Symrise AG SY1 (XETR) | ★★★★★

Last Price	Fair Value	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Industry Group
58.05 EUR	74.00 EUR	Low	Narrow	Stable	Standard	Chemicals

Update on Ingredients Sector Following Earnings Reports

See Page 2 for the full Analyst Note from 22 Nov 2016

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Important Disclosure

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The primary analyst covering this company does not own its stock.

Research as of 22 Nov 2016
Estimates as of 03 Nov 2016
Pricing data through 18 Jan 2017
Rating updated as of 18 Jan 2017

Currency amounts expressed with "$" are in U.S. dollars (USD) unless otherwise denoted.

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Investment Thesis 11 Aug 2016

Symrise is the world's fourth-largest supplier of flavours and fragrances, with a market share of 12%. Symrise's addressable market is worth EUR 20.5 billion. The long-term drivers of demand for the business include strong growth in emerging markets as their populations increase, urbanise, and use more processed foods as more women work. Symrise has a high exposure to emerging markets, which generate 46% of sales.

In the developed markets, demand drivers include increased regulation as food safety comes to the fore, health and wellness issues, and clean labelling. Clients want ingredients companies to take cost and undesirable elements, such as salt, sugar, sodium, and fat, out of food and beverages, to improve their own profitability and product appeal among consumers.

The industry is fragmented, with more than 500 companies competing for business. The top four companies have a global market share of only 53% in flavours and fragrances, which provides Symrise with opportunities for external growth as the industry consolidates. Symrise has been very acquisitive over the past two years, which should result in sales jumping by nearly 60% over 2013-16, around two thirds of which stems from acquisitions. The customer base is relatively sticky, as clients don't want to take a risk with a different supplier, and while it's not impossible to replicate taste or fragrance, getting a perfect match might prove challenging. Around 95% of sales are customised.

Symrise confirms it has little to no pricing power. Price increases are mostly only possible to compensate for raw material price increases. Brands are irrelevant, and while Symrise does own some patents, they don't confer any incremental pricing power.

The ongoing need for reinvestment in the business, its bespoke nature, and the relatively high capital intensity compared with ingredients peers mean that the Symrise business model is lacking in operational leverage, with margins flat over the past decade despite a doubling of sales.

Vital Statistics

Market Cap (EUR Mil)	7,536
52-Week High (EUR)	69.32
52-Week Low (EUR)	53.00
52-Week Total Return %	2.6
YTD Total Return %	0.4
Last Fiscal Year End	31 Dec 2015
5-Yr Forward Revenue CAGR %	6.0
5-Yr Forward EPS CAGR %	10.8
Price/Fair Value	0.78

Valuation Summary and Forecasts

Fiscal Year:	2014	2015	*2016(E)*	*2017(E)*
Price/Earnings	30.4	32.3	*27.9*	*25.6*
EV/EBITDA	16.6	16.0	*14.9*	*14.1*
EV/EBIT	22.9	23.1	*21.2*	*19.6*
Free Cash Flow Yield %	4.0	3.2	*3.4*	*4.2*
Dividend Yield %	1.3	1.3	*1.5*	*1.7*

Financial Summary and Forecasts (EUR Mil)

Fiscal Year:	2014	2015	*2016(E)*	*2017(E)*
Revenue	2,120	2,602	*2,891*	*2,958*
Revenue YoY %	15.8	22.7	*11.1*	*2.3*
EBIT	338	395	*427*	*462*
EBIT YoY %	19.3	17.0	*8.2*	*8.2*
Net Income, Adjusted	206	247	*269*	*294*
Net Income YoY %	19.8	19.6	*9.2*	*9.2*
Diluted EPS	1.65	1.90	*2.08*	*2.27*
Diluted EPS YoY %	13.0	15.4	*9.2*	*9.2*
Free Cash Flow	-81	272	*54*	*351*
Free Cash Flow YoY %	-146.5	-433.8	*-80.0*	*545.7*

Historical/forecast data sources are Morningstar Estimates and may reflect adjustments.

Profile

Symrise is a global ingredients supplier of fragrances and flavourings for the food, beverage, household products, and pharmaceutical industries. At a 12% market share, it is the world's fourth-largest supplier of fragrances and flavourings. The company was created by a 2003 merger of two companies that originated in 1874 and 1919. With over 8,000 employees, Symrise produces 30,000 products sourced from 10,000 mostly natural raw materials, such as vanilla, citrus, blossoms, and plant or animal materials, for more than 6,000 customers.

Symrise AG SY1 (XETR) | ★★★★★

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58.05 EUR	74.00 EUR	Low	Narrow	Stable	Standard	Chemicals

Morningstar Analysis

Update on Ingredients Sector Following Earnings Reports 22 Nov 2016

All nine ingredients companies we follow have now reported earnings results. These mostly ranged from in line to disappointing, with only Ingredion's results being (once again) above expectations. In terms of our fair value estimates, four stocks saw no revision (Kerry, Givaudan, International Flavors & Fragrances, Glanbia); only one saw a downgrade (Symrise, by 3%); and four saw significant upgrades (Ingredion by 12%, Christian Hansen by 13%, Tate & Lyle by 15%, and Barry Callebaut by 17%). We have made no changes to moat ratings in the ingredients sector.

The results convey some clear trends. End-user demand remains weak, as food and beverage companies are challenged in terms of a weak consumer spending environment, despite their best efforts to innovate, which generally boosts demand for ingredients. Health and wellness, demand for clean labelling, and natural ingredients remain key growth drivers. Channels are changing, however, with traditional retailers suffering at the hands of hard discounters and from increased food consumption on the go. Demand has also increased for snacking and convenience foods, supporting ingredients growth.

Currencies again came to the fore in some companies' results, notably Kerry's and Tate & Lyle's. In both cases, the British pound has a largely translational impact on earnings, negative in Kerry's case and strongly positive in Tate & Lyle's. The euro has been relatively stable against both the U.S. dollar and Swiss franc. Some emerging-market currencies have been appreciating after earlier depreciation, notably the Brazilian real and the Russian ruble.

Given the correction in share prices over the summer, more stocks are showing attractive upside potential, including our favourite, Symrise, with 34% upside to our EUR 74 fair value estimate. Flavours and fragrance stocks have become appealing, with all three showing upside, but we recommend International Flavors and Fragrances as being the most out-of-favour at these levels.

At this stage, we are not calling into question any of our moat ratings. The weakness in flavours and fragrance results is not due to any weakening of the strength of economic moats. We still see this segment of ingredients as being the most lucrative in terms of its ability to generate the best margins and returns on capital, a consequence of its having the best mix and most sophisticated formulations, often protected by proprietary technology, which garners significant switching costs.

Most of the ingredients companies expect the steep decline in input costs witnessed over the past two years to come to an end, and some are calling for higher input prices in 2017. This might affect the calculated profit margins, but, as we argued in our Ingredients Observer in July, pricing is broadly neutral for ingredients companies, as they pass on changes in raw material prices and attempt to stabilise gross profit in absolute terms. In an environment of rising prices, profit margins will fall in percentage terms.

Flavours and Fragrances

Results were uniformly disappointing in flavours and fragrances, owing to company-specific factors. International Flavors & Fragrances is losing share to others with very weak top-line growth, with negative mix partly contributing, while Givaudan's third-quarter sales were only slightly disappointing. Symrise, which remains our Best Idea, continued to gain market share but suffered margin pressure, owing primarily to the dilutive impact of the Pinova acquisition, which has far lower margins than Symrise alone. International Flavors & Fragrances is now also looking attractive, given its negative reaction to results.

Sweeteners and Starches

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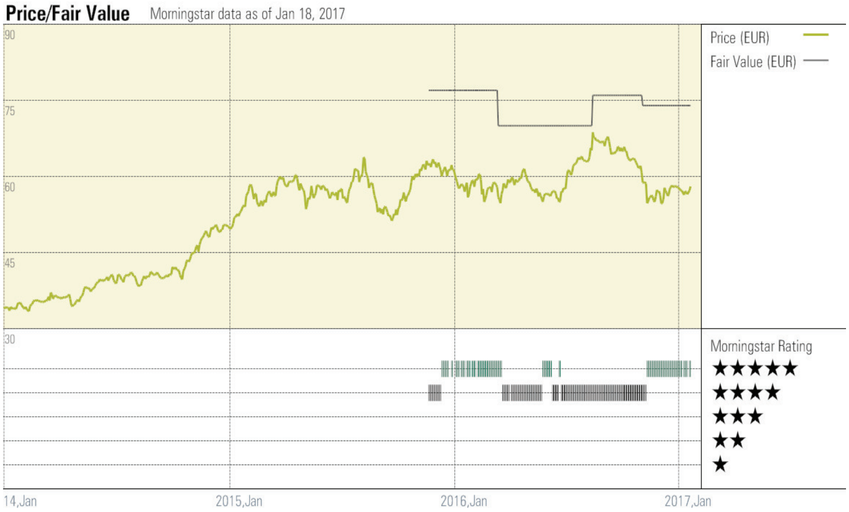
Price/Fair Value Morningstar data as of Jan 18, 2017



In sweeteners and starches, performance was highly contrasted. Ingredion continued to positively surprise, with a big improvement in mix being once again the main reason for very strong margin expansion. Synergies, network optimisation, and good pricing in North and South America also contributed. Ingredion's strong performance could not contrast more starkly with Tate & Lyle's relatively limp performance; the weakness of the British pound caused us to revise up our estimates, but volumes in its high-margin speciality business were again stagnant for the third consecutive year, this time due to soft U.S. demand. We still have a strong preference for Ingredion over Tate & Lyle from both a quality and a valuation perspective.

Dairy-Exposed Companies

The companies with a dairy exposure--Kerry, Glanbia, and Christian Hansen--generally reported in-line results. The general trend was one of lower pricing offset by sustained volume growth, though companies noted that the decline in dairy prices had ended and they expected higher raw material costs in 2017. Both Kerry and Glanbia are overvalued, but Christian Hansen now has attractive upside of 11%, given our upward revision of the fair value estimate.

Chocolate and Cocoa

Last but not least, Barry Callebaut reported slightly disappointing results, but we are more optimistic on margins going forward, owing to the steep recovery in the combined ratio from 20-year lows, which measures the ratio of output prices to input costs in chocolate and cocoa. The positive trend in the combined ratio augurs well for margins in the second half of the August 2017 year, but we feel much of this is already currently discounted in Barry Callebaut's share price.

Valuation, Growth and Profitability 03 Nov 2016

We are revising our fair value estimate to EUR 74 following results for the first nine months of 2016, which showed that the Pinova acquisition is weighing more heavily on margins than expected. The underlying performance of Symrise remains robust, with strong organic sales growth and underlying margin expansion. It appears Symrise is gaining market share, based on remarks that three fourths of its organic growth is down to volume, putting its performance well ahead of peers.

We have revised our 2016 margin estimates downward to reflect the impact of Pinova, whose margins we estimate are around half Symrise's group average. This creates a base for future improvement, contributing to growing Symrise's margins, some of which will come from synergy capture. We still expect a 190-basis-point improvement in the group EBITDA margin over 2016-20, just beginning with a lower starting point in 2016.

Investment spending is set to rise further, to 6.0% of sales in 2016, owing to the integration of Pinova, which has been consolidated since January 2016. At the same time, previous tailwinds (such as lower raw material prices and favourable currencies) are turning into headwinds.

Traditionally, Symrise has not benefited from operational leverage, but given the weight of investment over 2015 and

2016 to bring its two most recent acquisitions up to scratch, we forecast operating-margin improvement, averaging nearly 70 basis points annually from 2017 onwards. This means the operating margin should end the decade at 17.5%, up from 15.2% in 2015, and 14.8% in 2016. Correspondingly, ROIC (including goodwill) should reach 14.2% in 2020, up from 10.6% in 2015.

For full-year 2016, we expect 8.2% organic sales growth, some of which is from price increases to offset for currency depreciation in developing markets, which we estimate is adding around 2% to organic sales growth.

One factor influencing our fair value estimate is the strong jump in forecast capital spending in 2016 to 6% of sales, nearly double the amount in euros spent as recently as 2014. Capital spending should moderate later in the decade to around 4% of sales by 2020. We are also maintaining our 7% Stage II growth rate for EBI.

Scenario Analysis
We rate Symrise as having low uncertainty, given the high degree of earnings predictability and the low volatility and cyclicality of these earnings.

Our bear-case scenario generates a fair value estimate of EUR 63, and is based on long-term organic sales growth of 4.5% (1 percentage point lower than in our base case), combined with stable operating margins. In this scenario, there is slower market growth, tougher competition, and higher investment. The operating margin ends the decade at 14.6%, even below its 2015 level of 15.2%, though much of this relates to 2016, with a slight improvement in trend thereafter given the Pinova synergies. Capital spending is also higher for longer in this scenario, settling at 4.7% in 2020. Nevertheless, ROIC (including goodwill) improves from 10.6% in 2015 to 11.8% in 2020, partly helped by the integration of Pinova, which will hold back ROIC in 2016.

Our bull-case scenario generates a fair value estimate of EUR 85, and is based on organic sales growth of 6.5%, 1 percentage point above our base-case scenario. In this scenario there is faster market growth, reduced competitive pressure, and some operating leverage to faster top-line growth. Additionally, the Pinova acquisition is integrated without needing as much investment, so capital spending increases more modestly in 2016, before declining to only 3.7% of sales in 2020. The operating margin progresses strongly, reaching 19.8% in 2020, up from 15.2% in 2015. Likewise, ROIC (including goodwill) reaches 16.3% in 2020, up from 10.6% in 2015.

Economic Moat
We rate Symrise as having a narrow economic moat company based on clients' switching costs and the presence of some barriers to entry. With regard to switching costs, while Symrise agrees it is not impossible for a client to switch providers, it would not be easy.

The business is complex, with a single product sometimes containing more than 250 ingredients, and clients don't want to deal with this degree of complexity. Ingredients companies also need to master the technological aspect of ingredients formulations. Clients also don't want to take the risk of changing suppliers only to find that their new supplier isn't as reliable, or that the exact taste or texture of their product can't be replicated as required, impairing the product's appeal with consumers.

Clients value consistency of delivery and execution, innovative capability, and high product quality; these are the reasons companies outsource their ingredients requirements to Symrise and its peers. There are also barriers to entry by way of the capital required to establish new manufacturing plants and the need to source raw materials effectively, maintain efficient logistics, and respect increasingly strict and costly regulation. Symrise has consistently generated return on invested capital (including goodwill) above its 7.0% weighted average cost of capital, or WACC, in the past 10 years, except for one year (2009). ROIC has been in the low double digits since 2010, testifying to Symrise's ability to generate shareholder value.

Symrise is, however, not worthy of a wide moat rating. The company admits itself that it has no pricing power. Price increases appear to be only possible to compensate for increases in raw material prices, and Symrise also has clauses in its contracts obliging it to reduce prices when raw materials decline in price. The fragmented nature of the ingredients industry tends to imply weak pricing power, as the top four flavours and fragrances players control only 53% of industry sales.

Brands are not relevant, and while Symrise does own patents, they don't confer better pricing on Symrise. Pricing is quite competitive, in particular with larger clients for high volume contracts, who often put these contracts out for competitive tendering. The switching costs alone appear insufficient for a wide moat rating, given this degree of competition in the industry. Contracts are also awarded for fixed prices by some clients, obliging bidders to rein in costs if they want the contract to be profitable.

Moat Trend

Symrise's moat trend is stable. There is no discernible change in switching costs or barriers to entry, which are the two pillars of the moat rating; nor is there any change in the industry's competitive pressure and absence of pricing power.

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Bulls Say/Bears Say

Bulls Say

- Long-term growth of ingredients is supported by increased outsourcing and positive demographic trends (including increased urbanisation, more processed foods being eaten, more women working, and health and wellness trends).
- The fragmented nature of the ingredients industry allows Symrise to continue acquiring peers for specific technologies.
- Margins and ROIC should significantly improve once Symrise digests its latest two large acquisitions.

Bears Say

- The company has no pricing power and can only raise prices to compensate for increased raw material costs.
- The business model exhibits limited operational leverage, with operating margins flat for close to the past decade, despite turnover doubling.
- Symrise is one of the more capital-intensive ingredients companies, with higher capital spending and working-capital requirements, and with one of the lower ROICs in ingredients.

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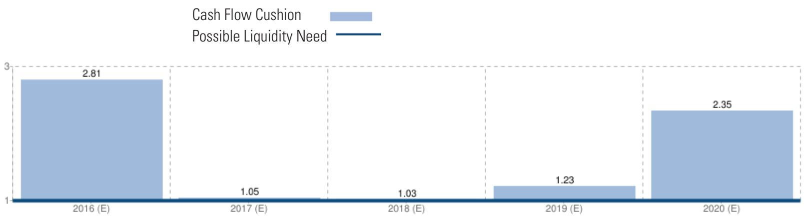
Five Year Adjusted Cash Flow Forecast (EUR Mil)

	2016(E)	2017(E)	2018(E)	2019(E)	2020(E)
Cash and Equivalents (beginning of period)	278	335	368	425	399
Adjusted Available Cash Flow	-28	251	258	280	307
Total Cash Available before Debt Service	250	586	626	706	706
Principal Payments	—	-469	-524	-496	-228
Interest Payments	-52	-52	-47	-40	-32
Other Cash Obligations and Commitments	-37	-38	-39	-39	-40
Total Cash Obligations and Commitments	-89	-558	-609	-576	-300

Cumulative Annual Cash Flow Cushion



Adjusted Cash Flow Summary

	EUR Millions	% of Commitments
Beginning Cash Balance	278	13.0
Sum of 5-Year Adjusted Free Cash Flow	1,068	50.1
Sum of Cash and 5-Year Cash Generation	1,347	63.2
Revolver Availability	—	—
Asset Adjusted Borrowings (Repayment)	—	—
Sum of Cash, 5-Year Cash Generation, Revolver and Adjustments	1,347	63.2
Sum of 5-Year Cash Commitments	-2,133	—

Financial Health

Symrise is in good financial health. Net debt/EBITDA ended 2015 at 2.0 times, down from 2.7 times at end 2014. Symrise targets net debt/EBITDA of 2.0-2.5 times, so current indebtedness is back within range; the acquisition of Pinova in early 2016 will likely cause it to increase slightly by year-end 2016, though it will remain within the 2.0-2.5 times range.Free cash flow generation will enable an ongoing reduction in debt levels in the longer term, beyond the current heavy investment period, so if Symrise wants to avoid a more rapid reduction in debt levels, it will either have to continue making acquisitions with cash, or return cash to shareholders. The dividend payout ratio is a healthy 42%, and has been at least as high as this for a number of years. However, Symrise has no history of buying back shares in the past decade.The company appears to make a conscious effort to optimise its balance sheet, with recent acquisitions maintaining financial gearing at optimal levels.Symrise is nevertheless more capital-intensive than its ingredients peers. It spends 6% of sales on capital spending, well ahead of peers at 3%-4%. Much of this is linked to the recent acquisitions of Diana and Pinova and the need to reposition them and equip them for growth. We expect capital spending to moderate by the end of the decade, to around 4% of sales. Working capital has been a drain on cash generation and has led to a cash outflow in nine of the past 10 years. The reason is a relatively low figure for payables days, suggesting Symrise is paying its suppliers more quickly than peers. As the company expands, working-capital outflow will be a structural consequence of this growth.

Enterprise Risk

The enterprise risk is considered low. Symrise's largest client generates only 5% of sales, and the top 20 clients generate only one third of sales. The customer base is therefore highly fragmented, more so than some of the larger players in the ingredients industry, which provides some protection against a potential loss of sales if a client departs or terminates one of its more significant orders.Client loss is likely to be very limited in any case due to switching costs, which makes the business inherently sticky and limits customer attrition. Pricing is almost never a reason for a customer's departure. Besides, the ingredients content of the customer's product usually represents only 1%-5% of the cost of goods sold, and so it is insignificant relative to the value-added contribution of the ingredients. Overall, we are confident in our cash flow projections for Symrise, and feel that the risk surrounding these forecasts is moderate. The ingredients industry is not inherently cyclical, and both demand and volume growth are reasonably predictable.Symrise's business model is lacking in operational leverage, with margins flat despite a doubling of sales over the past decade. This is because pricing mirrors raw material prices, and there has been and will continue to be ongoing investment in the business to finance growth, limiting operating leverage to growing sales.There is some risk linked to integration of acquisitions, as Symrise has undertaken two major acquisitions in the past two years: Diana and Pinova Holding. The latter has been consolidated since January 2016. We consider acquisition risk to be minor, and the company has not had major issues with previous acquisitions, though all prior to these two have been relatively small in size.

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Management & Ownership

Management Activity

Name	Position	Shares Held	Report Date*	InsiderActivity
NA	NA	NA	NA	NA

*Represents the date on which the owner's name, position, and common shares held were reported by the holder or issuer.

Fund Ownership

Top Owners	% of Shares Held	% of Fund Assets	Change (k)	Portfolio Date
MFS International Value Fund	3.60	1.18	—	30 Nov 2016
MFS Meridian European Value	1.46	1.96	-159	30 Nov 2016
FPIL M&G Global Basics	1.19	4.24	—	30 Sep 2016
Harding Loevner International Eq Port	0.97	1.35	89	30 Sep 2016
RBC European Equity Fund	0.96	1.97	—	30 Sep 2016
Concentrated Holders				
Allianz Nebenwerte Deutschland	0.40	4.77	-25	31 Oct 2016
New Germany	0.13	4.67	4	30 Sep 2016
RBC Funds (Lux) European Equity Focus Fd	—	4.65	—	30 Nov 2016
Altshuler Shaham SmrtBta GermanCFFrxHdgd	—	4.53	0	31 Oct 2016
Mirova Europe Environmental Equity Fd	0.10	4.48	13	30 Nov 2016

Institutional Transactions

Top 5 Buyers	% of Shares Held	% of Fund Assets	Shares Bought/ Sold (k)	Portfolio Date
BlackRock Investment Management (UK) Ltd.	1.11	0.81	475	30 Sep 2016
Candriam Luxembourg	0.55	1.21	206	30 Nov 2016
Swedbank Robur Fonder AB	0.53	0.23	172	31 Dec 2016
Nationwide Mutual Insurance Nationwide Retirement Plan	0.15	0.10	172	31 Dec 2009
Harding Loevner LP	1.11	1.37	160	30 Sep 2016
Top 5 Sellers				
Lazard Asset Management LLC	1.00	1.13	-543	31 Dec 2016
Citibank China Co Ltd	0.76	2.07	-234	30 Sep 2016
Allianz Global Investors GmbH – Frankfurt	2.83	1.44	-89	30 Nov 2016
Massachusetts Financial Services Co	7.89	1.23	-89	30 Nov 2016
Allianz Nederland Asset Management BV	0.05	0.23	-89	30 Nov 2016

Management 08 Mar 2016

Symrise's stewardship rating is Standard. Management compensation is not excessive, and Symrise goes to the effort of publishing the ratio of average executive compensation to that of the average employee compensation (24 times worldwide and 23 times in Germany), suggesting they are monitoring this indicator to prevent executive compensation from becoming egregious.

The terms for the award of bonuses and other long-term executive incentives appear quite stringent, involving high attainment thresholds, benchmarking to peer performance, and caps on bonuses. Additionally, there are no pension contributions made by the company or stock options for executive board members; nor are there any contract termination payments.

Management appears to have optimised the balance sheet by maintaining a significant level of financial leverage. The company targets net debt/EBITDA of 2.0-2.5 times, but this can increase beyond the target level temporarily in the case of a major acquisition. Though its business model is more capital-intensive than those of its ingredients peers, Symrise is generous in terms of cash returns to shareholders, having maintained a dividend payout ratio of around 50% for several years now. Despite an authorisation to buy back shares, Symrise hasn't implemented any share buybacks in the past decade. On the contrary, there have been capital increases to fund acquisitions during this time.

The acquisition strategy has followed a consistent policy of acquiring businesses that bring a particular technology, capability, or customer base to Symrise. A good example is the acquisition of Diana in France in 2014, which led to Symrise acquiring an exposure to the fast-growth pet food ingredients business. Additionally, Symrise doesn't seem to be overpaying: its latest acquisition of Pinova Holdings was bought for only 11 times EBITDA.

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Analyst Notes

Symrise Q3: Strong Organic Sales Offset by Weaker Margins; Fair Value Estimate Adjusted to EUR 74 02 Nov 2016

Symrise reported a slightly disappointing third quarter with strong margin pressure in its scent and care business that was not fully offset by strong organic sales growth. We will adjust our earnings estimates and intend to move our fair value estimate to EUR 74 from EUR 76. There is no change to our narrow moat rating.

The margin-dilutive impact of the integration of Pinova, acquired in January, weighed heavily in the third quarter, far more than in the first half of 2016. The underlying scent and care EBITDA margin was down 350 basis points to 19.3% in the third quarter, versus a 170-basis-point drop in the first half.

This might be down to timing and a concentration of costs, but part of the deterioration was due to exceptional events such as storms. Symrise confirmed the fourth quarter would also see a similar negative impact from hurricane Matthew. This aside, Pinova has a far lower margin than Symrise, which is where the dilution is largely stemming from. The company announced the sale of the industrial division of Pinova, around 40% of its sales, which we think will benefit margins.

Organic sales growth remains impressive at 8.8% in the third quarter and 8.5% for the year to date, far outperforming ingredients peers. Only around one fourth of this is price/mix, so volume is the key driver. However, growth has been artificially boosted by price hikes in Latin America, which are enacted to offset currency pressures, and are captured in organic sales, most notably in flavor and nutrition (9.7% organic growth for the year to date).

We think this is boosting overall growth rates by around 2%, and expect a return to 5.5% organic sales growth for Symrise from 2017 onward. Due to the synergies from Pinova and the sale of its low-margin industrial unit, we expect Symrise to benefit from healthy margin expansion from 2017 until the end of the decade: We are forecasting the group EBIT margin to jump by nearly 300 basis points relative to its 2016 base.

Symrise First-Half Results Highlight Strong Performance 11 Aug 2016

Top pick Symrise reported good first-half 2016 results, showing the Pinova acquisition isn't weighing as heavily on margins as feared, and its integration is going well. In addition, organic sales growth was exceptionally strong, in keeping with Symrise's track record, accelerating from 7.3% in the first quarter to 9.3% in the second quarter. Only one fourth of this growth is due to pricing, so underlying volume growth remains impressive and well ahead of peers. We are revising our estimates, with our fair value estimate increasing to EUR 76 from EUR 70 (up 9%). We retain our narrow moat and stable moat trend ratings.

Adjusting for transaction and integration costs, the first-half EBITDA margin fell only 50 basis points, reflecting the weight of investment in Pinova to bring it up to Symrise's standard. As we believe Pinova's EBITDA margin is less than half the group's existing level, we estimate that without Pinova, Symrise's underlying EBITDA margin would have progressed by 50 basis points. This is despite increasing raw material costs, with Symrise being the first to see them increase.

The depreciation and amortisation charge was far higher than we expected, so we are revising our 2016 EBIT estimates downward, though we are revising EBITDA and operating cash flow upward for 2016 and beyond. We expect Pinova to "cost" even less in the second half of the year as synergies come through, and we have revised our

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Analyst Notes

2016-20 EBITDA margin improvement forecast to 190 basis points in total, up from 100 before, reflecting our increased confidence in Pinova improving its margins and generating synergies. As such, we are ignoring management's overly conservative guidance for 2016.

Symrise is clearly gaining market share, despite the distracting effect of integrating a major acquisition. Some idea of the scope for future margin improvement can be had by considering that Symrise's 2016 EBITDA margin will still be at least 200 basis points lower than IFF's or Givaudan's.

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Morningstar Analyst Forecasts

Financial Summary and Forecasts

Fiscal Year Ends in December

Growth (% YoY)	3-Year Hist. CAGR	2013	2014	2015	*Forecast* 2016	*Forecast* 2017	5-Year Proj. CAGR
Revenue	*14.5*	5.5	15.8	22.7	*11.1*	*2.3*	*6.0*
EBIT	*16.1*	12.1	19.3	17.0	*8.2*	*8.2*	*9.0*
EBITDA	*19.1*	10.1	24.9	22.8	*6.5*	*5.5*	*6.9*
Net Income	*16.2*	9.4	19.8	19.6	*9.2*	*9.2*	*10.8*
Diluted EPS	*12.6*	9.4	13.0	15.4	*9.2*	*9.2*	*10.8*
Earnings Before Interest, after Tax	*32.3*	29.9	34.2	32.8	*-22.0*	*4.0*	*0.3*
Free Cash Flow	*12.8*	-7.5	-146.5	-433.8	*-80.0*	*545.7*	*10.7*

Profitability	3-Year Hist. Avg	2013	2014	2015	*2016*	*2017*	*5-Year Proj. Avg*
Operating Margin %	*15.5*	15.5	15.9	15.2	*14.8*	*15.6*	*16.2*
EBITDA Margin %	*21.5*	20.4	22.0	22.0	*21.1*	*21.7*	*22.1*
Net Margin %	*9.6*	9.4	9.7	9.5	*9.3*	*10.0*	*10.6*
Free Cash Flow Margin %	*5.4*	9.6	-3.8	10.4	*1.9*	*11.9*	*10.2*
ROIC %	*16.6*	17.9	16.4	15.6	*16.1*	*16.3*	*17.9*
Adjusted ROIC %	*11.8*	13.2	11.5	10.6	*11.1*	*11.3*	*12.4*
Return on Assets %	*6.6*	7.9	6.0	6.0	*5.8*	*6.4*	*7.1*
Return on Equity %	*17.0*	18.8	15.6	16.6	*15.3*	*16.4*	*16.6*

Leverage	3-Year Hist. Avg	2013	2014	2015	*2016*	*2017*	*5-Year Proj. Avg*
Debt/Capital	*0.44*	0.37	0.49	0.47	*0.48*	*0.43*	*0.37*
Total Debt/EBITDA	*2.29*	1.47	2.93	2.46	*2.56*	*2.19*	*1.80*
EBITDA/Interest Expense	*10.15*	9.62	9.12	11.71	*11.74*	*12.40*	*16.45*

Valuation Summary and Forecasts

	2014	2015	*2016(E)*	*2017(E)*
Price/Fair Value	—	—	—	—
Price/Earnings	30.4	32.3	*27.9*	*25.6*
EV/EBITDA	16.6	16.0	*14.9*	*14.1*
EV/EBIT	22.9	23.1	*21.2*	*19.6*
Free Cash Flow Yield %	4.0	3.2	*3.4*	*4.2*
Dividend Yield %	1.3	1.3	*1.5*	*1.7*

Key Valuation Drivers

Cost of Equity %	7.5
Pre-Tax Cost of Debt %	4.8
Weighted Average Cost of Capital %	7.0
Long-Run Tax Rate %	28.0
Stage II EBI Growth Rate %	7.0
Stage II Investment Rate %	23.3
Perpetuity Year	15

Additional estimates and scenarios available for download at http://select.morningstar.com.

Discounted Cash Flow Valuation

	EUR Mil	Firm Value (%)	Per Share Value
Present Value Stage I	1,292	12.3	9.95
Present Value Stage II	3,076	29.2	23.70
Present Value Stage III	6,152	58.5	47.39
Total Firm Value	**10,520**	**100.0**	**81.04**
Cash and Equivalents	278	—	2.14
Debt	-1,409	—	-10.86
Preferred Stock	—	—	—
Other Adjustments	-320	—	-2.47
Equity Value	**9,069**	**—**	**69.86**
Projected Diluted Shares	130		
Fair Value per Share (EUR)	**74.00**		

The data in the table above represent base-case forecasts in the company's reporting currency as of the beginning of the current year. Our fair value estimate may differ from the equity value per share shown above due to our time value of money adjustment and in cases where probability-weighted scenario analysis is performed.

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Last Price	Fair Value	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Industry Group
58.05 EUR	74.00 EUR	Low	Narrow	Stable	Standard	Chemicals

Morningstar Analyst Forecasts

Income Statement (EUR Mil)
Fiscal Year Ends in December

				Forecast	
	2013	2014	2015	*2016*	*2017*
Revenue	**1,830**	**2,120**	**2,602**	***2,891***	***2,958***
Cost of Goods Sold	1,060	1,218	1,490	*1,714*	*1,747*
Gross Profit	**771**	**902**	**1,112**	***1,177***	***1,211***
Selling, General & Administrative Expenses	414	465	572	*603*	*605*
Other Operating Expense (Income)	-16	-29	-33	*-36*	*-38*
Other Operating Expense (Income)	—	—	—	—	—
Depreciation & Amortization (if reported separately)	90	128	177	*182*	*180*
Operating Income (ex charges)	**283**	**338**	**395**	***427***	***462***
Restructuring & Other Cash Charges	—	—	—	—	—
Impairment Charges (if reported separately)	—	—	—	—	—
Other Non-Cash (Income)/Charges	—	30	—	*25*	—
Operating Income (incl charges)	**283**	**308**	**395**	***402***	***462***
Interest Expense	39	51	49	*52*	*52*
Interest Income	2	3	5	*7*	*7*
Pre-Tax Income	**246**	**260**	**351**	***357***	***418***
Income Tax Expense	74	73	99	*100*	*117*
Other After-Tax Cash Gains (Losses)	—	—	—	—	—
Other After-Tax Non-Cash Gains (Losses)	—	—	—	—	—
(Minority Interest)	—	-2	-6	*-6*	*-7*
(Preferred Dividends)	—	—	—	—	—
Net Income	**172**	**185**	**247**	***251***	***294***
Weighted Average Diluted Shares Outstanding	118	125	130	*130*	*130*
Diluted Earnings Per Share	**1.46**	**1.48**	**1.90**	***1.94***	***2.27***
Adjusted Net Income	172	206	247	*269*	*294*
Diluted Earnings Per Share (Adjusted)	**1.46**	**1.65**	**1.90**	***2.08***	***2.27***
Dividends Per Common Share	0.70	0.75	0.80	*0.85*	*1.00*
EBITDA	**373**	**436**	**572**	***585***	***643***
Adjusted EBITDA	**373**	**466**	**572**	***610***	***643***

Symrise AG SY1 (XETR) | ★★★★★

Last Price	Fair Value	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Industry Group
58.05 EUR	74.00 EUR	Low	Narrow	Stable	Standard	Chemicals

Morningstar Analyst Forecasts

Balance Sheet (EUR Mil)

Fiscal Year Ends in December				*Forecast*	
	2013	2014	2015	*2016*	*2017*
Cash and Equivalents	135	199	278	*335*	*368*
Investments	—	—	—	—	—
Accounts Receivable	322	421	462	*513*	*525*
Inventory	369	485	531	*611*	*623*
Deferred Tax Assets (Current)	—	—	—	—	—
Other Short Term Assets	47	90	106	*112*	*118*
Current Assets	**872**	**1,195**	**1,377**	***1,571***	***1,635***
Net Property Plant, and Equipment	440	640	690	*879*	*965*
Goodwill	491	1,091	1,124	*1,164*	*1,164*
Other Intangibles	322	943	881	*835*	*732*
Deferred Tax Assets (Long-Term)	46	81	78	*83*	*87*
Other Long-Term Operating Assets	30	20	16	*17*	*17*
Long-Term Non-Operating Assets	10	29	17	*17*	*17*
Total Assets	**2,210**	**4,000**	**4,184**	***4,566***	***4,617***
Accounts Payable	151	214	235	*270*	*275*
Short-Term Debt	41	120	36	*36*	*36*
Deferred Tax Liabilities (Current)	51	73	66	*69*	*73*
Other Short-Term Liabilities	85	153	165	*174*	*183*
Current Liabilities	**328**	**560**	**501**	***549***	***568***
Long-Term Debt	507	1,245	1,373	*1,522*	*1,370*
Deferred Tax Liabilities (Long-Term)	68	241	228	*240*	*254*
Other Long-Term Operating Liabilities	24	48	48	*51*	*54*
Long-Term Non-Operating Liabilities	332	474	445	*470*	*470*
Total Liabilities	**1,259**	**2,568**	**2,596**	***2,832***	***2,715***
Preferred Stock	—	—	—	—	—
Common Stock	118	130	130	*130*	*130*
Additional Paid-in Capital	—	—	—	—	—
Retained Earnings (Deficit)	833	1,284	1,439	*1,580*	*1,744*
(Treasury Stock)	—	—	—	—	—
Other Equity	—	—	—	—	—
Shareholder's Equity	**951**	**1,414**	**1,568**	***1,709***	***1,874***
Minority Interest	—	18	20	*24*	*28*
Total Equity	**951**	**1,432**	**1,588**	***1,733***	***1,902***

Symrise AG SY1 (XETR) | ★★★★★

Last Price	Fair Value	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Industry Group
58.05 EUR	74.00 EUR	Low	Narrow	Stable	Standard	Chemicals

Morningstar Analyst Forecasts

Cash Flow (EUR Mil)

Fiscal Year Ends in December				Forecast	
	2013	2014	2015	*2016*	*2017*
Net Income	172	187	252	*257*	*301*
Depreciation	44	58	76	*78*	*77*
Amortization	46	71	101	*104*	*103*
Stock-Based Compensation	—	—	—	—	—
Impairment of Goodwill	—	—	—	—	—
Impairment of Other Intangibles	—	—	—	—	—
Deferred Taxes	—	—	—	*12*	*13*
Other Non-Cash Adjustments	60	119	168	*25*	—
(Increase) Decrease in Accounts Receivable	-40	-32	-67	*-51*	*-12*
(Increase) Decrease in Inventory	-32	-13	-49	*-80*	*-12*
Change in Other Short-Term Assets	—	-69	-138	*36*	*-6*
Increase (Decrease) in Accounts Payable	24	24	32	*35*	*5*
Change in Other Short-Term Liabilities	—	—	—	*9*	*10*
Cash From Operations	**275**	**343**	**375**	***426***	***479***
(Capital Expenditures)	-58	-81	-118	*-173*	*-163*
Net (Acquisitions), Asset Sales, and Disposals	-76	-385	-19	*-234*	—
Net Sales (Purchases) of Investments	-12	-11	-15	—	—
Other Investing Cash Flows	—	—	—	*2*	*2*
Cash From Investing	**-146**	**-477**	**-151**	***-406***	***-161***
Common Stock Issuance (or Repurchase)	—	395	—	—	—
Common Stock (Dividends)	-77	-84	-101	*-110*	*-130*
Short-Term Debt Issuance (or Retirement)	-23	-116	-11	—	—
Long-Term Debt Issuance (or Retirement)	—	1	-4	*149*	*-152*
Other Financing Cash Flows	—	—	—	*-2*	*-2*
Cash From Financing	**-100**	**195**	**-115**	***36***	***-284***
Exchange Rates, Discontinued Ops, etc. (net)	-11	2	-30	—	—
Net Change in Cash	**18**	**64**	**79**	***57***	***34***

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Last Price	Fair Value	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Industry Group
58.05 EUR	74.00 EUR	Low	Narrow	Stable	Standard	Chemicals

Comparable Company Analysis

These companies are chosen by the analyst and the data are shown by nearest calendar year in descending market capitalization order.

Valuation Analysis

		Price/Earnings			EV/EBITDA			Price/Free Cash Flow			Price/Book			Price/Sales		
Company/Ticker	Price/Fair Value	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)
Givaudan SA GIVN CHE	0.91	26.9	27.2	23.2	16.9	15.7	14.8	20.1	26.8	22.3	4.9	4.7	4.5	3.8	3.6	3.4
International Flavors & Fragrances Inc	0.85	22.1	20.9	19.5	15.0	14.0	12.7	28.8	25.1	25.9	6.0	5.3	4.8	3.2	3.0	2.7
Ingredion Inc INGR USA	0.91	16.1	17.9	16.5	9.3	10.0	9.3	16.8	32.4	19.9	3.2	3.7	3.2	1.2	1.6	1.5
Tate & Lyle PLC TATE GBR	1.01	15.9	13.3	15.0	10.7	10.5	8.7	116.0	NM	30.4	3.0	2.6	2.9	1.2	1.1	1.2
Average		20.3	19.8	18.6	13.0	12.6	11.4	45.4	28.1	24.6	4.3	4.1	3.9	2.4	2.3	2.2
Symrise AG SY1 DE	**0.78**	**32.3**	**27.9**	**25.6**	**16.0**	**14.9**	**14.1**	**31.0**	**29.9**	**23.8**	**5.1**	**4.4**	**4.0**	**3.1**	**2.6**	**2.5**

Returns Analysis

		ROIC %			Adjusted ROIC %			Return on Equity %			Return on Assets %			Dividend Yield %		
Company/Ticker	Last Historical Year Total Assets (Mil)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)
Givaudan SA GIVN CHE	6,282 CHF	22.4	25.2	26.8	14.8	16.5	17.5	18.6	18.6	19.8	10.0	10.4	11.6	2.8	2.9	3.4
International Flavors & Fragrances Inc	3,714 USD	30.3	28.9	30.1	19.6	16.8	17.2	26.5	25.5	26.2	11.4	11.0	11.7	1.7	1.8	2.0
Ingredion Inc INGR USA	5,074 USD	13.7	15.9	16.2	11.9	13.7	14.1	18.6	21.8	21.1	7.9	10.0	10.9	1.8	1.7	1.9
Tate & Lyle PLC TATE GBR	— GBP	8.7	9.0	12.9	8.0	8.3	11.9	3.0	16.6	19.1	1.2	6.6	7.8	4.7	4.8	4.1
Average		18.8	19.8	21.5	13.6	13.8	15.2	16.7	20.6	21.6	7.6	9.5	10.5	2.8	2.8	2.9
Symrise AG SY1 DE	**4,184** EUR	**15.6**	**16.1**	**16.3**	**10.6**	**11.1**	**11.3**	**16.6**	**15.3**	**16.4**	**6.0**	**5.8**	**6.4**	**1.3**	**1.5**	**1.7**

Growth Analysis

		Revenue Growth %			EBIT Growth %			EPS Growth %			Free Cash Flow Growth %			Dividend/Share Growth %		
Company/Ticker	Last Historical Year Revenue (Mil)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)	2015	2016(E)	2017(E)
Givaudan SA GIVN CHE	4,396 CHF	-0.2	6.2	4.8	8.3	7.3	14.7	17.5	-2.0	17.4	26.4	-13.0	16.4	8.0	-2.8	17.1
International Flavors & Fragrances Inc	3,023 USD	-2.1	3.7	8.2	1.8	3.6	10.4	4.8	3.0	7.6	-130.5	-265.1	142.2	14.5	5.1	10.2
Ingredion Inc INGR USA	5,621 USD	-0.9	1.8	3.6	14.5	19.1	7.3	17.1	19.1	8.9	-93.0	786.9	54.7	3.6	17.8	12.2
Tate & Lyle PLC TATE GBR	2,341 GBP	-15.0	0.6	16.2	-47.3	2.2	33.3	-39.0	15.4	5.7	-92.9	213.8	96.2	1.5	—	—
Average		-4.6	3.1	8.2	-5.7	8.1	16.4	0.1	8.9	9.9	-72.5	180.7	77.4	6.9	6.7	13.2
Symrise AG SY1 DE	**2,602** EUR	**22.7**	**11.1**	**2.3**	**17.0**	**8.2**	**8.2**	**15.4**	**9.2**	**9.2**	**-433.8**	**-80.0**	**545.7**	**6.7**	**6.3**	**17.7**

Symrise AG SY1 (XETR) | ★★★★★

Last Price	Fair Value	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Industry Group
58.05 EUR	74.00 EUR	Low	Narrow	Stable	Standard	Chemicals

Comparable Company Analysis

These companies are chosen by the analyst and the data are shown by nearest calendar year in descending market capitalization order.

Profitability Analysis

Company/Ticker	Last Historical Year Net Income (Mil)	Gross Margin % 2015	2016(E)	2017(E)	EBITDA Margin % 2015	2016(E)	2017(E)	Operating Margin % 2015	2016(E)	2017(E)	Net Margin % 2015	2016(E)	2017(E)	Free Cash Flow Margin % 2015	2016(E)	2017(E)
Givaudan SA GIVN CHE	623 CHF	46.2	46.4	46.6	23.9	24.0	24.3	17.8	18.0	19.7	14.2	13.1	14.8	18.9	13.4	15.3
International Flavors & Fragrances Inc	438 USD	44.7	45.2	45.4	23.2	23.2	23.6	20.3	20.2	20.6	14.5	14.2	14.2	11.0	11.8	10.6
Ingredion Inc INGR USA	433 USD	22.1	24.4	24.7	16.0	18.1	18.6	12.6	14.7	15.2	7.7	9.2	9.6	7.3	5.0	7.8
Tate & Lyle PLC TATE GBR	176 GBP	43.7	44.0	44.2	12.5	12.9	15.0	7.9	8.0	9.2	7.5	8.6	7.8	1.0	-0.4	3.9
Average		39.2	40.0	40.2	18.9	19.6	20.4	14.7	15.2	16.2	11.0	11.3	11.6	9.6	7.5	9.4
Symrise AG SY1 DE	**247** EUR	**42.7**	**40.7**	**40.9**	**22.0**	**21.1**	**21.7**	**15.2**	**14.8**	**15.6**	**9.5**	**9.3**	**10.0**	**9.9**	**8.7**	**10.7**

Leverage Analysis

Company/Ticker	Last Historical Year Total Debt (Mil)	Debt/Equity % 2015	2016(E)	2017(E)	Debt/Total Cap % 2015	2016(E)	2017(E)	EBITDA/Interest Exp. 2015	2016(E)	2017(E)	Total Debt/EBITDA 2015	2016(E)	2017(E)	Assets/Equity 2015	2016(E)	2017(E)
Givaudan SA GIVN CHE	1,155 CHF	33.8	25.8	18.9	25.3	20.5	15.9	17.2	19.6	29.2	1.1	0.8	0.6	1.8	1.8	1.7
International Flavors & Fragrances Inc	1,070 USD	67.5	66.0	58.1	40.3	39.8	36.7	15.2	13.1	14.0	1.5	1.6	1.4	2.3	2.3	2.2
Ingredion Inc INGR USA	1,838 USD	85.6	65.4	48.1	46.1	39.6	32.5	12.2	14.0	17.1	2.0	1.6	1.3	2.4	2.0	1.8
Tate & Lyle PLC TATE GBR	768 GBP	82.1	73.5	68.7	45.1	42.4	40.7	9.2	10.1	13.6	2.6	2.5	1.8	2.6	2.5	2.4
Average		67.3	57.7	48.5	39.2	35.6	31.5	13.5	14.2	18.5	1.8	1.6	1.3	2.3	2.2	2.0
Symrise AG SY1 DE	**1,409** EUR	**89.9**	**91.1**	**75.0**	**47.3**	**47.7**	**42.9**	**11.7**	**11.7**	**12.4**	**2.5**	**2.6**	**2.2**	**2.7**	**2.7**	**2.5**

Liquidity Analysis

Company/Ticker	Market Cap (Mil)	Cash per Share 2015	2016(E)	2017(E)	Current Ratio 2015	2016(E)	2017(E)	Quick Ratio 2015	2016(E)	2017(E)	Cash/Short-Term Debt 2015	2016(E)	2017(E)	Payout Ratio % 2015	2016(E)	2017(E)
Givaudan SA GIVN CHE	16,676 CHF	51.94	42.43	38.00	2.25	2.26	2.38	1.54	1.52	1.58	2.30	2.35	3.53	78.3	74.2	78.9
International Flavors & Fragrances Inc	9,277 USD	2.25	1.44	2.07	1.95	1.90	2.04	1.15	1.09	1.19	1.38	0.97	1.56	38.7	39.0	38.0
Ingredion Inc INGR USA	9,171 USD	5.95	4.92	5.54	2.63	2.20	2.03	1.66	1.37	1.29	22.84	1.33	1.10	31.6	29.9	29.9
Tate & Lyle PLC TATE GBR	3,211 GBP	0.42	0.68	0.62	1.32	1.64	1.62	0.81	1.04	0.99	0.64	1.59	1.45	436.8	80.3	64.3
Average		15.14	12.37	11.56	2.04	2.00	2.02	1.29	1.26	1.26	6.79	1.56	1.91	146.4	55.9	52.8
Symrise AG SY1 DE	**7,536** EUR	**2.14**	**2.58**	**2.84**	**2.75**	**2.86**	**2.88**	**1.69**	**1.75**	**1.78**	**7.73**	**9.30**	**10.24**	**42.1**	**43.9**	**44.1**

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.

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.

1. 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 (or ROIC) over and above our estimate of a firm's cost of capital, or weighted average cost of capital (or 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 the firm's 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 when we see signs of deterioration.

2. 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 five 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 the 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 pres-

Morningstar Research Methodology for Valuing Companies

ent 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.

3. 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 of 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 25% premium.
- **Medium:** margin of safety for 5-star rating is a 30% discount and for 1-star rating is 35% premium.
- **High:** margin of safety for 5-star rating is a 40% discount and for 1-star rating is 55% premium.
- **Very High:** margin of safety for 5-star rating is a 50% discount and for 1-star rating is 75% premium.
- **Extreme:** Stock's uncertainty exceeds the parameters we have set for assigning the appropriate margin of safety.

4. Market Price

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

For more detail information 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 re-calculated 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:

Five Stars ★★★★★

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.

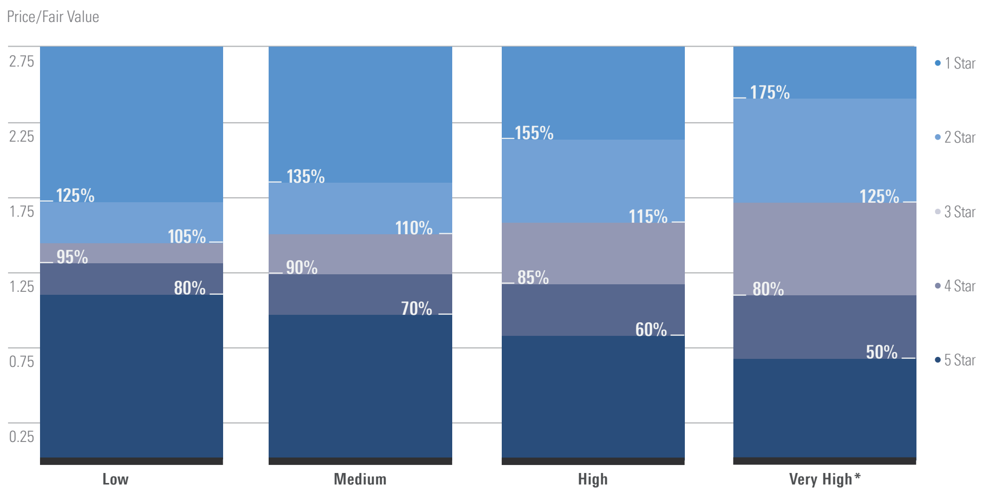
Four Stars ★★★★

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

Three Stars ★★★

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

Morningstar Research Methodology for Valuing Companies



* Occasionally a stock's uncertainty will be too high for us to estimate, in which case we label it Extreme.

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

One Star ★
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.

Other Definitions:

Last Price: Price of the stock as of the close of the market of the last trading day before date of the report.

Stewardship Rating: Represents our assessment of management's stewardship of shareholder capital, with particular emphasis on capital allocation decisions. Analysts consider companies' investment strategy and valuation, financial leverage, dividend and share buyback policies, execution, compensation, related party transactions, and accounting practices. Corporate governance practices are only considered if they've had a demonstrated impact on shareholder value. Analysts assign one of three ratings: "Exemplary," "Standard," and "Poor." Analysts judge stewardship from an equity holder's perspective. Ratings are determined on an absolute basis. Most companies will receive a Standard rating, and this is the default rating in the absence of evidence that managers have made exceptionally strong or poor capital allocation decisions.

Quantitative Valuation: Using the below terms, intended to denote the relationship between the security's Last Price and Morningstar's quantitative fair value estimate for that security.

- ► **Undervalued:** Last Price is below Morningstar's quantitative fair value estimate.
- ► **Farily Valued:** Last Price is in line with Morningstar's quantitative fair value estimate.
- ► **Overvalued:** Last Price is above Morningstar's quantitative fair value estimate.

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 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.

Symrise AG SY1 (XETR) | ★★★★★

Last Price	Fair Value	Uncertainty	Economic Moat™	Moat Trend™	Stewardship	Industry Group
58.05 EUR	74.00 EUR	Low	Narrow	Stable	Standard	Chemicals

Price/Fair Value Morningstar data as of Jan 18, 2017

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