Guide to Morningstar's Equity Research Methodology

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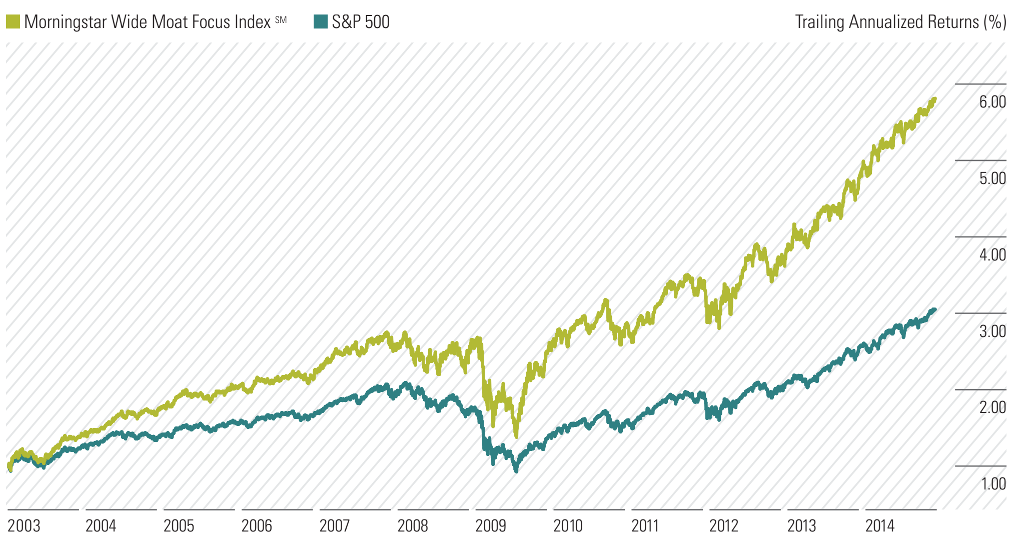
Morningstar Equity Research Overview

Morningstar® is a leading provider of independent investment research currently serving clients globally through our presence in North America, South America, Europe, Asia, and Australia. Our broad coverage extends to 120 equity and credit analysts and strategists who cover more than 1,400 companies across the globe. Morningstar is not involved in banking or brokerage activities—our business is solely research—so our analysis is independent and objective.

Morningstar's equity research department is organized by sector. Our analyst staff travels frequently to meet with companies and attend conferences to deepen their knowledge, and most of our analysts are based in Chicago, Amsterdam, Sydney, Hong Kong, and Shenzhen. Our analysts have an average of more than ten years of experience in the financial services industry, and more than 60% of them have an M.B.A., a CFA charter, or both. Every analysis we publish is vetted by our staff to ensure our investment philosophy and process is consistent company-wide.

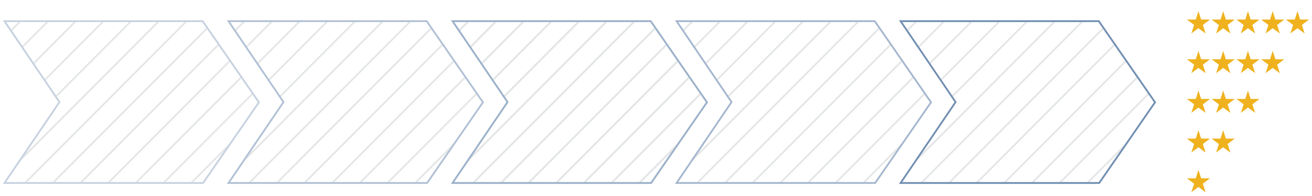
Exhibit 1 Morningstar Wide Moat Focus Index℠ vs. S&P 500



Morningstar's equity research team keeps a consistent focus on economic moats and intrinsic value applied across a large global coverage universe. Our emphasis on analyzing competitive advantages is the cornerstone of Morningstar's methodology. Within this framework and by using our proprietary three-stage free cash flow model, each stock within our universe is assigned a fair value estimate. We then assign an uncertainty rating based on multiple fundamental factors, which dictates the appropriate margin of safety required before recommending the stock.

Morningstar's research is distributed through multiple channels to help investors, advisors, research analysts, and asset managers make informed decisions, and our fundamental approach to research and investing has produced exceptional results over time. Our proprietary Morningstar® Wide Moat Focus Index℠—which buys the 20 cheapest wide-moat stocks in our universe each quarter—has outperformed the S&P 500 by over 6% annually since its inception in 2002, as of June 2014.*

Exhibit 2 Morningstar Approach to Equity Research



Fundamental Analysis

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

Morningstar® Economic Moat Rating™

Analysts rate the strength of competitive advantage, or moat: None, Narrow, or Wide

Advantages that confer a moat:

High Switching Costs (Microsoft)

Cost advantage (Wal-Mart)

Intangible assets (Johnson & Johnson)

Network Effect (Mastercard)

Efficient Scale (Lockheed Martin)

Company Valuation

Analyst considers past financial results and focuses on competitive position and future prospects to forecast cash flows.

Analyst enters assumptions into Morningstar's proprietary discounted cash-flow model.

Fair Value Estimate

Analyst uses a discounted cash-flow model to develop a Fair Value Estimate, which serves as the foundation for the Morningstar Rating™ for stocks.

Uncertainty Assessment

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 the analyst recommends the stock. The higher the uncertainty, the wider the margin of safety.

Star Rating

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.

Introduction to Morningstar Rating™ for Stocks

We believe that a company's intrinsic worth results from the future cash flows it can generate. The Morningstar Rating for stocks identifies stocks trading at a discount or premium to their intrinsic worth—or fair value estimate, in Morningstar terminology. Stocks rated as 5-star sell for the biggest risk-adjusted discount to their fair values, whereas 1-star stocks trade at premiums to their intrinsic worth.

Four key components drive the Morningstar Rating for stocks:

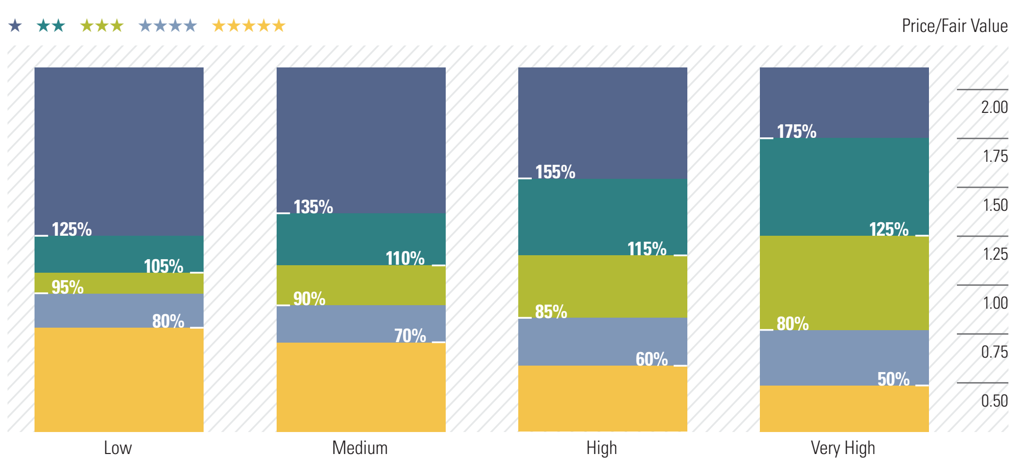
1. Our assessment of the firm's economic moat
2. Our estimate of the stock's fair value
3. Our uncertainty around that fair value estimate
4. The current market price

This process ultimately culminates in our star rating. Underlying this rating is a fundamentally-focused methodology and a robust, standardized set of procedures and core valuation tools used by Morningstar's equity analysts.

The Morningstar® Economic Moat™ Rating

The concept of an economic moat—a term Warren Buffett uses to describe the sustainability of a company's future economic profits—plays a vital role in our qualitative assessment of a firm's long-term investment potential and in our fair value estimates. We assign one of three Morningstar® Economic Moat™ Ratings: none, narrow, or wide. There are two major requirements for firms to earn either a narrow or wide rating: 1. The prospect of earning above-average returns on capital; and 2. Some competitive edge that prevents these returns from quickly eroding.

Exhibit 3 Morningstar Rating Calculation Adjusted for Uncertainty



Determining Fair Value

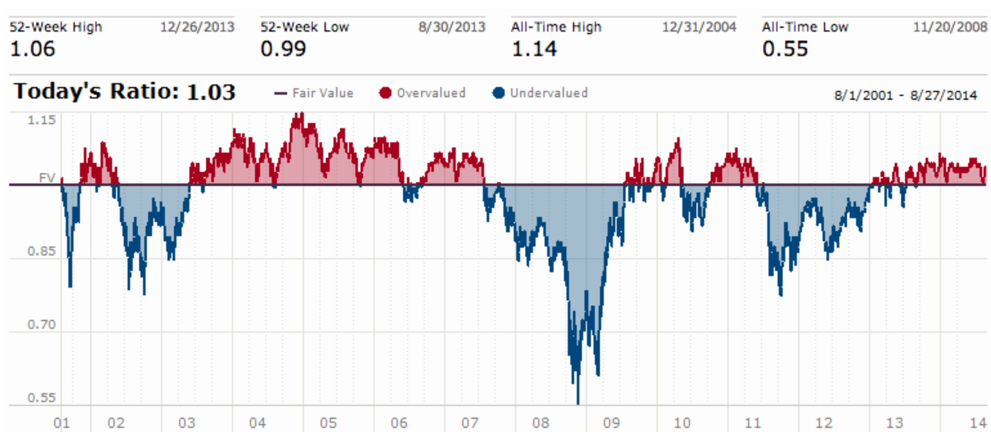
At the heart of our valuation system is a detailed projection of a company's future cash flows, resulting from our analysts' independent primary research. Analysts create custom industry and company assumptions to feed income statement, balance sheet, and capital investment assumptions into our standardized, proprietary Discounted Cash Flow modeling templates. By combining our analyst inputs with the moat rating, our models fade a firm's Returns on Invested Capital and earnings growth rate from the end of an analyst's explicit forecast horizon until the perpetuity period.

The Uncertainty Rating

Morningstar's Uncertainty Rating captures the range of potential intrinsic values for a company and uses it to assign the margin of safety required before investing. The Uncertainty Rating represents the analysts' ability to bound the value of the shares in a company around the Fair Value Estimate, based on the characteristics of the underlying business. To formalize the process for quantifying the uncertainty in placing a value on a company, our framework breaks down the uncertainty around company value to four simplified conceptual elements: range of sales, operating leverage, financial leverage, and contingent events.

*Uncertainty = Range of sales * operating leverage * financial leverage + contingent event discount*

Exhibit 4 Market Valuation



Generating the Star Rating

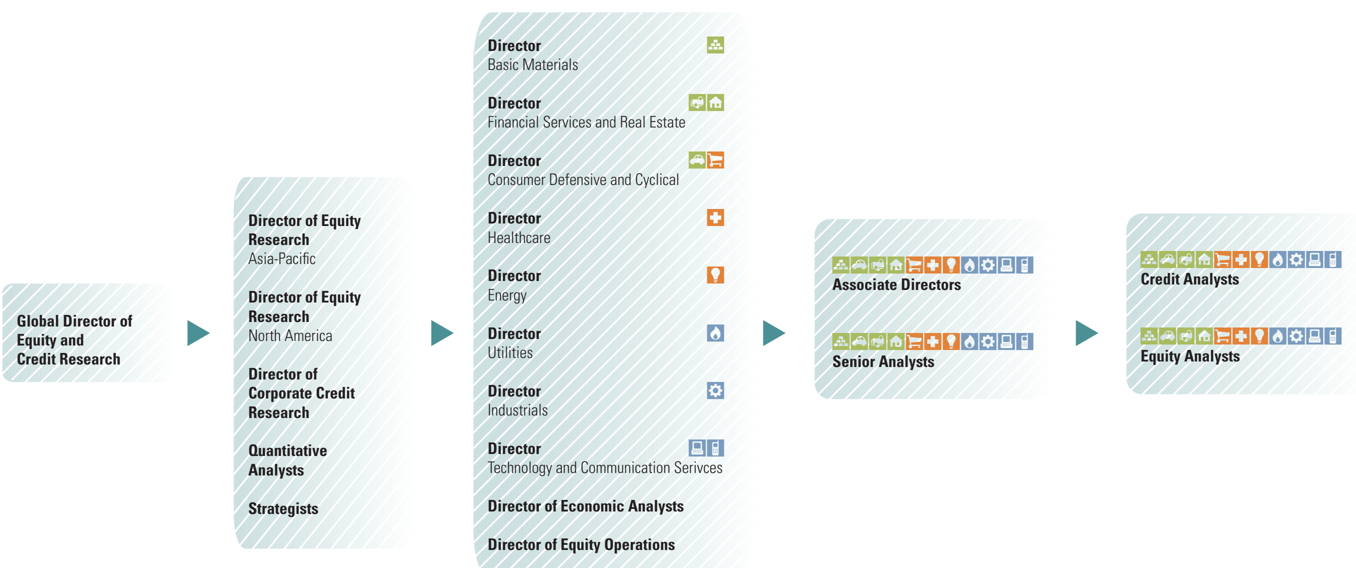
Once we determine the fair value of a stock, we compare it to the stock's current market price on a daily basis, and the star rating is automatically re-calculated at the market close every day the market is open. Our analysts keep close tabs on the companies they follow daily, and based on thorough and ongoing analysis, raise or lower their fair value estimates as warranted. It is also worth noting that there are no predefined distributions of stars. That is, the percentage of stocks that earn 5 stars can fluctuate daily, so the star ratings, in the aggregate, can serve as a gauge of the broader market's valuation. When there are many 5-star stocks, the stock market as a whole is more undervalued than when very few companies garner our highest rating.

Stewardship Grade

The Morningstar® Stewardship Grade℠ represents our assessment of management's stewardship of shareholder capital, with particular emphasis on capital allocation decisions. Analysts consider a company's investment strategy, history of investment timing and valuation, financial leverage, dividend and share buyback policies, execution, management compensation, related party transactions, and accounting practices. Corporate governance practices, such as poison pills and staggered boards, are only considered if they've had a demonstrated impact on shareholder value. Analysts assign one of three stewardship ratings: "exemplary," "standard," and "poor." Analysts judge stewardship from an equity holder's perspective. Ratings are determined on an absolute basis. Companies are judged not against peers within their industry, but against ideal stewardship of shareholder capital. Most companies will receive a standard rating, and this should be considered the default rating in the absence of evidence that a management team has made exceptionally strong or poor capital allocation decisions.

A history of value-accretive acquisitions, optimal financial leverage, ideal dividend and share buyback policies, and investments that enhance competitive advantages—these are the marks of exemplary

Exhibit 5 Morningstar Equity Analyst Team Structure



stewards of shareholder capital. Certain corporate practices, such as poison pills and staggered boards, are easily visible and garner much attention in governance analysis circles. Unfortunately, focusing on particular governance practices tends to poorly predict a firm's ability to generate improving returns on invested capital and shareholder returns. Fundamental investors should instead conduct a more thorough analysis of management stewardship of shareholder capital.

Morningstar Analyst Team

Morningstar's team structure emphasizes deep bottom-up research while maintaining consistency across our coverage universe. Individual analysts focus on narrow industry segments and examine the critical issues confronting the companies they cover. Senior analysts and team leaders surface themes and guide the research, also coordinating macro inputs across industries (e.g. same oil price assumptions in energy team's models), and associate directors provide a sector overview. The team emphasizes surfacing ideas and uncovering opportunities that represent value not yet recognized by the market.

Morningstar Equity Analyst Report

Morningstar's Equity Analyst Report delivers Morningstar's holistic view on a stock. It conveys Morningstar's qualitative and quantitative ratings on the stock, as well as written research from the Morningstar analyst who covers it. Analyst reports on over 1,400 stocks demonstrate a stock's valuation and what investment considerations should be.

Morningstar Equity Analyst Report Features

A The Morningstar Rating™ for stocks is calculated by comparing a stock's current market price with Morningstar's fair value estimate of the stock, culminating in our star rating. Ratings are updated daily and can therefore change daily.

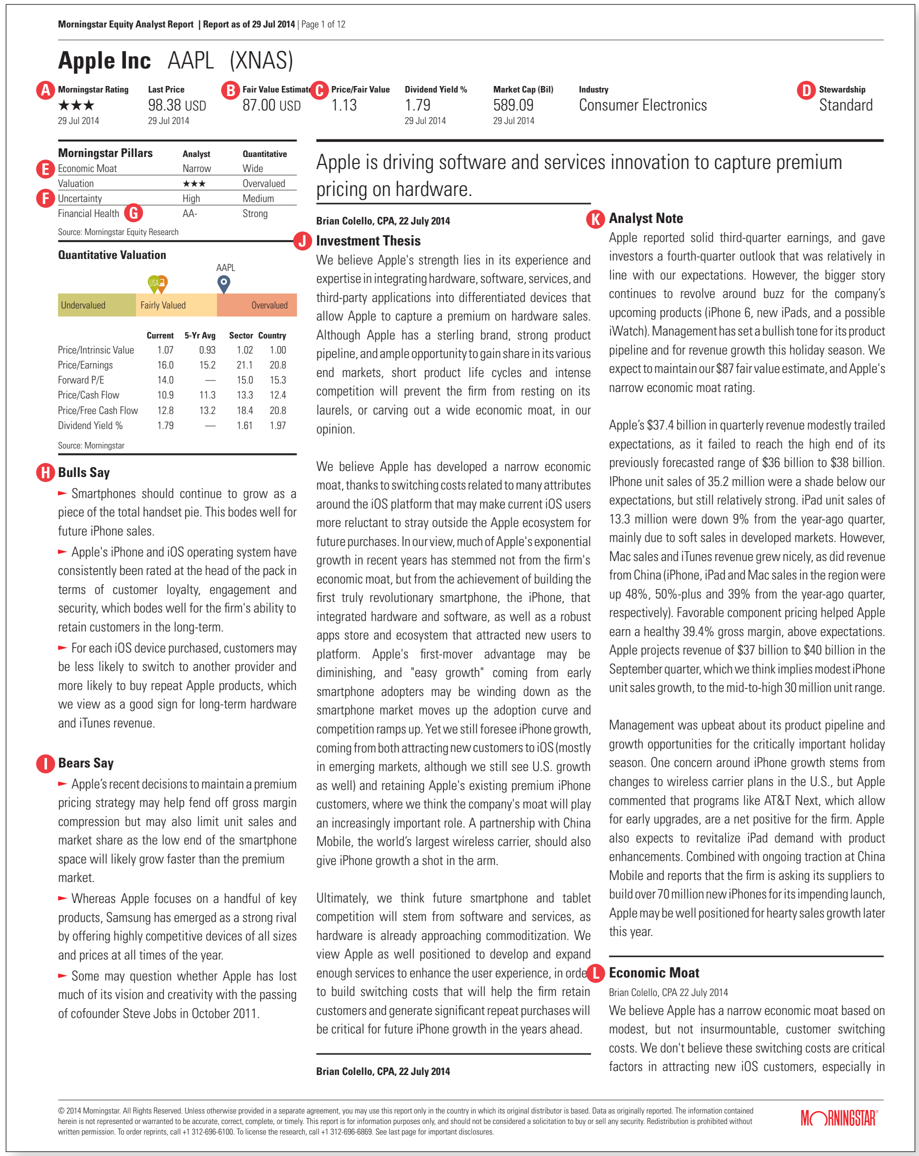
B The "Fair Value Estimate" is a Morningstar analyst's estimate of what a stock is worth, calculated by determining how much we would pay today for all the streams of excess cash generated by the company in the future. We arrive at this value by forecasting a company's future financial performance using a detailed discounted cash-flow model. This differs from the "Quantitative Fair Value Estimate," which quantitatively calculates the fair value, based on the analyst-driven ratings of comparable companies. Empirically, we find quantitative ratings and analyst-driven ratings to be equally powerful predictors of future performance. When the analyst driven rating and the quantitative rating agree, we find the ratings to be much more predictive than when they differ. In this way, they provide an excellent second opinion for each other. When the ratings differ, it may be wise to follow the analyst's rating for a truly unique company with its own special situation, and follow the quantitative rating when a company has several reasonable comparable companies and relevant information is flowing at a rapid pace.

C The "Price/Fair Value" ratio is calculated by dividing the last price by the "Fair Value Estimate." It indicates whether a stock is currently overvalued, undervalued, or fairly valued, according to the fair value estimate. A price/fair value ratio of less than 1 indicates the stock is undervalued, while a price/fair value ratio of more than 1 indicates a stock is overvalued.

D Our corporate "Stewardship" rating represents our assessment of management's stewardship of shareholder capital, with particular emphasis on capital allocation decisions. Analysts assign one of three stewardship ratings: exemplary, standard, or poor. Most companies will receive a standard rating, and this should be considered the default rating in the absence of evidence that a management team has made exceptionally strong or poor capital allocation decisions.

E The Morningstar Economic Moat Rating refers to how likely a company is to keep competitors at bay for an extended period. We classify companies as No-Moat, Narrow-Moat, and Wide-Moat.

F The "Uncertainty Rating" describes our level of uncertainty about the accuracy of our fair value estimate. The lower the uncertainty, the narrower the potential range of outcomes for that particular company. The rating is expressed as low, medium, high, very high, or extreme.



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Apple Inc AAPL (XNAS)

A Morningstar Rating	Last Price	B Fair Value Estimate	C Price/Fair Value	Dividend Yield %	Market Cap (Bil)	Industry	D Stewardship
★★★ 29 Jul 2014	98.38 USD 29 Jul 2014	87.00 USD	1.13	1.79 29 Jul 2014	589.09 29 Jul 2014	Consumer Electronics	Standard

Morningstar Pillars	Analyst	Quantitative
E Economic Moat	Narrow	Wide
Valuation	★★★	Overvalued
F Uncertainty	High	Medium
Financial Health G	AA-	Strong

Source: Morningstar Equity Research

Quantitative Valuation

	Current	5-Yr Avg	Sector	Country
Price/Intrinsic Value	1.07	0.93	1.02	1.00
Price/Earnings	16.0	15.2	21.1	20.8
Forward P/E	14.0	—	15.0	15.3
Price/Cash Flow	10.9	11.3	13.3	12.4
Price/Free Cash Flow	12.8	13.2	18.4	20.8
Dividend Yield %	1.79	—	1.61	1.97

Source: Morningstar

H Bulls Say

- Smartphones should continue to grow as a piece of the total handset pie. This bodes well for future iPhone sales.
- Apple's iPhone and iOS operating system have consistently been rated at the head of the pack in terms of customer loyalty, engagement and security, which bodes well for the firm's ability to retain customers in the long-term.
- 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 hardware and iTunes revenue.

I 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.
- Some may question whether Apple has lost much of its vision and creativity with the passing of cofounder Steve Jobs in October 2011.

Apple is driving software and services innovation to capture premium pricing on hardware.

Brian Colello, CPA, 22 July 2014

J Investment Thesis

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, strong 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 many attributes around the iOS platform that may make current iOS users more reluctant to stray outside the Apple ecosystem for future purchases. In our view, much of Apple's exponential growth in recent years has stemmed not from the firm's economic 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. 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.

Brian Colello, CPA, 22 July 2014

K Analyst Note

Apple reported solid third-quarter earnings, and gave investors a fourth-quarter outlook that was relatively in line with our expectations. However, the bigger story continues to revolve around buzz for the company's upcoming products (iPhone 6, new iPads, and a possible iWatch). Management has set a bullish tone for its product pipeline and for revenue growth this holiday season. We expect to maintain our $87 fair value estimate, and Apple's narrow economic moat rating.

Apple's $37.4 billion in quarterly revenue modestly trailed expectations, as it failed to reach the high end of its previously forecasted range of $36 billion to $38 billion. IPhone unit sales of 35.2 million were a shade below our expectations, but still relatively strong. iPad unit sales of 13.3 million were down 9% from the year-ago quarter, mainly due to soft sales in developed markets. However, Mac sales and iTunes revenue grew nicely, as did revenue from China (iPhone, iPad and Mac sales in the region were up 48%, 50%-plus and 39% from the year-ago quarter, respectively). Favorable component pricing helped Apple earn a healthy 39.4% gross margin, above expectations. Apple projects revenue of $37 billion to $40 billion in the September quarter, which we think implies modest iPhone unit sales growth, to the mid-to-high 30 million unit range.

Management was upbeat about its product pipeline and growth opportunities for the critically important holiday season. One concern around iPhone growth stems from changes to wireless carrier plans in the U.S., but Apple commented that programs like AT&T Next, which allow for early upgrades, are a net positive for the firm. Apple also expects to revitalize iPad demand with product enhancements. Combined with ongoing traction at China Mobile and reports that the firm is asking its suppliers to build over 70 million new iPhones for its impending launch, Apple may be well positioned for hearty sales growth later this year.

L Economic Moat

Brian Colello, CPA 22 July 2014

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

G Corporate Credit Rating: The analyst financial-health grade consists of two components that are weighted to arrive at an overall financial-health grade:

1. *Raw financial health*. We look at financial leverage (assets/equity) from the most recent quarter's balance sheet, cash on the balance sheet, cash flows, and free cash flows to arrive at a financial-health grade.
2. *Trend*. We punish companies with deteriorating financial health.

H The "Bulls Say" section gives reasons the stock might perform well in the near future.

I The "Bears Say" section explains possible challenges for the company or its sector in the near future.

J The "Investment Thesis" is Morningstar's opinion on the stock's potential for growth. This section cites specific reasons why the analyst believes the stock is or is not a good investment.

K Under "Analyst Note," the Morningstar analyst covering the stock summarizes its recent performance and makes an educated guess about its potential future performance.

L This section states whether we believe the stock has a moat, and why.

M In the "Valuation" section, the analyst gives the rationale behind Morningstar's fair value estimate. Any recent changes in the estimate are explained.

N The "Risk" section lists factors that could hurt the stock's performance.

O The "Management" section takes a look at the company's leadership and evaluates how well they have managed the business.

Apple Inc AAPL (XNAS)

Morningstar Rating	Last Price	Fair Value Estimate	Price/Fair Value	Dividend Yield %	Market Cap (Bil)	Industry	Stewardship
★★★	98.38 USD	87.00 USD	1.13	1.79	589.09	Consumer Electronics	Standard
29 Jul 2014	29 Jul 2014			29 Jul 2014	29 Jul 2014		

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.

M Valuation

Brian Colello, CPA 22 July 2014

Our fair value estimate for Apple is $87 per share, which implies fiscal 2014 (ending September 2014) price/earnings of 14 times (and only 10 times after excluding Apple's cash balance on hand). We project 5% revenue growth in fiscal 2014 and 9% iPhone revenue growth, as iPhone 5s sales grow at a nice pace, especially in China where a recent partnership with China Mobile, the world's largest wireless carrier, should contribute to healthy iPhone unit sales growth. We project a 6% revenue decline from iPad, but 9% sales growth from Mac.

Longer term, Apple should still attract late smartphone adopters in developed markets and new customers in emerging markets (especially China). As 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 decent iPhone revenue growth in the next two years, but only low single-digit iPhone revenue growth in fiscal 2016 and beyond.

Based on recent lackluster iPad sales, we project iPad revenue to decline in fiscal 2014, and remain relatively flattish in the long term. We anticipate intense competition in the tablet space, as well as headwinds to tablet adoption, as more customers simply opt to rely on large-screen smartphones rather than standalone tablets. We assume Apple's line of Mac PCs will gain share in the declining PC industry but that revenue will be flattish as pricing softens on these products. 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 39% gross margins in fiscal 2014 and mid-to-high 30% gross margins in the long term. In turn, operating margins hover in the mid-to-high 20% range. Our fair value uncertainty rating for Apple remains high.

N Risk

Brian Colello, CPA 22 July 2014

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 different strategies and financial profiles, as firms like Amazon (with its Kindle Fire tablet), Google (with its Nexus devices) and Xiaomi appear willing to sell hardware at close to cost, in order to drive other revenue streams.

O Management

Brian Colello, CPA 22 July 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.

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