Research Highlights

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

Morningstar Equity Research

Feb. 4-8, 2019

Contents

Higher-Than-Expected Shale Declines Shouldn't Worry Investors

In a recent study, The Wall Street Journal showed that most shale wells are failing to live up to company expectations, stoking fear that firms will have to spend more to sustain their production. The implied result: lower profitability, and perhaps higher crude prices. In our own analysis, we found that decline rates are not typically decreasing to the 6%-10% range that the industry expects, even after several years of production, and are actually trending closer to 15%. Therefore, our models—which previously incorporated 10% terminal declines—were not as conservative as we thought. But there's no need to hit the panic button. The terminal decline rate applies only after a well has been on line for several years, when more than 80% of its resources have already been recovered. Typically, its output by then will be only a fraction of its initial production rate (under 10%). So, increasing our terminal decline forecast to 15% has only a moderate impact on well economics, and the resulting valuation decreases are mainly in the 5%-10% range. Likewise, since our U.S. supply forecasts exhibit very low sensitivity to our terminal decline estimate, there is no material effect on marginal cost. Our midcycle forecast for West Texas Intermediate crude is unchanged at $55 per barrel.

- **Terminal decline rates are often underestimated.** Production data shows that oil and natural gas terminal decline rates from shale wells are trending toward 15% year over year, which is significantly above the 6%-10% range where most company estimates fall. Therefore, we think estimated ultimate recovery estimates are often biased upward, and the lifetime performance of many shale wells will fall short of expectations.
- **The impact on discounted cash flows is modest.** The terminal decline only affects the output from a well after several years of production, when daily production has already fallen to a fraction of its initial level. Therefore, raising our terminal decline assumption to 15% from 10% lowers the net present value of each potential shale well, but not by much ($0.3 million, or 10%, for a typical Permian well). For stocks, the corresponding fair value changes are shown in Exhibit 1. Notably, after the late-2018 sell-off, we still see several underpriced companies, including our top shale picks Continental Resources, Concho Resources, Diamondback Energy, and Pioneer Natural Resources.
- **There's no reason to tweak our midcycle forecasts.** Since the terminal decline applies only when a well is near exhaustion, updating our assumption to 15% has very little impact on our supply forecasts. In other words, most current production is generated by relatively young wells that have not yet reached the terminal decline phase and are therefore unaffected by the update. The resulting shift in the cost curve for both commodities is slight, and the corresponding increase in marginal cost is approximately zero.

Exhibit 1 Incorporating a Higher Terminal Decline Assumption Slightly Reduces Most of Our Fair Value Estimates

Ticker	FVE (Prior)	FVE (Mark-to-Market)	% Change	FVE (New)	% Change	Closing Price (2/6/2019)	P/FVE
AR	14.00	14.00	0.0%	12.00	(14.3%)	9.32	0.78
APC	58.00	58.00	0.0%	55.00	(5.2%)	45.45	0.83
COG	30.00	30.00	0.0%	29.00	(3.3%)	24.14	0.83
CLR	55.00	56.00	1.8%	52.00	(7.1%)	46.59	0.90
CXO	141.00	143.00	1.4%	134.00	(6.3%)	117.27	0.88
DVN	31.00	32.00	3.2%	30.00	(6.3%)	26.78	0.89
FANG	120.00	123.00	2.5%	115.00	(6.5%)	101.65	0.88
EOG	100.00	102.00	2.0%	98.00	(3.9%)	96.18	0.98
GPOR	13.00	13.00	0.0%	11.00	(15.4%)	7.75	0.70
HK	4.00	5.00	25.0%	4.50	(10.0%)	1.68	0.37
HES	62.00	62.00	0.0%	61.00	(1.6%)	54.94	0.90
LPI	6.00	6.00	0.0%	5.50	(8.3%)	3.77	0.69
MRO	16.00	17.00	6.3%	16.00	(5.9%)	15.91	0.99
MUR	22.00	22.00	0.0%	20.00	(9.1%)	27.95	1.40
NBL	23.00	23.00	0.0%	21.00	(8.7%)	22.37	1.07
OAS	6.00	7.00	16.7%	6.00	(14.3%)	5.76	0.96
OXY	62.00	63.00	1.6%	59.00	(6.3%)	66.63	1.13
PXD	190.00	193.00	1.6%	182.00	(5.7%)	141.79	0.78
RRC	22.00	22.00	0.0%	19.00	(13.6%)	10.14	0.53
WPX	11.00	11.00	0.0%	10.00	(9.1%)	12.89	1.29
Mean			**3.1%**		**(8.0%)**		**0.89**
Median			**0.7%**		**(6.8%)**		**0.89**

Source: Morningstar.

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Revisiting Australian Asset Managers

The success of Magellan, Pendal, and Platinum goes beyond the demographic tailwind of an increasing managed fund pool. A rising tide doesn't necessarily lift all ships. Rather, success is driven by performance, cost management, and distribution. As competition intensifies for investment dollars via lower-cost options such as passive alternatives or the fast-growing industry fund sector, pressure on fees builds. Nonetheless, we think the three pure-play asset managers in our Australian coverage are well-placed to capitalize on these drivers and benefit from industry tailwinds. Not only do all three display track records of long-term outperformance, but they offer specialized strategies more difficult to replicate by passive vehicles or even industry fund peers. As such, we believe they will continue to play a vital role in the domestic active asset management landscape for many years to come.

But the firms find themselves at different stages in their ability to leverage off these dynamics. Further to the increasing managed fund pool at their potential disposal, investors are increasingly being encouraged to diversify their holdings globally, benefiting all three asset managers. However, to do so, they must consistently outperform. Here, we believe all three asset managers have attractive investment propositions that through the cycle can deliver sustained outperformance.

- We have adjusted all three asset manager valuations after reviewing key long-term industry assumptions. We now assign Magellan Financial Group a fair value of AUD 29, up from AUD 28; Pendal Group a fair value of AUD 10.30, down from AUD 11; and Platinum Asset Management a fair value of AUD 5.50, down from AUD 6.40. Pendal and Platinum remain in 4-star territory, while Magellan remains in 3-star territory.
- Key tailwinds supporting the industry include: a growing managed fund base, driven by Australia's superannuation guarantee scheme; increasing focus on global diversification across investments; and in the case of Magellan, Pendal, and Platinum, periods of long-term outperformance.
- Key challenges facing the industry include: intensifying competitive pressures from low-cost alternatives and fast-growing industry funds; fee pressures, arising from heightened competition; and reliance on sustained outperformance to distinguish each manager's investment proposition.

Pendal Group Remains Our Top Pick

We believe all three asset managers are well placed to benefit from a favorable managed fund backdrop and navigate through the industry cycle long term. Our current valuations suggest Pendal is trading at the greatest discount to our fair value, followed by Platinum and then Magellan.

We believe Pendal's breadth of products across asset classes, global geographical reach, and lower-cost investment options places it well to take advantage of industry dynamics while still able to manage headwinds. Nevertheless, key risks to the group include performance and operational challenges in its JO Hambro business, while their domestic business appears increasingly mature and bereft of growth. Regardless, we remain confident that management can address these challenges. Furthermore, we believe at current prices the market is being too pessimistic on Pendal's long-term outlook.

Pendal is increasingly less dependent on the lower-margin Australian business. The proportion of its funds sourced from Australasia has declined to 48% in 2018 from 65% in 2013, while funds sourced from the United Kingdom, Europe, and the U.S. has grown at double digits since 2015. In fiscal 2018, this translated to only about 15% of operating earnings being derived from Australia, reflecting the significantly higher-margin overseas operations. The group benefits from a global distribution network, with a total addressable market spanning 90% of the world's funds under management. Inflows remain strong in the institutional segment, with positive net inflows over the past 15 months despite increasingly volatile financial markets. Similarly, although it experienced a weak 2018, prior to this, JO Hambro enjoyed sustained periods of inflows, driven by its mutual fund mandate. While immediate challenges confront the JO Hambro business, we are confident management can turn its fortunes around.

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Recession-Resistant Crown Offers Modest Upside Potential

Crown Holdings' narrow economic moat and steady growth profile have long drawn investor interest, but attractive entry points have been few and far between. However, we now see a relatively enticing valuation for the food and beverage can producer, as the market seems overly concerned with beverage consumption growth and Crown's ability to execute on its Signode acquisition. The current market price more closely reflects either severe weakness in beverage can markets or a recession around the corner, which we believe is too pessimistic.

We foresee steady returns on invested capital for Crown, supported by the efficient scale moat source, with volume growth bolstered by the company's broad geographic footprint. Recent market prices extrapolate what we think is an unreasonably large impact from declining soda and beer consumption in developed markets, but Crown's hefty emerging-market exposure should keep volumes growing at the company level despite our negative views on U.S. canned beverage consumption. Since flat to positive volume growth is key to maintaining or growing operating margins, we see no immediate threat to Crown's narrow moat rating or its consolidated profit margins.

- Share of narrow-moat Crown are trading slightly below our $53 fair value estimate.
- Crown is one of the cheapest high-quality stocks in the paper and packaging industry today.
- Beverage assets in Southeast Asia should fuel Crown's revenue and operating income growth going forward. Volumes are poised to rise over 3% annually through 2023.
- Our outlook for the Americas is muted, but not dire. We expect volumes to decline only modestly over the next five years, with growth in Latin and South America offsetting weakness in North America.
- To achieve our fair value, consolidated operating margins need to only stay roughly flat from 2018 levels.
- Crown shares should be rerated as it becomes clear that concerns about the Signode acquisition are overblown.
- Crown's geographic diversification insulates it well during recessions, even after the Signode deal.

Crown's 4Q Falls Short of Expectations

Fourth-quarter results for Crown fell short of our expectations, driven mostly by especially weak results in the European food and beverage segments. We think both events are largely short-term in nature, driven by elevated startup costs in European beverage and a weak harvest in Europe for food. Unrelated to Crown's fourth-quarter results, we've reduced our fair value estimate to $53 per share from $59, though its narrow moat rating is unchanged. Our fair value reduction is largely driven by expectations of lower overall top-line growth and lower midcycle margin assumptions in Crown's transit packaging business.

European beverage results were disappointing, with segment income falling to just $13 million in the fourth quarter from $38 million last year. The primary driver of weakness was a significant increase in startup costs associated with capacity growth in continental Europe—matched with sustained softness in Middle Eastern volumes. Management has guided to expect weaker margins throughout the early portion of 2019 due to elevated startup costs, after which point the segment should begin to see a pickup in both revenue and segment income. We think Middle Eastern volume weakness should ease, as the company starts to lap weak results from the prior year.

Our forecasts have fallen across the broader business to account for more accurate estimates for both volume and inflationary pass-throughs over the long run. We've reduced the amount of inflationary revenue growth we expect to better align with long-term cost trends for aluminum. We've also recalibrated beverage volume growth estimates (lower in Americas and Europe, higher in Asia-Pacific) based on country-level forecasts of both population growth and per capita beverage consumption patterns.

The other moving piece for 2019 will be Crown's planned relocation of two beverage can plants from China to Southeast Asia. The increased costs from the move will offset organic growth in the segment, leaving operating income essentially flat. In the long run, however, we think this will support segment margin expansion. Chinese beverage can markets are notoriously competitive, making even the most efficiently run plants less profitable because of excess state-owned capacity that weighs on margins for all producers. Moving these assets in Southeast Asia, where Crown already has a substantial presence, should bring segment profit margins closer to 15% over time as the plants will operate in a more balanced environment.

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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	$12.69	High	Narrow	0.65	5.06	Inton
Compass Minerals International (CMP)	★★★★	$81	$51.62	High	Wide	0.64	1.75	Goldstein
James Hardie Industries (JHX)	★★★★	AUD 21.2	AUD 16.54	Medium	Narrow	0.78	7.32	Slade
Martin Marietta Materials (MLM)	★★★★	$240	$182.26	High	Narrow	0.76	11.43	Inton
Communication Services								
BT Group (BT.A)	★★★★	GBX 360	GBX 228.85	High	Narrow	0.64	22.71	C. Nichols
China Mobile (941)	★★★★	HKD 97	HKD 82.35	Medium	Narrow	0.85	1686.16	Baker
Telefonica (TEF)	★★★★★	$13	$7.3	High	Narrow	0.56	37.94	C. Nichols
Telstra (TLS)	★★★★	AUD 4.4	AUD 3.24	Medium	Narrow	0.74	38.53	Han
Vodafone Group (VOD)	★★★★★	$250	$139.38	High	Narrow	0.56	37.24	C. Nichols
Consumer Cyclical								
Alibaba Group Holding (BABA)	★★★★	$240	$166.96	High	Wide	0.70	429.41	Hottovy
Anta Sports Products (2020)	★★★★	HKD 55	HKD 41.55	Medium	Narrow	0.76	111.56	Su
Bayerische Motoren Werke (BMW)	★★★★	EUR 117	EUR 71.22	High	Narrow	0.61	46.36	Hilgert
Cie Financiere Richemont (CFR)	★★★★	CHF 90	CHF 67.12	High	Wide	0.75	37.90	Sokolova
Crown Resorts (CWN)	★★★★	AUD 15	AUD 12.21	High	Narrow	0.81	8.39	Ragonese
Dufry (DUFN)	★★★★	CHF 144	CHF 97.14	High	Narrow	0.67	4.90	Sokolova
Expedia Group (EXPE)	★★★★	$180	$127.87	High	Narrow	0.71	19.05	Wasiolek
General Motors (GM)	★★★★	$47	$38.65	High	None	0.82	54.48	Whiston
Hanesbrands (HBI)	★★★★★	$27	$18.71	Medium	Narrow	0.69	6.75	Swartz
InvoCare (IVC)	★★★★	AUD 16	AUD 12.04	Medium	Wide	0.75	1.32	Ragonese
Mattel (MAT)	★★★★★	$21	$12.36	High	Narrow	0.59	4.27	Katz
Norwegian Cruise Line Holdings (NCLH)	★★★★	$69	$51.35	High	Narrow	0.74	11.30	Katz
Walt Disney (DIS)	★★★★	$130	$110.95	Medium	Wide	0.85	165.40	Macker
WPP (WPP)	★★★★★	GBX 1450	GBX 800.4	Medium	Narrow	0.55	10.10	Mogharabi
Consumer Defensive								
Anheuser-Busch InBev (BUD)	★★★★★	$118	$76.9	Low	Wide	0.65	149.80	Gorham
General Mills (GIS)	★★★★★	$57	$43.86	Low	Wide	0.77	26.17	Vora
Imperial Brands (IMB)	★★★★★	GBX 3700	GBX 2565.5	Low	Wide	0.69	24.55	Gorham
Mondelez International (MDLZ)	★★★★	$52	$46.5	Medium	Wide	0.89	67.60	Lash
Energy								
Cenovus Energy (CVE)	★★★★	$19	$10.09	Very High	None	0.53	12.40	Gemino
Diamondback Energy (FANG)	★★★	$115	$97.96	High	Narrow	0.85	16.07	Meats
Enbridge (ENB)	★★★★	$62	$49.31	Medium	Wide	0.80	99.70	Gemino
Enterprise Products Partners (EPD)	★★★★★	$35.5	$27.75	Low	Wide	0.78	60.57	Ellis
Royal Dutch Shell (RDS.B)	★★★★	$83	$64.55	Medium	Narrow	0.78	262.02	Good
Schlumberger (SLB)	★★★★	$62	$43.46	High	Narrow	0.70	60.10	Caldwell
Total (TOT)	★★★★★	$77	$54.56	Medium	None	0.71	142.47	Good
Woodside Petroleum (WPL)	★★★★	AUD 46.5	AUD 34.14	High	None	0.73	31.96	Taylor
Financial Services								
Agricultural Bank of China (601288)	★★★	CNY 4.2	CNY 3.72	High	Narrow	0.89	1284.47	Tan
Altaba (AABA)	★★★★	$98	$68.55	High	None	0.70	41.31	Mogharabi
American International Group (AIG)	★★★★★	$76	$42.83	Medium	None	0.56	37.89	Horn
BlackRock (BLK)	★★★★	$475	$415.01	Medium	Wide	0.87	65.85	Warren
Capital One Financial (COF)	★★★★★	$119	$79.03	Medium	Narrow	0.66	36.96	Plunkett
Credit Suisse Group (CSGN)	★★★★★	CHF 22	CHF 11.63	High	Narrow	0.53	29.68	Scholtz

Source: Morningstar. As of Feb. 8, 2019

Best Ideas

Company and Industry	Morningstar Rating	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price / Fair Value	Market Cap (B)	Analyst
Financial Services, Continued								
Link Administration Holdings (LNK)	★★★★	AUD 8.9	AUD 7.2	Medium	Narrow	0.81	3.83	James
Macquarie Group (MQG)	★★★★	AUD 135	AUD 121.57	Medium	Narrow	0.90	41.73	Ellis
NN Group (NN)	★★★★	EUR 48	EUR 36.78	Medium	None	0.77	12.51	Heathfield
Oversea-Chinese Banking Corp (O39)	★★★★	SGD 13.6	SGD 11.48	High	Narrow	0.84	48.78	Wu
Pendal Group (PDL)	★★★★	AUD 10.3	AUD 8.06	Medium	Narrow	0.78	2.56	Likos
Sumitomo Mitsui Financial Group (8316)	★★★★★	JPY 5775	JPY 3861	Medium	None	0.67	5388.41	Makdad
T. Rowe Price Group (TROW)	★★★★	$106	$93.74	Medium	Wide	0.88	22.32	Warren
Wells Fargo (WFC)	★★★★	$65	$48.08	Medium	Wide	0.74	220.27	Compton
Westpac Banking (WBC)	★★★★	AUD 33	AUD 26.79	Medium	Wide	0.81	91.86	Ellis
Healthcare								
Allergan (AGN)	★★★★★	$240	$132.44	Medium	Wide	0.55	44.67	Waterhouse
DaVita (DVA)	★★★★★	$81	$57.03	Medium	Narrow	0.70	9.47	Strole
Medtronic (MDT)	★★★★	$110	$88.9	Medium	Wide	0.81	119.40	Wang
Roche Holding (ROG)	★★★★★	CHF 333	CHF 268.35	Low	Wide	0.81	228.75	Andersen
Industrials								
Anixter International (AXE)	★★★★★	$107	$59.55	Medium	Narrow	0.56	1.99	Bernard
Beijing Enterprises Holdings (392)	★★★★	HKD 58	HKD 44.6	Medium	Narrow	0.77	56.29	Song
CK Hutchison Holdings (1)	★★★★★	HKD 118	HKD 78.9	Medium	None	0.67	304.26	Tan
G4S (GFS)	★★★★★	GBX 337	GBX 199.4	Medium	None	0.59	3.09	Field
GEA Group (G1A)	★★★★★	EUR 38	EUR 19.83	Medium	Wide	NA	3.58	Molina
General Dynamics (GD)	★★★★	$209	$173.59	Medium	Wide	0.83	50.12	Higgins
Grupo Aeroportuario del Pacifico (GAP B)	★★★★	MXN 210	MXN 173.82	High	Wide	0.83	97.51	Higgins
Guangshen Railway (525)	★★★★★	HKD 6.3	HKD 3.27	High	None	0.52	27.56	Song
Johnson Controls International (JCI)	★★★★	$46	$33.89	High	Narrow	0.74	30.83	Bernard
Kion Group (KGX)	★★★★★	EUR 90	EUR 50.38	Medium	Narrow	0.56	5.93	Molina
Sodexo (SW)	★★★★	EUR 110	EUR 94.04	Medium	Narrow	0.85	13.70	Field
Stericycle (SRCL)	★★★★★	$83	$44.27	High	Narrow	0.53	4.01	Young
Real Estate								
Aveo Group (AOG)	★★★★	AUD 2.3	AUD 1.72	Medium	None	0.75	0.99	Sherlock
CK Asset Holdings (1113)	★★★★	HKD 81	HKD 64	Medium	Narrow	0.79	236.38	Zhong
Macerich (MAC)	★★★★	$59	$42.83	High	Narrow	0.73	6.05	Brown
Sun Hung Kai Properties (16)	★★★★	HKD 153	HKD 131.2	Medium	Narrow	0.86	380.09	Zhong
Technology								
Applied Materials (AMAT)	★★★★	$49	$39.92	High	Wide	0.81	38.08	Davuluri
Carsales.com (CAR)	★★★★	AUD 14.5	AUD 12.15	Medium	Narrow	0.84	2.95	James
Intel (INTC)	★★★★	$65	$49.23	Medium	Wide	0.76	221.39	Davuluri
KLA-Tencor (KLAC)	★★★★	$128	$105.48	High	Wide	0.82	15.97	Davuluri
Lam Research (LRCX)	★★★	$185	$175.72	High	Narrow	0.95	26.81	Davuluri
Microchip Technology (MCHP)	★★★★	$112	$88.07	Medium	Wide	0.79	20.87	Colello
Murata Manufacturing (6981)	★★★★	JPY 23000	JPY 16920	High	Narrow	0.74	3608.31	Ito
Skyworks Solutions (SWKS)	★★★★	$105	$81.56	High	Narrow	0.78	14.20	Colello
Tencent Holdings (700)	★★★★	HKD 499	HKD 345.6	High	Wide	0.69	3290.19	Tam
Utilities								
Dominion Energy (D)	★★★★	$84	$72.67	Low	Wide	0.87	58.72	Fishman
Enel (ENEL)	★★★	EUR 5.7	EUR 5.13	Medium	None	0.90	52.18	Fulop
ENN Energy Holdings (2688)	★★★★	HKD 83	HKD 74.55	Medium	Narrow	0.90	83.79	Lee
Entergy (ETR)	★★★★	$96	$90.27	Low	Narrow	0.94	16.97	Fishman

Source: Morningstar. As of Feb. 8, 2019

Highlighted Stocks

Fiat Chrysler Automobiles FCAU

Morningstar Rating	Sector	Moat Trend	Currency	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price/Fair Value	Market Cap (Bil)
★★★★	Consumer	Negative	USD	29	14.89	Very High	None	0.51	29.83

Source: Morningstar. As of Feb. 8, 2019

Despite solid overall outperformance, the market sold the shares down by 11% on disappointing 2019 guidance and concerns over economic contraction in Europe. The 4-star-rated stock currently trades at an attractive discount to our fair value.

Analyst Note, Feb. 7, 2019
No-moat-rated Fiat Chrysler reported full-year 2018 diluted earnings per share before special items from continuing operations of EUR 3, EUR 0.09 better than the consensus EPS of EUR 2.91 and EUR 0.75 higher than last year. With a pending second-quarter 2019 sale, auto-parts supplier Magneti Marelli was treated as a discontinued operation. Total consolidated EPS, including discontinued operations, was a record EUR 3.20, EUR 0.10 ahead of our estimate of EUR 3.10. Consolidated revenue was 4% higher at EUR 115.4 billion compared with EUR 110.9 billion reported a year ago. Excluding the negative impact of currency translation, revenue would have increased 9%. Record adjusted EBIT was EUR 7.3 billion, up 3% compared with EUR 7.1 billion in 2017.

Results were driven by North American operations, which generated an impressive 8.6% adjusted EBIT margin for the full year. However, WLTP and softening Chinese demand resulted in substantial reduction in Europe adjusted EBIT as well as a loss in Asia-Pacific. Despite solid overall outperformance, the market sold the shares down by 11% on disappointing 2019 guidance and concerns over economic contraction in Europe. The 4-star-rated stock currently trades at an attractive discount to our fair value.

Management's 2019 guidance reflects improvement but not to the extent that the market had anticipated. Revenue guidance was not provided, but management expects adjusted EBIT from continuing operations to be greater than the EUR 6.7 billion and 6.1% margin reported for 2018. However, owing to production realignment to adjust to softened demand in Europe and China as well as a EUR 500 million cash payment for fines and other costs from the U.S. diesel emission settlement, management said that 2019 industrial free cash would be greater than EUR 1.5 billion, dramatically lower than the EUR 4.4 billion 2018 industrial free cash flow. In our view, the market continues to unfairly discount the shares of Fiat Chrysler.

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Nordstrom JWN

Morningstar Rating	Sector	Moat Trend	Currency	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price/Fair Value	Market Cap (Bil)
★★★★	Consumer	Stable	USD	55	45.45	High	Narrow	0.83	7.77

Source: Morningstar. As of Feb. 8, 2019

We view Rack as a leader in the discount apparel space and expect this to continue from solid merchandising and a loyal customer base. Rack has consistently reported better same-store sales and sales per square foot than competitors.

Analyst Note, Feb. 6, 2019
We maintain both our narrow moat rating and $55 fair value estimate on Nordstrom. We think Nordstrom continues to be a top operator in the fragmented U.S. apparel market. While no-moat competitors Macy's and Kohl's have suffered stagnant sales on competition from e-commerce, discounters, and others, Nordstrom has increased revenue from about $10 billion to $16 billion between 2010 and 2018. Its full- and off-price stores have consistently reported positive same-store sales over this period (whole company average of 4%). We think Nordstrom has a good mix of full-price stores in Class A malls, off-price Rack stores, and e-commerce.

Our valuation assumes consistent growth and margins for Nordstrom. We expect steady sales increases over the next decade (from $16 billion in 2018 to $20 billion in 2027) and operating margins of 6%-7%. For 2019-27, we forecast full-price same-store sales of 1.0%-1.5% and off-price same-store sales of 2.5%-3.5%. We view Rack as a leader in the discount apparel space and expect this to continue from solid merchandising and a loyal customer base. Rack has consistently reported better same-store sales and sales per square foot than competitors.

Nordstrom's somewhat disappointing sales at full-price stores in the holiday 2018 period do not change our view on its brand strength. While overall same-store sales of 1.3% in the period fell short of holiday 2017 same-store sales of 2.5%, its off-price business experienced solid 3.9% same-store sales. Moreover, its digital sales increased 36%. While we acknowledge competitive forces will continue to affect full-price apparel retail, we think that Rack and e-commerce will continue to perform well and that Nordstrom's investments (which have depressed operating income over the past few years) will help. Notably, the flagship Manhattan store opens later this year.

We view Nordstrom, down sharply since early November, as attractive at current levels.

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Ingredion INGR

Morningstar Rating	Industry	Moat Trend	Currency	Fair Value Estimate	Current Price	Uncertainty Rating	Moat Rating	Price/Fair Value	Market Cap (Bil)
★★★★	Consumer	Stable	USD	125	91.82	Medium	Narrow	0.73	6.14

Source: Morningstar. As of Feb. 8, 2019

Despite the continued near-term headwinds in Ingredion's North American sweetener sales, the market underappreciates the company's long-term growth prospects from its specialty ingredients portfolio.

Analyst Note, Feb. 5, 2019
Ingredion reported mixed fourth-quarter results. Soft results from the North America segment, which generates roughly 60% of revenue, were partially offset by higher profits in the Asia Pacific segment. In its earnings release, management guided to a 2019 adjusted EPS of $6.80-7.50. This is lower than our previous forecast due to weaker sweetener prices and reduced corn by-product sales. As a result, we've reduced our near-term outlook and now forecast 2019 adjusted EPS to come in at just shy of $7 per share. Having updated our forecast to incorporate our lower near-term outlook, we reduce our fair value estimate to $125 per share from $128 for narrow-moat Ingredion.

At current prices, we view Ingredion as undervalued, with shares trading firmly in 4-star territory. Despite the continued near-term headwinds in Ingredion's North American sweetener sales, the market underappreciates the company's long-term growth prospects from its specialty ingredients portfolio. In 2018, 29% of Ingredion's sales came from specialty ingredients, up from 28% in the prior year. This is in line with our long-term outlook that specialty ingredients will grow to a mid-30% proportion of sales over the next five years. Because specialty product sales command margins double those of commodity products, on average, even a small increase in specialty product sales can have an outsized impact on companywide profits. Accordingly, we forecast that operating margins will expand from 13% in 2018 to over 15% by 2023 (midcycle). This implies a 5% CAGR for adjusted operating income over the same time period.

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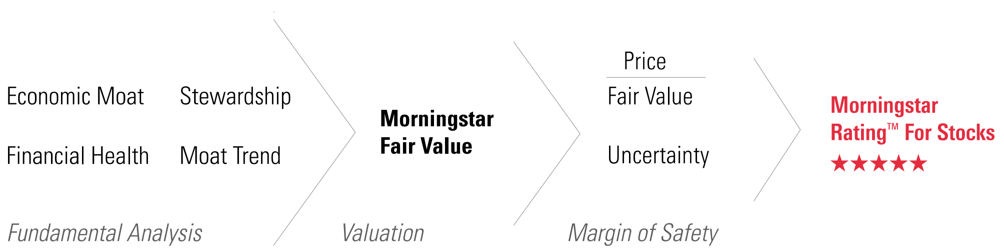
Research Methodology for Valuing Companies

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.

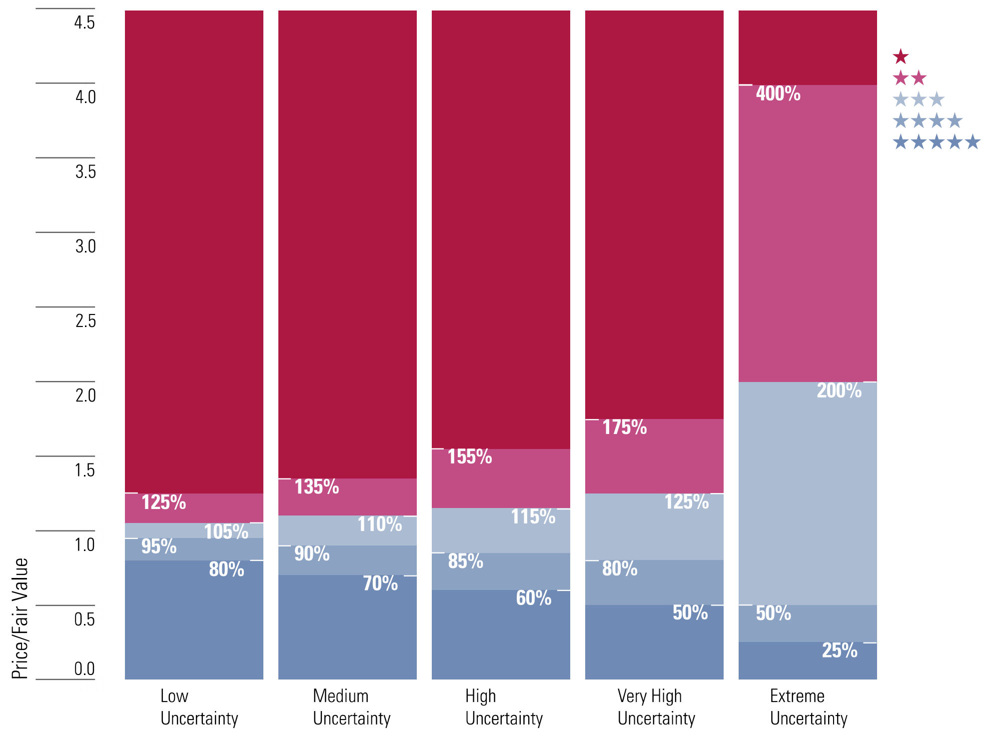
Analysts consider at least two scenarios in addition to their base case: a bull case and a bear case. Assumptions are chosen such that the analyst believes there is a 25% probability that the company will perform better than the bull case and a 25% probability that the company will perform worse than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

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