

Last Price	Fair Value	Consider Buy	Consider Sell	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Morningstar Credit Rating	Industry Group
46.00 USD	42.00 USD	29.40 USD	56.70 USD	Medium	Wide	Stable	Standard	AA	Application Software

More of the Same in Oracle's Fiscal 2Q Results; Steady Progress in Cloud; Shares Fairly Valued

See Page 2 for the full Analyst Note from 18 Dec 2014

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

Research as of 18 Dec 2014 Estimates as of 22 Sep 2014 Pricing data through 19 Dec 2014 Rating updated as of 19 Dec 2014

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

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Investment Thesis 19 Mar 2014

Oracle doesn't have to be the first innovator to maintain its dominance in enterprise software. While there have been many critics of Oracle's long-date acquisition strategy, we believe the company has shored up its defenses, successfully anticipating the threat of cloud computing and providing its customers with a path for technology and service upgrades.

Oracle's database and middleware businesses, which represent approximately 75% of new software license revenue, have incredible switching costs. Databases contain the key data for companies to manage their business through applications, dashboards, and analytics programs. These databases must exhibit high performance, security, and accessibility. Generally, companies are extremely sensitive to the cost and risk of switching out their database technology.

Cloud computing represents a real threat to Oracle's applications businesses, although we believe the company can successfully navigate this industry shift. We believe the firm is managing its contracts effectively to make a transition away from Oracle more financially onerous than moving to Oracle's Fusion applications. During the next couple of years, the power of Oracle's switching costs will truly be put to the test as the company attempts to sell products that slowly migrate customers from legacy to cloud solutions.

We also believe that Oracle's support of public, private, and hybrid cloud offerings will provide an important value proposition for most of its customer base versus public cloud providers. Customers with significant security and compliance concerns may be unable, at least in the short term, to move many of their processes to a public cloud. In these instances, whether the risk is actual or psychological, Oracle is likely to hold on to its customers, in our view

While revenue declines in Oracle's legacy hardware businesses are a drag on overall growth, the company's engineered systems have been a bright spot. By integrating hardware and software, Oracle is successfully leading a small but fast-growing segment of

Vital Statistics	
Market Cap (USD Mil)	203,840
52-Week High (USD)	46.15
52-Week Low (USD)	35.44
52-Week Total Return %	27.0
YTD Total Return %	21.5
Last Fiscal Year End	31 May 2014
5-Yr Forward Revenue CAGR %	4.0
5-Yr Forward EPS CAGR %	6.5
Price/Fair Value	1.10

Valuation Summary and Forecasts										
Fiscal Year:	2013	2014	2015(E)	2016(E)						
Price/Earnings	12.7	14.6	14.8	13.6						
EV/EBITDA	8.2	9.7	10.0	9.6						
EV/EBIT	9.9	11.5	11.5	11.2						
Free Cash Flow Yield %	8.7	7.7	7.1	7.4						
Dividend Yield %	0.9	1.2	1.2	1.3						

Financial Summary and Forecasts (USD Mil)										
	Fiscal Year:	2013	2014	2015(E)	2016(E)					
Revenue		37,180	38,275	39,836	41,518					
Revenue YoY %		-0.1	3.0	4.1	4.2					
EBIT		14,432	14,983	16,032	16,572					
EBIT YoY %		1.9	3.8	7.0	3.4					
Net Income, Adjusted		12,957	13,214	14,341	14,890					
Net Income YoY %		2.7	2.0	8.5	3.8					
Diluted EPS		2.67	2.87	3.11	3.37					
Diluted EPS YoY %		8.0	7.3	8.2	8.4					
Free Cash Flow		9,963	10,661	10,620	11,192					
Free Cash Flow YoY %		19.7	7.0	-0.4	5.4					

Historical/forecast data sources are Morningstar Estimates and may reflect adjustments.

Profile

Oracle sells a wide range of enterprise IT solutions, including databases, middleware, applications, and hardware. Software license and product support, the most profitable segment of the company's operations, accounts for about 70% of total revenue. An active acquisition program is a fundamental component of the company's overall strategy. Oracle has spent more than \$47 billion on acquisitions since fiscal 2005.



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Morningstar Analysis

More of the Same in Oracle's Fiscal 20 Results; Steady Progress in Cloud; Shares Fairly Valued 18 Dec 2014

Oracle posted fiscal second-quarter results that were modestly ahead of our expectations, and the firm is on track to meet our full-year outlook. While management continues to beat the cloud conversion drum and is admittedly making good progress, we don't think the story has fundamentally changed when we take a look through our long-term lens. Oracle is still a well-positioned wide-moat firm that benefits from deep switching costs. We plan to update our financial model following the quarter's results and management's outlook (specifically as it relates to currency headwinds) but do not anticipate a change to our \$42 fair value estimate. With the shares trading in 3-star territory, we'd seek a wider margin of safety.

Consolidated second-quarter revenue was up 3.5%, led again by the software license updates and product support (up 5.6%) and the small but quickly growing SaaS/PaaS and laaS businesses (up 39% and 60%, respectively, off of \$100 million-plus bases, but not in the billions). Legacy hardware and services revenue during the quarter illustrated a continuation of recent trends (flat and down slightly, respectively) and isn't a tremendous concern as we think about our wide moat rating. Non-GAAP operating margin in the guarter was flat year over year at 45.7%, but management was quick to point out that it continues to see the cloud transition as one that will benefit the firm's overall profit profile in the long run. We think there are several puts and takes that go into this view and the market is still evolving, but it's a good bogey to keep in mind. All in, Oracle reported non-GAAP diluted earnings per share of \$0.69, up nominally (1%) year over year.

The company still generates ample cash flow, \$14 billion in our current model, representing a 7.5% yield. Plus, with \$16 billion in cash and equivalents on the balance sheet, Oracle is in a solid position to self-fund its investments, repurchase its shares (\$4 billion year to date) and offer shareholders a

modest \$0.12 per share quarterly dividend (1.1% annualized yield). All of this is good news, particularly when the firm is facing stiff currency headwinds, as are many other global enterprises. Management went so far as to only provide constant currency guidance for the quarter, which, given the current volatility, seems prudent. Revenue could face a 4%-5% headwind in the coming quarter, depending on geographic mix, and this also obscures somewhat the underlying non-GAAP EPS guidance of \$0.69-\$0.74. So, while it may be a choppy quarter, and Oracle still struggles with some of the same challenges facing other legacy tech players, the firm is gaining traction in the cloud space, which is a positive and should help solidify its position in the marketplace.

Valuation, Growth and Profitability 22 Sep 2014

We are increasing our fair value estimate to \$42 per share from \$41 to account for cash earned. Our fair value estimate implies fiscal 2015 adjusted price/earnings of 14 times. We forecast average annual internal revenue growth in the midto high single digits during the next five years as Oracle gains share of enterprise IT spending in on-premises data centers, followed by a steady decline in growth through the latter half of the decade as subscription-based cloud solutions become a larger portion of the revenue mix. Operating margins should remain stable through this period, excluding the effects of recent acquisitions, as benefits from a larger proportion of high-margin software support revenue will be offset by higher selling and marketing expenses as the company faces competition from cloud-based software providers.

Scenario Analysis

Our base-case fair value estimate of \$42 per share assumes that Oracle's edge as the incumbent and its hybrid cloud applications strategy enable the firm to retain 95% of its customers' business by managing the migration of its installed base. Our bull case assumes additional market share gains in the transition to cloud as Oracle's cloud solutions enable the firm to not only retain its own



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customers, but also win market share at the expense of cloud-only vendors such as Salesforce.com and Workday as well as arch rival SAP. This scenario leads to a fair value estimate of \$48 per share. Our bear case considers the implications of a failed transition to cloud computing for Oracle, resulting in a loss of customers to cloud-only providers. Such an outcome would result in steady operating margin declines as revenue comes under pressure and leads to a fair value estimate of \$34 per share.

Economic Moat

Oracle's customers have high switching costs--particularly in the database and middleware markets--that provide extensive competitive advantages, support industry-leading profitability, and deliver excess returns on capital. While we cannot deny the potential disruptive force of cloud computing, we believe Oracle maintains the widest moat in our software universe.

Databases store vast amounts of enterprise and customer data, arguably the crown jewels for most companies. Databases have high performance and reliability requirements in order to manage and measure the business

in the most efficient and profitable manner. Transplanting this data is not only expensive; most companies view replacing their databases as extremely risky, underpinning our wide moat rating for Oracle's database business.

Although we do not believe the switching costs are as great for software applications, Oracle has significant advantages as it cobbles together numerous legacy applications. Importantly, Oracle is providing a path for customers that allows them to upgrade to a hybrid platform, keeping some of the functionality and workflows on premise and some in a public cloud. Additionally, the company has extended the lifetime of legacy products (by offering support), and support contracts are typically lower cost than signing up for new licenses. Furthermore, many customers may prefer to work with a single vendor in order to ensure that the applications, middleware, and database will work together in the future, regardless of the upgrade cycles.

Moat Trend

While several slices of Oracle's business are under assault, the overall company's moat trend is stable. Companies such as Salesforce.com and Workday have been growing at a rapid pace, but the disruption to Oracle's overall applications business has been minimal. As a testament to its moat, Oracle has been able to hold on to core customer contracts despite the fact that its cloud products have come to market much later than those of newer competitors. Many of these customers feel neither financial nor technological pressure to change vendors and are waiting for the opportunity to upgrade with Oracle.



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Bulls Say/Bears Say

Bulls Say

- By purchasing many solutions from one vendor, customers decrease the level of integration costs, a clear difference between IBM's and Oracle's strategies for serving the customer.
- ► The rapid growth in sales of Exadata, Exalogic, and Exalytics demonstrates the solid value proposition of Oracle's engineered systems.
- ► Large enterprises are more likely to adopt hybrid cloud technologies, favoring legacy vendors such as Oracle.

Bears Say

- ► Business model transition is the hardest thing to get right, and Oracle has ample opportunity to fail in its efforts to adapt its products to a subscription model.
- ► Open-source databases, such as MySQL (now owned by Oracle), Ingres, and PostgreSQL, which small companies have been keen to deploy, pose a threat to Oracle's dominance of the database market.
- Small IT companies, such as Rimini Street, provide cheaper support for Oracle's software products, putting pressure on the firm's maintenance revenue streams.

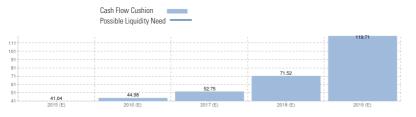


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Credit Analysis

Five Year Adjusted Cash Flow Forecast (USD Mil) 2017(E) 2015(E) 2016(E) 2018(E) 2019(E) Cash and Equivalents (beginning of period) 17,769 17,838 18,417 27,210 36,575 Adjusted Available Cash Flow 9.358 9.882 10.406 11.015 11.635 Total Cash Available before Debt Service 27,127 27.719 28.824 38.225 48.210 Principal Payments -546 -534 -403 -661 -616 Interest Payments Other Cash Obligations and Commitments Total Cash Obligations and Commitments -661 -616 -546 -534 -403

Cumulative Annual Cash Flow Cushion



Adjusted Cash Flow Summary

		% of	
	USD Millions	Commitments	
Beginning Cash Balance	17,769	643.6	
Sum of 5-Year Adjusted Free Cash Flow	52,297	1,894.3	
Sum of Cash and 5-Year Cash Generation	70,066	2,538.0	
Revolver Availability	_	_	
Asset Adjusted Borrowings (Repayment)	_	_	
Sum of Cash, 5-Year Cash Generation, Revolver and Adjustments	70,066	2,538.0	
Sum of 5-Year Cash Commitments	-2,761	_	

Credit Rating Pillars – Peer Group Comparison

	ORCL	Sector	Universe
Business Risk	2	4.9	5.1
Cash Flow Cushion	2	4.2	6.2
Solvency Score	2	2.9	4.7
Distance to Default	1	2.6	3.8
Credit Rating	AA	А	BBB+

Source: Morningstar Estimates

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

Financial Health & Capital Structure

Oracle's financial health remains very good. As of June, the company reported \$39 billion in cash and cash equivalents (including \$3.6 billion held in the U.S.) and more than \$24 billion in debt. To meet its short-term liquidity needs, Oracle has access to a \$3.0 billion commercial paper facility, backed by a five-year unsecured revolving credit facility due 2018. The facility was undrawn as of June. During the past five years, Oracle generated \$60.2 billion of free cash flow. Of this amount, it spent \$19.0 billion on acquisitions, \$22.2 billion on share repurchases, and \$7.1 billion on dividends and minority distributions. During that time, the company also raised a net \$12.7 billion of debt, which contributed to an increase in cash and investments of \$26 billion. In June, Oracle raised \$10 billion of new unsecured notes to fund its \$5 billion acquisition of Micros Systems and refinance \$1.5 billion of existing note maturities, leaving \$3.5 billion of excess proceeds to enhance U.S.-based liquidity.

Over the next few years, we expect the company to generate annual free cash flow of \$12 billion or more, before acquisitions. We believe this should be sufficient to enable Oracle to comfortably service its debt while continuing to invest in opportunities to invigorate and expand its product portfolio. We fully expect Oracle to continue pursuing acquisitions, using its balance sheet as a key competitive weapon. In our view, Oracle's objective to acquire enterprise technology companies focused on industry verticals supports the firm's wide moat and is likely to serve shareholders well. For example, the pending acquisition of Micros will deliver an in-place customer base and a product suite focused on the specialized needs of the hospitality and retail sectors. While immediate opportunities for direct cost savings from the merger appear limited, we believe there may be longer-term opportunities for cross-product sales to Micros' existing customers to broaden and deepen these relationships.



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Enterprise Risk

Our investment thesis assumes that Oracle customers are slow to adopt cloud computing solutions because of switching costs and general risk aversion. If their cautious stance changes and they accelerate spending on cloud applications, Oracle's installed base may be more likely to switch vendors. The company's growth prospects in its core database business may be at risk as well. In-memory technology (including SAP's HANA) may shrink the overall demand for database software as companies need a smaller number of licenses to replicate databases in order to perform analytics. Another risk is that Oracle may find it challenging to earn its cost of capital in the hardware business. Hardware companies have notoriously low returns on invested capital. Lastly, the company is investing in relatively new areas including cloud infrastructure and social analytics, areas in which it is arguably well behind competitors.

Fund Ownershin



Oracle Corporation ORCL (NYSE) | ★★★

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Management & Ownership

Management Activity	,			
Name	Position	Shares Held	Report Date*	InsiderActivity
LAWRENCE J. ELLISON	Chairman of the Board/Chief Technology Officer/Director/ Founder,Director	1,113,634,580	26 Dec 2013	_
MR. JEFFREY S. BERG	Director	97,293	31 Dec 2013	_
THOMAS KURIAN	Executive VP, Divisional	32,958	22 Apr 2014	_
JOHN F. FOWLER	Executive VP, Divisional	19,987	25 Jul 2014	_
MS. SAFRA ADA CATZ	CFO/Co-CEO/Director,Director	12,535	17 Jul 2013	_
MS. DORIAN E. DALEY	General Counsel/Senior VP/ Secretary	10,000	25 Sep 2014	72,500
MR. GEORGE H. CONRADES	Director	10,000	14 Jan 2009	_

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

runu Ownersinp				
Top Owners	% of Shares Held	% of Fund Assets	Change (k)	Portfolio Date
Vanguard Total Stock Mkt Idx	1.26	0.62	196	30 Nov 2014
VA CollegeAmerica Invmt Co of America	0.93	2.25	-9,568	30 Sep 2014
SPDR® S&P 500 ETF	0.83	0.80	366	18 Dec 2014
VA CollegeAmerica Growth Fund of America	0.88	1.10	-5,548	30 Sep 2014
Vanguard Five Hundred Index Fund	0.78	0.75	438	30 Nov 2014
Concentrated Holders				
Rural Tecnológico Renta Variable Fl	0.01	_	298	30 Jun 2014
Acacia Premium FI	_	42.30	77	30 Jun 2014
Sabadell Estados Unidos Bolsa Fl	0.01	20.46	416	30 Jun 2014
Panikirito de Inversiones SICAV	_	18.07	26	30 Jun 2014
Mugardos Inversiones SICAV	_	17.49	24	30 Jun 2014

Institutional Transactions				
Top 5 Buyers	% of Shares Held	% of Fund Assets	Shares Bought/ Sold (k)	Portfolio Date
Walter Scott & Partners Limited	0.43	3.76	19,262	30 Sep 2014
Brown Brothers Harriman & Co	0.36	2.43	15,709	30 Sep 2014
New Jersey Division of Pensions and Benefits	0.14	0.24	7,100	30 Jun 2010
Robeco Investment Management, Inc.	0.31	0.84	5,733	30 Sep 2014
STRS OHIO	0.17	0.69	5,021	30 Sep 2014
Top 5 Sellers				
Capital Research Global Investors	3.08	1.81	-20,337	30 Sep 2014
BlackRock Fund Advisors	2.24	0.56	-3,930	30 Sep 2014
Neuberger Berman LLC	0.19	0.34	-3,434	30 Sep 2014
Wellington Management Company, LLP	0.94	0.44	-3,392	30 Sep 2014
Fidelity Management and Research Company	1.27	0.31	-3,386	30 Sep 2014

Management 19 Mar 2014

Larry Ellison cofounded Oracle in 1977 and has been CEO since then. He is supported by a deep management team, including copresident and CFO Safra Catz and copresident Mark Hurd. Catz has been with the company since 1999, providing instrumental direction for Oracle's massive serial acquisition strategy during the past decade. Hurd joined Oracle in 2010 after five years as Hewlett-Packard's CEO. Despite being highly acquisitive during the past decade, management has been disciplined in its capital-allocation decisions and has avoided overpaying for acquisitions, in our opinion. Oracle has been prudent in balancing investment and returning cash to shareholders, both in form of dividends and continued share buybacks. The firm instituted a dividend in fiscal 2009, and net share repurchases and buybacks have totaled more than \$12 billion in the past year.



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Analyst Notes

Oracle's Steady March to the Cloud Continues; Risk of Cloud Competition Not Overly Concerning to Us 03 Oct 2014

Oracle held its analyst day this week to conclude Oracle OpenWorld, the company's annual event for customers and partners. The pace of product launches has been impressive. and the company revealed that it has more than 2,000 new customers of its cloud-based applications, including CX (customer experience such as marketing, relationship management, and service), HCM (human capital management), and ERP (enterprise resource planning) applications. More importantly, management announced that its much larger on-premises software revenue has grown approximately 5%, a sign that Oracle's switching costs are a critical factor in what we believe will be a longdated transition to the cloud. Still, we believe that Oracle is in a mature phase of growth, and we are reluctant to increase our top-line forecast at this time. We are sticking with our \$42 fair value estimate and reiterate our wide moat rating.

For our purposes, Oracle's \$5 billion annual research and development budget is focused on keeping competitors at bay, namely firms such as Salesforce.com and Workday. Although Oracle's product breadth is arguably superior, the public cloud competitors have been able to gain market share by innovating more quickly, building a better user experience, and providing easy-to-implement applications, in our opinion. Still, we believe that Oracle is quite willing to cannibalize its business and protect its moat.

Furthermore, the company has critical products such as the Oracle database and Weblogic, an application server based on Java (which remains the most popular programming language in IT today). These assets lend themselves well in supporting Oracle's platform-as-a-service (PaaS) offering, a key layer in supporting existing customers that eventually want to move their entire application suite to the cloud, in

our view. Still, sales of the firm's PaaS offerings are not likely to move the growth needle in the near future; as a result, in spite of the positive market positioning, the company's PaaS portfolio does not have a meaningful impact on our valuation.

Oracle's Quarterly Results Provide Little to Excite or Concern, as Ellison Moves to CTO 19 Sep 2014

Oracle posted results for the first quarter of its new fiscal year, with the challenging realities of evolving from a growth to a mature legacy business more than offset by the deep switching costs of its enterprise customers. Oracle's customers are slow to move applications and infrastructure into a cloud environment, based on our research. This quarter provided data that is consistent with our current view, and we are opting to stick with our wide moat rating and \$41 fair value estimate.

Software revenue grew 6.8% versus the prior year, a solid growth rate supported by strength in support revenue and cloud revenue growth. We believe the software segment benefits from meaningful customer switching costs, so strength in that segment (particularly support revenue for legacy on-premises software products) is important to our investment thesis. Total revenue grew only 2.7% to \$8.6 billion, as weakness in the hardware segment (declining 7.6%) dragged on total company revenue growth. While we do not expect Oracle to generate significantly higher organic growth, we believe there is limited downside for this widemoat firm.

The company also announced changes in titles of three key executives (Larry Ellison, Mark Hurd, and Safra Catz) that are not likely to change the direction of the company over the near term, in our view. Ellison, the founder and longtime CEO, has become CTO, while Hurd and Catz have been named as co-CEOs. Overall, these changes do not alter our view of the firm. First, we view Ellison's role and involvement as the most important to shareholders, and he



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Analyst Notes

is retaining is influence as both chairman and CTO in a similar manner as today. Second, there are no changes to reporting structures or responsibilities, so we do not view the appointments as a positive or negative for shareholders.

The board of directors has authorized an increase in the authorized share-repurchase program by \$13 billion. Even after the recently closed Micros deal, the company has roughly \$15 billion of net cash on the balance sheet, and the increase to the share-buyback program demonstrates the commitment to returning capital to shareholders. In the most recent quarter, the firm generated \$6.7 billion in operating cash flow. We would expect Oracle to have the capacity and inclination to continue its policy of returning cash to shareholders, which we view as a positive attribute of a low-growth, wide-moat firm.

Oracle to Acquire Micros: Deal Strategically Sound for Oracle; Big Win for Micros Shareholders 23 Jun 2014

Oracle formally announced an agreement to acquire Micros Systems for \$68 per share in cash, equating to a net cash price of \$4.6 billion. Micros develops and sells integrated hardware and software products for the restaurant, retail, and hotel industries, generating approximately 20% operating margins and fantastic returns on capital, exceeding 50% on an adjusted basis. In our view, the rationale for the deal is strategically sound, although the purchase price is not cheap, only slightly below our bull-case valuation for Micros of \$70 per share. Our wide moat rating and \$41 per share fair value estimate for Oracle remains unchanged. We are increasing our fair value estimate for Micros to account for the pending acquisition.

We think this is a good deal for Micros shareholders. Our bull-case scenario for Micros values the company at \$70 per share, and we think the acquisition price rightly rewards existing stakeholders. We believe Micros can leverage Oracle's financial and technological strength to offer new and existing clients products and services that are even

more compelling.

We believe Oracle's objective to acquire enterprise technology companies focused on industry verticals supports the firm's wide moat and is likely to serve shareholders well. By acquiring Micros, Oracle is gaining an instant customer base and domain expertise in the hospitality and retail industries. Micros sells a combination of hardware, software, and services, primarily through a direct salesforce. We would not expect Oracle to squeeze outsize costs from the business, but we appreciate that Oracle may be better able to sell database and analytics products to Micros' customer base, totaling more than 330,000 installation sites.

Oracle's balance sheet held approximately \$14.5 billion as of its most recent quarter, and the firm can easily manage the net cash outlay of \$4.6 billion. Furthermore, Oracle generated nearly \$15 billion of operating cash flow in the last fiscal year, and, based on a high percentage of recurring revenue, we would expect that number to persist over the near term. We are encouraged that the firm uses its balance sheet and cash flow generation to invest in its wide moat, and believe the firm is successfully navigating competitive forces from cloud computing and open source companies extremely well. This transaction is significant, representing the largest deal since the acquisition of Sun more than four years ago.



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Morningstar Analyst Forecasts

Financial Summary and Forecasts Fiscal Year Ends in May						Forecast	
Tiscal Teal Lifus III Iviay	0.1/					ruiecasi	F.V.
Growth (% YoY)	3-Year Hist. CAGR	2012	2013	2014	2015	2016	5-Year Proj. CAGR
Revenue	2.4	4.5	-0.1	3.0	4.1	4.2	4.0
EBIT	5.6	11.2	1.9	3.8	7.0	3.4	4.6
EBITDA	4.8	10.0	1.7	3.0	3.6	3.5	3.9
Net Income	5.1	10.8	2.7	2.0	8.5	3.8	5.2
Diluted EPS	8.9	11.5	8.0	7.3	8.2	8.4	6.5
Earnings Before Interest, after Tax	7.4	16.2	6.1	0.6	1.2	3.5	3.5
Free Cash Flow	6.3	-6.1	19.7	7.0	-0.4	5.4	4.4
	3-Year						5-Year
Profitability	Hist. Avg	2012	2013	2014	2015	2016	Proj. Avg
Operating Margin %	38.7	38.0	38.8	39.2	40.3	39.9	40.0
EBITDA Margin %	46.4	45.9	46.7	46.7	46.6	46.2	46.3
Net Margin %	34.4	33.9	34.9	34.5	36.0	35.9	36.1
Free Cash Flow Margin %	25.7	22.4	26.8	27.9	26.7	27.0	27.4
ROIC %	21.6	22.1	22.3	20.3	20.1	20.2	18.3
Adjusted ROIC %	37.6	37.9	39.3	35.4	37.0	39.1	33.6
Return on Assets %	13.2	13.3	13.6	12.7	13.1	13.3	12.7
Return on Equity %	24.3	24.2	24.7	23.9	25.1	25.0	22.4
	3-Year						5-Year
Leverage	Hist. Avg	2012	2013	2014	2015	2016	Proj. Avg
Debt/Capital	0.30	0.27	0.29	0.33	0.32	0.31	0.27
Total Debt/EBITDA	1.10	0.96	1.07	1.27	1.22	1.18	1.14
EBITDA/Interest Expense	21.22	22.29	21.79	19.57	28.05	31.14	37.61

20.0

	2013	2014	2015(E)	2016(E)
Price/Fair Value	0.87	1.02	_	_
Price/Earnings	12.7	14.6	14.8	13.6
EV/EBITDA	8.2	9.7	10.0	9.6
EV/EBIT	9.9	11.5	11.5	11.2
Free Cash Flow Yield %	8.7	7.7	7.1	7.4
Dividend Yield %	0.9	1.2	1.2	1.3
Key Valuation Drive	rs			
Key Valuation Drive Cost of Equity %	rs			10.0
•	rs			10.0
Cost of Equity %				
Cost of Equity % Pre-Tax Cost of Debt %				5.5
Cost of Equity % Pre-Tax Cost of Debt % Weighted Average Cost	of Capital %			5.5 9.4

Valuation Summary and Forecasts

Stage II Investment Rate %
Perpetuity Year

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

20	10.07	20.00	01.11	07.07
Discounted Cash	Flow Valu			
		USD Mil	Firm Value (%)	Per Share Value
Present Value Stage	I	45,159	25.9	10.00
Present Value Stage	II	82,011	47.0	18.16
Present Value Stage	III	47,440	27.2	10.50
Total Firm Value		174,611	100.0	38.66
Cash and Equivalent	S	38,819	_	8.60
Debt		-22,667	_	-5.02
Preferred Stock		_	_	_
Other Adjustments		-7,679	_	-1.70
Equity Value		183,084	_	40.54
Projected Diluted Sh	ares	4,516		
Fair Value per Shar	e (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.



Last Price	Fair Value	Consider Buy	Consider Sell	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Morningstar Credit Rating	Industry Group
46.00 USD	42.00 USD	29.40 USD	56.70 USD	Medium	Wide	Stable	Standard	AA	Application Software

Morningstar Analyst Forecasts

Income Statement (USD Mil) Fiscal Year Ends in May				For	ecast
Tiscal Teal Lifus III Iviay	2012	2013	2014	2015	2016 2016
Revenue	37,221	37,180	38,275	<i>39,836</i>	41,518
Cost of Goods Sold	7,858	7,113	7,236	7,248	7,870
Gross Profit	29,363	30,067	31,039	32,588	33,649
Selling, General & Administrative Expenses	8,253	8,400	8,605	9,162	9,549
Research & Development	4,523	4,850	5,151	5,179	5,397
Other Operating Expense (Income)	_	_	_	_	_
Depreciation & Amortization (if reported separately)	2,430	2,385	2,300	2,215	2,130
Operating Income (ex charges)	14,157	14,432	14,983	16,032	16,572
Restructuring & Other Cash Charges	351	-252	224	_	_
Impairment Charges (if reported separately)	_	_	_	_	_
Other Non-Cash (Income)/Charges					
Operating Income (incl charges)	13,806	14,684	14,759	16,032	16,572
Interest Expense	766	797	914	661	616
Interest Income	22	11	-141	200	200
Pre-Tax Income	13,062	13,898	13,704	15,571	16,156
Income Tax Expense	2,981	2,973	2,749	3,581	3,716
Other After-Tax Cash Gains (Losses)	_	_	_	_	
Other After-Tax Non-Cash Gains (Losses)	_	_	_	_	_
(Minority Interest)	_	_	_	_	_
(Preferred Dividends)		_	_	_	_
Net Income	10,081	10,925	10,955	11,990	12,440
Weighted Average Diluted Shares Outstanding	5,095	4,844	4,604	4,619	4,423
Diluted Earnings Per Share	1.98	2.26	2.38	2.60	2.81
Adjusted Net Income	12,621	12,957	13,214	14,341	14,890
Diluted Earnings Per Share (Adjusted)	2.48	2.67	2.87	3.11	3.37
Dividends Per Common Share	0.24	0.30	0.48	0.55	0.59
EBITDA	16,722	17,615	17,667	18,542	19,188
Adjusted EBITDA	17,073	17,363	17,891	18,542	19,188



Last Price	Fair Value	Consider Buy	Consider Sell	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Morningstar Credit Rating	Industry Group
46.00 USD	42.00 USD	29.40 USD	56.70 USD	Medium	Wide	Stable	Standard	AA	Application Software

Morningstar Analyst Forecasts

Balance Sheet (USD Mil) Fiscal Year Ends in May				Fon	ecast
	2012	2013	2014	2015	2016
Cash and Equivalents	14,955	14,613	17,769	17,838	18,417
Investments	15,721	17,603	21,050	21,050	21,050
Accounts Receivable	6,377	6,049	6,087	6,335	6,603
Inventory	158	240	189	189	206
Deferred Tax Assets (Current)	877	974	914	914	914
Other Short Term Assets	1,935	2,213	2,129	2,216	2,216
Current Assets	40,023	41,692	48,138	48,542	49,405
Net Property Plant, and Equipment	3,021	3,053	3,061	3,340	3,630
Goodwill	25,119	27,343	29,652	32,652	35,652
Other Intangibles	7,899	6,640	6,137	4,145	2,069
Deferred Tax Assets (Long-Term)	595	766	837	837	837
Other Long-Term Operating Assets	1,670	2,318	2,519	2,622	2,732
Long-Term Non-Operating Assets	_	_	_	_	_
Total Assets	78,327	81,812	90,344	92,138	94,327
Accounts Payable	438	419	471	472	512
Short-Term Debt	2,950	_	_	_	_
Deferred Tax Liabilities (Current)	_	_	_	_	_
Other Short-Term Liabilities	12,000	12,453	13,918	13,918	13,918
Current Liabilities	15,388	12,872	14,389	14,390	14,430
Long-Term Debt	13,524	18,494	22,667	22,667	22,667
Deferred Tax Liabilities (Long-Term)	3,759	3,899	4,184	4,184	4,184
Other Long-Term Operating Liabilities	1,569	1,402	1,657	1,657	1,657
Long-Term Non-Operating Liabilities		_	_	_	_
Total Liabilities	34,240	36,667	42,897	42,898	42,938
Preferred Stock	_	_	_	_	_
Common Stock	4,905	4,646	4,646	4,646	4,646
Additional Paid-in Capital	12,584	14,247	16,549	16,549	16,549
Retained Earnings (Deficit)	26,087	25,854	25,854	35,326	45,153
(Treasury Stock)	_	_	_	-7,679	-15,358
Other Equity	112	-99	-99	-99	-99
Shareholder's Equity	43,688	44,648	46,950	48,743	50,891
Minority Interest	399	497	497	497	497
Total Equity	44,087	45,145	47,447	49,240	51,388



Last Price	Fair Value	Consider Buy	Consider Sell	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Morningstar Credit Rating	Industry Group
46.00 USD	42.00 USD	29.40 USD	56.70 USD	Medium	Wide	Stable	Standard	AA	Application Software

Morningstar Analyst Forecasts

Cash Flow (USD Mil)					
Fiscal Year Ends in May					ecast
N I	2012	2013	2014	2015	2016
Net Income	9,981	10,925	10,955	11,990	12,440
Depreciation	486	546	608	518	540
Amortization	2,430	2,385	2,300	1,992	2,076
Stock-Based Compensation	744	924	1,035	1,102	1,149
Impairment of Goodwill	_	_	_	_	_
Impairment of Other Intangibles	_	_	_	_	_
Deferred Taxes	9	-117	-248	_	_
Other Non-Cash Adjustments	176	273	311	_	_
(Increase) Decrease in Accounts Receivable	-8	267	146	-248	-268
(Increase) Decrease in Inventory	150	-66	57	0	-16
Change in Other Short-Term Assets	-51	-555	-143	-87	
Increase (Decrease) in Accounts Payable	-720	-541	48	1	40
Change in Other Short-Term Liabilities	546	183	-148	_	_
Cash From Operations	13,743	14,224	14,921	15,267	15,961
(Capital Expenditures)	-648	-650	-580	-797	-830
Net (Acquisitions), Asset Sales, and Disposals	-4,702	-3,305	-3,488	-3,000	-3,000
Net Sales (Purchases) of Investments	-3,031	-2,001	-3,471	_	_
Other Investing Cash Flows	_	_	_	-103	-111
Cash From Investing	-8,381	-5,956	-7,539	-3,899	-3,941
Common Stock Issuance (or Repurchase)	-5,123	-9,494	-7,679	-7,679	-7,679
Common Stock (Dividends)	-1,205	-1,433	-2,178	-2,518	-2,612
Short-Term Debt Issuance (or Retirement)	_	_	_	_	_
Long-Term Debt Issuance (or Retirement)	295	2,024	5,566	_	_
Other Financing Cash Flows	-66	403	223	-1,102	-1,149
Cash From Financing	-6,099	-8,500	-4,068	-11,299	-11,440
Exchange Rates, Discontinued Ops, etc. (net)	-471	-110	-158	_	_
Net Change in Cash	-1,208	-342	3,156	69	580



Last Price	Fair Value	Consider Buy	Consider Sell	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Morningstar Credit Rating	Industry Group
46.00 USD	42.00 USD	29.40 USD	56.70 USD	Medium	Wide	Stable	Standard	AA	Application Software

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																
		Price/Ea	rnings		EV/EBITE	A		Price/Fre	ee Cash Flo	w	Price/Bo	ok		Price/Sa	les	
Company/Ticker	Price/Fair Value	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)
Microsoft Corp MSFT USA	1.04	15.9	16.7	14.8	8.8	9.9	9.0	12.8	15.6	14.1	3.8	3.9	3.5	4.4	3.9	3.6
International Business Machines Corp	0.81	9.6	9.1	8.3	9.0	7.4	7.1	9.4	8.9	8.9	8.9	8.3	7.6	1.7	1.7	1.7
SAP SE SAP USA	1.08	17.1	15.7	14.2	11.3	11.0	10.7	19.1	16.8	16.7	3.6	3.2	2.8	3.9	3.6	3.4
Hewlett-Packard Co HPQ USA	1.05	10.8	9.9	8.8	5.9	5.5	5.7	8.6	10.0	8.5	2.7	2.4	2.1	0.7	0.7	0.7
Teradata Corp TDC USA	0.87	15.6	14.0	12.7	10.8	10.1	9.2	16.2	15.2	14.2	3.7	3.0	2.5	2.5	2.4	2.2
Average		13.8	13.1	11.8	9.2	8.8	8.3	13.2	13.3	12.5	4.5	4.2	3.7	2.6	2.5	2.3
Oracle Corporation ORCL US	1.10	14.6	14.8	13.6	9.7	10.0	9.6	13.1	14.1	13.5	4.0	4.2	4.0	4.9	5.1	4.9

Returns Analysis																
		ROIC %			Adjusted	ROIC %		Return o	n Equity %		Return o	n Assets %		Dividend	d Yield %	
Company/Ticker	Last Historical Year Total Assets (Mil)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)
Microsoft Corp MSFT USA	172,384 USD	24.8	24.0	23.3	29.6	28.8	27.5	25.6	24.6	24.4	13.7	13.3	13.9	2.6	1.9	2.3
International Business Machines Corp	— USD	27.6	30.8	31.7	42.8	48.3	50.0	65.3	87.3	84.3	10.8	13.6	14.2	2.8	3.0	3.1
SAP SE SAP USA	— EUR	14.3	15.5	15.0	32.5	32.0	28.6	20.3	18.7	17.4	12.6	12.3	12.0	1.8	1.8	1.9
Hewlett-Packard Co HPQ USA	— USD	18.1	15.6	14.8	35.1	28.2	26.5	18.6	22.5	19.6	4.8	6.2	6.0	1.6	1.6	1.6
Teradata Corp TDC USA	— USD	17.4	16.0	15.1	36.8	34.5	34.7	19.8	19.6	18.1	11.8	12.1	11.8	_	_	_
Average		20.4	20.4	20.0	35.4	34.4	33.5	29.9	34.5	32.8	10.7	11.5	11.6	2.2	2.1	2.2
Oracle Corporation ORCL US	90,344 USD	20.3	20.1	20.2	35.4	37.0	39.1	23.9	25.1	25.0	12.7	13.1	13.3	1.2	1.2	1.3

Growth Analysis																
		Revenue	Growth %		EBIT Gro	wth %		EPS Gro	wth %		Free Cas	h Flow Gro	wth %	Dividend	I/Share Gro	wth %
	Last Historical Year Revenue															
Company/Ticker	(Mil)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)
Microsoft Corp MSFT USA	77,849 USD	<u> </u>	28.0	10.9	_	9.9	10.9	346.9	8.5	12.8	-11.5	26.0	11.4	19.1	-12.2	21.0
International Business Machines Corp	93,867 USD	-5.9	-4.2	2.7	9.7	0.6	4.4	1.6	5.4	9.3	78.9	21.4	-1.7	16.0	12.0	10.0
SAP SE SAP USA	17,746 EUR	5.5	6.1	6.2	5.0	5.9	4.0	28.1	9.1	10.1	93.4	-2.5	-0.6	0.1	_	_
Hewlett-Packard Co HPQ USA	111,454 USD	-0.8	-0.5	1.0	8.3	11.7	-4.0	3.4	9.3	12.0	3.6	-32.5	4.6	10.2	_	_
Teradata Corp TDC USA	2,746 USD	2.0	4.5	6.1	-4.1	7.3	11.1	-0.4	11.7	10.3	19.1	7.9	7.9	_	_	_
Average		0.2	6.8	5.4	4.7	7.1	5.3	75.9	8.8	10.9	36.7	4.1	4.3	11.4	-0.1	15.5
Oracle Corporation ORCL US	38,275 USD	3.0	4.1	4.2	3.8	7.0	3.4	7.3	8.2	8.4	7.0	-0.4	5.4	60.0	13.6	8.3



Last Price	Fair Value	Consider Buy	Consider Sell	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Morningstar Credit Rating	Industry Group
46.00 USD	42.00 USD	29.40 USD	56.70 USD	Medium	Wide	Stable	Standard	AA	Application Software

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																
		Gross M	argin %		EBITDA I	Margin %		Operatin	g Margin %	6	Net Mar	gin %		Free Cas	h Flow Ma	ırgin %
	Last Historical Year Net Income	1														
Company/Ticker	(Mil)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)
Microsoft Corp MSFT USA	21,629 USD	74.0	63.7	62.2	41.1	33.3	32.9	34.4	29.5	29.5	27.8	23.6	23.7	34.4	25.2	25.3
International Business Machines Corp	16,915 USD	50.4	50.9	51.0	22.8	28.9	29.4	23.3	24.4	24.9	18.0	19.0	19.3	17.9	19.5	19.1
SAP SE SAP USA	4,214 EUR	70.3	69.7	69.2	32.4	31.4	30.3	26.9	26.9	26.3	23.8	23.8	23.5	20.2	21.7	20.5
Hewlett-Packard Co HPQ USA	7,024 USD	23.9	24.0	24.5	11.8	12.7	12.2	7.9	8.9	8.5	6.3	6.9	7.6	7.6	6.6	7.7
Teradata Corp TDC USA	448 USD	54.3	54.5	54.7	20.9	21.3	22.0	18.6	19.1	20.0	16.3	17.0	17.6	15.3	15.6	15.7

Average 54.6 52.6 52.3 25.8 25.5 25.4 22.2 21.8 21.8 18.4 18.1 18.3 19.1 17.7 81.1 **Oracle Corporation ORCL US 13,214** USD 81.8 81.1 46.7 46.6 39.2 40.3 39.9 34.5 36.0 35.9 37.5 36.3 36.4

Leverage Analysis																
,		Debt/Equ	ity %		Debt/Tota	al Cap %		EBITDA/	Interest Ex	p.	Total Del	ot/EBITDA		Assets/E	quity	
Company/Ticker	Last Historical Year Total Debt (Mil)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)
Microsoft Corp MSFT USA	22,645 USD	25.2	13.6	13.8	20.1	12.0	12.2	115.9	97.4	147.1	0.7	0.4	0.4	1.9	1.8	1.7
International Business Machines Corp	39,718 USD	225.3	205.1	182.9	69.3	67.2	64.7	48.9	59.1	62.0	1.9	1.5	1.4	6.7	6.2	5.7
SAP SE SAP USA	2,809 EUR	14.7	10.2	5.9	12.8	9.3	5.6	152.4	224.0	288.3	0.5	0.4	0.2	1.6	1.5	1.4
Hewlett-Packard Co HPQ USA	19,525 USD	73.0	64.6	51.0	42.2	39.2	33.8	20.9	23.5	27.4	1.5	1.4	1.3	3.9	3.5	3.1
Teradata Corp TDC USA	248 USD	13.4	11.0	9.2	11.8	9.9	8.4	_	_	_	0.4	0.4	0.4	1.7	1.6	1.5
Average		70.3	60.9	52.6	31.2	27.5	24.9	84.5	101.0	131.2	1.0	0.8	0.7	3.2	2.9	2.7
Oracle Cornoration ORCL US	22 667 USD	48.3	46 5	44 5	326	31 7	30.8	196	28 1	31 1	13	12	12	1 9	19	19

Liquidity Analysis																
	Market Can	Market Cap Cash per Share			Current R	latio		Quick Ra	itio		Cash/Sh	ort-Term De	ebt	Payout F	Ratio %	
Company/Ticker	(Mil)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)	2014	2015(E)	2016(E)
Microsoft Corp MSFT USA	392,854 USD	1.02	3.15	4.59	2.50	2.44	2.55	2.45	2.35	2.45	4.33	20.90	12.61	41.1	32.4	35.0
International Business Machines Corp	156,871 USD	5.56	5.96	5.87	1.11	1.09	1.08	1.05	1.04	1.03	0.83	0.85	0.80	33.1	29.4	29.5
SAP SE SAP USA	84,141 USD	4.70	6.61	8.33	1.56	1.77	2.13	1.56	1.77	2.13	9.37	10.24	43.69	33.6	33.0	33.0
Hewlett-Packard Co HPQ USA	73,180 USD	7.98	10.13	11.31	1.15	1.22	1.25	1.00	1.08	1.11	4.34	3.84	4.23	23.6	18.3	18.0
Teradata Corp TDC USA	6,776 USD	4.43	7.22	10.09	2.00	2.45	2.87	1.92	2.38	2.80	_	_	_	_	_	_
Average		4.74	6.61	8.04	1.66	1.79	1.98	1.60	1.72	1.90	4.72	8.96	15.33	32.9	28.3	28.9
Oracle Corporation ORCL US	203,840 USD	3.86	3.86	4.16	3.35	3.37	3.42	3.33	3.36	3.41	_	_	_	20.2	21.0	21.0



Research Methodology for Valuing Companies

Components of Our Methodology

- ► Economic Moat[™] Rating
- ► Moat Trend™ Rating
- ► Moat Valuation
- ► Three-Stage Discounted
- 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

Company Valuation

Fair Value Estimate

Uncertainty Assessment

★★★★

★★★★

★★★★

★★★★

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.

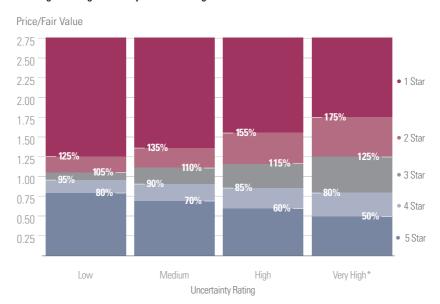
We also employ a number of other tools to augment our valuation process, including scenario analysis, where we assess the likelihood and performance of a business under different economic and firm-specific conditions. Our analysts typically model three to five scenarios for each company we cover, stress-testing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



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

Analyst derives estimate of Cash-Flow Cushion™.

flows to the firm.

Scenario Analysis

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

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



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

- Morningstar
 Solvency Score™
- Distance to Default



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 RiskBBB 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 DefaultD 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.

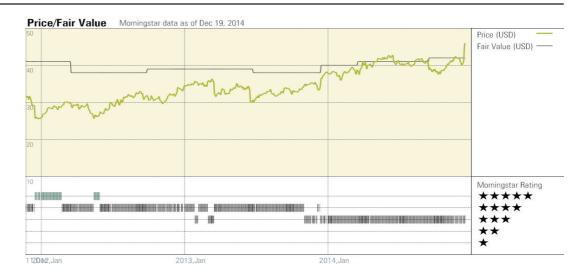
We review credit ratings on a regular basis and as events warrant. Any change in rating must be approved by the Credit Rating Committee.

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.



Last Price	Fair Value	Consider Buy	Consider Sell	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Morningstar Credit Rating	Industry Group
46.00 USD	42.00 USD	29.40 USD	56.70 USD	Medium	Wide	Stable	Standard	AA	Application Software



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Five-star stocks sell for the biggest risk-adjusted discount whereas one-star stocks trade at premiums to their intrinsic value. Based on a fundamentally focused methodology and a robust, standardized set of procedures and core valuation tools used by Morningstar's Equity Analysts, four key components drive the Morningstar Rating: 1. Assessment of the firm's economic moat, 2. Estimate of the stock's fair value, 3. Uncertainty around that fair value estimate and 4. Current market price. Further information on Morningstar's methodology is available from http://global.morningstar.com/equitydisclosures.

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46.00 USD	42.00 USD	29.40 USD	56.70 USD	Medium	Wide	Stable	Standard	AA	Application Software

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