Research Highlights

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

Morningstar Equity Research
Sept. 24-28, 2018

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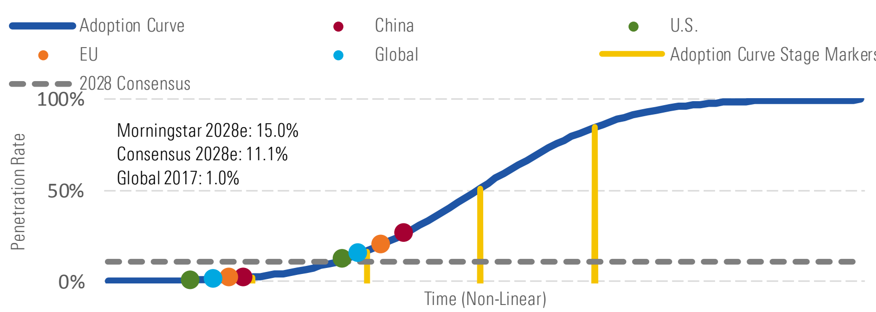
Electric Vehicle Sales in China and Europe Will Leave the U.S. in the Dust

Over the next decade, battery electric vehicles will reach cost parity with internal combustion engines. Additionally, battery innovations will increase driving range and shorten charging times so EVs will no longer be inferior to traditional engines. Charging infrastructure, which dictates range capabilities, will be the regional wild card that will either spur or limit EV adoption. In the medium term, emission-driven regulations will spur the investment to build better EVs and drive increased EV adoption. Over the long term, EV adoption will take off where regions combine abundant charging infrastructure with strong regulation. In China and the European Union, we forecast EV adoption to reach 25% and 20%, respectively, of annual new light-vehicle sales by 2028. In the U.S., where charging infrastructure will be less developed and regulations less stringent, EV adoption will lag, reaching only 12.5% by 2028. Using a regional buildup, we forecast EVs to make up 15% of global auto sales in 2028, which is above consensus of 11%. Our top picks to invest in growing EV adoption include Albemarle, BMW, BorgWarner, Edison International, General Motors, and SQM.

Exhibit 1 Our Long-Term EV Penetration Forecast Is Above Consensus
Forecasts for battery electric vehicle share of auto sales in the U.S., the EU, China, and globally in 2017 and 2028e.



Source: Morningstar, Various Forecasts, International Energy Agency, U.S. EPA, EU ACEA, People's Daily

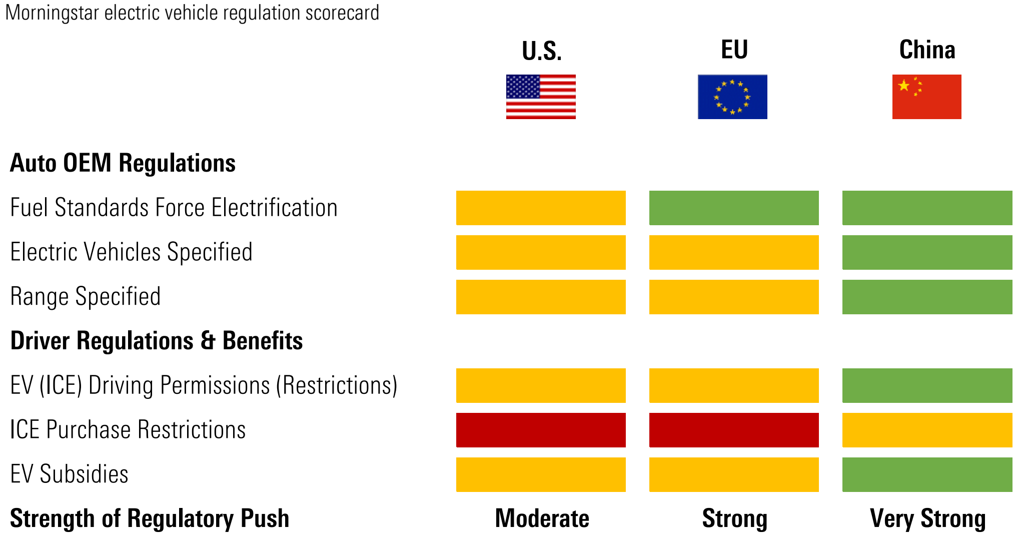
Medium Term: Evolving Regulations Strengthen Regulatory Push

- Regulation will be the driving force behind medium-term electric vehicle adoption. Over the past couple of years, regulations have evolved from being predominantly based on fuel efficiency standards to including electric vehicle mandates. Regions with electric vehicle-specific regulations and incentives will provide a stronger push to EV adoption.
- China will continue to make the strongest regulatory push to increase electric vehicle adoption. The regulations are already having the desired effect as China currently sells the majority of EVs globally.

Tightening fuel standards in the EU will push automakers to electrification over the next decade, while fragmented U.S. policies that vary between states and the federal government will have a mixed impact.

- The strongest regulatory push will come from governments that specifically address electric vehicles and give automakers a benefit for producing electric vehicles with better range. Further, regulations that either provide benefits for electric vehicle drivers or restrict ICE drivers will enhance the regulatory push on the consumer side.
- Implications for stocks: Auto suppliers who are positioned to help OEMs meet regulations across multiple powertrains are more likely to increase market share as regulations incentivize sales of EVs, hybrids, and ICE technologies. EV requirements create minimum annual increases in lithium demand.

Exhibit 2 China Has the Strongest EV Automaker and Driver Regulations Globally
Morningstar electric vehicle regulation scorecard



Source: Morningstar, U.S. EPA, EU Commission, The ICCT.
Note: Green indicates a regulation has been widely implemented throughout the country or region, yellow indicates partial implementation or a less strict standard, and red indicates that no regulations address the metric.

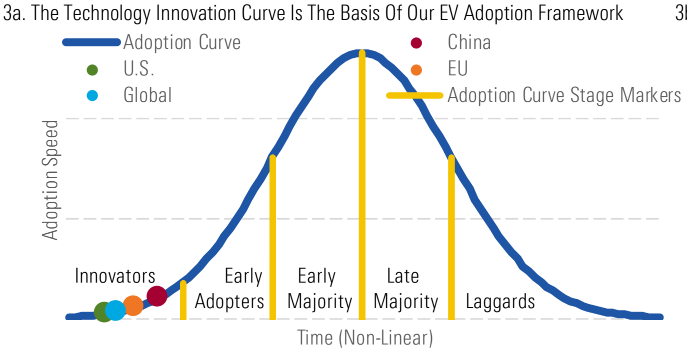
Long-Term: Electric Vehicles Will Reach a 15% Global Penetration Rate by 2028

- We view long-term electric vehicle adoption through the whole product model framework. The whole product model is a marketing framework that we employ along with the technology adoption curve. In the book *Crossing the Chasm*, Geoffrey Moore argues that there is a chasm within the technology adoption curve because the customers in the Early Market think about purchasing a new technology differently than customers in the Mainstream Market. To bridge the gap between these customer segments, the new technology must become a whole product that is functionally comparable to the old technology. For electric vehicles, this means the total cost of ownership, driving range, refueling (charging) time, and charging infrastructure must improve in order to appeal to the Mainstream Market.
- We forecast EV penetration will follow the trajectory of similar innovations that have reached cost parity with prior technologies. We continue to point to wind power generation, compact fluorescent lightbulbs, and the first automobiles as a representative group of comparable innovations that have reached cost parity. These innovations share similar characteristics with EVs: function held constant, higher purchase (fixed) cost and lower operating (variable) cost, government support, and other considerations.

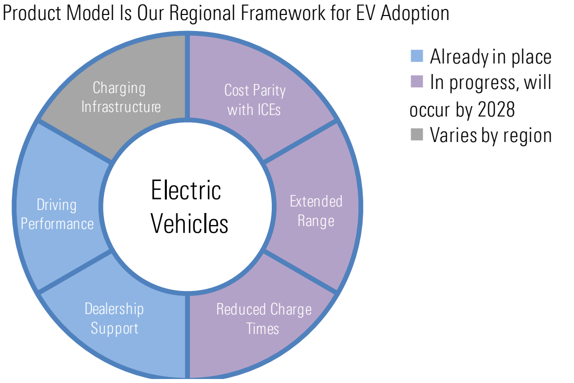
- We forecast EVs will account for 15% of all new passenger vehicle sales globally by 2028. However, EV penetration rates will vary widely by region. China and the EU will outpace global EV penetration rates at 25% and 20%, respectively, while the U.S. will lag the global rate at 12.5%.
- Hybrid electric vehicles, or HEVs, will account for 21% of all new passenger vehicle sales globally by 2028, making electrified vehicles 36% of total sales. Similar to EVs, HEV penetration rates will vary widely by region. The EU will outpace global HEV penetration rates at 25%, while the U.S. and China will lag the 21% global rate at 20% and 15%, respectively.

Exhibit 3 Long-Term: Electric Vehicles Will Reach a 15% Global Penetration Rate by 2028

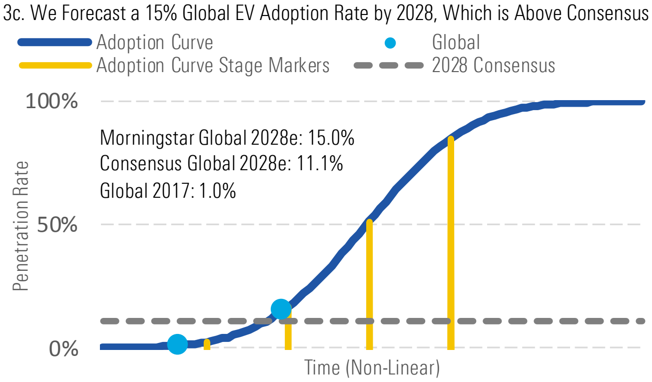
3a. The Technology Innovation Curve Is The Basis Of Our EV Adoption Framework



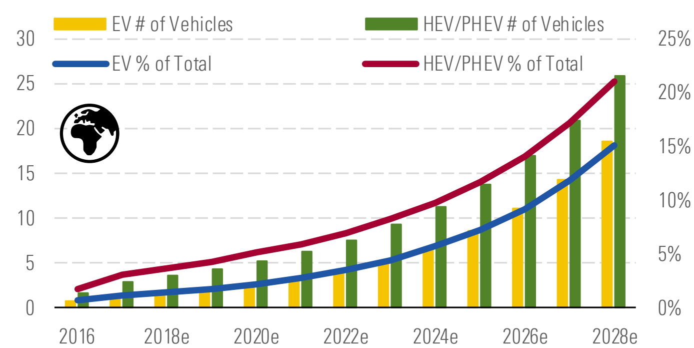
3b. The Whole Product Model Is Our Regional Framework for EV Adoption



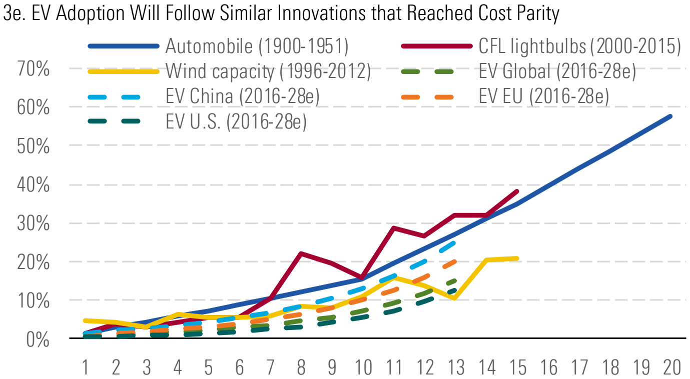
3c. We Forecast a 15% Global EV Adoption Rate by 2028, Which is Above Consensus



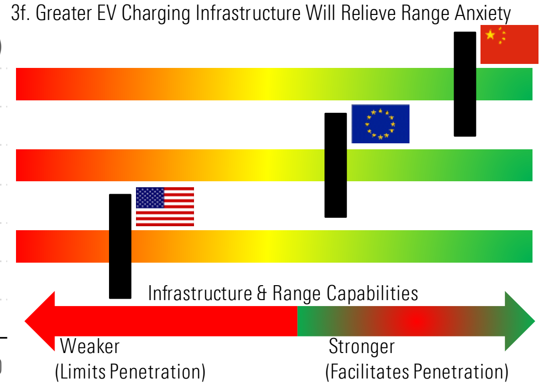
3d. EVs and Hybrids Will Hit 15% and 21% Global Penetration, Respectively, by 2028



3e. EV Adoption Will Follow Similar Innovations that Reached Cost Parity



3f. Greater EV Charging Infrastructure Will Relieve Range Anxiety



Source: Morningstar, U.S. Statistical Abstract, National Electrical Manufacturers Association, U.S. Department of Energy, Global Wind Energy Council, U.S. Energy Information Administration, International Energy Agency, China People's Daily, EU ACEA, U.S. EPA.

Batteries Will Benefit From Lower Costs and Improved Chemistry

- EVs will reach cost parity with ICEs over the next decade largely due to advancements in battery technology. EVs remain more expensive than ICEs primarily due to high battery costs, which account for roughly 27% of total costs. Hybrids will also become cheaper than ICEs due to declining battery costs.
- Battery costs will fall from new battery chemistries with cheaper raw materials costs that will also increase EV range. Costs will also fall from manufacturing efficiencies as Gigafactories are built throughout the world and will begin to manufacture nearly all EV batteries over the next decade.
- New battery chemistries will also improve battery performance. As nickel replaces cobalt, battery energy density will improve, which will increase range. As a result, we expect the standard EV range will grow to exceed 300 miles even before the widespread commercialization of solid-state batteries.
- Solid-state batteries will be the next breakthrough in lithium battery technology, allowing EV range to double with lower costs and fewer safety concerns. While not yet commercialized in EVs, the technology is moving forward and has recently appeared in smaller electronics. As solid-state batteries continue to develop, we anticipate that they will reach commercialization by the end of our 10-year forecast period.
- Implications for stocks: Lower battery costs will make EVs and hybrids more profitable for automakers and more affordable for consumers, which will drive further demand and benefit auto suppliers from greater economies of scale. Regardless of chemistry, all EV batteries will use lithium, which will benefit lithium producers. Solid-state batteries will use more lithium, which will further increase demand.

Charging Infrastructure Will Build Path to Increased EV Adoption

- For EV adoption to grow, public charging infrastructure needs to be in place throughout cities and along highways. The lack of public charging infrastructure is the leading cause of range anxiety that prevents consumers from purchasing EVs.
- We analyze a region's charging infrastructure by measuring the ratio of EV charge points per square kilometer as a proxy for infrastructure density. We view a ratio of at least one charge point per 10 square kilometers as the minimum required to reduce range anxiety and a ratio of at least two chargers per 10 square kilometers as the minimum required to relieve range anxiety throughout a region. Currently, the U.S., EU, and China all average less than three charge points per 100 square kilometers.
- Through a massive investment by its SOEs, China will build the world's largest EV charging network. The EU, through a combination of public grants and private networks, will have the second-largest charging network. Range anxiety will disappear in both China and the EU but U.S. charging infrastructure will be fragmented. Along both coasts, infrastructure will be comparable to the EU, however, it will be sporadic in the rest of the U.S. and range anxiety will continue to limit EV adoption.
- Stock implications: By building EV chargers, auto OEMs are helping to increase EV adoption, which will make EVs more profitable. U.S. utilities benefit from building EV charging infrastructure, especially when it is included in a utility's rate base.

Seth Goldstein, CFA | seth.goldstein@morningstar.com

It's Hard to Reconcile Ansys' Market Price With Our Base Case

We think Ansys is the world's premier engineering simulation software provider due to its broad product portfolio and storied simulation history. However, despite the firm's leadership position and rosy growth drivers, we think the firm is significantly overvalued. In our opinion, it's hard to justify the firm's current market price of $185 with the underlying growth story. We have conviction in our $120 fair value estimate, which implies a price/fair value ratio of 1.54 and places the stock in 1-star territory.

To arrive at a current market price of $185, we must assume either very aggressive revenue growth or a mixture of aggressive revenue growth and margin expansion, both of which we view as unrealistic in our scenario analysis contained in this report. Based on our scenario analysis, Ansys' stock price implies a far higher growth rate (in the late-teens to early-20s) than the expected 8%-10% growth rate of the overall simulation market and our current model's five-year revenue CAGR of 10.8%.

We think a key reason behind the significant price discrepancy is that Ansys is riding the hype and momentum wave of next-generation technology shifts. We think next-generation use cases surrounding additive manufacturing, digital twin, Internet of Things, and autonomous driving has investors abuzz about the potential for Ansys' future. However, we believe that the digital twin, Internet of Things platform, and autonomous driving hype will deteriorate over the coming years as the technologies mature, eventually settling in a more normalized and commercially accepted status. We believe this will tarnish sky-high investor expectations and Ansys' pricing premium. Finally, we have other concerns surrounding the firm's perpetual and maintenance business model and hands-on sales process, which are likely to hamper implied stratospheric growth over the medium term.

- Based on our discounted cash flow model, we struggle to reconcile the long-term fundamentals of Ansys' financial model with the market's current price of $185 per share. Ansys currently trades in 1-star territory, and, as a result, we believe investors should stay clear of investing new capital in the name and consider taking some profits or pulling existing capital out.
- We believe our base-case scenario correctly reflects the firm's long-term outlook, with management guidance and commentary appropriately baked into our expectations. Frankly, our estimates don't widely diverge from street consensus, but our longer-term outlook does.
- The simulation market is poised for healthy medium-term growth. We think a medium-term growth rate around 8%-10% per year is a reasonable estimate. We believe the simulation and analysis software market is poised to grow to a range of $9.3 billion to $10.6 billion by calendar 2023. Based on our scenario analysis, Ansys' stock price implies a far higher growth rate than 8%-10% and our current model's five-year revenue CAGR of 10.8%.
- We think next-generation use cases surrounding additive manufacturing, digital twin, Internet of Things, and autonomous driving has investors abuzz about the potential for Ansys' future, but we see some of the hype around these growth drivers as overblown. Over the next few years, we believe that the digital twin, Internet of Things platform, and autonomous driving hype will weaken as the technologies mature, eventually settling in a more normalized and commercially accepted status.
- We believe companies like Autodesk, Dassault, and Siemens have the ability to expand more complete simulation offerings over time, which could erode Ansys' leadership position.

- By being a perpetual license and maintenance driven company, we think Ansys is missing out on some key elements that come from having a subscription-oriented business and higher resulting lifetime value.
- Given the complexity of simulation software and the end user audience, we think Ansys has a more hands-on sales requirement relative to CAD or PLM firms. As such, we don't believe Ansys has such a highly leverageable sales model.

Andrew Lange | andrew.lange@morningstar.com

Big Pharma Moat Outlook: Companies Still in a Strong Position

In our analysis of the Big Pharma companies, we continue to see the industry as well positioned, with strong economic moats. While the following analysis reaffirms most of our moat ratings, we are increasing Bayer's to wide from narrow and increasing AstraZeneca's moat trend to stable from negative. Key to all the Big Pharma companies is the increasing focus on innovation in areas of unmet medical need, enabling strong pricing power to offset the increasing negotiating power from the pharmacy benefit managers in the U.S. and restrictive pricing in developed markets outside the U.S. Additionally, as segments within Big Pharma firms, animal health and consumer healthcare both carry strong moats. Overall, the moat analysis guides our discounted cash flow valuations, which support undervalued calls on Pfizer, Bayer, GlaxoSmithKline, and Sanofi.

- Bayer's divestiture of its material science group combined with a strong drug business and a well-positioned crop science business (bolstered by the Monsanto acquisition) leads us to upgrade its moat rating to wide.
- AstraZeneca has finally worked through the worst of its patent cliff, and steady returns and spending on research and development support a moat trend upgrade to stable from negative.
- Overall moats and trends in Big Pharma look steady despite increased concerns about drug pricing power in the U.S., as drug firms continue to push toward more innovative drugs in areas of unmet medical need where pricing is strongest.
- Despite the recent increase in Big Pharma stock prices, we still view the group as slightly undervalued, with Pfizer, Bayer, GlaxoSmithKline, and Sanofi looking the most undervalued.

Strong Moats in Big Pharma Look Secure

Large drug companies derive competitive advantages primarily from productive research and development, which leads to differentiated, patent-protected drugs that hold strong pricing power and enable excess returns. A firm's ability to develop next-generation drugs to offset patent losses represents the core of its moat. Further, the larger the number of drugs across a firm's portfolio and the less dependence on a small number of drugs, the less likely that a patent loss, emergence of an unknown side effect, or new competition can impair a moat.

Additionally, as analyzed in the Healthcare Observer U.S. Drug Pricing Reforms Weigh on Valuations, but Moats Look Secure and Drug and Biotech Industries Look Undervalued, we don't expect the recently discussed U.S. drug pricing reforms will have a major impact on the moats in the industry. Outside of the human branded drug segment, several Big Pharma firms generate excess profits from other segments as well, including vaccines, animal health, consumer health, and crop sciences. While we believe the pharmaceutical divisions of Big Pharma firms generally support wide moats, with the exception of AbbVie, the other segments offer additional layers of support as well.

Looking at the overall Big Pharma industry, all firms look well positioned to sell enough new products to offset patent losses. In Exhibit 1, we highlight the supportive segments for the industry, beyond the core prescription drug business. Also, we show the percentage of sales likely to erode from patent losses over the next five years. Offsetting these losses, we highlight the growth potential of existing and new drugs over the next five years. Lastly, we show the sales representation of the largest contributing drug in 2017 and 2022. AbbVie's high exposure to Humira is a key reason for its narrow moat rating, which is the only narrow-moat-rated Big Pharma firm.

Exhibit 1 Moat Dynamics for Big Pharma Stocks

Firm	Moat/Trend	Drug Division (% of 2017 Sales)	Other Divisions (% of 2017 sales)	% of 2017 Sales Lost by 2022E Due to Patent Losses (Key Drugs with Patent Loss)	% of 2017 Sales Gains by 2022E Due to New and Current Drugs (Key Drugs with Gains)	Largest Single Drug in 2017 (% of 2017 sales)	Largest Single Drug in 2022E (% of 2022E sales)
AbbVie	Narrow/Negative	100%	--	28% (Humira)	49% (Imbruvica, Venclexta)	Humira (65%)	Humira (33%)
AstraZeneca	Wide/Stable	100%	--	14% (Crestor, Symbicort)	39% (Tagrisso, Imfinzi)	Crestor (10%)	Tagrisso (16%)
Bayer*	Wide/Stable	36%	Consumer-Narrow (12%) Crop-Wide (46%)*	4% (Nexavar, Betaseron)	17% (Xarelto, Eylea)	Xarelto (9%)	Xarelto (16%)
Bristol	Wide/Stable	100%	--	8% (Sustiva, Reyataz)	32% (Opdivo, Eliquis)	Opdivo (24%)	Eliquis (37%)
Eli Lilly	Wide/Stable	87%	Animal-Narrow/Wide (13%)	17% (Cialis, Alimta)	40% (Taltz, Jardiance)	Humalog (12%)	Trulicity (12%)
GlaxoSmithKline	Wide/Stable	56%	Consumer-Wide (26%) Vaccines-Wide (17%)	8% (Advair)	28% (Tivicay, Shingrix)	Advair (10%)	Triumeq combos (20%)
Johnson&Johnson	Wide/Stable	47%	Devices-Wide (35%) Consumer-Wide (18%)	13% (Remicade)	32% (Darzalex, Tremfya)	Remicade (8%)	Darzalex (9%)
Merck	Wide/Stable	75%	Animal Health-Wide (10%) Vaccines-Wide (15%)	9% (Zetia, Vytorin)	33% (Keytruda)	Januvia (15%)	Keytruda (30%)
Novartis	Wide/Stable	67%	Ophthalmology-Narrow (12%) Generics-None (20%)	12% (Gilenya, Afinitor)	33% (Cosentyx, Entresto)	Gilenya (6%)	Cosentyx (8%)
Pfizer	Wide/Stable	80%	Consumer-Narrow (7%) Vaccines-Narrow (11%)	14% (Lyrica)	26% (Ibrance)	Prevnar (11%)	Ibrance (14%)
Sanofi	Wide/Stable	71%	Consumer-Narrow (14%) Vaccine-Wide(15%)	8% (Lantus)	21% (Dupixent)	Lantus (13%)	Dupixent (8%)

*Includes Monsanto on pro-forma basis

Source: Company reports and Morningstar.

Damien Conover, CFA | damien.conover@morningstar.com

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)	★★★★★	$19.5	$11.34	High	Narrow	0.58	3.88	Inton
Compass Minerals International (CMP)	★★★★	$83	$66.05	High	Wide	0.80	2.24	Goldstein
Martin Marietta Materials (MLM)	★★★★	$265	$187.11	High	Narrow	0.71	11.79	Inton
Communication Services								
BT Group (BT.A)	★★★★	GBX 360	GBX 230.25	High	Narrow	0.64	22.85	C. Nichols
China Mobile (941)	★★★★	HKD 100	HKD 77.15	Medium	Narrow	0.77	1579.68	Baker
Comcast (CMCSA)	★★★★	$42	$35.22	Medium	Wide	0.84	161.38	Macker
Telefonica (TEF)	★★★★★	$13	$6.81	High	Narrow	0.52	35.40	C. Nichols
Telstra (TLS)	★★★★	AUD 4.4	AUD 3.19	Medium	Narrow	0.73	37.94	Han
Consumer Cyclical								
Alibaba Group Holding (BABA)	★★★★	$240	$166.32	High	Wide	0.69	427.76	Hottovy
Bayerische Motoren Werke (BMW)	★★★★	EUR 117	EUR 79	High	Narrow	0.68	51.36	Hilgert
Expedia Group (EXPE)	★★★★	$185	$131.5	High	Narrow	0.71	19.65	Wasiolek
General Motors (GM)	★★★★	$45	$33.67	High	None	0.75	47.50	Whiston
Hanesbrands (HBI)	★★★★★	$27	$18.13	Medium	Narrow	0.67	6.54	Hottovy
InvoCare (IVC)	★★★★	AUD 17	AUD 12.36	Medium	Wide	0.73	1.36	Ragonese
Mattel (MAT)	★★★★	$21.5	$15.98	High	Narrow	0.74	5.50	Katz
Norwegian Cruise Line Holdings (NCLH)	★★★★	$69	$56.89	High	Narrow	0.82	12.60	Katz
Walt Disney (DIS)	★★★★	$130	$116.04	Medium	Wide	0.89	172.58	Macker
WPP (WPP)	★★★★	GBX 1500	GBX 1147	Medium	Narrow	0.76	14.47	Mogharabi
Consumer Defensive								
G8 Education (GEM)	★★★★★	AUD 3.5	AUD 2	High	None	0.57	0.91	James
General Mills (GIS)	★★★★★	$59	$43.03	Low	Wide	0.73	25.66	Vora
Imperial Brands (IMB)	★★★★★	GBX 3700	GBX 2688	Low	Wide	0.73	25.64	Gorham
Kao (4452)	★★★	JPY 8800	JPY 9174	Low	Wide	1.04	4471.60	Wei
Mondelez International (MDLZ)	★★★★	$52	$43.07	Medium	Wide	0.83	63.16	Lash
PepsiCo (PEP)	★★★★	$123	$111.05	Low	Wide	0.90	157.06	Vora
Procter & Gamble (PG)	★★★★	$97	$82.86	Low	Wide	0.85	206.25	Lash
Reckitt Benckiser Group (RB.)	★★★★	GBX 7300	GBX 6933	Low	Wide	0.95	49.01	Gorham
Energy								
Cenovus Energy (CVE)	★★★★	$21	$13.09	Very High	None	0.62	16.08	Gemino
Enbridge (ENB)	★★★★★	$64	$42.3	Medium	Wide	0.66	72.94	Gemino
Enterprise Products Partners (EPD)	★★★★	$35.5	$28.77	Low	Wide	0.81	62.60	Ellis
Royal Dutch Shell (RDS.B)	★★★★	$83	$71.31	Medium	Narrow	0.86	290.11	Good
Total (TOT)	★★★★	$77	$65.12	Medium	None	0.85	172.40	Good
Woodside Petroleum (WPL)	★★★★	AUD 46.5	AUD 38.58	High	None	0.83	36.12	Taylor
Financial Services								
Agricultural Bank of China (601288)	★★★	CNY 4.2	CNY 3.89	High	Narrow	0.93	1345.77	Tan
American International Group (AIG)	★★★★	$76	$53.39	Medium	None	0.70	47.43	Horn
Capital One Financial (COF)	★★★★	$127	$95.46	Medium	Narrow	0.75	45.67	Plunkett
Credit Suisse Group (CSGN)	★★★★	CHF 22	CHF 14.75	High	Narrow	0.67	37.61	Scholtz

Source: Morningstar. As of Sept. 28, 2018

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 (cont.)								
Invesco (IVZ)	★★★★★	$35	$23.06	Medium	Narrow	0.66	9.47	Warren
Mitsubishi UFJ Financial Group (8306)	★★★★	JPY 880	JPY 709.1	Medium	None	0.81	9274.10	Wu
Pendal Group (PDL)	★★★★	AUD 11	AUD 8.79	Medium	Narrow	0.80	2.47	Likos
Westpac Banking (WBC)	★★★★	AUD 35	AUD 27.93	Medium	Wide	0.80	94.58	Ellis
Healthcare								
Allergan (AGN)	★★★★	$263	$190.53	Medium	Wide	0.72	64.67	Waterhouse
McKesson (MCK)	★★★★★	$210	$131.69	Medium	Wide	0.63	26.31	Lekraj
Medtronic (MDT)	★★★	$105	$97.7	Medium	Wide	0.93	131.94	Wang
Ramsay Health Care (RHC)	★★★★	AUD 76	AUD 54.93	Medium	Narrow	0.72	11.10	Kallos
Roche Holding (ROG)	★★★★★	CHF 337	CHF 237.75	Low	Wide	0.71	203.25	Andersen
Industrials								
Anixter International (AXE)	★★★★★	$107	$70.2	Medium	Narrow	0.66	2.35	Bernard
Beijing Enterprises Holdings (392)	★★★★	HKD 58	HKD 43.9	Medium	Narrow	0.76	55.40	Song
CK Hutchison Holdings (1)	★★★★	HKD 118	HKD 90.2	Medium	None	0.76	347.83	Tan
G4S (GFS)	★★★★	GBX 337	GBX 245	Medium	None	0.73	3.80	Field
GEA Group (G1A)	★★★★★	EUR 47	EUR 31.25	Medium	Wide	0.66	5.64	Molina
General Dynamics (GD)	★★★	$220	$202.08	Medium	Wide	0.92	59.87	Higgins
Grupo Aeroportuario del Pacifico (GAP B)	★★★	MXN 217	MXN 202.4	High	Wide	0.93	113.55	Higgins
Guangshen Railway (525)	★★★★★	HKD 6.5	HKD 3.5	High	None	0.54	27.87	Song
Johnson Controls International (JCI)	★★★★	$53	$35.55	High	Narrow	0.67	32.88	Bernard
Kion Group (KGX)	★★★★★	EUR 90	EUR 53.66	Medium	Narrow	0.60	6.32	Molina
Royal Philips (PHIA)	★★★	EUR 42	EUR 39.72	Medium	Narrow	0.95	37.00	Vonk
Sodexo (SW)	★★★★	EUR 110	EUR 91.46	Medium	Narrow	0.83	13.32	Field
Stericycle (SRCL)	★★★★	$86	$58.41	High	Narrow	0.68	5.02	Young
Real Estate								
Aveo Group (AOG)	★★★★	AUD 2.8	AUD 2.02	Medium	None	0.72	1.17	Sherlock
Sun Hung Kai Properties (16)	★★★★	HKD 153	HKD 114	Medium	Narrow	0.75	330.26	Zhong
Welltower (WELL)	★★★	$74	$63.05	High	None	NA	23.46	Brown
Technology								
Intel (INTC)	★★★★	$65	$45.88	Medium	Wide	0.71	211.55	Davuluri
Microchip Technology (MCHP)	★★★★	$112	$78.61	Medium	Wide	0.70	18.52	Colello
MYOB Group (MYO)	★★★★	AUD 3.82	AUD 3.02	Medium	Narrow	0.79	1.81	James
Synaptics (SYNA)	★★★★	$64	$46.28	Very High	None	0.72	1.61	Davuluri
TDK (6762)	★★★	JPY 12500	JPY 12390	High	None	0.99	1564.18	Ito
Tencent Holdings (700)	★★★★★	HKD 590	HKD 323.2	High	Wide	0.55	3077.25	Tam
Utilities								
Dominion Energy (D)	★★★★	$84	$69.14	Low	Wide	0.82	45.20	Fishman
Enel (ENEL)	★★★★	EUR 5.7	EUR 4.58	Medium	None	0.80	46.56	Fulop
FirstEnergy (FE)	★★★★	$41	$36.53	Low	Narrow	0.89	17.75	Fishman
Scana (SCG)	★★★★★	$56	$37.43	Medium	Narrow	0.67	5.34	Miller

Source: Morningstar. As of Sept. 28, 2018

Highlighted Stocks

Stericycle SRCL

Morningstar Rating	Industry	Moat Trend	Currency	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price/Fair Value	Market Cap (Bil)
★★★★	Industrials	Stable	USD	86	58.45	High	Narrow	0.68	5.02

Source: Morningstar. As of Sept. 28, 2018

The shares trade at a 29% discount to our $86 fair value estimate, which we think is a compelling buying opportunity for patient, long-term-minded value investors capable of stomaching heightened volatility in the year ahead.

Select Report, Sept. 26, 2018

Narrow-moat medical waste industry leader Stericycle has grappled with negative investor sentiment, some of it warranted, for several years. This was driven in large part by the emergence of painful contract concessions in its premium-priced small-quantity, or SQ, waste-generating account base, coupled with guidance shortfalls and lackluster performance in the noncore industrial hazardous waste unit. Importantly, SQ pricing rollbacks are the fruit of a decade of consolidation of small physician practices into large hospital groups with stronger buying power, as well as pushback from existing small independent healthcare customers looking to slash costs against an inflationary backdrop. However, our analysis suggests Stericycle's market price is now baking in overly pessimistic midcycle revenue and profitability assumptions. Execution risk adds uncertainty to the equation, but pricing headwinds of the current magnitude are probably not permanent, and we expect the flagship regulated med-waste division to gradually rekindle low- to mid-single-digit organic revenue growth. The shares trade at a 29% discount to our $86 fair value estimate, which we think is a compelling buying opportunity for patient, long-term-minded value investors capable of stomaching heightened volatility in the year ahead.

- Stericycle's market price appears to be baking in the prospect of material long-term pricing concessions that would relegate the core med-waste division to flattish midcycle organic revenue growth. We disagree. Pricing pressure, which emerged in 2016, should abate in 2019 as the firm cycles through SQ contract renewals and as negative publicity from the recently settled SQ class-action lawsuit dissipates.
- We don't expect the company to return to its glory days of high-single-digit organic top-line expansion with 30% EBITDA margins. That said, we think midcycle consolidated (and med-waste segment) organic revenue growth of 3.5%-4.0% and total EBITDA margin near 26.5% are achievable against a stable pricing backdrop, with incremental help from upselling ancillary services and efficiency optimization.
- Our analysis suggests contract repricing should be in the process of lowering SQ revenue (which makes up around 20% of total sales) by 3.5% annually on average between 2016 and 2019. Thus far, the firm's med-waste segment performance indicates that trend is playing.

Matthew J. Young, CFA | matthew.young@morningstar.com

BMW BMWYY

Morningstar Rating	Industry	Moat Trend	Currency	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price/Fair Value	Market Cap (Bil)
★★★★	Consumer	Negative	USD	45	30.01	High	Narrow	0.67	60.35

Source: Morningstar. As of Sept. 28, 2018

In our opinion, the shares were already unfairly discounted by the market prior to the guidance change. Investors should view any additional sell-off of the 4-star-rated BMW shares as a window of opportunity to own an attractively valued, narrow-moat company.

Analyst Note, Sept. 26, 2018
Narrow-moat BMW, maker of premium brand BMW cars and motorcycles, Mini, and Rolls-Royce, cut 2018 guidance because of a confluence of several items affecting revenue and margin, including negative currency effect, upfront investment in future mobility technologies, Europe market distortions on new emissions testing regulations, higher warranty reserves, and international trade conflicts. We had already been using assumptions at the low end of management guidance, which resulted in only a slight change to our estimates. The market reacted harshly to the guidance cut, taking the shares down by a cumulative 6% since the announcement.

BMW does not provide specific numbers, but management had previously guided to "slight" increases in automotive units and revenue with EBIT margin of 8%-10%. Automotive segment revenue is now forecast to be "slightly lower than the previous year," owing to negative currency effect and the price pressure experienced in Europe and in China (tariffs). EBIT margin guidance is now "at least 7%" on higher spending for electrification and autonomous technologies, plus significantly higher additions to goodwill and warranty provisions.

We had been forecasting 3.8% revenue growth on a 5% currency headwind and an 8.0% EBIT margin. We now forecast a 0.9% decline in revenue on the same 4.9% currency headwind, with an EBIT margin of 7.7%. However, we had already been forecasting sub-8% EBIT margins in years two to five of our Stage I forecast. Consequently, there is no change to our EUR 117 fair value estimate. In our opinion, the shares were already unfairly discounted by the market prior to the guidance change. Investors should view any additional sell-off of the 4-star-rated BMW shares as a window of opportunity to own an attractively valued, narrow-moat company.

Our fair value estimate represents a 32% discount to the current market valuation and 27% upside potential to the consensus price target. We think BMW's stock has been overly discounted on concerns regarding an escalation in tariffs, the diesel antitrust investigation, the U.S. demand cycle, and the impact of international trade conflict.

Richard Hilgert | richard.hilgert@morningstar.com

Delta Air Lines DAL

Morningstar Rating	Industry	Moat Trend	Currency	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price/Fair Value	Market Cap (Bil)
★★★	Industrials	Stable	USD	62	57.89	High	None	0.93	40.10

Source: Morningstar. As of Sept. 28, 2018

We remain more bullish on Delta's and Southwest's passenger operations.

Analyst Note, Sept. 26, 2018

After transferring coverage of American, Delta, United, and Southwest airlines to a new analyst, we are maintaining our no-moat and stable moat trend ratings but raising our fair value estimate for Delta to $62 from $60, for Southwest to $62 from $58, and for United to $85 from $81. Collectively, the major U.S. carriers look fairly valued at our updated valuations, and of the four, we prefer Delta because of the revenue premium it earns from its network breadth. Consolidation has driven roughly 80% of U.S. domestic market share into the hands of four major carriers, partially alleviating the excess supply issue that historically plagued the airline industry and improving margins. The emergence of loyalty programs also helped push margins to new heights. By switching loyalty programs from distance-based point systems to revenue-based systems, airlines structurally changed the economics of credit card partnerships and generated a windfall of income. Despite the success of credit card partnerships, we question whether the programs will continue producing robust growth. We're also unsure if the improved core airline business can endure a full cycle and consistently generate returns above its cost of capital; our concerns are particularly pronounced for both American and United, but we remain more bullish on Delta's and Southwest's passenger operations.

Bulls Say

- Delta will extract value from its international JVs, enabling it to access Asian, Latin American, and European markets more effectively than peers.
- Delta's strategy of operating an older fleet keeps a lid on depreciation expenses and capital expenditures and aligns well with the current era of low fuel prices.
- Management will successfully defend the carrier's PRASM premium, enabling the company to achieve best-in-class margins among network carriers.

Bears Say

- Delta's PRASM premium will be competed away as peers like Southwest offer premium seating options to customers, other network carriers roll out basic economy, and LCCs enter the Atlantic market.
- Delta's joint ventures will not return the expected benefits, and customers will become increasingly frustrated by the lack of coordination between Delta and its partners.
- Delta and other U.S. carriers will continue to bid away their profits, pushing fares down and depressing Delta's margins.

Danny Goode | danny.goode@morningstar.com

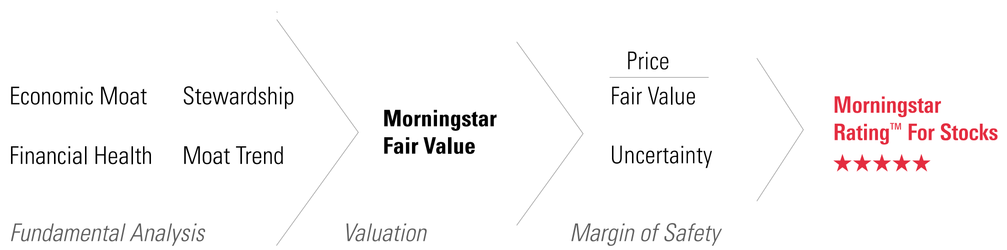
Research Methodology for Valuing Companies

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.

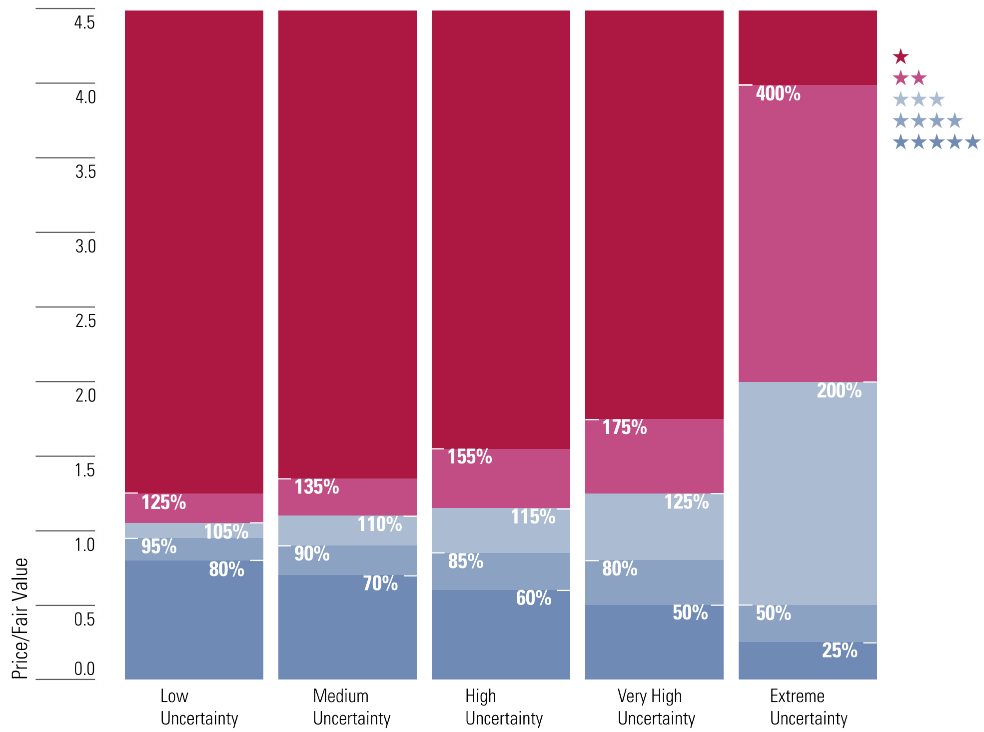
Analysts consider at least two scenarios in addition to their base case: a bull case and a bear case. Assumptions are chosen such that the analyst believes there is a 25% probability that the company will perform better than the bull case and a 25% probability that the company will perform worse than 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.

Risk Warning

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+1 312 696-6869
equitysupport@morningstar.com

MORNINGSTAR®

22 West Washington Street
Chicago, IL 60602 USA