Research Highlights

A weekly summary of our best ideas and developments in the companies we cover.

Morningstar Equity Research
Feb. 11-15, 2019

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Microsoft Continues to Evolve Into a Cloud Leader

We believe Microsoft is a blue-chip technology stock that offers approximately 15% EPS growth in each of the next several years, powered by impressive 11%-12% top-line growth. We maintain our wide moat and stable moat trend ratings for Microsoft, and although we are lowering our fair value estimate to $125 per share from $130, we still view the shares as modestly undervalued. Our fair value estimate implies a price/earnings of 25 times on fiscal 2020 EPS.

Since taking over as CEO in 2014, Satya Nadella has reinvented Microsoft into a cloud leader. Most obviously, Microsoft has become one of two public cloud providers that can deliver a wide variety of platform-as-a-service and infrastructure-as-a-service solutions at scale. Additionally, Microsoft has accelerated the transition from a traditional perpetual license model to a subscription model. Lastly, Microsoft exited the low-growth, low-margin mobile handset business and is increasingly cloud-driven even in gaming. These factors have combined to drive a more focused company that offers impressive double-digit revenue growth with high and expanding margins.

We believe that Azure is the centerpiece of the new Microsoft. Even though we estimate it is already an approximately $7 billion business, it grew at a staggering 92% rate in fiscal 2018. Azure has several distinct advantages, including that it offers customers a painless way to experiment and move select workloads to the cloud. Since existing customers remain in the same Microsoft environment, applications and data are easily moved from on-premises to the cloud. Microsoft can also leverage its massive installed base of all Microsoft solutions as a touch point for an Azure move. In addition, Azure is an excellent launching point for secular trends in artificial intelligence, business intelligence, and Internet of Things as it continues to launch new services centered on these broad themes.

Microsoft is shifting its traditional on-premises products to become cloud-based software-as-a-service solutions. Critical applications here include LinkedIn, Office 365, and Dynamics 365. Like any transition, the initial move is painful as both revenue and margins drop. However, Microsoft is now on the back end of that, so revenue has accelerated and is more predictable, and margins are increasing.

Office 365 retains its virtual monopoly position in office productivity software, which we do not expect to change in the foreseeable future. We believe that adding LinkedIn Recruiter to the Dynamics suite has increased the value of Microsoft's evolving enterprise resource planning offerings. Overall, we believe that customers will continue to drive the transition from on-premises to cloud solutions and revenue growth will remain robust, with margins continuing to improve for the next several years.

Bulls Say

- Public cloud is widely considered to be the future of enterprise computing, and Azure is a leading service that benefits the evolution to hybrid environments first, then ultimately to the public cloud.
- Shift to subscriptions accelerates growth after the initial growth pressure, and the company has passed the margin inflection point now such that margins are increasing again and have returned to pre-Nokia and pre-cloud levels.
- Microsoft has monopoly-like positions in various areas (OS, Office) that serve as cash cows to help drive Azure growth.

Bears Say

- Momentum is slowing in the ongoing shift to subscriptions, particularly in Office, which is generally considered a mature product.
- Microsoft lacks a meaningful mobile presence.
- Microsoft is not the top player in its key sources of growth, notably Azure and Dynamics.

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New Coverage of E-Commerce Fashion, Cosmetics Retailer ASOS

We are initiating coverage of ASOS, one of the leading European e-commerce players in fashion and cosmetics focusing on the 20-something demographic, with a no-moat, positive trend rating, and fair value estimate of GBX 3,480 per share. The shares appear moderately undervalued, trading about 15% below our fair value estimate.

We believe ASOS is well-positioned to benefit from the continuous shift from brick-and-mortar to online shopping for fashion items as well as to expand its market share, especially in its newer markets like continental Europe and the United States. We expect increasing online penetration to be driven by demographic changes, improved online fulfillment and delivery infrastructure (better sizing, faster and free delivery and returns), and higher convenience and better product choice, especially given the downsizing of brick-and-mortar retail. ASOS' share gains in its new markets should be supported by improved local infrastructure and attractive own-label and partner-brand offerings exclusive to ASOS and targeting niche 20-something consumers.

Although with its active customer base of over 35% of its target 15- to 35-year-old population in its home U.K. market and around 1,000 brands represented on the platform, ASOS does benefit from some traces of network effect, cost, and intangible asset advantages, we don’t think they're strong enough to grant the company a moat just yet. Nonetheless, we believe that the network effect and intangible asset advantage should strengthen as more data is accumulated and better analytics result in improved conversion rates and reduced return rates. Our valuation implies 15% average top-line growth for ASOS over the next 10 years. We expect operating margins to reach over 6% by 2028 versus 2% in 2019 and 4% over the last three years as warehousing capacity ramps up, automation bears fruit, and fixed operating costs scale better.

Bulls Say

- ASOS has significant room to expand outside its home market to the rest of Europe and the U.S., where it has low-single-digit share in the online market.
- Investing in the automation of warehousing facilities should help lower warehousing costs, speed up deliveries, and give ASOS an advantage against later-entering competition.
- Personalized products and fit suggestions based on prior orders could increase the stickiness of customer relationships with the platform.

Bears Say

- ASOS operates in the midmarket segment, the slowest-growing segment of apparel. This can hurt the company’s growth as customers trade up and down.
- Attractive prices and fast, free delivery and returns are the most commonly cited reasons for shopping online, which pushes industry players into continuous price and operational investments.
- Amazon may become a significant competitor for ASOS in Europe, given its significant customer base, access to a vast quantity of data, and commitment to establishing itself in the fashion category.

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G4S More Secure Than It's Ever Been

Despite a sizable fall in G4S' share price over the last year, we retained our positive long-term outlook for the company. In December 2017 we published our first deep dive into the security sector, highlighting G4S as the most attractive opportunity in our coverage. Here we look at the reasons behind the current investor apathy for the stock, pinpoint where the company is in its restructuring process, and look at the progress of its activities in moving up the value chain. Finally, with the company having recently announced its intention to separate its cash services business from the group, we investigate the implications of the separation in terms of valuation and its potential as a catalyst for a rerating of the stock.

Ultimately, we conclude that the progress made by management since 2013 in restructuring the company has been material. Despite a disappointing performance over the last 15 months or so, the business has shown that structurally it has moved up a gear. Margins have displayed tangible improvement, reaching record levels of 6.3% in full-year 2017 and should show a natural pick-up as onerous contracts, entered into by the previous management, continue to roll off. Internally, it is moving up the value chain in the services it provides while also benefiting from external tailwinds such as the proliferation of multinational clients and the consolidation of the security sector. With most of the heavy lifting now completed and the stock still trading toward the bottom of its historical range due to short-term performance issues, we view the current risk/reward equation to be weighed heavily in favour of investors and see more than 60% upside to our GBX 337 fair value estimate.

- Tangible progress in restructuring the business has been masked by short-term issues that have plagued the company over the last year or so.
- On a risk/reward basis the stock is now well positioned with its valuation close to 10-year lows on a P/E basis.
- Investors are essentially now being paid to wait, with the stock offering a dividend yield of close to 5%, covered with free cash flow.
- The recent announcement of a separation of the cash and guarding businesses could be the catalyst required to get investors to take a fresh look at the stock and see the value there.

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Best Ideas

Company and Industry	Morningstar Rating	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price / Fair Value	Market Cap (B)	Analyst
Basic Materials								
Cameco (CCJ)	★★★★	$19	$12.17	High	Narrow	0.64	4.82	Inton
Compass Minerals International (CMP)	★★★★	$81	$52.94	High	Wide	0.65	1.79	Goldstein
James Hardie Industries (JHX)	★★★★	AUD 21.2	AUD 17.5	Medium	Narrow	0.83	7.74	Slade
Martin Marietta Materials (MLM)	★★★★	$240	$187.49	High	Narrow	0.78	11.72	Inton
Communication Services								
BT Group (BT.A)	★★★★	GBX 360	GBX 229.05	High	Narrow	0.64	22.73	C. Nichols
China Mobile (941)	★★★★	HKD 97	HKD 83.3	Medium	Narrow	0.86	1705.61	Baker
Telefonica (TEF)	★★★★★	$13	$7.5	High	Narrow	0.58	38.94	C. Nichols
Telstra (TLS)	★★★★	AUD 4.4	AUD 3.18	Medium	Narrow	0.72	37.82	Han
Vodafone Group (VOD)	★★★★★	$250	$139.64	High	Narrow	0.56	37.31	C. Nichols
Consumer Cyclical								
Alibaba Group Holding (BABA)	★★★★	$240	$168.38	High	Wide	0.70	433.06	Hottovy
Anta Sports Products (2020)	★★★★	HKD 55	HKD 41.95	Medium	Narrow	0.76	112.63	Su
Bayerische Motoren Werke (BMW)	★★★★	EUR 117	EUR 69.35	High	Narrow	0.59	45.13	Hilgert
Cie Financiere Richemont (CFR)	★★★★	CHF 90	CHF 72.26	High	Wide	0.80	40.80	Sokolova
Crown Resorts (CWN)	★★★★	AUD 15	AUD 12.12	High	Narrow	0.81	8.33	Ragonese
Dufry (DUFN)	★★★★	CHF 144	CHF 99.72	High	Narrow	0.69	5.03	Sokolova
Expedia Group (EXPE)	★★★★	$183	$126.76	High	Narrow	0.69	18.66	Wasiolek
General Motors (GM)	★★★★	$47	$38.89	High	None	0.83	54.81	Whiston
Hanesbrands (HBI)	★★★★★	$27	$18.71	Medium	Narrow	0.69	6.76	Swartz
InvoCare (IVC)	★★★★	AUD 16	AUD 12.95	Medium	Wide	0.81	1.42	Ragonese
Mattel (MAT)	★★★★	$21	$16.91	High	Narrow	0.81	5.84	Katz
Norwegian Cruise Line Holdings (NCLH)	★★★★	$69	$52.19	High	Narrow	0.76	11.48	Katz
Walt Disney (DIS)	★★★★	$130	$110.66	Medium	Wide	0.85	164.97	Macker
WPP (WPP)	★★★★★	GBX 1450	GBX 839.2	Medium	Narrow	0.58	10.59	Mogharabi
Consumer Defensive								
Anheuser-Busch InBev (BUD)	★★★★★	$118	$75.9	Low	Wide	0.64	147.41	Gorham
General Mills (GIS)	★★★★★	$57	$44.53	Low	Wide	0.78	26.57	Vora
Imperial Brands (IMB)	★★★★★	GBX 3700	GBX 2633.5	Low	Wide	0.71	25.20	Gorham
Mondelez International (MDLZ)	★★★★	$52	$47.32	Medium	Wide	0.91	68.34	Lash
Energy								
Cenovus Energy (CVE)	★★★★	$19	$11.11	Very High	None	0.58	13.65	Gemino
Diamondback Energy (FANG)	★★★	$115	$103.83	High	Narrow	0.90	17.04	Meats
Enbridge (ENB)	★★★★	$62	$47.35	Medium	Wide	0.76	95.73	Gemino
Enterprise Products Partners (EPD)	★★★★★	$35.5	$28.2	Low	Wide	0.79	61.55	Ellis
Royal Dutch Shell (RDS.B)	★★★★	$83	$63.87	Medium	Narrow	0.77	257.04	Good
Schlumberger (SLB)	★★★★	$62	$44.14	High	Narrow	0.71	61.04	Caldwell
Total (TOT)	★★★★★	$77	$55.37	Medium	None	0.72	143.95	Good
Woodside Petroleum (WPL)	★★★★	AUD 46.5	AUD 36.06	High	None	0.78	33.76	Taylor
Financial Services								
Agricultural Bank of China (601288)	★★★	CNY 4.2	CNY 3.65	High	Narrow	0.87	1261.61	Tan
Altaba (AABA)	★★★★	$98	$68.62	High	None	0.70	41.35	Mogharabi
American International Group (AIG)	★★★★★	$76	$40.19	Medium	None	0.53	34.83	Horn
BlackRock (BLK)	★★★★	$475	$423.38	Medium	Wide	0.89	67.18	Warren
Capital One Financial (COF)	★★★★★	$119	$79.61	Medium	Narrow	0.67	37.23	Plunkett
Credit Suisse Group (CSGN)	★★★★★	CHF 22	CHF 11.75	High	Narrow	0.53	29.99	Scholtz

Source: Morningstar. As of Feb. 15, 2019

Best Ideas

Company and Industry	Morningstar Rating	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price / Fair Value	Market Cap (B)	Analyst
Financial Services, Continued								
Link Administration Holdings (LNK)	★★★★	AUD 8.9	AUD 6.93	Medium	Narrow	0.78	3.69	James
Macquarie Group (MQG)	★★★	AUD 135	AUD 124.22	Medium	Narrow	0.92	42.67	Ellis
NN Group (NN)	★★★★	EUR 48	EUR 37.25	Medium	None	0.78	12.46	Heathfield
Oversea-Chinese Banking Corp (O39)	★★★★	SGD 13.6	SGD 11.52	High	Narrow	0.85	48.95	Wu
Pendal Group (PDL)	★★★★	AUD 10.3	AUD 8.23	Medium	Narrow	0.80	2.62	Likos
Sumitomo Mitsui Financial Group (8316)	★★★★★	JPY 5775	JPY 3937	Medium	None	0.68	5494.47	Makdad
T. Rowe Price Group (TROW)	★★★★	$106	$97.34	Medium	Wide	0.92	23.00	Warren
Wells Fargo (WFC)	★★★★	$65	$48.52	Medium	Wide	0.75	222.28	Compton
Westpac Banking (WBC)	★★★★	AUD 33	AUD 26.24	Medium	Wide	0.80	89.97	Ellis
Healthcare								
Allergan (AGN)	★★★★★	$240	$138.67	Medium	Wide	0.58	46.77	Waterhouse
DaVita (DVA)	★★★★★	$81	$58.09	Medium	Narrow	0.72	9.67	Strole
Medtronic (MDT)	★★★★	$110	$91.23	Medium	Wide	0.83	122.53	Wang
Roche Holding (ROG)	★★★★★	CHF 333	CHF 272.55	Low	Wide	0.82	232.18	Andersen
Industrials								
Anixter International (AXE)	★★★★★	$107	$60.83	Medium	Narrow	0.57	2.04	Bernard
Beijing Enterprises Holdings (392)	★★★★	HKD 58	HKD 45	Medium	Narrow	0.78	56.79	Song
CK Hutchison Holdings (1)	★★★★★	HKD 118	HKD 79.7	Medium	None	0.68	307.34	Tan
G4S (GFS)	★★★★★	GBX 337	GBX 204.5	Medium	None	0.61	3.17	Field
GEA Group (G1A)	★★★★★	EUR 38	EUR 20.23	Medium	Wide	NA	3.65	Molina
General Dynamics (GD)	★★★★	$209	$172.1	Medium	Wide	0.82	49.61	Higgins
Grupo Aeroportuario del Pacifico (GAP B)	★★★★	MXN 210	MXN 170.05	High	Wide	0.81	95.40	Higgins
Guangshen Railway (525)	★★★★★	HKD 6.3	HKD 3.33	High	None	0.53	28.72	Song
Johnson Controls International (JCI)	★★★★	$46	$34.65	High	Narrow	0.75	31.52	Bernard
Kion Group (KGX)	★★★★★	EUR 90	EUR 53.2	Medium	Narrow	0.59	6.27	Molina
Sodexo (SW)	★★★★	EUR 110	EUR 94.06	Medium	Narrow	0.86	13.70	Field
Stericycle (SRCL)	★★★★★	$83	$45.03	High	Narrow	0.54	4.08	Young
Real Estate								
Aveo Group (AOG)	★★★	AUD 2.1	AUD 1.96	Medium	None	0.93	1.14	Sherlock
CK Asset Holdings (1113)	★★★★	HKD 81	HKD 64.25	Medium	Narrow	0.79	237.30	Zhong
Macerich (MAC)	★★★★	$59	$43.52	High	Narrow	0.74	6.15	Brown
Sun Hung Kai Properties (16)	★★★★	HKD 153	HKD 132.4	Medium	Narrow	0.87	383.56	Zhong
Technology								
Applied Materials (AMAT)	★★★★	$49	$40.71	High	Wide	0.83	38.83	Davuluri
Carsales.com (CAR)	★★★★	AUD 14.5	AUD 12.02	Medium	Narrow	0.83	2.93	James
Intel (INTC)	★★★★	$65	$50.81	Medium	Wide	0.78	228.49	Davuluri
KLA-Tencor (KLAC)	★★★★	$128	$107.14	High	Wide	0.84	16.22	Davuluri
Lam Research (LRCX)	★★★	$185	$181.33	High	Narrow	0.98	27.67	Davuluri
Microchip Technology (MCHP)	★★★★	$112	$90.6	Medium	Wide	0.81	21.47	Colello
Murata Manufacturing (6981)	★★★★	JPY 23000	JPY 17265	High	Narrow	0.75	3681.88	Ito
Skyworks Solutions (SWKS)	★★★★	$105	$83.64	High	Narrow	0.80	14.56	Colello
Tencent Holdings (700)	★★★★	HKD 499	HKD 333.8	High	Wide	0.67	3177.85	Tam
Utilities								
Dominion Energy (D)	★★★★	$84	$72.9	Low	Wide	0.87	58.91	Fishman
Enel (ENEL)	★★★	EUR 5.7	EUR 5.21	Medium	None	0.91	52.99	Fulop
ENN Energy Holdings (2688)	★★★★	HKD 88	HKD 76	Medium	Narrow	0.86	85.42	Lee
Entergy (ETR)	★★★★	$96	$89.69	Low	Narrow	0.93	16.86	Fishman

Source: Morningstar. As of Feb. 15, 2019

Highlighted Stocks

DaVita DVA

Morningstar Rating	Sector	Moat Trend	Currency	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price/Fair Value	Market Cap (Bil)
★★★★★	Healthcare	Stable	USD	81	59.29	Medium	Narrow	0.73	9.67

Source: Morningstar. As of Feb. 15, 2019

Given this striking valuation disconnect DaVita remains a top pick in our healthcare coverage, boasting a 5-star rating and over 45% upside to fair value.

Analyst Note, Feb. 14, 2019
Narrow-moat DaVita reported mixed overall results for its fiscal fourth quarter and full year, although on balance net performance was more or less in line with our expectations. The firm's U.S. dialysis business again met our revenue forecast while falling slightly short of our outlook for profitability. As we account for adjustments in our model, we'll likely make only modest changes, if any, to our $81 per share fair value estimate, which implies 18 times and 8.5 times our lowered adjusted earnings and EBITDA forecasts for 2019—the current market price suggests multiples nearer 12.5 and 6.8, respectively. Given this striking valuation disconnect DaVita remains a top pick in our healthcare coverage, boasting a 5-star rating and over 45% upside to fair value.

Management provided guidance that calls for operating income between $1.54 billion and $1.64 billion, implying mid-single-digit growth at the midpoint. We anticipated a better number given many of the one-offs that occurred in 2018 and expect this range to prove conservative—our estimates remain at the high end. That said, organic treatment growth reported in the fourth quarter was uncharacteristically weak and undeniably concerning. After three quarters of growth averaging 3.4%, the fourth quarter came in at 2.6%, which marks the lowest quarterly organic rate over the last decade. While management maintained its 2.5%-3.5% expectation for 2019, we'd be disappointed in a full-year number below 3% as our projections call for a compound annual rate of 3.5% through 2023. Continued below-trend treatment growth and the potential for higher patient advocacy costs are likely the two main risks to our projections for the year ahead.

As an offset, lower capital spending needs should buoy free cash flow over time. The combination of increasing home therapy penetration and potentially lower volume growth requires fewer clinic openings and improves the firm's capital efficiency.

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Martin Marietta Materials MLM

Morningstar Rating	Sector	Moat Trend	Currency	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price/Fair Value	Market Cap (Bil)
★★★★	Basic Materials	Stable	USD	240	190.43	High	Narrow	0.79	11.72

Source: Morningstar. As of Feb. 15, 2019

Shares continue to look undervalued, as we believe the market continues to fear slower growth ahead. However, this overlooks an improving outlook for infrastructure activity.

Analyst Note, Feb. 12, 2019
Weather and constraints elsewhere in the construction market muted what would have been a stellar 2018 for Martin Marietta, constraining construction activity and material deliveries during the fourth quarter. This led to organic aggregates shipments to be roughly flat for the year, although strong underlying demand supported a 3% year-over-year average price increase and backlog growth.

Wet weather compounded the headwind from extended maintenance, leading to an underwhelming 1% increase in cement shipments. Nevertheless, pricing still increased by 3%, and the company has already announced a robust price increase slated for April 1 in one of its key markets. We continue to believe the U.S. cement market will be undersupplied over the next few years, supporting further price increases.

We've reduced our forecast for management's 2019 guidance but expect nearly 15% EBITDA growth assuming minimal adverse weather and including full-year contributions from the Bluegrass acquisition. The change offsets the time value of money impact on our model, leading us to maintain Martin Marietta's $240 per share fair value estimate and narrow moat rating. Shares continue to look undervalued, as we believe the market continues to fear slower growth ahead. However, this overlooks an improving outlook for infrastructure activity.

During the call, CEO Ward Nye discussed the company's optimism for better infrastructure funding. First, he pointed to infrastructure's abnormally low end-market share of 39% in 2018. In comparison, aggregates accounted for 46% of aggregates shipments in the last 10 years. Put another way, the infrastructure market's consumption of aggregates remains well below historical levels, despite growth in the economy and deteriorating conditions.

Second, like we concluded in a December report, Nye highlighted the FAST Act and improved state mechanisms as securing near-term and improving longer-term road funding. The company's guidance supports this view, as it expects aggregates shipment growth for infrastructure in the high single digits compared with nonresidential growth of mid- to high single digits and residential growth of midsingle digits.

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Schneider Electric SU:FR

Morningstar Rating	Industry	Moat Trend	Currency	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price/Fair Value	Market Cap (Bil)
★★★★	Industrials	Stable	EUR	80	68.16	Medium	Wide	0.85	36.34

Source: Morningstar. As of Feb. 15, 2019

Key for investors is the sustainability of the company's earnings growth relative to the lacklustre performance of the last decade or so. The past couple of years have improved, including 2018, with 10% EBITA growth exceeding the 9% top end of the guidance range.

Analyst Note, Feb. 14, 2019
Wide-moat Schneider Electric's fourth-quarter results were in line with expectations on revenue growth and slightly better on EBIT and EBIT margin. We are maintaining our EUR 80 fair value estimate and think the shares are trading at an attractive price. Key for investors is the sustainability of the company's earnings growth relative to the lacklustre performance of the last decade or so. The past couple of years have improved, including 2018, with 10% EBITA growth exceeding the 9% top end of the guidance range. Built into the 2018 performance was 7% organic revenue growth that was mainly volume driven.

Price will help drive revenue growth in 2019, more so than in 2018, when price increases designed to offset raw material cost inflation were only introduced halfway through the year. Schneider's order demand looked broadly solid across end markets and geographies exiting 2018. Guidance for 2019 of 4%-7% organic EBITA growth implies more moderate growth relative to 2018, which we do not see as a cause for concern, given the unusually high growth posted in some of the company's product lines in 2018. Low voltage, the company's largest segment, posted unusually high organic growth of 8% for the year, so we would expect some moderation in that segment's growth in 2019.

Some of 2018 growth improvement is a function of healthier end markets relative to the recent past. However, an element of more sustainable demand is also at play with the market for energy efficiency in buildings and productivity improvements in plants still underpenetrated, largely due to the nascency of the products tackling inefficiencies through data crunching and algorithms. Schneider has been showing some progress in cross-selling/bundling product lines to take advantage of this demand. In 2018, cross-selling was most successful in energy, water, and commodity-related customers, boosting growth in the low-voltage segment.

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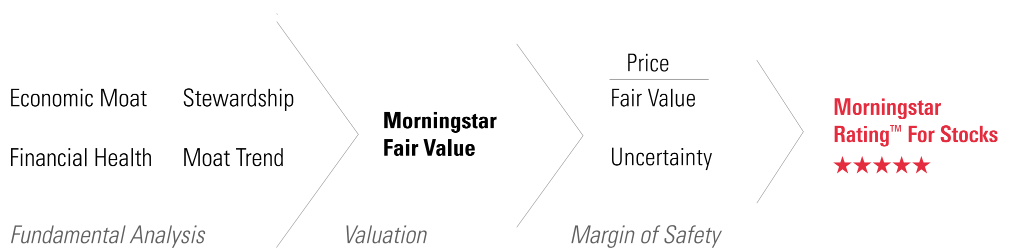
Research Methodology for Valuing Companies

Overview

At the heart of our valuation system is a detailed projection of a company's future cash flows, resulting from our analysts' research. Analysts create custom industry and company assumptions to feed income statement, balance sheet, and capital investment assumptions into our globally standardized, proprietary discounted cash flow, or DCF, modeling templates. We use scenario analysis, in-depth competitive advantage analysis, and a variety of other analytical tools to augment this process. Moreover, we think analyzing valuation through discounted cash flows presents a better lens for viewing cyclical companies, high-growth firms, businesses with finite lives (e.g., mines), or companies expected to generate negative earnings over the next few years. That said, we don't dismiss multiples altogether but rather use them as supporting cross-checks for our DCF-based fair value estimates. We also acknowledge that DCF models offer their own challenges (including a potential proliferation of estimated inputs and the possibility that the method may miss short-term market price movements), but we believe these negatives are mitigated by deep analysis and our long-term approach.

Morningstar's equity research group ("we," "our") believes 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. Five-star stocks sell for the biggest risk-adjusted discount to their fair values, whereas 1-star stocks trade at premiums to their intrinsic worth.

Morningstar Research Methodology



Source: Morningstar.

Four key components drive the Morningstar rating: (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, and (4) the current market price. This process ultimately culminates in our single-point star rating.

Economic Moat

The concept of an economic moat plays a vital role not only in our qualitative assessment of a firm's long-term investment potential, but also in the actual calculation of our fair value estimates. An economic moat is a structural feature that allows a firm to sustain excess profits over a long period of time. We define economic profits as returns on invested capital (ROIC) over and above our estimate of a firm's cost of capital, or weighted average cost of capital (WACC). Without a moat, profits are more susceptible to competition. We have identified five sources of economic moats: intangible assets, switching costs, network effect, cost advantage, and efficient scale.

Companies with a narrow moat are those we believe are more likely than not to achieve normalized excess returns for at least the next 10 years. Wide-moat companies are those in which we have very high confidence that excess returns will remain for 10 years, with excess returns more likely than not to remain for at least 20 years. The longer a firm generates economic profits, the higher its intrinsic value. We believe low-quality, no-moat companies will see their normalized returns gravitate toward their cost of capital more quickly than companies with moats.

To assess the sustainability of excess profits, analysts perform ongoing assessments of the moat trend. A firm's moat trend is positive in cases where we think its sources of competitive advantage are growing stronger, stable where we don't anticipate changes to competitive advantages over the next several years, or negative where we see signs of deterioration.

Estimated Fair Value

Combining our analysts' financial forecasts with the firm's economic moat helps us assess how long returns on invested capital are likely to exceed the firm's cost of capital. Returns of firms with a wide economic moat rating are assumed to fade to the perpetuity period over a longer period of time than the returns of narrow-moat firms, and both will fade slower than no-moat firms, increasing our estimate of their intrinsic value.

Our model is divided into three distinct stages:

Stage I: Explicit Forecast

In this stage, which can last 5 to 10 years, analysts make full financial statement forecasts, including items such as revenue, profit margins, tax rates, changes in working capital accounts, and capital spending. Based on these projections, we calculate earnings before interest, after taxes (EBI) and net new investment (NNI) to derive our annual free cash flow forecast.

Stage II: Fade

The second stage of our model is the period it will take the company's return on new invested capital—the return on capital of the next dollar invested (RONIC)—to decline (or rise) to its cost of capital. During the Stage II period, we use a formula to approximate cash flows in lieu of explicitly modeling the income statement, balance sheet, and cash flow statement as we do in Stage I. The length of the second stage depends on the strength of the company's economic moat. We forecast this period to last anywhere from one year (for companies with no economic moat) to 10–15 years or more (for wide-moat companies). During this period, cash flows are forecast using four assumptions: an average growth rate for EBI over the period, a normalized investment rate, average return on new invested capital (RONIC), and the number of years until perpetuity, when excess returns cease. The investment rate and return on new invested capital decline until a perpetuity value is calculated. In the case of firms that do not earn their cost of capital, we assume marginal ROICs rise to the firm's cost of capital (usually attributable to less reinvestment), and we may truncate the second stage.

Stage III: Perpetuity

Once a company's marginal ROIC hits its cost of capital, we calculate a continuing value, using a standard perpetuity formula. At perpetuity, we assume that any growth or decline or investment in the business neither creates nor destroys value and that any new investment provides a return in line with estimated WACC.

Because a dollar earned today is worth more than a dollar earned tomorrow, we discount our projections of cash flows in stages I, II, and III to arrive at a total present value of expected future cash flows. Because we are modeling free cash flow to the firm—representing cash available to provide a return to all capital providers—we discount future cash flows using the WACC, which is a weighted average of the costs of equity, debt, and preferred stock (and any other funding sources), using expected future proportionate long-term, market value weights.

Uncertainty Around That Fair Value Estimate

Morningstar's uncertainty rating captures a range of likely potential intrinsic values for a company and uses it to assign the margin of safety required before investing, which in turn explicitly drives our stock star rating system. The uncertainty rating represents the analysts' ability to bound the estimated value of the shares in a company around the fair value estimate, based on the characteristics of the business underlying the stock, including operating and financial leverage, sales sensitivity to the overall economy, product concentration, pricing power, and other company-specific factors.

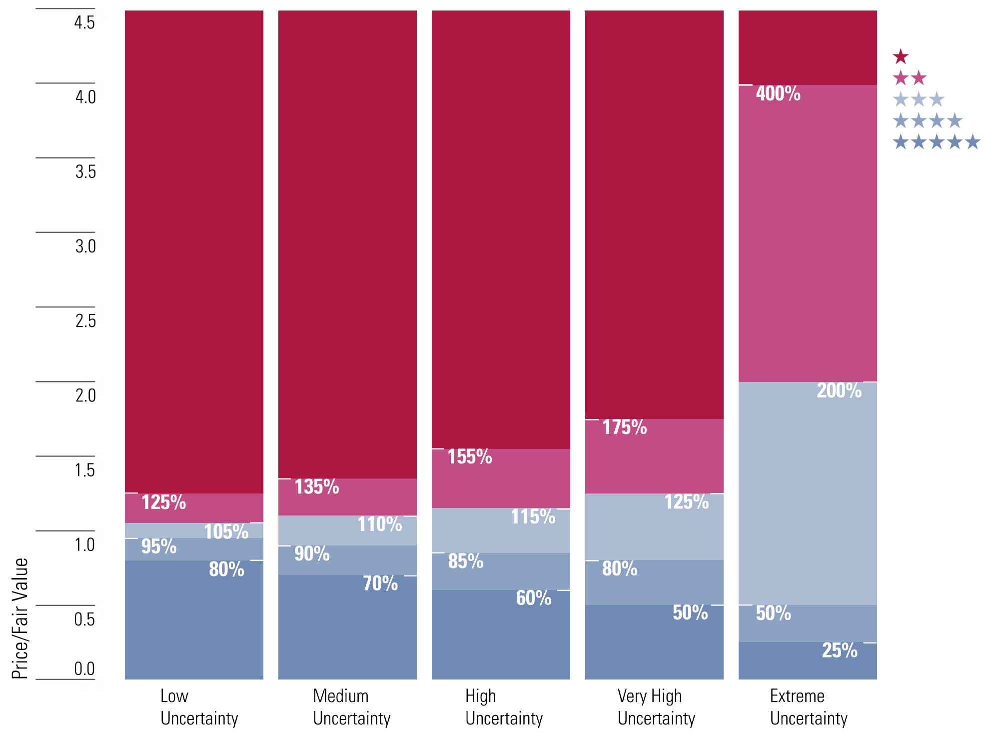
Analysts consider at least two scenarios in addition to their base case: a bull case and a bear case. Assumptions are chosen such that the analyst believes there is a 25% probability that the company will perform better than the bull case and a 25% probability that the company will perform worse than the bear case. The distance between the bull and bear cases is an important indicator of the uncertainty underlying the fair value estimate.

Our recommended margin of safety widens as our uncertainty regarding the estimated value of the equity increases. The more uncertain we are about the estimated value of the equity, the greater the discount we require relative to our estimate of the value of the firm before we would recommend the purchase of the shares. In addition, the uncertainty rating provides guidance in portfolio construction based on risk tolerance.

Our uncertainty ratings for our qualitative analysis are low, medium, high, very high, and extreme.

- Low: Margin of safety for 5-star rating is a 20% discount and for 1-star rating is a 25% premium.
- Medium: Margin of safety for 5-star rating is a 30% discount and for 1-star rating is a 35% premium.
- High: Margin of safety for 5-star rating is a 40% discount and for 1-star rating is a 55% premium.
- Very high: Margin of safety for 5-star rating is a 50% discount and for 1-star rating is a 75% premium.
- Extreme: Margin of safety for 5-star rating is a 75% discount and for 1-star rating is a 300% premium.

Morningstar Equity Research Star Rating Methodology



Market Price

The market prices used in this analysis and noted in the report come from the exchange on which the stock is listed, which we believe is a reliable source.

For more details about our methodology, please go to http://global.morningstar.com/equitydisclosures.

Morningstar Star Rating for Stocks

Once we determine the fair value estimate of a stock, we compare it with the stock's current market price on a daily basis, and the star rating is automatically recalculated at the market close on
every day the market on which the stock is listed is open. Our analysts keep close tabs on the companies they follow and, based on thorough and ongoing analysis, raise or lower their fair value estimates
as warranted.

Please note, there is no predefined distribution 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, in our opinion, than when very few companies garner our highest rating.

We expect that if our base-case assumptions are true, the market price will converge on our fair value estimate over time, generally within three years (although it is impossible to predict the exact time frame in which market prices may adjust).

Our star ratings are guideposts to a broad audience, and individuals must consider their own specific investment goals, risk tolerance, tax situation, time horizon, income needs, and complete investment portfolio, among other factors.

The Morningstar Star Ratings for stocks are defined below:

★★★★★ We believe appreciation beyond a fair risk-adjusted return is highly likely over a multiyear time frame. Scenario analysis developed by our analysts indicates that the current market price represents an excessively pessimistic outlook, limiting downside risk and maximizing upside potential.

★★★★ We believe appreciation beyond a fair risk-adjusted return is likely.

★★★ Indicates our belief that investors are likely to receive a fair risk-adjusted return (approximately cost of equity).

★★ We believe investors are likely to receive a less than fair risk-adjusted return.

★ Indicates a high probability of undesirable risk-adjusted returns from the current market price over a multiyear time frame, based on our analysis. Scenario analysis by our analysts indicates that the market is pricing in an excessively optimistic outlook, limiting upside potential and leaving the investor exposed to capital loss.

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