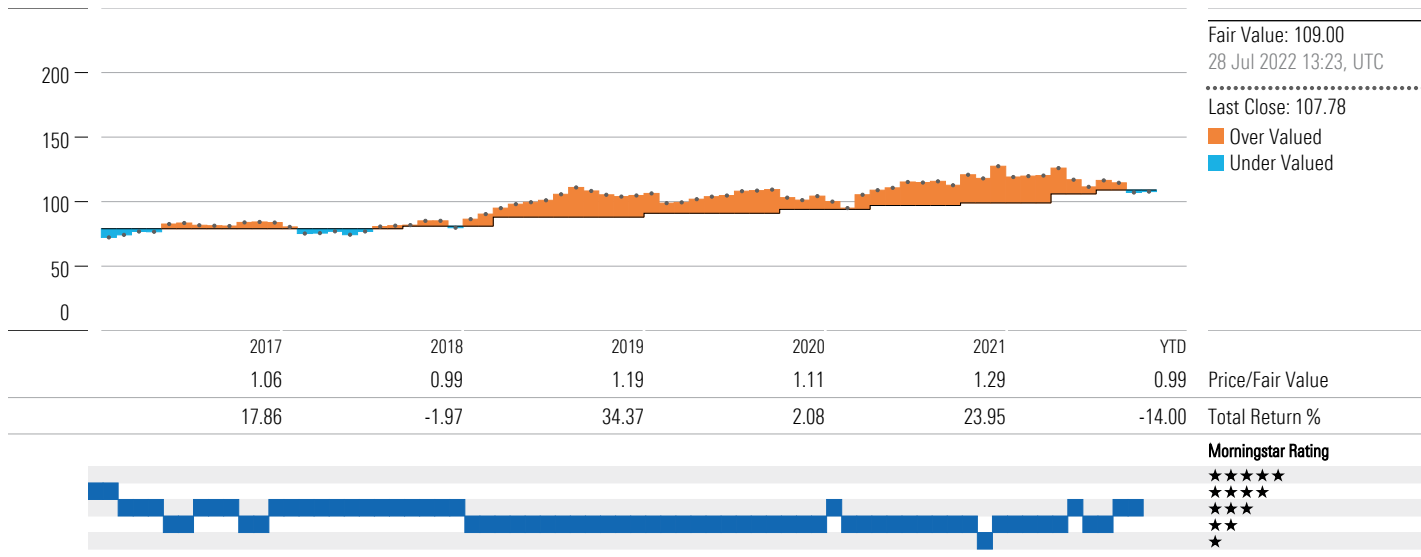


Nestle SA NESN ★★★ 18 Oct 2022 17:06, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Moat Trend™	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
107.78 CHF 18 Oct 2022	109.00 CHF 28 Jul 2022 13:23, UTC	0.99	296.40 CHF Bil 18 Oct 2022	Wide	Stable	Low	Standard	5 Oct 2022 05:00, UTC

Price vs. Fair Value



Total Return % as of 18 Oct 2022. Last Close as of 18 Oct 2022. Fair Value as of 28 Jul 2022 13:23, UTC.

Contents

- Business Description
- Business Strategy & Outlook (20 Oct 2021)
- Bulls Say / Bears Say (28 Jul 2022)
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Important Disclosure

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

The ESG Risk Rating Assessment is a representation of Sustainalytics' ESG Risk Rating.

Nestle Is Not Immune to Inflationary Pressures, but Wide Moat Supports Best-in-Class Performance

Business Strategy & Outlook Ioannis Pontikis, CFA, Senior Equity Analyst, 20 Oct 2021

Although Nestle's performance during the pandemic has been nothing short of stellar, we believe the main drivers of this outperformance have benefited from pandemic-led lockdowns--millions of households have adopted pets, and consumption of coffee at home has been boosted by work-from-home trends. While we don't expect a reversal of these trends in the future, we do expect outperformance to be less pronounced in the years ahead. We expect organic growth to slow below 4% by the end of our explicit forecast period.

While global consumer products companies deploy their deeply grounded supply and distribution networks to market products adapted to local markets and tastes, we believe that global fast-moving consumer goods behemoths such as Nestle still face competition from small, local, and more agile competitors. Prudent research and development, marketing, and trade spending ensure that products will always be in sync with the latest local consumer trends (given good execution) and easily available wherever consumers are shopping. Past missteps have resulted in low new product introduction rates, with Nestle missing out on or being late in adapting to the latest consumer trends.

That said, under the leadership of Schneider, we think Nestle has reversed past trends. Aside from structural cost-cutting efforts, the management team has successfully put a lot of weight on

Nestle SA NESN ★★★

18 Oct 2022 17:06, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Moat Trend™	Uncertainty	Capital Allocation	ESG Risk Rating Assessment ¹
107.78 CHF 18 Oct 2022	109.00 CHF 28 Jul 2022 13:23, UTC	0.99	296.40 CHF Bil 18 Oct 2022	Wide	Stable	Low	Standard	 5 Oct 2022 05:00, UTC

Sector

Consumer Defensive

Industry

Packaged Foods

Business Description

With a 150-year-plus history, Nestle is the largest food and beverage manufacturer in the world by sales, generating more than CHF 90 billion in annual revenue. Its diverse product portfolio includes brands such as Nestle, Nescafe, Perrier, Pure Life, and Purina. Nestle also owns just over 20% of French cosmetics firm L'Oreal. The company has a vast portfolio of global products, with more than 30 brands each achieving more than CHF 1 billion in sales annually and a geographic presence that spans almost 190 countries.

reinvigorating growth through active portfolio management, resetting legacy businesses, and further investment in high-growth categories (coffee, pet care, water, and nutrition). Further, population growth, urbanisation, and economic growth are secular drivers in emerging markets, where the company sources a sizable and growing share of its sales, which should support medium-term volumes, though at a lower level than historical averages.

Bulls Say

Ioannis Pontikis, CFA, Senior Equity Analyst, 28 Jul 2022

- ▶ The breadth and diversity of Nestle's portfolio and its geographic reach allow for easier absorption of brand and operational shocks.
- ▶ Nestle's global distribution network and entrenched supply chain relationships render the company one of the most effective platforms to develop and expand brands on a global scale (as seen in its latest partnership deal with Starbucks).
- ▶ With margins lagging some of its large-cap peers, there should be plenty of low-hanging fruit with which Nestle could improve its financial performance.

Bears Say

Ioannis Pontikis, CFA, Senior Equity Analyst, 28 Jul 2022

- ▶ Pricing power in the confectionery business appears to be weakening, particularly in locally tailored products, which could contribute to a slower level of secular growth.
- ▶ With annual sales of around CHF 90 billion, even blockbuster product launches barely move the needle on Nestle's organic growth rate, limiting the aggregate firm's agility in responding to a changing packaged food landscape.
- ▶ With head count of around 330,000 employees, change may be difficult to implement for this global packaged food behemoth.

Analyst Notes Archive

Strong H1 for Nestle, In Line With Industrywide Outperformance; Guidance Upgraded; FVE up to CHF 109

Ioannis Pontikis, CFA, Senior Equity Analyst, 28 Jul 2022

Nestle's first-half 2022 results included strong organic growth of 8.1% (real internal growth of 1.7%, pricing of 6.5%), ahead of company-compiled consensus estimates of 7.4%. Growth continued to be supported by the retail channel (at an elevated level, up 6.7% in the first half versus 7.3% in the same period in 2021) due to strong pricing contribution, a function of a persistent inflationary environment and a still robust consumer. The out-of-home channels are recovering as expected, up 29.6% in the period versus up 21.3% in the same period last year. The underlying trading operating profit margin was 16.9%, ahead of company-compiled consensus at 16.7%. For 2022, Nestle upgraded organic growth guidance to 7%-8% from "around 5%," versus 7.6% in our updated model with cautious guidance on margins at around 17% from 17%-17.5% and versus 17% in our model (unchanged). The margin outlook is the result of higher uncertainty due to inflationary headwinds, particularly related to packaging,

Nestle SA NESN ★★★ 18 Oct 2022 17:06, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Moat Trend™	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
107.78 CHF 18 Oct 2022	109.00 CHF 28 Jul 2022 13:23, UTC	0.99	296.40 CHF Bil 18 Oct 2022	Wide	Stable	Low	Standard	5 Oct 2022 05:00, UTC

Competitors

	Nestle SA NESN	General Mills Inc GIS	Mondelez International Inc Class A MDLZ	The Hershey Co HSY
Economic Moat	Wide	Narrow	Wide	Wide
Moat Trend	Stable	Negative	Stable	Stable
Currency	CHF	USD	USD	USD
Fair Value	109.00 28 Jul 2022 13:23, UTC	73.00 12 Jul 2022 16:05, UTC	64.00 18 Aug 2022 21:22, UTC	165.00 5 Aug 2022 16:47, UTC
1-Star Price	136.25	91.25	80.00	206.25
5-Star Price	87.20	58.40	51.20	132.00
Assessment	Fairly Valued 18 Oct 2022	Over Valued 18 Oct 2022	Under Valued 18 Oct 2022	Significantly Over Valued 18 Oct 2022
Morningstar Rating	★★★ 18 Oct 2022 17:06, UTC	★★ 18 Oct 2022 21:18, UTC	★★★★ 18 Oct 2022 21:18, UTC	★ 18 Oct 2022 21:18, UTC
Analyst	Ioannis Pontikis, Senior Equity Analyst	Rebecca Scheuneman, Senior Equity Analyst	Erin Lash, Sector Director	Erin Lash, Sector Director
Capital Allocation	Standard	Standard	Standard	Standard
Price/Fair Value	0.99	1.07	0.91	1.38
Price/Sales	3.29	2.49	2.73	4.84
Price/Book	6.67	4.39	2.91	16.11
Price/Earning	18.55	16.48	21.22	28.92
Dividend Yield	2.60%	2.68%	2.46%	1.64%
Market Cap	296.40 Bil	46.46 Bil	79.97 Bil	46.59 Bil
52-Week Range	103.42 — 129.80	61.20 — 81.24	54.72 — 69.47	172.72 — 234.56
Investment Style	Large Core	Large Core	Large Core	Large Growth

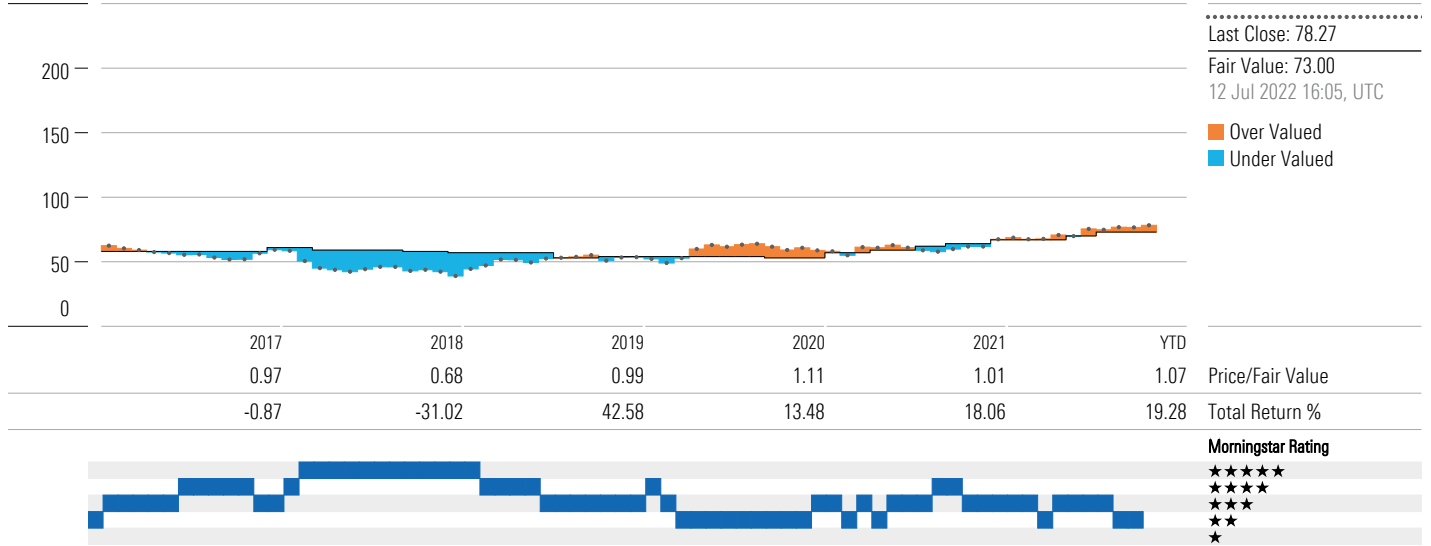
transportation, and energy, which could not be hedged against, as opposed to agricultural commodities. Inflation will continue to be a headwind for product categories such as coffee in 2022 as hedges roll off. We slightly raise our fair value estimate to CHF 109 from CHF 106 previously to account for higher pricing contribution in 2022 (to 6.2%), the result of inflationary pressures of cost inputs across the board, while we maintain our margin forecast (17%, at the low end of previous guidance and in line with current), the result of headwinds from elevated investments in sustainability initiatives and adverse inflation impacts.

From a product category perspective, growth continued to be driven by high-quality categories such as petcare (up 13.9% with a 19% underlying trading margin), with Nespresso disappointing (up 2.6% organic growth and negative volume growth at negative 1.6%). ■■■

Nestle SA NESN ★★★ 18 Oct 2022 17:06, UTC

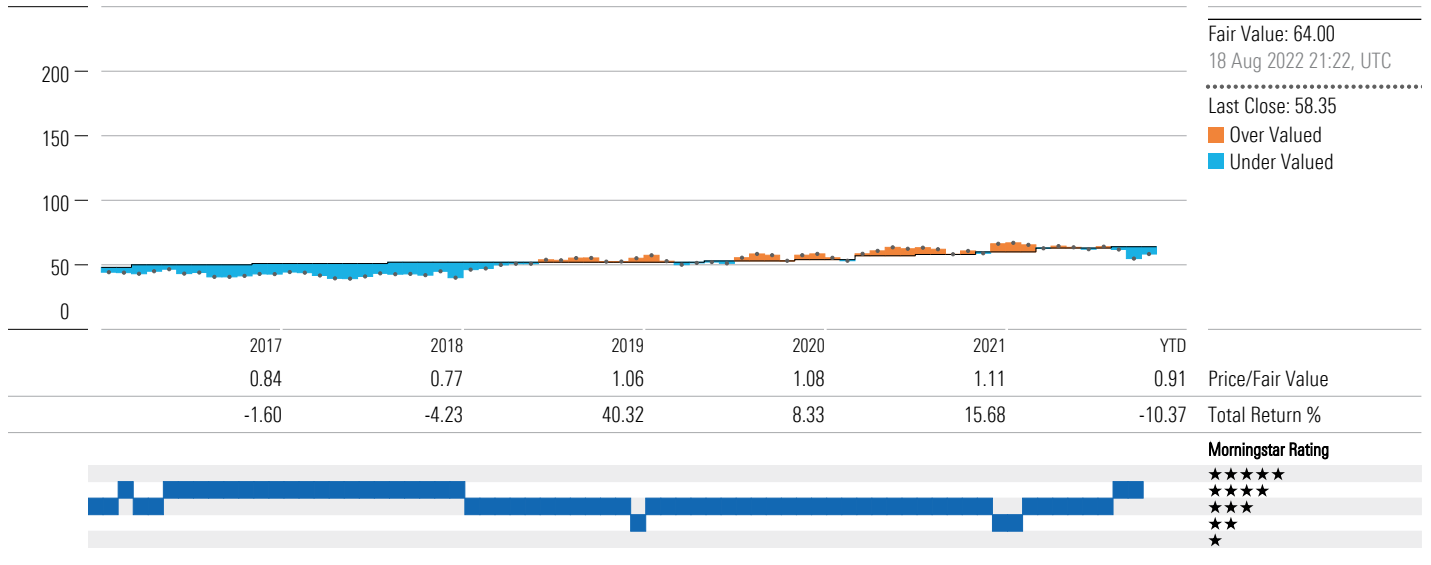
Competitors Price vs. Fair Value

General Mills Inc GIS



Total Return % as of 18 Oct 2022. Last Close as of 18 Oct 2022. Fair Value as of 12 Jul 2022 16:05, UTC.

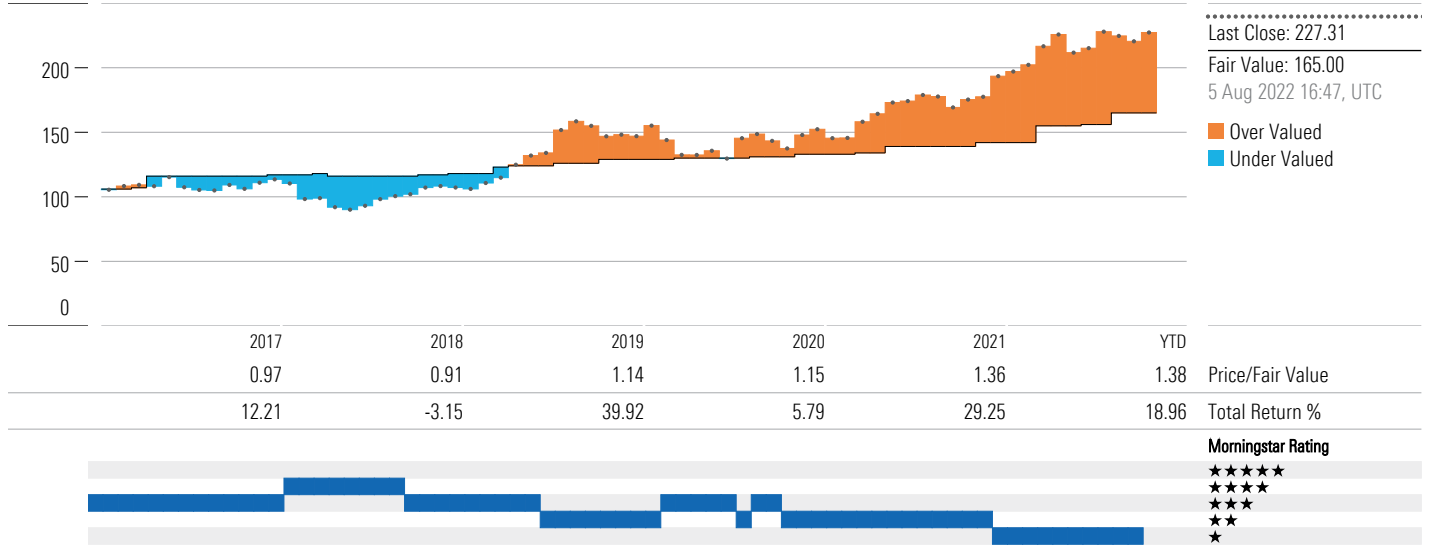
Mondelez International Inc Class A MDLZ



Total Return % as of 18 Oct 2022. Last Close as of 18 Oct 2022. Fair Value as of 18 Aug 2022 21:22, UTC.

Nestle SA NESN ★★★ 18 Oct 2022 17:06, UTC

The Hershey Co HSY



Total Return % as of 18 Oct 2022. Last Close as of 18 Oct 2022. Fair Value as of 5 Aug 2022 16:47, UTC.

Nestle SA NESN ★★★

18 Oct 2022 17:06, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Moat Trend™	Uncertainty	Capital Allocation	ESG Risk Rating Assessment ¹
107.78 CHF 18 Oct 2022	109.00 CHF 28 Jul 2022 13:23, UTC	0.99	296.40 CHF Bil 18 Oct 2022	Wide	Stable	Low	Standard	 5 Oct 2022 05:00, UTC

Morningstar Historical Summary

Financials as of 30 Jun 2022

Fiscal Year, ends 31 Dec	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	YTD	TTM
Revenue (CHF Bil)	90	92	92	89	90	90	92	93	85	87	46	91
Revenue Growth %	7.4	2.7	-0.5	-3.0	0.8	0.2	2.0	1.2	-8.8	3.3	9.1	7.0
EBITDA (CHF Bil)	17	16	14	16	16	14	18	20	18	15	8	15
EBITDA Margin %	18.4	17.8	15.3	17.6	18.3	15.8	19.5	21.5	21.7	17.4	18.5	16.5
Operating Income (CHF Bil)	14	15	14	14	14	15	15	16	15	15	8	16
Operating Margin %	15.4	16.6	15.5	15.6	15.9	16.6	16.9	17.4	17.2	17.4	16.9	17.4
Net Income (CHF Bil)	10.23	10.02	14.46	9.07	8.53	7.16	10.14	12.61	12.23	16.91	5.25	16.21
Net Margin %	11.4	10.8	15.7	10.2	9.5	8.0	11.1	13.6	14.4	19.3	11.5	17.8
Diluted Shares Outstanding (Mil)	3,195	3,200	3,196	3,136	3,097	3,098	3,019	2,934	2,849	2,791	2,799	2,788
Diluted Earnings Per Share (CHF)	3.20	3.13	4.52	2.89	2.75	2.31	3.36	4.30	4.29	6.06	1.87	5.81
Dividends Per Share (CHF)	1.95	2.05	2.15	2.20	2.25	2.30	2.35	2.45	2.70	2.75	2.80	2.80

Valuation as of 30 Sep 2022

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Recent Qtr	TTM
Price/Sales	2.2	2.2	2.6	2.6	2.5	2.9	2.7	3.3	3.4	4.2	3.3	3.3
Price/Earnings	19.2	19.3	24.5	16.6	26.2	28.0	30.0	33.6	22.3	29.2	18.4	18.4
Price/Cash Flow	14.9	13.4	16.3	16.6	14.8	19.0	16.8	19.3	20.3	24.2	22.7	22.7
Dividend Yield %	3.27	3.14	2.95	2.95	3.08	2.74	2.94	2.34	2.59	2.16	2.61	2.61
Price/Book	3.4	3.4	3.9	3.8	4.0	4.2	4.2	6.0	6.6	7.7	6.6	6.6
EV/EBITDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Operating Performance / Profitability as of 30 Jun 2022

Fiscal Year, ends 31 Dec	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	YTD	TTM
ROA %	8.5	8.1	11.4	7.0	6.7	5.4	7.5	9.5	9.7	12.9	3.8	12.3
ROE %	17.4	16.2	21.8	13.7	13.4	11.4	17.1	23.1	25.0	34.2	10.8	36.0
ROIC %	12.8	12.1	16.9	10.9	10.4	8.6	11.4	14.4	14.8	19.0	5.6	17.8
Asset Turnover	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.3	0.7

Financial Leverage

Fiscal Year, ends 31 Dec	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Recent Qtr	TTM
Debt/Capital %	12.9	14.2	15.0	15.7	14.6	23.4	30.9	30.8	37.9	40.7	46.4	—
Equity/Assets %	48.5	52.0	52.6	50.3	49.0	45.8	41.9	40.7	36.8	38.2	32.3	—
Total Debt/EBITDA	1.7	1.3	1.5	1.4	1.4	2.1	2.3	1.9	2.2	3.1	6.4	—
EBITDA/Interest Expense	20.6	19.4	18.5	21.7	21.8	16.9	17.8	16.5	18.7	16.0	16.2	14.6

Morningstar Analyst Historical/Forecast Summary as of 28 Jul 2022

Financials

Fiscal Year, ends 12-31-2021	Estimates				
	2020	2021	2022	2023	2024
Revenue (CHF Mil)	84,681	87,470	93,293	97,625	101,565
Revenue Growth %	-8.8	3.3	6.7	4.6	4.0
EBITDA (CHF Mil)	18,368	18,559	19,395	20,462	21,469
EBITDA Margin %	21.7	21.2	20.8	21.0	21.1
Operating Income (CHF Mil)	14,903	15,119	15,759	16,728	17,653
Operating Margin %	17.6	17.3	16.9	17.1	17.4
Net Income (CHF Mil)	12,065	12,391	12,757	13,520	14,346
Net Margin %	14.2	14.2	13.7	13.9	14.1
Diluted Shares Outstanding (Mil)	2,845	2,791	2,750	2,688	2,646
Diluted Earnings Per Share (CHF)	4.24	4.44	4.64	5.03	5.42
Dividends Per Share (CHF)	2.75	2.80	2.93	3.17	3.42

Forward Valuation

	Estimates				
	2020	2021	2022	2023	2024
Price/Sales	3.6	3.4	3.0	2.9	2.8
Price/Earnings	—	—	21.6	20.0	18.5
Price/Cash Flow	29.3	32.7	25.6	20.4	19.2
Dividend Yield %	—	—	2.9	3.2	3.4
Price/Book	—	—	5.7	5.6	5.5
EV/EBITDA	18.5	17.6	16.2	15.3	14.6

Appendix

Historical Morningstar Rating

Nestle SA NESN 18 Oct 2022 17:06, UTC

Dec 2022	Nov 2022	Oct 2022	Sep 2022	Aug 2022	Jul 2022	Jun 2022	May 2022	Apr 2022	Mar 2022	Feb 2022	Jan 2022
—	—	★★★	★★★	★★	★★	★★★	★★	★★	★★	★★	★★
Dec 2021	Nov 2021	Oct 2021	Sep 2021	Aug 2021	Jul 2021	Jun 2021	May 2021	Apr 2021	Mar 2021	Feb 2021	Jan 2021
★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★★	★★
Dec 2020	Nov 2020	Oct 2020	Sep 2020	Aug 2020	Jul 2020	Jun 2020	May 2020	Apr 2020	Mar 2020	Feb 2020	Jan 2020
★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★
Dec 2019	Nov 2019	Oct 2019	Sep 2019	Aug 2019	Jul 2019	Jun 2019	May 2019	Apr 2019	Mar 2019	Feb 2019	Jan 2019
★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★★
Dec 2018	Nov 2018	Oct 2018	Sep 2018	Aug 2018	Jul 2018	Jun 2018	May 2018	Apr 2018	Mar 2018	Feb 2018	Jan 2018
★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★
Dec 2017	Nov 2017	Oct 2017	Sep 2017	Aug 2017	Jul 2017	Jun 2017	May 2017	Apr 2017	Mar 2017	Feb 2017	Jan 2017
★★	★★	★★★	★★★	★★★	★★	★★	★★★	★★★	★★★	★★★★	★★★★

General Mills Inc GIS 18 Oct 2022 21:18, UTC

Dec 2022	Nov 2022	Oct 2022	Sep 2022	Aug 2022	Jul 2022	Jun 2022	May 2022	Apr 2022	Mar 2022	Feb 2022	Jan 2022
—	—	★★	★★	★★★	★★★	★★★	★★★	★★	★★★	★★★	★★★
Dec 2021	Nov 2021	Oct 2021	Sep 2021	Aug 2021	Jul 2021	Jun 2021	May 2021	Apr 2021	Mar 2021	Feb 2021	Jan 2021
★★★	★★★	★★★★	★★★★	★★★	★★★	★★★	★★	★★★	★★	★★★	★★★
Dec 2020	Nov 2020	Oct 2020	Sep 2020	Aug 2020	Jul 2020	Jun 2020	May 2020	Apr 2020	Mar 2020	Feb 2020	Jan 2020
★★	★★	★★	★★	★★	★★	★★	★★	★★	★★★	★★★★	★★★
Dec 2019	Nov 2019	Oct 2019	Sep 2019	Aug 2019	Jul 2019	Jun 2019	May 2019	Apr 2019	Mar 2019	Feb 2019	Jan 2019
★★★	★★★	★★★	★★★	★★★	★★★	★★★★	★★★★	★★★★	★★★★	★★★★★	★★★★★
Dec 2018	Nov 2018	Oct 2018	Sep 2018	Aug 2018	Jul 2018	Jun 2018	May 2018	Apr 2018	Mar 2018	Feb 2018	Jan 2018
★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★
Dec 2017	Nov 2017	Oct 2017	Sep 2017	Aug 2017	Jul 2017	Jun 2017	May 2017	Apr 2017	Mar 2017	Feb 2017	Jan 2017
★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★

Mondelez International Inc Class A MDLZ 18 Oct 2022 21:18, UTC

Dec 2022	Nov 2022	Oct 2022	Sep 2022	Aug 2022	Jul 2022	Jun 2022	May 2022	Apr 2022	Mar 2022	Feb 2022	Jan 2022
—	—	★★★★	★★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★	★★
Dec 2021	Nov 2021	Oct 2021	Sep 2021	Aug 2021	Jul 2021	Jun 2021	May 2021	Apr 2021	Mar 2021	Feb 2021	Jan 2021
★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★
Dec 2020	Nov 2020	Oct 2020	Sep 2020	Aug 2020	Jul 2020	Jun 2020	May 2020	Apr 2020	Mar 2020	Feb 2020	Jan 2020
★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★
Dec 2019	Nov 2019	Oct 2019	Sep 2019	Aug 2019	Jul 2019	Jun 2019	May 2019	Apr 2019	Mar 2019	Feb 2019	Jan 2019
★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★★
Dec 2018	Nov 2018	Oct 2018	Sep 2018	Aug 2018	Jul 2018	Jun 2018	May 2018	Apr 2018	Mar 2018	Feb 2018	Jan 2018
★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★
Dec 2017	Nov 2017	Oct 2017	Sep 2017	Aug 2017	Jul 2017	Jun 2017	May 2017	Apr 2017	Mar 2017	Feb 2017	Jan 2017
★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★	★★★	★★★★	★★★	★★★

The Hershey Co HSY 18 Oct 2022 21:18, UTC

Dec 2022	Nov 2022	Oct 2022	Sep 2022	Aug 2022	Jul 2022	Jun 2022	May 2022	Apr 2022	Mar 2022	Feb 2022	Jan 2022
—	—	★	★	★	★	★	★	★	★	★	★
Dec 2021 ★★	Nov 2021 ★★	Oct 2021 ★★	Sep 2021 ★★	Aug 2021 ★★	Jul 2021 ★★	Jun 2021 ★★	May 2021 ★★	Apr 2021 ★★	Mar 2021 ★★	Feb 2021 ★★	Jan 2021 ★★
Dec 2020 ★★	Nov 2020 ★★	Oct 2020 ★★★	Sep 2020 ★★★	Aug 2020 ★★	Jul 2020 ★★★	Jun 2020 ★★★	May 2020 ★★★	Apr 2020 ★★★	Mar 2020 ★★★	Feb 2020 ★★	Jan 2020 ★★
Dec 2019 ★★	Nov 2019 ★★	Oct 2019 ★★	Sep 2019 ★★	Aug 2019 ★★	Jul 2019 ★★	Jun 2019 ★★★	May 2019 ★★★	Apr 2019 ★★★	Mar 2019 ★★★	Feb 2019 ★★★	Jan 2019 ★★★
Dec 2018 ★★★	Nov 2018 ★★★	Oct 2018 ★★★	Sep 2018 ★★★★	Aug 2018 ★★★★	Jul 2018 ★★★★	Jun 2018 ★★★★	May 2018 ★★★★	Apr 2018 ★★★★	Mar 2018 ★★★★	Feb 2018 ★★★★	Jan 2018 ★★★★
Dec 2017 ★★★	Nov 2017 ★★★	Oct 2017 ★★★	Sep 2017 ★★★	Aug 2017 ★★★	Jul 2017 ★★★	Jun 2017 ★★★	May 2017 ★★★	Apr 2017 ★★★	Mar 2017 ★★★	Feb 2017 ★★★	Jan 2017 ★★★

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 es-

timate 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.

When considering a company's moat, we also assess whether there is a substantial threat of value destruction, stemming from risks related to ESG, industry disruption, financial health, or other idiosyncratic issues. In this context, a risk is considered potentially value destructive if its occurrence would eliminate a firm's economic profit on a cumulative or mid-cycle basis. If we deem the probability of occurrence sufficiently high, we would not characterize the company as possessing an economic moat.

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

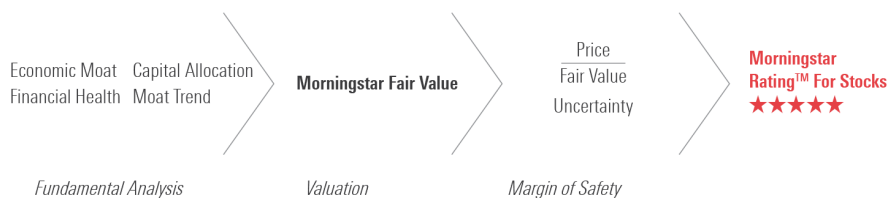
Once a company's marginal ROIC hits its cost of capital, we calculate a continuing value, using a standard perpetuity formula. At perpetuity, we assume that any growth or decline or investment in the business neither creates nor destroys value and that any new investment provides a return in line with 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 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.

3. Uncertainty Around That Fair Value Estimate

Morningstar's Uncertainty Rating is designed to capture the range of potential outcomes for a company's intrinsic value. This rating is used to assign the margin of safety required before investing, which in turn explicitly drives our stock star rating system. The Uncertainty Rating is

Morningstar Equity Research Star Rating Methodology



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aimed at identifying the confidence we should have in assigning a fair value estimate for a given stock.

Our Uncertainty Rating is meant to take into account anything that can increase the potential dispersion of future outcomes for the intrinsic value of a company, and anything that can affect our ability to accurately predict these outcomes. The rating begins with a suggested rating produced by a quantitative process based on the trailing 12-month standard deviation of daily stock returns. An analyst overlay is then applied, with analysts using the suggested rating, historical rating data, and their own knowledge of the company to inform them as they make the final Uncertainty Rating decision. Ultimately, the rating decision rests with the analyst. Analysts take into account many characteristics when making their final decision, including cyclical factors, operational and financial factors such as leverage, company-specific events, ESG risks, and anything else that might increase the potential dispersion of future outcomes and our ability to estimate those outcomes.

Our recommended margin of safety—the discount to fair value demanded before we’d recommend buying or selling the stock—widens as our uncertainty of the estimated value of the equity increases. The more uncertain we are about the potential dispersion of outcomes, 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 are: Low, Medium, High, Very High, and Extreme.

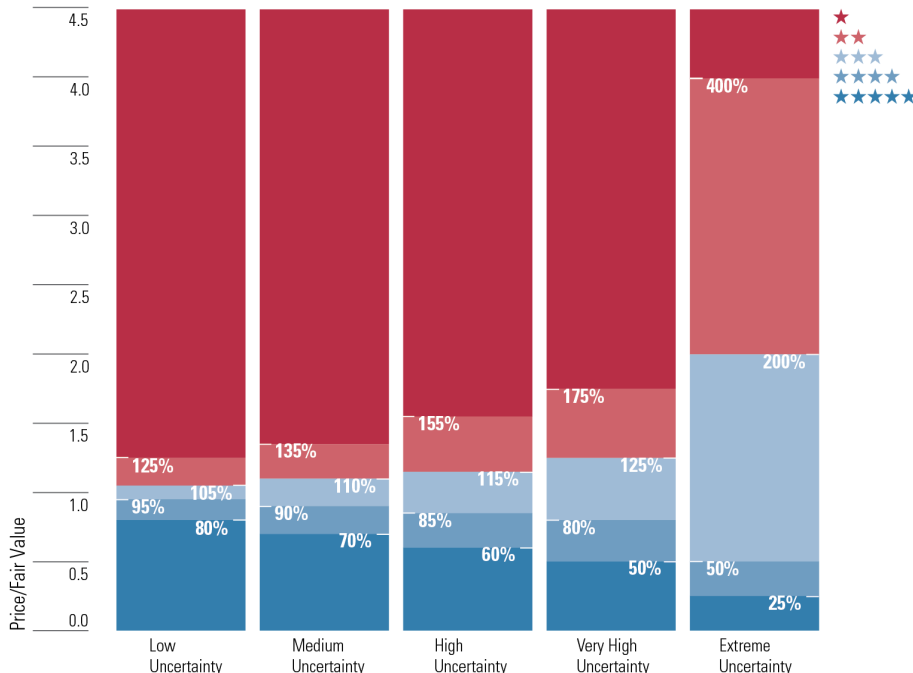
	Margin of Safety	
Qualitative Analysis		
Uncertainty Ratings	★★★★★ Rating	★ Rating
Low	20% Discount	25% Premium
Medium	30% Discount	35% Premium
High	40% Discount	55% Premium
Very High	50% Discount	75% Premium
Extreme	75% Discount	300% Premium

Our uncertainty rating is based on the interquartile range, or the middle 50% of potential outcomes, covering the 25th percentile–75th percentile. This means that when a stock hits 5 stars, we expect there is a 75% chance that the intrinsic value of that stock lies above the current market price. Similarly, when a stock hits 1 star, we expect there is a 75% chance that the intrinsic value of that stock lies below the current market price.

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.

Morningstar Equity Research Star Rating Methodology



For more details about our methodology, please go to <https://shareholders.morningstar.com>.

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:

★★★★★ 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.

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.

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Capital Allocation Rating: Our Capital Allocation (or Stewardship) Rating represents our assessment of the quality of management's capital allocation, with particular emphasis on the firm's balance sheet, investments, and shareholder distributions. Analysts consider companies' investment strategy and valuation, balance sheet management, and dividend and share buyback policies. Corporate governance factors are only considered if they are likely to materially impact shareholder value, though either the balance sheet, investment, or shareholder distributions. Analysts assign one of three ratings: "Exemplary", "Standard", or "Poor". Analysts judge Capital Allocation from an equity holder's perspective. Ratings are determined on a forward looking and absolute basis. The Standard rating is most common as most managers will exhibit neither exceptionally strong nor poor capital allocation.

Capital Allocation (or Stewardship) analysis published prior to Dec. 9, 2020, was determined using a different process. Beyond investment strategy, financial leverage, and dividend and share buyback policies, analysts also considered execution, compensation, related party transactions, and accounting practices in the rating.

Capital Allocation Rating: Our Capital Allocation (or Stewardship) Rating represents our assessment of the quality of management's capital allocation, with particular emphasis on the firm's balance sheet, investments, and shareholder distributions. Analysts consider companies' investment strategy and valuation, balance sheet management, and dividend and share buyback policies. Corporate governance factors are only considered if they are likely to materially impact shareholder value, though either the balance sheet, investment, or shareholder distributions. Analysts assign one of three ratings: "Exemplary", "Standard", or "Poor". Analysts judge Capital Allocation from an equity holder's perspective. Ratings are determined on a forward looking and absolute basis. The Standard rating is most common as most managers will exhibit neither exceptionally strong nor poor capital allocation.

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Sustainalytics ESG Risk Rating Assessment: The ESG Risk Rating Assessment is provided by Sustainalytics; a Morningstar company.

Sustainalytics' ESG Risk Ratings measure the degree to which company's economic value at risk is driven by environment, social and governance (ESG) factors.

Sustainalytics analyzes over 1,300 data points to assess a company's exposure to and management of ESG risks. In other words, ESG Risk Ratings measures a company's unmanaged ESG Risks represented as a quantitative score. Unmanaged Risk is measured on an open-ended scale starting at zero (no risk) with lower scores representing less unmanaged risk and, for 95% of cases, the unmanaged ESG Risk score is below 50.

Based on their quantitative scores, companies are grouped into one of five Risk Categories (negligible, low, medium, high, severe). These risk categories are absolute, meaning that a 'high risk' assessment reflects a comparable degree of unmanaged ESG risk across all subindustries covered.

The ESG Risk Rating Assessment is a visual representation of Sustainalytics ESG Risk Categories on a 1 to 5 scale. Companies with Negligible Risk = 5 Globes, Low Risk = 4, Medium Risk = 3 Globes, High Risk = 2 Globes, Severe Risk = 1 Globe. For more information, please visit sustainalytics.com/esg-ratings/

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