the country of origin).

Qualitative Risk Assessment

Reflects an equity analyst's view of a given company's operational risk, or the risk of a firm's ability to continue as an ongoing concern. The Qualitative Risk Assessment is a relative ranking to the U.S. STARS universe, and should be reflective of risk factors related to a company's operations, as opposed to risk and volatility measures associated with share prices. For an ETF this reflects on a capitalization-weighted basis, the average qualitative risk assessment assigned to holdings of the fund.

STARS Ranking system and definition:

★★★★★ **5-STARS (Strong Buy):**
Total return is expected to outperform the total return of a relevant benchmark, by a notable margin over the coming 12 months, with shares rising in price on an absolute basis.

★★★★☆ **4-STARS (Buy):**
Total return is expected to outperform the total return of a relevant benchmark over the coming 12 months, with shares rising in price on an absolute basis.

★★★☆☆ **3-STARS (Hold):**
Total return is expected to closely approximate the total return of a relevant benchmark over the coming 12 months, with shares generally rising in price on an absolute basis.

★★☆☆☆ **2-STARS (Sell):**
Total return is expected to underperform the total return of a relevant benchmark over the coming 12 months, and the share price is not anticipated to show a gain.

★☆☆☆☆ **1-STAR (Strong Sell):**
Total return is expected to underperform the total return of a relevant benchmark by a notable margin over the coming 12 months, with shares falling in price on an absolute basis.

Relevant benchmarks:

In North America, the relevant benchmark is the S&P 500 Index, in Europe and in Asia, the relevant benchmarks are the S&P Europe 350 Index and the S&P Asia 50 Index, respectively.

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Quantitative Stock Reports:

Quantitative recommendations are determined by ranking a universe of common stocks based on 5 measures or model categories: Valuation, Quality, Growth, Street Sentiment, and Price Momentum. In the U.S., a sixth sub-category for Financial Health will also be displayed. Percentile scores are used to compare each company to all other companies in the same universe for each model category. The five (six) model category scores are then weighted and rolled up into a single percentile ranking for that company. For reports containing quantitative recommendations refer to the Glossary section of the report for detailed methodology and the definition of Quantitative rankings.

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STARS Stock Reports:

Global STARS Distribution as of December 31, 2018

Ranking	North America	Europe	Asia	Global
Buy	38.9%	34.1%	46.6%	39.0%
Hold	56.0%	51.8%	44.8%	54.0%
Sell	5.1%	14.1%	8.6%	7.0%
Total	100.0%	100.0%	100.0%	100.0%

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