September 22, 2015

ACTION

Buy

Apple Inc. (AAPL)

Return Potential: 41%

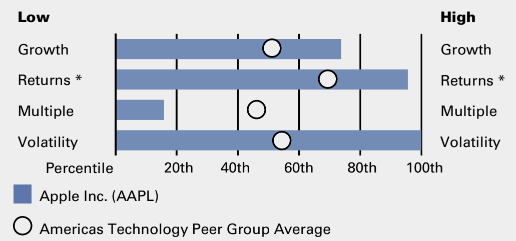
Equity Research

Assume at Buy: iPhone, iPad, IoT – three reasons to own the stock

Source of opportunity

We assume coverage of Apple (Buy) from Bill Shope and the stock now sits in our Consumer Hardware and Mobility sector (Attractive coverage view) from IT Hardware/Systems sector (Cautious coverage view). We see meaningful upside to consensus estimates in FY16 (Sep) on higher units and ASPs for both the iPhone and iPad product cycles, with our FY16 revenue/EPS estimates 5%/6% ahead of the Street. Given low market expectations, we think an upward estimate revision cycle will likely propel the stock higher. Longer term, we see the move to the Internet of Things (IoT) as adding significant value to Apple's platform and ecosystem, given the premium it places on privacy and security.

Investment Profile



* Returns = Return on Capital. For a complete description of the investment profile measures please refer to the disclosure section of this document.

Catalyst

Consensus expectations for the iPhone 6s product cycle, which kicks off this Friday, are low, with the Street modeling flat iPhone revenues in FY16 after a 51% surge with the iPhone 6 cycle in FY15. By comparison, we model 6% iPhone revenue growth (+7% units and -1% ASPs) in FY16, as our replacement cycle model shows that units can grow just on the strength of upgrades in the installed base, even with declining gross adds. We model the current iPhone installed base at 457mn, up 32% yoy, and we find a 90%+ correlation between growth in the installed base and growth in upgrades. We also see flattish ASPs, as the mix shift to higher-capacity SKUs (to hold live photos) and higher-priced older models offsets moderating FX headwinds. For the iPad, we are 14% above consensus FY16 revenues, as we expect the iPad Pro to drive a consumer refresh, expansion into enterprise, and higher ASPs. Our US consumer survey showed the iPad as the top consumer electronics item for the holidays, with a very strong showing for the iPhone as well.

Key data	Current
Price ($)	115.21
12 month price target ($)	163.00
Market cap ($ mn)	665,118.7

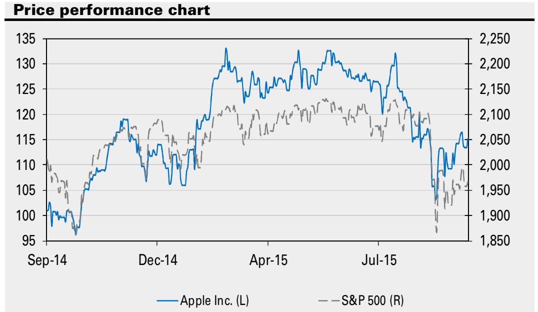
	9/14	9/15E	9/16E	9/17E
Revenue ($ mn) New	**182,795.0**	**233,279.9**	**256,776.1**	**285,573.6**
Revenue ($ mn) Old	182,795.0	232,296.4	251,420.0	272,159.2
EPS ($) New	**6.45**	**9.10**	**10.39**	**12.22**
EPS ($) Old	6.45	9.09	10.65	11.83
P/E (X)	13.0	12.7	11.1	9.4
EV/EBITDA (X)	6.5	6.4	5.3	4.2
ROE (%)	33.6	45.1	43.5	40.7

	6/15	9/15E	12/15E	3/16E
EPS ($)	1.85	1.84	3.37	2.62

Valuation

Our 12-month price target of $163 is based on 15X our CY16E EPS of $10.87.

Price performance chart



Key risks

Product cycle execution or delays, supply chain difficulties, price competition or erosion, a slower pace of product innovation.

Share price performance (%)	3 month	6 month	12 month
Absolute	(9.0)	(8.5)	14.1
Rel. to S&P 500	(2.4)	(1.9)	16.6

Source: Company data, Goldman Sachs Research estimates, FactSet. Price as of 9/21/2015 close.

INVESTMENT LIST MEMBERSHIP
Americas Buy List
GS SUSTAIN Focus List

Coverage View: Attractive

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Apple Inc.: Summary Financials

Profit model ($ mn)	9/14	9/15E	9/16E	9/17E
Total revenue	182,795.0	233,279.9	256,776.1	285,573.6
Cost of goods sold	(112,258.0)	(140,524.5)	(155,033.4)	(170,862.8)
SG&A	(11,993.0)	(14,402.9)	(16,307.3)	(17,620.3)
R&D	(6,041.0)	(7,889.6)	(8,706.9)	(9,619.4)
Other operating profit/(expense)	0.0	0.0	0.0	0.0
ESO expense	--	--	--	--
EBITDA	**60,449.0**	**81,684.9**	**89,064.5**	**99,807.1**
Depreciation & amortization	(7,946.0)	(11,222.0)	(12,336.0)	(12,336.0)
EBIT	**52,503.0**	**70,462.9**	**76,728.5**	**87,471.1**
Net interest income/(expense)	980.0	1,142.3	1,169.3	1,171.3
Income/(loss) from associates	0.0	0.0	0.0	0.0
Others	0.0	0.0	0.0	0.0
Pretax profits	**53,483.0**	**71,605.2**	**77,897.8**	**88,642.4**
Provision for taxes	(13,973.0)	(18,905.0)	(20,487.1)	(23,313.0)
Minority interest	0.0	0.0	0.0	0.0
Net income pre-preferred dividends	**39,510.0**	**52,700.2**	**57,410.7**	**65,329.5**
Preferred dividends	0.0	0.0	0.0	0.0
Net income (pre-exceptionals)	**39,510.0**	**52,700.2**	**57,410.7**	**65,329.5**
Post tax exceptionals	0.0	0.0	0.0	0.0
Net income (post-exceptionals)	**39,510.0**	**52,700.2**	**57,410.7**	**65,329.5**
EPS (basic, pre-except) ($)	**6.49**	**9.16**	**10.47**	**12.32**
EPS (diluted, pre-except) ($)	**6.45**	**9.10**	**10.39**	**12.22**
EPS (basic, post-except) ($)	**6.49**	**9.16**	**10.47**	**12.32**
EPS (diluted, post-except) ($)	**6.45**	**9.10**	**10.39**	**12.22**
Common dividends paid	(11,126.0)	(11,549.7)	(12,061.6)	(12,839.0)
DPS ($)	1.81	1.98	2.18	2.40
Dividend payout ratio (%)	27.9	21.6	20.9	19.5

Growth & margins (%)	9/14	9/15E	9/16E	9/17E
Sales growth	7.0	27.6	10.1	11.2
EBITDA growth	8.4	35.1	9.0	12.1
EBIT growth	7.2	34.2	8.9	14.0
Net income (pre-except) growth	6.7	33.4	8.9	13.8
EPS growth	13.5	41.2	14.3	17.6
Gross margin	38.6	39.8	39.6	40.2
EBITDA margin	33.1	35.0	34.7	34.9
EBIT margin	28.7	30.2	29.9	30.6

Cash flow statement ($ mn)	9/14	9/15E	9/16E	9/17E
Net income	39,510.0	52,700.2	57,410.7	65,329.5
D&A add-back (incl. ESO)	7,946.0	11,222.0	12,336.0	12,336.0
Minority interest add-back	0.0	0.0	0.0	0.0
Net (inc)/dec working capital	7,047.0	4,000.2	1,477.6	2,335.6
Other operating cash flow	5,210.0	6,283.8	3,520.8	4,078.0
Cash flow from operations	**59,713.0**	**74,206.2**	**74,745.1**	**84,079.1**
Capital expenditures	(9,571.0)	(11,714.3)	(13,152.7)	(14,043.6)
Acquisitions	(4,007.0)	(581.0)	(600.0)	(600.0)
Divestitures	0.0	0.0	0.0	0.0
Others	(9,001.0)	(48,819.0)	(7,920.0)	(27,920.0)
Cash flow from investing	**(22,579.0)**	**(61,114.3)**	**(21,672.7)**	**(42,563.6)**
Dividends paid (common & pref)	(11,126.0)	(11,549.7)	(12,061.6)	(12,839.0)
Inc/(dec) in debt	18,266.0	21,504.0	2,500.0	2,500.0
Other financing cash flows	(44,689.0)	(34,224.0)	(29,600.0)	(19,600.0)
Cash flow from financing	**(37,549.0)**	**(24,269.7)**	**(41,661.6)**	**(33,439.0)**
Total cash flow	**(415.0)**	**(11,177.8)**	**11,410.8**	**8,076.4**

Balance sheet ($ mn)	9/14	9/15E	9/16E	9/17E
Cash & equivalents	13,844.0	2,666.2	14,077.0	22,153.5
Accounts receivable	17,460.0	18,180.2	20,881.1	24,726.7
Inventory	2,111.0	2,537.4	2,740.8	3,149.5
Other current assets	35,116.0	47,423.9	50,034.0	54,826.7
Total current assets	**68,531.0**	**70,807.7**	**87,732.9**	**104,856.5**
Net PP&E	20,624.0	22,150.3	22,966.9	24,674.6
Net intangibles	4,142.0	3,829.0	4,029.0	4,229.0
Total investments	130,162.0	170,145.0	178,145.0	206,145.0
Other long-term assets	8,380.0	9,205.0	9,525.0	9,845.0
Total assets	**231,839.0**	**276,137.0**	**302,398.8**	**349,750.1**
Accounts payable	30,196.0	32,287.7	35,404.2	40,380.8
Short-term debt	6,308.0	6,999.0	7,999.0	10,499.0
Other current liabilities	26,944.0	31,713.2	32,304.5	32,994.6
Total current liabilities	**63,448.0**	**70,999.9**	**75,707.8**	**83,874.5**
Long-term debt	28,987.0	49,419.0	48,419.0	44,919.0
Other long-term liabilities	27,857.0	33,570.6	36,433.5	41,693.6
Total long-term liabilities	**56,844.0**	**82,989.6**	**84,852.5**	**86,612.6**
Total liabilities	**120,292.0**	**153,989.6**	**160,560.2**	**170,487.1**
Preferred shares	**0.0**	**0.0**	**0.0**	**0.0**
Total common equity	**111,547.0**	**122,147.4**	**141,838.6**	**179,263.0**
Minority interest	**0.0**	**0.0**	**0.0**	**0.0**
Total liabilities & equity	**231,839.0**	**276,137.0**	**302,398.8**	**349,750.1**

Additional financials	9/14	9/15E	9/16E	9/17E
Net debt/equity (%)	(107.5)	(111.2)	(109.4)	(107.3)
Interest cover (X)	136.7	100.9	92.4	105.6
Inventory days	6.3	6.0	6.2	6.3
Receivable days	30.5	27.9	27.8	29.1
BVPS ($)	19.02	21.85	26.49	34.48
ROA (%)	18.0	20.7	19.8	20.0
CROCI (%)	31.5	34.1	29.7	29.0
Dupont ROE (%)	**35.4**	**43.1**	**40.5**	**36.4**
Margin (%)	21.6	22.6	22.4	22.9
Turnover (X)	0.8	0.8	0.8	0.8
Leverage (X)	2.1	2.3	2.1	2.0
Free cash flow per share ($)	8.24	10.87	11.24	13.21
Free cash flow yield (%)	9.8	9.4	9.8	11.5

Note: Last actual year may include reported and estimated data.

Source: Company data, Goldman Sachs Research estimates.

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Contents

PM Summary: iPhone, iPad, IoT – three reasons to own the stock

We see meaningful upside potential to consensus estimates into FY16 (Sep) on upside from the iPhone and iPad, in particular relative to low market expectations given difficult comps.

iPhone: We model 7% upside relative to consensus revenue estimates for FY16, on 5% unit upside and 2% ASP upside. Our view is driven by the following:

1. **Our replacement cycle analysis** suggests that upgrades alone can drive upside and do not require growth in new adds; we estimate Apple's iPhone installed base is up 32% yoy, and growth in upgrades is 90%+ correlated to growth in the installed base. Our assumed upgrade rate is lower yoy despite tailwinds from new installment plans.
2. **Our ASP mix analysis** suggests that while FX headwinds persist into 2016, they will likely be offset by a positive mix shift toward a) higher storage capacity models, as "live photos" take twice as much space, and b) higher ASPs for the year-ago models.

iPad: We model 14% upside to consensus revenue estimates for FY16 on the following factors:

1. Diminishing Mini drag, as Mini units are a third of the total iPad units post this year's decline.
2. A consumer refresh cycle and expansion into enterprise, driven by the iPad Pro.
3. A significant increase in ASPs on fewer Mini and more Pro units in the mix.

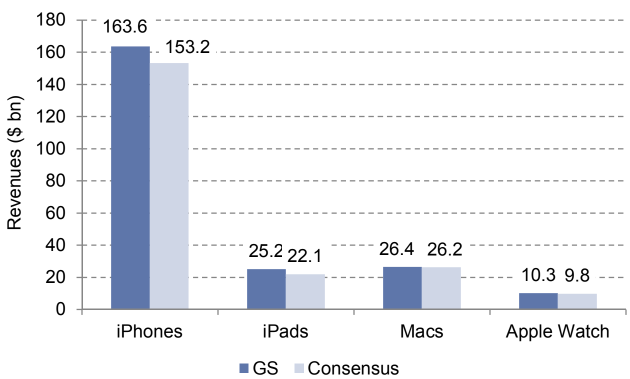
Well positioned for the IoT era: Longer-term, we see the move to IoT as a multi-year tailwind for Apple's iPhone market share and the value of its broader ecosystem. With IoT, the smartphone is becoming the gatekeeper to one's home, car, health, and bank account (kids and pets, too) – which further increases its value and places a premium on security and privacy – key areas where Apple differentiates vs. ad-based models such as Google.

Exhibit 1: Summary of GS estimates vs consensus and company guidance

FY ends in September	Sep-15E	Dec-15E	Mar-16E	FY2015E	FY2016E	FY2017E
Revenue ($ mn)						
GS	51,066	80,360	63,718	233,280	256,776	285,574
Consensus	50,929	76,309	60,342	233,115	243,994	260,309
Guidance	$49-51bn					
EPS						
GS (GAAP)	$1.84	$3.37	$2.62	$9.10	$10.39	$12.22
Consensus	1.87	3.19	2.44	9.12	9.78	10.85

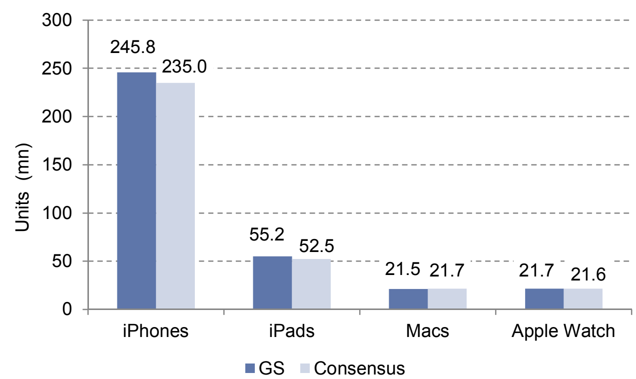
Source: Company data, FactSet, Goldman Sachs Global Investment Research.

Exhibit 2: FY16E revenues – GS vs Consensus



Source: Company data, FactSet, Goldman Sachs Global Investment Research.

Exhibit 3: FY16E units – GS vs Consensus



Source: Company data, FactSet, Goldman Sachs Global Investment Research.

Our 12-month price target of $163 is based on a 15X CY16E P/E multiple. This implies 13X on an ex-cash basis. In addition to upward Street estimate revisions around a strong iPhone 6s product cycle and iPad stabilization, we expect the stock's multiple expansion to be driven by a shift in market focus from the maturing smartphone trend to the emerging IoT trend.

Exhibit 4: Apple Valuation Table
Apple valuation comp table

Apple Valuation Table		GS Stock	Shares	Price	Market	CY15-17	CY16	P/E ex-cash		P/E		EV/Sales		FCF Yield	
	Ticker	Rating	O/S (mn)	9/18/15	Cap ($mn)	EPS CAGR	PEG	CY15E	CY16E	CY15E	CY16E	CY15E	CY16E	CY15E	CY16E
Apple Inc.	**AAPL**	**Buy**	**5,773.1**	**$113.45**	**$654,958**	**16%**	**0.6 x**	**9.3 x**	**8.0 x**	**12.1 x**	**10.4 x**	**2.1 x**	**1.9 x**	**8.3%**	**9.9%**
CommTech/Hardware*															
Cisco Systems Inc.	CSCO	Buy**	5,131.0	$25.54	$131,046	6%	2.1 x	10.8 x	10.2 x	13.7 x	12.9 x	1.9 x	1.8 x	9.7%	9.5%
Qualcomm Inc.	QCOM	Buy	1,629.0	$54.45	$88,699	37%	0.3 x	14.1 x	8.9 x	17.7 x	11.5 x	2.7 x	2.8 x	5.9%	9.1%
EMC Corp.	EMC	Buy	1,947.0	$24.09	$46,903	13%	0.9 x	10.9 x	9.6 x	12.9 x	11.4 x	1.6 x	1.5 x	7.7%	10.9%
IBM	IBM	Neutral	973.4	$144.51	$140,662	5%	1.7 x	11.3 x	11.0 x	9.3 x	9.0 x	2.1 x	2.1 x	9.2%	9.3%
Hewlett-Packard Co.	HPQ	Neutral	1,828.0	$26.54	$48,515	NA	NA	8.6 x	8.4 x	7.3 x	7.2 x	0.6 x	0.6 x	6.3%	10.6%
Median						9%	1.3 x	10.9 x	9.6 x	12.9 x	11.4 x	1.9 x	1.8 x	7.7%	9.5%
Other															
Facebook Inc.	FB	Buy	2,850.0	$94.40	$269,040	25%	3.6 x	100.9 x	86.2 x	106.5 x	90.9 x	15.1 x	11.5 x	1.9%	2.4%
Google Inc.	GOOGL	Buy **	690.9	$660.92	$456,615	22%	1.0 x	23.3 x	19.0 x	27.1 x	22.2 x	6.5 x	5.6 x	3.1%	3.8%
Amazon.com Inc.	AMZN	Buy **	473.8	$540.26	$255,967	173%	0.7 x	440.5 x	113.5 x	NA	114.4 x	2.4 x	2.0 x	1.9%	2.4%
Microsoft Corp.	MSFT	Sell	8,131.0	$43.48	$353,536	5%	3.5 x	13.9 x	13.5 x	16.8 x	16.3 x	3.2 x	3.2 x	7.1%	7.9%
Median						23%	2.3 x	62.1 x	52.6 x	27.1 x	56.6 x	4.9 x	4.4 x	2.5%	3.1%
Total Group Median						17%	1.4 x	13.9 x	11.0 x	15.3 x	12.9 x	2.4 x	2.1 x	6.3%	9.1%

* large cap
**Conviction Buy List
Note: EPS CAGR, PEG, P/E ex-cash, P/E are GAAP based

Source: Company data, FactSet, Goldman Sachs Global Investment Research.

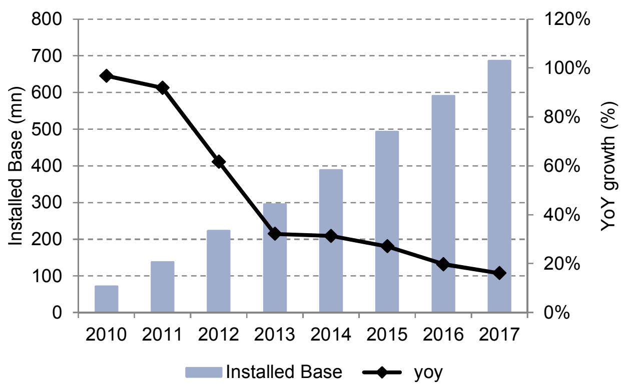
iPhone set to deliver upside

Powerful upgrade cycle should continue in 2016 (year 2)

We model 7% upside to consensus revenue estimates for FY16, on 5% unit upside and 2% ASP upside. On an absolutely basis, we model 6% iPhone revenue growth (+7% units and -1% ASPs) in FY16. Our view is driven by 1) our replacement cycle analysis, 2) potential mix shift benefits, and 3) strong survey results of 1,000 US consumers.

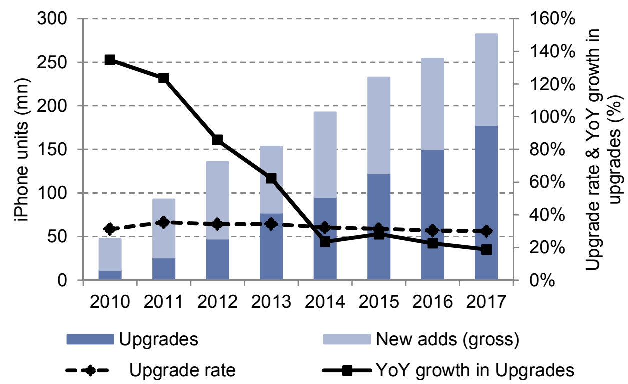
We estimate that the iPhone shipments are driven roughly 50-50 by upgrades and new customer adds. We also estimate that the iPhone installed base grew 31% in 2014 and will grow another 27% in 2015, driving 28% growth in upgrades in 2015 and 23% in 2016E, as we estimate a 90%+ correlation between yoy growth in the installed base and in upgrades. Our estimated units in 2016 assume a decline in the upgrade rate from 31% to 30% - despite tailwinds from installment plans – and a 6% decline in gross new additions (adds). Furthermore, while FX headwinds persist into 2016, we think they'll be offset by a positive mix shift toward a) higher storage capacity models, as "live photos" take twice as much space, and b) higher ASPs for the year-ago models. Finally, as we discuss in the Survey implications section on page 12, 12% of respondents expect to upgrade to the iPhone 6s/6s Plus in the next three months, implying a stronger-than-expected replacement rate.

Exhibit 5: Expect strong growth in the installed base…
iPhone installed base (mn units)



Source: Company data, IDC, Goldman Sachs Global Investment Research.

Exhibit 6: …to drive year 2 of a big replacement cycle
iPhone upgrades and gross new adds (mn units)



Source: Company data, IDC, Goldman Sachs Global Investment Research.

New installment & lease plans should help unit growth

Apple's new installment plan pricing and lease plans should benefit both the iPhone's replacement cycle and its competitive positioning vs Samsung.

Installment plans could help shorten the replacement cycle – By moving to an installment plan with the launch of the iPhone 6s/6s Plus, Apple lowers the "out the door" price of getting an iPhone, and incentivizes consumers to upgrade every 12 months as opposed to the traditional two-year upgrade cycle based on contracts. Effectively, this allows Apple to monetize consumers who are willing to pay a premium to always have the latest iPhone. In addition, Apple's installment plan starting at $32/month puts competitive pressure on carriers to offer similar plans, helping to shorten the iPhone upgrade cycle more broadly across the industry. As shown in Exhibit 7, Apple's installment plan is very competitive with those available from the major US carriers. Indeed, when adjusted for the price of insurance and protection, Apple's plan is cheaper than those of the carriers.

Exhibit 7: Apple's iPhone Upgrade Program should help shorten the replacement cycle
Comparison of Apple's iPhone Upgrade Program with carriers' installment plans

Model	Company	Plan	Upgrade Optionality (months)	Price ($ per month)	Insurance/Protection Plan	Insurance/Protection ($ per month)	Total price ($ per month)
16 GB 6s	Apple	iPhone Upgrade Program	12	$32.45	AppleCare+	$5.38 (included)	$32.45
	AT&T	AT&T Next 12	12	$32.50	AT&T Mobile Insurance	$6.99	$39.49
	Verizon	Verizon Edge	24	$27.08	Total Mobile Protection	$11.00	$38.08
	T-Mobile (1)	JUMP! On Demand	Anytime	$27.08	Premium Handset protection with Lookout	$10.00	$37.08
16 GB 6s Plus	Apple	iPhone Upgrade Program	12	$37.45	AppleCare+	$5.38 (included)	$37.45
	AT&T	AT&T Next 12	12	$37.50	AT&T Mobile Insurance	$6.99	$44.49
	Verizon	Verizon Edge	24	$31.24	Total Mobile Protection	$11.00	$42.24
	T-Mobile (1)	JUMP! On Demand	Anytime	$31.25	Premium Handset protection with Lookout	$10.00	$41.25

(1) Max 3 times a year
AppleCare+ doesn't cover loss or theft. Carriers' insurane/protection covers loss or theft

Source: Company data.

iPhone lease plans help Apple's competitive position – In addition to the installment plan option, some carriers such as Sprint offer lease options for purchasing an iPhone ("iPhone Forever"). These plans imply that the iPhone has a higher residual value and resale/refurbished value compared to other vendors. This is evident from the fact that the iPhone is more expensive to buy, but cheaper to lease from carriers. We compare the cost of iPhone 6s Plus (16 GB) and Samsung Galaxy S6 Edge plus (32 GB) on a two-year leasing plan from Sprint in Exhibit 8. If a customer leases the iPhone, s/he ends up paying $600, or only 80% of the full price of the phone in two years, lower than the 91% of full price ($720) of the Samsung phone.

We believe this helps iPhone maintain its competitive position for two reasons. First, it lowers the up-front price of getting an iPhone under a lease relative to other vendors' products; and second, it allows Apple to indirectly capture the lower-end of the market through resold/refurbished phones, without having to directly introduce lower-end SKUs.

Exhibit 8: iPhone cheaper to lease due to higher residual value
Comparison of leasing costs for Samsung Galaxy S6 Edge+ vs. iPhone 6s Plus at Sprint

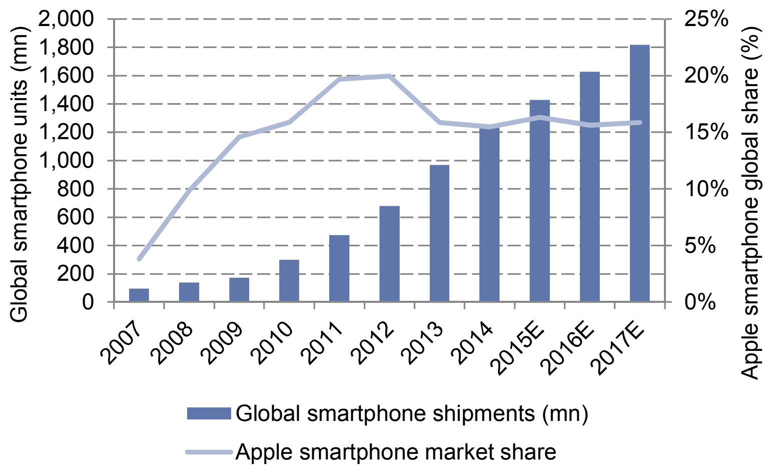
Sprint	Samsung Galaxy S6 edge plus (32GB)	Apple iPhone 6s Plus (16 GB)
Montly Installment on 24 month lease	$30.00	$25.00
24 months price paid	$720.00	$600.00
No contract price	$792.00	$749.00
% of full price paid on 2-year lease	**91%**	**80%**

Source: Company Data.

Global smartphone market and Apple market share

Our unit estimates, as detailed above, imply that Apple will maintain its global market share of about 16% going forward, growing units at a 14% CAGR from 2014-17, compared to 27% CAGR from 2011-14. As part of our global handset model, we forecast smartphone unit growth at 15%, 14%, and 12% in 2015, 2016, and 2017, respectively. We expect developed market smartphone units to grow at a 4% CAGR over that period, compared to a 17% CAGR for emerging markets.

Exhibit 9: We expect Apple to maintain global market share of ~16% going forward
Global smartphone shipments (mn units); Apple's smartphone market share (%)



Source: Gartner, Company data, Goldman Sachs Global Investment Research.

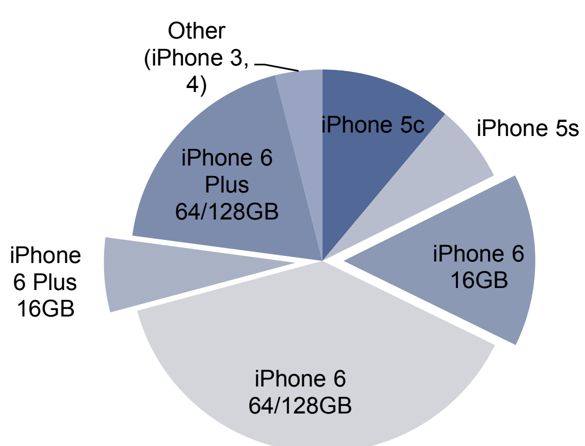
ASPs benefiting from a positive mix shift that should offset FX

In addition to being 5% above consensus on iPhone units, our estimates are 2% above consensus for iPhone ASPs (GSe -0.5% vs. consensus -2.2%), as we expect a mix-shift to larger storage capacity SKUs and higher-priced year-ago models to offset FX headwinds.

Given the upgraded camera and video capabilities of the iPhone 6s/6s Plus, we expect more consumers to choose the 64GB version, resulting in a favorable mix shift. We estimate that approximately 25% of iPhone 6/6 Plus units were 16GB over the past year. Further, our analysis suggests that *every incremental 5% of units that shift from 16GB to 64GB represents a $4 or 0.6% yoy increase to total iPhone ASPs*, all else equal. This only assumes that a user moves from 16GB to 64GB, a $100 increase. If the entire 25% of these units up-converted to 128GB (i.e., a $200 incremental price raise), it would raise blended ASPs by $38 or nearly 6% yoy.

The iPhone 6s and 6s Plus feature upgraded photo & video capabilities (12MP and 4K video, respectively, up from 8MP and 1080p HD previously). There is only about 12GB of usable space on a 16GB iPhone, after factoring in formatting and the operating system (this excludes any apps). We estimate the 16GB variant 6s/6s Plus can only store about 3,000 photos, or about half that when using the ‘Live Photo’ function (which captures a three-second video for each image). Similarly, a little over 35 minutes of 4K video would consume the storage capacity on a 16GB version (one minute of 4K video takes up about 300MB of space). As a result, we expect these features will likely prompt consumers to buy at least the 64GB version. Users of 16GB will likely become reliant principally on iCloud for storing their media.

Exhibit 10: We estimate 16GB represented about 25% of iPhone 6/6 Plus units, or 21% of total units, over the past year
Estimated iPhone unit mix from 4QCY14-2QCY15



Source: IDC, Company data, Goldman Sachs Global Investment Research.

Exhibit 11: We estimate that every 5% shift from the 16GB version will result in >0.6% yoy increase to ASPs
Estimated impact from 16GB to 64GB upgrade on ASPs

Storage mix analysis	Value
Current ASP	$672
5 that upgrades storage	5%
% on 6s/6s Plus	75%
$ difference on upgrade	$100
New ASP (incl storage upgrade mix)	676
yoy change	0.6%

Source: Goldman Sachs Global Investment Research.

New iPhone line-up prices suggest ASP benefit – With the announcement of the iPhone 6s/6s Plus, the company also refreshed its portfolio of available older models. Compared to year-ago older models, the 5s, 6, and 6 Plus all have higher price points. Effectively, the 5s is now the lowest-end SKU at $450/500 vs. the 5c previously at $450, while the iPhone 6 and 6 Plus are available at $550/650/750 as the next-up option vs. the 5s previously at $550/600. We estimate this equates to about a 2% yoy tailwind to ASPs, if we assume a similar mix of new vs. old models in the next cycle as we saw in the last one.

Exhibit 12: We estimate the new iPhone line-up prices to benefit blended ASPs
ASP analysis for the existing vs. the new iPhone line-up

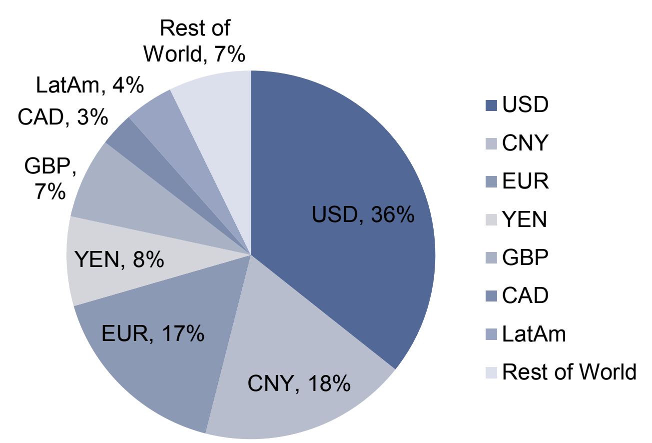
	Old pricing	Mix	New pricing	ASP	Mix
iPhone 5c	450	11%			
iPhone 5s	550/600	7%	450/500	460	10%
iPhone 6	650/750/850	53%	550/650	560	7%
iPhone 6 Plus	750/850/950	25%	650/750	660	8%
iPhone 6s			650/750/850	710	50%
iPhone 6s Plus			750/850/950	760	25%
Blended ASP	$672	(C4Q14-C2Q15)		$683	
			yoy change	**2%**	

Source: IDC, Goldman Sachs Global Investment Research.

Expect FX headwinds to mitigate in 2016

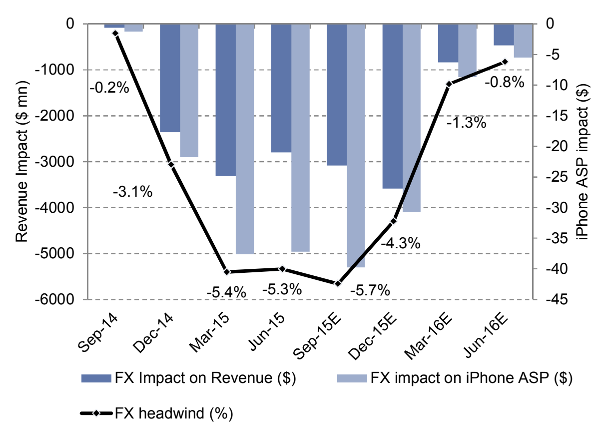
We expect a continued, but diminishing, headwind to revenues from FX in 2016. Assuming current rates hold level, we estimate a -1% headwind to revenues and ASPs in CY16 vs. estimated -5% impact in CY15, all else being equal (e.g., hedges). We believe there may be some lag in terms of any cost benefit from recent Yuan devaluation (as contracts are based in USD). From an opex standpoint, we believe Apple benefits from strengthening of the USD; however, the impact is insufficient to fully offset the negative impact on revenues in absolute terms.

Exhibit 13: Foreign currency exposure (% of sales), CY14



Source: Company data, Goldman Sachs Global Investment Research.

Exhibit 14: We estimate diminishing FX headwinds
FX impact on total revenues ($), iPhone ASP ($) and % terms



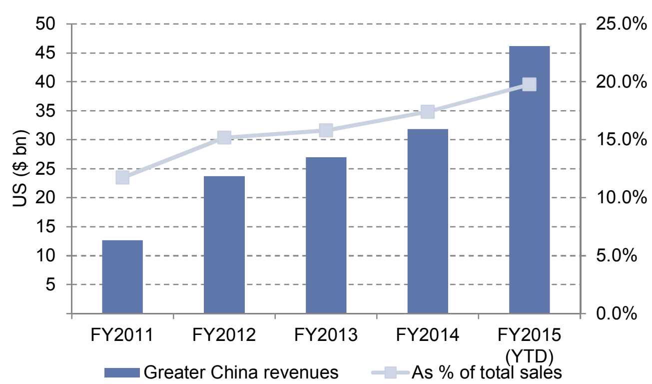
Source: Company data, Goldman Sachs Global Investment Research.

Expect Apple to continue its growth in China driven by strong iPhone 6s cycle, expanding retail presence, and socio-economic trends of Millennials

At 25% of total sales, China's relevance for Apple continues to rise. Revenue from China is up 81% in FY15 (YTD) compared to 18% growth in other combined regions. After the recent macro concerns and Yuan devaluation in China, Apple's CEO Tim Cook reassured investors on 8/24 via CNBC's Jim Cramer: "We have continued to experience strong growth for our business in China through July and August. Growth in iPhone activations has actually accelerated over the past few weeks, and we have had the best performance of the year for the App Store in China during the last two weeks." We believe Apple will continue its strong growth in China driven by following factors:

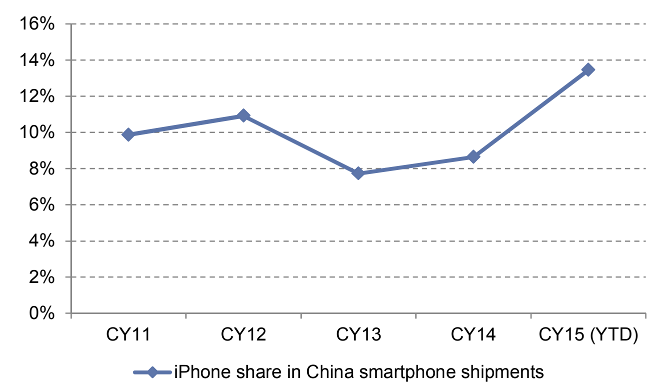
- **iPhone 6s launch in China earlier than the iPhone 6 –** Apple has included China in the initial roster of countries with iPhone availability at launch for the first time with the iPhone 6s. The new iPhones will be available from September 25th in China, compared to availability of the iPhone 6 and 6 Plus in China from October 17th 2014. We believe the three-week earlier launch will result in better yoy comparison for 4QFY15 (Sep-15) and 1QFY16 (Dec-15). Last week, Re/code and an iPhone Inventory blog reported that wait times for the iPhone 6s and 6s Plus were running at 2-3 weeks and 3-4 weeks on the first day of pre-orders.
- **Expanding retail presence –**Apple is investing significantly in China to rapidly increase its retail presence and online distribution capabilities. It currently has 22 stores in China is on track to expand to 40 stores by mid-2016. It has a reach of 365 cities through online distribution with two-day delivery.

Exhibit 15: Apple's revenues in Greater China are up 81%in FY15 (YTD)
Apple's Greater China revenues as a % of total sales



Source: Company data.

Exhibit 16: iPhone share in China increasing
iPhone share in China smartphone shipments (%)



Source: Gartner.

Please refer to the 9/8/2015 report, *The Asian Consumer: Chinese Millennials,* by our APAC Consumer & Retail analyst Joshua Lu for further details on Chinese Millennials.

- **Chinese Millennials to counter macro headwinds –** We expect demographic and socio-economics trends to also be a tailwind for Apple in China. In a recent comprehensive report on Chinese Millennials, GS APAC Consumer and Retail analysts highlighted that Chinese Millennials disproportionately spend on smartphones, along with fashion accessories and travel. Chinese consumers spend 11% of their personal consumption expenditure on mobility and connectivity (includes smartphones, internet and cars). Millennials upgrade their smartphones every 1-2 years and spend up to 30 hours a week on the device, often during long commutes. Moreover, the report stated that Millennials view the quality of the phone as a badge of belonging and necessary for keeping up with trends. Millennials comprise 31% of China's population, or 415mn, and are larger than the working population of the US and Western Europe combined. These Millennials, born in 1980s and 1990s, are entering their prime consumption years and have average annual income of $5,900. Our analysts estimate this will grow to $13,000 in next 10 years, implying an additional aggregate income of $3 trillion. We believe Apple is well-positioned to benefit from these trends over the long term.

"s" cycle could bring gross margin upside to our estimates

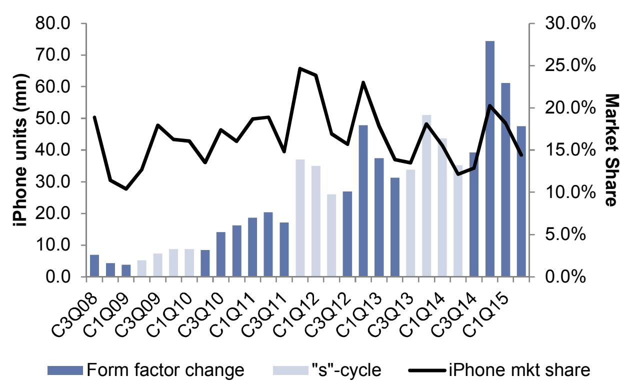
We estimate iPhone "s" cycles have historically contributed a 2.8% gross margin premium vs the initial form factor change (example: iPhone 4s vs 4). We believe this is because the s cycle typically features more software and functionality enhancements, as opposed to form factor and hardware upgrades. While this dynamic could continue as Apple legs into the 6s/6s Plus cycle, we are not modeling meaningful gross margin expansion for now, with our FY16 iPhone gross margin estimate at 46.1% compared to 45.9% for FY15. This is because of the addition of the force touch sensors to the 6s, which add cost to the bill of materials that may partially or largely offset the normal cost reductions in the other components.

Exhibit 17: We estimate an average "s" premium of 2.8% in iPhone gross margins relative to prior version
iPhone product landscape

	Timeframe	# q's	Total Units	Avg units/q	Avg. mkt share	Avg AAPL GM	Avg iPhone GM
iPhone 3G	3Q08 - 1Q09	3	15.0	5.0	13.6%	38.8%	56.3%
iPhone 3Gs	2Q09 - 1Q10	4	30.1	7.5	15.7%	41.3%	62.0%
iPhone 4	2Q10 - 3Q11	6	94.8	15.8	16.6%	39.7%	52.7%
iPhone 4s	4Q11 - 2Q12	3	98.1	32.7	21.8%	45.0%	55.4%
iPhone 5	3Q12 - 2Q13	4	143.4	35.8	17.6%	38.3%	47.2%
iPhone 5s / 5c	3Q13 - 2Q14	4	163.7	40.9	14.8%	38.4%	47.0%
iPhone 6 / 6 Plus	3Q14 - 2Q15	4	222.4	55.6	16.4%	39.6%	46.0%
Average form factor					16.0%	39.1%	50.6%
Average "s"					17.5%	41.6%	54.8%
Average "s" premium vs. prior						**2.7%**	**2.8%**

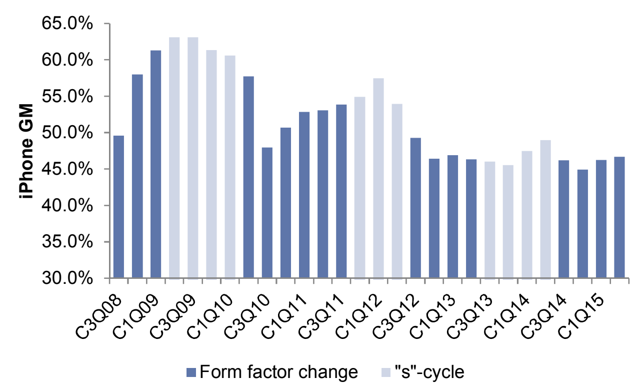
Source: Gartner, Company data, Goldman Sachs Global Investment Research.

Exhibit 18: iPhone unit growth by product cycle
iPhone unit shipments (mn)



Source: Gartner, Company data, Goldman Sachs Global Investment Research.

Exhibit 19: iPhone gross margin by product cycle
iPhone gross margin (%)



Source: Company data, Goldman Sachs Global Investment Research.

Survey indicates strong purchase intentions for iPads and iPhones

We conducted an independent online survey of more than 1,000 US consumers, aged 18 and above, on September 12-13, 2015. The survey responses are weighted by age, gender, geographic region, race and education to create an accurate demographic representation of the US population over 18 years of age. The respondents were asked the following two questions:

1. **Which of the following consumer electronics products are you most likely to buy for the holidays?**
2. **Do you plan to buy an iPhone in the next three months, and why?**

We ran our survey after Apple had announced its new products for this year at its September 9 launch event. We highlight our key takeaways from the analysis of the responses to gauge the spending sentiment in the consumer electronics category around the iPhone refresh and during the coming holiday season.

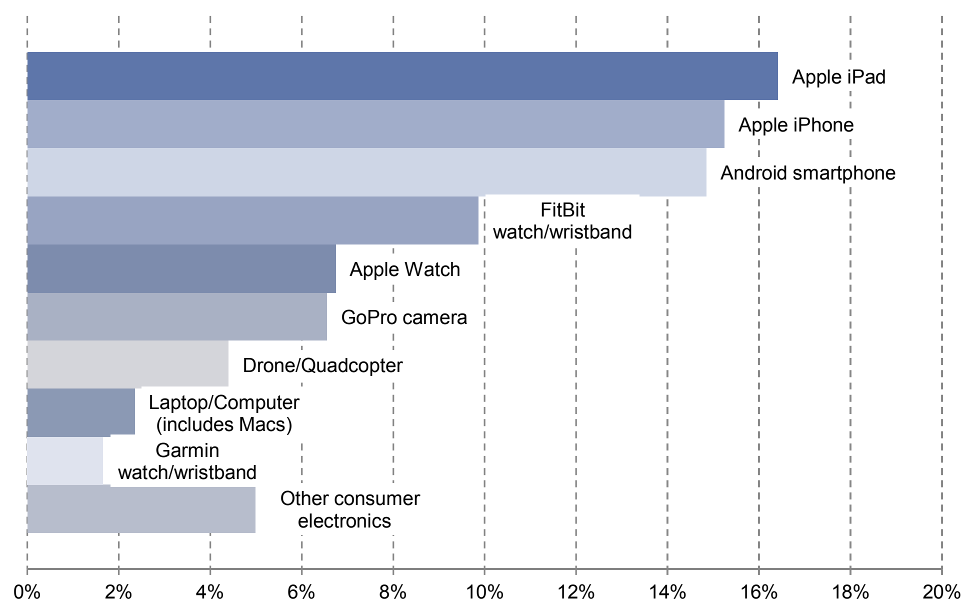
3 Apple products among top 5 products; iPad a positive surprise as the most demanded product for the holidays

Our survey results indicate that the iPad is the top consumer electronics product for the upcoming holiday season, with 16% of respondents planning to buy one. The iPhone was the second most sought after consumer electronic product in our survey, closely followed by Android smartphones. The Apple Watch rounded the top 5, with 7% of respondents intending to buy one in the holiday season. Note that 50% of the surveyed consumers responded that they were ‘Not Sure’ what they will buy during the holiday season.

We believe our survey results bode well for Apple’s holiday season sales, especially given the wider range of products in its portfolio this year compared to last year. For the iPhone, our survey indicates almost 50-50 split amongst iPhone and Android in the smartphone purchase intentions in the US. This would be the highest share Apple has achieved in the US. To date, Apple’s highest share in US smartphone shipments was 46%, achieved in 4QCY14, driven by the strong iPhone 6 and 6 Plus launch cycle. Thus, our survey indicates further potential share gains for Apple from Android smartphones in the US.

Exhibit 20: iPad leads in US consumer electronics purchase intentions for the holidays, followed by iPhone*

% of responses to our survey question: Which of the following consumer electronics products are you most likely to buy for the holidays? (Multiple responses allowed)



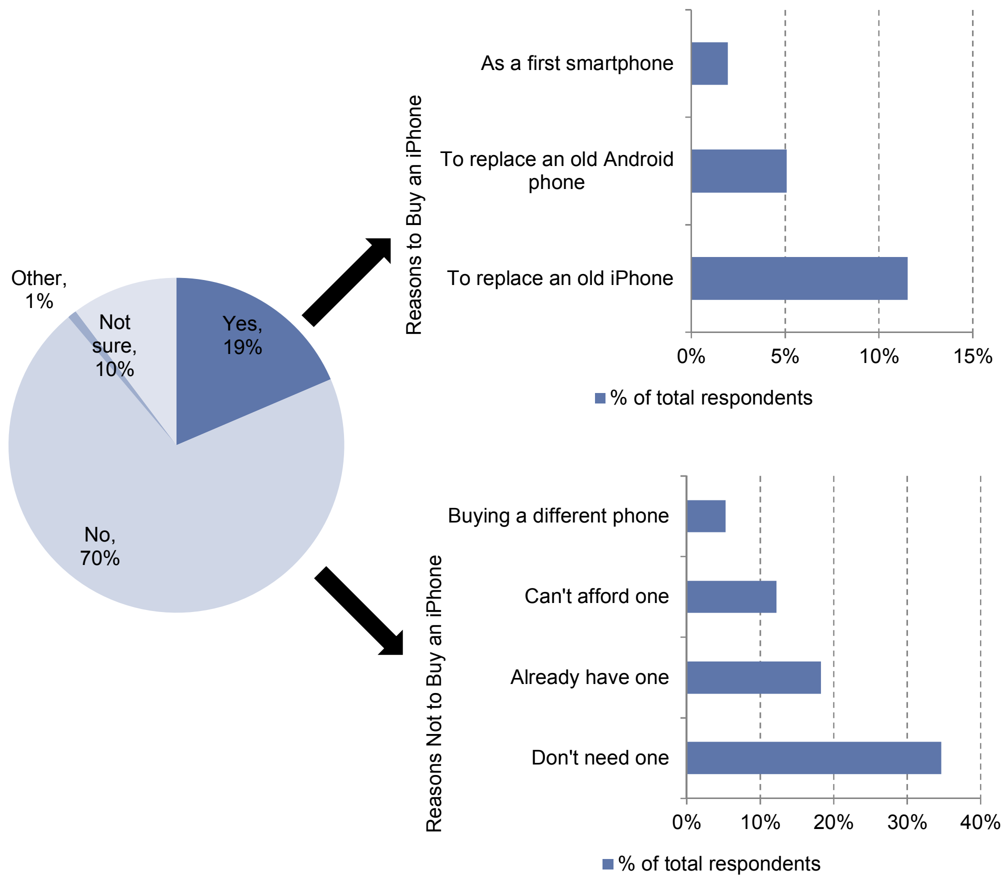
*Note: 50% of the surveyed consumers responded ‘Not Sure’

Source: Goldman Sachs Global Investment Research

Survey results show potential upside for our iPhone estimates

In response to the 2nd question above, 19% of individuals surveyed responded that they plan to buy an iPhone in the coming three months, including 12% who plan to upgrade their old iPhone and 5% who intend to switch from Android. Considering that 44% of US smartphone consumers are iOS subscribers (according to ComScore), the 12% response rate would indicate an upgrade rate of 27% in the first three months. This is well ahead of what we estimate as the iPhone's annual upgrade rate of 30%.

Exhibit 21: 19% of surveyors plan to buy an iPhone in next three months
% of responses to our survey question: Do you plan to buy an iPhone in the next three months, and why?



Source: Goldman Sachs Global Investment Research

iPad likely to return to growth, vs. consensus view of decline

We also see 14% upside to consensus iPad revenue estimates for FY16. Our view is driven by upside to both units (GSe 5% above consensus) and ASPs (GSe 9% above consensus).

Going forward, we see three important dynamics driving the return to growth of this business in FY16:

(1) Diminishing ongoing drag from the decline of the iPad mini

(2) Consumer refresh cycle, catalyzed by the iPad Pro

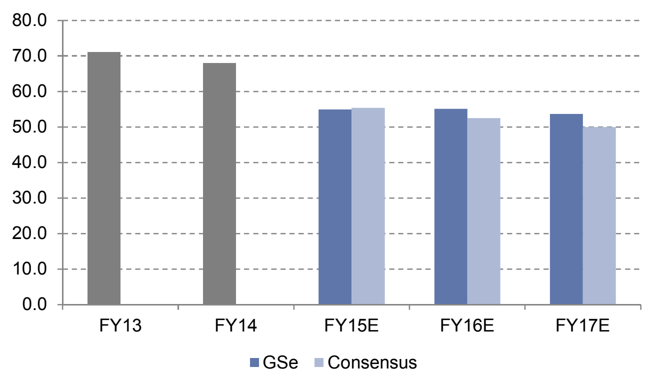
(3) Accelerated expansion into Enterprise

Factoring in all of these, we believe that overall iPad unit growth will stabilize in CY2016 as we forecast unit shipments of 54.8mn/54.8mn/53.6mn (-14%/0%/-2% yoy) in CY15/CY16/CY17, respectively. Importantly, given the much higher ASPs of the iPad Pro (starting at $799) vs. the mini (starting at $399), we model an 8% jump in blended ASPs for the iPad in CY16, after a 2% decline in CY15.

Expect iPad unit growth to stabilize

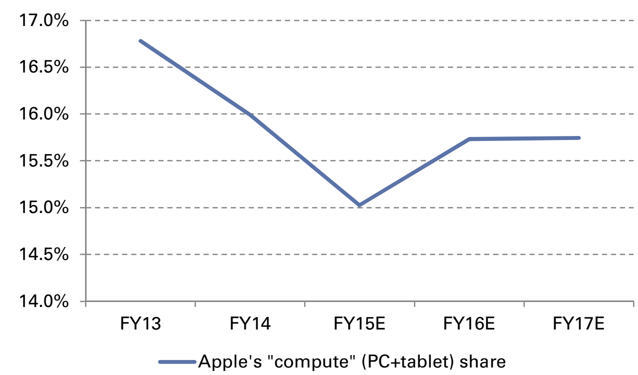
Apple's iPad segment has been under significant pressure in recent quarters, with units down 18% yoy over the last 12 months. While Apple is still an iPhone-driven story (with the iPhone generating 2/3 of company revenues and 3/4 of gross profits), the iPad segment is nonetheless an important driver as it represented 11% of revenue and 9% of gross profits over the last four quarters (Exhibits 24 and 25 below).

Exhibit 22: We expect iPad unit growth to stabilize…
iPad unit shipments (mn)



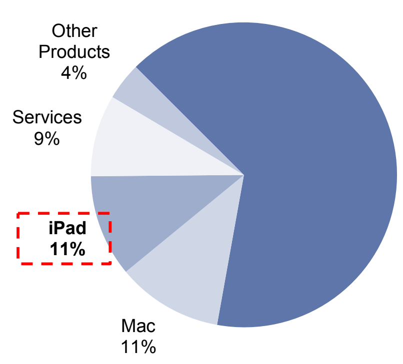
Source: Company data, Goldman Sachs Global Investment Research, FactSet

Exhibit 23: …driving a recovery of Apple's total "compute" (PC + tablet) share back up toward 16%
PC + tablet combined market share (%)



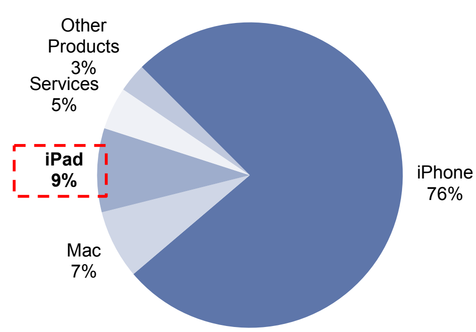
Source: Goldman Sachs Global Investment Research, IDC

Exhibit 24: iPad represented 11% of LTM revenue…



Source: Company data, Goldman Sachs Global Investment Research.

Exhibit 25: …and 9% of LTM gross profits

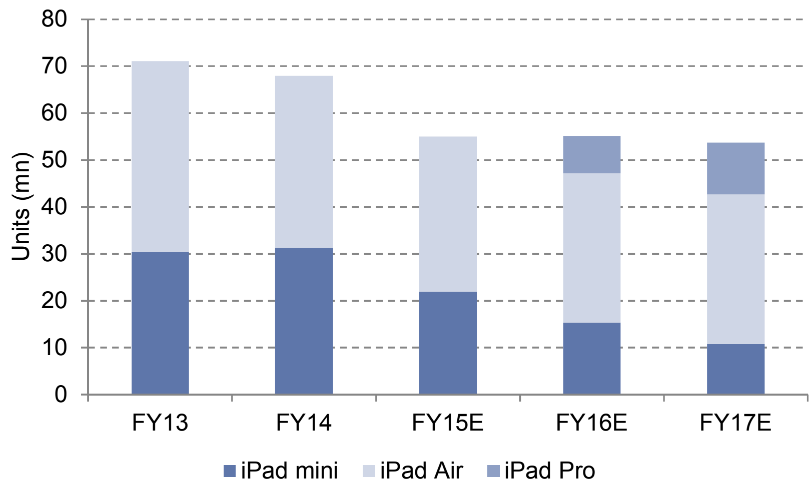


Source: Company data, Goldman Sachs Global Investment Research.

iPad mini facing "phablet" cannibalization; a decreasing drag ahead

Following the iPad mini's brief initial success after the late 2012 launch, the mini has been in significant decline as larger phones have effectively cannibalized much of the smaller tablet market. Looking ahead, we expect the drag from declining iPad mini volume to continue; however, we expect the headwind to dissipate going forward, as the mini now accounts for just 1/3 of total iPad units.

Exhibit 26: We expect the drag from iPad mini to decrease ahead
iPad unit shipments, by model (mn)

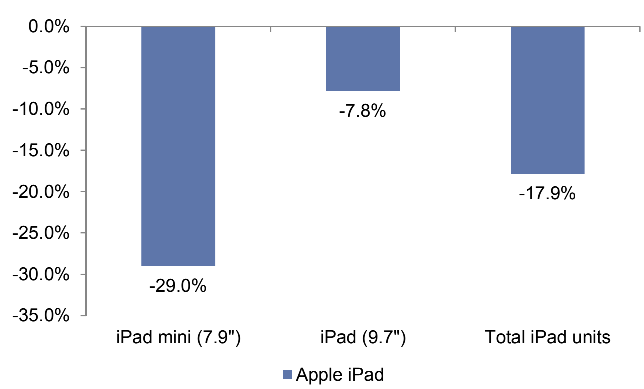


Source: Company data, IDC, Goldman Sachs Global Investment Research.

Apple's iPad mini was launched in late 2012 and was initially a popular lower-priced alternative to the company's existing 9.7" iPad lineup. Indeed, the mini ramped quickly within the iPad mix, reaching ~50% of unit shipments in CY2013 based on IDC data. However, the category has been in decline since the beginning of CY14 with double-digit yoy unit declines in each of the past six quarters.

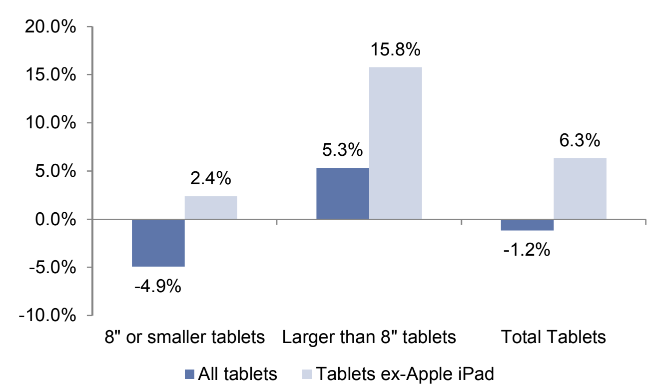
This dramatic decline in iPad mini shipments has created a significant drag on overall iPad shipments, with mini units down 29% yoy over the last 12 months compared to a more modest 8% unit decline in the 9.7" iPad (Exhibit 27). This trend isn't only an iPad phenomenon, as the overall market exhibited similar trends by screen size (Exhibit 28).

Exhibit 27: iPad mini a significant drag on overall iPad units…
Units, LTM yoy % change



Source: IDC, Goldman Sachs Global Investment Research.

Exhibit 28: …with the wider industry experiencing similar trends by screen size
Units, LTM yoy % change



Source: IDC, Goldman Sachs Global Investment Research.

Consumer refresh cycle, catalyzed by the iPad Pro

As shown in Exhibit 20 above, the iPad topped the list of consumer electronics products that US consumers plan to buy for the holidays in our survey of 1,000 US consumers. While it is still early, and 50% of respondents were still undecided, we view this as a positive indication that we may finally see a refresh cycle in for the iPad among consumers.

Given that the iPad is a relatively new product, first introduced in 2010, there hasn't been much historical data to establish the length of the replacement cycle. With the first four updates to the iPad line-up, Apple made significant improvements to key specs such as the screen resolution, processor performance, and weight, but they didn't add up to a fundamentally new user experience that would drive a major upgrade cycle. Moreover, the iPad has proven to be a remarkably durable product, with many consumers still getting full functionality from their original purchases in 2010-13.

We think the iPad Pro may finally change that calculus. With its 12.9" diagonal screen size, it's double the size of the iPad Air, and offers 70% more screen space than the original iPad. This enables side-by-side viewing of different content or applications. In addition, by including a four-speaker audio system for the first time, the iPad Pro allows a more immersive cinematic or gaming experience, including features such as picture in picture. The new Apple Pencil accessory also enables new consumer use cases, such as drawing art, playing games, writing notes, etc. In sum, we think there may be enough new functionality enabled by the new iPad Pro form factor to drive a long overdue consumer refresh, as also suggested by our survey.

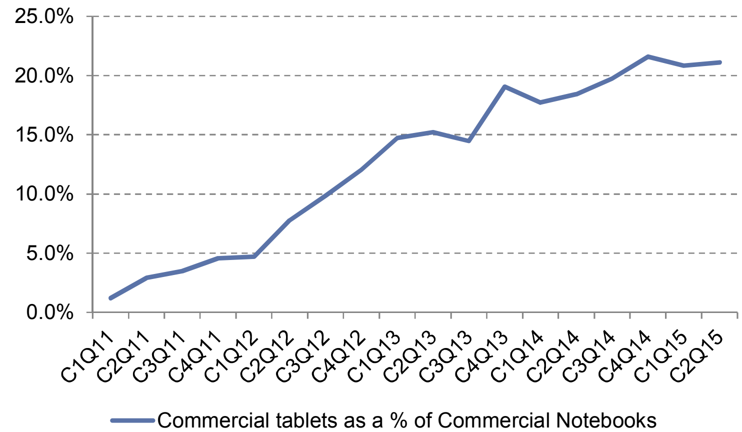
Accelerating presence in the Enterprise

The enterprise market remains a significant opportunity for Apple's iPad platform, as corporate demand only accounted for 17% of iPad unit shipments over the last 12 months according to IDC. Apple's management remains acutely focused on pursuing this market, with the MobileFirst for iOS partnership with IBM continuing to progress following the initial announcement in mid-2014. As noted on Apple's C2Q15 conference call, IBM released 13 new MobileFirst apps during the June-quarter, bringing the total number of iPhone and iPad apps to 35. Further, they remain on track towards a total of 100 apps available by the end of 2015.

Apple extended its enterprise push by announcing a partnership with Cisco on August 31, 2015, to deliver a "fast-lane" for iOS business users by optimizing Cisco networking solutions for iOS devices and apps, including the iPhone and iPad.

Looking at the overall enterprise tablet market, there have been 30.4mn commercial tablets shipped over the last 12 months, according to IDC. To put that into context, there were 146mn commercial notebooks shipped over the same period. Within the commercial market, tablets continue to grow significantly and now equate to over 20% of notebook shipments (Exhibit 29) versus 19% in CY14; we expect this metric to continue to increase going forward.

Exhibit 29: Commercial tablets continue to increase as a % of commercial notebooks
Total commercial tablet and notebook markets



Source: IDC, Goldman Sachs Global Investment Research.

In Exhibit 30 below, we explore the impact to Apple's EPS of an incremental 5pt commercial tablet penetration relative to the commercial notebook market. Looking at CY16, 5pts of commercial notebooks equates to 6.6mn units. We assume Apple's share is 64%, which is supported by the latest enterprise tablet activation share, according to Good Technology. Using our CY16 iPad ASP estimate of $465 (which could be conservative, as enterprise users are likely to purchase the higher-end devices in the portfolio, such as the Pro), the incremental revenue opportunity on the additional 4.2mn iPads sold is $2.0bn. We apply our existing CY16 iPad GM estimate of 33.1% and use our corporate average 9.8% opex as a percent of sales estimate and find an incremental EPS opportunity of $0.06.

In a second scenario, we examine the impact of Apple's iPad Pro launch. We believe that a larger screen iPad would likely resonate with enterprise customers and could serve as a further catalyst towards commercial tablet adoption. In Exhibit 31, we assume that the same incremental 4.2mn iPad units from our first scenario are iPad Pro with an ASP of $942 which represents the blended average of the 3 Pro SKUs. This provides an incremental $4.0bn of revenue for Apple which, again assuming 33.1% GM and 9.8% opex as a % of sales yields incremental EPS of $0.12 (~1% of our existing CY16 EPS estimate).

Exhibit 30: Enterprise penetration could help stabilize iPad shipments

Average iPad	
CY2016 Commercial Notebooks (mn)	131.8
Add'l 5% penetration (mn)	6.6
iPad Share	64%
Add'l iPad Units (mn)	**4.2**
iPad ASP (CY16E)	$465
Add'l iPad Revenue ($mn)	**$1,960.7**
iPad GM (CY16E)	33.1%
Opex % sales (corp avg, CY16E)	9.8%
Add'l EPS	**$0.06**
% ch vs. existing CY16 EPS	*0.5%*

Source: IDC, Goldman Sachs Global Investment Research.

Exhibit 31: 4.2mn incremental higher ASP iPad "Pro" units could contribute $0.12 to CY16 EPS

iPad Pro	
CY2016 Commercial Notebooks (mn)	131.8
Add'l 5% penetration (mn)	6.6
iPad Share	64%
Add'l iPad Units (mn)	**4.2**
iPad Pro ASP	$942
Add'l iPad Revenue ($mn)	**$3,973.4**
iPad GM (CY16E)	33.1%
Opex % sales (corp avg, CY16E)	9.8%
Add'l EPS	**$0.12**
% ch vs. existing CY16 EPS	*1.1%*

Source: IDC, Goldman Sachs Global Investment Research.

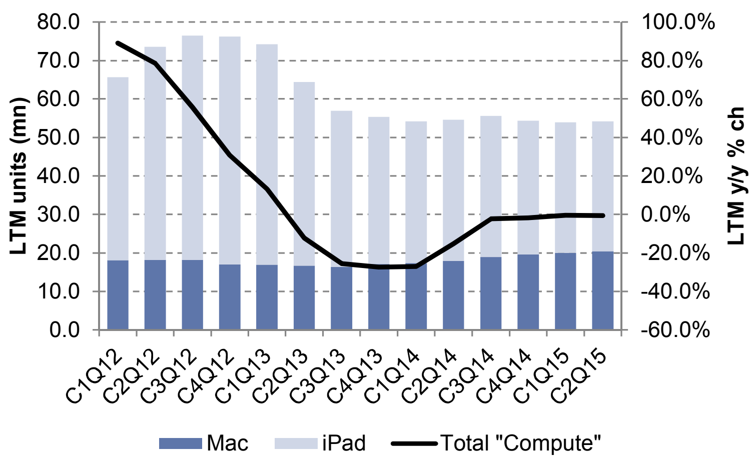
Mac share gains to continue

Apple's Mac segment continues to outperform the weakening PC market, with the company gaining unit share in 35 of the past 36 quarters on a yoy basis driven primarily by consumer strength. We expect this trend to continue, as we forecast Mac unit volume of 20.5mn/22.0mn/22.8mn in CY15/CY16/CY17, respectively, which represents yoy growth of +4.6%/+7.4%/+3.5% compared to PC market growth of -10.1%/-3.7%/-1.7%, respectively. Our estimates are largely in-line with consensus.

"Compute" pendulum has swung back towards Macs; consumer primary driver of share gains

Apple's broader "compute" shipments (defined as iPad + Mac) have been volatile over the past several years, with consistent share gains within the Mac business overshadowed by significant growth and subsequent declines within iPad. The trend has stabilized over the past few quarters at ~55mn units on a LTM basis (Exhibit 32). Apple's Mac business has been the primary source of that stabilization, as Mac growth (+14% yoy LTM) has offset iPad declines (-8% yoy LTM). As we detail below, consumer has been the primary driver of the share gains seen within Apple's Mac business over the past several years. Looking ahead, we note that the launch of the iPad Pro could drive success within the commercial tablet market as discussed above, partially at the expense of commercial notebooks, and shift the "compute" mix back towards iPad again.

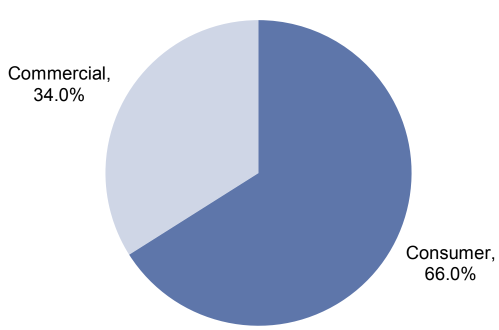
Exhibit 32: Mac unit growth offsetting iPad declines
Total Apple "compute" growth (defined as iPad + Mac)



Source: Company data, Goldman Sachs Global Investment Research.

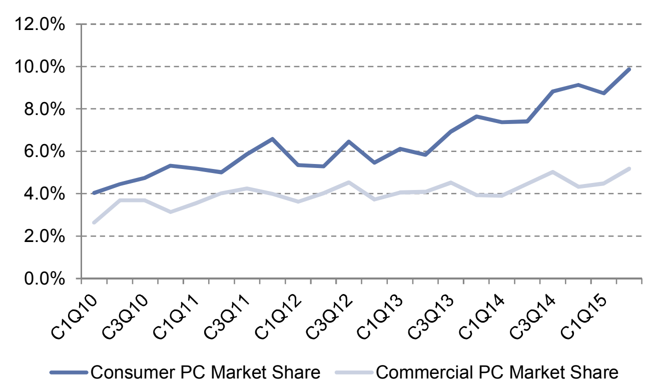
The strength of Apple's Mac business has been driven by the company's success within the consumer segment. From a mix perspective, consumer represented 66% of Apple's Mac unit sales over the last 12 months and continues to take share within the wider market. Indeed, Apple's market share within the consumer PC market has risen to 10% in C2Q15 from just 4% in C1Q10. Commercial traction has been more limited, with share rising to 5% from 3% in C1Q10. This suggests that, to the extent the iPad Pro finds success in the Enterprise, it is likely to be more additive than cannibalistic to Apple's overall commercial compute market share.

Exhibit 33: Consumer represents 66% of Mac units…
LTM Mac unit mix



Source: IDC, Goldman Sachs Global Investment Research

Exhibit 34: …and has been the driver of PC share gains
Apple's global PC market share

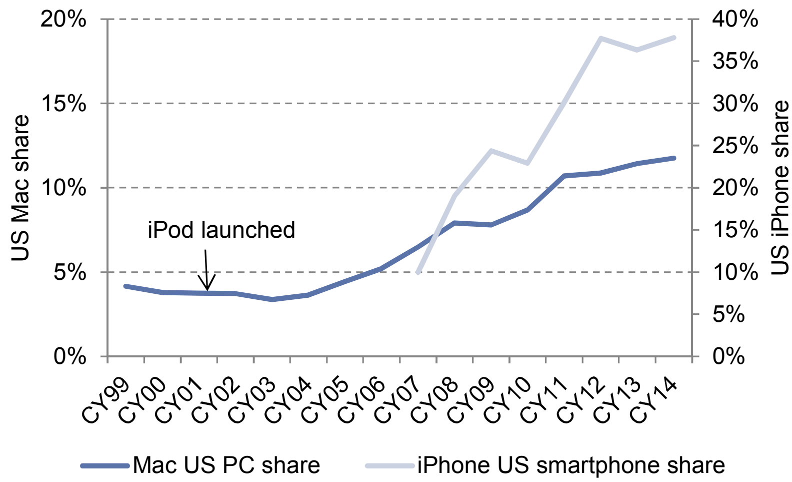


Source: IDC, Goldman Sachs Global Investment Research

iPhone "pulling up" Mac share; expect to continue ahead

Following a period of decelerating PC market share, the launch (and subsequent commercial success) of Apple's iPhone in 2007 reinvigorated Apple's positioning within the US PC market, with iPhone market share "pulling up" Apple's PC share within US (Exhibit 35). We expect this to continue ahead, as the iPhone continues to serve as an entry point into the Apple ecosystem for many consumers today.

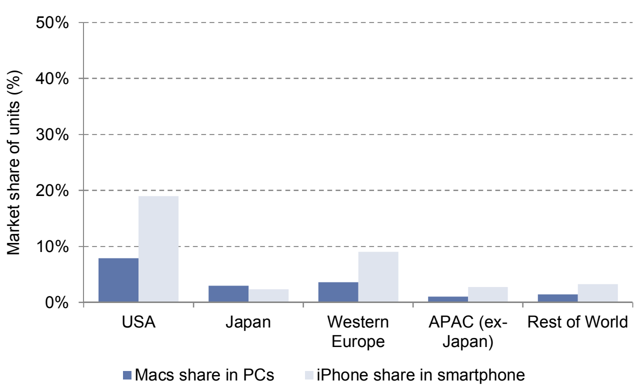
Exhibit 35: iPhone success "pulling up" Mac share
Mac and iPhone market share in US (Calendar years)



Source: IDC, Gartner, Goldman Sachs Global Investment Research.

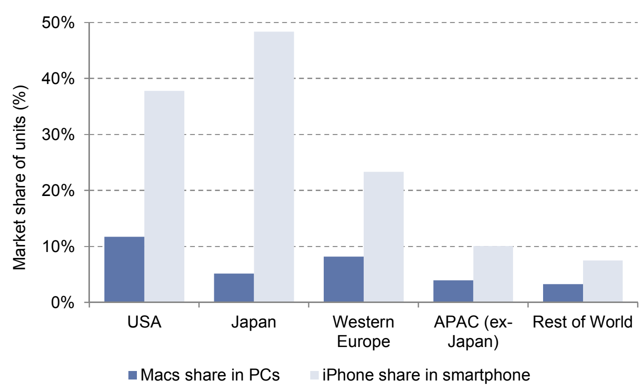
Geographically, we looked at Apple's iPhone and Mac share by region in both 2008 and 2014. We find several interesting takeaways: (1) in all regions, both iPhone market share and Mac market share are up vs. 2008; (2) in the US, iPhone market share has doubled over that period while Mac share is up 1.5X; (3) Japan appears to be an opportunity for Mac sales, with iPhone share up 20.5X vs. 2008 while Mac share is only up 1.7X.

Exhibit 36: iPhone & Mac share by region in CY08
CY2008



Source: IDC, Gartner, Goldman Sachs Global Investment Research.

Exhibit 37: iPhone & Mac share by region in CY14
CY2014



Source: IDC, Gartner, Goldman Sachs Global Investment Research.

Apple Watch increases stickiness

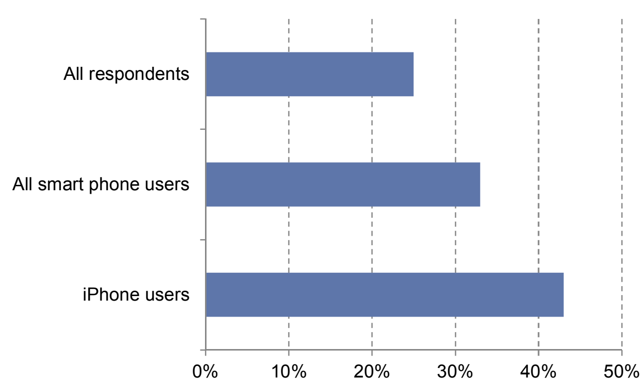
We view Apple Watch as an important platform enhancing product, although the financial impact remains limited in the near term.

Please see the 4/15/15 report, *Apple Watch (Part 2): US in focus -- survey highlights industry risks,* for additional details.

We are modeling 13.5mn/23.8mn Apple Watch shipments in CY15 and CY16 respectively, with our estimates largely in line with consensus. We derive confidence in our forecasts from our survey of over 1,000 consumers in April 2015, which showed encouraging signs for early demand. Our key conclusions from the survey included:

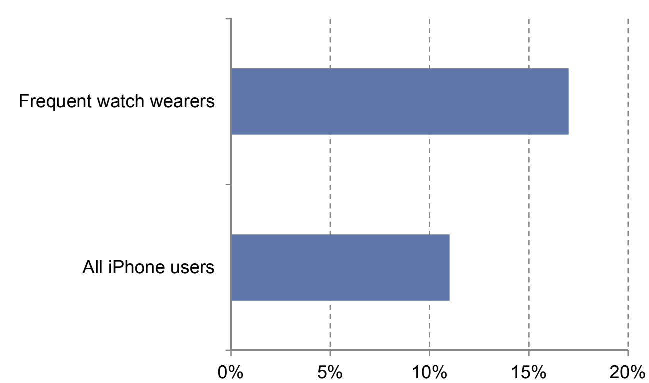
- **Apple Watch purchase intent was solid. 11% of iPhone users were "very likely" to purchase an Apple Watch this year, while another 25% said they were "somewhat likely".** 17% of total survey respondents were likely to buy an Apple Watch this year, with 5% "very likely" and another 12% "somewhat likely".
- **18-34 year olds (Millennials) are 3-4X more likely to purchase than older consumers.** 12% of Millennials were "very likely" to buy an Apple Watch, compared to 2% of the non-Millennial population. Among iPhone users, 21% of Millennial users were "very likely" to buy an Apple Watch, compared with 4% for non-Millennial iPhone users.
- **Traditional watch wearers who are also smartphone users show some of the strongest enthusiasm for smartwatches**. 17% of iPhone users that frequently wear a watch, indicated that they were "very likely" to purchase an Apple Watch this year (well above 11% of overall iPhone users).

Exhibit 38: 25% of survey respondents – and 43% of iPhone users within our survey – plan to purchase some form of smartwatch this year
% of respondents who are either (1) likely to purchase an Apple Watch, or (2) plan to purchase a non-Apple branded smartwatch



Source: Goldman Sachs Global Investment Research

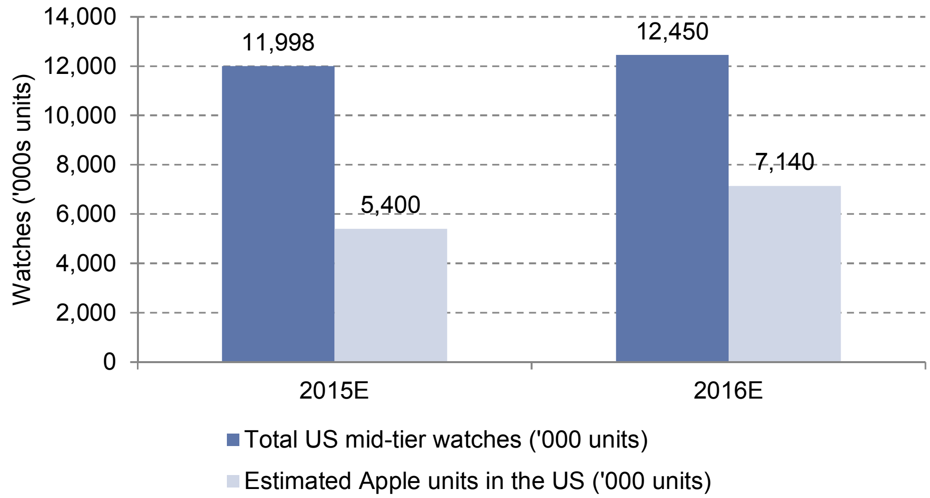
Exhibit 39: 11% of iPhone users surveyed are very likely to purchase an Apple Watch, with those who frequently wear watches even more likely to purchase
iPhone owners who are very likely to purchase an Apple Watch



Source: Goldman Sachs Global Investment Research

Framing our Apple Watch forecasts in the context of traditional watch shipments, we believe Apple Watch would represent a significant proportion of the existing watch market. We expect Apple Watch to primarily displace mid-tier price point watches ($150-$1,000), with the price point range capturing most of the Apple Watch models. We expect 40% and 30% of the Apple Watch shipments to be in the US in CY15 and CY16, respectively. This translates to roughly 5.4mn units in CY15 and 7.1mn units in CY16, as against 11-12mn units in the mid-tier watch category. In terms of the overall US watch market Apple Watches would represent over 10% of the size of the 2014 US watch market.

Exhibit 40: We expect Apple Watch units to be large in proportion to the existing watch market, and in particular displacing mid-tier category shipments
Estimated US Apple Watch sales relative to the total size of the US mid-tier watch market



Source: Euromonitor, Goldman Sachs Global Investment Research.

A platform for the next wave: IoT

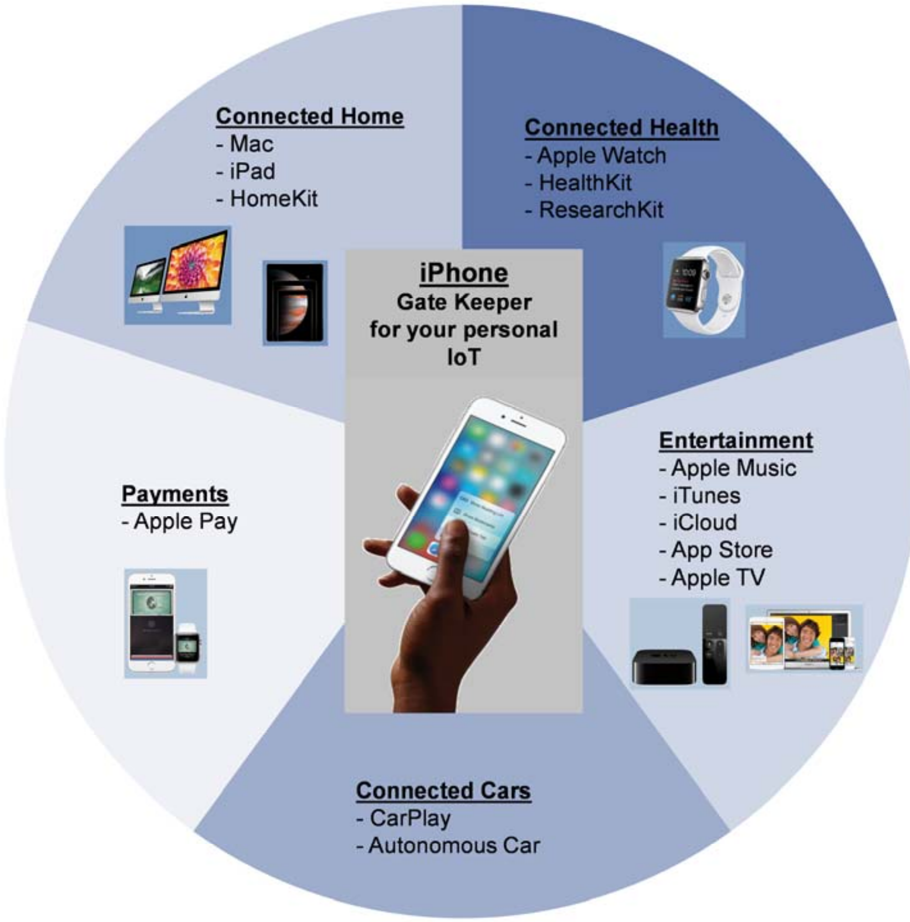
Please see our 6/25/14 report, *Internet of Things - Volume 1: Making S-E-N-S-E of the next mega-trend,* for further details on the IoT landscape.

While much of the discussion above detailed what we view as the key sources of upside to consensus estimates over the next year, we think it's also important to consider Apple's longer-term strategy for value creation, as that has a significant impact on the multiple that the market will assign to its earnings. In our view, even though the smartphone market is maturing in terms of growth rates, Apple's value generation opportunities will increase as we enter the era of the Internet of Things (IoT), which we view as the next mega-trend.

iPhone at the center of your connected world – With IoT, the smartphone becomes the gatekeeper to one's home, car, health, and bank account – adding a lot more value (and risk) than its earlier uses. For example, in 2010, we used our phones for communicating, getting information, and entertainment. In 2020, we'll be using them for all of that, as well as many more critical tasks – e.g., unlocking the doors and remotely monitoring our homes and cars, tracking our children and pets, making payments, managing our health – activities that place the utmost premium not only on the robustness of the device, but also on the trust and security of its ecosystem.

Importantly, Apple's business model centers on user privacy and does not rely on advertising, unlike Google's. **With IoT, we think the value of privacy increases**, and we expect Apple to monetize that with higher iPhone market share and/or ASPs. In other words, we believe the trust and security that Apple has built into its ecosystem by maintaining its users' privacy and curating content will become an increasingly important competitive differentiator and source of value creation.

Exhibit 41: iPhone at the center of your connected world – private and secure
Segmentation of Apple products/solutions



Source: Company data, Goldman Sachs Global Investment Research.

Apple has accelerated its launch of new solutions and services, which should further expand the reach of its ecosystem and platform. Examples include new hardware categories (Apple Watch and Apple TV), entertainment services (Apple Music), auto (CarPlay and potentially an autonomous car), payments (Apply Pay), and other IoT categories (HomeKit, HealthKit, ResearchKit). The App store represents the foundation of the platform, with over 100bn cumulative downloads in its seven-year history and offering over 1.5mn total apps (up from 1.2mn last year and 900k in 2013). Equally important, Apple's user base is highly engaged, as 86% of iOS users are on the iOS8 or later, compared to just 18% of Android users on the most recent version, according to the WSJ.

Unsurprisingly, the direct monetization of these new services/products is fairly minimal when compared to core sales (iPhone, iPad, Macs). Apple's most entrenched and mature solution iTunes generated $2.7bn of sales in F3Q15 (representing 5% of total sales and up about 4% yoy). In total, we forecast the content ecosystem to drive nearly $21bn in Services revenue this year (9% of total), driven by the iTunes, App Store, and iCloud. While in aggregate new initiatives such as Apple Pay, Apple Music, and the newly launched Apple TV don't move the needle much as a percent of earnings, they are critical to the strength of Apple's overall ecosystem and ability to monetize its iOS devices at premium prices, capturing virtually the entire profit pool in smartphones.

Several recent initiatives suggest that Apple is working on expanding its platform to the IoT, in our view. These include CarPlay, HomeKit, HealthKit, and ResearchKit. In the case of HomeKit and HealthKit, the iPhone controls in-home activities and health-related apps, respectively. HomeKit connects to certified devices through WiFi or Bluetooth low energy with 3072-bit encryption keys. In June 2015 (a year after HomeKit was first announced), the first five HomeKit devices were launched, including a thermostat, sensors (for air quality, humidity, air pressure, water consumptions), smart plug, and bridge devices.

Security/privacy paramount and key differentiator – As noted above, it is our view that with IoT the value of privacy increases, and we expect Apple to monetize that with higher iPhone market share and/or ASPs. Importantly, Apple reviews, vets, and curates all apps available on its app store, thereby reducing malware. Apple also limits its access to users' data, as well as its sharing with third parties. Communications are protected with end-to-end encryption and Apple does not scan user communications. Apple similarly encrypts data in the iCloud. Apple's most recent operating system (iOS 9, launched on Sept. 16) added enhanced security features (including six-digit passcodes) and privacy (ad blocking enabled on the Safari browser). In addition, thumbprint authentication has added another layer of security.

Apple Pay is a good example of the power of the security platform, which combines EMV (chip-and-pin), NFC, and Touch ID to ensure credit card information is protected and being properly authorized by the cardholder, and the actual card number is not stored on the device or on Apple servers. More details are below.

Apple Pay

For further detail on Apple Pay and the payments ecosystem, please refer to the 10/19/14 report, *Apple Pay: Implications for banks, retail, payments, and Apple,* by the GS Financials, Payments/ Processing, and Hardware teams.

Apple Pay was first launched in September 2014. On its latest earnings call, Apple disclosed that it is on track for over 1.5mn US locations by the end of 2015 (up from 1mn locations as of early June and 200k from the Sept 2014 launch), compared to 7-9mn US merchants that accept credit cards. Apple launched the service in the UK in July and is now supported in over 250k locations. Further international expansion is expected in continental Europe, Canada, and potentially China. The iPhone accounts for more than 10% of estimated online transactions globally

Apple Pay does not attempt to disrupt the existing payment system, but rather works with payment and technology incumbents (including payment processors, credit card companies, and banks). As mentioned above, Apple Pay highlighted the importance of security with Apple's solution portfolio. Apple does not store credit card information, but instead uses a unique Device Account Number, coupled with fingerprint authentication.

Monetization potential – As part of October 19, 2014 report, *Apple Pay: Implications for banks, retail, payments, and Apple*, Goldman Sachs research analysts concluded that Apple Pay would not provide a material contribution to revenue. Apple may take a small transaction fee from card-issuing banks, though the amount is unknown. Assuming a range of 2-15bps spread on credit transaction, this implies revenue contribution of between $0.08-0.29bn in 2016E. **Apple Pay would need to capture over 6% of global transactions to generate about $1bn in revenues.**

Exhibit 42: Mobile Wallet competitive landscape
Comparison of key mobile wallet solutions

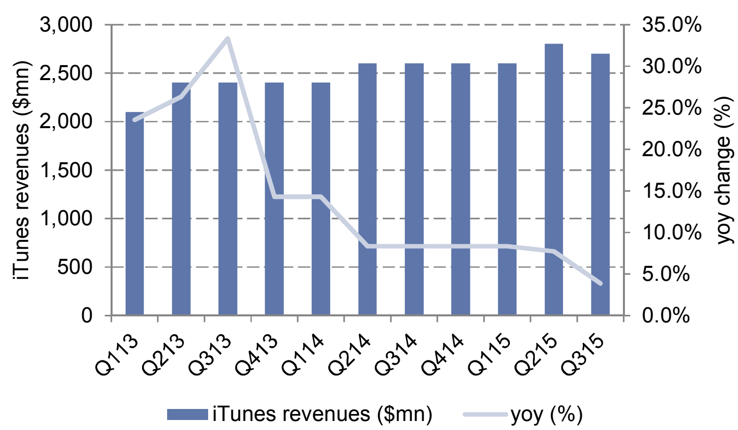
Solution	Enabling Technology	Security	Launch date/expected
Apple Pay	Fingerprint scanner + NFC	Apple does not collect transaction data; credit card number not sent, uses Device Account Number and Secure Element	September 2014
Samsung Pay	Fingerprint scanner + NFC Magnetic Secure Transmission (MST) at older credit card machines	Uses token security, credit card data not sent	Korea - August 20, 2015 US - September 28, 2015
CurrentC (owned by Merchant Customer Exchange)	Scan QR code	Records customer shopping info	Currently testing Broader launch in 2016
Google Wallet	Tap to pay NFC Send money via app, like a debit card	Google collects user information	September 2011
PayPal	Send money via email or phone number	PayPal has and protects user information, including fraud protection	Acquired Braintree (Venmo) in Sept 2013 and introduced one-touch payments in Sept 2014

Source: Company data, Goldman Sachs Global Investment Research.

Apple Music

Apple is transitioning to music streaming to offset declines in iTunes (music downloads) as consumers' music consumption patterns shift to on-demand streaming. Reported iTunes revenue growth has decelerated to low-single-digit yoy growth in the most recent quarter (June); however, this includes App Store purchases, and we therefore think iTunes music downloads are actually declining.

Exhibit 43: Apple is shifting to music streaming to offset challenges in iTunes (music downloads)
iTunes revenues ($mn) and yoy change (%); FYE in Sept



Source: Company data.

Apple announced its on-demand music streaming services at WWDC in June 2015. We view it as incremental to its entertainment and music platform, positioning it competitively against Spotify, Pandora, and other streaming services, but do not expect it to be directly meaningful to Apple's near-to-mid term P&L. As mentioned above, it may help serve to offset legacy iTunes music download declines. More important, it will likely further build a moat around the platform, improving its longer-term resilience. As of early August, there were 11mn subscribers (in the first five weeks of availability), with 2mn of these on the family plan. This compares to 75mn Spotify subscribers (20mn of which are paid) and 79mn active Pandora users (with only 3.9mn full paid).

Early reviews have been fairly mixed with a negative bias, according to sources like Apple Insider and Business Insider. In addition, in late August, executive Ian Rogers, who had joined Apple as part of the Beats acquisition in mid-2014, left Apple just 2 months after the launch of Beat1 radio service.

Monetization potential – We estimate that if all 11mn current free-trial uses converted to the $9.99 per month fee, it would represent $1.3bn in annual revenues. This would be about 6% incremental to FY15E Services revenues or 1% incremental to total revenues. On 8/19/15, Apple stated that 79% of its trial customers are still using the service, implying about $1bn in revenue potential on full paid conversion. However, full conversion is unlikely in our view given the mix of other industry participants. Assuming a 25% paid customer mix similar to Spotify would imply about $330mn in annual revenues (or about $260mn including the 79% active user mix).

Exhibit 44: Mobile music streaming competitive offerings
Comparison of key mobile music streaming services

Service	Price	Offering	Installed Base
Apple Music	$9.99/month (first 3 months free) $14.99/month family plan for up to 6 family members	Siri integration; over 30mn ad-free songs; Beats 1 radio station; curated playlists Available in over 100 countries	11mn free users (as of 8/6/15)
Googe Play Music	$9.99/month (first month free)	Over 30mn ad-free songs; music videos; curated music stations	Unknown
Spotify Premium	$9.99/month ($0.99/month for first 3 months)	Ad-free streaming; offline listening	20mn paid subs, 55mn free subs
Rdio Unlimited	$9.99/month	On-demand streaming (25 customizable song downloads daily) and ad-free streaming	Unknown
Pandora One	$4.99/month or $54.89/year	Ad-free streaming with fewer timeouts, more skips	79mn active users, 3.9mn paid subs
Rhapsody Premier	$9.99/month (first 14 days free, 3 months for $1) $14.99/month family plan for up to 5 members	Unlimited access to millions of songs; download songs, albums, playlists; personalized radio	2.5mn subs

Source: Company data.

Apple TV

We believe the recently updated Apple TV and tvOS could further enhance the Apple ecosystem. Its direct contribution is likely not material to estimates; however, it can strengthen the ecosystem by encouraging friends and family to share content (music, videos) and play games on the TV using their iOS devices. Importantly, it sets up the platform for broader content streaming 2016. Indeed, Apple could be an attractive content distribution platform given 500mn high-end subscribers, and we expect to hear more on that front in 2016.

tvOS is built on the premise that ‘the future of TV is apps,’ essentially opening iOS’s 11mn developers to create apps as well as games. There are just under 100mn Pay TV subscribers in North America and about 92mn Internet subscribers, according to the GS Telecom team. The Apple TV is an over-the-top media server, essentially an alternative to pay TV and live video streaming. Live TV is not yet supported, though Apple could eventually curate or develop content. We think Apple is unique vs. OTT dongles (Chromecast) and other OTT media servers (Roku) in that it integrates with phone/tablet devices, emphasizes app creation, and offers platform levels search across apps. In addition, Apple TV could attract gaming enthusiasts. On the other hand, the new Apple TV does not have 4K video support, unlike the recently announced Amazon Fire TV; however, we don't expect that to be a meaningful differentiator in the near-term, given the limited availability of 4K content.

Our previously published sensitivity analysis estimated that if Apple were to sell 5mn units (at a midpoint ASP of $174), it would generate $870mn in revenues and $0.04 in EPS. For context, the 2014 OTT Media Server market in 2014 was $1.06bn with $700mn coming from North America, according to Infonetics.

Exhibit 45: Leading over-the-top (OTT) media server platforms
Comparison of OTT media server platforms

	Apple TV	Roku 3	Google Nexus (Android TV)	Amazon Fire TV
Traditional Apps (Netflix, Hulu, HBO, YouTube)	✓	✓	✓	✓ 4K video support
App Ecosystem	tvOS, 11mn iOS developers	1,700 apps/ channels (incl Amazon Instant)	Android TV	Amazon Prime Video, Amazon Video
Voice control capability	✓ (Siri)	✓	✓	✓ (Alexa)
Gaming	✓ (iOS, more expected)	✓	✓	✓ Gaming Edition pack
Remote	Touch Pad, Motion Control	Motion Control	Basic Remote	Basic Remote
Price	$149-199	$99	$99 (now $79)	$99

Source: Company data, Goldman Sachs Global Investment Research.

Apple Car

According to several news sources (WSJ, AppleInsider, The Guardian), Apple may be exploring the possibility of expanding its presence in the auto market, likely intrigued by the rapidly changing role of technology within the world of mobility and autos as well as a potentially huge TAM (with global auto shipments expected to reach 120mn by 2025, according to the GS Auto team). AppleInsider and The Guardian have also reported that Apple has hired a number of engineers with experience in self-driving cars (including from Tesla, Fiat Chrysler, and A123), met with leading auto manufacturers, industry experts, and state government agencies, and may be using test facilities for the project, dubbed Project Titan. Most recently on 9/21/15, the WSJ reported that Apple may be tripling the 600-person team and has set a target ship date for 2019 (though this may just indicate engineer's signing off on features).

Please see the GS Global Auto team's 9/17/15 report, *Cars 2025: Vol 3: Monetizing the rise of Autonomous Vehicles*, for further detail.

As discussed in our global auto team's *Cars 2025: Vol. 3* report, we think it is unlikely that Apple enters the auto manufacturing market directly, due to its capital intensity and the requirement of manufacturers to take on extensive contingent liability for products that last more than 20 years. This would contrast with its typical 'asset light' approach and leveraging others to do the assembly. However, it could partner or work with contract manufacturers, much like the equivalent of Foxconn for iPhones.

However, we do think it's possible that Apple extends its auto market presence. It already offers CarPlay, which leverages the iPhone as the remote control for an in-dash infotainment system, porting in maps, music, and other functions. Based on recent hiring actions and news reports from the WSJ and The Guardian, we believe it is likely that Apple could be developing technologies that enable the self-driving/autonomous car experience from a software and device ecosystem perspective. The car, like the home, is another environment where Apple can add value via an operating system and increase the stickiness of its ecosystem. We will continue to monitor developments and potential monetization, but do not include any expectation for revenues in our model at this point given the early stage of the project and minimal company disclosure, and do not view this as core to the thesis.

Valuation

Our 12-month price target of $163 is based on a 15X CY16E P/E multiple. This implies 13X on an ex-cash basis. In addition to potential upward estimate revisions by the Street around a strong iPhone 6s product cycle and iPad stabilization, we expect the stock's potential multiple expansion to be driven by a shift in market focus from the maturing smartphone trend to the emerging IoT trend. We believe shares offer an attractive FCF yield of 10%, aided by a negative cash conversion cycle.

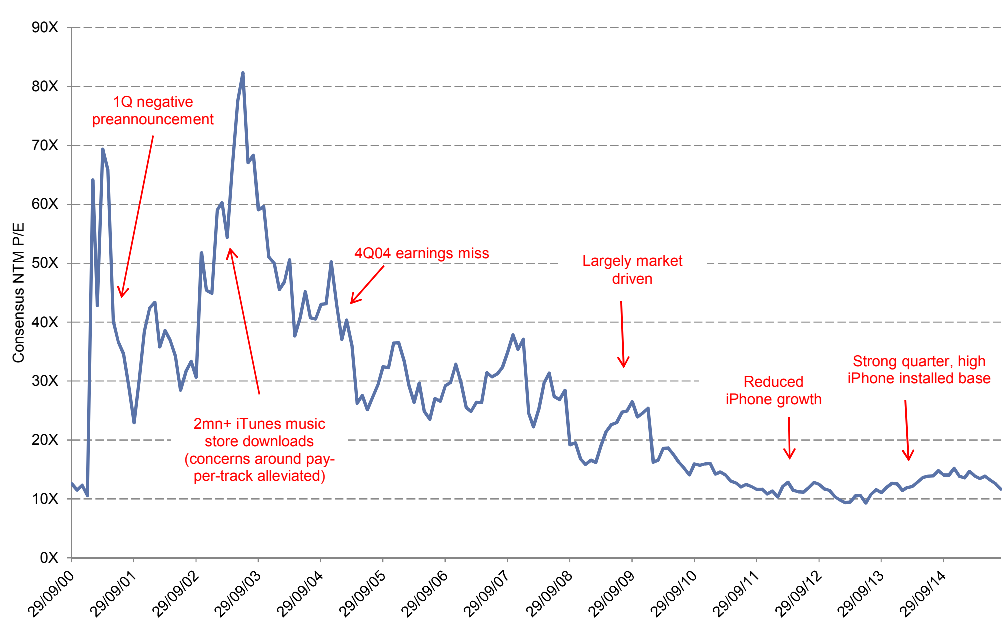
Exhibit 46: Apple trades at a discount to CommTech & Hardware peers
Apple valuation comp table

Apple Valuation Table		GS Stock	Shares	Price	Market	CY15-17	CY16	P/E ex-cash		P/E		EV/Sales		FCF Yield	
	Ticker	Rating	O/S (mn)	9/18/15	Cap ($mn)	EPS CAGR	PEG	CY15E	CY16E	CY15E	CY16E	CY15E	CY16E	CY15E	CY16E
Apple Inc.	**AAPL**	**Buy**	**5,773.1**	**$113.45**	**$654,958**	**16%**	**0.6 x**	**9.3 x**	**8.0 x**	**12.1 x**	**10.4 x**	**2.1 x**	**1.9 x**	**8.3%**	**9.9%**
CommTech/Hardware*															
Cisco Systems Inc.	CSCO	Buy**	5,131.0	$25.54	$131,046	6%	2.1 x	10.8 x	10.2 x	13.7 x	12.9 x	1.9 x	1.8 x	9.7%	9.5%
Qualcomm Inc.	QCOM	Buy	1,629.0	$54.45	$88,699	37%	0.3 x	14.1 x	8.9 x	17.7 x	11.5 x	2.7 x	2.8 x	5.9%	9.1%
EMC Corp.	EMC	Buy	1,947.0	$24.09	$46,903	13%	0.9 x	10.9 x	9.6 x	12.9 x	11.4 x	1.6 x	1.5 x	7.7%	10.9%
IBM	IBM	Neutral	973.4	$144.51	$140,662	5%	1.7 x	11.3 x	11.0 x	9.3 x	9.0 x	2.1 x	2.1 x	9.2%	9.3%
Hewlett-Packard Co.	HPQ	Neutral	1,828.0	$26.54	$48,515	NA	NA	8.6 x	8.4 x	7.3 x	7.2 x	0.6 x	0.6 x	6.3%	10.6%
Median						9%	1.3 x	10.9 x	9.6 x	12.9 x	11.4 x	1.9 x	1.8 x	7.7%	9.5%
Other															
Facebook Inc.	FB	Buy	2,850.0	$94.40	$269,040	25%	3.6 x	100.9 x	86.2 x	106.5 x	90.9 x	15.1 x	11.5 x	1.9%	2.4%
Google Inc.	GOOGL	Buy **	690.9	$660.92	$456,615	22%	1.0 x	23.3 x	19.0 x	27.1 x	22.2 x	6.5 x	5.6 x	3.1%	3.8%
Amazon.com Inc.	AMZN	Buy **	473.8	$540.26	$255,967	173%	0.7 x	440.5 x	113.5 x	NA	114.4 x	2.4 x	2.0 x	1.9%	2.4%
Microsoft Corp.	MSFT	Sell	8,131.0	$43.48	$353,536	5%	3.5 x	13.9 x	13.5 x	16.8 x	16.3 x	3.2 x	3.2 x	7.1%	7.9%
Median						23%	2.3 x	62.1 x	52.6 x	27.1 x	56.6 x	4.9 x	4.4 x	2.5%	3.1%
Total Group Median						17%	1.4 x	13.9 x	11.0 x	15.3 x	12.9 x	2.4 x	2.1 x	6.3%	9.1%

* large cap
**Conviction Buy List
Note: EPS CAGR, PEG, P/E ex-cash, P/E are GAAP based

Source: Company data, FactSet, Goldman Sachs Global Investment Research.

Exhibit 47: Apple's P/E multiple has settled into a 10-15X range
Historical NTM P/E valuation



Source: FactSet.

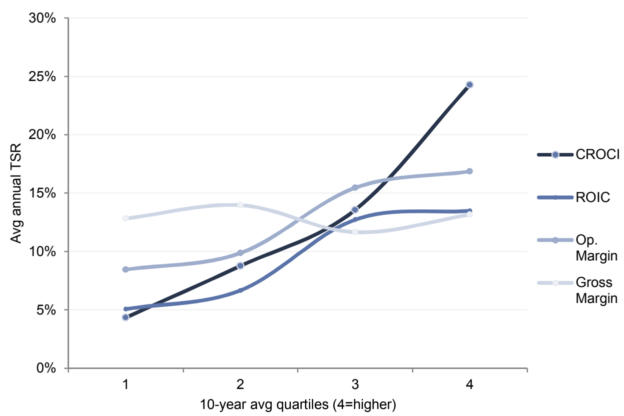
Section contribution (along with Exhibits 48 and 49) provided by Derek Bingham from GS Sustain team (contact information: 415-249-7435; derek.bingham@gs.com).

Industry leading CROCI points to long-term compounding opportunity

We favor companies generating high returns on capital, enabling them to reinvest superior cash flows at a high rate of growth that can compound over time in excess of shorter-term expectations. As a measure of returns, we emphasize CROCI (cash return on capital invested), which focuses on cash over accrued earnings against a company's entire base of productive capital still in service, or gross capital invested (see *Introduction to GS SUSTAIN: Seeking alpha by owning leaders with high returns on capital*, March 31, 2015).

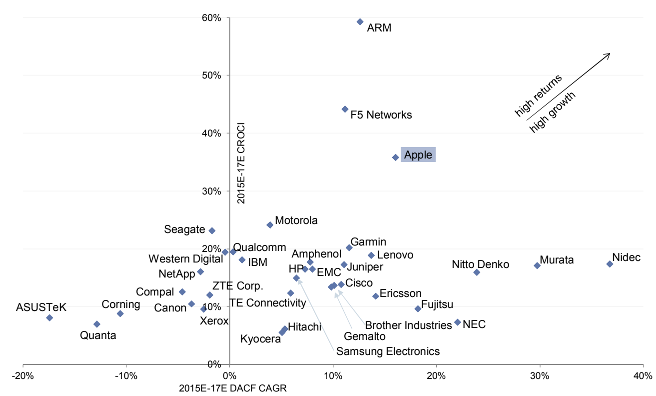
Exhibit 48 demonstrates how CROCI has been a better predictor of shareholder returns than other measures of profitability such as ROIC or operating margin in global Tech Hardware over time – i.e., a more linear and well dispersed relationship with stock performance. As a long-term investment in a dynamic and highly competitive sector, Apple offers a unique combination of both industry-leading returns on capital and significant growth opportunity (Exhibit 49), positioning it well for long-term stock outperformance vs. peers, in our view. Apple is a member of the GS SUSTAIN Focus List, a low-turnover investment strategy focusing on long-term industry leaders with sustainably high returns on capital.

Exhibit 48: CROCI has been a better predictor of shareholder returns than other profitability measures
Average TSR of GS SUSTAIN global Tech Hardware coverage by CROCI quartile, 2006-2015E



Source: Goldman Sachs Global Investment Research.

Exhibit 49: Apple offers an attractive combination of returns and growth relative to global peers
3-year average CROCI vs. debt-adjusted cash flow growth (2015-17E) for select global Tech Hardware companies

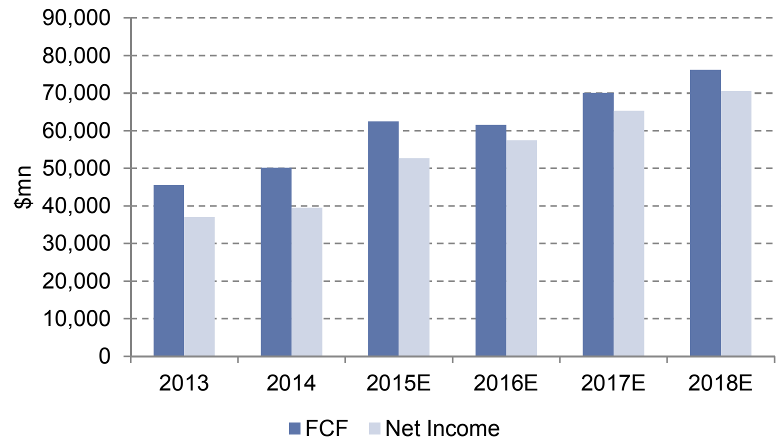


Source: Goldman Sachs Global Investment Research.

Negative cash conversion cycle contributes to strong FCF profile

Apple consistently generates FCF in excess of net income, in other words cash conversion in excess of 100%. This is driven by 1) a negative cash conversion cycle (whereby working capital is a source of cash given leverage with suppliers and customer demand), 2) deferrals on overseas taxes (~65% of revenues generated outside the US), 3) stock based comp, and 4) revenue deferrals (software upgrade rights, services like iCloud, Siri, maps). As a result, Apple has an above-average FCF yield vs comparable (Exhibit 50). Not only is this supportive from a valuation standpoint, but it provides more flexibility for capital returns. Apple share currently offer a 10% FCF yield for 2015 and 2016E, above its five-year average NTM FCF yield in the high single digits.

Exhibit 50: Apple has a negative cash conversion cycle, contributing to FCF > net income
FCF (CFO – capex) vs Net income, $mn; FYE in Sept

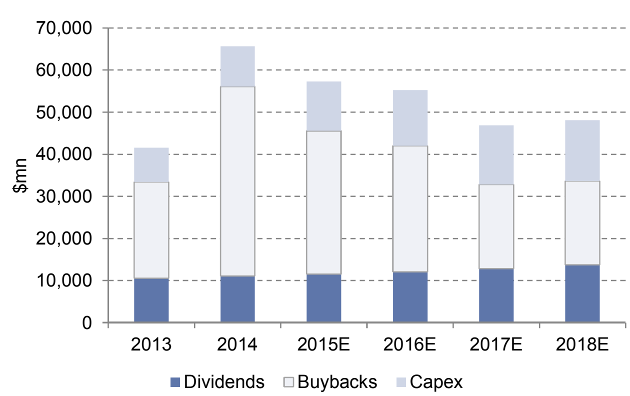


Source: Company data, Goldman Sachs Global Investment Research.

Capital allocation: buybacks, dividends, capex

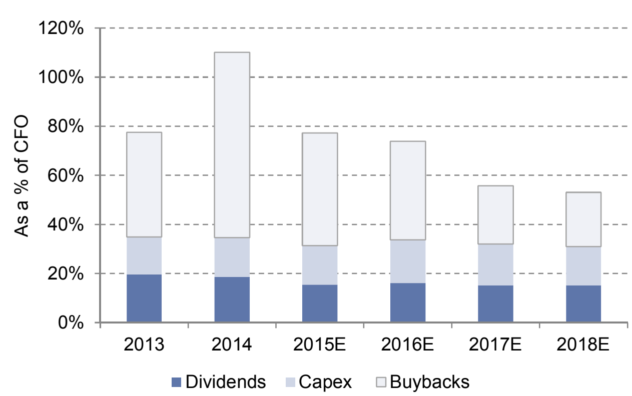
We expect Apple to continue to return capital to shareholders via both dividends and buybacks. The company has slightly over $200bn in cash ($22bn of this is onshore) and nearly $150bn in net cash. Apple has $52bn in debt outstanding, representing about 0.7X gross debt / LTM EBITDA. We expect Apple to generate $62bn in FCF in FY16 and $70bn in FY17. As a result, we believe the company has more than enough capacity to fulfil its outstanding buyback authorization of $50bn (in the June-quarter, Apple increased it authorization from $90bn to $140bn). We expect dividend plus buybacks to represent 73% and 68% of FY15 and FY16 FCF, respectively. At a current share price of $113, we estimate the full authorization represents about 440mn shares, or 8% of current shares outstanding. Every $10bn in buybacks (or ~90mn shares) represents about $0.18 in EPS. We also assume Apple will continue to raise its dividend by about 10% per year, consistent with the past two years. Apple is on track to pay out slightly below 80% of its CFO between dividends, buybacks, and capex in FY15, including a $6bn ASR.

Exhibit 51: Buybacks represent the largest use of cash
Dividends, Buybacks, Capex; $mn



Source: Company data, Goldman Sachs Global Investment Research.

Exhibit 52: Apple is on track to pay out slightly below 80% of its CFO
Expenses as a % of CFO



Source: Company data, Goldman Sachs Global Investment Research.

Please see the GS Portfolio Strategy teams' August 20 report, *Large-cap core managers favor domestic cyclical areas of the market*, for further detail.

Apple is under-owned among large cap mutual funds; well-owned by hedge funds

As of June 30, 2015, Apple was the **most underweight large-cap core holding among mutual funds** vs the S&P 500 benchmark weighting. For example, the average mutual fund large-cap core holding for Apple was 2.9% vs the Index weight at 4.0%, resulting in 107bps underweight position. Similarly, Apple is the most **underweight position among large-cap growth mutual funds**, Apple is 219bps underweight, representing 4.8% of funds on average vs Russell 1000G weight of 7.0%. **Apple is neither underweight nor overweight among large-cap value funds.**

Exhibit 53: Apple is the most underweight large cap core mutual fund holding relative to benchmark

Holdings and index weights priced as of June 30, 2015; performance as of August 14, 2015

UNDERWEIGHT					
			Weight		
Name	Ticker	Sector	Average	Index	Dif
Apple Inc.	AAPL	Info Tech	2.9 %	4.0 %	(107)bp
Exxon Mobil Corp.	XOM	Energy	1.0	1.9	(88)
AT&T Inc.	T	Telecom Services	0.2	1.0	(82)
Facebook Inc.	FB	Info Tech	0.5	1.0	(52)
General Electric	GE	Industrials	1.0	1.5	(49)
Berkshire Hathaway	BRK.B	Financials	1.0	1.4	(39)
International Bus. Machines	IBM	Info Tech	0.5	0.8	(34)
Amazon.com Inc.	AMZN	Discretionary	0.6	0.9	(29)
Gilead Sciences	GILD	Health Care	0.7	0.9	(27)
Bristol-Myers Squibb	BMY	Health Care	0.4	0.6	(26)
Verizon Communications	VZ	Telecom Services	0.8	1.0	(26)
Intel Corp.	INTC	Info Tech	0.5	0.8	(25)
Chevron Corp.	CVX	Energy	0.8	1.0	(24)
Microsoft Corp.	MSFT	Info Tech	1.7	2.0	(24)
Coca-Cola Co.	KO	Staples	0.6	0.8	(23)

Source: Lionshares, FactSet, and Goldman Sachs Global Investment Research.

Exhibit 54: Apple is also the most underweight large cap growth mutual fund holding relative to benchmark

Holdings and index weights priced as of June 30, 2015; performance as of August 14, 2015

UNDERWEIGHT					
			Weight		
Name	Ticker	Sector	Average Fund	Unadjusted Benchmark	Dif
Apple Inc.	AAPL	Info Tech	4.8 %	7.0 %	(219)bp
Verizon Communications	VZ	Telecom Services	0.0	1.8	(177)
Microsoft Corp.	MSFT	Info Tech	0.6	2.2	(156)
Coca-Cola Co.	KO	Staples	0.2	1.4	(127)
Oracle Corp.	ORCL	Info Tech	0.2	1.2	(105)
McDonald's Corp.	MCD	Discretionary	0.1	0.9	(78)
PepsiCo Inc.	PEP	Staples	0.5	1.3	(78)
Altria Group Inc.	MO	Staples	0.1	0.8	(74)
3M Co.	MMM	Industrials	0.2	0.9	(71)
Philip Morris Intl	PM	Staples	0.1	0.7	(61)
AbbVie Inc.	ABBV	Health Care	0.5	1.0	(58)
Amgen Inc.	AMGN	Health Care	0.6	1.0	(45)
Kraft Heinz	KHC	Staples	0.0	0.5	(44)
United Parcel Service	UPS	Industrials	0.2	0.6	(43)
EOG Resources Inc.	EOG	Energy	0.0	0.4	(40)

Source: Lionshares, FactSet, and Goldman Sachs Global Investment Research.

In contrast to being an underweight mutual fund holding, **Apple is a top holding among hedge funds**. Where Apple is a top 10 holding, Apple constitutes 7% of the average portfolio.

Exhibit 55: Apple is the second most owned stock among hedge funds
Very Important Positions (VIP) for hedge funds; stocks that appear most frequently among the largest 10 hedge fund holdings

25 stocks that most frequently appear among the largest 10 holdings of hedge funds

Company	Ticker	Sub-sector	Equity cap ($ bn)	No. of funds with 10 to 200 positions owning stock 30-Jun-15	No. of funds with stock as top 10 holding 30-Jun-15	Average portfolio weight when stock ranks among top 10 holdings	% of equity cap owned by hedge funds 30-Jun-15	Total return YTD
Allergan plc	AGN	Pharmaceuticals	$123	97	67	6 %	15 %	22 %
Apple Inc.	AAPL	Technology Hardware Storage & Peripherals	668	86	60	7	2	6
Facebook Inc.	FB	Internet Software & Services	265	81	54	7	5	21
Time Warner Cable	TWC	Cable & Satellite	53	63	44	8	25	24
AT&T Inc.	T	Integrated Telecommunication Services	209	51	40	8	6	6
Amazon.com Inc.	AMZN	Internet Retail	248	51	40	7	4	71
Google Inc.	GOOGL	Internet Software & Services	470	64	38	6	5	30
Citigroup Inc.	C	Diversified Banks	175	57	36	6	3	7
Delta Air Lines	DAL	Airlines	39	52	35	7	15	(2)
Valeant Pharmaceuticals Intl	VRX	Pharmaceuticals	85	47	32	10	22	72
Liberty Global	LBTYK	Cable & Satellite	42	51	32	8	18	7
Bank of America	BAC	Diversified Banks	186	43	32	6	2	(0)
Charter Communications	CHTR	Cable & Satellite	20	53	31	7	41	8
American Intl Group	AIG	Multi-line Insurance	86	44	31	7	7	15
Microsoft Corp.	MSFT	Systems Software	380	48	30	6	2	3
Yahoo! Inc.	YHOO	Internet Software & Services	34	54	29	8	13	(28)
Broadcom Corp.	BRCM	Semiconductors	30	43	29	6	19	17
JPMorgan Chase	JPM	Diversified Banks	252	49	26	5	1	11
General Motors	GM	Automobile Manufacturers	51	49	25	6	7	(8)
Gilead Sciences	GILD	Biotechnology	170	32	24	6	2	23
Cheniere Energy	LNG	Oil & Gas Storage & Transportation	16	42	23	8	52	(3)
American Airlines Group	AAL	Airlines	30	43	23	8	9	(20)
Priceline Group Inc	PCLN	Internet Retail	67	37	23	7	11	13
Air Products and Chemicals	APD	Industrial Gases	32	36	23	6	30	3
Walgreens Boots Alliance Inc	WBA	Drug Retail	100	40	21	6	10	22

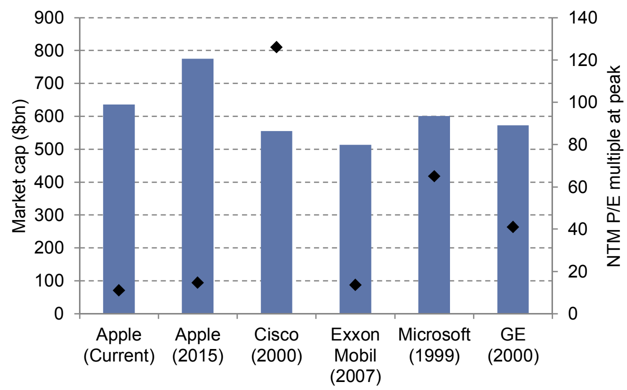
Note: Based on our analysis of 678 hedge funds with $899 billion in equity assets that own between 10 and 200 individual stock positions. Holdings as of June 30, 2015; pricing as of August 14, 2015.

Source: Lionshares via FactSet, IDC; data compiled by Goldman Sachs Global Investment Research.

The market cap question, in historical context

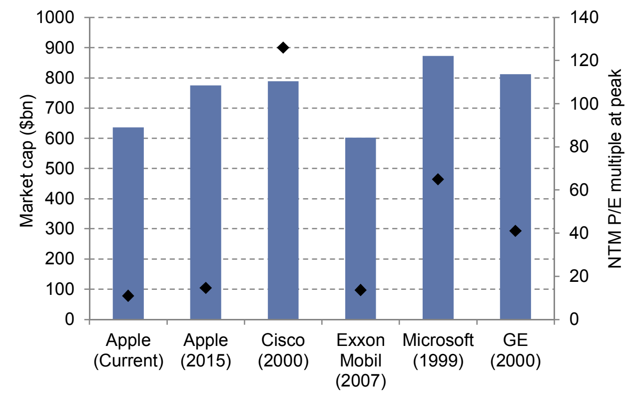
We do not believe that further Apple stock price appreciation is limited by the size of its market cap. Its current market cap of ~$650bn is about 15% below its prior peak (Feb 2015). While Apple's peak market cap of about $775mn (reached in February 2015) is the largest in US history in nominal terms, several companies have had larger capitalizations on an inflation adjusted basis. Importantly, Apple's valuation peaked at a NTM P/E multiple of 14X, compared to Cisco's peak multiple of 126X and Microsoft at 65X.

Exhibit 56: Apple's market cap peaked at slightly below $800mn in early 2015
Peak market cap (nominal terms), $mn



Source: FactSet, WorldBank.

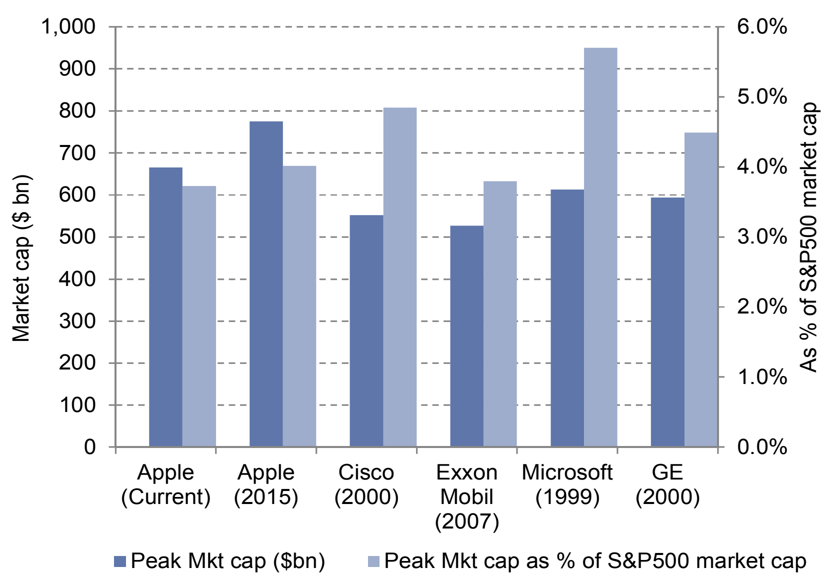
Exhibit 57: But on an inflation-adjusted basis, several companies' market capex have exceeded Apple
Peak market cap (inflation-adjusted), $mn



Source: FactSet, WorldBank.

Relative to the S&P500, Apple's peak market cap represents 4.05% of the index. In contrast, Microsoft was at 5.7%, Cisco at 4.8%, and GE at 4.5%. Additionally, IBM peaked at over 6% of the index in 1985. When combined with P/E valuation, only Apple and Exxon achieved their peaks at a P/E of around 14X, vs the others at 40-120X. We believe the growth in Apple's market cap is support by forecast earnings growth.

Exhibit 58: At peak market caps, Apple was 4% of S&P500 market cap, whereas Microsoft was 5.7%
Peak market cap ($ bn) and as % of S&P500 market capex



Source: Bloomberg, Goldman Sachs Global Investment Research.

Risks

- Weaker-than-expected iPhone demand or worse-than-expected mix shift
- Deterioration in Apple's innovation machine/ability to captivate consumers
- Macro demand trends (e.g., China, EMs), FX headwinds
- Stronger competitive response from Samsung or others
- Execution, in particular as Apple's focus broadens

Exhibit 59: Apple income statement

Apple Earnings Model (GAAP) (millions of U.S. Dollars)	**Q115** Dec-14	**Q215** Mar-15	**Q315** Jun-15E	**Q415** Sep-15E	**Q116** Dec-15E	**Q216** Mar-16E	**Q316** Jun-16E	**Q416** Sep-16E	**Q117** Dec-16E	**Q217** Mar-17E	**Q317** Jun-17E	**Q417** Sep-17E	2015E	2016E	2017E
Sales	**74,599**	**58,010**	**49,605**	**51,066**	**80,360**	**63,718**	**56,775**	**55,923**	**88,351**	**68,208**	**64,166**	**64,848**	**233,280**	**256,776**	**285,574**
YoY	29.5%	27.1%	32.5%	21.2%	7.7%	9.8%	14.5%	9.5%	9.9%	7.0%	13.0%	16.0%	27.6%	10.1%	11.2%
QoQ	77.1%	-22.2%	-14.5%	2.9%	57.4%	-20.7%	-10.9%	-1.5%	58.0%	-22.8%	-5.9%	1.1%	0.0%	0.0%	0.0%
Cost of sales	44,858	34,354	29,924	31,388	48,930	38,189	34,010	33,905	53,238	40,606	38,057	38,961	140,524	155,033	170,863
Gross profit	29,741	23,656	19,681	19,677	31,430	25,529	22,765	22,019	35,114	27,602	26,108	25,887	92,755	101,743	114,711
% Gross margin	39.9%	40.8%	39.7%	38.5%	39.1%	40.1%	40.1%	39.4%	39.7%	40.5%	40.7%	39.9%	39.8%	39.6%	40.2%
Research & development	1,895	1,918	2,034	2,043	2,089	2,166	2,214	2,237	2,297	2,387	2,438	2,497	7,890	8,707	9,619
Selling, General & Administration	3,600	3,460	3,564	3,779	4,018	3,951	4,145	4,194	4,683	4,229	4,299	4,410	14,403	16,307	17,620
Total operating expenses	5,495	5,378	5,598	5,822	6,107	6,117	6,359	6,431	6,980	6,616	6,737	6,906	22,293	25,014	27,240
Operating income	24,246	18,278	14,083	13,856	25,323	19,412	16,406	15,587	28,134	20,986	19,371	18,981	70,463	76,729	87,471
% Operating margin	32.5%	31.5%	28.4%	27.1%	31.5%	30.5%	28.9%	27.9%	31.8%	30.8%	30.2%	29.3%	30.2%	29.9%	30.6%
Debt interest (expense)	-131	-163	-201	-204	-208	-208	-208	-208	-208	-208	-208	-206	-699	-831	-829
Other income (expense) and cash returns	301	449	591	500	500	500	500	500	500	500	500	500	1,841	2,000	2,000
Earnings before tax	24,416	18,564	14,473	14,152	25,615	19,705	16,698	15,880	28,426	21,278	19,663	19,275	71,605	77,898	88,642
Tax	6,392	4,995	3,796	3,722	6,737	5,182	4,392	4,176	7,476	5,596	5,171	5,069	18,905	20,487	23,313
Tax rate	26.2%	26.9%	26.2%	26.3%	26.3%	26.3%	26.3%	26.3%	26.3%	26.3%	26.3%	26.3%	26.4%	26.3%	26.3%
Net income - pro-forma	**18,024**	**13,569**	**10,677**	**10,430**	**18,878**	**14,522**	**12,307**	**11,703**	**20,950**	**15,682**	**14,492**	**14,206**	**52,700**	**57,411**	**65,329**
EPS - GAAP	**$3.06**	**$2.33**	**$1.85**	**$1.84**	**$3.37**	**$2.62**	**$2.24**	**$2.15**	**$3.88**	**$2.92**	**$2.72**	**$2.69**	**$9.10**	**$10.39**	**$12.22**
YoY	47.9%	40.1%	44.5%	29.6%	9.9%	12.5%	21.0%	17.1%	15.1%	11.8%	21.5%	24.9%	41.0%	14.2%	17.6%
Diluted shares	5,882	5,835	5,773	5,678	5,607	5,553	5,498	5,443	5,404	5,365	5,327	5,288	5,792	5,525	5,346
Apple Segment Model (millions of U.S. Dollars)	**Q115** Dec-14	**Q215** Mar-15	**Q315** Jun-15E	**Q415** Sep-15E	**Q116** Dec-15E	**Q216** Mar-16E	**Q316** Jun-16E	**Q416** Sep-16E	**Q117** Dec-16E	**Q217** Mar-17E	**Q317** Jun-17E	**Q417** Sep-17E	2015E	2016E	2017E
Products	**69,800**	**53,014**	**44,577**	**45,813**	**74,841**	**58,023**	**51,043**	**49,987**	**82,170**	**61,886**	**57,803**	**58,259**	**213,204**	**233,894**	**260,119**
YoY	31.2%	29.1%	35.3%	22.1%	7.2%	9.4%	14.5%	9.1%	9.8%	6.7%	13.2%	16.5%	29.4%	9.7%	11.2%
QoQ	86.1%	-24.0%	-15.9%	2.8%	63.4%	-22.5%	-12.0%	-2.1%	64.4%	-24.7%	-6.6%	0.8%	0.0%	0.0%	0.0%
% of total sales	93.6%	91.4%	89.9%	89.7%	93.1%	91.1%	89.9%	89.4%	93.0%	90.7%	90.1%	89.8%	91.4%	91.1%	91.1%
iPhone	51,182	40,282	31,368	30,942	52,957	42,010	35,212	33,414	58,350	44,758	41,251	41,090	153,774	163,592	185,449
YoY	57.5%	54.6%	58.8%	30.7%	3.5%	4.3%	12.3%	8.0%	10.2%	6.5%	17.1%	23.0%	50.8%	6.4%	13.4%
QoQ	116.2%	-21.3%	-22.1%	-1.4%	71.1%	-20.7%	-16.2%	-5.1%	74.6%	-23.3%	-7.8%	-0.4%	0.0%	0.0%	0.0%
% of total sales	68.6%	69.4%	63.2%	60.6%	65.9%	65.9%	62.0%	59.7%	66.0%	65.6%	64.3%	63.4%	65.9%	63.7%	64.9%
Gross margin	44.9%	46.2%	46.7%	46.2%	45.0%	46.3%	47.1%	46.5%	45.0%	46.3%	47.0%	46.3%	45.9%	46.1%	46.1%
iPad	8,985	5,428	4,538	4,261	9,343	5,922	5,106	4,795	9,657	6,048	5,198	4,831	23,212	25,166	25,734
YoY	-21.7%	-28.7%	-22.9%	-19.8%	4.0%	9.1%	12.5%	12.5%	3.4%	2.1%	1.8%	0.7%	-23.3%	8.4%	2.3%
QoQ	69.0%	-39.6%	-16.4%	-6.1%	119.3%	-36.6%	-13.8%	-6.1%	101.4%	-37.4%	-14.1%	-7.1%	0.0%	0.0%	0.0%
% of total sales	12.0%	9.4%	9.1%	8.3%	11.6%	9.3%	9.0%	8.6%	10.9%	8.9%	8.1%	7.4%	10.0%	9.8%	9.0%
Gross margin	32.5%	32.9%	34.2%	34.3%	32.5%	33.4%	33.6%	33.5%	32.5%	33.3%	33.6%	33.6%	33.3%	33.1%	33.1%
Mac	6,944	5,615	6,030	6,751	6,999	5,922	6,379	7,146	7,513	6,087	6,456	7,239	25,340	26,446	27,294
YoY	8.6%	1.7%	8.8%	1.9%	0.8%	5.5%	5.8%	5.9%	7.3%	2.8%	1.2%	1.3%	5.2%	4.4%	3.2%
QoQ	4.8%	-19.1%	7.4%	12.0%	3.7%	-15.4%	7.7%	12.0%	5.1%	-19.0%	6.1%	12.1%	0.0%	0.0%	0.0%
% of total sales	9.3%	9.7%	12.2%	13.2%	8.7%	9.3%	11.2%	12.8%	8.5%	8.9%	10.1%	11.2%	10.9%	10.3%	9.6%
Gross margin	25.6%	25.7%	26.4%	25.7%	25.9%	25.9%	26.6%	25.9%	26.1%	26.3%	27.0%	26.2%	25.8%	26.1%	26.4%
Other products	2,689	1,689	2,641	3,858	5,542	4,169	4,346	4,633	6,650	4,993	4,899	5,100	10,877	18,689	21,642
YoY	-5.2%	-10.2%	49.5%	103.5%	106.1%	146.8%	64.6%	20.1%	20.0%	19.8%	12.7%	10.1%	29.8%	71.8%	15.8%
QoQ	41.8%	-37.2%	56.4%	46.1%	43.6%	-24.8%	4.3%	6.6%	43.5%	-24.9%	-1.9%	4.1%	0.0%	0.0%	0.0%
Services	**4,799**	**4,996**	**5,028**	**5,253**	**5,519**	**5,695**	**5,732**	**5,936**	**6,181**	**6,322**	**6,362**	**6,589**	**20,076**	**22,882**	**25,454**
YoY	9.1%	9.2%	12.1%	14.0%	15.0%	14.0%	14.0%	13.0%	12.0%	11.0%	11.0%	11.0%	11.1%	14.0%	11.2%
QoQ	4.1%	4.1%	0.6%	4.5%	5.1%	3.2%	0.6%	3.6%	4.1%	2.3%	0.6%	3.6%	0.0%	0.0%	0.0%
% of total sales	6.4%	8.6%	10.1%	10.3%	6.9%	8.9%	10.1%	10.6%	7.0%	9.3%	9.9%	10.2%	8.6%	8.9%	8.9%

Source: Company data, Goldman Sachs Global Investment Research.

Disclosure Appendix

Reg AC

We, Simona Jankowski, CFA, Matthew Cabral, Doug Clark, CFA, Balaji Krishnamurthy, CFA, Swapnil Sheth and Derek R. Bingham, hereby certify that all of the views expressed in this report accurately reflect our personal views about the subject company or companies and its or their securities. We also certify that no part of our compensation was, is or will be, directly or indirectly, related to the specific recommendations or views expressed in this report.

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The precise calculation of each metric may vary depending on the fiscal year, industry and region but the standard approach is as follows:

Growth is a composite of next year's estimate over current year's estimate, e.g. EPS, EBITDA, Revenue. **Return** is a year one prospective aggregate of various return on capital measures, e.g. CROCI, ROACE, and ROE. **Multiple** is a composite of one-year forward valuation ratios, e.g. P/E, dividend yield, EV/FCF, EV/EBITDA, EV/DACF, Price/Book. **Volatility** is measured as trailing twelve-month volatility adjusted for dividends.

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Disclosures

Coverage group(s) of stocks by primary analyst(s)

Simona Jankowski, CFA: America-Consumer Hardware & Mobility, America-IT Hardware, America-Telecom Equipment. Doug Clark, CFA: America-IT Hardware, America-Telecom Equipment.

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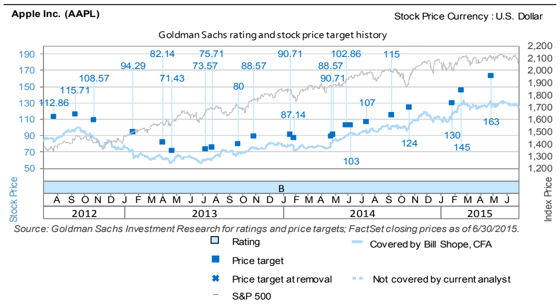

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