MORNINGSTAR®

Apple Inc AAPL (NAS) | ★★★

Last Price	Fair Value	Consider Buy	Consider Sell	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Morningstar Credit Rating	Industry Group
541.65 USD	570.00 USD	342.00 USD	883.50 USD	High	Narrow	Positive	Standard	AA-	Computer Hardware

Apple will have to fend off increased competition from Android-based competitors in the years ahead.

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The primary analyst covering this company does not own its stock.

Research as of 10 Mar 2014
Estimates as of 31 Jan 2014
Pricing data through 01 Apr 2014
Rating updated as of 01 Apr 2014

Currency amounts expressed with "$" are in U.S. dollars (USD) unless otherwise denoted.

Contents

Investment Thesis 28 Jan 2014

We believe Apple's strength lies in its experience and expertise in integrating hardware, software, services, and third-party applications into differentiated devices that allow Apple to capture a premium on hardware sales. Although Apple has a sterling brand, robust product pipeline, and ample opportunity to gain share in its various end markets, short product life cycles and intense competition will prevent the firm from resting on its laurels or carving out a wide economic moat, in our opinion.

We believe Apple has developed a narrow economic moat, thanks to switching costs related to a variety of attributes around the iOS platform that may make current iOS users more reluctant to stray outside the Apple ecosystem for future purchases. However, much of Apple's exponential growth in recent years has stemmed not from the firm's moat, but from the achievement of building the first truly revolutionary smartphone, the iPhone, that integrated hardware and software, as well as a robust apps store and ecosystem that attracted new users to platform. Apple's first-mover advantage may be diminishing, and "easy growth" coming from early smartphone adopters may be winding down as the smartphone market moves up the adoption curve and competition ramps up from Samsung and others. Yet we still foresee iPhone growth, coming from both attracting new customers to iOS (mostly in emerging markets, although we still see U.S. growth as well) and retaining Apple's existing premium iPhone customers, where we think the company's moat will play an increasingly important role. A partnership with China Mobile, the world's largest wireless carrier, should also give iPhone growth a shot in the arm.

Ultimately, we think future smartphone and tablet competition will stem from software and services, as hardware is already approaching commoditization. We view Apple as well positioned to develop and expand enough services to enhance the user experience, in order to build switching costs that will help the firm retain customers and generate significant repeat purchases will be critical for future iPhone growth in the years ahead.

Vital Statistics

Market Cap (USD Mil)	483,146
52-Week High (USD)	575.13
52-Week Low (USD)	385.10
52-Week Total Return %	29.1
YTD Total Return %	-2.9
Last Fiscal Year End	30 Sep 2013
5-Yr Forward Revenue CAGR %	3.2
5-Yr Forward EPS CAGR %	1.2
Price/Fair Value	0.95

Valuation Summary and Forecasts

Fiscal Year:	2012	2013	*2014(E)*	*2015(E)*
Price/Earnings	15.1	12.0	*12.6*	*12.2*
EV/EBITDA	10.2	7.3	*7.5*	*7.5*
EV/EBIT	10.8	8.3	*8.7*	*9.2*
Free Cash Flow Yield %	6.8	10.6	*9.3*	*8.9*
Dividend Yield %	0.4	2.5	*2.4*	*2.4*

Financial Summary and Forecasts (USD Mil)

Fiscal Year:	2012	2013	*2014(E)*	*2015(E)*
Revenue	156,508	170,910	*183,252*	*190,648*
Revenue YoY %	44.6	9.2	*7.2*	*4.0*
EBIT	55,241	48,999	*52,640*	*50,112*
EBIT YoY %	63.5	-11.3	*7.4*	*-4.8*
Net Income, Adjusted	41,733	37,037	*38,872*	*37,193*
Net Income YoY %	61.0	-11.3	*5.0*	*-4.3*
Diluted EPS	44.15	39.75	*43.12*	*44.45*
Diluted EPS YoY %	59.5	-10.0	*8.5*	*3.1*
Free Cash Flow	39,323	41,483	*39,448*	*37,512*
Free Cash Flow YoY %	37.5	5.5	*-4.9*	*-4.9*

Historical/forecast data sources are Morningstar Estimates and may reflect adjustments.
Analyst Note: EPS on a GAAP basis

Profile

Apple designs consumer electronic devices, including PCs (Mac), tablets (iPad), phones (iPhone), and portable music players (iPod). Apple's products run internally developed software, and this integration of hardware and software often allows the firm to maintain premium pricing for its devices. Apple's products are distributed online as well as through company-owned stores and third-party retailers.

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Morningstar Analysis

Valuation, Growth and Profitability 10 Mar 2014

Our fair value estimate for Apple is $570 per share, which implies fiscal 2014 (ending September 2014) price/earnings of 13.5 times, and only 10 times after excluding $157 per share of net cash on hand as of December 2013. We project revenue growth of 6% in fiscal 2014, down from our prior projection of 13%. Apple profited from successful launches of new devices such as the iPhone 5s, but follow up sales in the March 2014 quarter were below our expectations, which points to even lower revenue growth through the rest of fiscal 2014 as these products age. Longer term, Apple should still attract late smartphone adopters in developed markets and new customers in emerging markets, especially as Apple's partnership with China Mobile, the world's largest wireless carrier, begins to pay dividends. As more and more consumers are previous smartphone owners, rather than first-time buyers, we think Apple has a good chance to retain a sizable portion of its iOS user base today, and perhaps gain further share at the high end of the market. However, although Apple has taken on the strategy of maintaining premium pricing, which may support gross margins in the years ahead, such pricing may weigh on future revenue growth. In turn, we model low single-digit iPhone revenue growth in fiscal 2015 and beyond.

We project solid iPad revenue growth in fiscal 2014 and 2015, as this device both displaces PCs and is purchased as a third device alongside PCs and phones, but minimal growth thereafter as Apple maintains premium pricing on these devices but fails to recognize exponential unit growth as in years past. We assume Apple's line of Mac PCs will see modest revenue growth, as Macs gain share in the declining PC industry. We also do not make any profitability assumptions for an Apple TV or iWatch but recognize that future innovations may provide upside to our valuation.

We project 37.5% gross margins in fiscal 2014 and mid-30% gross margins in the long term, as Apple maintains its focus on premium pricing that helps to stave off meaningful gross margin compression, albeit with relatively slower unit sales growth. In turn, operating margins should fall to the mid-20% range five years out. Our fair value uncertainty rating for Apple is high.

Scenario Analysis

Our base-case scenario for Apple projects average revenue growth of 3% per year from fiscal 2014 to fiscal 2018, as well as average operating margins of 25% over our five-year forecast period. Our base scenario projects annual average revenue growth of 3% for the iPhone and 6% for the iPad, while unit sales grow at average annual rates of 5% and 7%, respectively.

In our bullish scenario, we assume that Apple continues to build on its tremendous success with the iPhone, not only benefiting from tailwinds surrounding smartphone growth, but maintaining premium pricing for its devices. Similarly, we project 3% higher unit growth for the iPad above our base-case assumptions. We also make more optimistic assumptions about all other revenue streams. We maintain our base-case gross margin projections for each product line, but as iPhone becomes a greater portion of overall revenue, we forecast that Apple's gross margins and operating margins won't decline as quickly as in our base-case assumptions. Under these bullish assumptions, Apple would see average revenue growth of 8% per year and average operating margins of 28%, and our fair value estimate would be $730 per share.

In our bearish scenario, we assume Apple's iPhone revenue essentially peaks in fiscal 2014 and falls modestly thereafter. We project average iPhone unit sales declines of 1% per year, as customers fails to capture new customers. We also model average ASP declines of 3% per year as the firm sells a higher proportion of older, cheaper models. We also model only 3% average iPad unit growth, as Apple's premium pricing strategy backfires and customers choose cheaper tablets from Android-based competitors. We also

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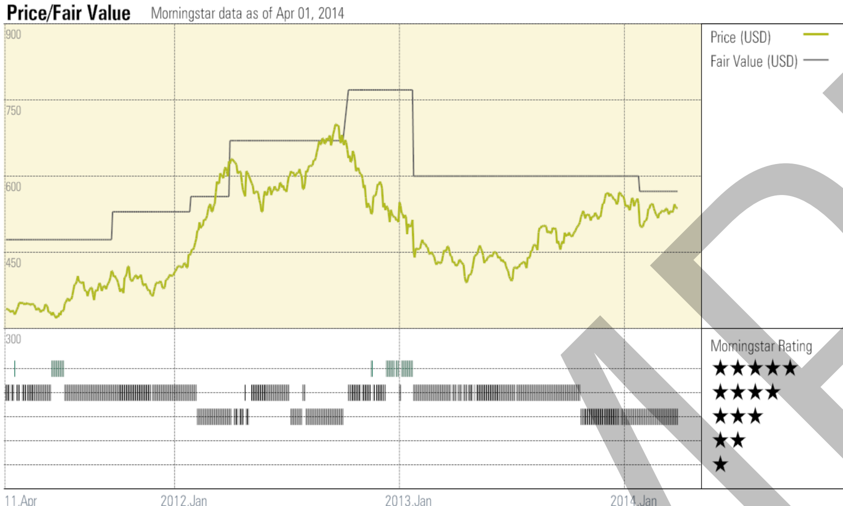
Price/Fair Value Morningstar data as of Apr 01, 2014



make more pessimistic assumptions about all other revenue streams, project modestly sharper gross margin declines down to 32% by fiscal 2018, and higher operating expenses that cause operating margins to dip to 15% by fiscal 2018. Our fair value estimate under our bearish assumptions would be $400 per share.

Economic Moat

We believe Apple has a narrow economic moat based on modest, but not insurmountable, customer switching costs. We don't believe these switching costs are critical factors in attracting new iOS customers, especially in emerging markets, but that such switching costs will allow Apple to build a loyal iOS user base that may be less likely to flee to other operating systems for future device purchases in the long term. As the smartphone market matures and a greater proportion of purchases come from previous smartphone owners, we foresee these switching costs as extremely important differentiators in favor of Apple. That said, given the short product life cycles of two to four years for most of its devices, we still think competing products will have plenty of chances to lure iOS customers away from Apple's platform and overcome these switching costs, especially if Apple were to stumble in any given product refresh cycle. This prevents us from assigning the company a wide economic moat.

Inherently, we believe there are minimal switching costs associated with smartphones, as all of these devices can perform most necessary functions--place calls, send texts, browse the web, and so on. However, we believe Apple has done a much better job at trying to develop switching costs than its handset predecessors (such as Motorola and BlackBerry) that failed to lock in customers when they were on top. Apple's speedy initial development of a robust third-party application ecosystem attracted early smartphone buyers and provided a difficult barrier to entry for other smartphone OS platforms. Although Google's Android was able to develop a similar network and applications developers focused on building products for both of these operating systems, Microsoft has been unable to build out a similarly robust developer network thus far, and we think Apple's early advantage in third-party apps will help fend off many other upstart competitors looking to build the next great mobile ecosystem.

In our opinion, Apple's switching costs stem from its iOS operating system and appear to be increasing, thanks to its iCloud offering. Apple iOS users who purchase movies, TV shows, and applications from the iTunes store are unable to port these media to Android or other portable devices (music is transferrable). iCloud adds another layer of switching costs by synchronizing media, photos, notes, and other items across all Apple devices. We believe an owner of an iOS device (say, an iPad) is less likely to switch from an iPhone to an Android phone if it means that he or she will be unable to sync or access a portion of their content. Additional Apple devices, such as the Mac and potentially an iWatch, could raise these switching costs even further. By comparison, no other former handset leader (Nokia, Motorola, BlackBerry) offered secondary devices that partnered with their phones, giving Apple a unique edge

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that handset makers such as Samsung are only now starting to emulate. Along these lines, the iPad Mini, sold at lower price points and, presumably, lower margins, may modestly eat into Apple's tablet profitability but could be the right move if it gains further lock-in from price-conscious consumers who would otherwise buy Amazon's and Google's cheaper tablets. Another encouraging but perhaps fleeting factor is that customers have willingly accepted iCloud and the coinciding switching costs because it offers users a better product experience, rather than other instances of high switching costs where customers begrudgingly accept these lock-in costs because of existing infrastructure, a lack of suitable alternatives, or because their businesses dictate such moves.

Looking at other sources of economic moat, Apple holds intangible assets associated with patents for its hardware and software designs. However, both the value of such assets and the sustainable competitive advantage stemming from these assets remain cloudy. Regarding Apple's sterling brand equity, we view brands within technology differently than, say, consumer luxury goods. We doubt that Apple can charge double the price for a product that has the exact same hardware and software specifications as an unbranded product. However, we think that Apple benefits from intangible assets, or a brand, in terms of the (mostly) positive user experiences that customers capture from the firm's integrated hardware, software and services. Similarly, Apple might be the world's most trusted consumer technology firm in terms of delivering flawlessly working products in existing, and even new, product categories. However, we still think tech brands are relatively fleeting, as technological inferiority can supersede years of brand equity at any given time. As an example, Nokia was long considered a top-10 brand, but its failure to stay on the technological forefront overtook its brand recognition.

Apple is trying to improve the network effects of its devices with functions like iMessage and FaceTime. However, BlackBerry's demise proves that even highly popular smartphone-centric networks like BlackBerry Messenger can be broken if other smartphone features (or lack thereof) drive customers to flee. Network effects may be forming around Apple's apps developers, as a more robust apps store is likely helping Apple attract new customers. However, these same developers likely build for Android as well, so we think that developers will flock to the ecosystem that offers the most attractive return on investment. Finally, Apple may have some cost advantages associated with its supply chain, such as squeezing suppliers or making massive purchases of flash memory and other key components. However, we believe these advantages are predicated on the enormous forecast volume of Apple's products, and we suspect these advantages would evaporate if Apple's device production were to shrink.

Moat Trend

We believe Apple has a positive moat trend. The company's iCloud offering should raise switching costs associated with iOS devices as more and more customers buy and own multiple iOS devices (iPhones plus iPads, for example), as well as acquire Apple-only media and applications on their iOS devices and choose to upload this content, along with photos and other items, to iCloud. We believe these switching costs are increasing based on Apple's strong iPad growth in recent years, as more and more iPhone users now own a second device that runs the iOS system and syncs between the two devices. Apple has disclosed that it has 300 million iCloud subscribers as of June, which represents rapid growth as compared to 250 million just five months earlier. In our view, ownership of multiple devices not only decreases the likelihood that customers would look for alternative devices that would be incompatible with these products, but perhaps improves the probability that customers buy even more iOS devices including Macs and

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Morningstar Analysis

Apple TVs.

To a lesser extent, we also believe Apple's switching costs are increasing in regard to iPad sales into the enterprise. Gartner estimates that only 13 million iPad business subscribers (defined as devices either acquired by a business or expensed to it) existed in 2013, but this base should rise to 41 million users by 2017. We believe that not only are a growing number of corporations purchasing iPads today, but that these companies are writing native applications for its employees that work solely on iOS products, rather than browser-based apps that would run on multiple tablet platforms. We think it would be increasingly unlikely that such businesses would migrate to Android- or Windows-based tablets based purely on cost savings. Although enterprise iPad sales don't move the needle on our valuation today, we believe Apple's growing presence in the enterprise is leading to stronger switching costs. Switching costs may also arise from the education market, to the extent that schools and universities build iOS apps that work with iPads used by students. In the September quarter, Apple earned $1 billion of revenue from educational sales, and further adoption from schools may allow Apple to have a steadier stream of customers and future iOS device buyers in the long term.

In our view, much of Apple's outsized growth in recent years has stemmed not from the firm's moat, but rather from a first-mover advantage as a result of building the first truly revolutionary smartphone with a robust apps store and ecosystem that attracted new users to platform--all while facing little direct competition. Apple's ability to attract new iPhone users to the platform may wane in the years ahead, partially due to greater competition from Samsung, but mostly because Apple's premium pricing strategy may prevent new customers in emerging markets from switching to iPhones. However, we don't necessarily see either of these factors as a sign that the company's moat is eroding rather than strengthening. Neither of these factors indicate weakening switching costs, in our view, and we have not yet seen much evidence that iOS users are abandoning the platform. For example, data from Kantar World Panel suggest that only a single-digit percentage of Samsung's smartphone sales in the U.S. in 2012 came from platforms other than the iPhone, and more recently, data from Comscore indicates that Apple is gaining, rather than losing, smartphone subscribers in the U.S.

Nonetheless, we continue to believe that the short product life cycles associated with Apple's products will prevent the firm from gaining a wide economic moat. iOS and iCloud provide some switching costs, but we don't think these costs are overwhelming. If Apple were to ever launch a complete flop of a product or lose a significant aspect of functionality in its devices (say, if Facebook were no longer included or if much-maligned Apple Maps was the only mapping solution allowed on iOS), customers may be annoyed by iOS switching costs, but less so than the frustration associated with buying premium Apple products that provide an inferior user experience. Another risk to Apple's moat trend, in our view, is that a variety of platform-agnostic web-based services, such as Dropbox, Evernote, Spotify, and Netflix may make media ownership, switching costs, and iCloud less important differentiators for Apple in the future.

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Bulls Say/Bears Say

Bulls Say

- Gartner expects the smartphone market to more than double from 2012 to 2015, providing Apple with avenues for iPhone growth.
- Apple appears poised to generate strong revenue growth from the iPad in the years ahead as tablets cannibalize PCs.
- For each iOS device purchased, customers may be less likely to switch to another provider and more likely to buy repeat Apple products, which we view as a good sign for long-term iPhone, iPad, and Mac sales, as well as an ability to drive revenue from new devices like a revised Apple TV or iWatch.

Bears Say

- Apple's recent decisions to maintain a premium pricing strategy may help fend off gross margin compression but may also limit unit sales and market share as the low end of the smartphone space will likely grow faster than the premium market.
- Whereas Apple focuses on a handful of key products, Samsung has emerged as a strong rival by offering highly competitive devices of all sizes and prices at all times of the year.
- Apple may have lost much of its vision and creativity with the passing of cofounder Steve Jobs in October 2011.

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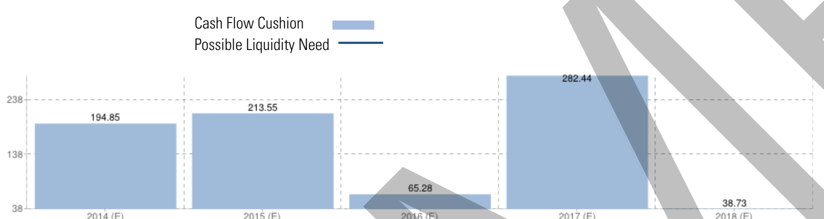
Credit Analysis

Five Year Adjusted Cash Flow Forecast (USD Mil)

	2014(E)	2015(E)	2016(E)	2017(E)	2018(E)
Cash and Equivalents (beginning of period)	146,761	166,469	193,256	215,508	238,152
Adjusted Available Cash Flow	32,140	30,239	28,112	26,009	24,380
Total Cash Available before Debt Service	178,901	196,709	221,367	241,517	262,532
Principal Payments	—	—	-2,500	—	-6,000
Interest Payments	-308	-308	-304	-298	-273
Other Cash Obligations and Commitments	-610	-613	-587	-557	-505
Total Cash Obligations and Commitments	-918	-921	-3,391	-855	-6,778

Cumulative Annual Cash Flow Cushion



Adjusted Cash Flow Summary

	USD Millions	% of Commitments
Beginning Cash Balance	146,761	1,140.9
Sum of 5-Year Adjusted Free Cash Flow	140,880	1,095.2
Sum of Cash and 5-Year Cash Generation	287,641	2,236.2
Revolver Availability	—	—
Asset Adjusted Borrowings (Repayment)	—	—
Sum of Cash, 5-Year Cash Generation, Revolver and Adjustments	287,641	2,236.2
Sum of 5-Year Cash Commitments	-12,863	—

Credit Rating Pillars–Peer Group Comparison

	AAPL	Sector	Universe
Business Risk	4	4.7	5.0
Cash Flow Cushion	2	4.1	6.1
Solvency Score	1	3.3	4.9
Distance to Default	1	2.5	3.9
Credit Rating	AA-	A	BBB+

Source: Morningstar Estimates

Note: Scoring is on a scale 1-10, 1 being Best, 10 being Worst

Financial Health & Capital Structure

Apple has consistently exhibited a conservative capital structure and maintains one of the largest cash cushions that any corporation has ever seen. The firm held a whopping $159 billion in gross cash as of December 2013. The company holds $34 billion of cash and investments in the U.S. that can be used for dividend payments, stock repurchases, and domestic acquisitions. The remaining $124 billion is held overseas, and Apple cannot repatriate to the U.S. without paying additional taxes, most likely at close to 35%. In order to tap into this massive cash balance, Apple took on $17 billion of debt at extremely low rates that was well received and oversubscribed by bond investors. We suspect that Apple would pay off this debt almost instantly if the U.S. government ever changed its tax policy or allowed a repatriation holiday. Going forward, we believe that Apple's U.S.-based cash is more than adequate to fund future dividend payments, as well as regular business expenses in the U.S., such as most of the firm's R&D efforts and iCloud capital expenditures. However, Apple's domestic ongoing cash flow is likely inadequate to fund massive stock buybacks, and we anticipate that any large round of future buybacks will be met with additional debt offerings. We suspect that Apple will continue to use a portion of its overseas cash to make shrewd purchases with overseas partners pertaining to its supply chain, such as Apple's bulk purchases of flash memory chips, and perhaps investments in foreign supply chain partners. However, we project that most of this overseas cash will continue to sit on Apple's balance sheet and serve as collateral on any future bond offerings, at least until the day when U.S. tax policy allows for repatriation at more favorable tax rates.

Apple has announced that it plans to distribute $100 billion to investors by the end of calendar 2015, $40 billion via a regular quarterly dividend (which is currently $3.05 per share) and $60 billion from stock buybacks. We think the firm made a wise move by instantly putting its $17 billion

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Credit Analysis

of debt proceeds to work by buying back $16 billion of stock in the June 2013 quarter at, in our opinion, attractive prices. Despite calls from some investors for a more aggressive capital allocation policy, we would be surprised if Apple significantly expanded its buyback program in the next couple of years beyond its $60 billion authorization today. Apple has notoriously been stingy with capital distribution to investors, especially under the Steve Jobs regime, and we highly doubt that the firm will ever take on a net debt position, or even more debt than what it could instantly pay off with its overseas cash hoard. We continue to project that Apple will make tiny, bolt-on acquisitions of intriguing startups, in order to capture engineering and development talent that can help improve the firm's product offerings while fitting in seamlessly with Apple's corporate culture. We see little risk that Apple will make a splashy, high-priced acquisition that could destroy value for shareholders.

Enterprise Risk

We believe a large, well-diversified company like Apple faces several risks. Smartphone and tablet competition is rising, as Samsung, in particular, has developed compelling iPhone alternatives in the premium smartphone space. Meanwhile, we anticipate that a greater portion of smartphone sales come from low-end devices in emerging markets where Apple does not participate. If these devices turn out to offer only a slightly worse user experience than iOS products, Apple may be unable to capture an adequate premium on future hardware sales. Apple also has to square off against several competitors with much different strategies than traditional hardware makers. Apple's devices compete against firms like Amazon (with its Kindle Fire tablet) and Xiaomi, which appear willing to sell hardware at cost, in order to drive other revenue streams.Despite its intentions to control as much of the user experience as possible for its products, Apple still relies on a robust app developer base and strong partnerships with third parties. Its decision to use an in-house mapping solution (and subsequent apology) may have diminished Apple's reputation and its customers' user experience, and other similar missteps may cause customers to leave the iOS ecosystem altogether. If Apple were to falter and its exceptional brand be diminished as customers departed iOS in droves, we're not even sure that Apple's mighty cash cushion could help the firm buy its way out of any problem.As a premium phone supplier, Apple also runs the risk that wireless carriers could reduce or eliminate the subsidies that they provide their customers on the iPhone, in turn raising customers' up-front costs and perhaps making other smartphones appear to be better alternatives. Finally, Apple lost cofounder and visionary Steve Jobs in October 2011, and while we believe CEO Tim Cook is a more-than-capable leader, Apple runs the risk that its unique culture and sense of innovation may diminish over time.

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Management & Ownership

Management Activity

Name	Position	Shares Held	Report Date*	InsiderActivity
MR. ARTHUR D. LEVINSON, PHD	Director	162,698	01 Feb 2014	—
MR. TIMOTHY D. COOK	CEO/Director,Director	87,371	31 Jan 2014	—
MR. ALBERT A. GORE,JR	Director	62,523	01 Feb 2014	—
CRAIG FEDERIGHI	Senior VP, Divisional	41,170	15 Mar 2014	—
MR. ROBERT A. IGER	Director	5,541	01 Feb 2014	—
PETER OPPENHEIMER	CFO/Senior VP	4,889	31 Jan 2014	—
DANIEL J. RICCIO	Senior VP, Divisional	3,064	25 Feb 2014	9,192
MR. WILLIAM V. CAMPBELL	Director	2,523	01 Feb 2014	—

*Represents the date on which the owner's name, position, and common shares held were reported by the holder or issuer.

Fund Ownership

Top Owners	% of Shares Held	% of Fund Assets	Change (k)	Portfolio Date
Vanguard Total Stock Mkt Idx	1.54	2.28	105	28 Feb 2014
PowerShares QQQ Trust, Series 1	1.09	11.88	-39	31 Mar 2014
Vanguard Institutional Index Fund	1.00	2.84	19	28 Feb 2014
Vanguard Five Hundred Index Fund	0.98	2.83	47	28 Feb 2014
SPDR S&P 500	0.97	2.88	-93	28 Mar 2014
Concentrated Holders				
Fidelity® Select Computers Portfolio	0.03	20.56	-6	28 Feb 2014
Newmark Risk-Managed Opportunistic	—	19.71	0	31 Dec 2013
Putnam Global Technology Fund	—	18.89	—	31 Dec 2013
ProFunds VP Technology	—	17.05	1	31 Dec 2013
JNL/Mellon Cptl Technology Sector Fund	0.02	16.93	13	31 Dec 2013

Institutional Transactions

Top 5 Buyers	% of Shares Held	% of Fund Assets	Shares Bought/ Sold (k)	Portfolio Date
Heights Capital Management Inc	0.42	42.87	2,066	31 Dec 2013
New Jersey Division of Pensions and Benefits	0.21	0.76	1,880	30 Jun 2010
Deutsche Bank AG	0.36	2.18	1,650	31 Dec 2013
Morgan Stanley & Co Inc	0.22	1.81	1,079	31 Dec 2013
Coatue Management LLC	0.17	8.28	1,066	31 Dec 2013
Top 5 Sellers				
Susquehanna Financial Group, LLLP	0.35	0.96	-4,140	31 Dec 2013
Commerzbank AG	0.16	3.77	-2,430	31 Dec 2013
J.P.Morgan Securities Inc.	0.10	1.04	-1,653	31 Dec 2013
Citigroup Inc	0.30	1.37	-1,278	31 Dec 2013
Bank of New York Mellon Corp	0.54	2.26	-1,093	31 Dec 2013

Management 10 Mar 2014

We view Apple as a good steward of shareholder capital. Arthur Levinson, former chairman and CEO of Genentech, is chairman of Apple's board of directors. Tim Cook became CEO in August 2011 after cofounder, longtime CEO, and visionary Steve Jobs stepped down from the CEO role before passing away in October 2011. Cook was considered to be Jobs' right-hand man and served in various operations roles with Apple before becoming COO in 2005. We believe Jobs' passing was a blow to the firm, as he was a one-of-a-kind leader and creative mind.

Although Apple maintains sterling brand recognition and has hundreds of millions of loyal followers, the company has made a couple of missteps under Cook that, some would argue, would have never happened under Steve Jobs. Apple executed poorly when it decided to part ways with Google Maps in iOS 6 and launch Apple Maps with a variety of bugs and errors, leading to a formal apology and the ouster of VP Scott Forstall. Also, Apple hinted that it believes that a 4 " screen is an adequate screen size for a smartphone, yet Samsung has done quite well in the near term with its much larger Galaxy smartphones and Galaxy Note phablets (phone/tablets). We fear that Apple may miss out on part of the premium smartphone market if it fails to build a larger-screen iPhone in the near-future, although rumors continue to swirl that an iPhone 6 launch in 2014 may include a larger screen version.

On the other hand, while many may have questioned Apple's management team about its decision to price the iPhone 5c at $549, rather than at lower prices that more directly addresses emerging market demand, we tend to approve of Apple's decisions to maintain its premium pricing position. We also applaud Cook's decision to initiate a dividend and stock buyback plan in early 2012, as well as take on debt in order to fund a $60 billion stock buyback program in 2013. We recognize that many high-profile investors have called for an even larger buyback program, but we think that

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541.65 USD	570.00 USD	342.00 USD	883.50 USD	High	Narrow	Positive	Standard	AA-	Computer Hardware

Apple's current plan is satisfactory as long as buybacks (and the debt issuances needed to fund these buybacks) are made in a prudent manner. In retrospect, the misstep may have come from not front loading the buyback program in 2013 when both Apple's share price and interest rates were lower than today.

Perhaps more importantly, we think Apple's frugality is quite admirable in terms of acquisitions. Apple's strategy of focusing on smaller tuck-in deals and developing products in-house, rather than splashy but questionable deals like Microsoft's purchase of Skype or Google's foray into hardware by acquiring Motorola Mobility and Nest, appears to have served investors quite well in recent years. Apple has also done a good job of attracting top-notch talent to the company in recent months, such as former Burberry CEO Angela Ahrendts to run Apple's retail and online stores, and Paul Deneve, the former CEO of Yves Saint Laurent. We are comfortable that these hires have strengthened Apple's bench in the unlikely event that Cook were to depart the company. Both hires not only have experience managing luxury brands that sell aspirational goods, but also fuel speculation that an iWatch is on the horizon. All the while, Apple's ongoing operations continue to generate operating margins and cash flow well above its peers in various hardware industries, which bodes well for future free cash flow for investors.

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Analyst Notes

We Expect a Seamless CFO Transition at Apple as Oppenheimer Retires; Maintaining our FVE 04 Mar 2014
We will maintain our $570 fair value estimate and narrow moat rating for Apple after the firm announced that CFO Peter Oppenheimer will retire at the end of September. All in all, we anticipate a seamless transition of the role, and we don't foresee any radical changes in capital allocation at Apple as a result of the change. We should note that CEO Tim Cook hinted that an update to the firm's capital allocation policy, which will presumably include a dividend hike and possibly an expanded stock buyback program, will be announced in the next 60 days.

Luca Maestri, Apple's current VP of Finance and corporate controller, will take over the CFO position in June, while Oppenheimer will stay on through September to assist with the transition. Maestri joined Apple in March 2013 and was formerly CFO of Nokia Siemens Networks and Xerox and also has 20 years of finance and operations management experience at General Motors. Tim Cook was even quoted in the company's press release that Maestri was considered to be Oppenheimer's heir apparent, and we have no reason to believe that Maestri won't be up to the challenge of running all of Apple's financial operations.

Apple's CarPlay May Help Drive Future iOS Device Sales; Maintaining Our $570 Fair Value Estimate 03 Mar 2014
We will maintain our $570 fair value estimate and narrow moat rating for Apple as the firm launches CarPlay, its automotive software solution that allows for easy iOS usage in the car. We view CarPlay as yet another native application developed by Apple that probably won't drive much revenue but creates another layer of modest switching costs that will ultimately allow the firm to maintain premium pricing and sell future high-margin iPhones to current iOS customers in the long term.

CarPlay will allow drivers to access Siri, directions via Apple maps, phone calls, text messages, music, and podcasts in a hands-free manner in the automobile, either via the infotainment display panel in the car or with push-and-hold voice control buttons on the steering wheel. CarPlay will also support third-party apps like Spotify, and we suspect that Apple's robust network of iOS app developers will build new and modified apps to work with the platform and make it a stronger car entertainment solution in the future. Perhaps the biggest question is whether Google will support CarPlay with Google Maps and perhaps search and other apps down the line. The software solution was introduced this week in Geneva in partnerships with Ferrari, Mercedes-Benz, and Volvo, but many other original-equipment manufacturers are lined up to incorporate CarPlay in future vehicles. From a geographical perspective, CarPlay is supported in North America and many Western European countries, but mainland China is absent thus far (Hong Kong is supported).

Our initial take on CarPlay is that the platform appears similar to what the company hinted at in June during its comments about "iOS in the car" at its Worldwide Developer Conference. While CarPlay appears to be optimized to handle entertainment, mapping, voice, and text functions in the car, it does not appear to handle other automotive-specific diagnostics functions like tire pressure or fuel gauges. We suspect that Apple will leave this functionality to current embedded software platforms like QNX, and although QNX will still probably offer entertainment apps and features in its software, CarPlay may simply override these functions.

Since Apple has consistently relied on vertical integration and focuses on controlling all of the key technologies in its products, we think it is limited in what it can do in the automotive market and, similarly, the Internet of Things.

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Since Apple won't develop automotive parts like tires or engines anytime soon, we doubt it will want to be responsible for measuring the diagnostics of such products. Rather, all of CarPlay's functions and features are those that Apple fully controls as part of iOS 7, and CarPlay doesn't appear to touch any other hardware or software functions in the rest of the car.

We continue to believe that car OEMs will want to take ownership of the infotainment systems in their cars in order to better compete with one another in the highly competitive auto market. Similarly, we don't foresee carmakers simply installing dumb touch screen panels into their cars and allowing smartphones or tablets to control the entire infotainment experience in the same manner that Apple TV or Google Chromecast allows users to project the content on their smartphones and tablets onto a larger screen. This is why we think CarPlay was launched as simply a software interface, rather than an entire infotainment hardware and software system installed in the car. This dynamic also probably prevents Apple from capturing its normal pricing premium and above-average gross margins on hardware device sales if it were to build a full infotainment system.

Along these lines, many car OEMs like General Motors, Honda, and Hyundai implicitly intend to be operating system-agnostic in their vehicles, as each not only will support CarPlay, but also are founding members of Google's Android-based Open Automotive Alliance. We anticipate that car OEMs won't want to be locked down to a single operating system, as they may lose a potential sale because the buyer has a different smartphone OS in his pocket. Similarly, we doubt that each carmaker will want to build an iOS and an Android version of their automobiles in order to placate all potential customers. Additionally, given the much longer lives of automobiles when compared with two or three years for a smartphone, automakers should want to protect themselves in the event (albeit unlikely) that iOS or Android become antiquated technologies. In this vein, CarPlay will probably be accepted by car OEMs exactly because it is incremental to, rather than replacing, existing automotive infotainment operating systems, regardless of whether Android, QNX, or something else wins out in the future.

In terms of Apple's narrow moat and positive trend rating, we currently view CarPlay in the same manner as iWorks, FaceTime, iMessage, and other native applications provided by Apple. None of these native applications or software will be major revenue drivers for the firm, but they will each probably create modest (but not insurmountable) switching costs that will allow Apple to maintain premium pricing and continue to sell high-margin iPhones to customers well into the future. We think the strength of CarPlay's potential switching costs will stem from how superior the entertainment system will be when compared with the car's native infotainment system and, similar to smartphones, how well Apple can cultivate a network of app developers that can build CarPlay into the most robust and unique entertainment system on the market.

Today, if CarPlay is considered to be far superior to the infotainment options offered by Android or QNX, then it may in fact lead to solid switching costs for current iOS users. Longer term, however, as Android and QNX improve, CarPlay may not offer many switching costs or customer lock-in at all, as all infotainment options may be adequate. But perhaps more important, CarPlay may negate switching costs for other operating systems as well, making the car truly agnostic. Those who buy an automobile with an Android operating system may not necessarily be locked in to buying Android-based handsets for as long as they own the car, as long as CarPlay is an available option within the same device and is equal to, if not better than, the entertainment options provided within the Android car OS. Similarly, we doubt BlackBerry can leverage any future

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Analyst Notes

improvements in QNX into a sustainable competitive advantage that will allow it to sell more BlackBerry handsets. Thus, we view CarPlay as no worse than neutral but more likely a modest positive to Apple's narrow moat and sustainable competitive advantage.

Apple Serves Up a Disappointing Near-Term Revenue Forecast; Trimming Our Fair Value Estimate to $570 27 Jan 2014

Apple reported strong fiscal first-quarter earnings, but gave investors a troubling second-quarter forecast that implies little iPhone growth despite a new partnership with China Mobile, the world's largest wireless carrier. We will likely trim our fair value estimate slightly, but will maintain our narrow economic moat rating. None of the bad news in Apple's earnings report changes our long-term view of its fundamentals, or its ability to retain customers in the future.

Revenue of $57.6 billion for the December quarter was near the high end of management's guidance, and within our range of expectations. Unit sales of its iPhone--51 million--was slightly below our projection. However, average selling prices, or ASPs, of $637 held up well. The iPad was the pleasant surprise, with 26 million units sold, although the iPad's ASPs remained flat despite price increases on new models, which suggests a negative product mix. Mac units also grew nicely, up 19% sequentially in a tough PC environment. Gross margins of 37.9% also exceeded the firm's guidance, thanks to a favorable iPhone product mix toward the higher-priced 5s, as well as component cost savings. Our greater concern, however, comes from Apple's March-quarter revenue projection of $42 billion to $44 billion. This is well below Street expectations of $46 billion. We think the forecast implies iPhone unit sales in the high 30-million range, and only modest growth from the 37 million iPhones sold during the March 2013 quarter.

In the near term, headwinds persist. These include a stronger U.S. dollar, and differences in the timing of iPhone and iPad launches in China. Still, we would have expected Apple's new partnership with China Mobile to more than mask their impact. Apple's gross margin forecast for March is a bright spot, but by maintaining a premium pricing strategy on hardware, Apple may see less-than-stellar revenue growth going forward.

We're lowering our fair value estimate for Apple to $570 per share following the firm's gloomy, March-quarter forecast. As revenue typically dives each quarter from December to March and then June (until Apple launches new devices again in September, or unless new products are announced before then), we think a soft March quarter will lead to fiscal 2014 revenue growth of approximately 6%, a bit below our prior projection.

Revenue at the high end of Apple's projected range of $44 billion would represent a 24% sequential decline, and only 1% growth from the year-ago quarter. This would be despite previously widespread optimism around new carrier deals with NTT DoCoMo, and China Mobile. We note that Apple also has not meaningfully exceeded the high end of its revenue forecast since it began giving a full revenue range a year ago, so we're hesitant to think that there's much of a chance of a meaningful upside surprise next quarter.

Apple cited four main factors for the soft sales forecast which, if absent, would have led to another $2 billion of revenue next quarter: currency headwinds, a rapidly declining iPod market, greater revenue deferrals on new product sales (because Apple now gives more software away for free), and channel inventory adjustments in China. However, we would have anticipated that the China Mobile launch alone would have been more than enough to overcome the impact of these collective headwinds.

Additionally, in our view, further growth at China's other carriers, China Unicom and China Telecom, would have

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Analyst Notes

masked any dips in sales in China due to changes in the timing of product launches there. Apple commented that the China Mobile launch is off to an "incredible start," but we believe that investor expectations for such a start would have contributed to more than 1% annual revenue growth, regardless of these other negative factors. Even if sales at China Mobile turn out to be strong, they may wind up simply masking other iPhone problems, such as limited growth (at best) in North America in the near-term, and market share declines, as announced by Kantar World Panel, in Western Europe.

Despite the haircut to our fair value estimate, we still view Apple as having a strong underlying base of loyal customers, where switching costs and the firm's narrow economic moat will allow the company to generate repeat purchases over the long term. We also foresee Apple attracting its fair share of late smartphone adopters in developed markets, as well as capturing greater wallet share among customers in both developed and emerging markets that look to trade up from lower-priced smartphones to higher-priced iPhones. We caution, however, that Apple's premium pricing strategy will make it harder for it to capture new customers in the future than a few years ago, during the early adoption phase.

By our estimates, if we ran a scenario where Apple achieved no iPhone revenue growth beyond fiscal 2014, we'd value the company at about $500 per share. Although Apple's poor forecast for the March quarter suggests that such a scenario might be closer to reality than what we previously thought, we're not ready to count out long-term iPhone revenue growth just yet.

We also anticipate strong iPad growth over the next couple of years, as tablet adoption hasn't come close to maturing. Enterprise and educational iPad adoption still remain a stickier underlying portion of total iPad growth. We remain encouraged that Apple will be able to retain and make repeat product sales to these corporations and educational institutions in the long term.

Perhaps the brightest piece of news from Apple's earnings report was that CEO Tim Cook reiterated that Apple would launch new products in multiple product categories during the 2014 calendar year. We still view Apple's innovation, and the potential for new products, as possible catalysts for future increases to our fair value estimate. We have no special insight into Apple's product pipeline, but continue to suspect that an iWatch may arrive before a TV, simply because Apple could likely bring a wearable device to market quicker than a TV, which would require a much more complex network of support from cable and content providers. We also hope that Apple is not lumping its briefly discussed "iOS in the car" software platform into this discussion as a new device category. We're not quite convinced that it will become a revolutionary interface capable of driving meaningful profitability.

For the December quarter, iPhone sales of 51 million units reflects a 7% jump from the year-ago quarter. However, given the NTT DoCoMo launch, the initial sales into China in the December quarter versus the March quarter a year ago, and the bright data point of nine million units sold during Apple's initial weekend launch, this figure is still modestly below our expectations. Apple noted that North American sales contracted year over year, as some U.S. carriers extended their upgrade terms to full 24 month contracts, rather than allowing customers to upgrade early. Sales in Japan did well, thanks to the NTT DoCoMo partnership, although a soft Japanese yen provided some currency headwinds. Apple did cite tremendous growth in some emerging market regions like Latin America and Eastern Europe, although we suspect such growth is off of relatively small bases. Given Kantar World Panel's recent market share data, market share losses in Western Europe may have offset some of this growth.

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Analyst Notes

The iPhone's ASPs of $637 were quite encouraging, but in line with our expectations, and not terribly surprising given Apple's premium pricing approach. The firm did concede that its iPhone product mix skewed toward the more-advanced iPhone 5s, which caught the firm a bit by surprise in terms of supply, but is a long-term positive for the company's pricing power and, perhaps, the adoption and popularity of new iPhone features like Touch ID.

The iPad's unit sales of 26 million were up 14% from the year-ago quarter, although sales were up only 5% when looking at iPads sold through to end customers (rather than to retailers). Flat ASPs of $440 per device were discouraging, given a price increase for the new iPad Mini with Retina to $399. Apple noted that iPad sales in mainland China doubled from the year-ago quarter, which we think led to a less favorable iPad mix toward older models like the original iPad Mini and iPad 2, or perhaps a trade down to the smaller iPad Mini with Retina versus the larger iPad Air.

Finally, looking at Apple's financial results, the firm generated net income of $13.1 billion, identical with the year-ago period despite 6% revenue growth year-over-year. Gross margin compression of 70 basis points and a 32% spike in R&D expenses offset the revenue boost. We continue to model relatively flattish EPS ($42 to $44 per share in each of the next five years, adjusted for share repurchases) in the long-term due to a similar dynamic, where modest revenue growth is mostly offset by modest gross margin compression and additional R&D spending. EPS growth in the quarter to $14.50, versus $13.81 a year ago, was driven entirely by stock buybacks, as Apple bought back another $5 billion worth of its shares in the December quarter, and $28 billion cumulatively in the past five quarters. We'd like to see Apple continue with its $60 billion stock repurchase plan as-is before considering any other outside requests to boost its authorization.

Early China Mobile iPhone Demand Appears In Line With Our Expectations; Maintain Our FVE 15 Jan 2014

We will maintain our $600 fair value estimate and narrow moat rating for Apple. A couple of data points emerged from interviews with Apple CEO Tim Cook and China Mobile chairman Xi Guohua about Apple's official iPhone launch with the carrier, beginning Friday. Various news reports have hinted that iPhone pre-orders at China Mobile (from Dec. 25, 2013 through today) have reached 1.2 million-1.4 million, while Xi commented that pre-orders are in the "millions." These estimates fall within the range of our expectations, as we continue to project that iPhone sales in calendar 2014 will double from 2013, mostly because of the China Mobile deal as well as from ongoing growth with China's other two carriers. We continue to project that Apple's December revenue will exceed the firm's previously announced guidance of $55 billion-$58 billion and that this China Mobile partnership will enable the firm to recognize solid year-over-year revenue growth in the upcoming March quarter as well.

Cook also disclosed, ahead of the firm's earnings announcement on Jan. 27, that the company saw record iPhone unit sales in Greater China in the December quarter. This comment is also in line with our expectations, given Apple's ongoing momentum in the region and because the firm launched new iPhones in China at the same time as the rest of the world, as opposed to prior years when China would receive Apple's latest phones on a three-month lag. Finally, Xi hinted at "broad" collaboration between the two companies that extends beyond handsets, but at this point, we dismiss these comments as we suspect that it hints at the sale of iPads and other Apple products through China Mobile's sales channels.

IPhone Will Finally Arrive at China Mobile on Jan. 17; Maintaining Our Fair Value Estimate 23 Dec 2013

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Analyst Notes

We're maintaining our $600 fair value estimate and narrow economic moat rating for Apple after it formally announced its long-awaited partnership with China Mobile. The iPhone will go on sale Jan. 17, 2014, with preorders beginning Dec. 25. Specific product pricing and availability has not been announced, but we don't anticipate a significant difference in Apple's product lineup at China Mobile compared with other carriers.

We're encouraged, but not especially surprised, that the partnership was announced before the critical Chinese New Year holiday season, and we suspect that the deal could provide some upside to Apple's revenue forecast for the March quarter, which should be discussed in late January. We continue to view the greater China region, and a China Mobile partnership, as the single most important catalyst for iPhone unit sales growth in fiscal 2014. Between the China Mobile partnership and growth at China Unicom and China Telecom, we project that Apple's iPhone unit sales in fiscal 2014 in China will essentially double from fiscal 2013.

We believe that China Mobile represents the last significant wireless carrier where a new iPhone launch will drive material iPhone revenue and unit sales growth. Assuming Apple executes well, we believe that intermediate and long-term iPhone unit sales growth will come from further worldwide smartphone penetration. Although the majority of smartphone growth will likely come from low-end Android devices, we still see room for further iPhone adoption at the high end, as well as low-end phone customers trading up to more advanced devices. Market share gains from Samsung and other high-end Android device makers could provide further iPhone upside, but we're not counting on such gains in our fair value estimate. Finally, we still project healthy iPad revenue growth over the next couple of years, and foresee positive optionality associated with any new product introductions.

Apple-China Mobile Partnership Appears Imminent; Maintaining Our Fair Value Estimate 05 Dec 2013

We do not plan to change our fair value estimate or moat rating for Apple after various news outlets reported yesterday that a long-awaited partnership with China Mobile, the world's largest wireless carrier, has been reached. Given these reports, as well as China Mobile's prior announcement that 4G TD-LTE licenses have been granted to the carrier, it appears likely that a partnership will be announced at China Mobile's conference on Dec. 18 in Guangzhou.

We have consistently believed that Apple would someday strike a deal with China Mobile, which in turn drove our projections for strong iPhone growth in China in fiscal 2014 and later years. Shifting the inevitable sales boost from an iPhone launch with China Mobile up by a quarter or two from our current estimated timeline won't have a material effect on our fair value estimate, and we will wait for further details in terms of the timing of any iPhone launch, as well as possible pricing tactics, before making any revisions to our estimates. We should note that any China Mobile iPhone shipments that occur soon after Dec. 18 could provide further upside to Apple's December quarterly results beyond the firm's prior revenue outlook. At this time, we're not anticipating a radical shift in iPhone pricing at China Mobile either, as we think Apple will continue with its premium pricing strategy. Finally, since China Mobile just won 4G TD-LTE licenses while its homegrown 3G TD-SCDMA standard is incompatible with other 3G networks, we think the focus of the event will be on Apple's newer 4G iPhone 5s and 5c. We suspect that Qualcomm will continue to supply Apple with the baseband chips needed to run the iPhone 5s and 5c on a TD-LTE network, but perhaps another iPhone SKU will be added so that the phone is backwards compatible with 3G TD-SCDMA network as well. Due to these

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Analyst Notes

complexities, we don't anticipate any revisions to Apple's older 3G iPhone models like the 4s or 4.

Apple Dreams of a White, and Space Grey, iPad Christmas; Maintaining Our $600 Fair Value Estimate 28 Oct 2013

Apple's strong, fiscal fourth-quarter results came in ahead of both the Street's, and our own, expectations. More importantly, Apple's solid December-quarter outlook points to healthy demand for the company's new iPhones and iPads. We're maintaining our $600-per-share fair value estimate, and our narrow economic moat rating.

For the September quarter, revenue of $37.5 billion and EPS of $8.26 also exceeded the company's prior forecast. We suspect that the strong results were driven by a tremendous iPhone launch during the quarter's closing days. Apple's iPhone unit sales held up well, at 33.8 million units, while a 1% sequential decline in the average selling price, or ASP, appears reasonable in light of Apple selling older iPhones during most of the reporting period. Apple's iPad unit sales and revenue declined modestly, but again pertains to the sale of older models, as customers likely pushed out new iPad purchases until the new lineup of tablets rolls out in November.

Apple's strong outlook for the December quarter still points to robust ongoing iOS adoption, and we continue to view Apple's shares as modestly undervalued. We calculate that revenue in the range of $55 billion to $58 billion likely implies iPhone unit sales in the low-to-mid 50 million-unit range, ahead of unit sales of 47 million during last year's iPhone 5 launch. We attribute most of the projected unit growth to new carrier deals with NTT DoCoMo and T-Mobile, as well as launching iPhones in China a quarter earlier than usual. The guidance also hints at strong, but not exponential, iPad growth from new product launches, although even the company is unsure whether it can fulfill all iPad Mini demand this holiday season. Gross margin of 37% is a nice forecast, in our view, once adjusted upward by about 150 basis points for deferred revenue associated with free software giveaways.

We're encouraged by Apple's December-quarter revenue forecast, as well as management's comments that it remains confident that iPhone 5s production can continue to ramp up in order to satisfy tremendous demand. We recognize concerns that Apple misjudged its iPhone 5s versus 5c product split by building far too many devices of the latter, while possibly being unable to fulfill all demand for the former. Production may shift heavily toward the 5s in the near-term, but based on the company's healthy revenue guidance, we don't believe that the firm will be missing out on many iPhone sales to potential customers this holiday season.

Our narrow economic moat thesis for Apple still revolves around modest switching costs around the iOS platform, assuming that the firm's products are relatively equal to the competition. In this context, Apple's iPhone 5s and 5c initial weekend sales were the first sign that the company remains at the head of the smartphone pack, but we view the firm's guidance as another sign that iPhone demand and customer satisfaction remain strong. In turn, we think that iOS switching costs will continue to allow Apple to retain a good portion of its user base over at least the next year and, most likely, many more.

Perhaps the biggest negative data point from the quarter pertains to the iPad. In addition to only flat year-over-year iPad unit growth in the September quarter, we also believe that Apple's revenue forecast implies about 60% iPad unit growth, sequentially, in the December quarter. If accurate, such results would lead to only 8% iPad unit sales growth in calendar 2013, a less-than-stellar sign for what we

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perceived to be a high growth category. Apple's management commented that it expects the December quarter to be an "iPad Christmas," and CEO Tim Cook feels confident that the iPad will achieve year-over-year revenue growth, but we would have previously expected faster growth out of these devices.

While the iPad launch may represent the greatest potential product for revenue upside in the period, supply constraints around the new iPad Mini with Retina Display may potentially limit Apple's revenue in the upcoming months, and replacement cycles for tablets--and particularly, iPads--among Apple's loyal customers may be a bit longer than previously anticipated. We're modestly less optimistic about iPad unit sales in the long-term, as skyrocketing tablet growth may be winding down. Still, we think that Apple will be able to maintain premium pricing on these products, which could help cushion any potential blow from sluggish unit sales.

Apple Keeps High-End Focus with IPad and Mac Launch; Maintaining Our Fair Value Estimate 23 Oct 2013

We will maintain our $600 fair value estimate and narrow moat rating for Apple after the company announced its lineup of refreshed iPads and Macs. We were modestly surprised by a couple of aspects of the launch but don't think Apple made any groundbreaking announcements that conflict with our long-term thesis for the firm. We view Apple's Worldwide Developers Conference in June (which previewed iOS 7) and iPhone launch in September as more important events in terms of innovation.

Apple's new 9.7-inch iPad has been rebranded the iPad Air, perhaps because it is lighter and thinner than prior versions. However, when thinking about Apple's MacBook branding, we think the Air branding may hint at a future iPad Pro someday, perhaps a 13-inch tablet, as Apple continues to improve the functionality of its tablets beyond mere content consumption and toward content creation. Apple also changed its iPad Mini pricing, but again took the tactic of maintaining a premium position in the market rather than striving to gain massive market share at the low end. The price increase of the new iPad Mini with retina display to $399 seems a bit high, but isn't shocking given the high component cost of these displays. A $30 price cut in the original iPad Mini to $299 was nice news, but probably not enough to stem market share losses or truly compete with older Amazon Kindle Fires priced as low as $139.

With its moves to offer its iLife and iWorks software for free (as well as the Mavericks operating system for Mac), Apple is continuing to give away software in order to improve the customer experience and enable it to capture premium pricing and adequate margins on hardware sales. Lastly, we were surprised by the lack of a Touch ID in the new iPads, perhaps due to supply constraints as these parts are going into the popular iPhone 5s. The lack of this feature may leave the door open to the possibility of another iPad product refresh in the spring of 2014.

Once again, we think the biggest headline from the event will involve Apple's iPad pricing and another instance of Apple pricing its devices above expectations. The iPad Air at $499 met our expectations, but we were surprised that Apple didn't offer some sort of price cut on its relatively ancient iPad 2 (originally launched in March 2011), which will still be sold at $399 for another year. Regarding the original iPad Mini, Apple matched Amazon's recent $30 price cut for its entry-level tablet, so at $299, the device remains $130 more expensive than Amazon's low-end 16 Gb offering. The bigger concern is that the old Mini is still $70 more than Amazon's newer 7-inch Kindle Fire HDX 7 (at $229), yet offers clearly inferior hardware specifications. We don't expect Apple to adopt Amazon's strategy of selling tablet hardware at close to cost in order to drive media content sales, and we expect Apple's market share to erode as a host of Android-based tablet rivals compete on price

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Analyst Notes

as tablet hardware becomes commodified. However, Apple will clearly have to flex its software and services muscle in order to offer a superior customer experience (either in perception or reality) that it can capture such lofty pricing premiums on older, entry-level iPad models, and/or encourage customers to trade up to the more advanced iPad Air or iPad Mini with retina display.

A portion of our narrow moat and positive moat trend thesis for Apple stems from switching costs around the iOS platform, some of which specifically come from iCloud as customers own multiple iOS devices in the home and witness the benefits of syncing across hardware. We suspect that Apple will ultimately concede share in the booming tablet market as low-end competitors may grow at a faster pace than the firm. Although we don't see this happening, and certainly not based on Tuesday's news, in a worst-case scenario our switching cost thesis could be dealt a blow if Apple's premium tablet strategy were to lead to such massive market share losses that the business actually experienced long-term unit sales declines.

Looking at Apple's various iPad customers, we suspect this relatively higher pricing structure will have little effect on sales to enterprise customers, but it does seem prohibitive to educational institutions looking to deploy tablets in schools. We wonder if price cuts or other incentives may come in the spring, which is peak buying season by schools as they flush their end-of-year school budgets, and perhaps such cuts could be done in conjunction with another product refresh.

Finally, Apple also provided a hint into iPad sales for the September quarter, announcing that it sold its 170 millionth iPad in early October. Based on 155.1 million units sold as of June, this statistic caps Apple's iPad unit sales at 14.9 million for the September quarter. However, we believe Street estimates called for 14 million units and our quarterly iPad unit sales estimates were roughly in this range as well, so we don't see this data point as shocking news.

PC Unit Shipments Continue Their Decline 10 Oct 2013
Against the backdrop of the continued shift in the computing environment from a client/server architecture to a cloud/device architecture, PC unit shipments declined 8.6% in the third quarter versus 2012, according to Gartner, in line with our full-year forecast of an 8.4% decline. We are not changing our fair value estimates or moat ratings for related companies, including Apple, Google, Hewlett-Packard, Intel, Microsoft, Seagate, and Western Digital.

Altogether, we do not view the news as troubling for most companies we cover, although those with a greater concentration of cloud assets and a lesser concentration of PC assets are affected the least. In our September Technology Observer, "It's the End of the PC as We Know It, but the Cloud Feels Fine," we highlighted that this architectural change will divert investments toward other form factors (for example, tablets and smartphones) as well as software and services to support distributed applications, including cloud infrastructure and cloud applications. We believe Apple and Google have the most to gain, although Apple is more attractively valued at this time, trading at a 19% discount to our fair value estimate. We caution that investors betting on a rebound on the PC market are likely to be disappointed, as we expect PC unit shipments to decline in excess of 2% annually from 2014 to 2017.

Apple Inc AAPL (NAS) | ★★★

Last Price	Fair Value	Consider Buy	Consider Sell	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Morningstar Credit Rating	Industry Group
541.65 USD	570.00 USD	342.00 USD	883.50 USD	High	Narrow	Positive	Standard	AA-	Computer Hardware

Morningstar Analyst Forecasts

Financial Summary and Forecasts

Fiscal Year Ends in September

Growth (% YoY)	3-Year Hist. CAGR	2011	2012	2013	*2014* (Forecast)	*2015* (Forecast)	*5-Year Proj. CAGR*
Revenue	*37.9*	66.0	44.6	9.2	*7.2*	*4.0*	*3.2*
EBIT	*38.7*	83.8	63.5	-11.3	*7.4*	*-4.8*	*-1.2*
EBITDA	*42.2*	83.4	64.4	-4.7	*10.5*	*-1.1*	*1.5*
Net Income	*38.3*	85.0	61.0	-11.3	*5.0*	*-4.3*	*-1.1*
Diluted EPS	*37.9*	82.6	59.5	-10.0	*8.5*	*3.1*	*1.2*
Earnings Before Interest, after Tax	*35.0*	84.4	61.9	-17.5	*9.7*	*-4.3*	*-0.9*
Free Cash Flow	*38.9*	84.7	37.5	5.5	*-4.9*	*-4.9*	*-4.1*

Profitability	3-Year Hist. Avg	2011	2012	2013	*2014*	*2015*	*5-Year Proj. Avg*
Operating Margin %	*31.7*	31.2	35.3	28.7	*28.7*	*26.3*	*25.5*
EBITDA Margin %	*34.3*	32.9	37.4	32.6	*33.6*	*32.0*	*31.5*
Net Margin %	*24.1*	24.0	26.7	21.7	*21.2*	*19.5*	*19.0*
Free Cash Flow Margin %	*25.3*	26.4	25.1	24.3	*21.5*	*19.7*	*18.8*
ROIC %	*33.8*	36.5	38.4	26.5	*25.7*	*21.1*	*19.1*
Adjusted ROIC %	*138.6*	146.8	152.9	116.2	*118.3*	*107.7*	*100.6*
Return on Assets %	*25.0*	27.1	28.5	19.3	*17.7*	*14.9*	*13.6*
Return on Equity %	*38.4*	41.7	42.8	30.6	*32.1*	*28.8*	*24.6*

Leverage	3-Year Hist. Avg	2011	2012	2013	*2014*	*2015*	*5-Year Proj. Avg*
Debt/Capital	*0.04*	—	—	0.12	*0.25*	*0.24*	*0.21*
Total Debt/EBITDA	*0.10*	—	—	0.30	*0.65*	*0.74*	*0.68*
EBITDA/Interest Expense	—	—	—	434.24	*199.97*	*197.83*	*203.94*

Valuation Summary and Forecasts

	2012	2013	*2014(E)*	*2015(E)*
Price/Fair Value	1.00	0.79	—	—
Price/Earnings	15.1	12.0	*12.6*	*12.2*
EV/EBITDA	10.2	7.3	*7.5*	*7.5*
EV/EBIT	10.8	8.3	*8.7*	*9.2*
Free Cash Flow Yield %	6.8	10.6	*9.3*	*8.9*
Dividend Yield %	0.4	2.5	*2.4*	*2.4*

Key Valuation Drivers

Cost of Equity %	10.0
Pre-Tax Cost of Debt %	—
Weighted Average Cost of Capital %	9.7
Long-Run Tax Rate %	26.0
Stage II EBI Growth Rate %	-1.1
Stage II Investment Rate %	-5.3
Perpetuity Year	15

Additional estimates and scenarios available for download at http://select.morningstar.com.

Discounted Cash Flow Valuation

	USD Mil	Firm Value (%)	Per Share Value
Present Value Stage I	139,538	38.0	166.76
Present Value Stage II	143,840	39.1	171.90
Present Value Stage III	84,266	22.9	100.71
Total Firm Value	**367,643**	**100.0**	**439.37**
Cash and Equivalents	146,761	—	175.39
Debt	-16,960	—	-20.27
Preferred Stock	—	—	—
Other Adjustments	-32,029	—	-38.28
Equity Value	**465,415**	**—**	**556.22**
Projected Diluted Shares	837		
Fair Value per Share (USD)	—		

The data in the table above represent base-case forecasts in the company's reporting currency as of the beginning of the current year. Our fair value estimate may differ from the equity value per share shown above due to our time value of money adjustment and in cases where probability-weighted scenario analysis is performed.

Apple Inc AAPL (NAS) | ★★★

Last Price	Fair Value	Consider Buy	Consider Sell	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Morningstar Credit Rating	Industry Group
541.65 USD	570.00 USD	342.00 USD	883.50 USD	High	Narrow	Positive	Standard	AA-	Computer Hardware

Morningstar Analyst Forecasts

Income Statement (USD Mil)
Fiscal Year Ends in September

				Forecast	
	2011	2012	2013	*2014*	*2015*
Revenue	**108,249**	**156,508**	**170,910**	***183,252***	***190,648***
Cost of Goods Sold	64,431	87,846	106,606	*114,131*	*122,360*
Gross Profit	**43,818**	**68,662**	**64,304**	***69,121***	***68,288***
Selling, General & Administrative Expenses	7,599	10,040	10,830	*11,846*	*12,793*
Research & Development	2,429	3,381	4,475	*5,685*	*6,367*
Other Operating Expense (Income)	—	—	—	*-1,050*	*-985*
Depreciation & Amortization (if reported separately)	—	—	—	—	—
Operating Income (ex charges)	**33,790**	**55,241**	**48,999**	***52,640***	***50,112***
Restructuring & Other Cash Charges	—	—	—	—	—
Impairment Charges (if reported separately)	—	—	—	—	—
Other Non-Cash (Income)/Charges	—	—	—	*1,050*	*985*
Operating Income (incl charges)	**33,790**	**55,241**	**48,999**	***51,590***	***49,127***
Interest Expense	—	—	128	*308*	*308*
Interest Income	415	522	1,284	*1,292*	*1,442*
Pre-Tax Income	**34,205**	**55,763**	**50,155**	***52,574***	***50,261***
Income Tax Expense	8,283	14,030	13,118	*13,702*	*13,068*
Other After-Tax Cash Gains (Losses)	—	—	—	—	—
Other After-Tax Non-Cash Gains (Losses)	—	—	—	—	—
(Minority Interest)	—	—	—	—	—
(Preferred Dividends)	—	—	—	—	—
Net Income	**25,922**	**41,733**	**37,037**	***38,872***	***37,193***
Weighted Average Diluted Shares Outstanding	937	945	932	*901*	*837*
Diluted Earnings Per Share	**27.68**	**44.15**	**39.75**	***43.12***	***44.45***
Adjusted Net Income	25,922	41,733	37,037	*38,872*	*37,193*
Diluted Earnings Per Share (Adjusted)	**27.68**	**44.15**	**39.75**	***43.12***	***44.45***
Dividends Per Common Share	—	2.65	11.34	*12.69*	*13.69*
EBITDA	**35,604**	**58,518**	**55,756**	***60,570***	***59,977***
Adjusted EBITDA	**35,604**	**58,518**	**55,756**	***61,620***	***60,962***

Apple Inc AAPL (NAS) | ★★★

Last Price	Fair Value	Consider Buy	Consider Sell	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Morningstar Credit Rating	Industry Group
541.65 USD	570.00 USD	342.00 USD	883.50 USD	High	Narrow	Positive	Standard	AA-	Computer Hardware

Morningstar Analyst Forecasts

Balance Sheet (USD Mil)

Fiscal Year Ends in September

	2011	2012	2013	Forecast 2014	Forecast 2015
Cash and Equivalents	81,570	121,251	146,761	*166,469*	*193,256*
Investments	—	—	—	—	—
Accounts Receivable	5,369	10,930	13,102	*14,048*	*14,615*
Inventory	776	791	1,764	*1,889*	*2,025*
Deferred Tax Assets (Current)	2,014	2,583	3,453	*3,702*	*3,852*
Other Short Term Assets	10,877	14,220	14,421	*15,462*	*16,086*
Current Assets	**100,606**	**149,775**	**179,501**	***201,571***	***229,834***
Net Property Plant, and Equipment	7,777	15,452	16,597	*19,667*	*21,802*
Goodwill	896	1,135	1,577	*2,877*	*4,177*
Other Intangibles	3,536	4,224	4,179	*3,629*	*3,144*
Deferred Tax Assets (Long-Term)	—	—	—	—	—
Other Long-Term Operating Assets	3,556	5,478	5,146	*5,518*	*5,740*
Long-Term Non-Operating Assets	—	—	—	—	—
Total Assets	**116,371**	**176,064**	**207,000**	***233,261***	***264,697***
Accounts Payable	14,632	21,175	22,367	*23,946*	*25,672*
Short-Term Debt	—	—	—	—	*2,500*
Deferred Tax Liabilities (Current)	—	—	—	—	—
Other Short-Term Liabilities	13,338	17,367	21,291	*24,329*	*25,310*
Current Liabilities	**27,970**	**38,542**	**43,658**	***48,274***	***53,483***
Long-Term Debt	—	—	16,960	*39,960*	*42,460*
Deferred Tax Liabilities (Long-Term)	8,159	13,847	16,489	*18,489*	*20,489*
Other Long-Term Operating Liabilities	1,686	2,648	2,625	*2,815*	*2,928*
Long-Term Non-Operating Liabilities	1,941	2,817	3,719	*4,769*	*5,754*
Total Liabilities	**39,756**	**57,854**	**83,451**	***114,307***	***125,114***
Preferred Stock	—	—	—	—	—
Common Stock	13,331	16,422	19,764	*19,764*	*19,764*
Additional Paid-in Capital	—	—	—	—	—
Retained Earnings (Deficit)	62,841	101,289	104,256	*131,690*	*157,430*
(Treasury Stock)	—	—	—	*-32,029*	*-37,140*
Other Equity	443	499	-471	*-471*	*-471*
Shareholder's Equity	**76,615**	**118,210**	**123,549**	***118,954***	***139,583***
Minority Interest	—	—	—	—	—
Total Equity	**76,615**	**118,210**	**123,549**	***118,954***	***139,583***

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Apple Inc AAPL (NAS) | ★★★

Last Price	Fair Value	Consider Buy	Consider Sell	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Morningstar Credit Rating	Industry Group
541.65 USD	570.00 USD	342.00 USD	883.50 USD	High	Narrow	Positive	Standard	AA-	Computer Hardware

Morningstar Analyst Forecasts

Cash Flow (USD Mil)

Fiscal Year Ends in September

	2011	2012	2013	*Forecast* 2014	*Forecast* 2015
Net Income	25,922	41,733	37,037	*38,872*	*37,193*
Depreciation	1,622	2,600	5,800	*7,930*	*9,865*
Amortization	192	677	957	*1,050*	*985*
Stock-Based Compensation	1,168	1,740	2,253	*2,724*	*2,660*
Impairment of Goodwill	—	—	—	—	—
Impairment of Other Intangibles	—	—	—	—	—
Deferred Taxes	2,868	4,405	1,141	*1,751*	*1,851*
Other Non-Cash Adjustments	—	—	—	*1,050*	*985*
(Increase) Decrease in Accounts Receivable	143	-5,551	-2,172	*-946*	*-567*
(Increase) Decrease in Inventory	275	-15	-973	*-125*	*-136*
Change in Other Short-Term Assets	-3,325	-4,576	1,303	*-841*	*-424*
Increase (Decrease) in Accounts Payable	2,515	4,467	2,340	*1,579*	*1,726*
Change in Other Short-Term Liabilities	6,149	5,376	5,980	*3,038*	*982*
Cash From Operations	**37,529**	**50,856**	**53,666**	***56,081***	***55,121***
(Capital Expenditures)	-4,260	-8,295	-8,165	*-11,000*	*-12,000*
Net (Acquisitions), Asset Sales, and Disposals	-3,192	-1,107	-911	*-2,000*	*-2,000*
Net Sales (Purchases) of Investments	-32,967	-38,825	-24,698	—	—
Other Investing Cash Flows	—	—	—	*-182*	*-109*
Cash From Investing	**-40,419**	**-48,227**	**-33,774**	***-13,182***	***-14,109***
Common Stock Issuance (or Repurchase)	831	665	-22,860	*-32,029*	*-5,111*
Common Stock (Dividends)	—	-2,488	-10,564	*-11,438*	*-11,454*
Short-Term Debt Issuance (or Retirement)	—	—	—	—	*2,500*
Long-Term Debt Issuance (or Retirement)	—	—	16,896	*23,000*	*2,500*
Other Financing Cash Flows	613	125	149	*-2,724*	*-2,660*
Cash From Financing	**1,444**	**-1,698**	**-16,379**	***-23,191***	***-14,225***
Exchange Rates, Discontinued Ops, etc. (net)	—	—	—	—	—
Net Change in Cash	**-1,446**	**931**	**3,513**	***19,708***	***26,786***

Apple Inc AAPL (NAS) | ★★★

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541.65 USD	570.00 USD	342.00 USD	883.50 USD	High	Narrow	Positive	Standard	AA-	Computer Hardware

Comparable Company Analysis

These companies are chosen by the analyst and the data are shown by nearest calendar year in descending market capitalization order.

Valuation Analysis

Company/Ticker	Price/Fair Value	Price/Earnings 2013	2014(E)	2015(E)	EV/EBITDA 2013	2014(E)	2015(E)	Price/Free Cash Flow 2013	2014(E)	2015(E)	Price/Book 2013	2014(E)	2015(E)	Price/Sales 2013	2014(E)	2015(E)
Google Inc GOOG USA	1.13	24.1	*21.7*	*19.9*	18.0	*16.4*	*14.9*	33.3	*22.7*	*21.5*	4.3	*3.7*	*3.2*	6.3	*5.9*	*5.2*
Microsoft Corporation MSFT USA	1.06	19.3	*15.2*	*14.2*	9.6	*9.0*	*8.4*	12.4	*14.2*	*13.4*	4.3	*4.4*	*3.9*	3.7	*3.7*	*3.3*
Hewlett-Packard Co HPQ USA	1.28	9.3	*8.6*	*8.8*	5.6	*5.9*	*6.1*	7.8	*9.7*	*10.7*	2.3	*2.0*	*1.8*	0.6	*0.6*	*0.6*
Average		17.6	*15.2*	*14.3*	11.1	*10.4*	*9.8*	17.8	*15.5*	*15.2*	3.6	*3.4*	*3.0*	3.5	*3.4*	*3.0*
Apple Inc AAPL US	**0.95**	**12.0**	***12.6***	***12.2***	**7.3**	***7.5***	***7.5***	**9.4**	***10.7***	***11.2***	**3.5**	***4.1***	***3.5***	**2.5**	***2.6***	***2.5***

Returns Analysis

Company/Ticker	Last Historical Year Total Assets (Mil)	ROIC % 2013	2014(E)	2015(E)	Adjusted ROIC % 2013	2014(E)	2015(E)	Return on Equity % 2013	2014(E)	2015(E)	Return on Assets % 2013	2014(E)	2015(E)	Dividend Yield % 2013	2014(E)	2015(E)
Google Inc GOOG USA	110,920 USD	13.8	*13.5*	*12.7*	25.0	*22.4*	*21.5*	16.3	*15.4*	*14.4*	12.6	*12.3*	*11.8*	—	—	—
Microsoft Corporation MSFT USA	— USD	28.1	*28.8*	*26.4*	32.5	*32.8*	*29.9*	24.5	*31.8*	*29.4*	13.2	*17.8*	*16.9*	2.2	*2.3*	*2.5*
Hewlett-Packard Co HPQ USA	— USD	12.7	*11.6*	*11.0*	23.0	*22.2*	*21.9*	20.5	*19.0*	*15.8*	4.7	*5.1*	*5.0*	1.6	*1.6*	*1.6*
Average		18.2	*18.0*	*16.7*	26.8	*25.8*	*24.4*	20.4	*22.1*	*19.9*	10.2	*11.7*	*11.2*	1.9	*2.0*	*2.1*
Apple Inc AAPL US	**207,000** USD	**26.5**	***25.7***	***21.1***	**116.2**	***118.3***	***107.7***	**30.6**	***32.1***	***28.8***	**19.3**	***17.7***	***14.9***	**2.5**	***2.4***	***2.4***

Growth Analysis

Company/Ticker	Last Historical Year Revenue (Mil)	Revenue Growth % 2013	2014(E)	2015(E)	EBIT Growth % 2013	2014(E)	2015(E)	EPS Growth % 2013	2014(E)	2015(E)	Free Cash Flow Growth % 2013	2014(E)	2015(E)	Dividend/Share Growth % 2013	2014(E)	2015(E)
Google Inc GOOG USA	59,825 USD	19.2	*8.2*	*13.4*	9.5	*24.3*	*9.7*	16.9	*12.0*	*9.6*	-1,017.5	*40.1*	*4.0*	—	—	—
Microsoft Corporation MSFT USA	77,849 USD	5.6	*18.2*	*12.3*	-4.3	*5.1*	*7.2*	-29.9	*52.5*	*7.1*	-62.2	*150.6*	*5.6*	23.8	*22.0*	*11.1*
Hewlett-Packard Co HPQ USA	112,298 USD	-6.7	*-4.0*	*-2.8*	-12.6	*-2.0*	*-4.1*	-12.6	*8.8*	*-2.9*	-44.2	*-29.0*	*-30.6*	1.1	—	—
Average		6.0	*7.5*	*7.6*	-2.5	*9.1*	*4.3*	-8.5	*24.4*	*4.6*	-374.6	*53.9*	*-7.0*	12.5	*22.0*	*11.1*
Apple Inc AAPL US	**170,910** USD	**9.2**	***7.2***	***4.0***	**-11.3**	***7.4***	***-4.8***	**-10.0**	***8.5***	***3.1***	**5.5**	***-4.9***	***-4.9***	**328.0**	***11.9***	***7.9***

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Apple Inc AAPL (NAS) | ★★★

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541.65 USD	570.00 USD	342.00 USD	883.50 USD	High	Narrow	Positive	Standard	AA-	Computer Hardware

Comparable Company Analysis

These companies are chosen by the analyst and the data are shown by nearest calendar year in descending market capitalization order.

Profitability Analysis

	Last Historical Year	Gross Margin %			EBITDA Margin %			Operating Margin %			Net Margin %			Free Cash Flow Margin %		
Company/Ticker	Net Income (Mil)	2013	2014(E)	2015(E)	2013	2014(E)	2015(E)	2013	2014(E)	2015(E)	2013	2014(E)	2015(E)	2013	2014(E)	2015(E)
Google Inc GOOG USA	15,782 USD	56.8	*59.2*	*58.5*	29.9	*30.8*	*29.9*	23.3	*26.8*	*25.9*	26.4	*27.6*	*26.6*	18.9	*25.9*	*24.2*
Microsoft Corporation MSFT USA	15,146 USD	74.0	*66.5*	*63.0*	30.2	*34.2*	*32.6*	34.4	*30.6*	*29.2*	19.5	*24.9*	*23.5*	29.7	*26.3*	*24.8*
Hewlett-Packard Co HPQ USA	6,938 USD	23.1	*24.4*	*25.1*	11.4	*11.3*	*11.1*	7.2	*7.4*	*7.3*	6.2	*6.7*	*6.7*	7.2	*6.0*	*5.6*
Average		51.3	*50.0*	*48.9*	23.8	*25.4*	*24.5*	21.6	*21.6*	*20.8*	17.4	*19.7*	*18.9*	18.6	*19.4*	*18.2*
Apple Inc AAPL US	**37,037** USD	**37.6**	***37.7***	***35.8***	**32.6**	***33.6***	***32.0***	**28.7**	***28.7***	***26.3***	**21.7**	***21.2***	***19.5***	**26.6**	***24.6***	***22.6***

Leverage Analysis

	Last Historical Year	Debt/Equity %			Debt/Total Cap %			EBITDA/Interest Exp.			Total Debt/EBITDA			Assets/Equity		
Company/Ticker	Total Debt (Mil)	2013	2014(E)	2015(E)	2013	2014(E)	2015(E)	2013	2014(E)	2015(E)	2013	2014(E)	2015(E)	2013	2014(E)	2015(E)
Google Inc GOOG USA	5,245 USD	6.0	*5.2*	*4.5*	5.7	*4.9*	*4.3*	—	—	—	0.3	*0.3*	*0.2*	1.3	*1.2*	*1.2*
Microsoft Corporation MSFT USA	11,944 USD	18.0	*17.9*	*17.9*	15.3	*15.2*	*15.2*	85.3	*92.6*	*122.0*	0.5	*0.4*	*0.5*	1.8	*1.8*	*1.7*
Hewlett-Packard Co HPQ USA	26,889 USD	99.8	*67.4*	*45.1*	50.0	*40.3*	*31.1*	20.6	*21.8*	*34.7*	2.1	*1.7*	*1.4*	4.1	*3.4*	*2.9*
Average		41.3	*30.2*	*22.5*	23.7	*20.1*	*16.9*	53.0	*57.2*	*78.4*	1.0	*0.8*	*0.7*	2.4	*2.1*	*1.9*
Apple Inc AAPL US	**16,960** USD	**13.7**	***33.6***	***32.2***	**12.1**	***25.2***	***24.4***	**434.2**	***200.0***	***197.8***	**0.3**	***0.6***	***0.7***	**1.7**	***2.0***	***1.9***

Liquidity Analysis

		Cash per Share			Current Ratio			Quick Ratio			Cash/Short-Term Debt			Payout Ratio %		
Company/Ticker	Market Cap (Mil)	2013	2014(E)	2015(E)	2013	2014(E)	2015(E)	2013	2014(E)	2015(E)	2013	2014(E)	2015(E)	2013	2014(E)	2015(E)
Google Inc GOOG USA	381,381 USD	173.30	*208.16*	*246.12*	4.58	*5.39*	*6.14*	4.55	*5.36*	*6.11*	19.51	*23.65*	*27.96*	—	—	—
Microsoft Corporation MSFT USA	343,816 USD	0.82	*2.26*	*3.55*	2.60	*2.88*	*2.98*	2.57	*2.83*	*2.93*	5.64	*15.21*	*9.82*	42.2	*33.7*	*35.0*
Hewlett-Packard Co HPQ USA	62,975 USD	8.42	*7.75*	*6.57*	1.23	*1.23*	*1.26*	1.07	*1.07*	*1.09*	2.89	*2.98*	*5.10*	19.6	*18.1*	*18.8*
Average		60.85	*72.72*	*85.41*	2.80	*3.17*	*3.46*	2.73	*3.09*	*3.38*	9.35	*13.95*	*14.29*	30.9	*25.9*	*26.9*
Apple Inc AAPL US	**483,146** USD	**157.53**	***184.67***	***230.96***	**4.11**	***4.18***	***4.30***	**4.07**	***4.14***	***4.26***	—	—	***77.30***	**28.5**	***29.4***	***30.8***

Research Methodology for Valuing Companies

Components of Our Methodology
- Economic Moat™ Rating
- Moat Trend™ Rating
- Moat Valuation
- Three-Stage Discounted Cash Flow
- Weighted Average Cost of Capital
- Fair Value Estimate
- Scenario Analysis
- Uncertainty Ratings
- Margin of Safety
- Consider Buying/Selling
- Stewardship Rating

The Morningstar Rating for stocks identifies companies trading at a discount or premium to our analysts' assessment of their fair value. A number of components drive this rating: (1) our assessment of the firm's economic moat, (2) our estimate of the stock's intrinsic value based on a discounted cash-flow model, (3) the margin of safety bands we apply to our Fair Value Estimate, and (4) the current stock price relative to our fair value estimate.

The concept of the Morningstar Economic Moat™ Rating plays a vital role not only in our qualitative assessment of a firm's investment potential, but also in our valuation process. We assign three moat ratings—none, narrow, or wide—as well as the Morningstar Moat Trend™ Rating—positive, stable, or negative—to each company we cover. There are two major requirements for firms to earn either a narrow or wide moat rating: (1) the prospect of earning above-average returns on capital; and (2) some competitive edge that prevents these returns from quickly eroding. The assumptions we make about a firm's moat determine the length of "economic outperformance" that we assume in the latter stages of our valuation model. We also quantify the value of each firm's moat, which represents the difference between a firm's enterprise value and the value of the firm if no future net investment were to occur. Said differently, moat value identifies the value generated by the firm as a result of any future net new investment. Our Moat Trend Rating reflects our assessment of whether each firm's competitive advantage is either getting stronger or weaker, since we think of moats as dynamic, rather than static.

At the heart of our valuation system is a detailed projection of a company's future cash flows. The first stage of our three-stage discounted cash flow model can last from 5 to 10 years and contains numerous detailed assumptions about various financial and operating items. The second stage of our model—where a firm's return on new invested capital (RONIC) and earnings growth rate implicitly fade until the perpetuity year—can last anywhere from 0 years (for no-moat firms) to 20 years (for wide-moat companies). In our third stage, we assume the firm's RONIC equals its weighted average cost of capital, and we calculate a continuing value using a standard

Morningstar Research Methodology for Valuing Companies

Fundamental Analysis	Economic Moat™ Rating	Company Valuation	Fair Value Estimate	Uncertainty Assessment	Star Rating
Analyst conducts company and industry research: ► Financial statement analysis ► Channel checks ► Trade-show visits ► Industry and company reports and journals ► Conference calls ► Management and site visits	Strength of competitive advantage is rated: None, Narrow, or Wide Advantages that confer an economic moat: **High Switching Costs** (Microsoft) **Cost advantage** (Wal-Mart) **Intangible assets** (Johnson & Johnson) **Network Effect** (Mastercard) **Efficient Scale** (Lockheed Martin)	Analyst considers past financial results and focuses on competitive position and future prospects to forecast future cash flows. Assumptions are entered into Morningstar's proprietary discounted cash-flow model.	Analyst uses a discounted cash-flow model to develop a Fair Value Estimate, which serves as the foundation for the Morningstar Rating for stocks.	The analyst then evaluates the range of potential intrinsic values for the company and assigns an Uncertainty Rating: Low, Medium, High, Very High, or Extreme. The Uncertainty Rating determines the margin of safety required before we would recommend the stock. The higher the uncertainty, the wider the margin of safety.	The current stock price relative to Morningstar's Fair Value Estimate, adjusted for uncertainty, determines the Morningstar Rating for stocks. The Morningstar Rating for stocks is updated each evening after the market closes.

Research Methodology for Valuing Companies

Detailed Methodology Documents and Materials*
- Comprehensive Equity Research Methodology
- Uncertainty Methodology
- Cost of Equity Methodology
- Morningstar DCF Valuation Model
- Stewardship Rating Methodology

* Please contact a sales representative for more information.

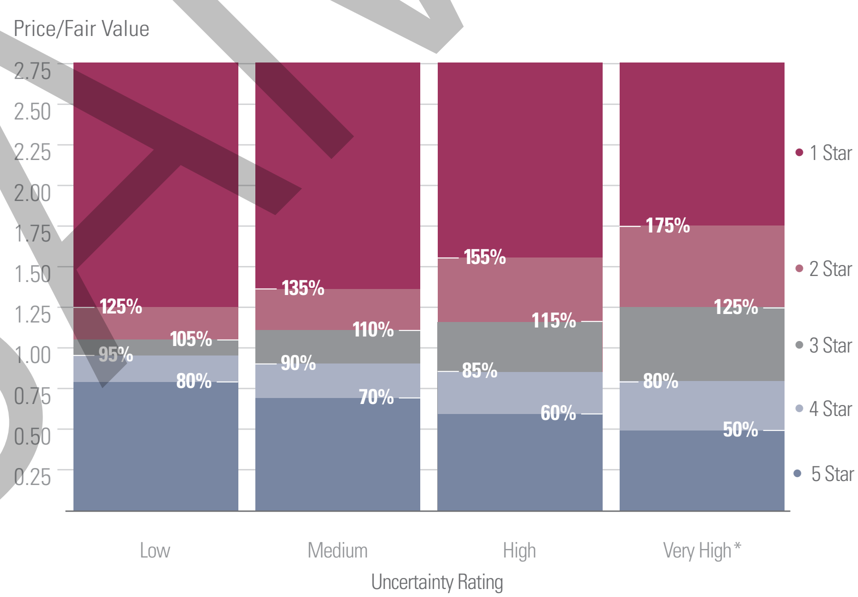
perpetuity formula. In deciding on the rate at which to discount future cash flows, we ignore stock-price volatility. Instead, we rely on a system that measures the estimated volatility of a firm's underlying future free cash flows, taking into account fundamental factors such as the diversity of revenue sources and the firm's fixed cost structure.

We also employ a number of other tools to augment our valuation process, including scenario analysis, where we assess the likelihood and performance of a business under different economic and firm-specific conditions. Our analysts typically model three to five scenarios for each company we cover, stress-testing the model and examining the distribution of resulting fair values.

The Morningstar Uncertainty Rating captures the range of these potential fair values, based on an assessment of a company's future sales range, the firm's operating and financial leverage, and any other contingent events that may impact the business. Our analysts use this range to assign an appropriate margin of safety—or the discount/premium to a fair value we apply in setting our consider buying/consider selling prices. Firms trading below our consider-buying prices receive our highest rating of five stars, whereas firms trading above our consider-selling prices receive our lowest rating of one star.

Our corporate Stewardship Rating represents our assessment of management's stewardship of shareholder capital, with particular emphasis on capital allocation decisions. Analysts consider companies' investment strategy and valuation, financial leverage, dividend and share buyback policies, execution, compensation, related party transactions, and accounting practices. Corporate governance practices are only considered if they've had a demonstrated impact on shareholder value. Analysts assign one of three ratings: "Exemplary," "Standard," and "Poor." Analysts judge stewardship from an equity holder's perspective. Ratings are determined on an absolute basis. Most companies will receive a Standard rating, and this is the default rating in the absence of evidence that managers have made exceptionally strong or poor capital allocation decisions.

Morningstar Margin of Safety and Star Rating Bands



* Occasionally a stock's uncertainty will be too high for us to estimate, in which case we label it Extreme.

Morningstar's Approach to Rating Corporate Credit

- Offers a proprietary measure of the credit quality of companies on our coverage list.
- Encapsulates our in-depth modeling and quantitative work in one letter grade.
- Allows investors to rank companies by each of the four underlying components of our credit ratings, including both analyst-driven and quantitative measures.
- Provides access to all the underlying forecasts that go into the rating, available through our institutional service.

Purpose

The Morningstar Corporate Credit Rating measures the ability of a firm to satisfy its debt and debt-like obligations. The higher the rating, the less likely we think the company is to default on these obligations.

The Morningstar Corporate Credit Rating builds on the modeling expertise of our securities research team. For each company, we publish:

- Five years of detailed pro-forma financial statements
- Annual estimates of free cash flow
- Annual forecasts of return on invested capital
- Scenario analyses, including upside and downside cases
- Forecasts of leverage, coverage, and liquidity ratios for five years
- Estimates of off balance sheet liabilities

These forecasts are key inputs into the Morningstar Corporate Credit Rating and are available to subscribers at select.morningstar.com.

Methodology

We feel it's important to perform credit analysis through different lenses—qualitative and quantitative, as well as fundamental and market-driven. We therefore evaluate each company in four broad categories.

Business Risk

Business Risk captures the fundamental uncertainty around a firm's business operations and the cash flow generated by those operations. Key components of the Business Risk rating include the Morningstar Economic Moat™ Rating and the Morningstar Uncertainty Rating.

Cash Flow Cushion™

Morningstar's proprietary Cash Flow Cushion™ ratio is a fundamental indicator of a firm's future financial health The measure reveals how many times a company's internal cash generation plus total excess liquid cash will cover its debt-like contractual commitments over the next five years. The Cash Flow Cushion acts as a predictor of financial distress, bringing to light potential refinancing, operational, and liquidity risks inherent to the firm.

Morningstar Research Methodology for Determining Corporate Credit Ratings

Competitive Analysis

Analyst conducts company and industry research:

- Management interviews
- Conference calls
- Trade show visits
- Competitor, supplier, distributor, and customer interviews
- Assign Economic Moat™ Rating

Cash-Flow Forecasts

Analyst considers company financial statements and competitive dynamics to forecast future free cash flows to the firm.

Analyst derives estimate of Cash-Flow Cushion™.

Scenario Analysis

Analysts run bull and bear cases through the model to derive alternate estimates of enterprise value.

Based on competitive analysis, cash-flow forecasts, and scenario analysis, the analyst assigns Business Risk.

Quantitative Checks

We gauge a firm's health using quantitative tools supported by our own backtesting and academic research.

- Morningstar Solvency Score™
- Distance to Default

Rating Committee

Senior personnel review each company to determine the appropriate final credit rating.

- Review modeling assumptions
- Approve company-specific adjustments

AAA	Extremely Low Default Risk
AA	Very Low Default Risk
A	Low Default Risk
BBB	Moderate Default Risk
BB	Above Average Default Risk
B	High Default Risk
CCC	Currently Very High Default Risk
CC	Currently Extreme Default Risk
C	Imminent Payment Default
D	Payment Default
UR	Under Review
UR+	Positive Credit Implication
UR-	Negative Credit Implication

Morningstar's Approach to Rating Corporate Credit

The advantage of the Cash Flow Cushion ratio relative to other fundamental indicators of credit health is that the measure focuses on the future cash-generating performance of the firm derived from Morningstar's proprietary discounted cash flow model. By making standardized adjustments for certain expenses to reflect their debt-like characteristics, we can compare future projected free cash flows with debt-like cash commitments coming due in any particular year. The forward-looking nature of this metric allows us to anticipate changes in a firm's financial health and pinpoint periods where cash shortfalls are likely to occur.

Morningstar Solvency Score™

The Morningstar Solvency Score™ is a quantitative score derived from both historical and forecasted financial ratios. It includes ratios that focus on liquidity (a company's ability to meet short term cash outflows), profitability (a company's ability to generate profit per unit of input), capital structure (how does the company finance its operations), and interest coverage (how much of profit is used up by interest payments).

Distance to Default

Morningstar's quantitative Distance to Default measure ranks companies on the likelihood that they will tumble into financial distress. The measure is a linear model of the percentile of a firm's leverage (ratio of Enterprise Value to Market Value), the percentile of a firm's equity volatility relative to the rest of the universe and the interaction of these two percentiles. This is a proxy methodology for the common definition of Distance to Default which relies on option-based pricing models. The proxy has the benefit of increased breadth of coverage, greater simplicity of calculation, and more predictive power.

For each of these four categories, we assign a score, which we then translate into a descriptive rating along the scale of Very Good / Good / Fair / Poor / Very Poor.

Overall Credit Rating

The four component ratings roll up into a single preliminary credit rating. To determine the final credit rating, a credit committee of at least five senior research personnel reviews each preliminary rating.

We review credit ratings on a regular basis and as events warrant. Any change in rating must be approved by the Credit Rating Committee.

Investor Access

Morningstar Corporate Credit Ratings are available on Morningstar.com. Our credit research, including detailed cash-flow models that contain all of the components of the Morningstar Corporate Credit Rating, is available to subscribers at select.morningstar.com.