Research Highlights

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

Morningstar Equity Research
Jan. 14-18, 2019

Contents

Research Highlights

Annual Drug Pipeline Report: Moats Remain Secure, but M&A Is Accelerating

While U.S. pricing pressure is an overhang, most Big Pharma and Big Biotech stocks in our coverage can support wide moats as a result of their ability to generate new drugs to replace mature ones losing patent protection. We project 4.4% annual average sales growth through 2022 (similar to 4.6% consensus) for the 19 moatiest pharma and biotech names we cover as innovation more than counters generic/biosimilar and branded competitive threats.

In mergers and acquisitions, Pfizer, Merck, and Johnson & Johnson look best positioned to acquire, given several logical targets, solid financial positioning, and strong share prices. Biogen and BioMarin look like targets, given their undervalued shares and focused portfolios (Regeneron also looks attractive from a portfolio perspective, but we think the shares are fairly valued). We think Pfizer/Bristol-Myers Squibb (post-Celgene) and Merck/Eli Lilly are particularly compelling combinations. Overlaying our growth analysis with valuation, we see four areas where the market is underappreciating the outlook:

- Roche's Tecentriq in several cancer niches;
- Bristol's steady position in immuno-oncology and massive pipeline and cash flow support from Celgene;
- Biogen's strong neurology pipeline, which remains undervalued even ignoring aducanumab;
- BioMarin's explosive growth potential in hemophilia and ultra-orphan disease.

Most Undervalued Large-Cap Drug Stocks With Strong Pipeline Potential

		2017-22 Sales CAGR		
Firm (Ticker)	**P/FV**	**Morningstar**	**Consensus**	**Summary**
Roche (RHHBY)	0.77	4.0%	3.0%	Tecentriq's launch accelerates with 1L lung approval and upcoming SCLC and TNBC approvals, and oncology and neurology pipeline is promising.
Bristol (BMY)	0.76	4.2%	6.5%	Celgene offers a strong late-stage oncology pipeline and stellar free cash flows to counter Opdivo's lung cancer weakness and Bristol's thin pipeline.
Biogen (BIIB)	0.79	4.5%	4.6%	Strong focus on neurology makes it an appealing acquisition target, and healthy novel pipeline means shares look undervalued even excluding aducanumab.
BioMarin (BMRN)	0.80	19.3%	15.6%	BioMarin's growth is poised to accelerate with the 2020 launches of val-rox and vosoritide, and rare disease/gene therapy expertise make it a logical takeout.

Source: Morningstar and company reports.

In-Line Products and Pipelines Support 4% Five-Year Organic Growth

- The largest 19 pharma and biotech firms we cover are poised for average annual top-line growth of 4.4% through 2022 (4.6% consensus), as in-line products and pipelines counter patent expirations.

- Following the Bristol/Celgene merger news, our analysis points to more M&A to build pipelines. Pfizer, Merck, and J&J are likely suitors, and Biogen, BioMarin, and Regeneron are the most broadly attractive targets, although we see particular logic to Merck/Lilly and Pfizer/Bristol tie-ups.
- AbbVie, Novartis, and Roche have the most catalysts in 2019, and we expect there could be bigger valuation moves based on immuno-oncology, BCMA, pain, and NASH data.
- Our 2022 estimates are more bullish than consensus in cardiology and oncology and less bullish in approved neurology, although our pipeline estimates are broadly higher than consensus.

Industry 7% Undervalued in Aggregate; We Highlight Roche, Bristol, Biogen, and BioMarin

- The market underappreciates Roche's strong position in immuno-oncology and blood cancers. We expect Tecentriq's approval in 1L NSCLC, upcoming approvals in SCLC and TNBC, and upcoming data in melanoma and liver cancer to drive 2022 sales of $5.9 billion ($2.9 billion consensus). Venclexta should see broad uptake in CLL, AML, and potentially multiple myeloma.
- Our above-consensus view of immuno-oncology supports Bristol's Opdivo, and the Celgene acquisition gives access to strong cash flows through 2022, nine potential blockbusters launching by 2022, and dozens of early-stage partnerships.
- Biogen's deep neurology pipeline isn't valued by the market, as we see the shares as undervalued even excluding aducanumab. Programs in Parkinson's, the Ionis partnership, and a portfolio of tau-targeted therapies stand out.
- BioMarin offers the greatest growth potential, albeit off a smaller base, with a solid rare-disease drug foundation poised to expand in 2020 with val-rox and vosoritide launches. Gene therapy expertise should be a draw for potential acquirers.

Exhibit 1 Valuation, Growth, and Patent/Pipeline Exposure for Our 19 Big Pharma/Big Biotech Stocks

Firm (Ticker)	P/FV	Mkt Cap ($B)	2017-2022E Top-Line Growth	2017-2022E Top-Line Growth, Consensus	Patent Exposure (% of 2017 Sales Expiring by 2022)	% 2022E Sales from Pipeline	Post-Dividend FCF, 2018-2022 ($B)	Net Cash (YE 2018E, $B)
AbbVie (ABBV)	0.84	129	6.8%	7.6%	2%	9%	35	-23
Amgen (AMGN)	0.97	127	0.0%	1.7%	24%	9%	27	-6
AstraZeneca (AZN)	1.12	91	5.1%	7.3%	11%	3%	5	-15
Bayer (BAYRY)	0.58	69	8.3%	8.0%	4%	2%	13	-44
Biogen (BIIB)	0.79	67	4.5%	4.6%	0%	26%	23	0
BioMarin (BMRN)	0.8	17	19.3%	15.6%	0%	35%	1	0
Bristol (BMY)	0.76	80	4.2%	6.5%	15%	2%	30 ^	3
Celgene (CELG)	0.73	61	13.0%	12.9%	5%	22%	41	-16
Gilead (GILD)	0.79	88	-1.6%	-2.2%	20%	10%	28	6
GlaxoSmithKline (GSK)	0.82	96	3.7%	3.3%	10%	5%	4*	-30
Johnson & Johnson (JNJ)	0.98	343	3.7%	3.9%	12%	1%	60	-8
Eli Lilly (LLY)	1.12	124	6.3%	5.2%	16%	5%	13	-7
Merck (MRK)	1.07	194	5.5%	4.8%	6%	1%	24	-10
Novartis (NVS)	1.01	204	3.1%	3.6%	11%	4%	27	-18
Novo Nordisk (NVO)	0.88	113	4.8%	5.6%	0%	18%	13	3
Pfizer (PFE)	0.92	243	2.4%	2.7%	14%	4%	48	-18
Regeneron (REGN)	1.12	44	8.4%	9.1%	0%	4%	14	5
Roche (RHHBY)	0.77	222	4.0%	3.0%	17%	4%	39	-2
Sanofi (SNY)	0.81	105	3.0%	2.3%	2%	3%	12	-18

Source: Morningstar and company reports. ^includes Celgene *normalized for joint venture accounting

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Oilfield-Services Stocks Haven't Been This Cheap in Over a Decade

Oilfield-services stocks have plunged coinciding with the 25% oil price drop in the past three months. The industry hasn't looked this cheap in over a decade, with even high-quality names approaching post-2008 financial crisis lows. Specifically, we think the market has incorporated overly pessimistic views on international capital expenditures growth. Schlumberger is our top pick to bet on a more bullish capital expenditures outlook, given its top international exposure and its underrated value-creation prospects via its integrated businesses. Additionally, Weatherford and TechnipFMC look attractively valued.

- Market expectations for oil and gas capital expenditures have fallen too low, manifesting in undervaluation throughout our coverage. We estimate that the market-implied expectation for international (ex-North America) capital expenditures growth is just 5% cumulatively through 2022.
- We forecast 20% cumulative international capital expenditure growth through 2022. We think this increase is needed because: 1) development costs for many nonshale oil supply sources have been in a long-term upward trend; and 2) many international oil producers are currently underinvesting, as additions to developed reserves are insufficient to replace current production.
- This international forecast leads to our global forecast of 15% growth through 2022, despite our somewhat bearish view on North American capital expenditures (driven by U.S. shale cost savings).
- Schlumberger has peer-leading international exposure (63% of 2018 revenue), and therefore is highly affected by the market's pessimistic view on international capital expenditures growth.
- Schlumberger is poised to gain market share and boost its profitability as a result of its integrated businesses (such as Schlumberger Production Management), which are driving cost savings in oil and gas development. We think Schlumberger's advantage here is missed by the market.
- Weatherford is another way to play the capital expenditures story, with a deeply discounted share price. Investors shouldn't be scared by the firm's history—new management has righted the ship, in our view.
- TechnipFMC also looks attractively priced. We think the market concerns with industry headwinds are overblown, and investors aren't fully appreciating TechnipFMC's advantage in subsea integration.

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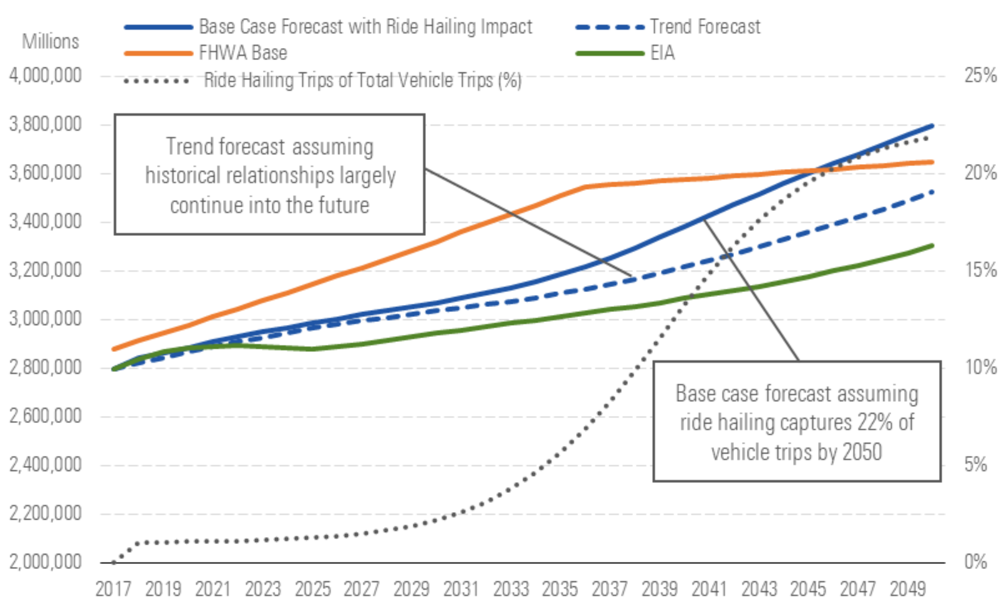
EVs, AVs, and Ride-Hailing: Gauging the Impact on Long-Term Gas Demand

Amara's law states that we tend to overestimate the effect of a technology in the short run and underestimate the effect in the long run. We'd posit that is the case today with ride-hailing, electric vehicles, autonomous vehicles, and their impact on private vehicle ownership and fuel consumption. Our analysis suggests these technologies will be beneficial for mobility, but the net impact on U.S. gasoline demand will be negative. Specifically, we think the introduction of AVs will materially reduce ride-hailing costs, potentially resulting in 30% of private vehicle owners switching to ride-hailing full-time. This conversion results in a smaller vehicle fleet, though auto sales should remain stable as higher utilization of ride-hailing vehicles drives greater scrappage. Vehicle miles traveled is likely to increase as consumers expand their use of ride-hailing/-sharing and forgo car ownership in greater numbers, but the impact on fuel consumption is easily offset by the rapid uptake of fully electric and hybrid vehicles over the next few decades. On balance, we estimate that gasoline demand could fall 70% from 2017 by 2050, well below the U.S. Energy Information Administration's forecast of a 35% decline. But over the next decade or so, the opposite holds true. The more rapid adoption of ride-hailing, combined with the relaxation of fuel-efficiency standards, will keep our gasoline demand forecast above consensus through 2030. Therefore, we still consider independent refiners to be viable investments today, even though our conclusions portend difficulties for this industry over the long-run.

- Ride-hailing should be accretive to vehicle miles traveled because of "deadheading" miles (travel without passengers) as well as substitution of public transit, walking, and biking. Ultimately, we think total U.S. light-duty vehicle VMT can grow to 3.8 trillion miles in 2050, with ride-hailing vehicle trips accounting for 22% of total LDV trips, 15% higher than the EIA's forecast of 3.3 trillion miles.

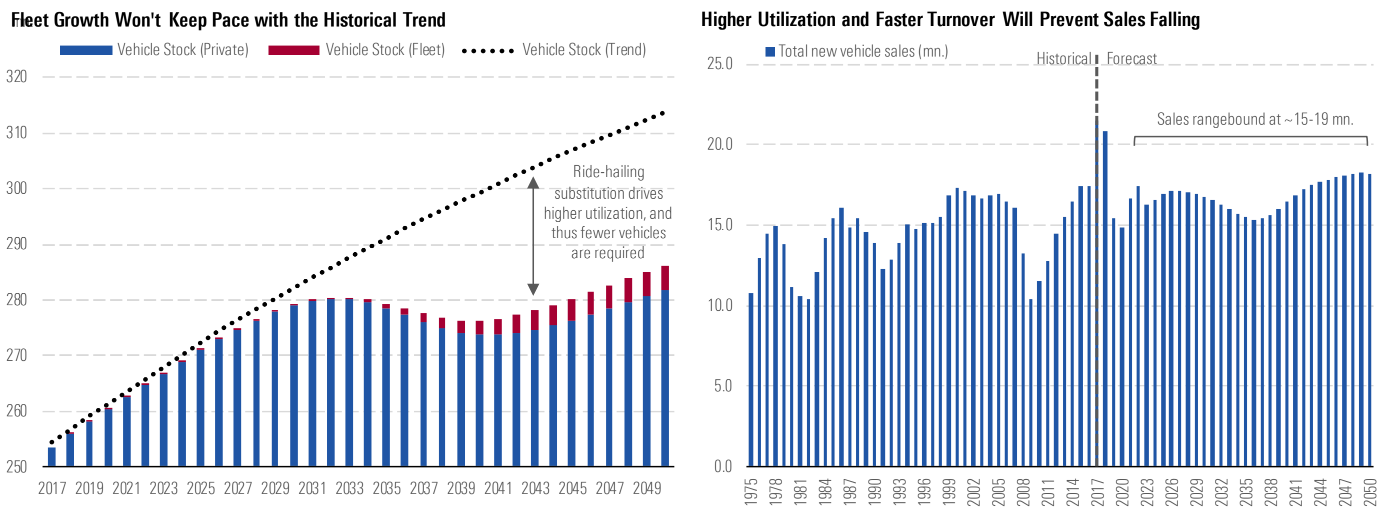
Exhibit 1 Our Base Case Calls for VMT of 3.8 Trillion Miles and Ride-Hailing to Account for 22% of Vehicle Trips



Source: Federal Highway Administration, EIA, Morningstar.

- Ride-hailing is not currently a cost-effective substitute for vehicle ownership. But we see potential for ride-hailing companies to significantly lower their rates, especially if automated vehicle technology can be rolled out to the mass market (eliminating the need for a driver, who currently takes a substantial chunk of the fare). This could make it cost-effective for many private owners to give up their vehicles and use ride-hailing as a primary mode of transport. As a result, we doubt that the U.S. LDV stock will keep growing in line with the historical trend, resulting in fewer vehicles on the road. But since ride-hailing will also increase the utilization of these vehicles, we expect higher scrap rates to offset the lower vehicle penetration, keeping sales in the 15 million-19 million range.

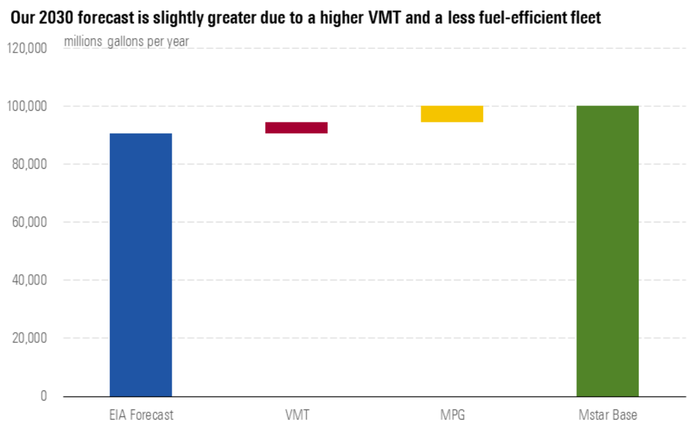
Exhibit 2 With Higher-Utilization Ride-Hailing Vehicles Gaining Share, Fewer Vehicles Are Required (but They Must Be Scrapped Sooner)

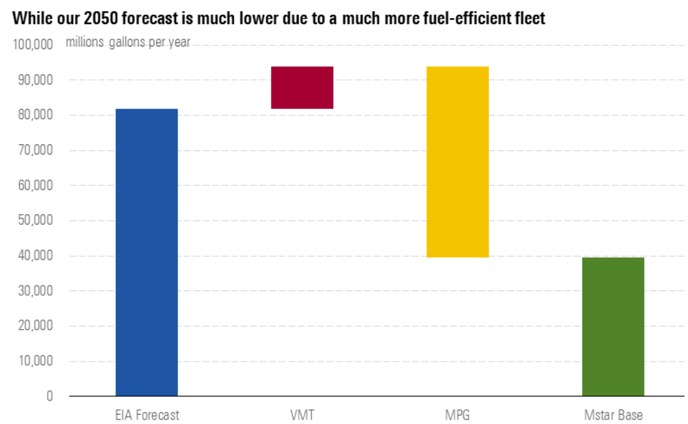


Source: Morningstar.

- Based on our assumptions about ride-hailing penetration, car ownership rates, and EV/hybrid penetration, we estimate U.S. gasoline demand could fall 70% by 2050 from 2017 levels in our base case. This contrasts with the EIA's relatively sanguine forecast of a 35% decline by 2050. However, we also forecast higher gasoline demand through 2030 than the EIA does, due to a higher VMT forecast and poorer fleet vehicle fuel efficiency.
- Instrumental to our gasoline demand forecast is the assumption of much higher EV/hybrid adoption rates. Morningstar has already published a forecast calling for EV and HEV/PHEVs to reach 12.5% and 20%, respectively, of new-vehicle sales in 2028 (compared with 6% for each by the EIA). We extend this forecast in our base-case scenario and assume that each accounts for 45% of new-vehicle sales, reducing internal combustion vehicles to 10% of sales. This results in a remarkable increase in fleet vehicle fuel efficiency, largely driving the decrease in gasoline demand. However, the impact is somewhat negated before 2030 as we have incorporated the Trump administration's proposed relaxation of Corporate Average Fuel Economy, or CAFE, standards, which should reduce fleet vehicle fuel efficiency.

Exhibit 3 Differences in CAFE Standard Assumptions Drive Differences in Our 2030 Forecast, While Greater EV Adoption Affects Our 2050 Forecast





Source: EIA, Morningstar.

- Refiners remain attractive investments in our view considering current valuations and relatively strong outlook over the next five years. While our view on long-term gasoline demand represents an existential threat to their current business model, we do not expect precipitous declines to begin for another decade, when EV/hybrid adoption begins to accelerate.

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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)	★★★★	$19.5	$11.83	High	Narrow	0.61	4.69	Inton
Compass Minerals International (CMP)	★★★★★	$81	$47.21	High	Wide	0.58	1.60	Goldstein
James Hardie Industries (JHX)	★★★★	AUD 21.2	AUD 15.15	Medium	Narrow	0.71	6.70	Slade
Martin Marietta Materials (MLM)	★★★★	$240	$177.23	High	Narrow	0.74	11.11	Inton
Communication Services								
BT Group (BT.A)	★★★★	GBX 360	GBX 231.85	High	Narrow	0.64	23.01	C. Nichols
China Mobile (941)	★★★★	HKD 97	HKD 80.85	Medium	Narrow	0.83	1655.44	Baker
Telefonica (TEF)	★★★★★	$13	$7.68	High	Narrow	0.59	39.91	C. Nichols
Telstra (TLS)	★★★★★	AUD 4.4	AUD 2.92	Medium	Narrow	0.66	34.73	Han
Vodafone Group (VOD)	★★★★	$250	$148.32	High	Narrow	0.59	39.63	C. Nichols
Consumer Cyclical								
Alibaba Group Holding (BABA)	★★★★	$240	$155.97	High	Wide	0.65	401.14	Hottovy
Anta Sports Products (2020)	★★★★★	HKD 55	HKD 37.05	Medium	Narrow	0.67	99.48	Su
Bayerische Motoren Werke (BMW)	★★★★	EUR 117	EUR 71.26	High	Narrow	0.61	46.35	Hilgert
Cie Financiere Richemont (CFR)	★★★★	CHF 90	CHF 68.8	High	Wide	0.76	38.84	Sokolova
Dufry (DUFN)	★★★★	CHF 144	CHF 95.32	High	Narrow	0.66	4.81	Sokolova
Expedia Group (EXPE)	★★★★	$180	$116.71	High	Narrow	0.65	17.39	Wasiolek
General Motors (GM)	★★★★	$47	$38.26	High	None	0.81	54.00	Whiston
Hanesbrands (HBI)	★★★★★	$27	$14.32	Medium	Narrow	0.53	5.17	Swartz
InvoCare (IVC)	★★★★★	AUD 16	AUD 11.45	Medium	Wide	0.72	1.26	Ragonese
Mattel (MAT)	★★★★★	$21	$12.67	High	Narrow	0.60	4.37	Katz
Norwegian Cruise Line Holdings (NCLH)	★★★★	$69	$46.79	High	Narrow	0.68	10.29	Katz
Walt Disney (DIS)	★★★★	$130	$111.01	Medium	Wide	0.85	165.48	Macker
WPP (WPP)	★★★★★	GBX 1450	GBX 863.4	Medium	Narrow	0.60	10.89	Mogharabi
Consumer Defensive								
A2 Milk (ATM)	★★★	AUD 13.7	AUD 12.65	High	Narrow	0.92	9.21	Fleck
Anheuser-Busch InBev (BUD)	★★★★★	$118	$71.98	Low	Wide	0.61	137.87	Gorham
G8 Education (GEM)	★★★★	AUD 3.5	AUD 2.9	High	None	0.83	1.32	James
General Mills (GIS)	★★★★★	$57	$42.97	Low	Wide	0.75	25.64	Vora
Imperial Brands (IMB)	★★★★★	GBX 3700	GBX 2399	Low	Wide	0.65	22.95	Gorham
Mondelez International (MDLZ)	★★★★	$52	$43.04	Medium	Wide	0.83	62.57	Lash
Energy								
Cenovus Energy (CVE)	★★★★	$19	$10.69	Very High	None	0.56	13.14	Gemino
Diamondback Energy (FANG)	★★★	$120	$105.65	High	Narrow	0.88	17.34	Meats
Enbridge (ENB)	★★★★	$62	$47.38	Medium	Wide	0.76	95.79	Gemino
Enterprise Products Partners (EPD)	★★★★★	$35.5	$27.62	Low	Wide	0.78	60.29	Ellis
Royal Dutch Shell (RDS.B)	★★★★	$83	$61.65	Medium	Narrow	0.74	245.09	Good
Schlumberger (SLB)	★★★★	$62	$41.37	High	Narrow	0.67	57.29	Caldwell
Total (TOT)	★★★★★	$77	$53.76	Medium	None	0.70	139.92	Good
Woodside Petroleum (WPL)	★★★★	AUD 46.5	AUD 33.89	High	None	0.73	31.73	Taylor
Financial Services								
Agricultural Bank of China (601288)	★★★	CNY 4.2	CNY 3.58	High	Narrow	0.85	1237.72	Tan
Altaba (AABA)	★★★★	$98	$64.33	High	None	0.66	38.77	Mogharabi
American International Group (AIG)	★★★★★	$76	$43.29	Medium	None	0.57	38.30	Horn
BlackRock (BLK)	★★★★	$475	$412.52	Medium	Wide	0.87	65.46	Warren
Capital One Financial (COF)	★★★★★	$127	$83.65	Medium	Narrow	0.66	39.62	Plunkett

Source: Morningstar. As of Jan. 18, 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								
Credit Suisse Group (CSGN)	★★★★★	CHF 22	CHF 12.24	High	Narrow	0.56	31.24	Scholtz
Link Administration Holdings (LNK)	★★★★	AUD 8.5	AUD 7.23	Medium	Narrow	0.85	3.85	James
Macquarie Group (MQG)	★★★★	AUD 135	AUD 118.2	Medium	Narrow	0.88	40.57	Ellis
Oversea-Chinese Banking Corp (O39)	★★★★	SGD 13.6	SGD 11.75	High	Narrow	0.86	49.93	Wu
Pendal Group (PDL)	★★★★	AUD 11	AUD 7.75	Medium	Narrow	0.70	2.46	Likos
Sumitomo Mitsui Financial Group (8316)	★★★★★	JPY 5960	JPY 3909	Medium	None	0.66	5455.41	Makdad
T. Rowe Price Group (TROW)	★★★★	$112	$94.74	Medium	Wide	0.85	22.80	Warren
Wells Fargo (WFC)	★★★★	$65	$49.23	Medium	Wide	0.76	225.54	Compton
Westpac Banking (WBC)	★★★★	AUD 33	AUD 26.15	Medium	Wide	0.79	89.66	Ellis
Healthcare								
Allergan (AGN)	★★★★★	$240	$156.56	Medium	Wide	0.65	52.81	Waterhouse
DaVita (DVA)	★★★★★	$81	$56.72	Medium	Narrow	0.70	9.42	Strole
Medtronic (MDT)	★★★★	$110	$87.6	Medium	Wide	0.80	117.65	Wang
Roche Holding (ROG)	★★★★★	CHF 333	CHF 258.4	Low	Wide	0.78	220.21	Andersen
Industrials								
Anixter International (AXE)	★★★★★	$107	$59.78	Medium	Narrow	0.56	2.00	Bernard
Beijing Enterprises Holdings (392)	★★★★	HKD 58	HKD 44.4	Medium	Narrow	0.77	56.04	Song
CK Hutchison Holdings (1)	★★★★★	HKD 118	HKD 79.2	Medium	None	0.67	305.41	Tan
G4S (GFS)	★★★★★	GBX 337	GBX 205	Medium	None	0.61	3.18	Field
GEA Group (G1A)	★★★★★	EUR 45	EUR 24	Medium	Wide	NA	4.33	Molina
General Dynamics (GD)	★★★★	$216	$165.72	Medium	Wide	0.77	49.08	Higgins
Grupo Aeroportuario del Pacifico (GAP B)	★★★★	MXN 210	MXN 175.03	High	Wide	0.83	98.19	Higgins
Guangshen Railway (525)	★★★★★	HKD 6.3	HKD 3.19	High	None	0.51	27.13	Song
Johnson Controls International (JCI)	★★★★	$46	$32.26	High	Narrow	0.70	29.81	Bernard
Kion Group (KGX)	★★★★★	EUR 90	EUR 45.86	Medium	Narrow	0.51	5.40	Molina
Sodexo (SW)	★★★★	EUR 110	EUR 95.18	Medium	Narrow	0.87	13.86	Field
Stericycle (SRCL)	★★★★★	$83	$40.94	High	Narrow	0.49	3.71	Young
Real Estate								
Aveo Group (AOG)	★★★★★	AUD 2.3	AUD 1.57	Medium	None	0.68	0.91	Sherlock
CK Asset Holdings (1113)	★★★★	HKD 81	HKD 63.45	Medium	Narrow	0.78	234.35	Zhong
Macerich (MAC)	★★★★	$59	$45.94	High	Narrow	0.78	6.48	Brown
Sun Hung Kai Properties (16)	★★★★	HKD 153	HKD 124	Medium	Narrow	0.81	359.23	Zhong
Technology								
Applied Materials (AMAT)	★★★★	$49	$34.54	High	Wide	0.70	33.11	Davuluri
Intel (INTC)	★★★★	$65	$48.47	Medium	Wide	0.75	221.22	Davuluri
KLA-Tencor (KLAC)	★★★★	$128	$92.92	High	Wide	0.73	14.22	Davuluri
Lam Research (LRCX)	★★★★	$185	$141.76	High	Narrow	0.77	22.00	Davuluri
Microchip Technology (MCHP)	★★★★★	$112	$76.15	Medium	Wide	0.68	18.01	Colello
Murata Manufacturing (6981)	★★★★★	JPY 24000	JPY 13765	High	Narrow	0.57	2935.48	Ito
Skyworks Solutions (SWKS)	★★★★	$105	$69.03	High	Narrow	0.66	12.26	Colello
Tencent Holdings (700)	★★★★	HKD 499	HKD 337	High	Wide	0.68	3208.32	Tam
Utilities								
Dominion Energy (D)	★★★★	$84	$68.94	Low	Wide	0.82	53.53	Fishman
Enel (ENEL)	★★★★	EUR 5.7	EUR 5.24	Medium	None	0.92	53.27	Fulop
ENN Energy Holdings (2688)	★★★★	HKD 83	HKD 74.5	Medium	Narrow	0.90	83.74	Lee
Entergy (ETR)	★★★★	$96	$86.03	Low	Narrow	0.90	16.17	Fishman
Orsted (ORSTED)	★★★	DKK 450	DKK 444.1	Low	Narrow	0.99	186.54	Fulop

Source: Morningstar. As of Jan. 18, 2019

Highlighted Stocks

Charles Schwab SCHW

Morningstar Rating	Sector	Moat Trend	Currency	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price/Fair Value	Market Cap (Bil)
★★★★	Financial Services	Stable	USD	57	47.98	High	Wide	0.84	63.36

Source: Morningstar. As of Jan. 18, 2019

While the interest-rate outlook is increasingly uncertain, share prices in the $40s includes quite a bit of bearishness for this particular earnings driver.

Analyst Note, Jan. 16, 2019
Despite the increased uncertainty regarding the economic environment in 2019 and beyond, wide-moat-rated Charles Schwab posted strong fourth-quarter earnings, and we believe that shares are moderately undervalued. Schwab reported $885 million of net income to common shareholders, or $0.65 per diluted share, on $2.67 billion of net revenue for the December quarter. Compared with the year-ago period, net revenue grew 19%, operating income grew 27%, and net income grew 61%. The large increase in net income was due to tax reform, but the strong revenue and operating income growth were due to positive trends in the company's business model and expense discipline. That said, we anticipate that our current $57 per share fair value estimate for Schwab will decrease $1 to $2 as we incorporate a longer time horizon to reach a normalized level of interest rates, as well as to adjust for the decline in equity markets in the fourth quarter. Even so, we still believe the shares are undervalued, estimating that a share price in the low $40s would adequately compensate long-term investors for a near-term recession and a dip in interest rates. We should also note that the firm is likely to significantly increase its dividend in the coming year.

Changes in interest rates continue to be primary drivers of Schwab's earnings, so with the outlook for interest-rate increases becoming more uncertain of late it becomes more difficult to project earnings growth. As we saw last year, when $544 million in net interest income more than made up for a $108 million decline in asset management revenue, rising rates have been a net positive for Schwab. During 2018, interest earning assets increased 20% to $268 billion and Schwab's net interest margin expanding to 2.39% from 2.03% during the year ago period. Interest-earning asset growth was primarily driven by an increase in bank deposits, aided by the company's movement of money market fund balances into its bank.

While the interest-rate outlook is increasingly uncertain, share prices in the $40s includes quite a bit of bearishness for this particular earnings driver, and the current environment, in our view, remains constructive for earnings.

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Pentair PNR

Morningstar Rating	Sector	Moat Trend	Currency	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price/Fair Value	Market Cap (Bil)
★★★	Industrials	Stable	USD	44	41.17	Medium	Narrow	0.94	7.01

Source: Morningstar. As of Jan. 18, 2019

Since Pentair has transformed into a pure-play water company, we think the new corporate structure will allow management to execute a more focused strategy emphasizing growth in its core segments.

Analyst Note, Jan. 18, 2019
After taking a fresh look at Pentair, we modestly trim our fair value estimate to $44 from $45, primarily due to a slight reduction in our midcycle operating margin assumption from roughly 22% to 21%. That said, we remain optimistic about the company’s long-term prospects. After Pentair sold its valves and controls unit to Emerson in 2017 and spun off its electrical unit as nVent in 2018, we contend that the remaining water business can generate excess economic profits thanks to its narrow moat, which rests on switching costs and intangible assets.

Pentair has built a narrow moat around its large installed base, deriving roughly two thirds of its revenue from aftermarket service and replacement parts. Since many of its products perform mission-critical functions, reliability is paramount as any product failures could result in costly outages. As such, Pentair benefits from a strong reputation for quality and a large installed base, and its customers tend to remain loyal, driving robust aftermarket sales.

Furthermore, since Pentair has transformed into a pure-play water company, we think the new corporate structure will allow management to execute a more focused strategy emphasizing growth in its core segments. At the company's 2018 investor and analyst day, management outlined its strategy to focus on growing the aquatic systems and filtration solutions segments, as well as expanding the company’s presence in emerging markets. We expect that the firm will continue to pursue strategic bolt-on and tuck-in acquisitions, such as the recently announced Aquion and Pelican Water deals, which will bolster Pentair’s residential and commercial water treatment portfolio.

We currently consider Pentair’s stock slightly undervalued. That said, we think it deserves a spot on investors’ watchlists given its narrow moat, solid growth prospects in the aquatic systems and filtration solutions segments, and room for further margin expansion.

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Pandora PNDORA:DK

Morningstar Rating	Industry	Moat Trend	Currency	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price/Fair Value	Market Cap (Bil)
★★★★★	Consumer	Stable	DKK	580	275.10	Very High	None	0.47	27.17

Source: Morningstar. As of Jan. 18, 2019

Though the company is facing challenges of waning demand for its core charm bracelet category (75% of total sales), we believe the market is undervaluing its competitive positioning and opportunity.

Select Report, Jan. 14, 2019

Pandora's shares have lost their shine, declining 70% since their peak in mid-2016 versus only a 5% drop for the Stoxx 600, incorporating mounting investor concerns about the strength of the company's brand, plausibility of its expansion strategy, and sustainability of its core charm category's appeal. And while we don't award Pandora a moat and contend that the company is facing challenges of waning demand for its core charm bracelet category (75% of total sales), we believe the market is undervaluing its competitive positioning and opportunity.

Pandora scores moderately well on the conspicuousness and pricing power under our Luxury Goods Brand Power methodology with 70% and over 60% of its purchases recurring and through gifting, which, we believe, the market is underappreciating. We also think there are opportunities for the company to evolve into a full product range global jewelry brand, given its manufacturing backbone and global sales footprint, which we believe is not accounted for in Pandora's valuation that prices in no recovery potential, flat revenue, and halving of operating margins versus our expectation for low-single-digit annual sales over the next 10 years with operating margins of 29% by 2027 (27% in 2018 and 33% historically).

Finally, although increased product newness so far failed to revive growth, we believe Pandora could improve performance by developing online distribution channels, revamping its stores and rationalizing store footprint, and enhancing in-store merchandising by diversifying product offerings, buying back excess wholesale inventory, and making changes to the creative team.

- While there is very high uncertainty around the future of the company and the stock, we believe that investment risks are currently skewed to the upside with shares trading at over 50% discount to our DKK 580 fair value estimate. Our bear-case scenario would result in an 8% share price decline, while the bull case would warrant more than tripling the company's share price.
- China could increase to 15% of Pandora's revenue by 2027 versus 7% currently through structural (6%-7% growth in luxury consumption) and brand awareness penetration in the region.

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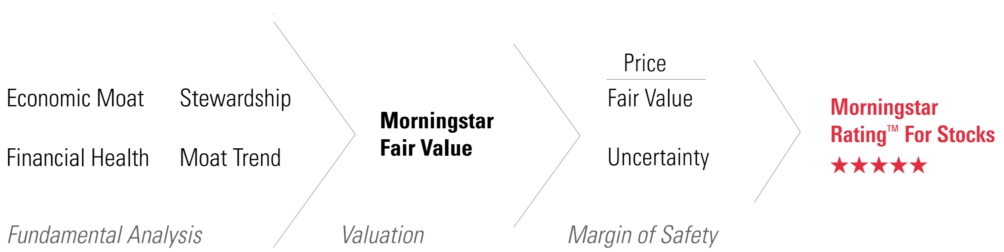
Research Methodology for Valuing Companies

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.

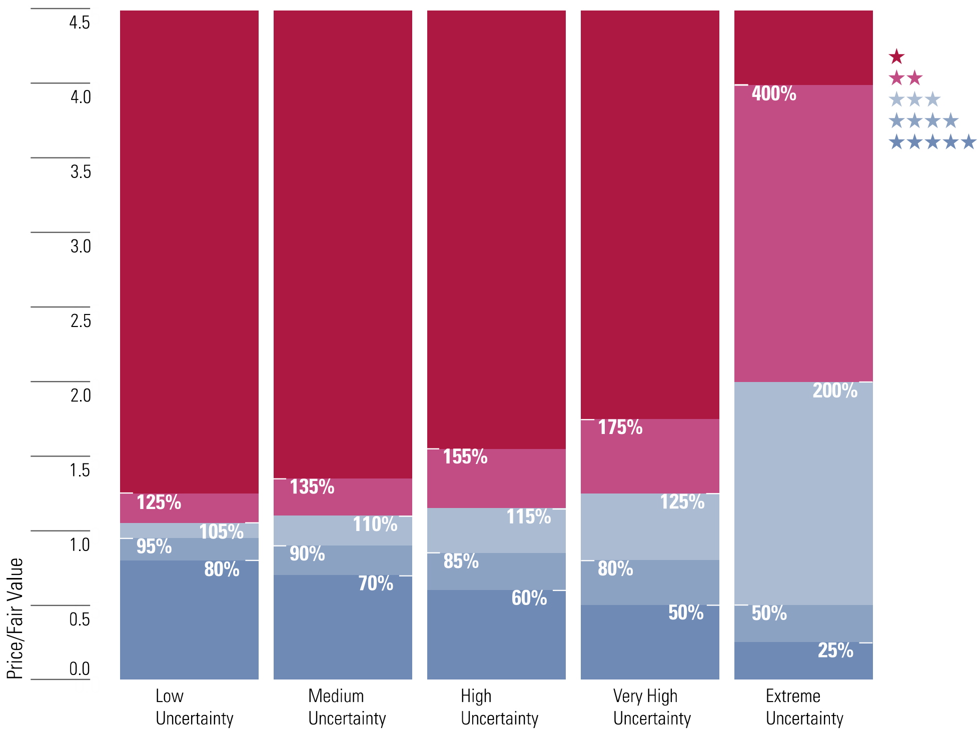
Analysts consider at least two scenarios in addition to their base case: a bull case and a bear case. Assumptions are chosen such that the analyst believes there is a 25% probability that the company will perform better than the bull case and a 25% probability that the company will perform worse than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