Research Highlights

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

Morningstar Equity Research
Dec. 3-7, 2018

Contents

What Are Brexit's Worst-Case Implications for Our Coverage?

Betting on the outcome of political debates isn't our forte, and the upcoming U.K. House of Commons vote that could determine the direction of the world's fifth-largest economy for the foreseeable future is no exception. As bottom-up, fundamental, long-term-focused analysts, however, we do want to ensure that our industry analyses and models adequately account for the macroeconomic and political risks. In this research, we use a worst-case scenario of a disorderly no-deal Brexit to stress-test models for our companies with the greatest exposure to the U.K. economy and Britain's exit from the European Union.

While we identify a number of companies that could face long-term adverse developments following a no-deal Brexit, namely in the automotive space, we also see most disruptions as short term in nature and thus unlikely to materially alter our long-term views. We believe we adequately account for the heightened risk via our fair value uncertainty ratings, and we see a number of investment opportunities with the market getting jittery as we get closer to Brexit Day.

Hope for the Best, Prepare for the Worst

To paraphrase Mark Twain, the more you explain Brexit, the more we don't understand it. However, we are just a few days away from the "meaningful vote" motion in the U.K. House of Commons, which will set in motion any number of events, with the ultimate outcome particularly challenging to predict.

Our goal isn't to speculate on the direction of political events or generate macro forecasts for each potential scenario. However, we do need to give investors some understanding of risks that could have direct and material implications for their holdings. The area where we believe we can add particular value, given our methodology that focuses on long-term cash flow generation and economic moats, is in providing an assessment of the long-term implications of disruptive events for competitive positioning of individual businesses and their future earnings power. Stress-testing our models to account for worst-possible scenarios also informs us of the margin of safety we'd recommend before investing.

We have attempted to handicap the longer-term implications of the highly unlikely but very damaging disorderly no-deal Brexit on the industries that have the most exposure to the U.K. economy and are directly affected by whatever-they-may-be future trade policies between the EU and the United Kingdom. The disorderly Brexit modeling effectively assumes the EU and U.K. relationship deteriorates completely and the U.K. exits without any trade agreement in place, causing potentially severe short-term reverberations and a deeper, more prolonged economic malaise.

We assess both the direct first-order effect of the U.K. having no preferential trade agreements with the EU and thus being subjected to World Trade Organization tariffs and the second-order effect of a likely downturn in the U.K.'s economic growth, acceleration of CPI inflation, increase in the unemployment rate, and sterling devaluation.

While a severe and prolonged downturn in the U.K. economy will have material implications for companies with significant revenue tied to the U.K. market, we should at the very least be cognizant of a potential contagion effect of a global recession, even if most forecasts we have seen do not consider that to be a meaningful risk. For now, we assume that in the disorderly worst-case scenario, the economic downturn will be primarily confined within the U.K. but have a modest effect on the remainder of the EU.

Morningstar's global equity research coverage tends to skew toward larger-capitalization stocks, which also tend to be multinational companies. With the exception of a few U.K.-focused industries (food retail and telecom, for example), companies we cover have global operations, mitigating whatever impact would be felt from an isolated-to-the-U.K. economic downturn. Not surprisingly, smaller U.K.-centric companies that compose much of the FTSE 250 are likely to feel the brunt of the downturn, which has depressed their performance relative to their larger FTSE 100 peers, particularly since the news of an impending vote rejection of Prime Minister Theresa May's proposal started circulating. Housing, construction, and retail companies in particular are more likely to be affected in the recessionary environment.

Industries most exposed to tariffs and their share in the total tariff-affected EU27-U.K. trade are listed in the accompanying table. The automotive sector stands out as the one most affected, and, not surprisingly, the entire industry fares the worst in our universe under our disorderly scenario. Tariffs to be levied on the automotive sector account for 43.7% of EUR 10.5 billion in total tariff revenue.

Exhibit 1 First-Order U.K. Tariffs Charged From Total Trade With EU27

Sector	Goods Trade (EUR Bil)	Weighted Effective Tariff Rate (%)	Share of Total Tariff Revenue (%)
Vehicles, etc.	54,256	8.47	43.7
Machinery and mechanical appliances	33,981	1.20	3.9
Electrical machinery, etc.	2,673	1.04	2.5
Pharmaceutical products	22,811	0.00	0.0
Plastics, etc.	11,414	4.61	5.0
Mineral fuels, etc.	10,294	1.87	1.8
Optical and medical equipment	8,533	0.95	0.8
Precious metals, etc.	6,000	0.85	0.5
Organic chemicals	5,626	3.41	1.8
Beverages, etc.	5,141	0.77	0.4

Source: Intereconomics 2018, WTO, Eurostat.

It is important to stress that while companies across many industries will be affected to a varying degree by Brexit, as investors, we are mainly preoccupied with the question of how much of this is already priced in. Even in industries with a meaningful level of exposure to Brexit, we see opportunities.

Auto Industry Stands to Lose the Most, but Valuations More Than Reflect the Risk

The U.K. automotive industry is highly integrated with the EU, including vehicle production and parts manufacturing. Auto industry trade ties are especially strong between the U.K. and Germany. Germany is the top destination for U.K. vehicle and parts exports. Just slightly behind the United States, the U.K. is the number-two destination for German vehicle and parts exports. U.K. automotive trade with France, Italy, and Spain is also very substantial.

If a trade rule tariff were just on the imported vehicles, U.K. consumers could switch to competing products not subject to EU tariffs. However, EU tariffs on vehicle parts presents a problem, potentially causing price increases for U.K.-built vehicles too. The reason that automakers consider U.K. factory closures as a strategic option is not only because of export volume to the EU; it's also because their supply chains are integrated with the EU. Manufacturers are concerned about the impact on demand that price hikes would have but also delays in the supply chain at ports of entry, as well as the working capital investment that will be required to offset the inventory trapped at ports. We think that in a hard Brexit scenario, U.K. and EU light-vehicle demand would be affected by price increases on both sides, with a risk of greater price hikes on all light vehicles sold in the U.K., regardless of domestic or EU origin.

Using our hard Brexit light-vehicle demand forecast in our discounted cash flow models results in an average 14% reduction in auto sector fair value estimates. However, in the current macro environment, the market has overly discounted several stocks in our coverage. Most notably, BMW retains a 4-star rating assuming a hard Brexit. This narrow-moat automaker has a current market valuation representing a 31% discount to our hard Brexit EUR 105 fair value estimate.

Risk Is There for U.K. Banks, but Passing Stress Tests Boosts Confidence

By far the greatest value destruction for banks occurs when banks are forced, through solvency and/or liquidity concerns, to raise capital. Typically, this is also when valuations are at their lowest, increasing the pain for shareholders. Banks are particularly sensitive to unexpected shocks—like the U.K. tumbling out of the EU without any trade deals in place—which can often spark a loss of confidence and be the catalyst for a full-blown crisis. We also believe that the willingness of the Bank of England to provide short-term liquidity in the event of a crisis in confidence is vital support that will allow otherwise solvent banks to survive a short-term drought in liquidity. Results from various stress tests suggest that U.K. banks should avoid capital calls on shareholders even under some of the direst scenarios, not limited to solely the impact from a no-deal Brexit.

Five banks we cover have significant retail and commercial banking operations in the U.K. Our preferred exposure would be the narrow-moat global giants HSBC and Santander, where we believe the market often discounts too great an impact from any potential Brexit-inspired crisis, given its relatively modest exposure. Narrow-moat Lloyds would be our preferred pure-play U.K. banking name, as we believe its market-leading current account franchise provides it with a steady and cheap funding base that will benefit from higher interest rates. Our conviction is the lowest on Barclays, whose relatively greater exposure to volatile, capital-hungry investment banking remains problematic. We believe that Royal Bank of Scotland's government ownership and troubled history have led to certain decisions that favor public opinion over profitability and shareholder interests.

Long-Term Innovation Implications for U.K. Defense Companies Are More Damaging
Within our aerospace coverage, we believe Airbus, Rolls-Royce, Safran, Leonardo, and Meggitt remain the most exposed to Brexit risks. The direct impact of Brexit is already being felt at many of these companies with management teams moving to increase inventory levels in the event of delays at the U.K.-EU border. This will hit cash flows but not necessarily revenue, since we believe these buffer stocks should enable product deliveries to continue unabated.

While these immediate, direct impacts are more concrete and pertinent to investors, we'd also flag some longer-term changes Brexit may bring to the U.K. commercial aerospace sector. In the event of a disorderly exit from the EU, Airbus may look to move its wing production on future aircraft out of the U.K. and either onto the Continent to one of its wholly owned aerostructure subsidiaries (Premium Aerotec or Stelia Aerospace), or, depending on Northern Ireland's status after Brexit, Airbus might shift wing production to Bombardier's wing facility in Ireland, which we believe has some of the most advanced technical capabilities in the industry. Similar calculus will probably be made at other large aerospace companies like Safran. While a structurally weaker British pound could induce more companies to place future work in the U.K. over the long term, we don't think this can offset the business uncertainty arising from a potentially messy U.K. exit from the EU.

We don't envision any immediate, material impact on defense-oriented companies in the U.K. such as BAE and Thales, which is based in France but has about 6,500 employees in the U.K. We do think that longer term the U.K. defense industry may be at a disadvantage when attempting to cooperate directly with EU member states (outside of the EU defense agencies) on military programs.

Most Concentrated Risk Lies With Auto and Forklift Suppliers Into U.K.
In our hard Brexit scenario with a U.K. recession and WTO tariffs on imports, European capital goods suppliers would bear risk directly from the tariffs and added paperwork or friction costs as well as indirectly from the slowdown in demand from end markets such as light-vehicle autos, where WTO tariffs would be especially onerous and demand highly elastic, particularly in the event of increased unemployment. While the manufacturing sector as a whole is about 10% of the U.K. economy, suppliers into these end markets would not face massive tariffs, with a range of 1%-4%. In our models, we estimate the additional costs from friction—based on the WTO tariff estimate and the company's exposure to the U.K.—works out to be about 5-20 basis points of added group selling, general, and administrative expense. The direct costs of tariffs and friction alone are not enough to make a material difference to our fair value estimates, given that most companies in our universe have a low concentration of U.K. business with the highest at less than 10% of revenue. However, a recession would be the more meaningful driver in our hard Brexit scenario, lowering demand for cycle-sensitive

capital goods such as automotive components and production tools as well as forklifts. In our coverage, the companies with the greatest exposure to a U.K. recession are forklift suppliers Kion Group and Jungheinrich, with downside risk of 9%-15% to fair values in our hard Brexit scenario.

Consumer Companies With Competitive Advantages Best Positioned in Inflationary Environment

In the event of this risk of economic shock and stagflation coming to fruition, there are two reasons large-cap consumer product manufacturers are likely to be more defensive investments than retailers. First, many manufacturers possess wide economic moats. In most cases, the moat sources lie in supply chain competitive advantages, but some manufacturers still possess pricing power. The second reason we expect the multinational manufacturers to be relatively defensive in this sector is that they are much more geographically diversified than the retailers. For global players such as Unilever, Nestle, and Danone, the U.K. represents 5% or less of total revenue, so the impact to valuation of an outcome of U.K. stagflation is not material. Perhaps the greatest exception to that rule is RB, for which the U.K. represents almost 15% of its top line.

Overall, we think the food grocers we cover will have a hard time passing on food cost pressures to consumers while there would be an inevitable down-trading, which will benefit hard discounters in both the food and nonfood markets. We think Associated British Foods is well positioned due to Primark, the lowest-cost clothing retailer in the U.K., while Morrison, Sainsbury, and Tesco will face headwinds (tariff- and currency-induced food cost inflation, fierce competition from hard discounters) to the benefit of no-frills discounters.

Ties to Auto Sector Are Biggest Risk for U.K. Chemical Companies

We see significantly less risk for the continental chemical companies we cover, given that the majority of their sales, production, and raw material inputs are outside the U.K. Few disclose sales to the U.K., but we estimate 4%-6% is probably the average exposure. On the tariff side, we also see lower risk for continental producers. BASF estimates that returning to WTO rules would cost the company EUR 40 million- 60 million annually, plus an additional one-time cost of EUR 20 million if it is obliged to reregister substances with REACH, which is the primary EU legislation governing the chemical industry. However, EUR 60 million is equivalent to only 0.01% of BASF’s total revenue. As BASF is by far the largest chemical company we cover, these costs will be more of a burden for a company of average size, but we find it unlikely that the costs will be material for any of its European peers.

Alex Morozov, CFA | alex.morozov@morningstar.com

The Return of the Bank: Net Interest Margins Reach a Turning Point

With interest rates so low for so long, deposit cost advantages had largely disappeared. However, with rates now rising, funding costs are coming back to the forefront. In this piece, we combine our own interest-rate forecast with an analysis of the deposit cost advantage for each bank we cover to project outcomes on the funding side of the balance sheet. We then combine this with an analysis of asset yields and loan growth to come up with our final net interest margin and net interest income projections. As rates normalize over the next several years, bank asset mix and funding cost advantages will be key differentiators that lead to clear winners and losers. Banks that we project will have the highest net interest income CAGRs from 2019 through 2022 include Comerica, Cullen/Frost Bankers, Huntington Bancshares, PNC Financial, and JPMorgan.

Deposit Costs and Competitive Positioning: Identifying Advantaged Banks

- For this piece, we gathered historical data on deposit bases, as well as data related to current positioning of deposit bases for all the banks we cover. We came up with a multifactor ranking system and applied it to each bank to assess which ones have the best and worst deposit bases and how this will affect net interest income growth.

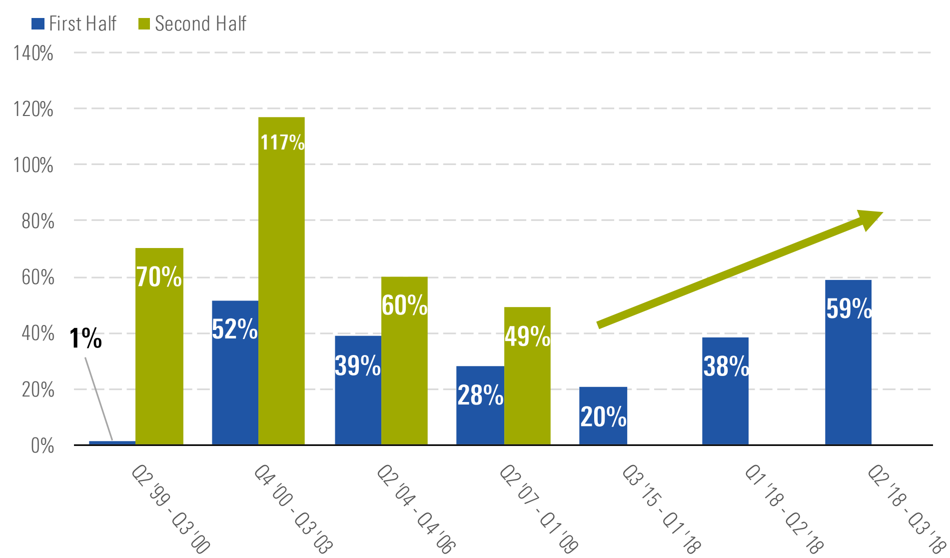
Exhibit 1 Our Framework for Predicting Who Will Keep More of the Benefits of Rising Interest Rates

	2018 Q3			**Deposit Beta**			**Deposits Advantaged in Future?**	**Net Interest Income CAGR**	
	Non-Interest Deposits	Time Deposits	Brokered Deposits	2015Q3-2018Q1	2018Q2	2018Q3		2015-2018	2019-2022
Cullen/Frost Bankers, Inc.	40.9%	3.1%	0.0%	0.17	0.62	0.59	Most Likely	9.1%	5.1%
Comerica Incorporated	52.0%	3.6%	1.6%	0.08	0.59	0.48	Most Likely	12.0%	4.3%
Zions Bancorporation	44.4%	7.9%	4.2%	0.08	0.38	0.70	Most Likely	9.1%	4.0%
Regions Financial Corporation	37.7%	7.0%	1.1%	0.12	0.17	0.32	Most Likely	4.3%	3.8%
M&T Bank Corporation	35.3%	6.5%	2.9%	0.18	0.17	0.43	Most Likely	12.6%	2.8%
Bank of America Corporation	32.1%	3.7%	6.1%	0.17	0.28	0.64	Likely	6.7%	3.9%
Wells Fargo & Company	28.3%	8.8%	9.1%	0.23	0.34	0.49	Likely	3.3%	1.9%
PNC Financial Services Group, Inc.	29.0%	5.3%	2.2%	0.18	0.34	0.75	Even	6.4%	4.5%
JPMorgan Chase & Co.	27.2%	3.4%	1.1%	0.22	0.33	0.54	Even	8.3%	4.4%
SunTrust Banks, Inc.	24.4%	10.1%	3.8%	0.18	0.34	0.54	Even	8.0%	4.1%
Fifth Third Bancorp	30.9%	6.6%	3.7%	0.22	0.41	0.68	Even	5.2%	3.7%
BB&T Corporation	34.4%	8.2%	1.0%	0.17	0.38	0.48	Even	6.1%	3.4%
KeyCorp	29.0%	12.8%	2.8%	0.21	0.34	0.70	Less Likely	18.7%	3.9%
U.S. Bancorp	23.4%	6.5%	8.5%	0.26	0.41	0.54	Less Likely	5.8%	3.5%
Huntington Bancshares Incorporated	24.7%	8.6%	4.3%	0.16	0.55	0.75	Least Likely	17.6%	4.5%
Citigroup Inc.	19.5%	4.0%	4.7%	0.51	0.45	0.91	Least Likely	0.2%	3.1%
Averages	**30.8%**	**7.1%**	**3.9%**	**19.5%**	**38.3%**	**59.5%**		**6.9%**	**3.8%**

Source: S&P Global Market Intelligence, FRED, company filings, Morningstar.
* Deposit betas are based on U.S. deposits only.

- Deposit cost differences do exist between banks (that is, a bank's deposit base is not fully commoditized, and not all deposit bases are created equal). We have found these differences to be persistent, which means that they're not random and can lead to sustainable competitive advantages.
- Deposit cost advantages do correlate with overall profitability and can lead to differences in a bank's return on equity of 100-200 basis points or more.
- The industry-level deposit beta was only at 20% from the end of 2015 through the first quarter of 2018, but given the lag effect for betas, we have been expecting them to pick up precipitously. This had already begun in the second quarter of 2018, where betas were 39% for the banks we cover, and in the third quarter, betas picked up to 59%. We are projecting betas in the 80s on average for the rest of the cycle, leading to a full-cycle beta of 46% for the banks we cover through 2022.

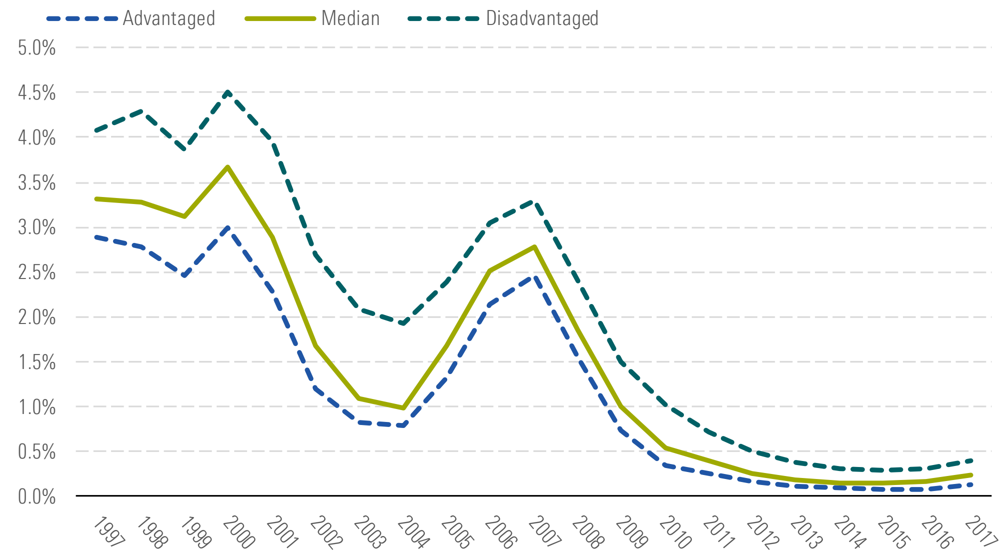
Exhibit 2 Deposit Betas Tend to Exhibit Lag, With Lower Betas Initially and Higher Betas Afterward



Source: S&P Market Intelligence, Regulatory Filings, FRED, Morningstar.

- In addition to changes in deposit betas, we also see deposit mix changing, as banking clients are more incentivized to switch to interest-bearing accounts from non-interest-bearing accounts, or to switch between different types of interest-bearing accounts (such as from a savings to a CD account). The spread between CDs and other interest-bearing accounts continues to rise as rates normalize, making CDs more attractive, and we are already seeing mix shifts in the data, which we only expect to accelerate.
- Differences in the quality of deposit bases can more than double the overall cost of interest-bearing deposits for a disadvantaged bank compared with an advantaged bank, with mix advantages only magnifying any effects.

Exhibit 3 Disadvantaged Firms Can Have Double the Deposit Costs of Advantaged Firms



Source: S&P Global Market Intelligence, Morningstar.
*Bank coverage group consists of standard banks that Morningstar currently covers, including: JPM, WFC, C, BAC, USB, PNC, BBT, COF, KEY, RF, STI, HBAN, FITB, CMA, ZION, MTB, CFR.
* Being advantaged = being better than the group median for 75% or more of the years measured, disadvantaged is being better than the group median for 25% or less of the years measured, and the middle group ranges between 25% and 75%.

Slowing NIM Expansion, Moderate Loan Growth, and Moderating Net Interest Income Growth

- With a benign credit environment, increasing industry profits, and a renewed focus on growth, we see competition only increasing from here. This will be a headwind for NIM expansion.
- All banks under our coverage remain asset-sensitive. Given the expectation for a rising rate regime over the next several years, we don't think this will change, which leads us to remain positive on both NIM expansion and net interest income growth over the medium term.
- While we are positive on NIMs and net interest income growth, we expect this expansion to slow over the second half of the cycle as funding costs begin to catch up.
- We see some positive indicators for an increase in future loan growth, despite the lull in growth over the past two years. This includes positive GDP data (a leading indicator), management commentary, and initial momentum from monthly loan level data.
- We would not be surprised if industry level loan growth shot higher over the short term, but we expect GDP-like loan growth of roughly 3.5% over the next four years.
- After annual net interest income growth of close to 7% for our coverage from the end of 2015 to 2018, we expect a slowdown to 3%-4% on average per year through 2022.

A New Normal for Returns on Equity for the Banking Industry

- We expect that tax cuts, deregulation, cost cutting, the release of excess capital, and rising rates will be the key factors improving structural returns on equity for the banking industry over the medium term.
- We calculate that once the rising rate cycle is complete, the banking industry will have benefited from a 250-basis-point boost to ROEs on average thanks to rising NIMs compared with 2015, when the Federal Reserve raised rates for the first time since the financial crisis. We calculate that 42 basis points of ROE

expansion are still left in this interest-rate normalization cycle due to rising NIMs, but that the normalization of the credit cycle will more than offset the benefit from remaining NIM expansion. The industry will need to release excess capital to further balance out a normalizing credit environment. This implies that we are likely close to a peak in sustainable returns on equity, which is already reflected in our modeling for the banks in this piece, where we have returns on tangible equity staying roughly flat from 2018 forward.

Exhibit 4 We Have Likely Reached Peak Profitability, but Rising NIMs and Capital Release Should Mostly Offset Normalizing Credit Costs From Here

Average Industry ROE Pre-Crisis (1996-2007 Q2): 13.6%

Average Industry ROE 2015	**9.26%**	**Average Industry ROE 2018 Q3**	**12.48%**
Release of Excess Capital	0.90%	Release of Excess Capital	0.85%
21% Corporate Tax Rate	1.10%		
Rising NIMs	2.50%	Rising NIMs	0.42%
Credit Cycle Normalizing	-1.20%	Credit Cycle Normalizing	-1.25%
Implied New Normalized ROE	**12.56%**	**Implied New Normalized ROE**	**12.50%**
Increasing Competition	**-0.22%**	**Increasing Competition**	**-0.22%**
Implied New Normalized ROE	**12.34%**	**Implied New Normalized ROE**	**12.28%**

Source: FDIC, Morningstar.

Eric Compton | eric.compton@morningstar.com

Despite a Share Bounce, P&G Still Merits a Spot on Shopping Lists

Nearly a year since its proxy battle with activist investor Nelson Peltz came to an end (Peltz assumed a board seat in March), P&G's shares have jumped 6% versus a mere 2% appreciation in the S&P 500 index. While we never believed one individual stood to accelerate the change already underway (rationalizing its cost structure, removing more than 100 brands from its mix, and returning significant cash to shareholders in the form of dividends and share repurchases), we think these efforts are only now beginning to bear fruit.

As evidence, the 4% sales growth chalked up in the first quarter (ending Sept. 30) was a marked improvement from the flat- to low-single-digit gains that characterized its operations of late. And although it will take a few more quarters before we view this as sustainable, we think it is taking the appropriate steps to elevate its performance. For one, while the beauty business was long a laggard in P&G's mix, it has reversed course, stringing together mid- to high-single-digit top-line gains over the past few years after parting ways with unprofitable products and launching fare centered on its core anti-aging messaging. And we believe its lackluster grooming business is also poised for improvement (although not to the same magnitude), as it works to apply a similar formula after falling victim to intense competition from lower-price upstarts.

In this vein, we view P&G's intent to drive further efficiencies in order to fund added spending behind its brands favorably. In the aggregate, our forecast calls for 3%-4% average annual sales growth through fiscal 2028 and 300 basis points of operating margin gains to more than 24% (versus consensus forecast for low-single-digits sales growth and just 200 basis points of operating margin benefit over the next few years). And while shares trade at just a 4% discount to our valuation, we suggest investors keep this wide-moat name on their radar. For those interested in the space, we believe wide-moat Colgate is more attractive currently.

- With leading brands and vast resources, we think P&G is a critical partner for retailers, supporting the intangible asset source of its wide moat.
- We view CEO David Taylor's goals over the past three years to enhance accountability across the organization and better align the firm's resources and decision-making closer to the consumer as wise.
- While shares aren't overly compelling at the current valuation, we think investors wanting to brush up on their exposure to the household and personal care realm should look to wide-moat Colgate, which trades at a 10% discount to our $70 fair value estimate and 19 times fiscal 2019 earnings.

Erin Lash, CFA | erin.lash@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	$11.78	High	Narrow	0.60	4.75	Inton
Compass Minerals International (CMP)	★★★★	$81	$48.63	High	Wide	0.60	1.65	Goldstein
James Hardie Industries (JHX)	★★★★	AUD 21.2	AUD 15.77	Medium	Narrow	0.74	6.97	Slade
Martin Marietta Materials (MLM)	★★★★	$250	$186.13	High	Narrow	0.74	11.67	Inton
Communication Services								
BT Group (BT.A)	★★★★	GBX 360	GBX 253	High	Narrow	0.70	25.86	C. Nichols
China Mobile (941)	★★★★	HKD 97	HKD 77.55	Medium	Narrow	0.80	1557.16	Baker
Telefonica (TEF)	★★★★★	$13	$7.68	High	Narrow	0.59	39.88	C. Nichols
Telstra (TLS)	★★★★★	AUD 4.4	AUD 3.08	Medium	Narrow	0.70	36.63	Han
Vodafone Group (VOD)	★★★★	$250	$160.46	High	Narrow	0.64	43.55	C. Nichols
Consumer Cyclical								
Alibaba Group Holding (BABA)	★★★★	$240	$155.83	High	Wide	0.65	400.78	Hottovy
Anta Sports Products (2020)	★★★★★	HKD 55	HKD 36.3	Medium	Narrow	0.66	97.46	Su
Bayerische Motoren Werke (BMW)	★★★★	EUR 117	EUR 72.07	High	Narrow	0.62	48.31	Hilgert
Cie Financiere Richemont (CFR)	★★★★	CHF 90	CHF 64.02	High	Wide	0.71	36.15	Sokolova
Dufry (DUFN)	★★★★	CHF 144	CHF 99.1	High	Narrow	0.69	5.00	Sokolova
Expedia Group (EXPE)	★★★★	$180	$120.65	High	Narrow	0.67	17.97	Wasiolek
General Motors (GM)	★★★★	$46	$35.7	High	None	0.78	51.54	Whiston
Hanesbrands (HBI)	★★★★★	$27	$15.7	Medium	Narrow	0.58	5.66	Swartz
InvoCare (IVC)	★★★★	AUD 16	AUD 11.54	Medium	Wide	0.72	1.27	Ragonese
Mattel (MAT)	★★★★	$21	$13.77	High	Narrow	0.66	4.75	Katz
Norwegian Cruise Line Holdings (NCLH)	★★★★	$69	$49.36	High	Narrow	0.72	10.86	Katz
Walt Disney (DIS)	★★★★	$130	$114.33	Medium	Wide	0.88	168.03	Macker
WPP (WPP)	★★★★★	GBX 1450	GBX 814.4	Medium	Narrow	0.56	10.28	Mogharabi
Consumer Defensive								
A2 Milk (ATM)	★★★★	AUD 13.7	AUD 11.02	High	Narrow	0.80	8.10	Fleck
Anheuser-Busch InBev (BUD)	★★★★★	$118	$72.27	Low	Wide	0.61	141.40	Gorham
G8 Education (GEM)	★★★★	AUD 3.5	AUD 2.87	High	None	0.82	1.31	James
General Mills (GIS)	★★★★★	$58	$39.73	Low	Wide	0.69	24.01	Vora
Imperial Brands (IMB)	★★★★★	GBX 3700	GBX 2351.5	Low	Wide	0.64	22.62	Gorham
Mondelez International (MDLZ)	★★★★	$52	$44.25	Medium	Wide	0.85	64.33	Lash
Energy								
Cenovus Energy (CVE)	★★★★★	$21	$10.23	Very High	None	0.49	13.61	Gemino
Diamondback Energy (FANG)	★★★★	$148	$101.82	High	Narrow	0.69	16.71	Meats
Enbridge (ENB)	★★★★★	$62	$42.85	Medium	Wide	0.69	78.35	Gemino
Enterprise Products Partners (EPD)	★★★★★	$35.5	$26.07	Low	Wide	0.73	56.90	Ellis
Royal Dutch Shell (RDS.B)	★★★★	$83	$60.77	Medium	Narrow	0.73	240.12	Good
Total (TOT)	★★★★	$77	$54.59	Medium	None	0.71	140.60	Good
Woodside Petroleum (WPL)	★★★★	AUD 46.5	AUD 31.03	High	None	0.67	29.05	Taylor
Financial Services								
Agricultural Bank of China (601288)	★★★	CNY 4.2	CNY 3.58	High	Narrow	0.85	1235.15	Tan
Altaba (AABA)	★★★★	$98	$63.86	High	None	0.65	38.48	Mogharabi
American International Group (AIG)	★★★★★	$76	$39.41	Medium	None	0.52	34.86	Horn
BlackRock (BLK)	★★★★	$500	$400.23	Medium	Wide	0.80	63.51	Warren
Capital One Financial (COF)	★★★★★	$127	$84.61	Medium	Narrow	0.67	40.08	Plunkett
Credit Suisse Group (CSGN)	★★★★★	CHF 22	CHF 11.09	High	Narrow	0.50	28.32	Scholtz

Source: Morningstar. As of Dec. 7, 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, Continued								
Link Administration Holdings (LNK)	★★★★	AUD 8.5	AUD 7.01	Medium	Narrow	0.82	3.71	James
Macquarie Group (MQG)	★★★★	AUD 135	AUD 113.32	Medium	Narrow	0.84	38.90	Ellis
Oversea-Chinese Banking Corp (O39)	★★★★	SGD 13.6	SGD 11.23	High	Narrow	0.83	47.74	Wu
Pendal Group (PDL)	★★★★	AUD 11	AUD 8.09	Medium	Narrow	0.74	2.57	Likos
Sumitomo Mitsui Financial Group (8316)	★★★★	JPY 5960	JPY 4003	Medium	None	0.67	5586.60	Makdad
T. Rowe Price Group (TROW)	★★★★	$120	$94.86	Medium	Wide	0.79	22.83	Warren
Westpac Banking (WBC)	★★★★	AUD 33	AUD 25.73	Medium	Wide	0.78	88.22	Ellis
Healthcare								
Allergan (AGN)	★★★★★	$245	$155.52	Medium	Wide	0.63	52.45	Waterhouse
DaVita (DVA)	★★★★	$81	$61.82	Medium	Narrow	0.76	10.26	Strole
Medtronic (MDT)	★★★★	$110	$96.24	Medium	Wide	0.87	129.25	Wang
Roche Holding (ROG)	★★★★★	CHF 333	CHF 250.7	Low	Wide	0.75	213.87	Andersen
Industrials								
Anixter International (AXE)	★★★★★	$107	$60.04	Medium	Narrow	0.56	2.01	Bernard
Beijing Enterprises Holdings (392)	★★★★	HKD 58	HKD 45.4	Medium	Narrow	0.78	57.30	Song
CK Hutchison Holdings (1)	★★★★★	HKD 118	HKD 78.5	Medium	None	0.67	302.71	Tan
G4S (GFS)	★★★★★	GBX 337	GBX 181.8	Medium	None	0.54	2.82	Field
GEA Group (G1A)	★★★★★	EUR 45	EUR 22.39	Medium	Wide	0.50	4.04	Molina
General Dynamics (GD)	★★★★	$216	$171.02	Medium	Wide	0.79	50.65	Higgins
Grupo Aeroportuario del Pacifico (GAP B)	★★★★	MXN 210	MXN 146.11	High	Wide	NA	81.89	Higgins
Guangshen Railway (525)	★★★★★	HKD 6.3	HKD 2.99	High	None	0.47	24.89	Song
Johnson Controls International (JCI)	★★★★	$46	$33.39	High	Narrow	0.73	30.85	Bernard
KION GROUP (KGX)	★★★★★	EUR 90	EUR 47.27	Medium	Narrow	0.53	6.11	Molina
Sodexo (SW)	★★★★	EUR 110	EUR 87.82	Medium	Narrow	0.80	12.79	Field
Stericycle (SRCL)	★★★★★	$83	$45.18	High	Narrow	0.54	4.09	Young
Real Estate								
Aveo Group (AOG)	★★★★	AUD 2.3	AUD 1.66	Medium	None	0.72	0.96	Sherlock
CK Asset Holdings (1113)	★★★★★	HKD 81	HKD 56.8	Medium	Narrow	0.70	209.79	Zhong
Macerich (MAC)	★★★	$59	$50.92	High	Narrow	0.86	7.18	Brown
Sun Hung Kai Properties (16)	★★★★	HKD 153	HKD 113.2	Medium	Narrow	0.74	327.94	Zhong
Technology								
Applied Materials (AMAT)	★★★★	$49	$34.69	High	Wide	0.71	34.10	Davuluri
Intel (INTC)	★★★★	$65	$48.37	Medium	Wide	0.74	220.76	Davuluri
KLA-Tencor (KLAC)	★★★★	$128	$95.56	High	Wide	0.75	14.63	Davuluri
Lam Research (LRCX)	★★★★	$185	$145.73	High	Narrow	0.79	23.23	Davuluri
Microchip Technology (MCHP)	★★★★★	$112	$73.4	Medium	Wide	0.66	17.62	Colello
Murata Manufacturing (6981)	★★★★	JPY 24000	JPY 16595	High	Narrow	0.69	3539.00	Ito
Skyworks Solutions (SWKS)	★★★★	$113	$70.61	High	Narrow	0.62	12.56	Colello
Tencent Holdings (700)	★★★★	HKD 499	HKD 310.6	High	Wide	0.62	2956.98	Tam
Utilities								
Dominion Energy (D)	★★★★	$84	$74.78	Low	Wide	0.89	49.09	Fishman
Enel (ENEL)	★★★★	EUR 5.7	EUR 4.74	Medium	None	0.83	48.26	Fulop
ENN Energy Holdings (2688)	★★★★	HKD 83	HKD 70	Medium	Narrow	0.84	78.68	Lee
FirstEnergy (FE)	★★★★	$41	$39.08	Low	Narrow	0.95	19.99	Fishman
Orsted (ORSTED)	★★★	DKK 450	DKK 433.4	Low	Narrow	0.96	182.80	Fulop

Source: Morningstar. As of Dec. 7, 2018

Highlighted Stocks

Kinder Morgan KMI

Morningstar Rating	Sector	Moat Trend	Currency	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price/Fair Value	Market Cap (Bil)
★★★★	Energy	Stable	USD	19.50	16.38	Medium	None	0.84	36.33

Source: Morningstar. As of Dec. 7, 2018

Although dividend policy has no impact on our fair value estimate, we think shareholders should take great confidence in management given its ability to stick with an aggressive goal it set out in 2017..

Analyst Note, Dec. 4, 2018

We are raising our fair value estimate to $19.50 per share from $19.20 after incorporating year-to-date results and management's initial outlook for 2019 that are generally in line with our outlook. We are reaffirming all our long-term assumptions, and the fair value estimate increase is due to time-value appreciation since our last update. We are reaffirming our no-moat and stable moat trend ratings.

Management announced an outlook of $7.8 billion adjusted EBITDA and $2.20 per share of distributable cash flow, or DCF, in 2019. The EBITDA outlook is slightly above our initial 2019 estimate, but the DCF is slightly below our estimate, all resulting in no net impact on our fair value estimate. We are not making any material changes to our estimates pending a more detailed look at management's outlook during its investor day in January. We continue to forecast $7.5 billion of adjusted EBITDA in 2018, in line with management's reaffirmed guidance.

Kinder management reaffirmed its intent to raise its annualized dividend to $1 per share in 2019 and $1.25 per share in 2020, up from $0.80 per share in 2018. Although dividend policy has no impact on our fair value estimate, we think shareholders should take great confidence in management given its ability to stick with an aggressive goal it set out in 2017. We think Kinder's 4.8% dividend yield as of early December is attractive given the outlook for dividend growth the next two years.

We also expect to hear more details about how Kinder will use the $2 billion of cash from the TransMountain project sale and its plan for Kinder Morgan Canada, or KML. With Kinder Morgan stock trading below our fair value estimate as of early December, its continued $2 billion stock repurchase plan will be value-accretive. Alternatively, Kinder could use the cash to fund almost $6 billion of planned growth projects we forecast during the next two years without issuing new equity.

Travis Miller | travis.miller@morningstar.com

Guidewire Software GWRE

Morningstar Rating	Sector	Moat Trend	Currency	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price/Fair Value	Market Cap (Bil)
★★★★	Technology	Stable	USD	114	85.03	Medium	Wide	0.75	6.87

Source: Morningstar. As of Dec. 7, 2018

On a day where negative macroeconomic sentiment had already pushed the broader market downwards, the news drove shares even further into 4-star territory. We view current levels as exceedingly compelling.

Analyst Note, Dec. 4, 2018
Guidewire reported a solid fiscal first quarter, exceeding guidance as well as consensus expectations on both the top and bottom lines. While the numbers were somewhat obfuscated by a change in accounting standards that causes previously ratable revenue to be recognized up-front, the results indicated strong underlying demand. The firm cut revenue guidance for the full year, as some cloud deals are taking longer to close than management anticipated. Still, we remain confident in the firm's ability to maintain its footprint as well as expand existing relationships across multiple touchpoints with their cloud platform. Thus, we will maintain our wide moat rating, as well as our fair value estimate of $114 per share. On a day where negative macroeconomic sentiment had already pushed the broader market downwards, the news drove shares even further into 4-star territory. We view current levels as exceedingly compelling.

Revenue came in at $179.7 million, representing year-over-year growth of 66%, driven by a 210% uptick in license and subscription revenue to $94.3 million. Adjusted operating margin was 17.6% versus minus 7.7% in the year prior. We expect margins to widen as cloud and subscription adoption ramps, though there will be fits and starts along the way. Guidewire now expects fiscal 2019 revenue to be $722 million-$732 million versus $740.5 million-$752.5 million previously. Management's initial fiscal 2019 guidance assumed faster deal closure for a few of their InsuranceSuite cloud deals. The revenue guidance cut was driven by decreased expectations for services revenue, as the pushbacks in deployment also mean a delay in the recognition of revenue the firm accrues for assisting with implementation. While we would have expected Guidewire's years of expertise to facilitate a level of foresight and prevent management from overshooting guidance, we are not shocked by the delays, given the labyrinthine nature of insurance regulations.

The firm sold no perpetual licenses in the quarter, reflecting continued secular demand shifts. Enterprises, including P&C insurers, are increasingly wanting IT applications across the software stack to be services delivered reliably and flexibly, in lieu of static tools that require hardware provisioning and maintenance. During the quarter, Gartner recognized Guidewire as a leader in their first Magic Quadrant for Non-Life Insurance Platforms in Europe. This did not come as a surprise to us, and we believe it speaks to the success the firm has achieved thus far with its expansion into Europe.

Ali Mogharabi | ali.mogharabi@morningstar.com

Bombardier BBD.B:CA

Morningstar Rating	Industry	Moat Trend	Currency	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price/Fair Value	Market Cap (Bil)
★★★★★	Industrials	Stable	CAD	4	2.25	High	None	0.56	5.38

Source: Morningstar. As of Dec. 7, 2018

At its investor day, management sought to alleviate concerns by confirming its 2020 targets, and it showed normalized cash flow metrics in an attempt to demonstrate that it remains on track.

Analyst Note, Dec. 7, 2018
Bombardier’s stock has dropped nearly 50% over the past three months due to weak cash flows for 2018 and 2019. At its investor day, management sought to alleviate concerns by confirming its 2020 targets, and it showed normalized cash flow metrics in an attempt to demonstrate that it remains on track. For all the focus on transportation's working capital, we think most of the risk sits in the business aircraft now due to the Global 7500 ramp. And debt maturities in 2020 and 2021 mean management doesn't have much room for error. We continue to forecast management hitting most of its 2020 targets in our base case, but we did reduce cash flows slightly for Bombardier, which knocked 5 cents off our fair value, which now stands at CAD 4.

Management outlined 2019 guidance—$18 billion of revenue, $1.2 billion of operating profit, and break-even cash flow—in more detail. Bombardier targets 2019 revenue growth in transportation (9%) and business aircraft (25%) but flat year-over-year revenue in aerostructures and commercial aircraft (controlling for A220 deconsolidation). The Global 7500 ramp will drive business aircraft growth, and Bombardier sees 150-155 deliveries, including 15-20 Global 7500s. Consolidated operating margins are pegged at just above 6.5%, with the two largest businesses, transportation and business aircraft, targeting 9% and 7.5%, respectively. If we exclude commercial aircraft, our model indicates that 2019 operating margins would be roughly 100 basis points higher than our forecast for 2019.

For 2020, we project revenue of $19.9 billion combined with 7.7% operating margins, which are both slightly below management targets. Our free cash flow in 2020 stands at $800 million (excluding A220 investments) compared with the targeted range of $750 million to $1 billion. More important than our 2020 projections are our normalized assumptions for Bombardier, which envision 8.9% operating margins and $610 million of free cash flow, starting in 2022.

The 140 basis points of margin expansion we anticipate from 2020 to 2022 is driven by the commercial aircraft and business aircraft units. In the former, we anticipate a turnaround within the CRJ business coupled with the A220 becoming profitable. Since Bombardier uses equity accounting for the A220, this program alone will add around 30 basis points to consolidated operating margins in 2022. In the business aircraft unit, we forecast 160 basis points of margin expansion from 2019 to 2022 thanks primarily to the Global 7500 program moving down the learning curve.

Chris Higgins, CFA | chris.higgins@morningstar.com

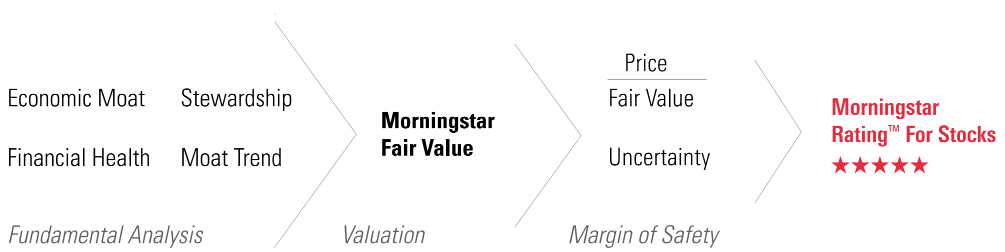
Research Methodology for Valuing Companies

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.

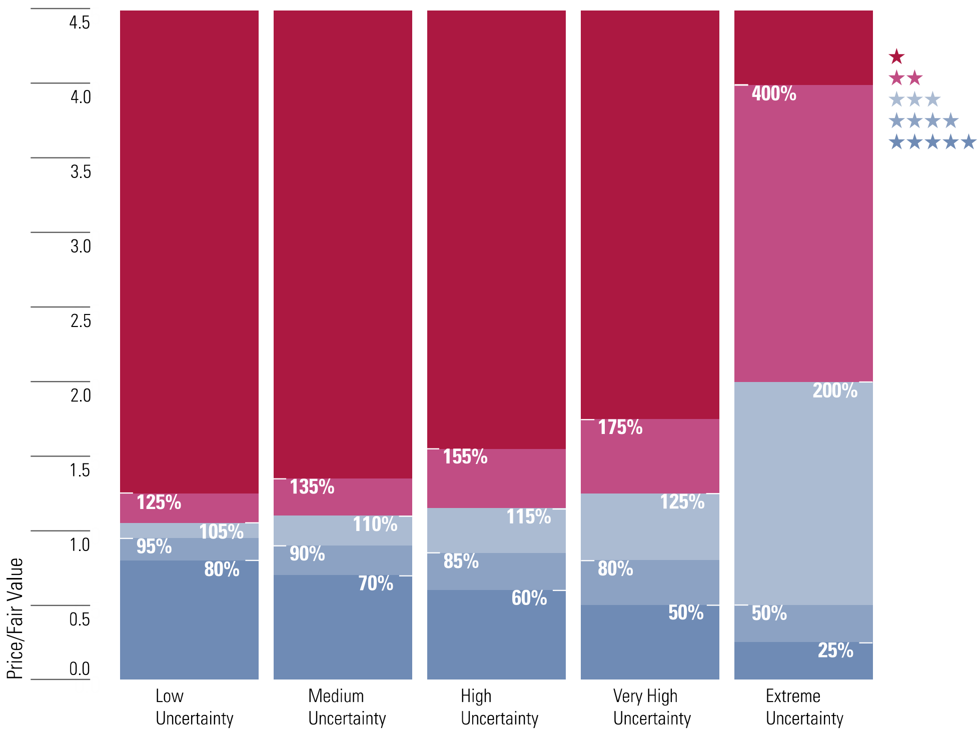
Analysts consider at least two scenarios in addition to their base case: a bull case and a bear case. Assumptions are chosen such that the analyst believes there is a 25% probability that the company will perform better than the bull case and a 25% probability that the company will perform worse than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

Please note that investments in securities are subject to market and other risks, and there is no assurance or guarantee that the intended investment objectives will be achieved. Past performance of a security may or may not be sustained in the future and is no indication of future performance. A security investment return and an investor's principal value will fluctuate so that, when redeemed, an investor's shares may be worth more or less than their original cost. A security's current investment performance may be lower or higher than the investment performance noted within the report. Morningstar's uncertainty rating serves as a useful data point with respect to sensitivity analysis of the assumptions used in our determining a fair value price.

General Disclosure

Unless otherwise provided in a separate agreement, recipients accessing this report may only use it in the country in which the Morningstar distributor is based. Unless stated otherwise, the original distributor of the report is Morningstar Research Services LLC, a U.S.-domiciled financial institution.

This report is for informational purposes only and has no regard to the specific investment objectives, financial situation or particular needs of any specific recipient. This publication is intended to provide information to assist institutional investors in making their own investment decisions, not to provide investment advice to any specific investor. Therefore, investments discussed and recommendations made herein may not be suitable for all investors: Recipients must exercise their own independent judgment as to the suitability of such investments and recommendations in the light of their own investment objectives, experience, taxation status, and financial position.

The information, data, analyses, and opinions presented herein are not warranted to be accurate, correct, complete, or timely. Unless otherwise provided in a separate agreement, neither Morningstar, Inc. nor the Equity Research Group represents that the report contents meet all of the presentation and/or disclosure standards applicable in the jurisdiction the recipient is located.

Except as otherwise required by law or provided for in a separate agreement, the analyst, Morningstar, Inc., and the Equity Research Group and their officers, directors, and employees shall not be responsible or liable for any trading decisions, damages, or other losses resulting from, or related to, the information, data, analyses, or opinions within the report. The Equity Research Group encourages recipients of this report to read all relevant issue documents (e.g., prospectus) pertaining to the security concerned, including without limitation, information relevant to its investment objectives, risks, and costs before making an investment decision and, when deemed necessary, to seek the advice of a legal, tax, and/or accounting professional.

The Report and its contents are not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country, or other jurisdiction where such distribution, publication, availability, or use would be contrary to law or regulation or which would subject Morningstar, Inc. or its affiliates to any registration or licensing requirements in such jurisdiction.

Where this report is made available in a language other than English and in the case of inconsistencies between the English and translated versions of the report, the English version will control and supersede any ambiguities associated with any part or section of a report that has been issued in a foreign language. Neither the analyst, Morningstar, Inc., nor the Equity Research Group guarantees the accuracy of the translations.

This report may be distributed in certain localities, countries and/or jurisdictions ("Territories") by independent third parties or independent intermediaries and/or distributors ("Distributors"). Such Distributors are not acting as agents or representatives of the analyst, Morningstar, Inc., or the Equity Research Group. In Territories where a Distributor distributes our report, the Distributor is solely responsible for complying with all applicable regulations, laws, rules, circulars, codes, and guidelines established by local and/or regional regulatory bodies, including laws in connection with the distribution third-party research reports.

Conflicts of Interest

- No interests are held by the analyst with respect to the security subject of this investment research report.
  - Morningstar, Inc. may hold a long position in the security subject of this investment research report that exceeds 0.5% of the total issued share capital of the security. To determine if such is the case, please click http://msi.morningstar.com and http://mdi.morningstar.com.
- Analysts' compensation is derived from Morningstar, Inc.'s overall earnings and consists of salary, bonus, and in some cases restricted stock.
- Neither Morningstar, Inc. nor the Equity Research Group receives commissions for providing research nor do they charge companies to be rated.
- Neither Morningstar, Inc. nor the Equity Research Group is a market maker or a liquidity provider of the security noted within this report.
- Neither Morningstar, Inc. nor the Equity Research Group has been a lead manager or co-lead manager over the previous 12 months of any publicly disclosed offer of financial instruments of the issuer.
- Morningstar, Inc.'s investment management group does have arrangements with financial institutions to provide portfolio management/investment advice, some of which an analyst may issue investment research reports on. However, analysts do not have authority over Morningstar's investment management group's business arrangements nor allow employees from the investment management group to participate or influence the analysis or opinion prepared by them.
- Morningstar, Inc. is a publicly traded company (ticker symbol: MORN) and thus a financial institution the security of which is the subject of this report may own more than 5% of Morningstar, Inc.'s total outstanding shares. Please access Morningstar, Inc.'s proxy statement, "Security Ownership of Certain Beneficial Owners and Management" section http://investorrelations.morningstar.com/sec.cfm?doctype=Proxy&year=&x=12
- Morningstar, Inc. may provide the product issuer or its related entities with services or products for a fee and on an arms' length basis including software products and licenses, research and consulting services, data services, licenses to republish our ratings and research in their promotional material, event sponsorship, and website advertising.

Further information on Morningstar, Inc.'s conflict of interest policies is available from http://global.morningstar.com/equitydisclosures. Also, please note analysts are subject to the CFA Institute's Code of Ethics and Standards of Professional Conduct.

For a list of securities that the Equity Research Group currently covers and provides written analysis on, please contact your local Morningstar office. In addition, for historical analysis of securities covered, including their fair value estimate, please contact your local office.

For Recipients in Australia: This Report has been issued and distributed in Australia by Morningstar Australasia Pty Ltd (ABN: 95 090 665 544; ASFL: 240892). Morningstar Australasia Pty Ltd is the provider of the general advice ('the Service') and takes responsibility for the production of this report. The Service is provided through the research of investment products. To the extent the Report contains general advice, it has been prepared without reference to an investor's objectives, financial situation, or needs. Investors should consider the advice in light of these matters and, if applicable, the relevant Product Disclosure Statement before making any decision to invest. Refer to our Financial Services Guide (FSG) for more information at http://www.morningstar.com.au/fsg.pdf.

For Recipients in Canada: This research is not prepared subject to Canadian disclosure requirements.

For Recipients in Hong Kong: The Report is distributed by Morningstar Investment Management Asia Limited, which is regulated by the Hong Kong Securities and Futures Commission to provide services to professional investors only. Neither Morningstar Investment Management Asia Limited nor its representatives are acting or will be deemed to be acting as an investment advisor to any recipients of this information unless expressly agreed to by Morningstar Investment Management Asia Limited. For enquiries regarding this research, please contact a Morningstar Investment Management Asia Limited Licensed Representative at http://global.morningstar.com/equitydisclosures.

For Recipients in India: This Investment Research is issued by Morningstar Investment Adviser India Private Limited. Morningstar Investment Adviser India Private Limited is registered with the Securities and Exchange Board of India (Registration number INA000001357) and provides investment advice and research. Morningstar Investment Adviser India Private Limited has not been the subject of any disciplinary action by SEBI or any other legal/regulatory body. Morningstar Investment Adviser India Private Limited is a wholly owned subsidiary of Morningstar Investment Management LLC. In India, Morningstar Investment Adviser India Private Limited has one associate, Morningstar India Private Limited, which provides data-related services, financial data analysis, and software development. The Research Analyst has not served as an officer, director, or employee of the fund company within the last 12 months, nor has it or its associates engaged in market-making activity for the fund company.

* The Conflicts of Interest disclosure above also applies to relatives and associates of Manager Research Analysts in India
* The Conflicts of Interest disclosure above also applies to associates of Manager Research Analysts in India. The terms and conditions on which Morningstar Investment Adviser India Private Limited offers Investment Research to clients varies from client to client and are detailed in the respective client agreement.

For recipients in Japan: The Report is distributed by Ibbotson Associates Japan, Inc., which is regulated by Financial Services Agency. Neither Ibbotson Associates Japan, Inc. nor its representatives are acting or will be deemed to be acting as an investment advisor to any recipients of this information.

For recipients in Singapore: For Institutional Investor audiences only. Recipients of this report should contact their financial adviser in Singapore in relation to this report. Morningstar, Inc. and its affiliates rely on certain exemptions (Financial Advisers Regulations, Section 32B and 32C) to provide its investment research to recipients in Singapore.

About Morningstar® Institutional Equity Research™

Morningstar Institutional Equity Research provides independent, fundamental equity research differentiated by a consistent focus on sustainable competitive advantages, or Economic Moats.

For More Information

+1 312 696-6869
equitysupport@morningstar.com

MORNINGSTAR®

22 West Washington Street
Chicago, IL 60602 USA