

ACTION

Buy**Apple Inc. (AAPL)****Return Potential: 34%**

Equity Research

Resuming coverage with CL-Buy: platform opportunity still nascent**Source of opportunity**

We are resuming coverage of Apple with a Buy rating and 12-month target price of \$430 and placing it on our Americas Conviction List. We believe Apple's platform-centric business model is the secret sauce that has enabled it to quickly capture market share in new computing segments while simultaneously enjoying considerable margin leverage. Furthermore, we believe significant growth and profit opportunities for this platform still lie ahead. As a result, we expect revenue and earnings expectations to continue to trend upward, and we view the shares as attractive at current levels.

Catalyst

Apple's recent gross margin trends and guidance have caused some concerns among the investing community. Our analysis of Apple's platform history not only suggests that this gross margin erosion is normal, but also that we have probably already seen the worst of it. Indeed, we believe Apple's margins have already bottomed, and we expect the company to resume its leverage-driven upside in coming quarters. In addition, we expect iPad and iPhone momentum to exceed expectations in 2011, driving further upside. We expect Apple to ship 37.2 million iPad units in CY11, which could potentially make Apple one of the largest vendors in the global personal computing market (Tablets plus PCs).

Valuation

Our \$430 price target represents a P/E multiple of 20.0 times our above-consensus calendar 2011 EPS estimate of \$21.46. Our target multiple is 14.4% below the stock's five-year average multiple of 23.4 times.

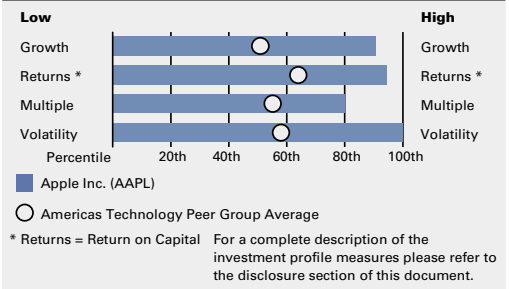
Key risks

The key risks to our target include: macro deterioration, increased platform competition, potential legal and regulatory restrictions, and uncertain management succession plans.

INVESTMENT LIST MEMBERSHIP

Americas Buy List

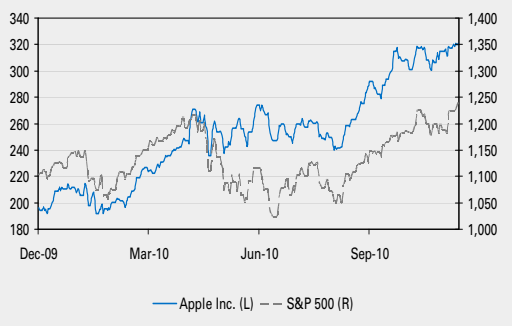
Americas Conviction Buy List

Coverage View: Neutral**Investment Profile**

Key data	Current
Price (\$)	320.56
12 month price target (\$)	430.00
Market cap (\$ mn)	293,623.4

	9/10	9/11E	9/12E	9/13E
Revenue (\$ mn) New	65,225.1	91,807.0	110,772.6	122,389.7
Revenue (\$ mn) Old	--	--	--	--
EPS (\$ New)	15.15	19.86	24.91	28.29
EPS (\$ Old)	--	--	--	--
P/E (X)	21.2	16.1	12.9	11.3
EV/EBITDA (X)	10.2	10.8	8.6	7.5
ROE (%)	35.3	32.2	29.5	25.5

	9/10	12/10E	3/11E	6/11E
EPS (\$)	4.64	5.41	4.30	4.39

Price performance chart

Share price performance (%)	3 month	6 month	12 month
Absolute	21.7	28.0	63.2
Rel. to S&P 500	8.9	12.1	45.0

Source: Company data, Goldman Sachs Research estimates, FactSet. Price as of 12/10/2010 close.

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Apple Inc.: Summary Financials

Profit model (\$ mn)	9/10	9/11E	9/12E	9/13E	Balance sheet (\$ mn)	9/10	9/11E	9/12E	9/13E
Total revenue	65,225.1	91,807.0	110,772.6	122,389.7	Cash & equivalents	11,261.0	13,429.5	15,393.5	17,157.9
Cost of goods sold	(39,541.0)	(56,839.6)	(66,785.7)	(72,710.8)	Accounts receivable	5,510.0	7,086.8	8,123.2	9,054.3
SG&A	(5,517.0)	(7,722.8)	(9,264.9)	(9,953.2)	Inventory	1,051.0	1,320.0	1,495.9	1,631.9
R&D	(1,782.0)	(2,478.1)	(2,966.8)	(3,072.0)	Other current assets	9,497.0	11,381.4	12,690.1	13,748.0
Other operating profit/(expense)	0.0	0.0	0.0	0.0	Total current assets	27,319.0	33,217.6	37,702.8	41,591.9
ESO expense	--	--	--	--	Net PP&E	4,768.0	8,622.2	11,514.5	14,063.0
EBITDA	19,412.1	26,235.4	33,527.5	38,611.9	Net intangibles	0.0	0.0	0.0	0.0
Depreciation & amortization	(1,027.0)	(1,468.9)	(1,772.4)	(1,958.2)	Total investments	39,750.0	58,893.3	83,983.8	113,449.2
EBIT	18,385.1	24,766.5	31,755.1	36,653.7	Other long-term assets	3,346.0	4,130.0	5,097.8	6,292.3
Net interest income/(expense)	155.0	260.0	260.0	260.0	Total assets	75,183.0	104,863.2	138,298.9	175,396.4
Income/(loss) from associates	0.0	0.0	0.0	0.0	Accounts payable	12,015.0	14,755.3	16,721.8	18,241.1
Others	0.0	0.0	0.0	0.0	Short-term debt	0.0	0.0	0.0	0.0
Pretax profits	18,540.1	25,026.5	32,015.1	36,913.7	Other current liabilities	8,707.0	10,542.7	12,101.9	13,785.6
Provision for taxes	(4,527.0)	(6,381.8)	(8,163.9)	(9,413.0)	Total current liabilities	20,722.0	25,298.0	28,823.7	32,026.8
Minority interest	0.0	0.0	0.0	0.0	Long-term debt	0.0	0.0	0.0	0.0
Net income pre-preferred dividends	14,013.1	18,644.7	23,851.3	27,500.7	Other long-term liabilities	6,670.0	11,529.4	15,988.2	20,782.0
Preferred dividends	0.0	0.0	0.0	0.0	Total long-term liabilities	6,670.0	11,529.4	15,988.2	20,782.0
Net income (pre-exceptionals)	14,013.1	18,644.7	23,851.3	27,500.7	Total liabilities	27,392.0	36,827.4	44,811.9	52,808.7
Post tax exceptionals	(0.1)	0.0	0.0	0.0	Preferred shares	0.0	0.0	0.0	0.0
Net income (post-exceptionals)	14,013.0	18,644.7	23,851.3	27,500.7	Total common equity	47,791.0	68,035.7	93,487.0	122,587.7
EPS (basic, pre-exception) (\$)	15.41	20.17	25.30	28.73	Minority interest	0.0	0.0	0.0	0.0
EPS (diluted, pre-exception) (\$)	15.15	19.86	24.91	28.29	Total liabilities & equity	75,183.0	104,863.2	138,298.9	175,396.4
EPS (basic, post-exception) (\$)	15.41	20.17	25.30	28.73	Additional financials	9/10	9/11E	9/12E	9/13E
EPS (diluted, post-exception) (\$)	15.15	19.86	24.91	28.29	Net debt/equity (%)	(23.6)	(19.7)	(16.5)	(14.0)
Common dividends paid	--	--	--	--	Interest cover (X)	NM	NM	NM	NM
DPS (\$)	0.00	0.00	0.00	0.00	Inventory days	7.0	7.6	7.7	7.9
Dividend payout ratio (%)	0.0	0.0	0.0	0.0	Receivable days	24.8	25.0	25.1	25.6
					BVPS (\$)	52.18	73.01	98.24	127.23
Growth & margins (%)	9/10	9/11E	9/12E	9/13E	ROA (%)	22.8	20.7	19.6	17.5
Sales growth	52.0	40.8	20.7	10.5	CROCI (%)	46.4	41.1	35.0	28.8
EBITDA growth	55.6	35.1	27.8	15.2	Dupont ROE (%)	29.3	27.4	25.5	22.4
EBIT growth	56.6	34.7	28.2	15.4	Margin (%)	21.5	20.3	21.5	22.5
Net income (pre-exception) growth	70.2	33.1	27.9	15.3	Turnover (X)	0.9	0.9	0.8	0.7
EPS growth	67.1	30.9	25.5	13.6	Leverage (X)	1.6	1.5	1.5	1.4
Gross margin	39.4	38.1	39.7	40.6	Free cash flow per share (\$)	18.24	21.32	27.00	30.96
EBITDA margin	29.8	28.6	30.3	31.5	Free cash flow yield (%)	7.9	6.7	8.4	9.7
EBIT margin	28.2	27.0	28.7	29.9					
Cash flow statement (\$ mn)	9/10	9/11E	9/12E	9/13E					
Net income	14,013.1	18,644.7	23,851.3	27,500.7					
D&A add-back (incl. ESO)	1,027.0	1,468.9	1,772.4	1,958.2					
Minority interest add-back	0.0	0.0	0.0	0.0					
Net (inc)/dec working capital	1,249.0	845.9	1,004.6	1,078.2					
Other operating cash flow	2,305.9	2,791.8	3,035.7	3,009.0					
Cash flow from operations	18,595.0	23,751.3	29,664.0	33,546.2					
Capital expenditures	(2,005.0)	(4,039.5)	(4,209.4)	(3,916.5)					
Acquisitions	(754.0)	0.0	0.0	0.0					
Divestitures	0.0	0.0	0.0	0.0					
Others	(11,095.0)	(19,143.3)	(25,090.5)	(29,465.4)					
Cash flow from investing	(13,854.0)	(23,182.8)	(29,299.9)	(33,381.9)					
Dividends paid (common & pref)	0.0	0.0	0.0	0.0					
Inc/(dec) in debt	0.0	0.0	0.0	0.0					
Other financing cash flows	1,257.0	1,600.0	1,600.0	1,600.0					
Cash flow from financing	1,257.0	1,600.0	1,600.0	1,600.0					
Total cash flow	5,998.0	2,168.5	1,964.1	1,764.3					

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

Source: Company data, Goldman Sachs Research estimates.

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Table of contents

Investment view: A disruptive platform with plenty of room for growth	4
Three key investment themes: the platform, GMs, and the iPad push	4
Investment theme #1: The platform opportunity is still in its early stages	4
Investment theme #2: We believe gross margins have already bottomed	6
Investment theme #3: The iPad gives Apple its most significant PC share opportunity in nearly three decades	8
Key risks to our investment thesis	9
A double-dip recession could dampen Apple's growth and margins	9
Platform competition is only increasing	9
Earnings outlook	10
Revenue growth has upside potential	10
Margin assumptions may be too cautious	11
Our earnings outlook is above consensus for 2011-12	11
Cash management could improve	11
Valuation	12
Comparative valuation analysis implies upside	13
Discounted cash flow analysis	14
Common questions	16
Will the iPad cannibalize Apple's other segments?	16
Has Apple reached its peak margin potential?	16
Who poses the greatest competitive threat to Apple?	17
How will Apple compete in the prepaid mobile Phone markets?	17
When will AT&T exclusivity end?	17
Will Apple ever launch an iPhone nano?	17
How important is the lack of Flash on iOS?	18
What will Apple do with its massive cash balance?	18
Deep Dive #1: Platform dynamics, the core of the Apple story	18
The evolution of the Apple platform	19
Apple's devices are the spokes that attach to the platform	22
What about the open-vs.-closed systems debate?	24
What is Apple's competition?	25
Digging into the platform spokes	26
The iPad: a disruptive force for computing	26
The iPhone: spreading iOS worldwide	31
The Mac: becoming an outlier in the platform	35
The iPod business: shifting the installed base to iOS	37
Apple TV: A "hobby" with option value	42
What new spokes and platform enhancements are on the horizon?	43
Deep Dive #2: Can the Apple dream turn into a nightmare?	45
Potential Pitfall #1: An erosion of Apple's installed base	45
Potential Pitfall #2: Deterioration in installed base profitability	47
Potential Pitfall # 3: Legal and regulatory hurdles to platform expansion	49
Conclusion	50
Appendix: Financial Model	53

The prices in the body of this report are as of the close, December 8, 2010, unless otherwise indicated.

Investment view: A disruptive platform with plenty of room for growth

We are resuming coverage of Apple with a Buy rating and 12-month target price of \$430 and place it on our Americas Conviction List. Apple currently trades at 15.0 times our calendar 2011 EPS estimate, which represents a 14.1% premium to the S&P 500 and a 16.3% premium to our coverage universe. We believe this premium is set to expand further. Our \$430 price target represents a P/E multiple of 20.0 times our calendar 2011 EPS estimate of \$21.46, which is 14.4% below the stock's five-year average multiple of 23.4 times.

We contend that Apple's unique platform approach to mobile computing is raising barriers to entry for competitors, providing increased long-term profit potential, and enabling Apple to expand growth into a large and relatively untapped total available market opportunity. In addition, we are providing investors with a framework to monitor the progress of Apple's platform evolution and factors that could warn investors if the company were about to hit a wall in terms of growth and profitability.

Three key investment themes: the platform, gross margins, and the iPad push

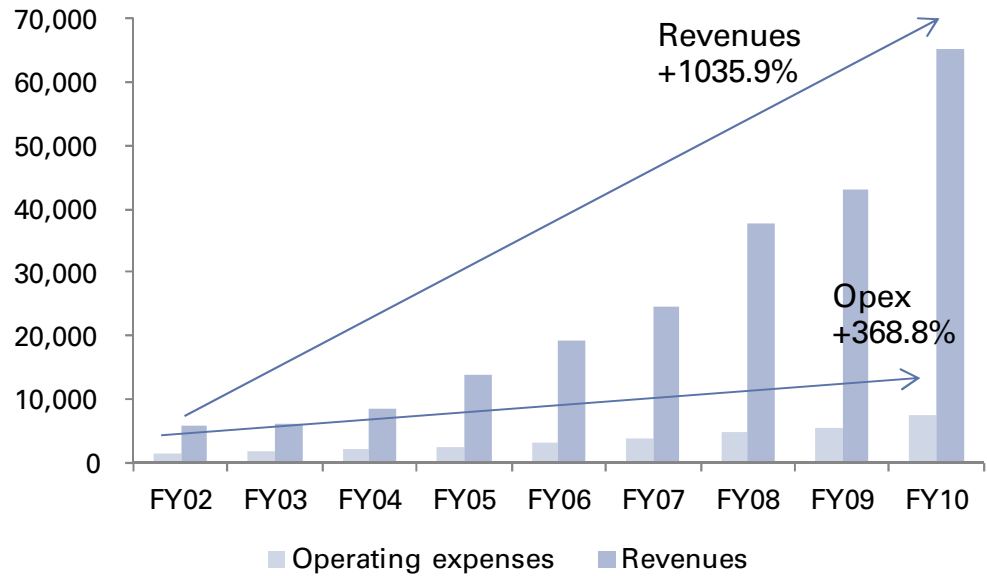
Investment theme #1: The platform opportunity is still in its early stages

In this report we provide a detailed analysis of Apple's platform dynamics. Our conclusion is that Apple's success has largely been driven by its positioning of its hardware devices as delivery mechanisms for its platform (and more specifically, the content and application ecosystems attached to that platform). We believe this has several important financial implications for investors.

First, by leveraging one platform for its key hardware devices, Apple has been able to generate remarkable operating leverage since the platform reached its first important milestone with the launch of the iTunes Music Store in 2003. In fact, Apple has grown its operating expenses by 368.8% since 2002, but its revenues have expanded by 1035.9% (Exhibit 1). Most important, by leveraging the third-party developers and content providers as a source of value for its software ecosystem, we estimate that Apple only had to increase its operating system R&D by 35% from \$134 million in fiscal 2002 to \$180 million in fiscal 2009, while revenues increased by more than seven-fold over the same period. As a result of these factors, Apple has leveraged its platform ecosystem to create tremendous shareholder value and expand operating margins from 0.8% in fiscal 2002 to 26.8% in the most recent quarter. We expect this leverage to continue, and forecast further margin expansion to 29.9% in fiscal 2013. We also expect EPS to expand from \$19.86 in fiscal 2010 to \$28.29 in fiscal 2013, and we suspect this could prove conservative.

Exhibit 1: Apple has been able to generate remarkable operating leverage through its platform approach

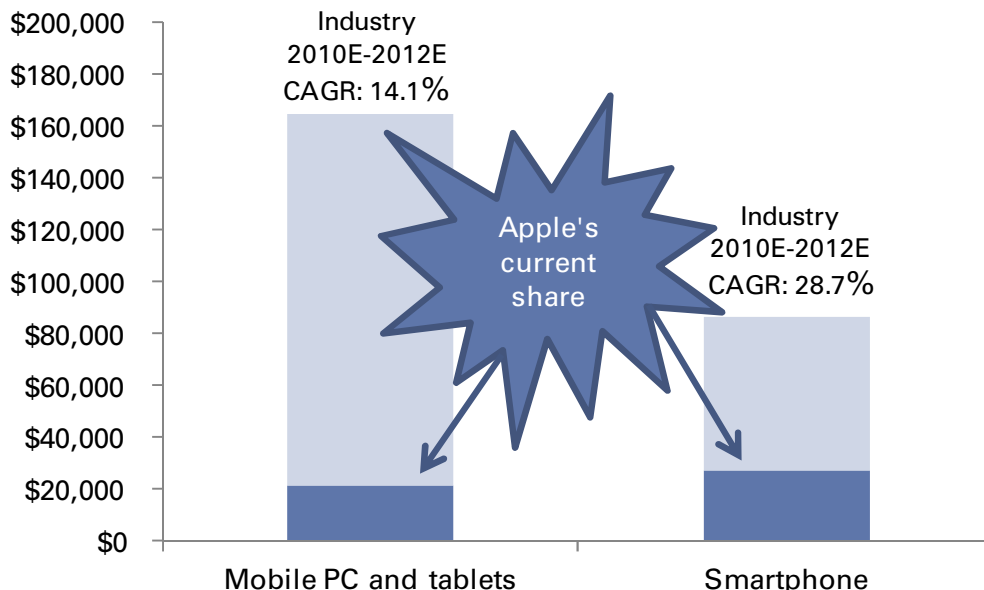
\$ millions



Source: Company data.

Second, Apple has been remarkably successful at leveraging its platform into entirely new market segments over the past several years. There are several notable examples of this: the expansion into the smartphone segment with the iPhone, the expansion into handheld gaming and media devices with the iPod touch, and more recently, the expansion into mass market computing with the iPad. All of these devices leveraged the same iTunes content, the same app store, and most important, the same operating system. Nevertheless, these “iOS” devices have only been around for a little over three years, and we believe the market opportunity is still in its infancy. Indeed, if we look at Apple’s market share in the relevant market segments for each of its iOS devices, the untapped opportunity becomes far more apparent (Exhibit 2).

Exhibit 2: The PC and smartphone end markets alone could fuel Apple’s growth for years
 2010E end market revenues in millions



Source: Goldman Sachs Research estimates.

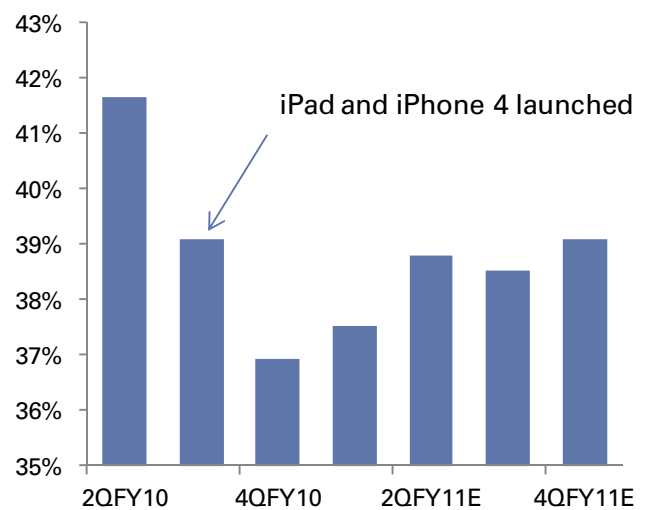
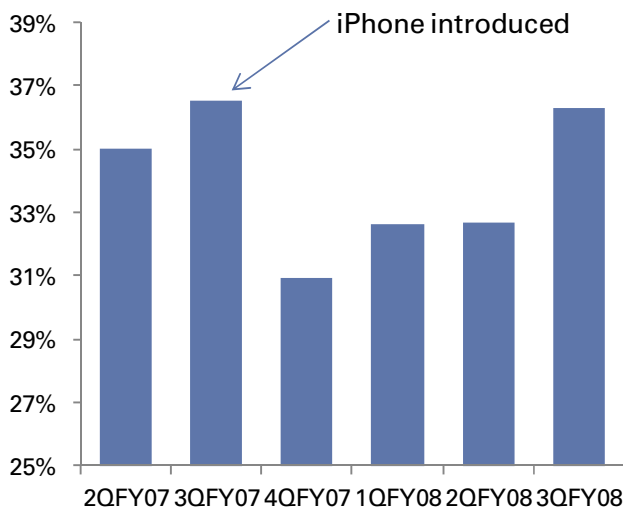
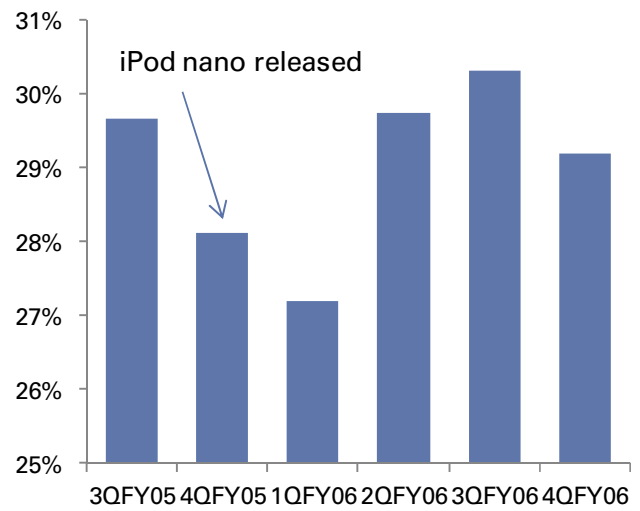
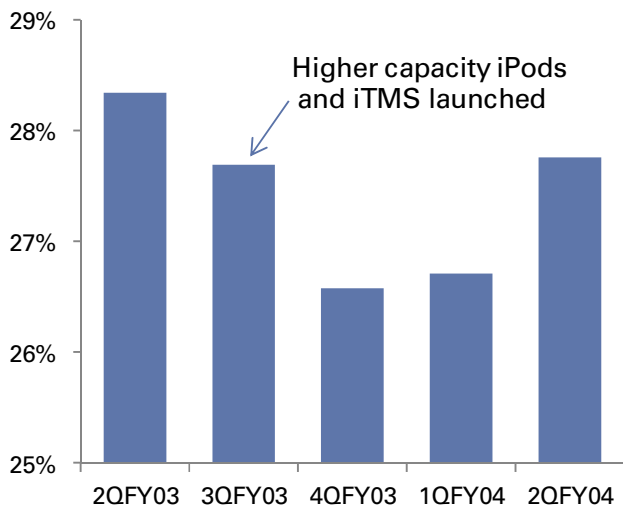
This exhibit doesn’t even consider the potential opportunities in gaming and handheld computing from the iPod touch and potential unannounced products from Apple as well. The essential point is that we believe there is still an exceptional amount of room for Apple to expand its revenues and profits. In addition, while it may seem like Apple has been riding an incredibly fortunate streak of product hits for almost a decade now, the reality is that this is really a steady and disruptive expansion of a platform that was first unleashed with the iPod in 2001 and has a heritage in the Mac operating system developed years before that. We provide a detailed analysis of these platform dynamics in the body of this report.

Investment theme #2: We believe gross margins have already bottomed

Apple’s recent gross margin trends and guidance have caused some concerns among the investing community. Our analysis of Apple’s platform history not only suggests that this gross margin erosion is normal, but also that we have probably already seen the worst of it.

Indeed, we believe the nature of Apple’s platform model suggests that the company will often enter new market segments with relatively depressed product margins in order to seed the installed base, developer and content opportunity. This is because the platform ecosystem (developers, content providers, and peripheral sales) tends to receive an exponential boost when a new product adds a large number of users to the installed base. Most important, the stickiness of Apple’s platform then allows the company to lower prices at a slower rate than the competition and the underlying commodity component costs, and this eventually leads to margin leverage. For instance, we have seen a similar trend for corporate gross margins during major platform hardware launches throughout Apple’s history (Exhibit 3).

Exhibit 3: Major platform hardware launches throughout Apple’s history have been followed by margin leverage
 Apple corporate gross margin



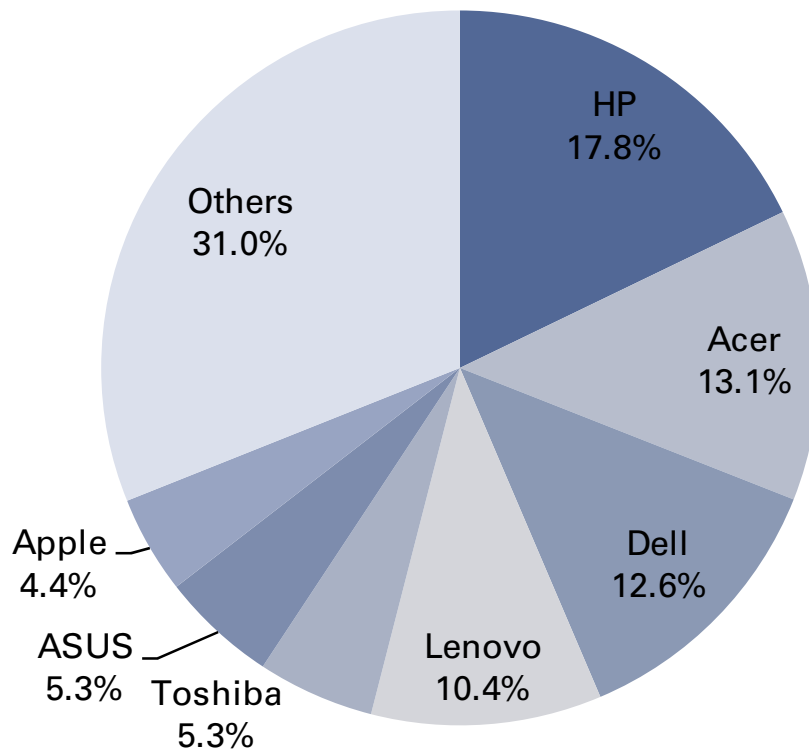
Source: Company data, Goldman Sachs Research estimates.

As a result of this remarkably consistent history, we believe it is clear that Apple’s recent gross margin erosion is a natural consequence of how it seeds new market opportunities for its platform. As with the prior launches, we believe margins could recover quite quickly. Furthermore, the iPad in particular adds a product spoke with *profit dollars per unit* only rivaled by the iPhone and the Mac. As such, growth in iPad units should drive considerable earnings expansion, even with the initial compression of gross margins we have seen. We assume Apple’s gross margins expand from 36.9% in the September quarter of 2010 to 38.8% in the September quarter of 2011 and we assume this rate of expansion could prove conservative if component prices continue to decline at more rapid rates.

Investment theme #3: The iPad gives Apple its most significant PC share opportunity in nearly three decades

Apple’s share of the total PC market stood at 4.4% in the September quarter (Exhibit 4). This represents the company’s highest share of the industry since early 1996. Nevertheless, it is difficult to get too excited over a mid-single digit market share, and our current forecasts suggest this share will only increase modestly in 2011. With the iPad, however, this type of analysis may be meaningless. If we view tablets as computing devices and we accept that some users will use tablets as notebook replacements, then we believe tablets should be considered part of the PC market. Furthermore, we believe the profit dollars Apple earns from each iPad have already exceeded the average profit dollars earned on a Wintel notebook, so growth in iPads should be preferable to growth in the lower price bands of the traditional notebook segment from Apple’s perspective.

Exhibit 4: Apple’s share of the PC market (ex tablets) stood at 4.4% in 3Q2010
3Q2010 worldwide PC unit share

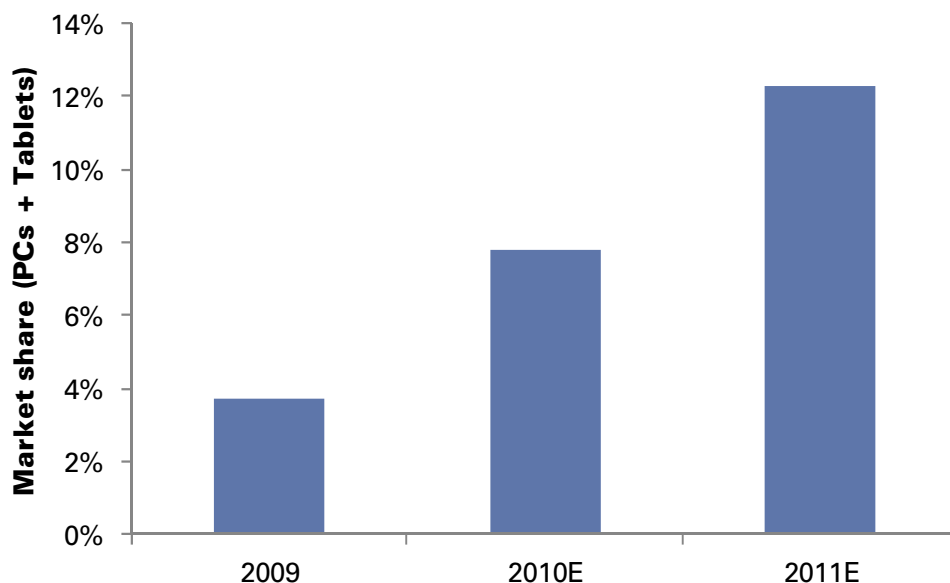


Source: IDC, November 2010.

If we include tablets in our PC unit forecast, then our estimates suggest Apple’s combined iPad and Mac market share would reach 12% in 2011 (Exhibit 5). Based on the current market share breakdown in the PC market, this could presumably make Apple one of the largest vendors in the combined PC and tablet market. This would represent a profound change in the competitive landscape for the industry if our forecasts are correct.

Exhibit 5: Apple could become the second largest vendor in the combined PC and tablet markets by 2011

Apple unit share of the combined PC and tablet markets



Source: IDC, November 2010, Goldman Sachs Research estimates.

This not only demonstrates how significant the iPad has been for Apple investors, but it also highlights the power of Apple's platform model. By leveraging the iTunes and App Store components of the platform, Apple's unique tablet design has been able to potentially produce the most disruptive force to Wintel computing in the history of the PC industry. Tablet competitors are looming, so Apple can't rest on its laurels. Nevertheless, we believe the iPad's rapid success, more than any of Apple's other products, demonstrates how quickly Apple's overall platform is permeating the computing industry.

Key risks to our investment thesis

A double-dip recession could dampen Apple's growth and margins

As investors clearly remember from the 2008 recession, Apple is not immune to macroeconomic trends. While the company's revenue and profit performance during the downturn shaped up better than most had feared, the company's stock price deteriorated nearly 59% from its pre-recession highs (compared with a 42.5% decline in the S&P 500 during the same time frame) as investor concerns over consumer-centric business models reached a peak. As such, we are mindful of the reality that Apple could see some impact to its revenue and profit outlook and a potentially severe compression in its valuation if the global and domestic economies fall into recession once again.

Platform competition is only increasing

The success of Apple's iOS platform has quickly captured attention from the leading PC, mobile phone, and Internet companies. This shouldn't be surprising, as we believe this is

the first major opportunity for disruption of the Wintel platform's dominance of personal computing in nearly three decades. In order to maintain its first-mover advantage, Apple will need to maintain a leading level of developer and content provider support, while maximizing its share of mobile device units and profits. In this report, we introduce our framework for analyzing the company's progress on these fronts, and we also discuss factors that could lead to a deterioration in Apple's leadership position. Our thesis is based on the success of Apple's entire platform, so this risk factor is critical for all Apple investors.

Legal and regulatory barriers could arise

Once a computing platform achieves critical mass, it is often difficult to stop its momentum. Nevertheless, the same market forces that bolster barriers to entry for platform leaders can be quickly demolished by targeted regulatory and legal pressures. Indeed, historical examples from Microsoft to AT&T demonstrate the difficulties such actions can create for investors. As Apple captures increasing share of critical computing markets, with an approach that some consider to be closed and proprietary, the risks of increasing regulatory and legal hurdles only intensifies. We believe investors should monitor trends in this area closely, and investors should pay particular attention to any actions that limit Apple's control over its App Store and iTunes content.

Apple's management succession plans are still murky

We believe the substantial appreciation in Apple's stock price and market position has led investors to attach significant value to the leadership of Steve Jobs and his team. Any threats to the tenure of the existing executive team, particularly Steve Jobs and Tim Cook, would likely have a significant impact on the share price. For longer-term investors, this represents a risk that can be frustratingly difficult to quantify. In our view, it is clear that Apple wouldn't be successful today if it weren't for the strategic vision of Steve Jobs. Mr. Jobs saw the shifting tides of consumer computing, and he capitalized on this by leading Apple in the development of one of the most powerful software and content platforms in the world. This platform may have never been created with any other leader at Apple. With that said, the platform is here now and it's robust. We believe the current executive bench is more than capable of managing this platform into the future, notwithstanding the uncertainty that could be produced by a departure of Mr. Jobs or Mr. Cook.

Earnings outlook

Revenue growth has upside potential

We believe Apple's evolving content platform will drive above-consensus revenue growth for the company in coming years. Our forecast calls for fiscal 2011 revenues of \$91.81 billion, versus consensus of \$87.49 billion. Within this, we expect iPad revenues to increase nearly four-fold to \$19.76 billion, up from \$4.96 billion in fiscal 2010 as the company ships 31.05 million units. This would equate to 68.8% unit share based on our forecast for the global tablet market. In addition, iPhone sales should also continue to rise, and we expect revenues to reach \$33.91 billion on units of 57.57 million. Our iPhone unit estimate suggests Apple is able to capture 15.1% of the global smartphone market in fiscal 2011, based on Goldman Sachs Telecom Equipment team's forecast for industry-wide global smartphone shipments of 381.1 million. Meanwhile, Macs should also continue their share gains, with shipments of 16.06 million driving revenues of \$19.82 billion. This represents

4.4% unit share of our forecasted 368.2 million worldwide PC shipments in Apple's fiscal 2011. Although we forecast iPod revenues to decline by 5.2% on a unit contraction of 6.8%, within this, we expect iPod touch units to rise by a healthy 19.4%. We expect these overall solid trends to continue in fiscal 2012 and 2013, where we are looking for total revenues of \$110.77 billion and \$122.39 billion, versus consensus of \$101.01 billion and \$110.72 billion.

Margin assumptions may be too cautious

As we discuss below, we believe Apple's unique platform allows for significant gross and operating margin leverage. Nevertheless, we expect margins to remain somewhat constrained near term as the company manages through the early stages of the iPad and iPhone 4 product lifecycles. As a result, we forecast gross margins will decline to 38.1% in fiscal 2011 from 39.4% in fiscal 2010, but we assume that the September quarter of 2010 marked the gross margin bottom for this transition. This should expand to 39.7% in fiscal 2012 and 40.6% in fiscal 2013. On the operating margin line, Apple's mobile devices all run on the same core software and content platforms, which enables the company to generate R&D and marketing leverage that is unmatched in the technology industry. As a result, we believe the company should be able to maintain a relatively stable opex ratio despite the iPad and iPhone ramps. As a result, we believe operating margin declines will largely mirror the gross margin declines we forecast for fiscal 2011: we assume operating margins decline to 27.0% in FY11, from 28.2% in FY10. We believe the company's annual operating leverage should resume as Apple expands its volume of iOS devices. Our forecast calls for operating margins of 28.7% in fiscal 2012 and 29.9% in fiscal 2013.

Our earnings outlook is above consensus for 2011-12

Our revenue and margin assumptions point to continued earnings growth in coming years. We believe Apple's platform expansion and operating leverage should continue to expand and we are above consensus as a result. For fiscal 2011, we forecast EPS of \$19.86 versus The Street's estimate of \$19.02. Our EPS estimates of \$24.91 in fiscal 2012 and \$28.29 in fiscal 2013 compare with consensus of \$22.17 and \$24.02.

Cash management could improve

Apple had \$25.62 billion in cash and short-term marketable securities at the end of the September quarter, and an additional \$25.39 billion held in long-term marketable securities. These long-term securities consist primarily of liquid government bonds, so we view them as longer-duration cash equivalents. With no debt on its balance sheet, Apple had a net cash position of \$51.01 billion, or \$27.58 per share (\$54.92 including long-term investments). The company's cash balance has risen significantly with the success of its Mac, iPod, iPhone and now iPad businesses, as well as stringent working capital management.

We expect the company to use its cash balance primarily for capital improvements, and to a much a lesser extent, acquisitions. Apple's cash capital expenditures were \$2.0 billion in fiscal 2010, which represented 3.1% of sales. Of this, approximately \$404 million was for retail store expansion, and the remainder for product tooling and manufacturing process equipment, and corporate facilities and infrastructure. A large portion was also used for the North Carolina datacenter that Apple has recently completed. The company spent an additional \$754 million on acquisitions. In fiscal 2011, the company expects to spend approximately \$4.0 billion in capital expenditures, including approximately \$600 million to open 40-50 new retail stores, over half of which are expected to be located outside of the United States. The remainder is expected to be spent on product tooling and

manufacturing process equipment expansion, as well as corporate facilities and infrastructure.

Exhibit 6: Apple earnings outlook

\$ in millions, except per share

	FY10	FY11E	FY12E	FY13E
Revenues				
Macs	17,479	19,822	21,091	22,578
iPod	8,274	7,846	7,562	7,270
Other music related products and services	4,948	5,575	6,251	6,783
iPhone and related products and services	25,179	33,912	41,529	46,515
iPad and related products and services	4,958	19,758	28,872	33,135
Peripherals and other hardware	1,814	2,077	2,367	2,699
Software, service and other sales	2,573	2,818	3,099	3,409
Total	\$65,225	\$91,807	\$110,773	\$122,390
Gross profit	25,684	34,967	43,987	49,679
Operating income	18,385	24,766	31,755	36,654
Net income	14,013	18,645	23,851	27,501
Diluted shares outstanding	925	939	958	972
EPS—pro forma	\$15.15	\$19.86	\$24.91	\$28.29
Margins				
Gross	39.4%	38.1%	39.7%	40.6%
Operating	28.2%	27.0%	28.7%	29.9%
Net	21.5%	20.3%	21.5%	22.5%
Y/Y % change				
Revenues	52.0%	40.8%	20.7%	10.5%
Gross profit	49.1%	36.1%	25.8%	12.9%
Operating income	56.6%	34.7%	28.2%	15.4%
EPS—pro forma	66.9%	31.0%	25.5%	13.6%

Source: Company data, Goldman Sachs Research estimates.
Note: Fiscal year ends September.

Valuation

We are resuming coverage of Apple with a Buy rating and a 12-month target price of \$430. We derive our target price primarily from price/earnings analysis, supported by comparative valuation analysis of other historical multiples and discounted cash flow (DCF) analysis. Apple currently trades at 15.0 times our calendar 2011 EPS estimate, which represents a 14.1% premium to the S&P 500 and a 16.3% premium to our coverage universe. Despite Apple stock rising 52.3% this year, versus a 10.1% increase in the S&P 500, Apple's multiple has contracted as investors have digested the impact of the iPad on the company's growth prospects and earnings estimates have risen. We believe the story is far from over, and we believe the company's growing installed base of iOS users leaves significant opportunities for operating leverage and market share expansion.

Comparative valuation analysis implies upside

Price to earnings

Apple's P/E is near historical lows and we believe this presents an attractive buying opportunity. Apple currently trades at 15.0 times our calendar 2011 EPS estimate, which represents a 14.1% premium to the S&P 500 and a 16.3% premium to our coverage universe. This is a steep discount to Apple's five-year average multiple of 23.4 times and is very near its one-year low of 13.2 times. Our 12-month target price of \$430 represents a multiple of 20.0 times our calendar 2011 EPS estimate, which would be 14.4% discount to the five-year average of 23.4 times.

Exhibit 7: Apple's P/E is at the low end of its historical range

Price to second calendar year EPS (excludes P/E > 100)

	Current	One-Year			Five-Year			Ten-Year		
		High	Low	Average	High	Low	Average	High	Low	Average
AAPL	15.0	26.2	13.2	17.4	44.6	12.8	23.4	66.7	12.3	30.1
DELL	10.5	12.7	8.0	9.8	22.3	6.1	12.9	41.1	6.1	19.4
EMC	14.8	16.4	13.0	14.5	30.6	9.6	16.8	95.8	9.6	25.5
HPQ	8.6	12.0	7.5	9.5	17.1	6.1	11.9	25.1	6.1	12.9
IBM	11.6	12.2	9.9	10.8	15.7	7.8	12.1	26.1	7.8	14.7
LXK	9.2	13.7	7.7	9.9	19.0	7.3	12.1	25.9	7.3	15.2
NTAP	26.1	26.3	16.1	20.2	35.9	6.9	20.2	99.7	6.9	29.4
STX	9.5	10.0	3.4	5.8	99.1	2.4	10.9	99.1	2.4	12.3
WDC	12.1	11.7	4.1	7.1	17.0	3.2	8.9	23.4	3.2	10.1
XRX	11.1	12.4	7.5	9.8	15.2	3.9	11.0	38.6	3.9	13.0
<i>Average</i>	<i>12.9</i>	<i>15.4</i>	<i>9.1</i>	<i>11.5</i>	<i>31.7</i>	<i>6.6</i>	<i>14.0</i>	<i>54.1</i>	<i>6.6</i>	<i>18.3</i>
SPX	13.1	15.8	11.1	12.7	16.2	8.0	13.6	24.7	8.0	15.6

Source: FactSet, Goldman Sachs Research estimates.

Enterprise value to next twelve months (NTM) sales

Apple's EV/NTM sales multiple also supports our positive outlook. Apple currently trades at 2.9 times our NTM sales estimate of \$91.81 billion. This is below the stock's five-year average of 3.0 times. Our 12-month price target of \$430 represents a multiple of 4.0 times, which is at the high end of the stock's historical range. We believe Apple's potential for operating leverage and margin expansion suggests its EV/NTM sales multiple could continue to trend higher over time. Our forecast calls for gross margins to decline to 38.1% in fiscal 2011 from 39.4% in fiscal 2010, but then rebound to 39.7% in fiscal 2012 and 40.6% in fiscal 2013.

Exhibit 8: Apple's EV/NTM sales multiple is also at the low end of its historical range

EV to NTM sales

	Current	One-Year			Five-Year			Ten-Year		
		High	Low	Average	High	Low	Average	High	Low	Average
AAPL	2.92	3.86	2.57	3.25	5.39	1.22	2.97	5.39	0.09	1.93
DELL	0.31	0.46	0.24	0.33	1.15	0.15	0.56	2.35	0.15	1.13
EMC	2.32	2.45	1.95	2.19	3.74	1.05	2.15	17.82	0.97	3.01
HPQ	0.84	1.07	0.72	0.91	1.25	0.53	0.94	1.43	0.28	0.85
IBM	1.94	1.98	1.66	1.81	1.98	1.17	1.66	2.69	1.17	1.74
LXK	0.59	0.77	0.42	0.59	1.34	0.22	0.67	2.17	0.22	1.10
NTAP	3.09	3.42	1.89	2.47	5.22	0.62	2.65	19.44	0.62	3.80
STX	0.67	0.89	0.41	0.64	1.38	0.22	0.83	1.90	0.22	0.89
WDC	0.61	0.97	0.31	0.59	1.13	0.19	0.67	1.13	0.16	0.60
XRX	1.15	1.18	0.65	0.99	1.53	0.65	1.12	1.54	0.65	1.21
<i>Average</i>	<i>1.44</i>	<i>1.70</i>	<i>1.08</i>	<i>1.38</i>	<i>2.41</i>	<i>0.60</i>	<i>1.42</i>	<i>5.59</i>	<i>0.45</i>	<i>1.63</i>

Source: FactSet, Goldman Sachs Research estimates.

Enterprise value to last twelve months (LTM) sales

We expect Apple's EV/LTM sales multiple to continue to expand. Apple currently trades at 4.1 times LTM sales of \$65.23 billion. This is above the stock's five-year average of 3.5 times and at the high end of the stock's historical range. Our 12-month price target of \$430 represents a multiple of 5.7 times, which would be closer to the stock's five-year high of 6.6 times. We believe this multiple expansion could be explained by the company's recent margin expansion, where Apple's margins set new records in fiscal 2010. Although we expect margins to be constrained in the near term as the company ramps its new products, we believe Apple's leverage should continue as it grows its installed base of iOS users. Our estimates call for Apple's margins to rebound and set new records in fiscal 2012 and fiscal 2013.

Exhibit 9: Apple's margin expansion should continue to drive its EV/LTM sales multiple higher

EV to LTM sales

	Current	One-Year			Five-Year			Ten-Year		
		High	Low	Average	High	Low	Average	High	Low	Average
AAPL	4.08	4.42	3.20	3.80	6.62	1.27	3.47	6.62	0.10	2.23
DELL	0.31	0.51	0.26	0.36	1.28	0.13	0.58	2.37	0.13	1.25
EMC	2.61	2.67	2.19	2.42	4.05	1.09	2.35	23.91	1.08	3.35
HPQ	0.86	1.12	0.75	0.95	1.33	0.59	0.98	1.53	0.46	0.91
IBM	1.99	2.03	1.73	1.87	2.03	1.15	1.70	2.86	1.15	1.83
LXK	0.59	0.78	0.39	0.58	1.35	0.19	0.65	2.32	0.19	1.19
NTAP	3.56	3.82	2.11	2.86	6.74	0.68	3.17	32.64	0.68	4.67
STX	0.63	1.02	0.41	0.70	1.54	0.22	0.90	1.98	0.22	0.95
WDC	0.56	1.12	0.32	0.64	1.20	0.18	0.72	1.20	0.17	0.62
XRX	1.31	1.58	0.89	1.20	1.62	0.65	1.18	1.62	0.65	1.24
<i>Average</i>	<i>1.65</i>	<i>1.91</i>	<i>1.22</i>	<i>1.54</i>	<i>2.77</i>	<i>0.61</i>	<i>1.57</i>	<i>7.70</i>	<i>0.48</i>	<i>1.82</i>

Source: FactSet, Goldman Sachs Research estimates.

Discounted cash flow analysis

We use discounted cash flow analysis in addition to comparative multiple analysis to support our P/E derived 12-month target price of \$430 for Apple. Our DCF analysis serves as a check for our target price, and as such, we use it to determine the implied growth rates or margin expansion the company would need to achieve in order to reach our target price. Specifically, our DCF analysis incorporates our explicit projections through calendar 2012. Beyond that, we assume the company maintains operating margins of 29% in order to determine the implied revenue growth rate needed to arrive at our target price. We assume working capital and asset turns improve modestly from current levels, where the company continues to spend aggressively to support its growth. Using this methodology suggests that Apple would have to grow revenues at 6.6% in calendar 2013, versus the 16.1% growth we expect in calendar 2012 and the 31.9% growth we forecast in calendar 2011. From here, its growth rate would decline linearly in each of the following seven years to 3% growth in perpetuity. This equates to average annual growth of 4.8% from 2012, which we view as achievable based on the company's growing iOS platform and market opportunities.

Exhibit 10: Apple would have to grow 4.8% annually at constant margins to achieve our 12-month target price of \$430

\$ millions, except per-share data

Revenue CAGR: 2012E-2017E	4.8%
Residual value	499,158
Cumulative present value of free cash flows	159,450
Present value of residual value	219,999
Corporate value	379,449
Debt	0
Excess cash	23,746
Value of equity	403,195
Diluted shares	945
Value per share	\$430

Source: Goldman Sachs Research estimates.

Scenario analysis

In addition to determining an implied revenue growth rate, we performed a sensitivity analysis to various terminal growth rates, discount rates and margins. We believe a WACC of 10.1% and a terminal growth rate of 3% are appropriate.

Exhibit 11: We believe a WACC of 10.1% and terminal growth rate of 3.0% are appropriate for Apple

Target price sensitivity to WACC and terminal growth rate

		Terminal Growth Rate				
		2.0%	2.5%	3.0%	3.5%	4.0%
WACC	9.1%	447.26	469.35	495.01	525.21	561.29
	9.6%	419.77	438.50	460.03	485.04	514.47
	10.1%	395.71	411.74	430.00	450.98	475.35
	10.6%	374.46	388.31	403.94	421.74	442.18
	11.1%	355.56	367.62	381.12	396.36	413.71

Source: Goldman Sachs Research estimates.

Exhibit 12: We assume a terminal operating margin of 29% to determine implied growth for our target price

Target price sensitivity to terminal operating margin and growth rate

		Terminal Growth Rate				
		2.0%	2.5%	3.0%	3.5%	4.0%
Terminal Operating Margin	27.0%	378.17	393.05	409.99	429.44	452.05
	28.0%	386.94	402.40	419.99	440.21	463.70
	29.0%	395.71	411.74	430.00	450.98	475.35
	30.0%	404.47	421.09	440.01	461.75	487.00
	31.0%	413.24	430.43	450.01	472.51	498.65

Source: Goldman Sachs Research estimates.

Company overview

Apple was founded on April 1, 1976 by Steve Jobs, Steve Wozniak and Ronald Wayne. Soon after, Apple became one of the first companies to successfully commercialize the personal computer. It has since expanded considerably, with a software and content platform that has fueled expanding share in the computer, mobile phone, portable media player, handheld gaming, peripherals, software, advertising and digital media markets. The company sells its products through its world-renowned Apple stores, online, third-party retailers, its direct sales force, wholesalers, resellers and value-added resellers. The company targets the education, consumer, creative professional, business and government segments of the market. Apple is headquartered in Cupertino, California, and has a manufacturing facility in Cork, Ireland. The company employs approximately 46,600 people globally.

Common questions

In the following section, we highlight some common investor questions that are likely to color the investment debate for Apple in coming quarters. Some of these issues may warrant further discussion in future research, though we provide a summary of our current thinking for each.

Will the iPad cannibalize Apple's other segments?

While we believe it is reasonable to conclude that there should be some degree of iPod and Mac cannibalization from the iPad, we believe in the end, this cannibalization is largely inconsequential. We estimate that the average iPad unit will deliver \$231.05 in gross profit in fiscal 2011, versus \$47.58 for iPods and \$330.21 for Macs. Thus if we have to trade an iPod unit for an iPad unit, that's great news. On the Mac side, the far greater TAM opportunity and near-parity versus profits for Apple's low-end notebooks suggests that investors should be relatively indifferent between an iPad or a Mac sale. In fact, we'd argue that if we assume the iPad is a personal computer, then the device should allow Apple to gain a far larger revenue and profit share in the PC market than the Mac ever could. Even with these arguments, there is very little evidence of Mac cannibalization at all. In the June quarter, Apple's Mac units grew by 33.4% annually, versus 20.4% growth for the overall PC market. Meanwhile, in the September quarter, Mac units grew by 27.3% annually, versus 9.7% growth for the overall PC market. In both quarters, Mac units exceeded consensus expectations. In addition, we must consider the more bullish possibility that Mac cannibalization forces from the iPad may be more than countered by a burgeoning "iPad Halo Effect" that is pushing Wintel users to the Mac platform. In this scenario, the Mac continues to satisfy the needs of "power users" in the PC market, while the iPad satisfies the needs of the mass market.

Has Apple reached its peak margin potential?

Apple's gross margins expanded 1169 basis points from fiscal 2002 to fiscal 2010 (excluding options expense). More impressively, operating margins expanded by 2873 basis points over the same period. While there have been quarterly fluctuations in margins during this period of rapid expansion, we believe the company still has plenty of room for leverage. As we discuss later in this report, Apple's unique platform allows for significant gross and operating margin leverage. On the gross margin line, the barriers to entry from the company's ever-evolving ecosystem shield it from the effects of hardware

commoditization, and it enables the company to capture the lion's share of industry profits through premium pricing. On the operating margin line, Apple's mobile devices all run on the same core software and content platforms, enabling Apple to generate R&D and marketing leverage that is unmatched in the technology industry. These factors should continue to work in the company's favor, particularly as Apple expands its volume of iOS devices. While we expect margins to remain somewhat constrained near term, as the company manages through the early stages of the iPad and iPhone 4 product lifecycles, but we believe gross margins bottomed in the September quarter of 2010.

Who poses the greatest competitive threat to Apple?

Given our view that Apple's success is primarily driven by its unique platform model, we believe it is also reasonable to conclude that any platform competitor could cause Apple's demise. As a result, we worry less about the various hardware leaders in the PC or handset markets, and instead, we believe investors should monitor mobile platform vendors with the greatest momentum. Specifically, we believe Google represents the clearest threat to Apple over the long term. The Android platform appears to be gaining momentum in the mobile markets far faster than other iOS competitors. While this could change, the advantages in platform markets tend to compound over time.

How will Apple compete in the prepaid mobile Phone markets?

While Apple's iPhone is enjoying great success in international markets, the company's premium-priced handsets may be a tougher sell in the prepaid segments of these markets. Unfortunately, the prepaid market represents more than 80% of mobile phone users in some emerging countries. Nevertheless, we don't expect Apple to stand by idly. We believe the company will focus its lower-cost, lower-BOM iPhone products on these markets. Over time, Moore's law should enable the company to hit lower price points, though it is unlikely that Apple will ever choose to be a price leader. The other option is to negotiate lower data plan rates with carriers, similar to the AT&T iPad partnership. Either way, we don't think the prepaid market will serve as a constraint for iPhone growth in the long term, but this is an issue that Apple should eventually address.

When will AT&T exclusivity end?

Earlier in the year, the consensus view was that Apple would add Verizon as a U.S. iPhone carrier in mid-2010. Clearly this never came to pass, so now what? We believe the end to Apple's exclusivity arrangement with AT&T is a matter of "when" not "if," and all signs point to an early-2011 announcement. As a result, we currently assume Apple's annual U.S. iPhone unit growth will hit 50% in the June quarter (after a brief stop at 15% growth before the launch), and we expect FY11 and FY12 U.S. unit growth to hold at approximately 33%.

Will Apple ever launch an iPhone nano?

Market chatter surrounding a potential dumbed-down or miniature iPhone has popped up multiple times over the past three years. Our view is that any new versions of the iPhone will be introduced only if they are additive to Apple's software and content platforms, and the App Store in particular. In this case, it would be difficult to reduce the screen size for the iPhone substantially, since it would make the device less compatible with the touchscreen-centric applications that currently dominate the ecosystem. Indeed, on many occasions, Apple's management has noted that the current iPhone screen size is optimized for the size of the average human finger. As such, we can't imagine a smaller screen size

could be introduced without substantially limiting the device's compatibility with Apple's current App Store portfolio.

How important is the lack of Flash on iOS?

If Apple were to launch a Flash-capable iOS, we believe consumers would almost certainly react positively. With that said, we suspect Apple believes that such a platform would limit its control over development quality, and consequently, the long-term value of the iOS platform. As a result, we do not expect the company to reverse course in this respect. Thus far, the lack of Flash support on iOS devices does not appear to be a major impediment to unit demand, as it appears the overall appeal of the platform ecosystem has been powerful enough to counter the limitations of not supporting Flash. We suspect this will continue to be the case, though we still believe this is a critical risk to monitor.

What will Apple do with its massive cash balance?

Apple currently holds a cash balance of \$51.01 billion, including marketable long-term investments. Most of this balance is invested in U.S. government treasuries or investment-grade corporate bonds, so the company's yield is currently only around 0.11%. It's difficult to argue that this is an appropriate use of cash, and investors have consistently argued for a more aggressive dispersal or investment of this cash. Nevertheless, Apple's management and board have steadfastly refused to part with this cash hoard, and it's useful to note that the company has not repurchased any of its shares since 2000 (missing the entire 4216% increase in the share price thereafter). Our sense is that the company will eventually issue this cash, probably in the form of a one-time dividend, but Apple's history suggests investors should not count on such an event in the intermediate term.

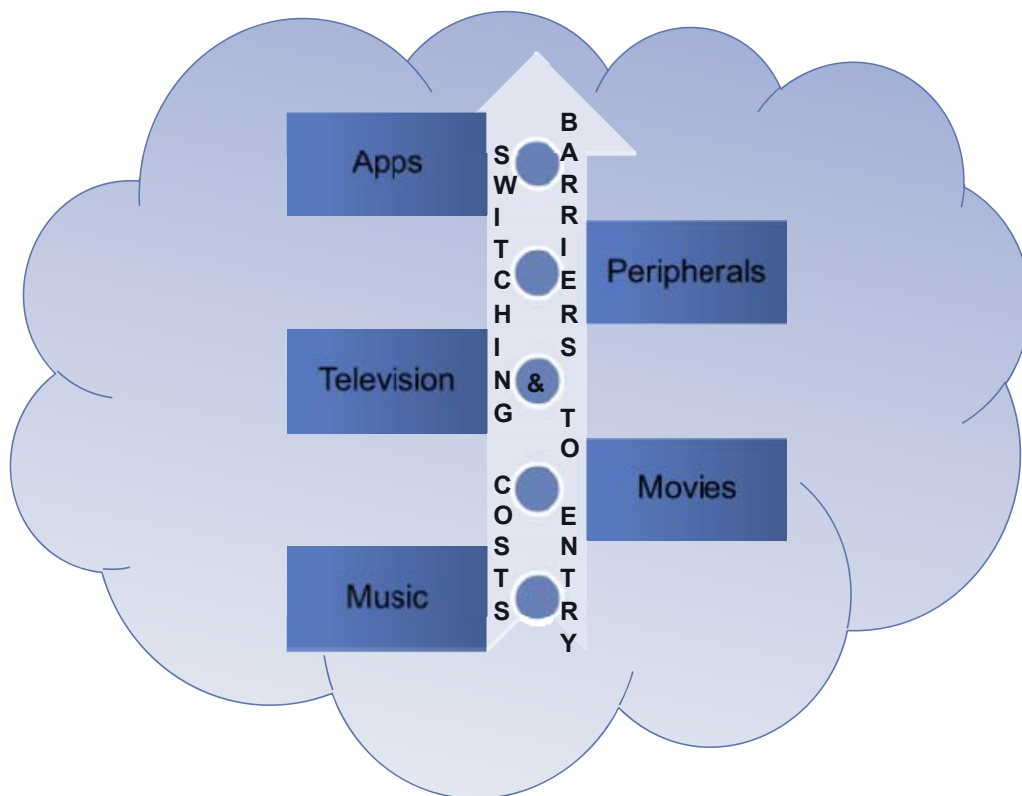
Deep Dive #1: Platform dynamics, the core of the Apple story

"We think as a software-driven company, we think about the software strategies first..."

— Steve Jobs, October 18, 2010

Apple's hardware products often capture the hearts of consumer with their innovative and elegant designs, and this has been the case throughout the company's 34-year history. Nevertheless, we believe Apple's tremendous success in its most recent decade has been primarily driven by the evolution of its content and software platform, with the hardware devices serving primarily as platform delivery mechanisms. Starting with the success of the iTunes Music Store in 2003, Apple has been able to attach an ever-growing content portfolio to its devices. This created a loyal and active installed base with steadily increasing switching costs that have shielded Apple from the forces of hardware commoditization that traditionally plague the consumer electronics and personal computing markets. More recently, Apple has leveraged this installed base into the mobile computing market (iPod touch, iPhone and the iPad) with the 2008 introduction of the App Store. This has not only added another layer of functionality and switching costs for users, but it has also enabled Apple to build a diverse army of professional and amateur developers for its platform. The historic and rapid growth of this platform is not only fueling substantial hardware revenue and profit growth, but we believe it is also potentially positioning Apple as the most disruptive force in personal computing in over 20 years.

Exhibit 13: Apple has been able to attach an ever-growing content portfolio to its devices



Source: Goldman Sachs Research.

When we look at Apple through the prism of this platform model, many of its strategic decisions seem less mysterious. We believe the company’s primary goal is to attract users to the platform, which in turn will make the platform increasingly alluring by capturing more software developers and content providers. This, in turn, attracts even more users and fuels a virtuous cycle of increasing returns. In this section, we discuss the evolution of this platform model, the financial consequences for Apple, and where this platform may be heading. Our primary conclusion is that Apple’s platform approach is still in its nascent stages, and that there is plenty of revenue and profit expansion left in the system. This, of course, serves as the core of our overall investment thesis for the company. But our analysis is not one-sided, as we close the report with a Devil’s advocate discussion of how Apple’s platform model could stagnate or fail longer-term.

The evolution of the Apple platform

When we discuss Apple’s “platform,” we are generally referring to Apple’s software with an OS X based heritage and attachment to iTunes and/or the App Store. The most significant evolution of Apple’s platform model, however, is occurring within the iOS sub-platform. iOS is the operating system behind the iPhone, iPod touch and the iPad. Apple’s traditional computing products run the heritage OS X operating system. iOS itself is a derivative of OS X, and both share the same UNIX and processor-agnostic roots. The primary differences between iOS and heritage OS X is that the former is designed specifically for the needs of mobile devices, its GUI is based on a touchscreen interface and

its application base is largely derived from Apple's App Store. In contrast, heritage OS X is primarily designed for general purpose Mac computers running traditional personal computing applications (though this may be changing with the new Mac App Store). From an economic perspective, however, the two operating systems are similar enough beneath the surface to share a common R&D pool.

Exhibit 14: iOS and Mac OS X are similar enough to share a common R&D pool

	iOS	Mac OS X
Programmed in	C, C++, Objective-C	C, C++, Objective-C
OS family	Mac OS X/UNIX-like	Mac OS/UNIX
Initial release	June 29, 2007	March 24, 2001
Supported platforms	ARM (iPhone, iPod Touch, iPad)	IA-32, x86-64
Kernel type	Hybrid (Darwin)	Hybrid (based on Mach microkernel)
Default user interface	Cocoa Touch (multitouch, GUI)	Graphical (Aqua)
Licence	Proprietary EULA	Proprietary EULA

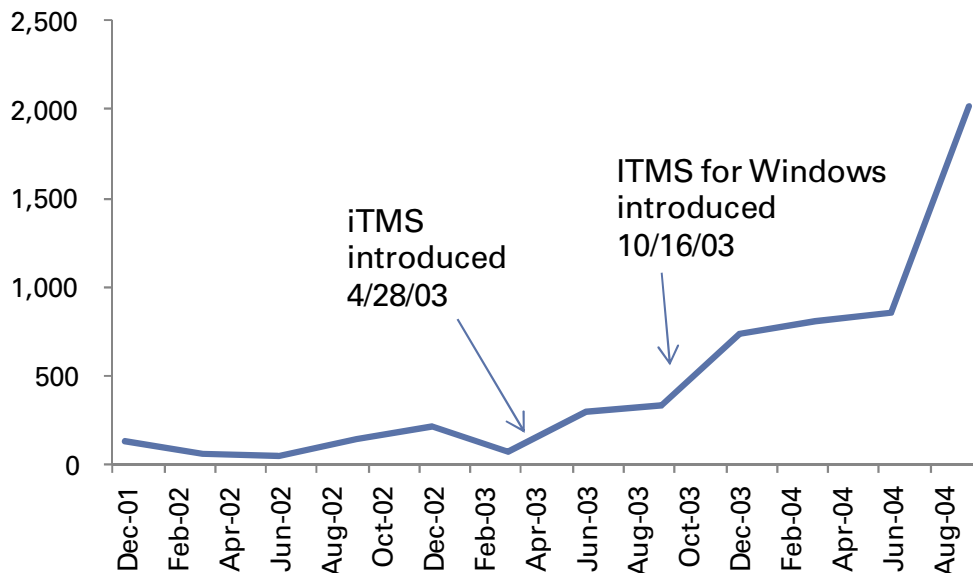
Source: Company data.

The majority of Apple's profits and revenues are attributable to its hardware business, but in our view, this industry-leading profitability is the direct result of Apple's software and content platform. While the elegant design and powerful performance of Apple's hardware products have been critical for the company's resurgence over the past decade, we believe the secret sauce is the company's ever-evolving software and content platform.

Indeed, if we look back to the early success of the iPod, we believe there was no reason why competitors couldn't come up with sufficiently competitive hardware, and many did. Nevertheless, no one could effectively dethrone Apple once it captured the market share lead. We believe this is because the iPod story was much more than a story about the sophisticated assembly of commodity components in an attractive shell. We believe the iPod's success was primarily driven by the device's seamless integration with the iTunes platform. Users could quickly discover and purchase content without having to worry about malware or recording company lawsuits. Apple extended its content sphere into television shows (2005) and movies (2006), greatly expanding the scope of iTunes.

Most important, however, the iTunes platform was "sticky." The more music or movies users purchased, the higher their switching costs. Even when DRM (digital rights management) restrictions were eased in 2007, users rarely left the platform. By then, the ecosystem had spread beyond just iTunes, with thousands of companies developing iPod-specific peripherals and accessories. We believe these various platform switching costs shielded Apple from the forces of commoditization that typically plague consumer electronics devices, and it forced Apple's competitors into unprofitable niche market positions during the formative years of the industry.

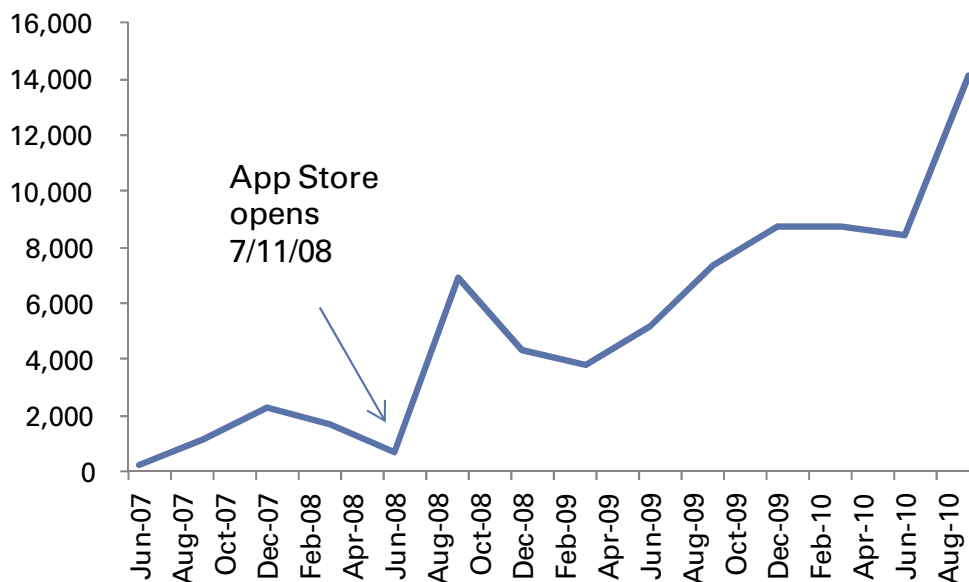
Exhibit 15: The iPod's success was driven by its seamless integration with iTunes
iPod units in 000s



Source: Company data.

When Apple launched the iPhone in 2007, the company's loyal iTunes installed base already provided it with a fairly large number of potential iPhone customers. Nevertheless, Apple shifted its platform strategy to the next level when it leveraged the developer-friendly OS X operating system in the iPhone to create the App Store in 2008. The App Store immediately captured mindshare with consumers, selling 25 million applications a few weeks after its launch. In addition to the powerful native features of the iPhone, consumers could now tailor the functionality of their iPhones with a diverse range of bite-sized applications. More important, both professional and amateur developers flocked to the store, trying to figure out the best way to tap into this new software gold rush. In just over two years since the launch of the App Store, the marketplace now boasts more than 350,000 apps and more than 7.5 billion app downloads. These apps not only provide users with countless new sources of functionality for their Apple devices, but they also build a second critical layer for Apple's platform model and another layer of switching costs for the installed base.

Exhibit 16: The App Store immediately captured mindshare and drove iPhone sales
iPhone units in 000s

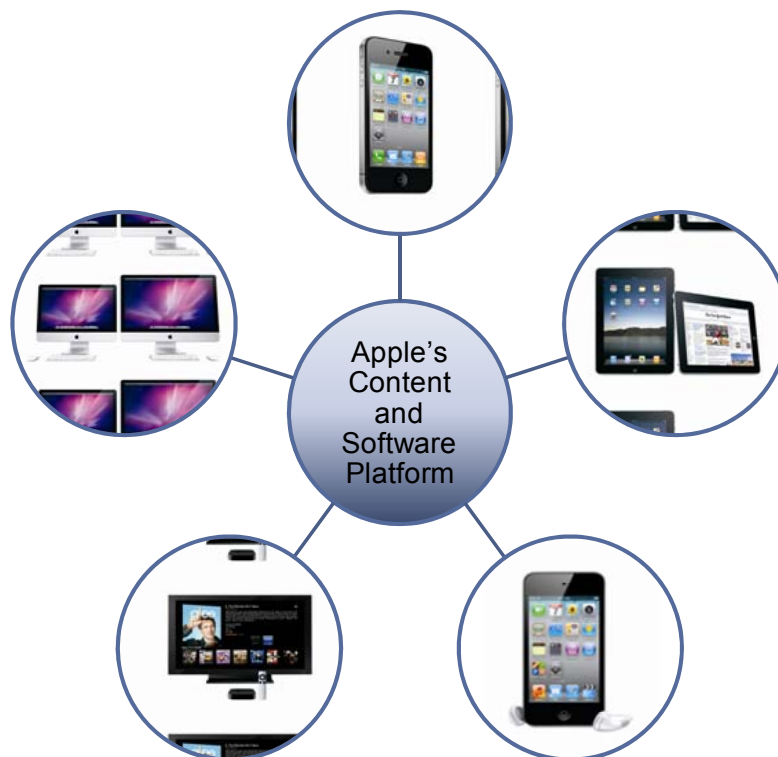


Source: Company data.

Apple's devices are the spokes that attach to the platform

When we look at Apple's hardware devices as spokes of its content and software platform, it helps to explain many of the key questions surrounding Apple's success over the past decade. For instance, in the early days of the iPod, many believed it was only a matter of time before the device would become commoditized. After all, the iPod was made up of industry-standard components available to all of the competition. Clearly Apple's design and user interface prowess served as a barrier to entry, but it seemed clear that this was a very finite advantage in a nascent market. Nevertheless, considering the fact that Apple's platform vastly increased iPod customer switching costs and added unmatched functionality, the skeptics concerns disintegrated fairly rapidly.

Many thought the iPod's success was not repeatable. But the iPhone was able to rapidly capture share in the highly-competitive mobile phone market, despite the fact that Apple had very little expertise in telephony. Finally, and perhaps most important, a fully established App Store and iTunes media store enabled the iPad to penetrate the traditional mobile computing market at a pace far exceeding most expectations. Indeed, we believe there is now ample evidence that the iPad began to cannibalize the mature notebook computing market within its first three quarters of availability.

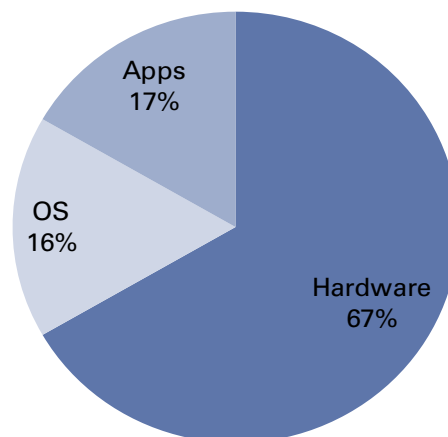
Exhibit 17: Apple's devices are spokes that attach to the content and software platform


Source: Images courtesy of Apple.

By attaching high-quality hardware devices to its well-established software and content platform, we believe Apple is able to disrupt previously untapped mobile computing and entertainment markets almost instantaneously. The platform also allows Apple to take a disproportionate share of the various segment profit pools in participates in, while its hardware competitors face ever-growing forces of commoditization. While each spoke competes in very different marketplaces (portable computing, mobile telephony, handheld gaming, portable media, etc.), they each deliver a piece of one core platform. In addition, we believe Apple designs each spoke to cater to a specific use case, so cannibalization amongst the spokes is often more limited than most would imagine. The iPod touch is designed to be the best handheld music and gaming device, while the iPad is designed to be the best mobile computing and media device. Meanwhile, the iPhone brings the best of both worlds to smartphone users.

This is not to say that Apple doesn't have a tremendous focus on hardware development. To the contrary, we estimate that Apple still spends nearly 67% of its R&D on hardware. Nevertheless, when analyzing the merits of a product launch or the company's product pricing strategy, we believe it is now more important than ever to consider the fact that these products are primarily intended to deliver the core platform to users and maximize the platform's value. Furthermore, we believe it is important to remember that the power of Apple's platform delivers a turbo boost to the profit and market share trajectory of its hardware devices. In addition, the platform and loyal installed base gives Apple a margin of error on new product innovations; if a new product has flaws, users rarely exit the platform and this provides Apple with a buffer period to make critical improvements. We believe this buffer fuels Apple's risk-tolerance for bold innovations that fly in the face of conventional industry wisdom.

Exhibit 18: Apple still spends the majority of its R&D budget on hardware by our estimate
% of R&D spending



Source: Goldman Sachs Research estimates.

On the pricing side of the equation, Apple's platform is now strong enough to give it a margin cushion that enables it to move away from its premium-pricing heritage and cater directly to the mass market in several categories. The company is likely to always provide high-end devices through its product family versioning, but the lower-end of its product families are now hitting price points that compress the market opportunity for slim-margin, commoditized competitors. Indeed, the iPad is the most recent example of this phenomenon, with price points that are well within the high-volume, sub-\$800 mobile computing segment.

What about the open-vs.-closed systems debate?

Many of Apple's key platform competitors are touting their systems as "open" while disparaging Apple's approach as "closed." This strikes a chord in the world of computing because it echoes the closed-vs.-open debate that eventually put Apple on the losing end of its fabled PC platform war with Microsoft in the 1980s. But this is not the personal computing market, and the mobile computing landscape is evolving into a very different type of industry. The traditional PC software landscape was generally made up of packaged software applications that only a few companies could afford to develop and distribute. As such, PC platform vendors needed to capture the greatest number of applications by making their platforms as open as possible. Today's mobile computing apps are very different. They are typically Internet-centric, with minuscule development costs and near-zero distribution costs. As a result, large numbers of low-quality mobile apps and malware can easily inundate a modern mobile platform.

We conclude that Apple's developer restrictions create an important quality filter for the rapid proliferation of apps on the iOS platform. We believe this provides a baseline of quality that makes the App Store more palatable to the mass market, particularly versus competitive platforms that can be rife with adult content and poorly performing apps. In fact, Apple was able to leverage a similarly "closed" model to dominate digital music, since its controlled iTunes platform provided more reliable (standard quality, no viruses) media content than the free file-sharing sites earlier this decade.

On its recent earnings call, Steve Jobs argued that the debate over whether or not a mobile computing platform is “open” is misguided. Instead, he argued that the question will shift to “integrated” versus “fragmented.” In this case, Apple’s iOS platform is designed for a simple set of devices, with a fairly uniform set of software features and hardware input mechanisms. In contrast, Google’s Android platform works with hundreds of devices, forcing developers to dumb down their apps in order to reach the broadest audience. The jury is still out on this debate, but we suspect iPhone developers will eventually enjoy a simpler and more cost effective development environment with Apple’s integrated platform.

What is Apple’s competition?

We group Apple’s competitors into two distinct camps. The company’s primary competitors are the other mobile platform vendors, including Google, RIMM, Microsoft, HP-Palm, etc. We believe these competitors are the most important for Apple investors because they will determine how large and profitable Apple’s platform will be over the long term.

The secondary competitors are the individual hardware vendors within Apple’s individual platform spokes. For instance, Dell is developing tablets that will compete with the iPad and Motorola sells smartphones to compete with the iPhone, but the underlying platform for these devices is Google’s Android software. These secondary competitors can have an impact on near-term pricing and market share shifts, but in the long term we believe they should matter a lot less for Apple investors. Indeed, if Apple’s platform continues to gain momentum, these secondary competitors will generally face commoditization forces as they are forced to outsource the majority of their value-add to Apple’s key platform competitors.

Most important, looking at Apple’s primary platform competition, we do not believe this is a winner take all market. With any computing or content platform, network effects tend to drive the market towards increased consolidation in the formative stages. Nevertheless, in contrast to common belief, the natural steady state in these markets is not always a monopoly or near-monopoly state. In cases where network effects are strong or the industry also requires significant fixed cost investments, near-monopolies tend to form. Microsoft and Intel are generally good examples of this phenomenon within the technology industry. Nevertheless, weaker network effects tend to produce a more oligopolistic market structure (the printing and UNIX markets are good examples here). We believe the mobile computing platform markets will follow latter this pattern.

While network effects are critical for platforms such as Android or iOS, the costs of software development and distribution for apps are generally far less than they have been for computer platforms in the past. This allows for content portability on platforms over time, and we believe this will eventually settle into an oligopoly of 2-3 dominant platforms. With most of the mobile platform end markets still in their nascent stages, we expect the battle for market share will be intense as these markets develop in coming years. Furthermore, the top one or two vendors will likely capture massive profit pools that will extend across several industry segments. We view Android as Apple’s chief platform competitor, while RIMM and Microsoft are next on the list. RIMM is focused on an integrated hardware and software approach, while Google and Microsoft are partnering with dedicated hardware vendors.

The secondary competitors tend to garner more press from Apple watchers than they really deserve. Nevertheless, they are important components in the development of the mobile computing ecosystem, so they shouldn’t be ignored. This bunch includes the leading vendors in the PC, mobile phone, portable gaming, e-reader, and other mobile device markets. We discuss these competitors further in the next section of the report.

Digging into the platform spokes

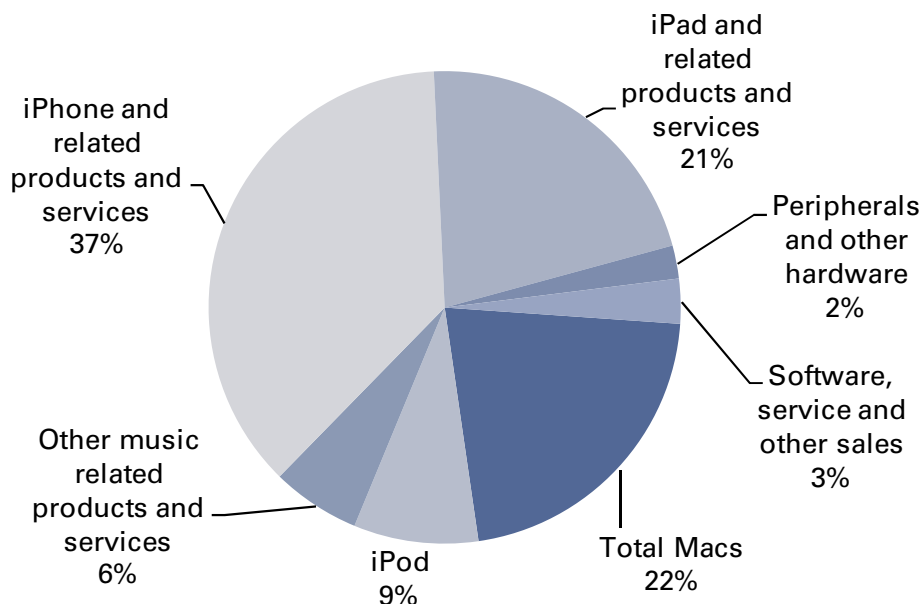
“Our goal is to make really breakthrough great products, make the best products in every industry that we compete in, and to drive the costs down, while constantly making the products better at the same time.”

— Steve Jobs, October 18, 2010

Apple has five distinct hardware product families: the Mac, iPad, iPhone, iPod and “the hobby,” Apple TV. In terms of Apple’s product strategy, we view each hardware device as a spoke in Apple’s platform-centric business model. These devices deliver Apple’s software and content experience to consumers, and they tend to do it with remarkably innovative design and computing functionality. Furthermore, by leveraging the strength of Apple’s platform, each hardware family tends to generate above-average margins in the respective industry segments where they compete. As such, by terming these products the “spokes” in Apple’s model we are not belittling their importance. Indeed, Apple’s hardware is the core monetization engine for its platform, and as such, the financial and competitive dynamics within each hardware segment is a critical component of the Apple story.

Exhibit 19: Apple’s hardware is the core monetization engine for its software and content platform

% of fiscal 2011 revenues



Source: Goldman Sachs Research estimates.

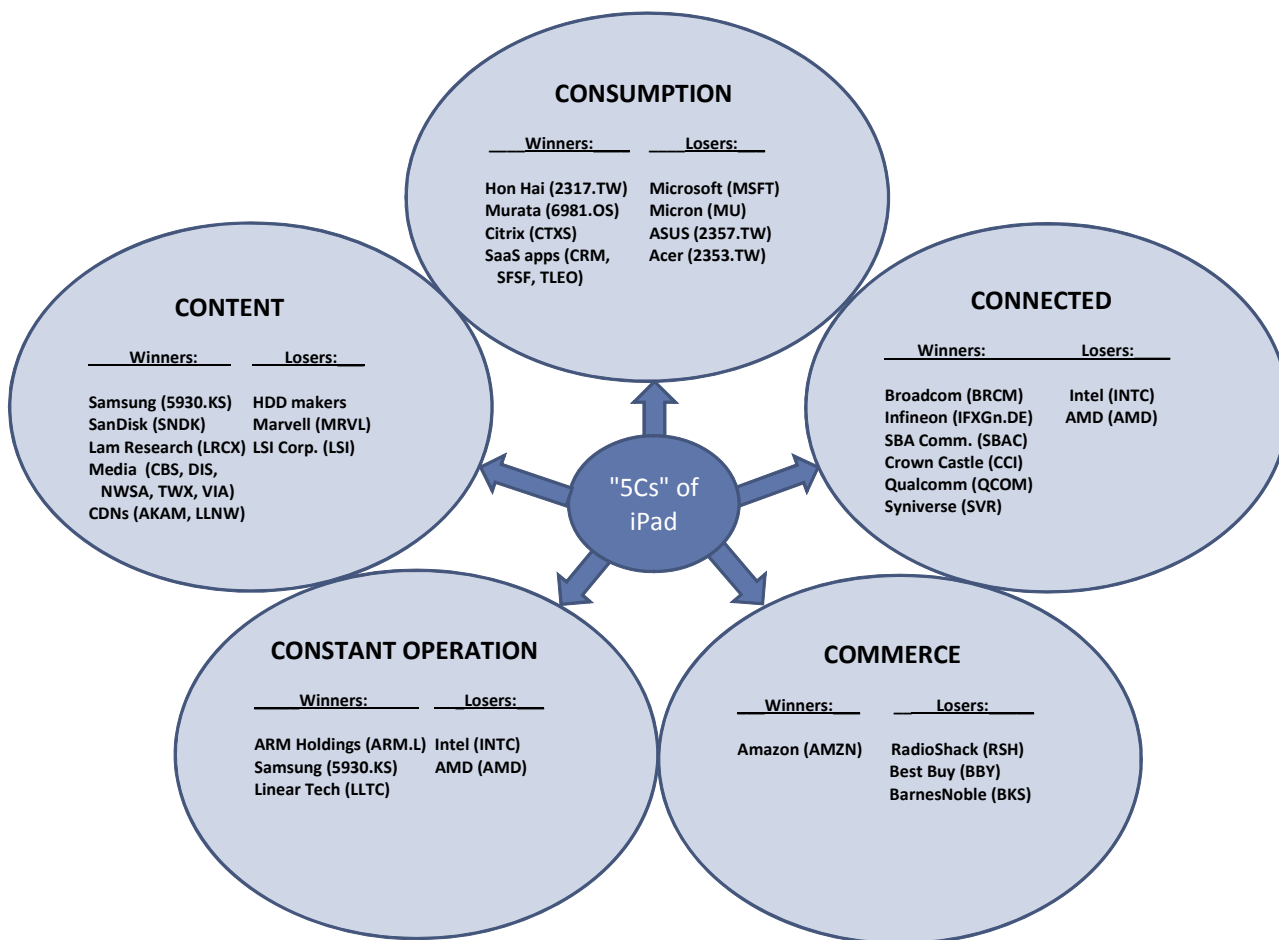
The iPad: a disruptive force for computing

Apple officially announced its long-awaited iPad computer in January of 2010, with the first units shipping in April. At first, investors were fairly skeptical of the device, and many pundits disparaged it as a “big iPod touch.” As time went on, however, we believe it became apparent that a big iPod touch was exactly what the market wanted. Indeed, Apple shipped 3.2 million iPad units in the June quarter, which was nearly five times some of the initially conservative estimates on the Street. More important, there has been surprising

evidence that the iPad began to immediately cannibalize Wintel notebook and netbook units upon its launch.

We believe the rapid and surprising success of the iPad is largely attributable to the fact that while it was a unique and new product, it was attached to a well-developed software and content platform. Indeed, we believe the large number of apps, music and video content available through iTunes and the App Store ahead of the iPad’s launch greatly shortened the customer evangelization period that is typically required for new consumer electronics devices. In addition, the iPad represented a new price band and form factor for Apple’s platform that fit nicely between the company’s MacBooks and iPod touch product families. In addition, as the Goldman Sachs technology research team noted in their July 12, 2010 report, “The rise of the iPad and tablets: Assessing winners and losers in the global TMT ecosystem,” the iPad hit a consumer nerve with its five-Cs functionality.

Exhibit 20: The “5Cs” of Apple’s iPad; winners and losers supplied by the Goldman Sachs Tech Research Team



Source: Goldman Sachs Research estimates.

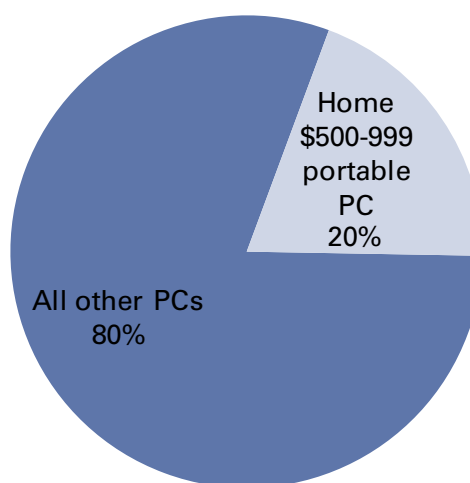
The iPad expands Apple’s PC market opportunity significantly

We believe these factors suggest that Apple’s iPad is not only a welcome new spoke for its platform model, but it also provides the company with its most realistic opportunity for penetrating the mass market for mobile PCs. While some may argue that the iPad is not technically a PC, we believe this is really only a futile exercise in semantics. Indeed, we

believe a significant percentage of traditional PC users tend to use their devices primarily for content consumption and Internet browsing (in fact, we believe that less than half of the PC installed base is running MS Office). As a consumption device, the iPad is shaping up to be a welcome notebook or netbook substitute. Furthermore, as productivity tools on the App Store continue to mature and cloud-based productivity applications become more prevalent, this TAM may expand further yet.

We analyze the TAM for the iPad in two ways. First, we look at the total market for consumer notebooks in the \$500-999 price band on a historical basis. In this 59.7 million unit segment, Apple had virtually no presence in calendar 2009.

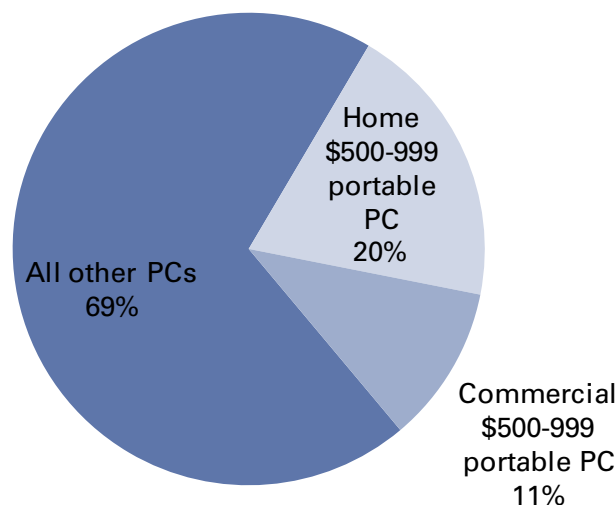
Exhibit 21: The iPad gives Apple exposure to the \$500-999 consumer portable PC market
% of 2009 worldwide PC units



Source: IDC, November 2010.

Nevertheless, longer term we believe the increasing availability of productivity apps and private corporate apps will also expand the iPad's TAM to the commercial market. Adding this segment, we increase our total TAM by 32.86 million mobile PC units. As such, we believe Apple's TAM expanded by 92.63 million units, or \$66.67 billion dollars, with the introduction of the iPad. It's important to remember that Apple did not (and still doesn't) offer traditional notebooks at price points below \$999, which is why this TAM is incremental.

Exhibit 22: Including the commercial segment, Apple's TAM increased further
% of 2009 worldwide PC units



Source: IDC, November 2010.

What about Mac and iPod cannibalization?

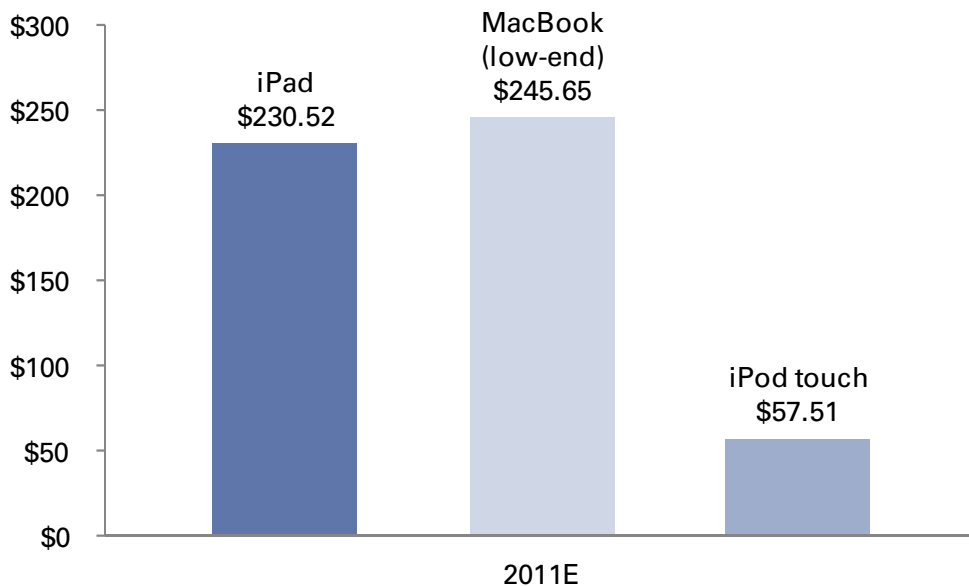
While the iPad has surpassed most investor expectations thus far, there are still some lingering concerns over the potential for cannibalization of Apple's Mac and iPod touch product lines. Our analysis of this concern is simply: (1) in the short term, we're actually seeing the opposite effect; (2) in the long term, it really doesn't matter. Digging into the first point, we view the potential for iPad cannibalization of the Mac and iPod touch as the result of two opposing forces. On one side, we have the obvious similarities between the iPad's functionality and certain elements of the Mac (particularly low-end MacBooks) and the iPod touch. This clearly points to the potential for cannibalization, since it's not yet clear if users will want both an iPad and a Mac or iPod touch. On the other side, we have the potential that the greatly expanded TAM for the iPad introduces a larger number of consumers to the overall Apple platform. In this respect, the potential for a positive "Halo Effect" from the iPad could outweigh any of the potential cannibalization. Thus far, in the two quarters of iPad availability, Mac units have continued to show strength. iPod touch growth seems to have slowed to only 12% or so growth in the September quarter (according to our estimates), but this could have been caused by supply chain adjustments ahead of the September product family refresh. As such, we will need to monitor touch shipments in the December quarter see if there are any signs of iPad-related cannibalization.

Longer term, the potential for cannibalization certainly exists, particularly as Apple's overall hardware installed base becomes more significant. But we believe investors should be indifferent to iPad cannibalization in this respect. In fact, we'd prefer to see the iPad cannibalize the Mac since it more directly ties the user to the iOS elements of the Apple platform and the TAM opportunity is so much larger. If we conservatively assume that the iPad's gross margins will approach the low-40s as we exit calendar 2011, then the current ASP would generate around \$230.52 gross profit dollars per unit. Meanwhile, we estimate the low-end MacBook (which nearly overlaps with the iPad's TAM at the high-end) will generate approximately \$245.65 gross profit dollars per unit. In other words, the inherent margin advantage of iOS devices suggests that the iPad can reach far more attractive price

points than Mac platform units, with a similar gross profit impact. Looking at the iPod touch, the profit dollars per device are even less substantial, so iPad cannibalization would be welcome in this respect.

Exhibit 23: We believe investors should be indifferent to iPad cannibalization

Gross profit per unit



Source: Goldman Sachs Research estimates.

Most important, we believe that Apple's platform advantage should enable the iPad to compete effectively with traditional notebooks and competitive tablets without ASPs declining faster than the commodity curve would allow. In other words, Apple should be able to once again resist the traditional forces of commoditization, while still competing in a mass market segment. If this is true, then we believe iPad margins could easily exceed the 40% range for many years (we currently estimate average iPad gross margins stand at 37.6% .

Competition comes in two flavors

In early 2010, when Apple first announced the iPad, there were many skeptics on the tablet market's potential and few serious competitors. The world has certainly changed, however, and just about every major consumer technology vendor is now preparing to enter the market. In fact, we believe 2011 will be analogous to a Cambrian Explosion of tablet devices and vendors. Further extending the analogy, by 2012 we expect a Permian Extinction, with only a handful of viable competitors remaining in the market.

Outside of the traditional PC market, we split the iPad's tablet competitors into two categories. The first is tablets from companies that were traditionally Wintel PC vendors, while the second represents tablets from companies that were traditionally mobile handset vendors. In most cases the Wintel PC vendors will compete largely on cost and distribution prowess, just as they do in the PC market. In this respect, HP will be the notable exception to the rule, since the company is primarily addressing the market with the proprietary WebOS from its acquisition of Palm earlier this year. Meanwhile, the handset vendors will have to pull together relationships in the PC supply chain, and they will likely differentiate themselves with a carrier-centric, subsidized approach.

We suspect the tablet market will have greater affinity to the PC market, so this is likely to tilt the market towards the PC brands over time. Nevertheless, if a carrier subsidized business model takes hold over time, then we could be wrong and the traditional handset vendors will gain more momentum. In the end, we suspect it doesn't matter much for Apple: the company should be able to easily leverage its iPhone carrier partnerships if the subsidy model becomes the dominant distribution model, and we believe the company's chief competition is really with the platform vendors (Google, RIMM, Microsoft, etc.) as opposed to the tablet vendors themselves.

Our iPad assumptions are aggressive

We are currently forecasting 7.5 million iPads for the December quarter, representing 15 million units for the first three quarters of the products availability. Forecasting the iPad beyond 2010 is challenging since the product's adoption curve doesn't seem to have any historical precedent. Nevertheless, as we discuss in our industry overview report, we are using the early stages of the netbook market as a rough framework. With that said, we believe the iPad will grow at a far faster rate than Apple's other product families after launch largely because it was released after the iOS platform had already gained a fairly strong foothold in the computing industry. Thus, the period of evangelization that was necessary for the iPod and the iPhone has been quickly bypassed by the iPad. As a result, we are forecasting 31.2 million iPads in fiscal 2011 (37.2 million in calendar 2011).

The iPhone: spreading iOS worldwide

The launch of Apple's iPhone in 2007 was significant in several respects, not the least of which being that it marked the debut of Apple's iOS. Since then, Apple has built a very loyal installed base of approximately 59 million iPhone users by our estimate. The company now holds approximately 16.7% of the global smartphone market, and with its hefty carrier subsidies, we estimate the company already held 44% of operating profits of *the entire handset industry*. Most important, Goldman Sachs estimates that smartphones will account for nearly half of the total handset market by 2014, providing Apple with an iPhone TAM of over \$190 billion in four years. We suspect Apple's profit and revenue share of the total handset industry will increase with smartphone adoption over the next several years.

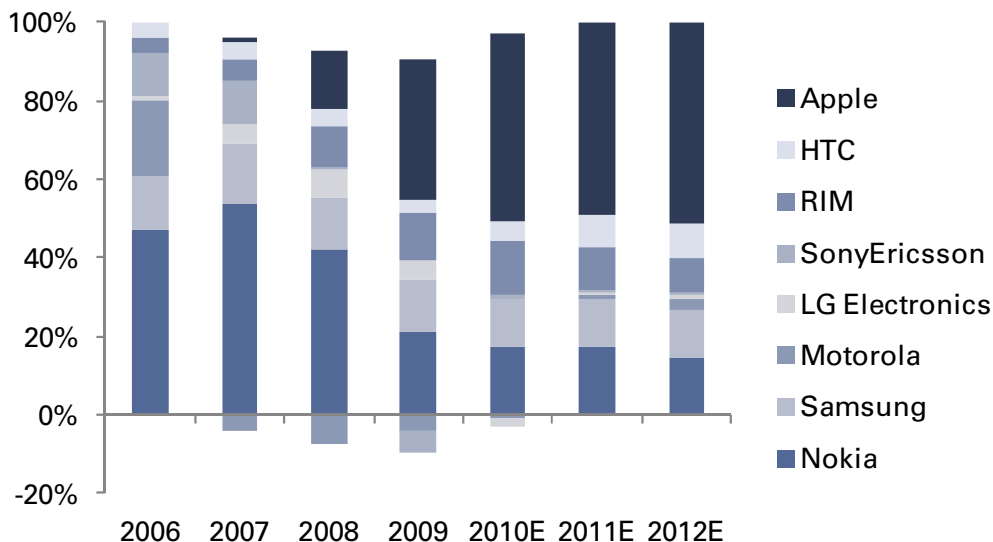
Apple's iPhone margin premium is not an anomaly

We estimate that Apple generated gross margins of just over 54.9% in fiscal 2010, which is nearly double that of most smartphone vendors. At first glance, this type of margin premium in a competitive hardware industry seems remarkably unsustainable. Nevertheless, when we look at this phenomenon through the prism of the platform model, we believe it makes a lot more sense. The smartphone industry is fundamentally different from the traditional handset market.

In the traditional handset market, the competitive landscape was largely determined by form factor design and manufacturing scale. Smartphones, however, are fundamentally computing devices. In any computing market, we believe the primary source of value comes from the underlying computing platform. Over time, margins migrate to the platform leader (or leaders), while the computing hardware vendors tend to experience increasing pressures from commoditization. Indeed, in the early days of the computer industry, the margins of PC hardware vendors steadily declined towards slim, commodity levels as the platform leaders (Microsoft and Intel) captured more of the profit pool. In Apple's case, iOS is emerging as a dominant smartphone platform, and this is enabling to company to gain share in the smartphone market and overall handset market. We believe the natural consequence is that the handset profit pool is shifting in Apple's direction

(Exhibit 24). It follows that smartphone vendors sourcing their OS from third parties will have to live with slimmer margins, just as the PC vendors have done for three decades.

Exhibit 24: Apple taking profit share
Operating profit share of top 8 handset vendors



Source: Company data, Goldman Sachs Research estimates.

Interestingly, our estimates assume that the recently released iPhone 4 had initial margins that were around 1000 basis points lower than the previous version of the iPhone. We believe some investors are concerned that this is the beginning of a long overdue reversion to the mean and that Apple’s margins eventually trend towards the industry average as it prices for market share. We disagree. The iPhone 4’s margins, like many of Apple’s new hardware products, should eventually expand as component prices decline in the quarters following the product’s launch. Apple’s dominant iOS platform should continue to buffer it from the forces of commoditization and allow it to hold its pricing firm as the bill of materials compresses. Over time, Apple may choose to give up some of this margin to penetrate more cost-sensitive segments of the market, but our model assumes that iPhone gross margins won’t trend below 50% for any sustained period of time.

Form factor matters: little chance of a little nano

Since the day Apple launched the first iPhone, and even before then, pundits have claimed that the company would inevitably split the product family into a variety of unique form factors; after all, that’s what the company did with the iPod, and it was a remarkably successful strategy. Indeed, the most famous incarnation of this view has been the mythical iPhone nano, a device that many have regularly predicted was just around the corner. Yet, after years of waiting, the iPhone’s form factor hasn’t changed dramatically. The iPhone is still a rectangular device with a 3.5-inch touch screen and home button on its face. Despite this apparent uniformity among the various iterations of the product, the device’s functionality has actually changed dramatically. Some of this has been due to steady improvements in the underlying computing components and capacity points, but the vast majority of the functionality additions have come from the underlying software. In addition to the key new features from Apple’s major and minor OS updates, users have been able to customize their iPhone’s functionality by choosing amongst the more than 350,000 apps now available for download.

Exhibit 25: The iPhone's form factor hasn't changed dramatically

Source: iPhone 4 image courtesy of Apple, prior versions from public domain.

Apple's apparent unwillingness to drastically change the iPhone's form factor may seem odd, but in reality, we believe it's merely a manifestation of the company's maniacal focus on its iOS platform. Apple wants the iPhone to be an attractive and powerful hardware device, but more than that, the company wants developers to write apps for it. The best way to attract the most developers and to make sure they can develop the best apps is to make the iPhone installed base as uniform as possible. By keeping the touchscreen's size constant and maintaining the function of the five physical buttons on the iPhone, Apple ensures that the entire iPhone installed base has a common hardware interface. This vastly simplifies software design for developers looking to reach a large number of consumers. Indeed, we believe similar reasoning explains why Apple doesn't charge iPhone users for OS updates: the company wants to make sure the majority of its installed base has the same underlying platform capabilities.

International expansion, versioning and carrier expansion should expand the TAM

Apple currently holds approximately 17% unit share in the global smartphone market and 3% share of the total handset market. We believe the company's platform leadership should fuel substantial share gains in coming years, and this represents a significant revenue and profit opportunity. In particular, we believe Apple's iPhone growth in coming quarters and years will be driven by the following three factors:

- International expansion.** Once Apple shifted its iPhone business model from revenue-sharing to a traditional subsidy model in 2008 the company was able to dramatically expand its footprint in international markets. The company now serves 89 countries, up from only six in early 2008. Nevertheless, the company's share in international markets is still relatively low, and we believe this represents a significant avenue for growth. Indeed, in the September quarter, Apple saw iPhone sales more than double annually in Asia, Japan and Europe. The only significant constraint on Apple's international expansion appears to be its limited exposure to the prepaid

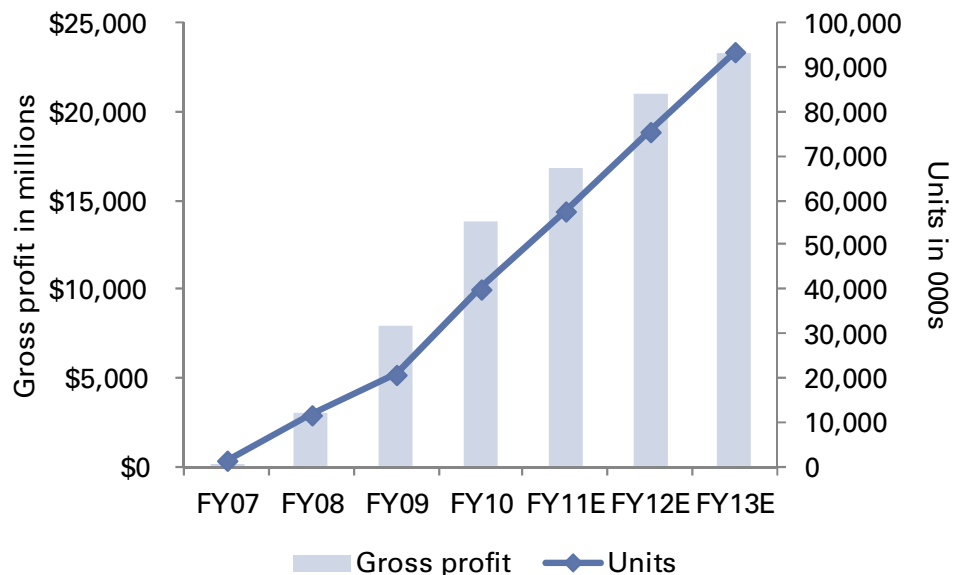
market. In the United States, most carriers distribute smartphones with a subsidy in return for a contractual commitment from customers (post-paid), but outside of the United States, a majority of customers purchase phones with prepaid or pay-as-you-go data plans. Indeed, the prepaid user base is approximately 30% in the United States, but more than 80% in many developing markets. These prepaid sales minimize the potential subsidy, thereby exposing customers to Apple's relatively high retail prices. We believe this can be addressed with price versioning over time.

- **Product versioning.** Although the iPhone's form factor has remained relatively unchanged, the company does version the product based on storage capacity and compute power. This has allowed Apple to reach lower price points by leveraging Moore's Law to place prior generation iPhones at the low-end. Nevertheless, the wholesale prices of Apple's low-end iPhones can still exceed \$400. Over time, however, we believe Apple can leverage component cost declines to bring this price down to more attractive levels (with a more limited margin impact). This should allow Apple to produce even lower retail prices for post-paid customers and potentially midrange price points for prepaid markets.
- **Carrier expansion.** Apple began to move away from exclusive carrier partnerships over the past two years, and surprisingly, the company did not have to sacrifice wholesale ASPs in the process. This is testament to the power of Apple's platform approach, as carriers have shown a willingness to use subsidies as a competitive weapon to lure iPhone users to their network. Although the bulk of Apple's carrier expansion is complete in its existing countries, the next big expansion will be in the United States. We currently believe Apple will move beyond its exclusive relationship with AT&T by early-2011 and this should re-accelerate iPhone growth in the United States and substantially expand the TAM.

As a result of these factors, we expect Apple's iPhone shipments to grow by 55.2% in fiscal 2011 and we expect the company to approach 100 million annual units by fiscal 2013. This is likely to come primarily at the expense of RIMM and Nokia, but the company's share gains will likely be broad based. Most important, the company's platform leadership should enable it to capture profit share at an even faster rate.

Exhibit 26: Apple could approach 100 million annual iPhone units by fiscal 2013

iPhone units and gross profit



Source: Company data, Goldman Sachs Research estimates.

The Mac: becoming an outlier in the platform

Apple's Mac business was once the flagship of the company, and it's still a large part of the overall business. In fiscal 2010, Apple generated \$17.48 billion in Mac revenues, representing 26.8% of the total. This represented 7% of the total PC market, though global unit share is a more modest 4.4%. Furthermore, we estimate that the Mac business represents approximately 18.5% of Apple's total gross profits. Although the company has managed to grow the Mac business faster than the broader PC industry on a fairly consistent basis, the company has only managed to gain 205 basis points of market share in the past five years. Investor attention has naturally shifted towards the iPhone business, and more recently, towards the iPad business.

The Mac doesn't easily fit into the platform strategy, but this may be changing

Although Apple's Mac products share a common operating system heritage with iOS devices, they are not directly attached to the same content and app ecosystem. While the Mac can serve as a hub for iOS devices by storing music and app content, Wintel PCs can do the same. As such, expansion of the iOS ecosystem doesn't necessarily provide the Mac with any substantial competitive advantage relative to other PC vendors. With that said, the company does seem to benefit from the "Halo Effect" as iPods, iPads and iPhones expand Apple's broader brand appeal for consumers. Furthermore, the segment may begin to benefit even more as Apple begins to copy some of the core components of the iOS business model for Macs.

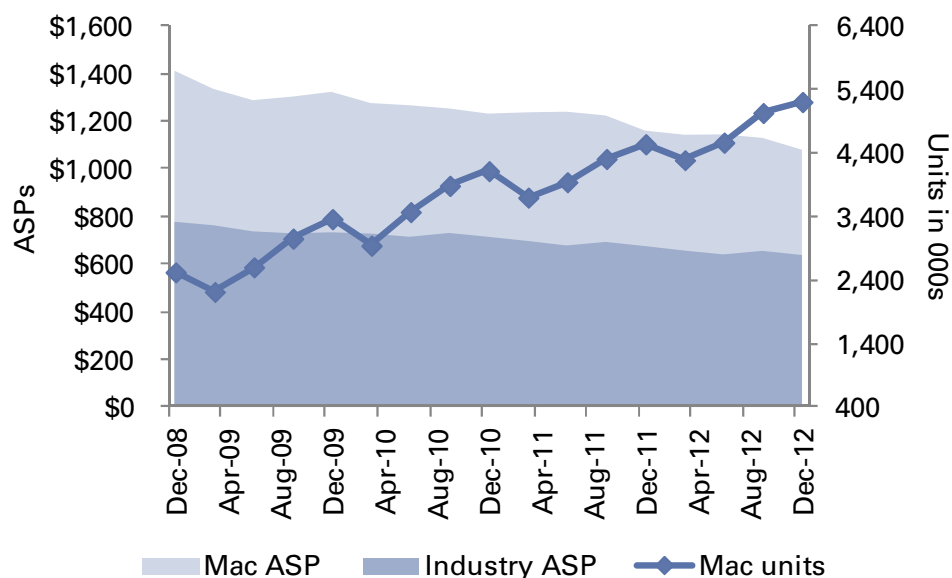
This latest evolution of the Mac business model became apparent at Apple's "Back to the Mac" event on October 20, 2010. At the event, Apple announced that its Mac OS would soon be able to leverage the app store concept with the Mac App Store. The economics of the Mac App Store are identical to the iOS App Store and this should enable to expand its application portfolio beyond the traditional packaged application marketplace that has defined the PC market for decades. In addition, the company announced that its Macs will

now support FaceTime, directly leveraging one of the most promising features of the growing iOS installed base.

This not a mass market product, but it remains a source of growth

Although we expect the Mac to continue to gain share within the PC market, we believe the company will continue to focus on premium price bands and this necessarily limits the potential market share for the product. When considering Apple’s TAM in the PC market, we view the iPad as the company’s primary tool for attacking the mass market. That said, the Mac continues to be a critical source of revenue and profit growth for Apple and this should continue to be the case for the foreseeable future.

Exhibit 27: Mac should continue to be a critical source of revenue growth for Apple

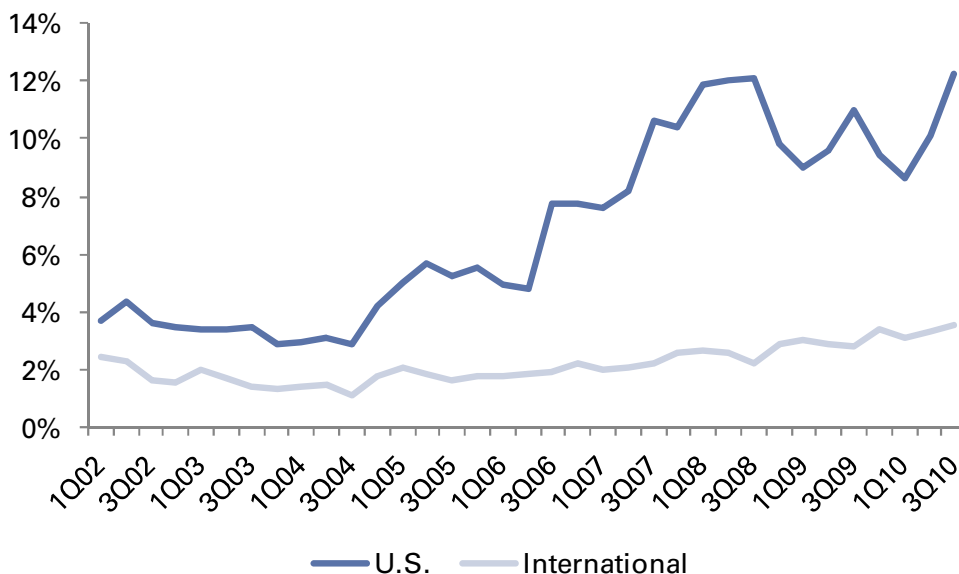


Source: IDC, November 2010, company data, Goldman Sachs Research estimates.

We believe Apple’s primary source of share gains for the Mac business should be in international consumer markets. Indeed, the company’s current Mac share is 12.2% in the U.S. consumer market, but it’s only 3.5% in international consumer markets. With its premium-price focus, the company’s share gains will likely tilt towards the developed markets, which is in stark contrast to the traditional PC vendors. Nevertheless, the burgeoning middle class in the BRIC countries could further expand the market opportunity for Apple over time.

Exhibit 28: International consumer markets should be the primary source of share gains for the Mac business

Apple home PC unit share



Source: IDC, November 2010.

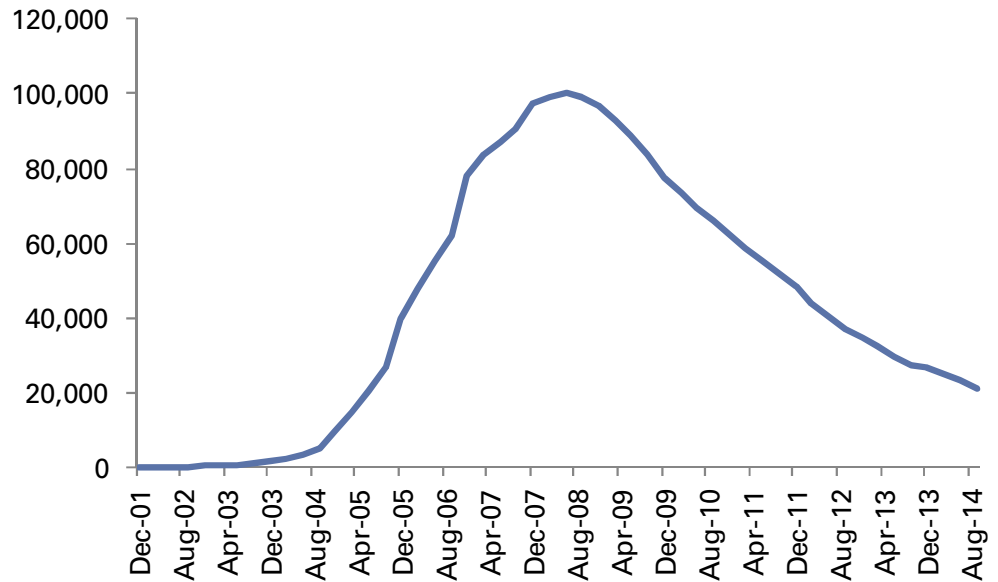
Apple's primary competitors in the high-end of the consumer market are Hewlett-Packard and Dell, and we expect these vendors to move further down market over time. Although many hope that Apple will one day crack the enterprise PC market, we don't believe this is a realistic prospect for the Mac business. Nevertheless, we believe the iPad could make significant inroads here over time.

The iPod business: shifting the installed base to iOS

The iPod business segment currently gets very little investor attention, which is remarkable since it was considered the core component of the Apple story from 2004-2007. Apple's spoke model, however, necessitates that some spokes will be more important than others at different stages of the platform's lifecycle. But despite the lack of focus on the segment, we still believe it is critical in several respects. First, traditional iPods (non-iOS devices) tend to cater to the most cost-sensitive consumers and consumers that want a device solely for portable media consumption. This benefits the Apple platform by providing incremental units for content providers that judge iTunes as a distribution platform by how many users it reaches. In addition, we believe many iPod users serve as potential iOS converts for Apple over time. Indeed, the rapid success of the iPhone supports this contention. Meanwhile, the iPod benefits users by providing low price points and unique form factors for accessing the iTunes media platform. In fact, we believe a growing number of Apple platform consumers purchase iPods as secondary devices, with an iOS product serving as the primary device. Despite these factors, we believe it is prudent to model the non-iOS iPod business as if it is in secular decline.

Exhibit 29: We assume the non-iOS iPod business is in secular decline

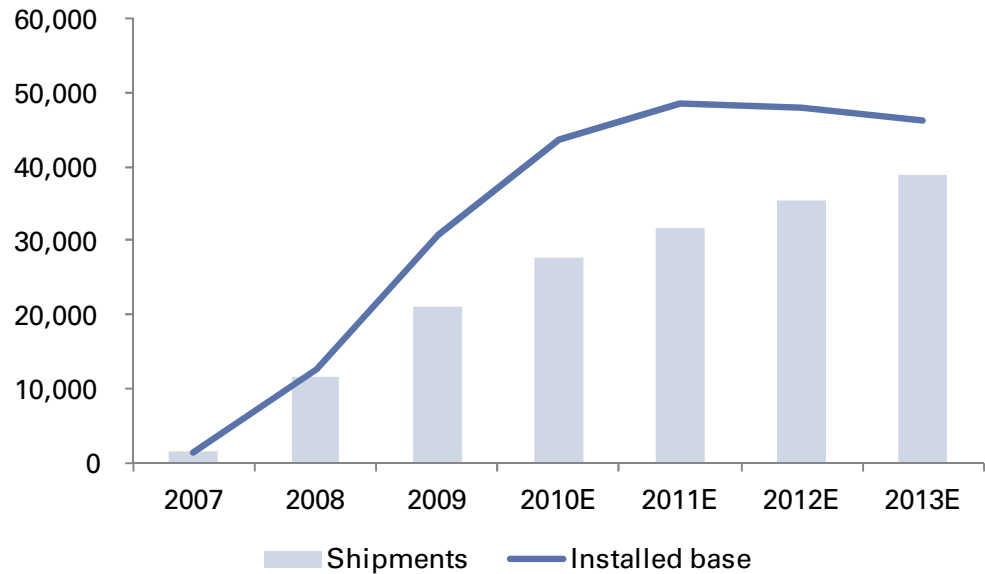
Traditional iPod installed base



Source: Goldman Sachs Research estimates.

Ideally, as users churn off out of the iPod installed base, they will convert to iOS devices. In particular, we believe Apple’s strategy is to convert as many of these users as possible to the iPod touch product family. We believe the iPod touch serves as a seamless “transition product” for traditional iPod users to the iOS platform. It represents a low-cost entry point for the platform that maximizes the installed base for Apple’s developer and media partners. Therefore we expect Apple’s pricing, R&D and marketing efforts to focus on speeding up this transition from the traditional iPod to the iPod touch, and this should result in healthy installed base and unit growth for the device.

Exhibit 30: Apple may try to speed up the transition from traditional iPod to iPod touch
iPod touch installed base and shipments in 000s

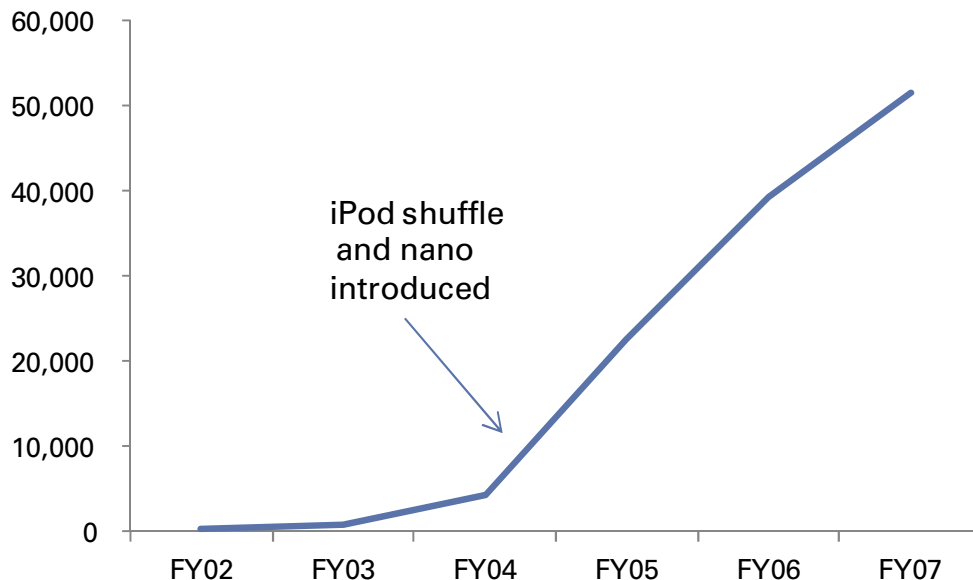


Source: Goldman Sachs Research estimates.

Versioning should be more limited with iPod touch

One of the key reasons for the success of the iPod over the past decade has been Apple's relentless and targeted product versioning strategy. Although the iPod initially caught the world's attention as the leading high-capacity, HDD-based MP3 player, iPod units really took off as Apple launched the flash versions of the device. These devices allowed Apple to reach new price points, and most important, smaller form factors. This opened up the TAM of the iPod considerably, and it eventually led to the demise of most of Apple's pure play competition and a 70%-plus share of the domestic MP3 player market.

Exhibit 31: iPod units really took off as Apple launched the flash versions of the device
iPod units in 000s



Source: Company data.

We believe this versioning strategy, however, will be far more limited with the iPod touch. Similar to the iPhone, we believe limiting the variation in the screen size and hardware interface provides developers with a far more uniform installed base, which makes it much easier to target their application specifications for the largest number of iOS users. As such, we believe changes in the casing and less-noticeable changes in the screen and input technology are likely to be the key sources of form factor evolution.

Exhibit 32: We believe limiting the variation in the screen size and hardware interface provides developers with a far more uniform installed base



Source: Image courtesy of Apple.

Furthermore, the underlying software capabilities of the iPod touch should be the same across all versions of the product, since it is critical that the installed base exhibit as much OS version uniformity as possible for iOS developers. This, coupled with form factor constraints, is important because it suggests that Apple's versioning will be limited to factors beyond the form factor including price, capacity, and processor speed. These types of hardware variations will offer differing value points for consumers, but they will not drastically change the look and feel within the iPod touch product family. This stands in stark contrast to the wide variety of traditional iPod products that exist today. In the end, this shouldn't matter to investors, since we believe the functionality and competitive differentiation should be largely software-based as Apple's platform evolves.

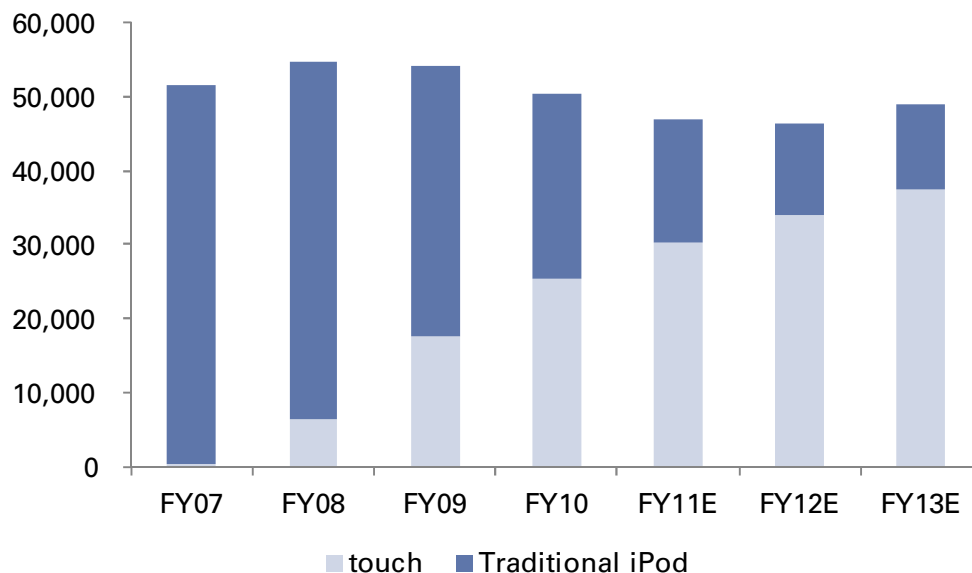
Our iPod outlook: It's all about managed cannibalization

The iPod was the earliest beneficiary of Apple's platform model, so in contrast to the other platform spokes, the iPod has already dominated its core market opportunity. Indeed, the iPod has over 70% of the U.S. market for MP3 players. While this has resulted in minimal unit growth over the past two years, there's a lot more going on within the segment than the overall unit trends would suggest. Indeed, while much of the stand-alone MP3 player market is being subsumed by smartphones over time, we believe Apple's iPod touch is capturing the intermediate opportunity for users that want a handheld computing device without voice functionality. In our view, this has been particularly attractive to younger consumers as well as handheld gaming enthusiasts. So while, the traditional iPod business has declined at a 21.4% average annual rate since 2007, the iPod touch business has expanded by 372.6%. As a result, we believe Apple is leveraging its iOS platform to manage and monetize what we view as the inevitable cannibalization of stand-alone MP3 players over time.

We expect this trend to continue, and as a result, we expect traditional iPod units to decline at an average rate of 23.1% through fiscal 2013 and we expect iPod touch units to expand at a 13.9% rate. This results in a modest decline in overall iPod units through fiscal 2013, while the iPod touch expands to 76.7% of the total from 50.4% in fiscal 2010.

Exhibit 33: We expect iPod touch to expand to 76.9% of total iPods by fiscal 2013

Units in 000s



Source: Company data, Goldman Sachs Research estimates.

Apple TV: A “hobby” with option value

Apple launched Apple TV to much fanfare in 2007, but demand for the device quickly deteriorated. Apple has since labeled the device as a “hobby” for the company, in contrast to its four key business units (Macs, iPhones, iPod, and iPad). As a result of lackluster sales over the past three years and Apple’s self depreciation of the business, we believe most investors choose to ignore this business segment. From a purely financial perspective, this makes sense. In spite of this, we believe the device merits some attention as a spoke in Apple’s platform model, if only for its real option value. In particular, we believe the latest refresh of Apple TV (September 2010) vastly changes its functionality and gives it a shot to finally make some headway in the elusive “consumer living room opportunity”, though we recognize it’s still a long shot.

In particular, we believe there are three key reasons why Apple TV (and competitive devices) have failed:

- Consumers don’t appear interested in adding another box to their televisions.
- Content providers have been reluctant to agree to affordable pricing mechanisms.
- Storage constraints make seamless content management unattractive.

Apple seems to have addressed the last issue by abandoning local storage completely with its latest Apple TV iteration. Nevertheless, we believe it’s still an uphill battle to capture the appropriate content at the right prices, and consumers still don’t seem to be rushing out to purchase an incremental peripheral for their televisions. Over time, Apple may make more

headway in this market by integrating the technology into an Apple-branded television, but this doesn't seem like a near-term project the company would be interested in.

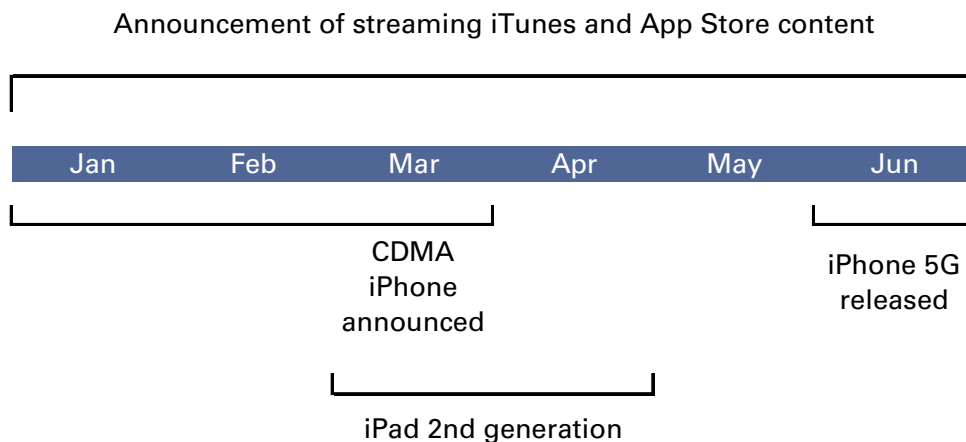
For fiscal 2011, we are forecasting 3.09 million Apple TV units, and we expect that to grow by 13.3% and 16.3% in fiscal 2012 and fiscal 2013. This translates into revenues of \$278 million, \$281 million, and \$289 million for the next three fiscal years, respectively. While this would be considered a healthy business trajectory for most companies, it does not exceed 0.3% of Apple's total revenues over our forecast period. As such, this is not currently a critical component of our investment thesis for Apple's stock. Nevertheless, if we're wrong, and the product eventually finds a mass market audience, then this could be a powerful tool for Apple to dominate the consumer living room. As such, we view this as a hobby, but a hobby with some interesting real option value.

What new spokes and platform enhancements are on the horizon?

The blogosphere, Wall Street, and many everyday consumers are often obsessed with predictions on which products Apple may or may not launch in the future. While the sheer volume of predictions can be somewhat mind numbing, this focus on Apple's product pipeline is understandable given the influence Apple's products can have on the technology industry. In this section, we outline our assumptions on this topic, with a specific focus on upcoming iOS product launches (Exhibit 34). These are the same assumptions we use for our Apple financial model, and as such, this should also help investors understand the cadence of our EPS and revenue outlook for the company.

Exhibit 34: We believe Apple will have a strong product line up in the first half of 2011, which should provide several catalysts for the stock

Apple forecasted product line up



Source: Goldman Sachs Research.

The first major product we expect to see from Apple in 2011 is the long-awaited CDMA version of the iPhone. This will also be one of the most important products from a financial perspective, since it should offer a healthy boost to Apple's U.S. iPhone shipment growth. We expect the product to be announced some time in the March quarter, but we don't begin to model shipments until the June quarter. We expect Verizon to be Apple's key carrier partner for this product, though we expect Apple to continue to ship the traditional iPhone through AT&T. Historically, iPhone refreshes occur in June, but this product appears to be the exception to the rule. There already appears to be widely reported

manufacturing evidence of the device throughout Asia, and we believe Apple has already put the support infrastructure for the product in place. These data points make it unlikely Apple will wait until June to release the device. We expect the device to offer the same capacity points as the current iPhone, and at the same wholesale prices. Although there has been some concern that Apple would lose some subsidy dollars once its exclusive relationship with AT&T ends, we would note that this has not occurred in any of the regions outside of the United States when Apple introduced multiple carriers. As a result of this launch, we expect U.S. iPhone shipments to grow by 50% year-over-year in Apple's June quarter, versus 15% annual growth in the March quarter. For FY2011, we expect 33% U.S. iPhone shipment growth.

The next product refresh should be the second-generation iPad. We are assuming this product will be fully available by late March or early April, or a year after the release of the first-generation iPad. We expect the new iPad to come with a front-facing camera (enabling the use of FaceTime video chat) and we expect Apple to increase the high-end version's storage capacity. Apple currently offers the iPad in 19 countries, and with this second generation device, we expect Apple will have already broadened the geographic distribution considerably. We also expect Apple to lower the iPad's price points by approximately 10% for each sku, and we have explicitly modeled this reduction in our financial model. The price cut, expanded distribution, and improved feature set should further broaden the appeal of the iPad, and we are forecasting 135% annual unit growth in the June quarter and 134% growth in the September quarter.

In June, we expect Apple to launch the fifth-generation of the traditional iPhone. Pinpointing June as the month of release is not rocket science, since this has been the release month for all prior generations of the device. Of course, Apple could presumably change its product release patterns, but we believe the early supply chain chatter still suggests this is not the case. We believe the fifth-generation iPhone will look somewhat similar to the last four versions, but it is likely to be thinner and presumably somewhat lighter. We also believe it's reasonable to assume it will include the next generation of Apple's A4 microprocessor, and each SKU should have increased storage capacity. We believe it is also possible the device will have NFC support for mobile payments, but data on this feature is limited thus far. We do not expect any major change in the retail price of the device, though we are conservatively modeling modest (single digit) wholesale ASP declines.

Finally, with the recent completion of Apple's \$1 billion data center in North Carolina, we believe 2011 will be the year when we finally learn what the company plans to do with it. We assume that sometime in the first half, possibly at WWDC in June, Apple will begin to offer streaming iTunes and App Store content for iOS devices. Downloadable content will still exist, but we believe Apple will increasingly offer streaming as an option. The initial focus will likely be on iTunes music, but cloud-based apps and video content should become more common over time as well. We have no specific data points on precisely when this will occur or what the underlying business model will be, so we are leaving this particular product launch out of our financial model.

We believe this frenzied product release schedule should offer a steady stream of positive catalysts for Apple's stock throughout the first half of the year. Furthermore, the resulting demand for these devices should allow for healthy revenue and earnings upside in the second half.

Deep Dive #2: Can the Apple dream turn into a nightmare?

Much of our report has focused on how Apple's success has been driven by its adroit platform management over the past decade and why we think this success will continue in coming years. While we view our analysis as unique, we understand that 89.4% of the sell-side currently has a Buy rating (or its equivalent) on Apple's stock, so we believe it is even more important to consider the potential pitfalls of Apple's platform model and how that could impact the stock price.

If Apple's platform approach eventually fails or its growth hits a wall, we believe there are effectively two consequences for investors.

1. First, if expectations are sufficiently high before the platform failure is obvious, then the stock could fall precipitously. Numerous examples of this scenario can be garnered from the technology bubble collapse a decade ago. Within our coverage universe, EMC serves as the most notable example. At its peak, the stock traded at \$104.31 (representing a \$229.12 billion market capitalization) As the technology bubble unwound, the stock deteriorated rapidly, reaching a low of \$3.67 in 2002. We characterize this as the near- worst case scenario for Apple investors, and of course, we believe this is a low probability event.
2. The second possible scenario is that Apple's platform deterioration is less severe and the company merely reaches a period of stasis or saturation. In this case, the stock could merely remain within a trading range for a frustratingly long period of time. We believe Microsoft represents the best example of this, with the stock remaining near its current \$25 stock range for most of the past decade. This occurred after Microsoft dominated 90-95% of its core market, and more important, after legal actions from the U.S. Justice Department and European Union effectively blocked off many routes for Microsoft's potential expansion. This negative scenario is obviously more preferable for Apple investors than the more dramatic EMC example.

Given our current optimism over Apple's platform opportunities, it is difficult for us to imagine either of these scenarios occurring anytime soon. Nevertheless, we have attempted to explore these unpleasant possibilities, and we believe they could be preceded by the following factors:

3. Apple's installed base begins to erode
4. The installed base shifts to lower profit dollar units
5. Legal or regulatory factors halt or reverse platform expansion

These factors are not meant to replace standard analysis of the company's key financial metrics such as revenue, profit and cash flow growth. Nevertheless, we believe these factors could show cracks in the platform before we begin to see the consequences in the financial statements. We explore each of these factors in the remainder of this section.

Potential Pitfall #1: An erosion of Apple's installed base

Key metric: iOS installed base trends

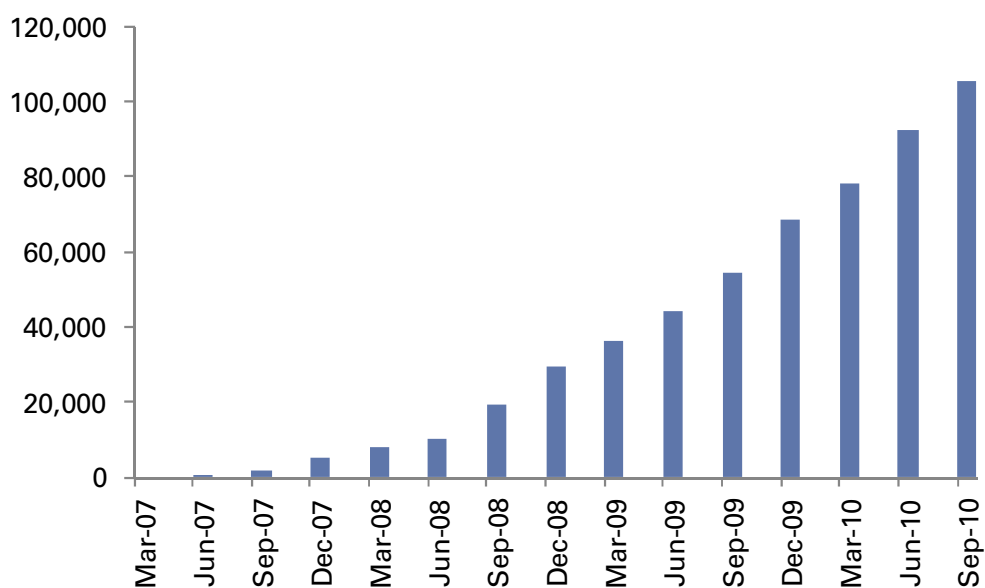
A platform is only as valuable as its installed base. As a result, the growth of Apple's iOS installed base should be a key metric for investors to monitor. As discussed earlier in this report, we estimate that Apple's iOS installed base has gone from zero to 105.6 million users since the launch of the iPhone in 2007. If we add the iPod and Apple TV to this installed base, Apple's platform users have increased by 551% over the past five years, representing an average annual increase of 45.5%. While we believe investors should monitor the installed base for both iOS and the broader iTunes installed base, we currently

believe the iOS installed base is a far better indicator of Apple's impact on the broader computing and content markets. Furthermore, we believe Apple's strategy is to convert as many of its non-iOS iTunes users to iOS devices over time, further supporting the factors behind our focus on the iOS installed base.

It should come as no surprise to investors that this particular metric has been astoundingly positive for Apple in recent quarters. Indeed, we estimate that the iOS installed base increased by 131.1% in 2009, and then by another 53.8% in the first three quarters of 2010. Just as we would expect with the platform framework, this growth rate accelerated in the June quarter of 2010 as the iPad spoke was added to the model.

Exhibit 35: We estimate the iOS installed base grew by 53.8% in the first three quarters of 2010 alone

iOS installed base in 000s



Source: Goldman Sachs Research estimates.

Apple only provides installed base updates for its key products on a fairly sporadic basis, so there is some analysis required to judge installed base trends. For instance, if we see quarters where the total units shipped begin to exceed the implied replacement rate for each platform spoke by a smaller and smaller margin, then we could assume we may be heading towards a period of platform saturation. We suspect 75% of units coming from replacements would be the key threshold for this warning sign. More important, Apple tends to provide fairly regular updates on App store downloads and iTunes songs sold. If this data suggests that the implied apps downloaded by each installed base user is declining, this could either signal installed base saturation or a fundamental weakening of the platform. As a baseline for these metrics, we note that for the September quarter of 2010, we estimated that 39% of iOS shipments were upgrades/replacements, while we assume that 14.2 apps were downloaded per iOS user in the installed base.

Any sustained decline in the iOS installed base or any sustained stagnation should be an important warnings sign for Apple investors. Nevertheless, we note the following confounding factors that could minimize the effectiveness of this metric:

- **Any material change in the average replacement rate could trigger a false alarm.** Replacement rate assumptions can be the Achilles heel of any installed base

analysis. We try to keep it simple in our model by assuming a 2-year replacement rate. This makes the math simpler, irons out seasonal noise, and it seems to foot with historical installed base comments from Apple's management. Nevertheless, replacement rates can change, and such changes are rarely obvious. Furthermore, replacement rate changes may be ephemeral, triggering false alarms in any installed base analysis. For instance, during a severe recession, the replacement rates on iOS devices could decrease as customers delay upgrades. This would lead the model to assume that a larger portion of device shipments are replacements when they are actually net additions to the installed base. As such, this would trigger a false alarm on the long-term health of the platform, and worse, it would prevent investors from capitalizing on an inevitable cyclical recovery in shipments as the replacement rate normalizes. Indeed, we believe such a phenomenon occurred in the printing industry during the recent global recession.

- **A high-value spoke (iPad) could cannibalize a lower-value spoke (iPod touch) without materially impacting the value of the platform.** Although we firmly believe that fears of iPad cannibalization *within* Apple are overblown, it's feasible that such cannibalization could occur over time. Indeed, the iPad could eventually cannibalize the iPod touch installed base if some users find that they no longer desire the portability and affordability of the iPod touch. Nevertheless, this would presumably be a good thing for Apple investors, since the iPad generates far more profit dollars per unit than the iPod touch. Furthermore, the developer base would presumably prefer this scenario as well, since the iPad can support richer content than the iPod touch. As we discuss later, this flaw in the iOS installed base metric can be addressed with a simultaneous analysis of the average profit dollars per iOS unit.
- **Apple could artificially inflate the installed base trends with aggressive pricing, though this could covertly compress the value of the platform.** It seems almost heretical to suggest that Apple would ever seek to drive installed base with overly aggressive pricing. With that said, the company recently shown a penchant for testing mass market price points with its devices so it's reasonable to consider this scenario. If Apple's platform power was deteriorating, the company could presumably extend the life of its installed base by lowering prices aggressively. This would appear obvious to investors if the average profit dollars of iOS units deteriorated or if corporate gross margins declined for an extended period of time. Nevertheless, investors should be careful with this scenario. In particular, when Apple is launching new products, it often introduces them with relatively compressed gross margins, and then the margins expand over time as commodity prices fall at a faster rate than Apple cuts product prices. We believe this is a desirable platform strategy, and it shouldn't be confused with a sign of deteriorating platform health. On the other hand, if we see deterioration in installed base profit metrics without a material product launch, then we may have a problem.

As a result of these potential problems with the model, we believe a qualitative analysis of these factors is necessary for any material change in the iOS installed base trajectory. In addition, these factors suggest that the iOS installed base metric should not be used in isolation. In the following section, we introduce other metrics that should also be considered by investors.

Potential Pitfall #2: Deterioration in installed base profitability

>Key metric: Average profit dollars per iOS unit

We believe a decline in the average profit *dollars* per iOS unit would also serve as an important warning sign that Apple's platform dominance was coming under pressure. Nevertheless, it is important to tie this metric with the installed base growth metric

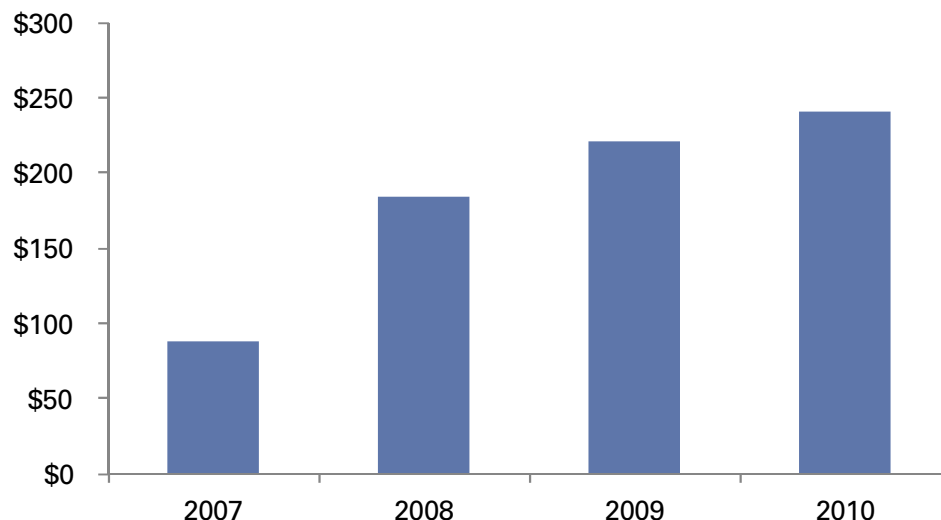
discussed above. Indeed, a modest decline in average profit dollars per unit should be palatable to investors if it results in substantial incremental growth in the total number of iOS users. For instance, if we were to look at Apple's total product installed base (including Macs), we would have seen a material decline in profit per unit when the iPod began to gain momentum in the early part of the decade. Of course, it would have been foolish to conclude this was a negative sign for the company, since it triggered a significant increase in the size of the company's overall installed base. Indeed, this may be the case whenever a lower ASP product spoke is first launched within the platform (we saw this happen again when the iPod touch was launched).

While we believe it is also important to monitor gross margin trends for each of the product spokes in the iOS platform, we believe it is more important to focus on profit dollars for installed base analysis. The primary reason for this is that since we are working with spokes that participate in distinct end markets, overall installed base margins could easily steer us wrong. For example, if the iPad captures significant share in the PC industry over time, it may end up having lower margins than the iPod touch. This would presumably lower the average gross margins for the overall installed base. Nevertheless, we should want the iPad to become a larger business than the iPod touch because it competes in a market with a much larger profit pool, generates more value for developers, and it carries far higher profit dollars per unit. In this case, a deteriorating installed base would be coupled with higher profit dollars per installed base unit, and the latter metric would be a better indicator of platform health.

Over the past several years, the average profit per unit for the iOS installed base has hovered around a constant rate, and it has begun to trend upward at an accelerating rate with the introduction of the iPad and the increasing success of the iPhone (though it comes down every December quarter, due to the high mix of iPods). This, coupled with the growth in the size of the installed base, tells us that the platform's health is improving rapidly. Clearly the stock's performance since the iPad was launched suggests investors already know this, but we believe it's an important trend to understand nonetheless. Interestingly, Apple's recent September quarter earnings release highlighted why too much focus on near-term gross margin performance can distort the real strategic picture. Apple missed consensus gross margin expectations for the quarter, and this has caused some investor angst. But in our view, the positive trends in the installed base dynamics more than counter the near-term pressure on gross margins. We believe the margins are likely to improve as commodity prices decline at a faster rate than Apple has to lower its iPad and iPhone prices in coming quarters, and this is precisely because Apple's platform is becoming increasingly robust. It follows that at some point in the future, Apple's platform could begin to fail while the company is simultaneously generating better than expected gross margins. In this case, gross margins could be masking a potentially severe secular problem.

Exhibit 36: The average profit per iOS unit has begun to trend upward with the introduction of the iPad and the increasing success of the iPhone

Gross profit per iOS unit



Source: Goldman Sachs Research estimates.

Potential Pitfall # 3: Legal and regulatory hurdles to platform expansion

>Key Metric: Qualitative analysis

Apple's platform approach, by definition, can allow the company to obtain a remarkable amount of control over content providers and customer behavior. This, coupled with the company's consumer-centric business model, can easily attract the attention of domestic and international regulators. For instance, earlier this year the U.S. Federal Trade Commission and the European Union launched an investigation into Apple's policies for software development on its mobile devices. Apple has since eased its restrictions on developers by allowing third-party development tools and other concessions, and the EU has now officially dropped the investigation. Furthermore, there has been speculation in the mainstream press that the U.S. Department of Justice launched an informal inquiry into Apple's control of the digital music industry ("Apple is Said to Face Inquiry About Online Music," *New York Times*, May 25th, 2010). We do not believe these investigations are surprising and they are quite common for leaders in any industry segment, nonetheless these types of investigations should be monitored closely by investors.

In most cases, these investigations can be resolved with fairly minor concessions by Apple, and this was proven with the relatively short-lived EU investigation into Apple's policies towards mobile software development. Nevertheless, as we have seen with Microsoft over the past two decades, more severe antitrust actions can substantially alter a company's ability to expand the breadth and profitability of a leading platform. Furthermore, government investigations can linger for many years, generating substantial uncertainty for investors. Indeed, Microsoft's antitrust difficulties began with an FTC inquiry in 1991, but they didn't go to trial until seven years later. Furthermore, Microsoft wasn't able to settle the case until 2004, more than thirteen years after the inquiry began.

We don't see any immediate regulatory threats to Apple's business model, largely because Apple's device share remains fairly low in its core markets. Furthermore, as we argue earlier in this report, we believe the mobile device market will evolve towards an oligopolistic, not monopolistic market structure. As such, Apple's market impact should be far less concerning for regulators than that of Microsoft on personal computing in the 1990s. We believe political winds can change quickly, however, so investors should remain vigilant in this respect.

Conclusion

With the exception of the legal and regulatory risks, the primary threats to Apple's platform value come from two key sources: (1) increased platform competition; and (2) market saturation. The former threat should presumably come from platform competitors such as Google, Microsoft, and RIMM. Again, these vendors could begin to erode Apple's platform prospects before it becomes obvious in the financial statements, so the aforementioned risk metrics could become increasingly important over time. As for market saturation, we believe that the market for mobile device platforms will eventually settle out as an oligopoly, not a monopoly. In addition to the obvious economic consequences of this viewpoint, we believe it also suggests it will be challenging to determine when Apple's market opportunity is fully saturated. It could happen at 20%, 40%, or even 60% of the total available market. Whatever the saturation point, we should begin to see signs that the key platform metrics are stagnating.

Management overview

Exhibit 37: Apple's Management Team

Name	Age	Position
Steven P. Jobs	55	Director and Chief Executive Officer
Timothy Cook	49	Chief Operating Officer
Scott Forstall	41	Senior Vice President, iPhone Software Engineering & Platform Experience
Jonathan Ive	43	Senior Vice President, Industrial Design
Ronald B. Johnson	51	Senior Vice President, Retail
Robert Mansfield	49	Senior Vice President, Mac Hardware Engineering
Peter Oppenheimer	47	Senior Vice President, Chief Financial Officer
Phillip W. Schiller	49	Senior Vice President, Worldwide Product Marketing
Bertrand Serlet	49	Senior Vice President, Software Engineering
D. Bruce Sewell	51	Senior Vice President, General Counsel and Secretary
Jeff Williams	NA	Senior Vice President, Operations

*Note: Age as of January 26, 2010.
Source: Company data.*

Steven P. Jobs founded Apple in 1976, and he is now the chief executive officer and a director of Apple. He has also been on the board of Walt Disney Company since it company purchased Pixar in 2006, and he is the largest individual shareholder of Disney. Mr. Jobs was Apple's chairman of the board from 1981 until his resignation in 1985. Thereafter he founded NeXT, which was a computer company focused on the education market and was eventually sold to Apple in 1996. The NeXT OS eventually became the core of the operating system Apple's businesses depend on today. With the sale of NeXT, Mr. Jobs eventually came back to Apple as interim CEO, and he became the official CEO in 2000.

Timothy Cook has served as Apple's chief operating officer since 2005. Cook also oversees Apple's Macintosh division. Previously, Mr. Cook was the Executive Vice President of Worldwide Sales and Operations from 2000-2002, and joined the company in 1998 as Senior Vice President of Worldwide Operations. Prior to joining Apple, Mr. Cook served as vice president of Corporate Materials for Compaq, and additionally worked at IBM for 12 years, where he most recently was director of North American Fulfillment.

Scott Forstall is Senior Vice President of iPhone Software at Apple. Mr. Forstall joined Apple in 1997 and is one of the original architects of Mac OS X and its Aqua user interface. Prior to joining Apple, Mr. Forstall worked at NeXT developing core technologies.

Jonathan Ive serves as the Senior Vice President of Industrial Design at Apple. He assumed this role in 1996 and joined Apple in 1992. Mr. Ive worked at the London design agency, Tangerine, prior to his time at Apple. Mr. Ive is widely credited for being the chief designer of the iMac, iPod, and iPhone.

Ron Johnson is Senior Vice President of Retail, and joined Apple in January 2000. Mr. Johnson previously spent 16 years at Target Stores, where he held various management positions, most recently serving as Vice President of Merchandising.

Bob Mansfield has served as Senior Vice President of Macintosh Hardware Engineering since 2008. Mr. Mansfield joined Apple in 1999 with Apple's acquisition of Raycer Graphics, where Mr. Mansfield was vice president of Engineering. Prior to his time at Raycer Graphics, Mr. Mansfield was a senior director at SGI, overseeing and working on the development of various microprocessor designs.

Peter Oppenheimer is Apple's Senior Vice President and Chief Financial Officer. Mr. Oppenheimer joined the company in 1996 as controller for the Americas. In 1997 he became vice president and Worldwide Sales controller, and then subsequently was

promoted to corporate controller. Prior to his time at Apple, Mr. Oppenheimer served as CFO to one of the four strategic business units at Automatic Data Processing. Mr. Oppenheimer also worked for six years in the Information Technology Consulting Practice with Coopers and Lybrand.

Philip Schiller is Apple's Senior Vice President of Worldwide Product Marketing. Mr. Schiller rejoined Apple in 1997 after serving as Vice President of Product Marketing at Macromedia, Inc. from December 1995 to March 1997, and as Director of Product Marketing at FirePower Systems from 1993 to December 1995. Mr. Schiller previously worked at Apple for six years in a variety of marketing positions.

Bertrand Serlet, Ph.D., serves as Senior Vice President of Software Engineering and joined Apple in 1997, with Apple's acquisition of NeXT. At NeXT, Dr. Serlet held several engineering and managerial positions. Dr. Serlet also spent four years at Xerox PARC prior to his time at NeXT.

Bruce Sewell is Apple's general counsel and Senior Vice President of Legal and Government Affairs. Mr. Sewell joined Apple in 2009. Prior to Apple, Mr. Sewell worked at Intel, where he was responsible for Intel's legal, corporate affairs, and corporate social responsibility programs. Mr. Sewell joined Intel in 1995, and became vice president and deputy general counsel in 2001. Prior to his time at Intel, Sewell was a partner in the litigation firm Brown and Bain P.C.

Jeff Williams is Senior Vice President of Operations and joined Apple in 1998 as head of worldwide procurement. In 2004 he was named vice president of Operations and since 2007 has run worldwide operations for the iPod and iPhone. Prior to his time at Apple, Mr. Williams worked in a variety of operations and engineering roles at IBM Corporation from 1985 to 1998.

Appendix: Financial Model

Exhibit 38: Apple Inc. income statement
\$ millions, except per-share data

	2010					2011E					2012E					2013E				
	Dec-09	Mar-10	Jun-10	Sep-10	2010	Dec-10E	Mar-11E	Jun-11E	Sep-11E	2011E	Dec-11E	Mar-12E	Jun-12E	Sep-12E	2012E	Dec-12E	Mar-13E	Jun-13E	Sep-13E	2013E
Revenues	\$15,683	\$13,499	\$15,700	\$20,343	\$65,225	\$24,659	\$20,296	\$20,986	\$25,867	\$91,807	\$30,731	\$24,819	\$25,572	\$29,650	\$110,773	\$33,570	\$27,433	\$28,339	\$33,048	\$122,390
YY % change	32.0%	48.6%	61.3%	66.7%	52.0%	57.2%	50.4%	33.7%	27.2%	40.8%	24.6%	22.3%	21.9%	14.6%	20.7%	9.2%	10.5%	10.8%	11.5%	10.5%
Q/Q % change	28.5%	-13.9%	16.3%	29.6%		21.2%	-17.7%	3.4%	23.3%		18.8%	-19.2%	3.0%	15.9%		13.2%	-18.3%	3.3%	16.6%	
COGS	9,272	7,874	9,564	12,831	39,541	15,497	12,515	12,987	15,840	56,840	18,621	14,831	15,383	17,951	66,786	20,149	16,215	16,765	19,582	72,711
Gross profit	6,411	5,625	6,136	7,512	25,684	9,161	7,781	7,999	10,026	34,967	12,111	9,988	10,190	11,698	43,987	13,421	11,218	11,574	13,466	49,679
Gross margin	40.9%	41.7%	39.1%	36.9%	39.4%	37.2%	38.3%	38.1%	38.8%	38.1%	39.4%	40.2%	39.8%	39.5%	39.7%	40.0%	40.9%	40.8%	40.7%	40.6%
SG&A	1,288	1,220	1,438	1,571	5,517	1,886	1,827	1,889	2,121	7,723	2,459	2,184	2,250	2,372	9,265	2,518	2,359	2,465	2,611	9,953
% of revenues	8.2%	9.0%	9.2%	7.7%	8.5%	7.7%	9.0%	9.0%	8.2%	8.4%	8.0%	8.8%	8.8%	8.0%	8.4%	7.5%	8.6%	8.7%	7.9%	8.1%
R&D	398	426	464	494	1,782	567	609	630	673	2,478	768	720	767	712	2,967	772	713	793	793	3,072
% of revenues	2.5%	3.2%	3.0%	2.4%	2.7%	2.3%	3.0%	3.0%	2.6%	2.7%	2.5%	2.9%	3.0%	2.4%	2.3%	2.3%	2.6%	2.8%	2.4%	2.5%
Total operating expenses	1,686	1,646	1,902	2,065	7,299	2,454	2,435	2,518	2,794	10,201	3,227	2,904	3,018	3,084	12,232	3,290	3,072	3,259	3,404	13,025
Operating expense ratio	10.8%	12.2%	12.1%	10.2%	11.2%	10.0%	12.0%	12.0%	10.8%	11.1%	10.5%	11.7%	11.8%	10.4%	11.0%	9.8%	11.2%	11.5%	10.3%	10.6%
Operating income	4,725	3,979	4,234	5,447	18,385	6,708	5,345	5,481	7,233	24,766	8,884	7,084	7,172	8,615	31,755	10,131	8,146	8,315	10,062	36,654
Operating margin	30.1%	29.5%	27.0%	26.8%	28.2%	27.2%	26.3%	26.1%	28.0%	27.0%	28.9%	28.5%	28.0%	29.1%	28.7%	30.2%	29.7%	29.3%	30.4%	29.9%
Other income (expense)	33	50	58	14	155	65	65	65	65	260	65	65	65	65	260	65	65	65	65	260
Pretax income	4,758	4,029	4,292	5,461	18,540	6,773	5,410	5,546	7,298	25,026	8,949	7,149	7,237	8,680	32,015	10,196	8,211	8,380	10,127	36,914
Pretax margin	30.3%	29.8%	27.3%	26.8%	28.4%	27.5%	26.7%	26.4%	28.2%	27.3%	29.1%	28.8%	28.3%	29.3%	28.9%	30.4%	29.9%	29.6%	30.6%	30.2%
Income taxes	1,380	955	1,039	1,153	4,527	1,727	1,380	1,414	1,861	6,382	2,282	1,823	1,845	2,213	8,164	2,600	2,094	2,137	2,582	9,413
Tax rate	29.0%	23.7%	24.2%	21.1%	24.4%	25.5%	25.5%	25.5%	25.5%	25.5%	25.5%	25.5%	25.5%	25.5%	25.5%	25.5%	25.5%	25.5%	25.5%	25.5%
Net income—pro forma	3,378	3,074	3,253	4,308	14,013	5,046	4,031	4,132	5,437	18,645	6,667	5,326	5,392	6,467	23,851	7,596	6,117	6,243	7,544	27,501
Net margin	21.5%	22.8%	20.7%	21.2%	21.5%	20.5%	19.9%	19.7%	21.0%	20.3%	21.7%	21.5%	21.1%	21.8%	21.5%	22.6%	22.3%	22.0%	22.8%	22.5%
Post-tax exceptionals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GAAP net income	3,378	3,074	3,253	4,308	14,013	5,046	4,031	4,132	5,437	18,645	6,667	5,326	5,392	6,467	23,851	7,596	6,117	6,243	7,544	27,501
EPS—pro forma ex ESO	\$3.81	\$3.50	\$3.66	\$4.80	\$15.87	\$5.60	\$4.48	\$4.58	\$5.94	\$20.60	\$7.31	\$5.81	\$5.85	\$6.98	\$25.94	\$8.17	\$6.56	\$6.67	\$8.02	\$29.42
EPS—pro forma reported	\$3.67	\$3.33	\$3.51	\$4.64	\$15.15	\$5.41	\$4.30	\$4.39	\$5.75	\$19.86	\$7.02	\$5.58	\$5.62	\$6.70	\$24.91	\$7.86	\$6.31	\$6.41	\$7.72	\$28.29
GAAP EPS	\$3.67	\$3.33	\$3.51	\$4.64	\$15.15	\$5.41	\$4.30	\$4.39	\$5.75	\$19.86	\$7.02	\$5.58	\$5.62	\$6.70	\$24.91	\$7.86	\$6.31	\$6.41	\$7.72	\$28.29
Diluted shares outstanding	920	923	927	929	925	933	937	941	945	939	950	955	960	965	958	967	970	974	977	972

Source: Company data, Goldman Sachs Research estimates.

Exhibit 39: Apple Inc. segment forecast
\$ millions

	2010					2011E					2012E					2013E				
	Dec-09	Mar-10	Jun-10	Sep-10	2010	Dec-10E	Mar-11E	Jun-11E	Sep-11E	2011E	Dec-11E	Mar-12E	Jun-12E	Sep-12E	2012E	Dec-12E	Mar-13E	Jun-13E	Sep-13E	2013E
Revenues	\$15,683	\$13,499	\$15,700	\$20,343	\$65,225	\$24,659	\$20,296	\$20,986	\$25,867	\$91,807	\$30,731	\$24,819	\$25,572	\$29,650	\$110,773	\$33,570	\$27,433	\$28,339	\$33,048	\$122,390
Desktops	1,692	1,532	1,301	1,676	6,201	1,718	1,564	1,499	1,556	6,337	1,584	1,477	1,445	1,497	6,003	1,528	1,429	1,398	1,448	5,804
Portables	2,758	2,228	3,098	3,194	11,278	3,357	3,016	3,393	3,720	13,485	3,686	3,428	3,784	4,189	15,088	4,096	3,814	4,208	4,657	16,774
Total Macs	4,450	3,760	4,399	4,870	17,479	5,075	4,580	4,892	5,276	19,822	5,270	4,905	5,230	5,686	21,091	5,624	5,243	5,606	6,105	22,578
iPod	3,391	1,861	1,545	1,477	8,274	3,124	1,626	1,888	1,409	7,846	2,967	1,587	1,636	1,372	7,562	2,841	1,515	1,584	1,331	7,270
Other music related products and services	1,164	1,327	1,214	1,243	4,948	1,405	1,569	1,299	1,303	5,575	1,541	1,728	1,499	1,484	6,251	1,686	1,857	1,619	1,621	6,783
iTunes Music Store	733	898	633	597	2,861	726	889	627	591	2,832	718	880	621	585	2,804	711	871	615	579	2,776
iPod services and accessories	130	130	130	130	520	127	127	127	127	510	125	125	125	125	499	122	122	122	122	489
App Store	150	197	328	351	1,026	402	417	410	442	1,671	508	548	584	599	2,239	629	656	684	716	2,685
Apple TV	151	102	123	119	495	81	66	66	65	278	79	68	67	67	281	78	70	70	71	289
iAd	0	0	0	46	46	69	69	68	77	284	110	107	102	109	428	146	137	127	133	543
iPhone and related products and services	5,578	5,445	5,334	8,822	25,179	8,820	7,224	7,265	10,603	33,912	11,210	9,150	9,137	12,031	41,529	12,423	10,207	10,167	13,719	46,515
iPad and related products and services	0	0	2,166	2,792	4,958	5,019	4,057	4,677	6,005	19,758	8,384	6,063	6,769	7,656	28,872	9,478	7,062	7,912	8,684	33,135
Peripherals and other hardware	469	472	396	477	1,814	535	543	455	544	2,077	610	619	519	620	2,367	695	705	592	707	2,699
Software, service and other sales	631	634	646	662	2,573	681	697	711	728	2,818	750	767	782	801	3,099	825	844	860	881	3,409
Units																				
Desktops	1,234	1,147	1,004	1,242	4,627	1,215	1,140	1,100	1,180	4,635	1,185	1,170	1,155	1,235	4,745	1,201	1,188	1,173	1,255	4,816
Portables	2,128	1,796	2,468	2,643	9,035	2,900	2,560	2,842	3,126	11,428	3,352	3,119	3,409	3,795	13,676	4,004	3,725	4,071	4,534	16,334
Total Macs	3,362	2,943	3,472	3,885	13,662	4,115	3,700	3,942	4,306	16,063	4,537	4,289	4,564	5,030	18,421	5,204	4,913	5,244	5,789	21,149
iPod	20,970	10,855	9,406	9,051	50,282	18,900	9,451	9,743	8,766	46,860	18,087	9,711	9,754	8,913	46,465	18,981	10,151	10,278	9,425	48,835
Apple TV	750	500	600	700	2,550	900	720	720	749	3,089	973	827	828	869	3,498	1,087	978	978	1,027	4,070
iPhone	8,737	8,752	8,398	14,102	39,989	14,870	12,036	12,068	18,597	57,571	20,081	16,184	15,828	23,361	75,453	25,040	20,103	19,689	28,678	93,510
iPad	0	0	3,270	4,188	7,458	7,543	6,029	7,675	9,804	31,051	13,704	9,839	11,628	13,131	48,301	16,223	11,984	14,088	15,442	57,737
ASP																				
Desktops	\$1,371	\$1,336	\$1,296	\$1,349	\$1,340	\$1,414	\$1,372	\$1,363	\$1,319	\$1,367	\$1,337	\$1,262	\$1,251	\$1,212	\$1,265	\$1,273	\$1,203	\$1,193	\$1,154	\$1,205
Portables	\$1,296	\$1,241	\$1,255	\$1,208	\$1,248	\$1,158	\$1,178	\$1,194	\$1,190	\$1,180	\$1,099	\$1,099	\$1,110	\$1,104	\$1,103	\$1,023	\$1,024	\$1,033	\$1,027	\$1,027
Total Macs	\$1,324	\$1,278	\$1,267	\$1,254	\$1,279	\$1,233	\$1,238	\$1,241	\$1,225	\$1,234	\$1,162	\$1,144	\$1,146	\$1,130	\$1,145	\$1,081	\$1,067	\$1,069	\$1,055	\$1,068
iPod	\$162	\$171	\$164	\$163	\$165	\$165	\$172	\$173	\$161	\$167	\$164	\$163	\$168	\$154	\$163	\$150	\$149	\$154	\$141	\$149
Apple TV	\$206	\$206	\$206	\$173	\$197	\$89	\$89	\$89	\$85	\$88	\$80	\$80	\$80	\$76	\$79	\$72	\$72	\$72	\$69	\$71
iPhone	\$620	\$600	\$595	\$610	\$607	\$572	\$571	\$563	\$541	\$560	\$534	\$540	\$542	\$488	\$523	\$474	\$484	\$482	\$451	\$471
iPad	\$0	\$0	\$640	\$645	\$643	\$642	\$648	\$584	\$587	\$612	\$586	\$588	\$554	\$555	\$570	\$557	\$559	\$532	\$533	\$545
Gross profit	6,411	5,625	6,136	7,512	25,684	9,161	7,781	7,999	10,026	34,967	12,111	9,988	10,190	11,698	43,987	13,421	11,218	11,574	13,466	49,679
Total Macs	1,251	1,043	1,203	1,243	4,739	1,319	1,213	1,347	1,477	5,356	1,441	1,322	1,412	1,542	5,717	1,542	1,419	1,520	1,662	6,143
iPod	1,058	544	445	361	2,408	866	465	483	417	2,231	829	462	492	410	2,193	810	444	483	409	2,146
Other music related products and services	237	286	219	224	966	255	317	261	265	1,099	298	363	314	315	1,289	341	403	351	357	1,451
iPhone and related products and services	3,384	3,249	3,000	4,190	13,823	4,380	3,735	3,675	5,035	16,825	5,647	4,787	4,759	5,803	20,895	6,119	5,241	5,204	6,749	23,313
iPad and related products and services	0	0	826	1,049	1,875	1,884	1,562	1,745	2,320	7,511	3,375	2,520	2,689	3,077	11,662	4,031	3,120	3,435	3,677	14,264
Peripherals and other hardware	84	94	71	86	336	96	98	82	98	374	110	111	93	112	426	125	127	107	127	486
Software, service and other sales	397	408	374	359	1,537	361	391	405	415	1,572	412	422	430	441	1,705	454	464	473	485	1,875
Gross margin	40.9%	41.7%	39.1%	36.9%	39.4%	37.2%	38.3%	38.1%	38.8%	38.1%	39.4%	40.2%	39.8%	39.5%	39.7%	40.0%	40.9%	40.8%	40.7%	40.6%
Total Macs	28.1%	27.7%	27.3%	25.5%	27.1%	26.0%	26.5%	27.5%	28.0%	27.0%	27.3%	27.0%	27.0%	27.1%	27.4%	27.4%	27.1%	27.1%	27.2%	27.2%
iPod	31.2%	29.2%	28.8%	24.5%	29.1%	27.7%	28.6%	28.6%	29.6%	28.4%	27.9%	29.1%	30.1%	29.9%	29.0%	28.5%	29.3%	30.5%	30.7%	29.5%
Other music related products and services	20.4%	21.6%	18.0%	18.0%	19.5%	18.2%	20.2%	20.1%	20.3%	19.7%	19.3%	21.0%	21.0%	21.2%	20.6%	20.2%	21.7%	21.7%	22.0%	21.4%
iPhone and related products and services	60.7%	59.7%	56.2%	47.5%	54.9%	49.7%	51.7%	50.6%	50.6%	49.6%	50.4%	52.3%	52.1%	48.2%	50.6%	49.3%	51.3%	51.2%	49.2%	50.1%
iPad and related products and services	0.0%	0.0%	38.1%	37.6%	37.8%	37.5%	38.5%	37.3%	38.6%	38.0%	40.3%	41.6%	39.7%	40.2%	40.4%	42.5%	44.2%	43.4%	42.3%	43.0%
Peripherals and other hardware	18.0%	20.0%	18.0%	18.0%	18.5%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%	18.0%
Software, service and other sales	62.9%	64.4%	57.8%	54.2%	59.7%	53.0%	56.0%	57.0%	57.0%	55.8%	55.0%	55.0%	55.0%	55.0%	55.0%	55.0%	55.0%	55.0%	55.0%	55.0%

Source: Company data, Goldman Sachs Research estimates.

Exhibit 40: Apple Inc. balance sheet
 \$ millions

	2010					2011E					2012E					2013E									
	Dec-09	Mar-10	Jun-10	Sep-10	2010	Dec-10E	Mar-11E	Jun-11E	Sep-11E	2011E	Dec-11E	Mar-12E	Jun-12E	Sep-12E	2012E	Dec-12E	Mar-13E	Jun-13E	Sep-13E	2013E					
Assets																									
Cash	\$7,609	\$10,018	\$9,705	\$11,261	\$11,261	\$11,619	\$12,293	\$12,711	\$13,429	\$13,429	\$13,828	\$14,174	\$15,047	\$15,394	\$15,394	\$15,686	\$15,667	\$16,675	\$17,158	\$17,158					
Short-term investments	17,187	13,137	14,583	14,359	14,359	14,815	16,121	16,669	17,611	17,611	18,133	18,587	19,731	20,186	20,186	20,570	20,545	21,866	22,500	22,500					
Cash & short-term investments	24,796	23,155	24,288	25,620	25,620	26,434	28,414	29,380	31,040	31,040	31,961	32,761	34,778	35,580	35,580	36,256	36,211	38,541	39,658	39,658					
Inventories	576	638	942	1,051	1,051	1,148	1,001	1,299	1,320	1,320	1,379	1,186	1,538	1,496	1,496	1,493	1,297	1,676	1,632	1,632					
Accounts receivable	3,090	2,886	3,447	5,510	5,510	5,405	4,893	5,520	7,087	7,087	6,736	5,984	6,726	8,123	8,123	7,358	6,614	7,453	9,054	9,054					
Deferred tax assets	1,180	1,142	1,216	1,636	1,636	1,660	1,600	1,680	1,750	1,750	1,780	1,700	1,760	1,850	1,850	1,880	1,800	1,860	1,950	1,950					
Other	3,690	4,515	6,140	7,861	7,861	9,190	8,142	8,393	9,631	9,631	11,127	9,220	10,003	10,840	10,840	11,951	10,051	11,176	11,798	11,798					
Total current assets	33,332	32,336	36,033	41,678	41,678	43,837	44,050	46,272	50,828	50,828	52,983	50,852	54,806	57,889	57,889	58,937	55,974	60,706	64,092	64,092					
Net property, plant and equipment	3,115	3,504	3,990	4,768	4,768	5,802	6,765	7,631	8,622	8,622	9,456	9,928	10,229	11,514	11,514	12,433	12,910	13,336	14,063	14,063					
Long-term investments	15,024	18,549	21,551	25,391	25,391	30,778	32,624	37,192	41,283	41,283	48,507	53,212	57,735	63,798	63,798	72,347	78,713	83,593	90,949	90,949					
Goodwill and other	2,455	2,668	3,151	3,346	3,346	3,681	3,717	3,755	4,130	4,130	4,543	4,588	4,634	5,098	5,098	5,608	5,664	5,720	6,292	6,292					
Total assets	53,926	57,057	64,725	75,183	75,183	84,097	87,157	94,849	104,863	104,863	115,489	118,581	127,404	138,299	138,299	149,324	153,260	163,356	175,396	175,396					
Liabilities & shareholders' equity																									
Accounts payable	6,511	5,666	8,469	12,015	12,015	12,907	10,698	12,666	14,755	14,755	15,509	12,678	15,003	16,722	16,722	16,782	13,860	16,351	18,241	18,241					
Short-term deferred revenue	2,590	2,542	2,691	2,984	2,984	3,000	3,100	3,200	3,300	3,300	3,400	3,500	3,600	3,800	3,800	4,000	4,100	4,200	4,400	4,400					
Accrued expenses	3,996	4,021	4,452	5,723	5,723	6,904	6,495	6,548	7,243	7,243	8,605	7,942	7,979	8,302	8,302	9,400	8,779	8,842	9,386	9,386					
Total current liabilities	13,097	12,229	15,612	20,722	20,722	22,812	20,292	22,414	25,298	25,298	27,514	24,120	26,582	28,824	28,824	30,181	26,739	29,393	32,027	32,027					
Long-term deferred revenue	922	941	1,021	1,139	1,139	1,162	1,162	1,185	918	918	936	936	955	740	740	754	754	769	596	596					
Other liabilities	4,139	4,539	4,981	5,531	5,531	6,886	8,036	9,051	10,612	10,612	11,936	12,696	13,247	15,249	15,249	16,906	17,766	18,550	20,186	20,186					
Total liabilities	18,158	17,709	21,614	27,392	27,392	30,860	29,490	32,650	36,827	36,827	40,386	37,752	40,784	44,812	44,812	47,841	45,259	48,712	52,809	52,809					
Shareholders' equity	35,768	39,348	43,111	47,791	47,791	53,237	57,667	62,199	68,036	68,036	75,103	80,829	86,621	93,487	93,487	101,483	108,000	114,643	122,588	122,588					
Total liabilities & shareholders' equity	53,926	57,057	64,725	75,183	75,183	84,097	87,157	94,849	104,863	104,863	115,489	118,581	127,404	138,299	138,299	149,324	153,260	163,356	175,396	175,396					

Source: Company data, Goldman Sachs Research estimates.

Exhibit 41: Apple Inc. cash flow statement
 \$ millions

	2010					2011E					2012E					2013E					
	Dec-09	Mar-10	Jun-10	Sep-10	2010	Dec-10E	Mar-11E	Jun-11E	Sep-11E	2011E	Dec-11E	Mar-12E	Jun-12E	Sep-12E	2012E	Dec-12E	Mar-13E	Jun-13E	Sep-13E	2013E	
Cash from operating activities																					
Net income	\$3,378	\$3,074	\$3,253	\$4,308	\$14,013	\$5,046	\$4,031	\$4,132	\$5,437	\$18,645	\$6,667	\$5,326	\$5,392	\$6,467	\$23,851	\$7,596	\$6,117	\$6,243	\$7,544	\$27,501	
Depreciation & amortization	209	216	273	329	1,027	395	325	336	414	1,469	492	397	409	474	1,772	537	439	453	529	1,968	
Other	636	702	629	376	2,343	700	718	723	651	2,792	773	788	785	689	3,036	780	767	769	692	3,009	
Δ Working capital	1,558	(1,662)	646	670	1,212	746	(753)	867	(13)	846	982	(463)	525	(40)	1,005	966	(523)	251	365	1,078	
Net cash provided by operating activities	5,781	2,330	4,801	5,683	18,595	6,886	4,320	6,057	6,489	23,751	8,913	6,049	7,112	7,590	29,664	9,899	6,800	7,716	9,131	33,546	
Cash from investing activities																					
Acquisitions	(5)	(352)	(321)	(76)	(754)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Investments	(3,577)	543	(4,514)	(3,547)	(11,095)	(5,843)	(3,152)	(5,116)	(5,033)	(19,143)	(7,747)	(5,159)	(5,667)	(6,517)	(25,091)	(8,932)	(6,341)	(6,202)	(7,990)	(29,465)	
Capital expenditures	(376)	(274)	(595)	(760)	(2,005)	(1,085)	(893)	(923)	(1,138)	(4,040)	(1,168)	(943)	(972)	(1,127)	(4,209)	(1,074)	(878)	(907)	(1,058)	(3,916)	
Net cash used in investing activities	(3,958)	(83)	(5,430)	(4,383)	(13,854)	(6,928)	(4,045)	(6,039)	(6,171)	(23,183)	(8,915)	(6,103)	(6,639)	(7,644)	(29,300)	(10,007)	(7,219)	(7,109)	(9,047)	(33,382)	
Cash from financing activities																					
Net common stock issuance (repurchase)	523	162	316	256	1,257	400	400	400	400	1,600	400	400	400	400	1,600	400	400	400	400	1,600	
Net cash used in financing activities	523	162	316	256	1,257	400	400	400	400	1,600	400	400	400	400	1,600	400	400	400	400	1,600	
Net increase (decrease) in cash	2,346	2,409	(313)	1,556	5,998	358	675	418	718	2,168	398	346	873	347	1,964	292	(19)	1,008	483	1,764	
Cash at beginning of period	5,263	7,609	10,018	9,705	5,263	11,261	11,619	12,293	12,711	11,261	13,429	13,828	14,174	15,047	13,429	15,394	15,686	15,667	16,675	15,394	
Cash at end of period	7,609	10,018	9,705	11,261	11,261	11,619	12,293	12,711	13,429	13,429	13,828	14,174	15,047	15,394	15,394	15,686	15,667	16,675	17,158	17,158	

Source: Company data, Goldman Sachs Research estimates.

Reg AC

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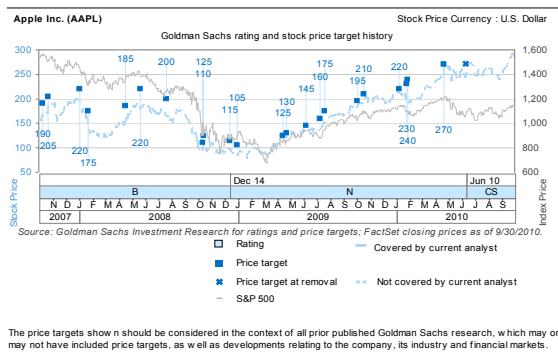
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