

August 1, 2018 02:18 AM GMT

Apple, Inc.

A Clean Beat on the Path to \$1 Trillion

📈 Stock Rating
Overweight

👁 Industry View
Attractive

🎯 Price Target
\$232.00

We see more upside than downside risk to the upcoming iPhone product cycle and a building Services narrative. Even if device revenue growth slows, Services and Wearables can pick up the slack, delivering 7% revenue and 21% EPS growth annually through CY20, supporting our SOTP-driven \$232 PT.

Estimates move higher on iPhone ASPs, Services, Wearables. F3Q revenue (+17% Y/Y) beat expectations largely on iPhone ASPs (+20%) and Services (+31% reported, 28% normalized) with wearables (+37% Y/Y) maintaining momentum from previous quarters. Sept Q guidance also topped expectations and reflects a similar mid teens revenue growth rate for the overall company despite the more difficult compare from a year ago. The combination of a strong macro environment and an increasingly engaged customer base led to double digit growth in all regions on a sell-in basis during the June quarter. After flowing through the stronger results - namely higher F4Q revenue, slightly offset by higher OpEx, plus stronger LT Services and wearables growth - our FY18 EPS increases to \$11.75 (from \$11.45) and FY19 EPS increases to \$14.12 (from \$14.00). Our \$232 SOTP-driven price target is unchanged after raising our revenue forecast modestly, shifting to CY19, and considering recent multiple compression at Services peers (Facebook, Tencent, Alibaba).

What we learned from Apple's F3Q18 earnings:

(+) Services narrative gains momentum with references to strong pipeline of new services. Services revenue grew 31% Y/Y, above consensus expectations of 26% Y/Y and more in-line with our 32% Y/Y forecast. However, backing out a \$236M one-time legal benefit implies 28% Y/Y normalized growth. In the June quarter, paid subscriptions to Apple Services topped 300M users (+60% Y/Y) and the App Store, AppleCare, Apple Music, iCloud and Apple Pay all set new June quarterly revenue records. For the App Store, results were even more impressive when considering the Chinese government reportedly slowed the process of new app approvals in the quarter (China is biggest App Store country in the world), although approvals appear to be accelerating in recent weeks. Importantly, management expressed enthusiasm for upcoming "new" Services and, for the first time, provided some color on Apple's personnel and partnership investments in original video content, noting they "aren't really ready to share the details about it yet."

(+) Other Products contribution growing with success of AirPods and Watch.

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Apple, Inc. (AAPL.O, AAPL US)

IT Hardware / United States of America

| | | | | |
|---------------------------------|-------------------|---------------|---------------|---------------|
| Stock Rating | Overweight | | | |
| Industry View | Attractive | | | |
| Price target | \$232.00 | | | |
| Shr price, close (Jul 31, 2018) | \$190.29 | | | |
| Mkt cap, curr (mm) | \$929,948 | | | |
| 52-Week Range | \$195.96-148.13 | | | |
| Fiscal Year Ending | 09/17 | 09/18e | 09/19e | 09/20e |
| ModelWare EPS (\$) | 9.21 | 11.75 | 14.12 | 16.49 |
| Prior ModelWare EPS (\$) | - | 11.45 | 14.00 | 16.06 |
| P/E | 16.7 | 16.2 | 13.5 | 11.5 |
| Consensus EPS (\$) § | 9.00 | 11.48 | 13.29 | 14.82 |
| Div yld (%) | 1.6 | 1.5 | 1.6 | 1.8 |

Unless otherwise noted, all metrics are based on Morgan Stanley ModelWare framework

§ = Consensus data is provided by Thomson Reuters Estimates

e = Morgan Stanley Research estimates

QUARTERLY MODELWARE EPS (\$)

| Quarter | 2017 | 2018e Prior | 2018e Current | 2019e Prior | 2019e Current |
|---------|------|-------------|---------------|-------------|---------------|
| Q1 | 3.36 | - | 3.89a | 4.56 | 4.56 |
| Q2 | 2.10 | - | 2.73a | 3.45 | 3.37 |
| Q3 | 1.67 | - | 2.34a | 2.71 | 2.80 |
| Q4 | 2.07 | 2.61 | 2.75 | 3.22 | 3.34 |

e = Morgan Stanley Research estimates, a = Actual Company reported data

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For analyst certification and other important disclosures, refer to the Disclosure Section, located at the end of this report.

Other Products grew 37% Y/Y in the June quarter, in-line with growth in the last 3 quarters, accounting for 13% of Apple's Y/Y revenue growth. Apple Watch on its own grew mid-40% Y/Y while Apple Watch, AirPods and Beats products together grew 60% Y/Y. It is becoming increasingly clear that users view these products as important complements to their iPhone, and we believe they are successfully broadening the Apple ecosystem and increasing customer stickiness (and spend) to the platform. With WatchOS 5 launching to the public this fall plus the expectation for an update to the AirPods by year end, we see Other Products continuing to grow at a strong double digit rate over a multi-year period.

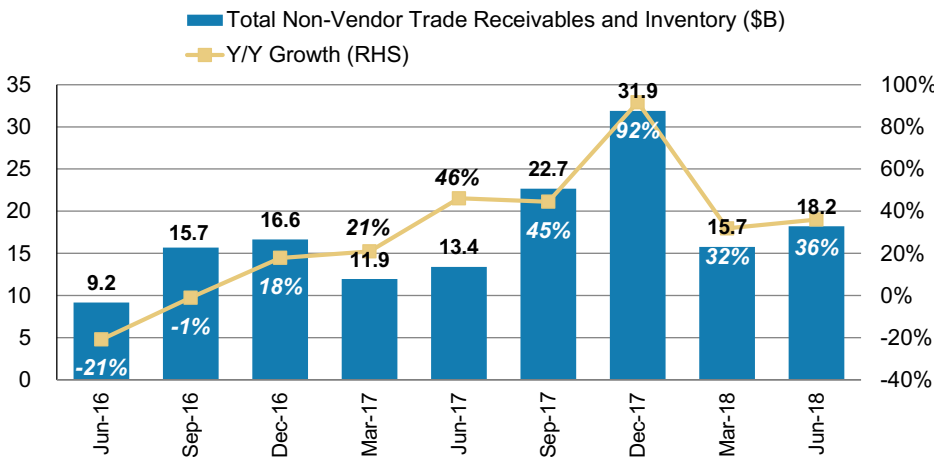
(+) Guidance better on broad-based growth and upcoming product cycle.

September quarter revenue guidance of \$60-62B was 5% higher than our pre-earnings estimate and 2% higher than consensus coming into the quarter. Importantly, this signals that iPhone, Wearables and Services are expected to continue growing at a strong double digit pace to close out FY18. We increase our Sept Q iPhone shipment estimate to 48.3M units (+3% Y/Y) and increase iPhone ASPs to \$720, which would imply largely flat ASPs Q/Q, below historical seasonality of low single digit Q/Q ASP increases. We also model Sept Q Services growth of 18% Y/Y, which represents 28% Y/Y normalized growth when backing out the \$640M favorable one-timer from F4Q17 results. Net, our Sept Q revenue estimate increases to \$61.0B (from \$58.2B prior). With flat gross margin and seasonal OpEx growth, our FY4Q EPS increases to \$2.75, from \$2.61 previously.

(+/-) Gross margins only in-line despite NAND and Services tailwinds. We picked up a fair amount of investor excitement into the quarter around potential gross margin upside as NAND prices fall. However, the impact is somewhat delayed due to inventory of higher priced NAND on Apple's balance sheet, which came down by \$1.7B in June. Looking forward, we see potential upside from falling NAND prices (NAND was a 60bps Y/Y headwind to GM in June but flat Q/Q) but a 30bps FX headwind will offset some of this upside in September. Importantly, a stable gross margin outlook puts to rest any concerns that Apple will meaningfully change its iPhone pricing strategy to chase unit demand in the upcoming iPhone product cycle.

Exhibits

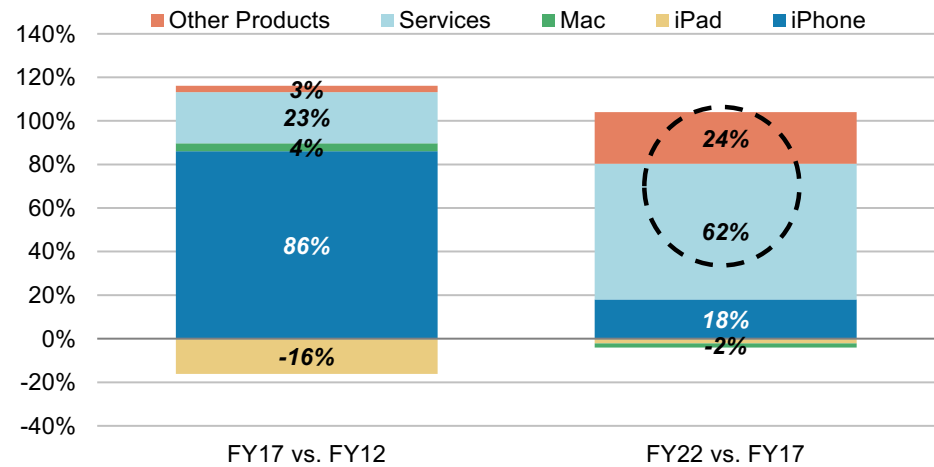
Exhibit 1: While Apple balance sheet inventory fell, the combination of Apple Inventory and Vendor Non-Trade Receivables reached \$18.2B in the June quarter, up 36% Y/Y.



Source: Company Data, Morgan Stanley Research

Exhibit 2: We see Other Products (wearables) and Services contributing 86% of Apple revenue growth over the next 5 years vs. just 26% on a trailing 5 year basis.

Contribution to Apple Revenue Growth



Source: Company Data, Morgan Stanley Research

Exhibit 3: Our sum-of-the-parts (SOTP) analysis drives our Apple price target of \$232 (unchanged), which represents 15.7x CY19 EPS.

| Apple Base Case SOTP (\$B) | EV / Sales Methodology | | |
|----------------------------|------------------------|--------------|-------------|
| | CY19E | Revenue | Multiple |
| Hardware | | 231.2 | 2.7x |
| Services | | 50.6 | 6.4x |
| Total Apple | | \$282 | 3.4x |

| | |
|--|------------------|
| Implied AAPL Enterprise Value (\$M) | 948,835 |
| (+) Cash and Equivalents | 210,593 |
| (-) Total Debt | 114,600 |
| Equity Value (\$M) | 1,044,828 |
| Diluted Shares (M) | 4,495 |
| Value/Share | \$ 232.00 |
| Implied CY19 P/E | 15.7x |

| | |
|--------------------|--------------|
| Current Price | \$ 190.29 |
| Up/Downside | 21.9% |

Source: Thomson Reuters, Morgan Stanley Research

AAPL Risk Reward**Growth Contribution from Services Underappreciated by Investors**

Source: Thomson Reuters, Morgan Stanley Research

Price Target \$232

Derived from base-case scenario.

Bull \$335**19.7x Bull Case CY19e EPS of \$17.04**

Services revenue per device accelerates to 10%+ growth annually as Apple converts more users to services customers and launches new AR and original video content. The majority of growth comes from services but hardware grows slightly as replacement cycles level off earlier than in the base case and Apple continues to gain new users in markets like China and India. Gross margins move above 40% due to higher Services revenue mix. Investors focus on monetization of Apple's 1.3B and growing device base and value Apple closer to that of a platform company given the more stable growth trajectory. We assume a ~20x P/E multiple on CY19 EPS of \$17.04. Our bull case valuation is supported by SOTP analysis assuming Apple Services garners an EV/Sales multiple in-line with high growth platforms like FB, SNAP, TWTR, and NFLX.

Base \$232**15.7x Base Case CY19e EPS of \$14.77**

Slowing contribution from iPhone is offset by continued 25%+ services growth with the mix shift to higher margin services and more share repurchases translating to faster, and more sustainable, EPS growth. With longer replacement cycles in the broader device market translating to flat iPhone units in FY17-20 plus slightly declining ASPs beyond FY18, we see accelerating Services growth combined with increased share buybacks and a lower tax rate driving multiple years of double digit EPS growth. With Services becoming the primary driver of our forward estimates we fully shift to our sum-of-the-parts analysis, which credits Apple's hardware business with a multiple that blends HPQ and MSFT and Apple's services business with the average of 10 consumer platform peers and drives our \$232 PT, translating to a 15.7x P/E, slightly higher than Apple's 10-year CY+1 P/E trading range.

Bear \$145**11.8x Bear Case CY19e EPS of \$12.27**

Weakening global smartphone market overshadows Services growth, resulting in total company revenue declines and margin pressure. Apple continues to invest in future products and services, driving negative operating leverage, offset by continued share repurchases. Our sum of the parts analysis assumes lower-

Investment Thesis

■ Apple has the world's most valuable technology platform with 1.3Bn active devices, and is well positioned to capture more of its users' time in areas such as video, augmented reality, health, autos and home. Accelerated Services growth, margin expansion, and tax reform / cash repatriation are catalysts that can help sustainably re-rate shares.

Key Debates

■ *Can Apple sustainably grow revenue and EPS?* Yes, the combination of increased services mix, strong wearables growth, higher share repurchases, potential M&A, and investments in new categories like video, augmented/virtual reality, artificial intelligence, health, and autos are drivers of sustainable growth longer-term.

■ *Can Services growth help re-rate shares?* Yes, we believe so. Apple is a structurally different company today than it was just 5 years ago, with a larger cash balance and a Services business that accounts for ~15% of revenue and 22% of gross profit dollars, growing to 27% of revenue and 40% of gross profit dollars by FY22. And we see accelerating Services data points as evidence of this transformation that can act as catalysts to re-rate shares higher.

■ *Can Apple accelerate innovation?* Yes, FY17 was the fifth year in a row that R&D growth outpaced revenue growth, translating to new products and services over time. Over the past three years, Apple spent an incremental \$11.6B on R&D compared to less than \$1B ahead of iPhone and iPad. This compares to minimal incremental spend at top auto makers (ex-Tesla) and \$10.2B of incremental spend at Alphabet on far more projects.

Potential Catalysts

- Tax reform lowers tax rate and increases cash flexibility
- Increasing services mix, driven by increased penetration of the user base and new services.
- Rising iPhone ASPs, strong wearables

end of platform multiples, in-line with Google, for Apple Services and a more hardware skewed multiple on Apple's device revenue, implying a roughly 12x P/E, the lower end of where large cap hardware stocks have traded over the last year and significantly below Apple's 10-year average historical P/E.

growth speak to increasing customer engagement and spend and help shift narrative from product cycles to a platform story

- Expanding the platform to new industries, for example healthcare, autos or homes, drives "halo effect" across Apple's businesses
- Expanding points-of-sale, especially in emerging markets like India

Risks to Achieving Price Target

- Weak global consumer spending or increased price elasticity on the back of higher priced iPhones
- Maturing markets, and Android competition in smartphones and tablets
- Lack of traction with new product categories and/or services limits multiple expansion
- Carriers lengthening replacement cycles and/or lower subsidies or users replace batteries instead of upgrade
- Political, regulatory and legal risk as Apple gains profit share in mobile devices and remains dependent on Asian suppliers (i.e. Tariff risk) and consumers to deliver results

Earnings Variance

Exhibit 4: AAPL F3Q18 Earnings Variance

Apple Earnings Analysis

Ticker:
Industry View:
Rating:

AAPL
Attractive
Overweight

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F4Q18 and FY18 Expectations

Consensus estimates (pre-call): F4Q18 revenue of \$59.6B and EPS of \$2.65. FY18 revenue of \$261.0B and EPS of \$11.48.

MS estimates (pre-call): F4Q18 revenue of \$58.2B and EPS of \$2.61. FY18 revenue of \$259.6B and EPS of \$11.45.

Company guidance: F4Q18 revenue \$60-62B, GM 38-38.5%, OPEX \$7.95-8.05B, OI&E \$300M and tax 15%.

| (\$ Millions) | F4Q16 A | F1Q17 A | F2Q17 A | F3Q17 A | F4Q17 A | F1Q18 A | F2Q18 A | F3Q18 A | F3Q18 E | % Delta | Share Impact | Cons. Est. |
|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------|-----------------|---------------|
| Total Revenues | 46,852 | 78,351 | 52,896 | 45,408 | 52,579 | 88,293 | 61,137 | 53,265 | 51,941 | 3% | \$0.09 | 52,336 |
| Y/Y Growth | -9% | 3% | 5% | 7% | 12% | 13% | 16% | 17% | 14% | | | |
| Q/Q Growth | 11% | 67% | -32% | -14% | 16% | 68% | -31% | -13% | -15% | | | |
| Gross Profit | 17,813 | 30,176 | 20,591 | 17,488 | 19,931 | 33,912 | 23,422 | 20,421 | 19,916 | 3% | \$0.09 | 20,045 |
| Gross profit margin | 38.0% | 38.5% | 38.9% | 38.5% | 37.9% | 38.4% | 38.3% | 38.3% | 38.3% | | | 38.3% |
| SG&A | 3,482 | 3,946 | 3,718 | 3,783 | 3,814 | 4,231 | 4,150 | 4,108 | 4,207 | -2% | \$0.02 | |
| SG&A as a % of Sales | 7% | 5% | 7% | 8% | 7% | 5% | 7% | 8% | 8% | | | |
| R&D | 2,570 | 2,871 | 2,776 | 2,937 | 2,997 | 3,407 | 3,378 | 3,701 | 3,558 | 4% | (\$0.03) | |
| R&D as a % of Sales | 5% | 4% | 5% | 6% | 6% | 4% | 6% | 7% | 7% | | | |
| Total Operating Expenses | 6,052 | 6,817 | 6,494 | 6,720 | 6,811 | 7,638 | 7,528 | 7,809 | 7,765 | 1% | | 7,694 |
| Operating Income | 11,761 | 23,359 | 14,097 | 10,768 | 13,120 | 26,274 | 15,894 | 12,612 | 12,150 | 4% | \$0.07 | 12,350 |
| Operating Margin | 25.1% | 29.8% | 26.7% | 23.7% | 25.0% | 29.8% | 26.0% | 23.7% | 23.4% | | | |
| Other Income & Expense | 427 | 821 | 587 | 540 | 797 | 756 | 274 | 672 | 401 | 68% | \$0.05 | |
| Tax rate | 26.0% | 26.0% | 24.9% | 22.9% | 23.0% | 25.8% | 14.5% | 13.3% | 14.5% | | | |
| Operating EPS | \$1.67 | \$3.36 | \$2.10 | \$1.67 | \$2.07 | \$3.89 | \$2.73 | \$2.34 | \$2.17 | | \$0.16 | \$2.18 |
| Share Count | 5,393 | 5,328 | 5,262 | 5,233 | 5,184 | 5,158 | 5,068 | 4,927 | 4,935 | 0% | | |
| Product Shipments (K) | F4Q16 A | F1Q17 A | F2Q17 A | F3Q17 A | F4Q17 A | F1Q18 A | F2Q18 A | F3Q18 A | F3Q18 E | | | |
| iPhone | 45,513 | 78,290 | 50,763 | 41,026 | 46,677 | 77,316 | 52,217 | 41,300 | 39,800 | 4% | | |
| Y/Y Growth | -5% | 5% | -1% | 2% | 3% | -1% | 3% | 1% | -3% | | | |
| iPad | 9,267 | 13,081 | 8,922 | 11,424 | 10,326 | 13,170 | 9,113 | 11,553 | 10,500 | 10% | | |
| Y/Y Growth | -6% | -19% | -13% | 15% | 11% | 1% | 2% | 1% | -8% | | | |
| Mac | 4,886 | 5,374 | 4,199 | 4,292 | 5,386 | 5,112 | 4,078 | 3,720 | 4,301 | -14% | | |
| Y/Y Growth | -14% | 1% | 4% | 1% | 10% | -5% | -3% | -13% | 0% | | | |
| Product Revenue (\$M) | F4Q16 A | F1Q17 A | F2Q17 A | F3Q17 A | F4Q17 A | F1Q18 A | F2Q18 A | F3Q18 A | F3Q18 E | | | |
| iPhone | 28,160 | 54,378 | 33,249 | 24,846 | 28,846 | 61,576 | 38,032 | 29,906 | 28,166 | 6% | | |
| Y/Y Growth | -13% | 5% | 1% | 3% | 2% | 13% | 14% | 20% | 13% | | | |
| iPad | 4,255 | 5,533 | 3,889 | 4,969 | 4,831 | 5,862 | 4,113 | 4,741 | 4,708 | 1% | | |
| Y/Y Growth | 0% | -22% | -12% | 2% | 14% | 6% | 6% | -5% | -5% | | | |
| Mac | 5,739 | 7,244 | 5,844 | 5,592 | 7,170 | 6,895 | 5,848 | 5,330 | 5,712 | -7% | | |
| Y/Y Growth | -17% | 7% | 14% | 7% | 25% | -5% | 0% | -5% | 2% | | | |
| Services | 6,325 | 7,172 | 7,041 | 7,266 | 8,501 | 8,471 | 9,190 | 9,548 | 9,627 | -1% | | |
| Y/Y Growth | 24% | 18% | 18% | 22% | 34% | 18% | 31% | 31% | 32% | | | |
| Other Products | 2,373 | 4,024 | 2,873 | 2,735 | 3,231 | 5,489 | 3,954 | 3,740 | 3,728 | 0% | | |
| Y/Y Growth | -22% | -8% | 31% | 23% | 36% | 36% | 38% | 37% | 36% | | | |
| Product Price (Adj. for Def. Rev.) | F4Q16 A | F1Q17 A | F2Q17 A | F3Q17 A | F4Q17 A | F1Q18 A | F2Q18 A | F3Q18 A | F3Q18 E | | | |
| iPhone | 612 | 698 | 653 | 600 | 615 | 802 | 728 | 719 | 702 | 2% | | |
| Y/Y Growth | -9% | 1% | 2% | 2% | 1% | 15% | 12% | 20% | 17% | | | |
| iPad | 458 | 429 | 438 | 441 | 473 | 453 | 455 | 417 | 454 | -8% | | |
| Y/Y Growth | 9% | -3% | 2% | -10% | 3% | 6% | 4% | -5% | 3% | | | |
| Mac | 1,173 | 1,349 | 1,384 | 1,295 | 1,330 | 1,346 | 1,424 | 1,420 | 1,321 | 7% | | |
| Y/Y Growth | -4% | 6% | 10% | 6% | 13% | 0% | 3% | 10% | 2% | | | |
| Regional Revenue (\$M) | F4Q16 A | F1Q17 A | F2Q17 A | F3Q17 A | F4Q17 A | F1Q18 A | F2Q18 A | F3Q18 A | F3Q18 E | | | |
| Americas | 20,229 | 31,968 | 21,157 | 20,376 | 23,099 | 35,193 | 24,841 | 24,542 | | | | |
| Y/Y Growth | -7% | 9% | 11% | 13% | 14% | 10% | 17% | 20% | | | | |
| Europe, Middle East, Africa | 10,842 | 18,521 | 12,733 | 10,675 | 13,099 | 21,054 | 13,846 | 12,138 | | | | |
| Y/Y Growth | 3% | 3% | 10% | 11% | 21% | 14% | 9% | 14% | | | | |
| Greater China | 8,785 | 16,233 | 10,726 | 8,004 | 9,801 | 17,956 | 13,024 | 9,551 | | | | |
| Y/Y Growth | -30% | -12% | -14% | -10% | 12% | 11% | 21% | 19% | | | | |
| Japan | 4,324 | 5,766 | 4,485 | 3,624 | 3,858 | 7,237 | 5,468 | 3,867 | | | | |
| Y/Y Growth | 10% | 20% | 5% | 3% | -11% | 26% | 22% | 7% | | | | |
| Rest of Asia Pacific | 2,672 | 5,863 | 3,795 | 2,729 | 2,812 | 6,853 | 3,958 | 3,167 | | | | |
| Y/Y Growth | -1% | 8% | 20% | 15% | 5% | 17% | 4% | 16% | | | | |
| Balance Sheet / Return Metrics | F4Q16 A | F1Q17 A | F2Q17 A | F3Q17 A | F4Q17 A | F1Q18 A | F2Q18 A | F3Q18 A | F3Q18 E | | | |
| CFO | 16,126 | 27,056 | 12,523 | 8,363 | 15,656 | 28,293 | 15,130 | 14,488 | 22,997 | -37% | | |
| FCF | 12,149 | 23,722 | 9,548 | 6,086 | 11,791 | 25,483 | 10,935 | 11,221 | 19,088 | -41% | | |
| Repurchase of Common Stock | 6,026 | 10,851 | 7,161 | 7,093 | 7,795 | 10,095 | 22,756 | 20,783 | 20,000 | 4% | | |
| Total deferred Revenue | 11,010 | 11,052 | 10,789 | 10,592 | 10,384 | 11,175 | 10,862 | 10,281 | 10,569 | -3% | | |
| Y/Y Growth | -12% | -12% | -16% | -7% | -6% | 1% | 1% | -3% | 0% | | | |
| Inventory Turns | 14 | 18 | 11 | 9 | 7 | 12 | 5 | 6 | 10 | -46% | | |
| Days Sales | 31 | 16 | 20 | 25 | 31 | 24 | 21 | 24 | 21 | 16% | | |
| Days Payable | 118 | 72 | 80 | 105 | 138 | 104 | 83 | 108 | 100 | 8% | | |
| Days Inventory | 7 | 5 | 8 | 10 | 14 | 7 | 18 | 17 | 9 | 85% | | |
| Cash Conversion | (80) | (51) | (52) | (70) | (93) | (73) | (43) | (67) | (70) | | | |

Source: Company Data, Thomson Reuters, Morgan Stanley Research

Model

Exhibit 5: Apple Income Statement

| (\$ in millions) | 2017A | | | | 2018E | | | | 2019E | | | | Fiscal Year | | | | |
|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------------|---------|---------|---------|---------|
| | Dec-16 | Mar-17 | Jun-17 | Sep-17 | Dec-17 | Mar-18 | Jun-18 | Sep-18 | Dec-18 | Mar-19 | Jun-19 | Sep-19 | 2016A | 2017A | 2018E | 2019E | 2020E |
| Revenues | 78,351 | 52,896 | 45,408 | 52,579 | 88,293 | 61,137 | 53,265 | 61,026 | 87,910 | 67,036 | 57,683 | 64,907 | 215,639 | 229,234 | 263,721 | 277,537 | 289,973 |
| iPhone | 54,378 | 33,249 | 24,846 | 28,846 | 61,576 | 38,032 | 29,906 | 34,851 | 57,357 | 40,020 | 30,407 | 34,682 | 136,700 | 141,319 | 164,365 | 162,466 | 160,433 |
| iPad | 5,533 | 3,889 | 4,969 | 4,831 | 5,862 | 4,113 | 4,741 | 5,023 | 5,815 | 4,084 | 4,540 | 4,928 | 20,628 | 19,222 | 19,739 | 19,368 | 17,613 |
| Mac | 7,244 | 5,844 | 5,592 | 7,170 | 6,895 | 5,848 | 5,330 | 6,729 | 7,086 | 6,006 | 5,468 | 6,580 | 22,831 | 25,850 | 24,802 | 25,140 | 24,616 |
| Services | 7,172 | 7,041 | 7,266 | 8,501 | 8,471 | 9,190 | 9,548 | 10,031 | 10,875 | 11,773 | 12,126 | 12,900 | 24,348 | 29,980 | 37,240 | 47,674 | 60,045 |
| Other Products | 4,024 | 2,873 | 2,735 | 3,231 | 5,489 | 3,954 | 3,740 | 4,391 | 6,777 | 5,153 | 5,143 | 5,817 | 11,132 | 12,863 | 17,574 | 22,889 | 27,265 |
| Cost of Sales | 48,175 | 32,305 | 27,920 | 32,648 | 54,381 | 37,715 | 32,844 | 37,690 | 54,261 | 40,670 | 34,558 | 39,081 | 131,376 | 141,048 | 162,630 | 168,570 | 172,662 |
| Gross Profit | 30,176 | 20,591 | 17,488 | 19,931 | 33,912 | 23,422 | 20,421 | 23,335 | 33,648 | 26,366 | 23,125 | 25,827 | 84,263 | 88,186 | 101,090 | 108,966 | 117,311 |
| Gross Margin | 38.5% | 38.9% | 38.5% | 37.9% | 38.4% | 38.3% | 38.3% | 38.2% | 38.3% | 39.3% | 40.1% | 39.8% | 39.1% | 38.5% | 38.3% | 39.3% | 40.5% |
| Operating Expenses | 6,817 | 6,494 | 6,720 | 6,811 | 7,638 | 7,528 | 7,809 | 8,000 | 8,703 | 8,514 | 8,653 | 8,795 | 24,239 | 26,842 | 30,975 | 34,664 | 37,187 |
| Research and Development | 2,871 | 2,776 | 2,937 | 2,997 | 3,407 | 3,378 | 3,701 | 3,738 | 4,044 | 3,955 | 4,096 | 4,122 | 10,045 | 11,581 | 14,224 | 16,216 | 17,556 |
| Selling, General and Administrative | 3,946 | 3,718 | 3,783 | 3,814 | 4,231 | 4,150 | 4,108 | 4,263 | 4,659 | 4,558 | 4,557 | 4,673 | 14,194 | 15,261 | 16,752 | 18,448 | 19,631 |
| Operating Income | 23,359 | 14,097 | 10,768 | 13,120 | 26,274 | 15,894 | 12,612 | 15,335 | 24,945 | 17,852 | 14,473 | 17,032 | 60,024 | 61,344 | 70,115 | 74,302 | 80,125 |
| PTOP Margin | 29.8% | 26.7% | 23.7% | 25.0% | 29.8% | 26.0% | 23.7% | 25.1% | 28.4% | 26.6% | 25.1% | 26.2% | 27.8% | 26.8% | 26.6% | 26.8% | 27.6% |
| Total Interest & Other Income | 821 | 587 | 540 | 797 | 756 | 274 | 672 | 305 | 486 | 544 | 476 | 462 | 1,348 | 2,745 | 2,007 | 1,969 | 1,745 |
| Pretax Income | 24,180 | 14,684 | 11,308 | 13,917 | 27,030 | 16,168 | 13,284 | 15,640 | 25,432 | 18,397 | 14,949 | 17,494 | 61,372 | 64,089 | 72,122 | 76,271 | 81,870 |
| GAAP Income Tax Provision | 6,289 | 3,655 | 2,591 | 3,203 | 6,965 | 2,346 | 1,765 | 2,346 | 3,815 | 2,759 | 2,242 | 2,624 | 15,685 | 15,738 | 13,422 | 11,441 | 12,281 |
| Operating Tax Provision (excl. one time tax eff.) | 6,289 | 3,655 | 2,591 | 3,203 | 6,965 | 2,346 | 1,765 | 2,346 | 3,815 | 2,759 | 2,242 | 2,624 | 15,685 | 15,738 | 13,422 | 11,441 | 12,281 |
| Effective Tax Rate | 26.0% | 24.9% | 22.9% | 23.0% | 25.8% | 14.5% | 13.3% | 15.0% | 15.0% | 15.0% | 15.0% | 15.0% | 25.6% | 24.6% | 18.6% | 15.0% | 15.0% |
| Operating Net Income | 17,891 | 11,029 | 8,717 | 10,714 | 20,065 | 13,822 | 11,519 | 13,294 | 21,617 | 15,637 | 12,707 | 14,870 | 45,687 | 48,351 | 58,700 | 64,830 | 69,590 |
| Operating Net Income Margin | 22.8% | 20.9% | 19.2% | 20.4% | 22.7% | 22.6% | 21.6% | 21.8% | 24.6% | 23.3% | 22.0% | 22.9% | 21.2% | 21.1% | 22.3% | 23.4% | 24.0% |
| Total Non-recurring Charges | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| GAAP Net Income | 17,891 | 11,029 | 8,717 | 10,714 | 20,065 | 13,822 | 11,519 | 13,294 | 21,617 | 15,637 | 12,707 | 14,870 | 45,687 | 48,351 | 58,700 | 64,830 | 69,590 |
| Fully-diluted EPS | | | | | | | | | | | | | | | | | |
| EPS - ModelWare | \$3.36 | \$2.10 | \$1.67 | \$2.07 | \$3.89 | \$2.73 | \$2.34 | \$2.75 | \$4.56 | \$3.37 | \$2.80 | \$3.34 | \$8.31 | \$9.21 | \$11.75 | \$14.12 | \$16.49 |
| EPS - Reported | \$3.36 | \$2.10 | \$1.67 | \$2.07 | \$3.89 | \$2.73 | \$2.34 | \$2.75 | \$4.56 | \$3.37 | \$2.80 | \$3.34 | \$8.31 | \$9.21 | \$11.75 | \$14.12 | \$16.49 |
| EPS - ModelWare excl. Stock Option Expe | \$3.59 | \$2.33 | \$1.89 | \$2.29 | \$4.14 | \$2.99 | \$2.61 | \$3.03 | \$4.84 | \$3.70 | \$3.13 | \$3.67 | \$9.07 | \$10.13 | \$12.81 | \$15.38 | \$17.82 |
| Dividend Payment | 3,130 | 3,004 | 3,365 | 3,270 | 3,339 | 3,190 | 3,653 | 3,530 | 3,553 | 3,380 | 3,697 | 3,562 | 12,150 | 12,769 | 13,712 | 14,192 | 14,320 |
| Dividend Per Share | \$0.59 | \$0.57 | \$0.65 | \$0.64 | \$0.65 | \$0.63 | \$0.75 | \$0.74 | \$0.76 | \$0.74 | \$0.82 | \$0.81 | \$2.22 | \$2.45 | \$2.77 | \$3.12 | \$3.44 |
| Period Ending Outstanding Shares | 5,255.4 | 5,205.8 | 5,169.8 | 5,126.2 | 5,081.7 | 4,943.3 | 4,842.9 | 4,740.4 | 4,639.7 | 4,540.7 | 4,443.5 | 4,348.2 | 5,336.2 | 5,126.2 | 4,740.4 | 4,348.2 | 3,988.1 |
| Avg Shares (Basic) | 5,298.7 | 5,225.8 | 5,195.1 | 5,149.4 | 5,112.9 | 5,024.9 | 4,882.2 | 4,791.7 | 4,690.1 | 4,590.2 | 4,492.1 | 4,395.8 | 5,470.8 | 5,217.2 | 4,952.9 | 4,542.0 | 4,166.3 |
| Avg Shares (Fully Diluted) | 5,328.0 | 5,261.7 | 5,233.5 | 5,183.6 | 5,157.8 | 5,068.5 | 4,926.6 | 4,838.3 | 4,737.7 | 4,638.7 | 4,541.6 | 4,446.4 | 5,500.3 | 5,251.7 | 4,997.8 | 4,591.1 | 4,219.4 |

Source: Company Data, Morgan Stanley Research

Exhibit 6: Apple Income Statement Analysis

| (\$ in millions) | 2017A | | | | 2018E | | | | 2019E | | | | Fiscal Year | | | | |
|----------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | Dec-16 | Mar-17 | Jun-17 | Sep-17 | Dec-17 | Mar-18 | Jun-18 | Sep-18 | Dec-18 | Mar-19 | Jun-19 | Sep-19 | 2016A | 2017A | 2018E | 2019E | 2020E |
| Margin Analysis | | | | | | | | | | | | | | | | | |
| Gross Margin | 38.5% | 38.9% | 38.5% | 37.9% | 38.4% | 38.3% | 38.3% | 38.2% | 38.3% | 39.3% | 40.1% | 39.8% | 39.1% | 38.5% | 38.3% | 39.3% | 40.5% |
| iPhone | 39.3% | 39.5% | 38.5% | 37.3% | 38.4% | 37.2% | 36.7% | 36.8% | 37.2% | 37.2% | 37.5% | 37.5% | 41.1% | 38.8% | 37.5% | 37.3% | 37.5% |
| iPad | 24.5% | 24.0% | 24.5% | 24.5% | 25.0% | 24.0% | 24.0% | 24.5% | 25.0% | 25.0% | 25.0% | 25.0% | 23.6% | 24.4% | 24.4% | 25.0% | 25.0% |
| Mac | 24.5% | 24.0% | 25.0% | 25.0% | 25.0% | 24.0% | 24.0% | 24.5% | 25.0% | 25.0% | 25.0% | 25.0% | 23.9% | 24.6% | 24.4% | 25.0% | 25.0% |
| Services | 58.0% | 57.0% | 58.5% | 58.5% | 58.5% | 58.5% | 58.5% | 59.0% | 59.3% | 59.0% | 59.5% | 59.5% | 56.1% | 58.0% | 58.6% | 59.3% | 59.9% |
| Other Products | 38.3% | 38.6% | 38.6% | 38.3% | 38.7% | 38.1% | 38.8% | 39.0% | 39.0% | 39.0% | 39.0% | 39.0% | 37.4% | 38.4% | 38.6% | 39.0% | 39.0% |
| R&D | 3.7% | 5.2% | 6.5% | 5.7% | 3.9% | 5.5% | 6.9% | 6.1% | 4.6% | 5.9% | 7.1% | 6.4% | 4.7% | 5.1% | 5.4% | 5.8% | 6.1% |
| SG&A | 5.0% | 7.0% | 8.3% | 7.3% | 4.8% | 6.8% | 7.7% | 7.0% | 5.3% | 6.8% | 7.9% | 7.2% | 6.6% | 6.7% | 6.4% | 6.6% | 6.8% |
| Operating Expenses | 8.7% | 12.3% | 14.8% | 13.0% | 8.7% | 12.3% | 14.7% | 13.1% | 9.9% | 12.7% | 15.0% | 13.6% | 11.2% | 11.7% | 11.7% | 12.5% | 12.8% |
| EBITDA Margin | 29.8% | 26.9% | 23.9% | 25.1% | 29.9% | 26.2% | 23.9% | 25.4% | 28.6% | 27.0% | 25.6% | 27.0% | 32.7% | 31.2% | 31.1% | 31.0% | 32.4% |
| PTOP Margin | 29.8% | 26.7% | 23.7% | 25.0% | 29.8% | 26.0% | 23.7% | 25.1% | 28.4% | 26.6% | 25.1% | 26.2% | 27.8% | 26.8% | 26.6% | 26.8% | 27.6% |
| Pretax Margin | 30.9% | 27.8% | 24.9% | 26.5% | 30.6% | 26.4% | 24.9% | 25.6% | 28.9% | 27.4% | 25.9% | 27.0% | 28.5% | 28.0% | 27.3% | 27.5% | 28.2% |
| Net Income | 22.8% | 20.9% | 19.2% | 20.4% | 22.7% | 22.6% | 21.6% | 21.8% | 24.6% | 23.3% | 22.0% | 22.9% | 21.2% | 21.1% | 22.3% | 23.4% | 24.0% |
| Year-Over-Year Growth (%) | | | | | | | | | | | | | | | | | |
| Revenue | 3% | 5% | 7% | 12% | 13% | 16% | 17% | 16% | 0% | 10% | 8% | 6% | -8% | 6% | 15% | 5% | 4% |
| iPhone | 5% | 1% | 3% | 2% | 13% | 14% | 20% | 21% | -7% | 5% | 2% | 0% | -12% | 3% | 16% | -1% | -1% |
| iPad | -22% | -12% | 2% | 14% | 6% | 6% | -5% | 4% | -1% | -1% | -4% | -2% | -11% | -7% | 3% | -2% | -9% |
| Mac | 7% | 14% | 7% | 25% | -5% | 0% | -5% | -6% | 3% | 3% | 3% | -2% | -10% | 13% | -4% | 1% | -2% |
| Services | 18% | 18% | 22% | 34% | 18% | 31% | 31% | 18% | 28% | 28% | 27% | 29% | 22% | 23% | 24% | 28% | 26% |
| Other Products | -8% | 31% | 23% | 36% | 32% | 38% | 37% | 36% | 23% | 30% | 38% | 32% | 11% | 16% | 37% | 30% | 19% |
| Gross Margin | -1% | 3% | 9% | 12% | 10% | 14% | 17% | 17% | -1% | 13% | 13% | 11% | -10% | 5% | 15% | 8% | 8% |
| iPhone | -4% | -3% | 1% | -2% | 11% | 8% | 15% | 19% | -10% | 5% | 4% | 1% | -16% | -2% | 12% | -2% | -1% |
| iPad | -19% | -10% | 6% | 18% | 8% | 6% | -7% | 4% | -1% | 3% | 0% | 0% | -15% | -4% | 3% | 0% | -9% |
| Mac | 10% | 14% | 11% | 33% | -3% | 0% | -9% | -8% | 3% | 7% | 7% | 0% | -12% | 17% | -5% | 4% | -2% |
| Services | 24% | 20% | 26% | 39% | 19% | 34% | 31% | 19% | 30% | 29% | 29% | 30% | 25% | 27% | 25% | 30% | 27% |
| Other Products | -4% | 36% | 28% | 36% | 38% | 36% | 37% | 38% | 25% | 33% | 38% | 32% | 17% | 19% | 37% | 31% | 19% |
| R&D | 19% | 11% | 15% | 17% | 19% | 22% | 26% | 25% | 19% | 17% | 11% | 10% | 25% | 15% | 23% | 14% | 8% |
| SG&A | 3% | 9% | 10% | 10% | 7% | 12% | 9% | 12% | 10% | 10% | 11% | 10% | -1% | 8% | 10% | 10% | 6% |
| Operating Expenses | 9% | 9% | 12% | 13% | 12% | 16% | 16% | 17% | 14% | 13% | 11% | 10% | 8% | 11% | 15% | 12% | 7% |
| PTOP Margin | -3% | 1% | 7% | 12% | 12% | 13% | 17% | 17% | -5% | 12% | 15% | 11% | -16% | 2% | 14% | 6% | 8% |
| Pretax Margin | -2% | 4% | 8% | 14% | 12% | 10% | 17% | 12% | -6% | 14% | 13% | 12% | -15% | 4% | 13% | 6% | 7% |
| Net Income | -3% | 5% | 12% | 19% | 12% | 25% | 32% | 24% | 8% | 13% | 10% | 12% | -14% | 6% | 21% | 10% | 7% |
| ModelWare EPS | 2% | 10% | 17% | 24% | 16% | 30% | 40% | 33% | 17% | 24% | 20% | 22% | -10% | 11% | 28% | 20% | 17% |
| Sequential Growth (%) | | | | | | | | | | | | | | | | | |
| Revenue | 67% | -32% | -14% | 16% | 68% | -31% | -13% | 15% | 44% | -24% | -14% | 13% | | | | | |
| iPhone | 93% | -39% | -25% | 16% | 113% | -38% | -21% | 17% | 65% | -30% | -24% | 14% | | | | | |
| iPad | 30% | -30% | 28% | -3% | 21% | -30% | 15% | 6% | 16% | -30% | 11% | 9% | | | | | |
| Mac | 26% | -19% | -4% | 28% | -4% | -15% | -9% | 26% | 5% | -15% | -9% | 20% | | | | | |
| Services | 13% | -2% | 3% | 17% | 0% | 8% | 4% | 5% | 8% | 8% | 3% | 6% | | | | | |
| Other Products | 70% | -29% | -5% | 18% | 70% | -28% | -5% | 17% | 54% | -24% | 0% | 13% | | | | | |
| Gross Margin | 69% | -32% | -15% | 14% | 70% | -31% | -13% | 14% | 44% | -22% | -12% | 12% | | | | | |
| iPhone | 94% | -38% | -27% | 12% | 120% | -40% | -22% | 17% | 66% | -30% | -23% | 14% | | | | | |
| iPad | 36% | -31% | 30% | -3% | 24% | -33% | 15% | 8% | 18% | -30% | 11% | 9% | | | | | |
| Mac | 32% | -21% | 0% | 28% | -4% | -19% | -9% | 29% | 7% | -15% | -9% | 20% | | | | | |
| Services | 16% | -4% | 6% | 17% | 0% | 8% | 4% | 6% | 9% | 8% | 4% | 6% | | | | | |
| Other Products | 70% | -28% | -5% | 17% | 72% | -29% | -4% | 18% | 54% | -24% | 0% | 13% | | | | | |
| R&D | 12% | -3% | 6% | 2% | 14% | -1% | 10% | 1% | 8% | -2% | 4% | 1% | | | | | |
| SG&A | 13% | -6% | 2% | 1% | 11% | -2% | -1% | 4% | 9% | -2% | 0% | 3% | | | | | |
| Operating Expenses | 13% | -5% | 3% | 1% | 12% | -1% | 4% | 2% | 9% | -2% | 2% | 2% | | | | | |
| PTOP Margin | 99% | -40% | -24% | 22% | 100% | -40% | -21% | 22% | 63% | -28% | -19% | 18% | | | | | |
| Pretax Margin | 98% | -39% | -23% | 23% | 94% | -40% | -18% | 18% | 63% | -28% | -19% | 17% | | | | | |
| Net Income | 98% | -38% | -21% | 23% | 87% | -31% | -17% | 15% | 63% | -28% | -19% | 17% | | | | | |
| ModelWare EPS | 101% | -38% | -21% | 24% | 88% | -30% | -14% | 18% | 66% | -26% | -17% | 20% | | | | | |
| Revenue Mix | | | | | | | | | | | | | | | | | |
| iPhone | 69% | 63% | 55% | 55% | 70% | 62% | 56% | 57% | 65% | 60% | 53% | 53% | | | | | |
| iPad | 7% | 7% | 11% | 9% | 7% | 7% | 9% | 8% | 7% | 6% | 8% | 8% | | | | | |
| Mac | 9% | 11% | 12% | 14% | 8% | 10% | 10% | 11% | 8% | 9% | 9% | 10% | | | | | |
| Services | 9% | 13% | 16% | 16% | 10% | 15% | 18% | 16% | 12% | 18% | 21% | 20% | | | | | |
| Other Products | 5% | 5% | 6% | 6% | 6% | 6% | 7% | 7% | 8% | 8% | 9% | 9% | | | | | |

Source: Company Data, Morgan Stanley Research

Exhibit 7: Apple Balance Sheet

| (\$ in millions) | 2017A | | | | 2018E | | | | 2019E | | | | 2016A | 2017A | 2018E | 2019E | 2020E |
|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | Dec-16 | Mar-17 | Jun-17 | Sep-17 | Dec-17 | Mar-18 | Jun-18 | Sep-18 | Dec-18 | Mar-19 | Jun-19 | Sep-19 | | | | | |
| Assets | | | | | | | | | | | | | | | | | |
| Current Assets: | | | | | | | | | | | | | | | | | |
| Cash and cash equivalents | 16,371 | 15,157 | 18,571 | 20,289 | 27,491 | 45,059 | 31,971 | 24,573 | 28,906 | 62,973 | 56,353 | 46,378 | 20,484 | 20,289 | 24,573 | 46,378 | 74,749 |
| Short-term investments | 229,719 | 241,684 | 242,945 | 248,606 | 257,606 | 222,167 | 211,772 | 211,772 | 211,772 | 161,772 | 161,772 | 161,772 | 217,101 | 248,606 | 211,772 | 161,772 | 111,772 |
| Accounts receivable | 14,057 | 11,579 | 12,399 | 17,874 | 23,440 | 14,324 | 14,104 | 19,236 | 24,419 | 18,416 | 15,048 | 21,165 | 15,754 | 17,874 | 19,236 | 21,165 | 21,477 |
| Inventories | 2,712 | 2,910 | 3,146 | 4,855 | 4,421 | 7,662 | 5,936 | 6,145 | 7,235 | 4,469 | 3,381 | 3,398 | 2,132 | 4,855 | 6,145 | 3,398 | 3,497 |
| Deferred tax assets | 5,546 | 5,546 | 5,546 | 5,546 | 5,546 | 5,546 | 5,546 | 5,546 | 5,546 | 5,546 | 5,546 | 5,546 | 5,546 | 5,546 | 5,546 | 5,546 | 5,546 |
| Other current assets | 20,565 | 14,854 | 15,025 | 26,189 | 33,250 | 14,581 | 19,205 | 25,631 | 28,909 | 17,451 | 19,205 | 25,631 | 16,282 | 26,189 | 25,631 | 25,631 | 28,434 |
| Total Current Assets | 288,970 | 291,730 | 297,632 | 323,359 | 351,754 | 309,339 | 288,534 | 292,904 | 306,787 | 270,628 | 261,305 | 263,891 | 277,299 | 323,359 | 292,904 | 263,891 | 245,475 |
| Property, Plant & Equipment, net | 26,510 | 27,163 | 29,286 | 33,783 | 33,679 | 35,077 | 38,117 | 38,413 | 39,079 | 40,145 | 41,107 | 42,666 | 27,010 | 33,783 | 38,413 | 42,666 | 46,682 |
| Acquired Intangible Assets | 8,271 | 8,090 | 8,105 | 8,015 | 8,038 | 8,687 | 8,484 | 8,496 | 8,510 | 8,524 | 8,540 | 8,556 | 8,620 | 8,015 | 8,496 | 8,556 | 8,628 |
| Other assets | 7,390 | 7,549 | 10,150 | 10,162 | 13,323 | 14,399 | 14,062 | 14,227 | 13,989 | 15,119 | 14,765 | 14,938 | 8,757 | 10,162 | 14,227 | 14,938 | 15,685 |
| Non-current debt and equity inv | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Fixed Assets | 42,171 | 42,802 | 47,541 | 51,960 | 55,040 | 58,163 | 60,663 | 61,137 | 61,579 | 63,789 | 64,412 | 66,160 | 44,387 | 51,960 | 61,137 | 66,160 | 70,995 |
| Total Assets | 331,141 | 334,532 | 345,173 | 375,319 | 406,794 | 367,502 | 349,197 | 354,040 | 368,366 | 334,417 | 325,717 | 330,050 | 321,686 | 375,319 | 354,040 | 330,050 | 316,470 |
| Liabilities | | | | | | | | | | | | | | | | | |
| Current Liabilities: | | | | | | | | | | | | | | | | | |
| Accounts payable | 38,510 | 28,573 | 31,915 | 49,049 | 62,985 | 34,311 | 38,489 | 47,113 | 62,099 | 37,542 | 39,817 | 48,001 | 37,294 | 49,049 | 47,113 | 48,001 | 50,267 |
| Accrued expenses | 31,628 | 30,778 | 30,912 | 33,292 | 34,325 | 34,531 | 32,587 | 37,566 | 37,087 | 34,044 | 32,518 | 35,987 | 30,107 | 33,292 | 37,566 | 35,987 | 38,881 |
| Current Debt | 13,992 | 13,991 | 18,475 | 18,473 | 18,478 | 20,478 | 17,472 | 17,472 | 17,472 | 17,472 | 17,472 | 17,472 | 11,605 | 18,473 | 17,472 | 17,472 | 17,472 |
| Other current liabilities | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Current Liabilities | 84,130 | 73,342 | 81,302 | 100,814 | 115,788 | 89,320 | 88,548 | 102,151 | 116,658 | 89,058 | 89,807 | 101,460 | 79,006 | 100,814 | 102,151 | 101,460 | 106,619 |
| Non-Current Liabilities | | | | | | | | | | | | | | | | | |
| Long-term debt | 73,557 | 84,531 | 89,864 | 97,207 | 103,922 | 101,362 | 97,128 | 97,128 | 97,128 | 97,128 | 97,128 | 97,128 | 75,427 | 97,207 | 97,128 | 97,128 | 97,128 |
| Deferred revenue - non-current | 3,163 | 3,107 | 2,984 | 2,836 | 3,131 | 3,087 | 2,878 | 2,917 | 3,267 | 3,040 | 3,006 | 2,880 | 2,930 | 2,836 | 2,917 | 2,880 | 2,966 |
| Deferred tax liabilities | 37,051 | 38,620 | 37,748 | 39,565 | 42,904 | 46,005 | 44,844 | 44,844 | 44,844 | 44,844 | 44,844 | 44,844 | 35,224 | 39,565 | 44,844 | 44,844 | 44,844 |
| Other non-current liabilities | 850 | 850 | 850 | 850 | 850 | 850 | 850 | 850 | 850 | 850 | 850 | 850 | 850 | 850 | 850 | 850 | 850 |
| Total Non-Current Liabilities | 114,621 | 127,108 | 131,446 | 140,458 | 150,807 | 151,304 | 145,700 | 145,739 | 146,089 | 145,862 | 145,828 | 145,702 | 114,431 | 140,458 | 145,739 | 145,702 | 145,788 |
| Total Liabilities | 198,751 | 200,450 | 212,748 | 241,272 | 266,595 | 240,624 | 234,248 | 247,890 | 262,746 | 234,919 | 235,635 | 247,162 | 193,437 | 241,272 | 247,890 | 247,162 | 252,407 |
| Series A preferred stock | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Total Shareholder's Equity | 132,390 | 134,082 | 132,425 | 134,047 | 140,199 | 126,878 | 114,949 | 106,151 | 105,619 | 99,497 | 90,082 | 82,888 | 128,249 | 134,047 | 106,151 | 82,888 | 64,063 |
| Total Liabilities and Shareholder's Equity | 331,141 | 334,532 | 345,173 | 375,319 | 406,794 | 367,502 | 349,197 | 354,040 | 368,366 | 334,417 | 325,717 | 330,050 | 321,686 | 375,319 | 354,040 | 330,050 | 316,470 |

Source: Company Data, Morgan Stanley Research

Exhibit 8: Apple Cash Flow Statement

| (\$ in millions) | 2017A | | | | 2018E | | | | 2019E | | | | 2016A | 2017A | 2018E | 2019E | 2020E |
|---|-----------------|-----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | Dec-16 | Mar-17 | Jun-17 | Sep-17 | Dec-17 | Mar-18 | Jun-18 | Sep-18 | Dec-18 | Mar-19 | Jun-19 | Sep-19 | | | | | |
| Cash Flow Statement (Non Cumulative) | | | | | | | | | | | | | | | | | |
| Operating activities: | | | | | | | | | | | | | | | | | |
| Net Income / (Loss) | 17,891 | 11,029 | 8,717 | 10,714 | 20,065 | 13,822 | 11,519 | 13,294 | 21,617 | 15,637 | 12,707 | 14,870 | 45,687 | 48,351 | 58,700 | 64,830 | 69,590 |
| Cumulative effect of accounting change | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Adjustments to reconcile net income: | | | | | | | | | | | | | | | | | |
| Depreciation & Amortization | 2,987 | 2,332 | 2,354 | 2,484 | 2,745 | 2,739 | 2,665 | 3,875 | 3,106 | 2,836 | 2,875 | 2,974 | 10,505 | 10,157 | 12,024 | 11,791 | 13,950 |
| Stock based compensation expense | 1,256 | 1,217 | 1,193 | 1,174 | 1,296 | 1,348 | 1,351 | 1,343 | 1,319 | 1,542 | 1,500 | 1,428 | 4,210 | 4,840 | 5,338 | 5,788 | 5,596 |
| Provision for (benefit from) deferred income taxes | 1,452 | 1,370 | 1,942 | 1,202 | (33,737) | (498) | 1,126 | - | - | - | - | - | 4,938 | 5,966 | (33,109) | - | - |
| Gain on non-current investments, net | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Gain on short-term investments, net | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Unrealized loss on conv. securities | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Loss on sale of PP&E | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Non-cash restructuring | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| In-Process R&D | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Tax benefit from ESO | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Changes in Operating Assets and Liabilities: | | | | | | | | | | | | | | | | | |
| Accounts receivable | 1,697 | 2,486 | (802) | (5,474) | (5,570) | 9,093 | 233 | (5,132) | (5,183) | 6,003 | 3,369 | (6,118) | 1,095 | (2,093) | (1,376) | (1,929) | (312) |
| Inventories | (580) | (198) | (236) | (1,709) | 434 | (3,241) | 1,693 | (209) | (1,090) | 2,766 | 1,089 | (18) | 217 | (2,723) | (1,323) | 2,747 | (98) |
| Other current assets | (1,446) | 550 | (2,333) | (2,089) | (197) | (856) | 988 | (6,426) | (3,278) | 11,458 | (1,754) | (6,426) | (51) | (5,318) | (6,491) | - | (2,803) |
| Other assets | (375) | 4,887 | (1,200) | (7,566) | (9,660) | 19,375 | (4,179) | (165) | 238 | (1,130) | 354 | (173) | 1,090 | (4,254) | 5,371 | (711) | (747) |
| Accounts payable | 2,460 | (9,322) | 1,650 | 14,830 | 14,588 | (27,808) | 2,081 | 8,624 | 14,986 | (24,558) | 2,275 | 8,184 | 1,791 | 9,618 | (2,515) | 888 | 2,265 |
| Deferred revenue | 42 | (263) | (197) | (208) | 791 | (313) | (581) | 39 | 350 | (227) | (33) | (126) | (1,554) | (626) | (64) | (37) | 86 |
| Accrued restructuring costs | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Other current liabilities | 1,672 | (1,565) | (2,725) | 2,298 | 37,538 | 1,469 | (2,408) | 4,979 | (479) | (3,043) | (1,526) | 3,469 | (2,104) | (320) | 41,578 | (1,579) | 2,893 |
| Deferred tax liabilities | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Net Cash Provided by Operating Activities | 27,056 | 12,523 | 8,363 | 15,656 | 28,293 | 15,130 | 14,488 | 20,221 | 31,585 | 11,284 | 20,855 | 18,064 | 65,824 | 63,598 | 78,132 | 81,788 | 90,421 |
| Investing activities: | | | | | | | | | | | | | | | | | |
| Purchase of short-term investments | (54,272) | (45,549) | (23,960) | (35,705) | (41,272) | (7,177) | (7,684) | - | - | - | - | - | (142,428) | (159,486) | (56,133) | - | - |
| Proceeds from maturities of short-term investments | 6,525 | 5,904 | 6,918 | 12,428 | 14,048 | 17,836 | 14,406 | - | - | 50,000 | - | - | 21,258 | 31,775 | 46,290 | 50,000 | 50,000 |
| Proceeds from sales of short-term investments | 32,166 | 28,288 | 16,293 | 17,817 | 16,801 | 22,141 | 2,672 | - | - | - | - | - | 90,536 | 94,564 | 41,614 | - | - |
| Purchases of long-term investments | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Net Proceeds from sale of PP&E | - | - | - | - | - | - | - | 119 | 119 | 124 | 133 | 138 | - | - | 119 | 514 | 592 |
| Purchase of PP&E | (3,334) | (2,975) | (2,277) | (3,865) | (2,810) | (4,195) | (3,267) | (4,176) | (3,779) | (3,914) | (3,860) | (4,560) | (12,734) | (12,451) | (14,448) | (16,113) | (18,126) |
| Cash paid for acquisition of technology | (103) | (90) | (351) | 200 | (154) | (151) | (126) | (126) | (126) | (126) | (126) | (126) | (2,499) | (344) | (557) | (504) | (504) |
| Proceeds from sale of ARM shares | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Other | (104) | 220 | 197 | (817) | (203) | 256 | (2,054) | - | - | - | - | - | (110) | (504) | (2,001) | - | - |
| Net cash used in investing activities | (19,122) | (14,202) | (3,180) | (9,942) | (13,590) | 28,710 | 3,947 | (4,184) | (3,786) | 46,084 | (3,852) | (4,548) | (45,977) | (46,446) | 14,883 | 33,897 | 31,962 |
| Financing activities: | | | | | | | | | | | | | | | | | |
| Proceeds from issuance of common stock | - | 273 | 1 | 281 | - | 327 | 1 | 95 | 86 | 80 | 75 | 71 | 495 | 555 | 423 | 312 | 309 |
| Excess tax benefits from stock-based compensation | 178 | 47 | 309 | 93 | - | - | - | - | - | - | - | - | 407 | 627 | - | - | - |
| Taxes paid related to net share settlement | (629) | (159) | (858) | (228) | (1,038) | (152) | (1,077) | - | - | - | - | - | (1,570) | (1,874) | (2,267) | - | - |
| Dividends and dividend equivalent rights paid | (3,130) | (3,004) | (3,365) | (3,270) | (3,339) | (3,190) | (3,653) | (3,530) | (3,553) | (3,380) | (3,697) | (3,562) | (12,150) | (12,769) | (13,712) | (14,192) | (14,320) |
| Repurchase of common stock | (10,851) | (7,161) | (7,093) | (7,795) | (10,095) | (22,756) | (20,783) | (20,000) | (20,000) | (20,000) | (20,000) | (20,000) | (29,722) | (32,900) | (73,634) | (80,000) | (80,000) |
| Increase (decrease) in long-term borrowing | - | 10,975 | 10,750 | 6,937 | 6,971 | (502) | (6,000) | - | - | - | - | - | 22,454 | 28,662 | 469 | - | - |
| Increase (decrease) in notes payable to banks | 2,385 | (506) | (1,513) | (14) | - | 1 | (11) | - | - | - | - | - | (397) | 352 | (10) | - | - |
| Net Cash used in Financing Activities | (12,047) | 465 | (1,769) | (3,996) | (7,501) | (26,272) | (31,523) | (23,435) | (23,467) | (23,301) | (23,622) | (23,491) | (20,483) | (17,347) | (88,731) | (93,881) | (94,011) |
| Increase/(decrease) in Cash and Cash Equivalents | (4,113) | (1,214) | 3,414 | 1,718 | 7,202 | 17,568 | (13,088) | (7,398) | 4,332 | 34,068 | (6,620) | (9,975) | (636) | (195) | 4,284 | 21,805 | 28,371 |
| Adjustments for restatements | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cash and Cash Equivalents at Beginning of Period | 20,484 | 16,371 | 15,157 | 18,571 | 20,289 | 27,491 | 45,059 | 31,971 | 24,573 | 28,906 | 62,973 | 56,353 | 21,120 | 20,484 | 20,289 | 24,573 | 46,378 |
| Cash and Cash Equivalents at End of Period | 16,371 | 15,157 | 18,571 | 20,289 | 27,491 | 45,059 | 31,971 | 24,573 | 28,906 | 62,973 | 56,353 | 46,378 | 20,484 | 20,289 | 24,573 | 46,378 | 74,749 |

Source: Company Data, Morgan Stanley Research

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(as of July 31, 2018)

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| STOCK RATING CATEGORY | COVERAGE UNIVERSE | | INVESTMENT BANKING CLIENTS (IBC) | | | OTHER MATERIAL INVESTMENT SERVICES CLIENTS (MISC) | |
|--------------------------|-------------------|---------------|----------------------------------|-------------------|----------------------------|---|-------------------------------|
| | COUNT | % OF TOTAL | COUNT | % OF TOTAL IBC | % OF RATING CATEGORY | COUNT | % OF TOTAL OTHER MSC |
| Overweight/Buy | 1164 | 37% | 306 | 41% | 26% | 544 | 38% |
| Equal-weight/Hold | 1347 | 43% | 359 | 48% | 27% | 648 | 46% |
| Not-Rated/Hold | 49 | 2% | 4 | 1% | 8% | 7 | 0% |
| Underweight/Sell | 546 | 18% | 75 | 10% | 14% | 215 | 15% |
| TOTAL | 3,106 | | 744 | | | 1414 | |

Data include common stock and ADRs currently assigned ratings. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months. Due to rounding off of decimals, the percentages provided in the "% of total" column may not add up to exactly 100 percent.

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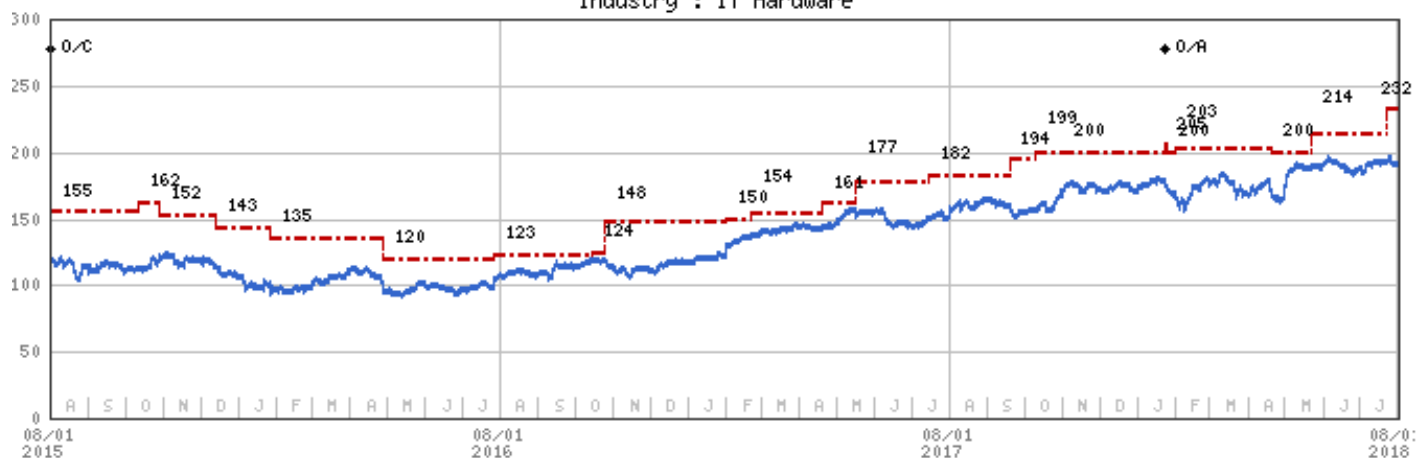
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Stock Price, Price Target and Rating History (See Rating Definitions)

Apple, Inc. (AAPL.O) - As of 7/31/18 in USD
Industry : IT Hardware



Stock Rating History: 8/1/15 : 0/C; 1/23/18 : 0/A

Price Target History: 7/22/15 : 155; 10/11/15 : 162; 10/28/15 : 152; 12/13/15 : 143; 1/26/16 : 135;
4/27/16 : 120; 7/26/16 : 123; 10/14/16 : 124; 10/25/16 : 148; 1/31/17 : 150; 2/21/17 : 154; 4/19/17 : 161;
5/17/17 : 177; 7/16/17 : 182; 9/19/17 : 194; 10/10/17 : 199; 11/2/17 : 200; 1/23/18 : 205; 1/25/18 : 200;
2/1/18 : 203; 4/20/18 : 200; 5/23/18 : 214; 7/23/18 : 232

Source: Morgan Stanley Research Date Format: MM/DD/YY Price Target -- No Price Target Assigned (NA)
Stock Price (Not Covered by Current Analyst) — Stock Price (Covered by Current Analyst) —
Stock and Industry Ratings (abbreviations below) appear as + Stock Rating/Industry View
Stock Ratings: Overweight (O) Equal-weight (E) Underweight (U) Not-Rated (NR) No Rating Available (NA)
Industry View: Attractive (A) In-line (I) Cautious (C) No Rating (NR)

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INDUSTRY COVERAGE: IT Hardware

| COMPANY (TICKER) | RATING (AS OF) | PRICE* (07/31/2018) |
|--------------------------------------|----------------|---------------------|
| Katy L. Huberty, CFA | | |
| Apple, Inc. (AAPL.O) | O (05/26/2009) | \$190.29 |
| CDW Corporation (CDW.O) | E (08/06/2013) | \$84.09 |
| Electronics for Imaging Inc (EFII.O) | U (08/03/2017) | \$34.12 |
| Hewlett Packard Enterprise (HPE.N) | O (01/23/2018) | \$15.44 |
| HP Inc. (HPQ.N) | E (01/23/2018) | \$23.08 |
| IBM (IBM.N) | O (02/18/2016) | \$144.93 |
| NCR Corp. (NCR.N) | E (09/25/2011) | \$27.92 |
| NetApp Inc (NTAP.O) | E (01/23/2018) | \$77.52 |
| Nutanix Inc (NTNX.O) | E (05/10/2017) | \$48.89 |
| Pure Storage Inc (PSTG.N) | E (05/18/2017) | \$21.66 |
| Seagate Technology (STX.O) | O (04/09/2018) | \$52.62 |
| Teradata (TDC.N) | E (01/23/2018) | \$38.29 |
| Xerox Corp (XRX.N) | ++ | \$25.97 |
| Yuuji Anderson | | |
| Fitbit Inc (FIT.N) | U (04/01/2018) | \$5.93 |
| Garmin Ltd (GRMN.O) | E (01/07/2015) | \$62.45 |
| GoPro Inc (GPRO.O) | U (01/23/2018) | \$5.84 |

Stock Ratings are subject to change. Please see latest research for each company.

* Historical prices are not split adjusted.