

S&P Global Inc SPGI★★★★

28 Apr 2025 21:19, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
479.37 USD	540.00 USD	0.89	150.81 USD Bil	Wide	Large Growth	Low	Exemplary	
28 Apr 2025	19 Feb 2025 20:43, UTC		29 Apr 2025					2 Apr 2025 05:00, UTC

Sector	Industry
Financial Services	Financial Data & Stock Exchanges

Business Description

S&P Global provides data and benchmarks to capital and commodity market participants. Its ratings business is the largest credit rating agency in the world and S&P's largest segment by profitability. S&P's largest segment by revenue is market intelligence, which provides desktop, data and advisory solutions, enterprise solutions, and credit/risk solutions mostly in the financial-services industry. S&P's other segments include commodity insights (Platts and other data), mobility (Carfax), and indexes.

growth. As a result, the firm now expects 2025 ratings revenue growth of 0%-4% (versus 3%-5% previously).

- ▶ Indexes revenue is now expected to grow 5%-7% versus previous expectations of 8%-10% as market headwinds impact asset-based fees. S&P did not adjust revenue outlooks for its other segments—market intelligence, commodity insights, and mobility.
- ▶ While the firm lowered its full-year margin outlook by 50 basis points, it is due to the pending sale of OSTTRA and not from lower indexes or ratings revenue.

Coming up: S&P Global will host an investor day on Nov. 13, 2025, where we expect management to update medium-term financial targets.

Business Strategy & Outlook Rajiv Bhatia, CFA, Equity Analyst, 29 Apr 2025

Whether through credit ratings, financial indexes, or commodity price reporting, S&P Global has established a wide moat from its data-driven benchmarks. Given the embedded nature of these benchmarks, S&P enjoys a strong competitive position and strong operating margins. In February 2022, S&P completed its \$44 billion acquisition of IHS Markit. We believe IHS Markit's recurring revenue model diversified S&P's revenue, limiting upside and downside scenarios for the firm.

Bond issuance volume is a key revenue driver for S&P's ratings business, which makes up almost 40% of the firm's adjusted operating income. Over the long term, we believe high-single-digit revenue growth, driven by nominal GDP growth and pricing, is a reasonable expectation for this business. Regulatory issues are part of the backdrop of the firm's ratings business, but regulations can often benefit established players.

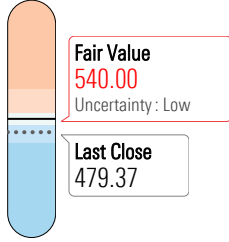
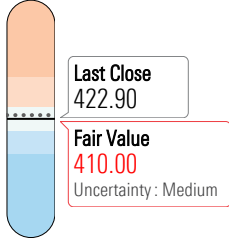
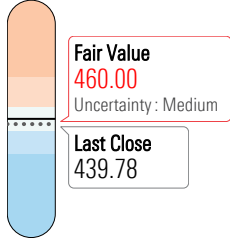
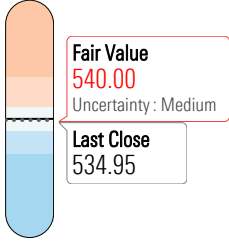
S&P's other segments include market intelligence (21% of adjusted operating income), S&P Dow Jones indexes (16%), commodity insights (14%), and mobility (9%). S&P announced it will spin off its mobility division in 2026. While this business is moaty, in our view, we see limited fit with S&P's other segments. Market intelligence revenue is recurring but faces competition from other providers such as Bloomberg, Refinitiv, and FactSet. The indexes segment revolves around the S&P 500 index and is monetized from index subscriptions to active asset managers, license fees for passive exchange-traded funds and mutual funds, and royalties from exchange-traded options and futures. Commodity insights consists of S&P's legacy Platts business and IHS Markit's resources segment.

After spinning off its education business in 2013 and rebranding to S&P Global from McGraw Hill Financial, the firm has focused on expanding margins. Adjusted operating margin rose from 34% in 2013 to 55% in 2021, which we attribute to streamlining operations and revenue growth. However, given the inclusion of IHS Markit, which has some lower-margin businesses, we expect S&P Global to reach about 52% adjusted operating margins in 2029, which compares with 49% in 2024.

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Competitors

	S&P Global Inc SPGI	FactSet Research Systems Inc FDS	Moodys Corp MCO	MSCI Inc MSCI
				
Economic Moat	Wide	Narrow	Wide	Wide
Currency	USD	USD	USD	USD
Fair Value	540.00 19 Feb 2025 20:43, UTC	410.00 20 Dec 2024 18:38, UTC	460.00 23 Apr 2025 20:48, UTC	540.00 24 Feb 2025 15:34, UTC
1-Star Price	675.00	553.50	621.00	729.00
5-Star Price	432.00	287.00	322.00	378.00
Assessment	Undervalued 28 Apr 2025	Fairly Valued 28 Apr 2025	Fairly Valued 28 Apr 2025	Fairly Valued 28 Apr 2025
Morningstar Rating	★★★★★ 28 Apr 2025 21:19, UTC	★★★★★ 28 Apr 2025 21:21, UTC	★★★★★ 28 Apr 2025 21:20, UTC	★★★★★ 28 Apr 2025 21:26, UTC
Analyst	Rajiv Bhatia, Equity Analyst	Rajiv Bhatia, Equity Analyst	Rajiv Bhatia, Equity Analyst	Rajiv Bhatia, Equity Analyst
Capital Allocation	Exemplary	Standard	Exemplary	Exemplary
Price/Fair Value	0.89	1.03	0.96	0.99
Price/Sales	10.52	7.23	11.08	14.38
Price/Book	4.45	7.81	21.39	—
Price/Earning	30.53	25.23	34.01	36.79
Dividend Yield	0.77%	0.98%	0.79%	1.23%
Market Cap	150.81 Bil	16.27 Bil	80.43 Bil	41.82 Bil
52-Week Range	408.84—545.39	391.69—499.87	360.05—531.93	458.69—642.45
Investment Style	Large Growth	Mid Growth	Large Growth	Mid Growth

Bulls Say Rajiv Bhatia, CFA, Equity Analyst, 29 Apr 2025

- Once a benchmark is accepted by capital or commodity market participants, it is difficult to displace. As a result, S&P has strong pricing power in its ratings, index subscriptions, and Platts business.
- Relative to Moody's, S&P Global's business is more diversified and less sensitive to changes in bond issuance volume. The 2022 merger with IHS Markit further increased its recurring revenue exposure.
- S&P has demonstrated strong margin expansion. Given the relatively fixed nature of the firm's cost structure, incremental revenue often flows to the bottom line.

Bears Say Rajiv Bhatia, CFA, Equity Analyst, 29 Apr 2025

- A slowing global economy and rising interest rates will eventually pressure bond issuance, adversely affecting the largest profit driver, the ratings business.
- Market Intelligence faces a variety of competitors such as FactSet, Refinitiv, and Bloomberg, and a

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tougher macroeconomic environment could elongate sales cycles.

- S&P's index business has benefited from the shift to passive investing and strong US equity market performance, which could see limited growth going forward as index levels have reached elevated multiples.

Economic Moat Rajiv Bhatia, CFA, Equity Analyst, 29 Apr 2025

We believe S&P Global's well-established benchmark businesses warrant a wide economic moat rating based on intangible assets and network effects.

Credit ratings provide value to bond issuers (such as corporate issuers) as well as bond investors, creating a network effect. Bond issuers value credit ratings from Moody's and S&P because of their wide acceptance among asset owners and asset managers. This is particularly important in cross-border bond issuance deals. While a local country's domestic rating agency could have value for its domestic bonds, a rating from a Big Three firm is critical for a cross-border marketed security, as global investors desire broad comparability across global bonds. For example, an investor wants to know that a B+ rating for a company in California is similar to a B+ rating for a company in Chile or a B+ rating for a company in India.

This broad acceptance makes it essential for corporate issuers to get a rating on any debt they issue. By getting a bond rating from a market leader such as S&P, the bond issuer pays less in interest (often 30-65 basis points in savings per year). The cost of a vanilla corporate bond credit rating costs around 8 basis points and is typically much less than the underwriting fees and legal fees (50-100 basis points combined).

It's not just bond investors and bond issuers who value credit ratings. In our view, acceptance among index providers and government regulators also supports the rating agencies' wide moat. For example, the Bloomberg Barclays US Aggregate Bond Index, which among other uses serves as the index for the \$300 billion-plus BND exchange-traded fund, only considers ratings from either S&P, Moody's, or Fitch. Among banking regulators, rating agencies are used extensively to determine a bank's capital adequacy. Last, as the number of ratings increases, the value of ratings research subscriptions sold to buy-side investors increases.

Credit rating agencies such as S&P have built a moat through intangible assets as well. The incumbents are advantaged by their multidecade records, which allow investors to see how credit ratings performed. For example, it would be difficult for a new player to establish what the absolute and relative probabilities of a B versus BB versus BBB defaulting is over the next 10 years without sufficient sample size and time. Another hurdle for a new entrant would be establishing management relationships with the thousands of companies that issue debt. Given the strong record of incumbents, corporate management teams are unlikely to find much value in investing time and resources with

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another ratings provider.

Regulations provide another hurdle. To receive a nationally recognized statistical rating organization designation (which bestows many advantages) from the SEC, the agency must be nationally recognized, "meaning the rating agency is recognized in the United States as an issuer of credible and reliable ratings by the predominant users of securities markets." However, this creates a bit of a chicken-and-egg issue because for a rating agency to be credible according to capital market participants and corporate issuers, it's going to need to be an NRSRO. Even though the number of firms with an NRSRO designation has increased to about 10 since the introduction of the Credit Rating Agency Reform Act of 2006, we believe the network effect has been strong enough to result in limited traction of other rating agencies.

S&P has been able to leverage its moat to obtain solid pricing power, typically around 3%-4% per year. In 2025, S&P's rack rate for corporate finance ratings was 8.1 basis points, compared with 6.25 basis points in 2016 and 4.25 basis points in 2007, which implies fee compound annual growth rates of 3% and 4%, respectively.

S&P Dow Jones indexes has built a strong moat with its flagship benchmark, the S&P 500 index. S&P monetizes its indexes in primarily three ways: index subscriptions, asset-linked fees, and transaction royalties on exchange-traded futures and options. Active asset managers pay to benchmark performance against an index. Index benchmarks are critical to asset owners, asset managers, and consultants, which often have little incentive to switch. Once an index becomes dominant in a certain segment and has widespread acceptance among stakeholders, it tends to stay that way. An asset manager may prefer to be indexed against the Russell 1000, but if asset owners and consultants prefer the S&P 500, the asset manager would risk outflows. The largest ETFs in the US are based on the S&P 500 index, and we believe S&P Dow Jones has strong brand awareness among investors. Index switches tend to be rare in the ETF space and don't always move to a low cost for the provider. Finally, S&P generates trading royalties from exchange-traded derivatives, notably S&P 500 index futures on the CME, as well as S&P 500 index options and VIX options on the CBOE. Because of high trading volume, these index derivatives benefit from a network effect as they have the most liquidity. Last, S&P's exclusive agreements last many years (CBOE's agreement ends in 2032).

We view Platts, which is part of the Commodity Insights segment, as essentially an index business for certain commodities. Similar to how the S&P 500 dominates US large-cap equities and MSCI dominates international equities, typically one benchmark dominates a certain commodity. Moreover, Platts' prices are used in long-term contracts, thus guaranteeing the use of its prices for a certain period.

Commodity switching by market participants tends to be rare and is not usually driven by pricing. Rather, the infrequent switches we have noted seem more the result of concerns about price

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assessment volatility or methodology. Such was the case in 2011, when Malaysian state-owned oil company Petronas announced it would switch from local provider Asia Petroleum Price Index to Platts, citing volatility of the benchmark. Switches away from Platts have generally been over concerns about its adoption of markets on close methodology. Though these switches benefited upstarts such as Argus, the use of markets on close strongly boosted demand for its data subscriptions.

We view S&P Mobility as a wide-moat business based on intangible assets and switching costs. This segment houses Carfax, which provides used-vehicle history reports based on more than 25 billion records collected from more than 112,000 data sources. We believe it would be difficult for a new entrant to amass this data. In addition, we believe the Carfax brand is strong with consumers. We estimate the firm spends \$40 million-\$50 million in advertising for Carfax annually, an amount that would be difficult for an upstart to justify. In addition to Carfax, S&P Mobility serves the new-car market with data and analytics focusing on original equipment manufacturers, parts suppliers, and dealers. These solutions are integrated in customer workflows, and given that the price paid to S&P is only a small part of the client's overall costs, there is little incentive for carmakers to switch providers. On April 29, 2025, S&P Global announced it plans to spin off this business into a separate public company.

We regard market intelligence as a narrow-moat business based on switching costs. S&P's desktop products include S&P Capital IQ and SNL. Data management solutions consists of similar data as desktops, but it's delivered by feeds and application programming interface rather than through a desktop. By being embedded in customer flows, customers face switching costs due to the hassle involved. That said, customers are not insensitive to price, and offerings are available from competitors such as FactSet and Refinitiv (owned by LSE Group). The credit risk solutions subsegment consists largely of selling credit ratings research subscriptions and data feeds, and we believe the moat here should be reflected in S&P ratings.

Fair Value and Profit Drivers Rajiv Bhatia, CFA, Equity Analyst, 29 Apr 2025

After updating our model following the firm's release of first-quarter 2025 financial results, we are maintaining our fair value estimate of \$540 on S&P Global. Our fair value estimate equates to about 32 times our 2025 non-GAAP earnings per share estimate.

Over the next five years, we expect organic growth of about 6%. By 2029 and excluding the impact of the planned spinoff of the mobility division, we expect S&P's non-GAAP operating margin to be about 52%, about a 300-basis-point increase from 2024. We attribute the margin expansion to revenue growth and continued expense discipline.

Ratings revenue growth has been topsy-turvy in recent years as issuance levels have been volatile. We expect about 1% growth in 2025. From there, we model for mid- to high- single-digit growth driven by nominal GDP growth and pricing. We believe that S&P's businesses are generally moaty and that pricing

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power is strong, particularly in ratings.

Risk and Uncertainty Rajiv Bhatia, CFA, Equity Analyst, 19 Feb 2025

We assign a Morningstar Uncertainty Rating of Low to S&P Global.

With five different segments, S&P Global's operations are well diversified. From a geographic perspective, revenue is diversified, with about 40% of revenue non-US. Client concentration is minimal, and S&P clients include a wide variety of end markets.

The ratings business is the largest profit driver for S&P Global. In the near term, it is affected by the level of bond issuance, which can be lumpy. Following any decline in issuance, we expect revenue to rebound, driven by pricing power and a rise in GDP. This risk was seen in 2022 when ratings revenue declined 26% and ratings adjusted profits declined 35%. Indexes' asset-linked fees are sensitive to asset levels in ETFs. Trading royalties are sensitive to trading volume, and S&P Platts is modestly sensitive to energy market conditions.

While transaction-based ratings revenue can provide some volatility, we note that over 60% of S&P's revenue is subscription or nontransaction based.

From an environmental, social, and governance perspective, S&P has faced issues of rating efficacy. In February 2015, S&P entered into a \$1.38 billion settlement with the US Department of Justice and attorneys general from various states relating to civil claims on structured finance ratings. While issues like this crop up from time to time, we think S&P has been able to maintain its moat. Regulation also presents headline risk to the firm, but regulation often benefits incumbents, and thus far, S&P has been able to effectively pass on any increased regulatory and compliance costs to issuers.

Capital Allocation Rajiv Bhatia, CFA, Equity Analyst, 11 Feb 2025

In our view, S&P Global warrants an Exemplary Morningstar Capital Allocation Rating.

We generally believe the firm's acquisitions and dispositions have made strategic sense, though the size of IHS Markit is a major test for management. We believe the price paid for IHS Markit was reasonable. The firm exceeded its synergy targets for SNL Financial, and we believe Kensho, an artificial intelligence hub, added to its data processing capabilities. We're also pleased with the margin progress the firm has made since its spinoff of McGraw Hill Education in 2013.

The company targets a dividend payout ratio of 20%-30%, which is appropriate, and returns the rest to shareholders through share repurchases and acquisitions. S&P's share repurchases have meaningfully decreased its shares outstanding and have been a driver of earnings growth. S&P increased its total capital returns, which includes dividends and share purchases, to 85% from 75% following the merger with IHS Markit.

In November 2024, Martina Cheung took over as CEO following the retirement of Doug Peterson.

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Cheung was a logical choice in our view and as she had previous experience in both the ratings segment and market intelligence segment. We regard CEO Doug Peterson's tenure positively. Peterson, who became chief executive in 2013, avoided any serious pitfalls running the business while divesting less attractive businesses. He also helped navigate the company out of the financial crisis-related litigation. The acquisition of IHS Markit did help stem the weakness in ratings revenue in 2022.

Analyst Notes Archive

S&P Global Earnings: Good Finish to 2024, and 2025 Outlook Respectable Rajiv Bhatia, CFA, Equity Analyst, 11 Feb 2025

Wide-moat-rated S&P Global reported 14% revenue growth to \$3.59 billion, a strong fourth-quarter result, in our view. Ratings transaction revenue grew 54% while recurring revenue across all segments grew 7%. For context, the \$3.59 billion in revenue was 3% above the FactSet consensus estimate and 4% above our estimate. (As is customary, S&P Global gave its initial full-year outlook in its fourth-quarter release.) The firm's outlook was also above our and consensus expectations. We attribute the positive reaction to the solid outlook, and we believe the market may have been fearing an overly conservative outlook from a new CEO. As we incorporate these results, we expect to increase our fair value estimate of \$480 by 5%-15%. The ratings business, which composes 37% of S&P Global's adjusted operating profit, grew 27% to \$1.06 billion, with transaction revenue growing 54% and nontransaction revenue growing 8% in the quarter. The growth was broad-based across issuance categories, and looking ahead, S&P Global expects low-single-digit billed issuance to drive 3%-5% revenue growth. While we believe S&P Global has strong pricing power, it expects the issuance mix to shift toward investment-grade, which typically has lower pricing. Overall, S&P Global expects 3%-5% ratings revenue growth for 2025, which at the midpoint is \$4.54 billion, which came in 7% above our estimate of \$4.24 billion; a good result, in our view. Market Intelligence revenue grew 6% organically. Desktop, which includes CapIQ, grew just 1% organically. S&P Global notes that it is seeing a highly competitive environment in financial services and somewhat elevated price sensitivity in Market Intelligence. Overall, we view this as a negative sign for narrow-moat-rated FactSet, which competes with S&P Market Intelligence. Enterprise Solutions was the star of Market Intelligence and grew 16%, driven by lending solutions.

S&P Global: Ratings Regulatory Disclosures Continue to Indicate Steady and Solid Pricing Power

Rajiv Bhatia, CFA, Equity Analyst, 13 Jan 2025

S&P Ratings typically updates its regulatory pricing disclosures in January, and our perusal of its disclosures shows continued healthy pricing power that we believe reflects the ratings segment's network effect and resulting Morningstar wide moat rating. S&P raised its January 2025 list price by about 2.5% year over year on corporate bond ratings to 8.10 basis points from 7.90 basis points last year. This is consistent with the increase in 2024 to 7.90 basis points from 7.70 basis points. In addition,

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S&P Global also increased the minimum fee on most corporate transactions to \$145,000 versus \$140,000 in 2024. The firm’s list price is just one element to rating agency pricing. In addition to the published rate, there are other ways ratings agencies such as S&P, Moody’s, and Fitch can adjust their pricing yield, such as adjusting credit monitoring or surveillance fees and modifying their frequent issuer programs. For Fitch Ratings EMEA corporate fees, the list rate on the first EUR 1.5 billion of issuance went to 7.70 basis points in 2025, which compares with 7.50 basis points in 2024 and 7.20 basis points in 2023. However, we note that the median increase on annual surveillance fees for its various tiers is about 4.6%. Overall, we believe pricing for the leading rating agencies is in the 3% to 4% range per year. We will maintain our fair value estimates of \$480 on S&P Global and \$415 on Moody’s.

S&P Global: Increasing Our Fair Value Estimate by 2%; Reducing Uncertainty Rating to Low

Rajiv Bhatia, CFA, Equity Analyst, 22 Nov 2024

After updating our model, we are increasing our fair value estimate on S&P Global to \$480 from \$470 primarily as we increase our asset-linked fee assumption based on market appreciation since our last update in the index segment. As we calibrate our uncertainty ratings across our coverage universe, we are decreasing our Morningstar Uncertainty Rating to Low from Medium. While S&P ratings' transaction-based revenue can be choppy, S&P's four other segments provide a large amount of subscription-based revenue. S&P Global overall is diversified from a geographic and client industry perspective and has minimal client concentration.

The New World of Direct Indexing and Mass Personalization: Potential Disruption Can't Be Ignored

Michael Wong, CFA, Director, 11 Nov 2024

Direct indexing in some form has existed for decades, but advances in technology have recently broadened its availability. With its arguable superiority to existing passive index funds and exchange-traded funds, investment industry leaders are positioning for the opportunities and threats it unleashes. While there have already been hundreds of billions of dollars dedicated to direct indexing offerings, numerous firms such as BlackRock and Morgan Stanley have acquired direct indexing capabilities in anticipation of further rapid growth. Informed by our case studies and analysis, we calculate a broad range of outcomes for the growth of direct indexing. At the low end, direct-to-retail investor direct indexing offerings could remain a niche product of unfulfilled potential similar to robo-advisors with annual revenue in hundreds of millions. Though, at the high end, direct indexing and mass personalization could be as momentous as the advent of exchange-traded funds, restructuring the investment services ecosystem. If direct indexing becomes widespread, we believe the winners will be the retail brokerages and robo-advisors. Traditional active and passive asset managers will likely be hit by direct indexing. And index providers, financial data firms, and wealth management service providers could face opportunities and threats from the growth of direct indexing. We see little effect on the profits of wealth management firms.

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S&P Global Earnings: Ratings Drive Profit Growth; Some Softness in Market Intelligence Rajiv Bhatia, CFA, Equity Analyst, 24 Oct 2024

On an absolute basis, S&P Global reported a strong third quarter. Driven by a 36% increase in ratings revenue, firmwide revenue grew 16% and adjusted operating profit grew 20%. However, this ratings strength was mostly expected and S&P Global's other segments were mixed. S&P lowered its 2024 revenue and margin outlook at the midpoint for Market Intelligence and Mobility. S&P Global is seeing elongated sales cycles and slightly higher cancellations in its Market Intelligence segment. As we incorporate these results, we will maintain our wide moat rating and fair value estimate of \$470 as slightly slower revenue growth in Market Intelligence and Mobility is offset by indexes revenue coming in a touch above our model. The ratings business, which comprised 39% of S&P Global's adjusted operating profit in the quarter, grew 36%. Ratings revenue growth was broad-based, with corporates growing 43% and financial institutions revenue 44%. Market conditions, particularly in terms of credit spreads, have been favorable to bond issuers. At this juncture, we expect ratings revenue to be flat in 2025 as comparisons get difficult and some issuers have already refinanced debt scheduled to mature in 2025 and 2026. Overall, S&P Global raised its full-year 2024 ratings revenue outlook to growth in the range of 26%-28%, which is roughly consistent with Moody's expectations of growth in the high-20s percentages.

S&P Global Earnings: Ratings Strength Results in Improved Outlook Rajiv Bhatia, CFA, Equity Analyst, 30 Jul 2024

S&P Global had a solid second quarter with strong ratings revenue resulting in the firm raising its 2024 outlook. However, following the results of competitor Moody's, we believe the results were largely anticipated by the market, which explains the muted stock reaction. Outside of ratings, S&P made some minor tweaks to its guidance. We will maintain our wide moat rating and are increasing our fair value estimate by 3.5% to \$445 per share as we take into account near-term ratings strength and the time value of money. The ratings business, which represented 41% of S&P Global's adjusted operating income in the quarter, grew 33% compared with 36% growth reported at peer Moody's. Ratings revenue growth was broad-based with corporates up 42%, financials up 30%, structured finance up 61%, and governments up 9%. As a result of the strong first half of the year, S&P Global raised its 2024 outlook for ratings revenue growth to a range of 14%-16% (previous: 7%-9%). This implies ratings revenue of \$3.80 billion-\$3.87 billion for 2024, which, given the \$2.20 billion seen in the first half, implies \$1.63 billion in the second half of 2024 at the midpoint, which would be down 1% from the second half of 2023. We believe the ratings outlook may prove conservative, especially if we see more than one rate cut. Given the higher revenue, S&P raised its margin outlook for ratings by 100 basis points at the midpoint to a range of 58.5%-59.5%. Market Intelligence, which represented 21% of S&P Global's adjusted operating income in the quarter, grew 7% and was roughly steady sequentially. However, we estimate that

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revenue benefited by 1% from the inclusion of Visible Alpha, and we note that desktop revenue slowed to 2% growth on an organic basis from 5% in the first quarter. S&P did lower its margin outlook to 33%-34% from 33.5%-34.5% but this was largely due to the net impact from the acquisition of Visible Alpha and divestiture of Fincentric. ■■■

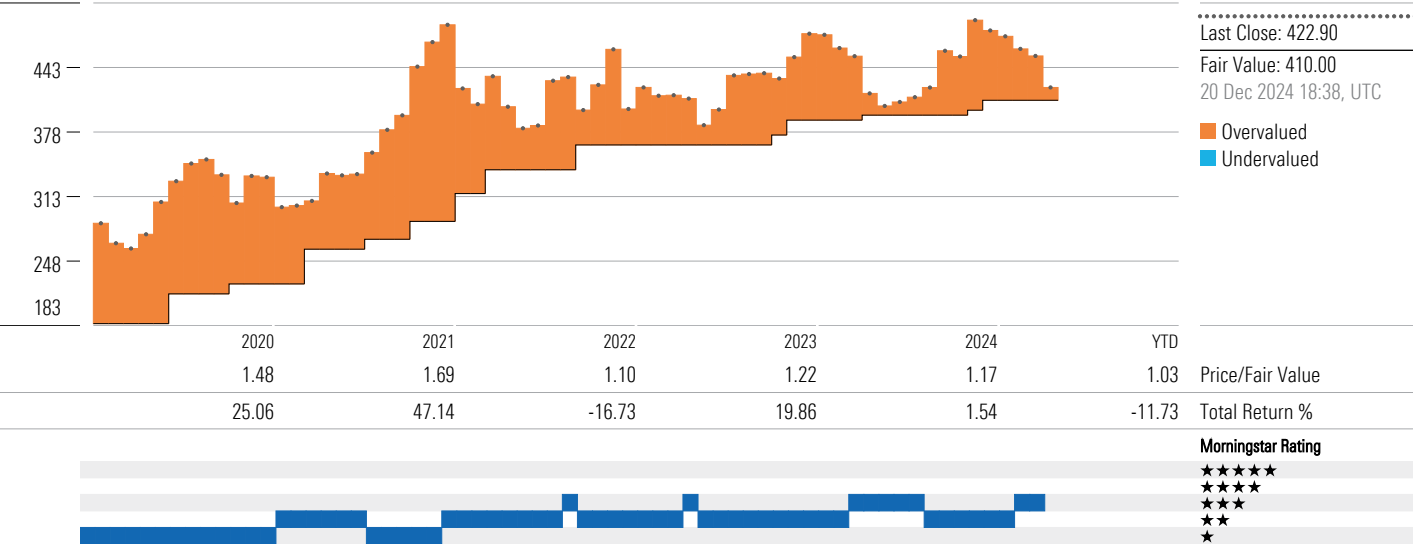
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S&P Global Inc SPGI★★★★

28 Apr 2025 21:19, UTC

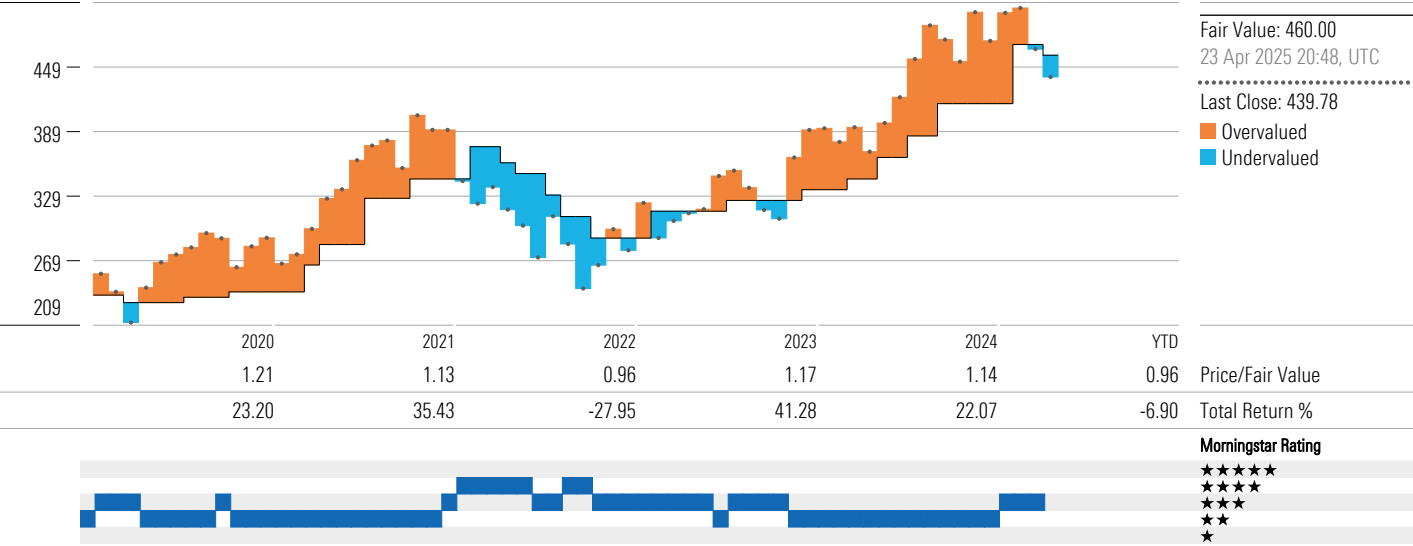
Competitors Price vs. Fair Value

FactSet Research Systems Inc FDS



Total Return % as of 28 Apr 2025. Last Close as of 28 Apr 2025. Fair Value as of 20 Dec 2024 18:38, UTC.

Moodys Corp MCO

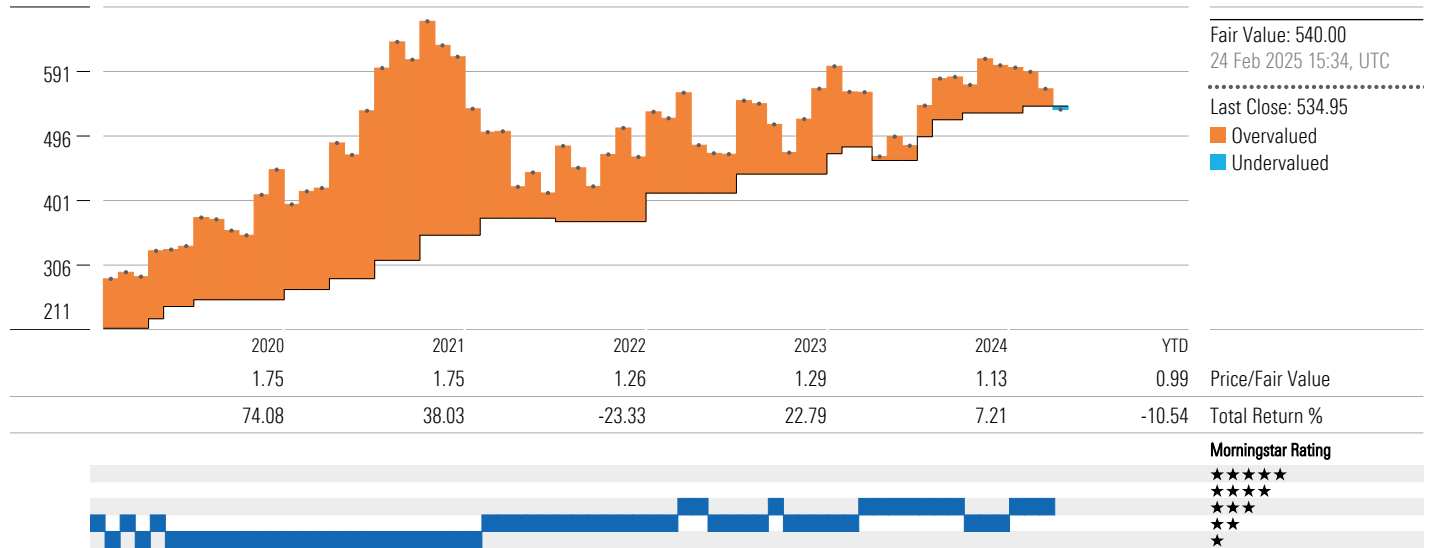


Total Return % as of 28 Apr 2025. Last Close as of 28 Apr 2025. Fair Value as of 23 Apr 2025 20:48, UTC.

S&P Global Inc SPGI ★★★★★ 28 Apr 2025 21:19, UTC

Competitors Price vs. Fair Value

MSCI Inc MSCI



Total Return % as of 28 Apr 2025. Last Close as of 28 Apr 2025. Fair Value as of 24 Feb 2025 15:34, UTC.

S&P Global Inc SPGI ★★★★★

28 Apr 2025 21:19, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
479.37 USD 28 Apr 2025	540.00 USD 19 Feb 2025 20:43, UTC	0.89	150.81 USD Bil 29 Apr 2025	Wide	Large Growth	Low	Exemplary	 2 Apr 2025 05:00, UTC

Morningstar Valuation Model Summary

Financials as of 29 Apr 2025

Fiscal Year, ends 31 Dec	Actual			Forecast				
	2022	2023	2024	2025	2026	2027	2028	2029
Revenue (USD Mil)	7,442	12,497	14,208	14,934	15,816	16,899	17,977	19,092
Operating Income (USD Mil)	3,601	4,054	5,478	6,212	6,823	7,621	8,361	9,133
EBITDA (USD Mil)	3,575	5,148	6,778	7,648	7,917	8,616	9,265	9,957
Adjusted EBITDA (USD Mil)	3,575	5,148	6,778	7,648	7,917	8,616	9,265	9,957
Net Income (USD Mil)	2,339	2,626	3,852	4,476	4,797	5,419	5,974	6,584
Adjusted Net Income (USD Mil)	2,709	4,019	4,898	5,183	5,585	6,129	6,613	7,159
Free Cash Flow To The Firm (USD Mil)	6,528	3,481	4,952	6,993	5,718	6,226	6,720	7,215
Weighted Average Diluted Shares Outstanding (Mil)	242	319	312	307	301	294	288	282
Earnings Per Share (Diluted) (USD)	9.66	8.23	12.35	14.60	15.96	18.44	20.78	23.37
Adjusted Earnings Per Share (Diluted) (USD)	11.19	12.60	15.70	16.91	18.58	20.86	23.00	25.41
Dividends Per Share (USD)	2.68	3.60	3.64	3.84	4.22	4.65	5.11	5.62

Margins & Returns as of 29 Apr 2025

	3 Year Avg	Actual			Forecast					5 Year Avg
		2022	2023	2024	2025	2026	2027	2028	2029	
Operating Margin %	38.9	48.4	32.4	38.6	41.6	43.1	45.1	46.5	47.8	45.2
EBITDA Margin %	—	48.0	41.2	47.7	51.2	50.1	51.0	51.5	52.2	—
Adjusted EBITDA Margin %	—	48.0	41.2	47.7	51.2	50.1	51.0	51.5	52.2	51.2
Net Margin %	26.5	31.4	21.0	27.1	30.0	30.3	32.1	33.2	34.5	32.0
Adjusted Net Margin %	34.4	36.4	32.2	34.5	34.7	35.3	36.3	36.8	37.5	36.1
Free Cash Flow To The Firm Margin %	50.1	87.7	27.9	34.8	46.8	36.2	36.8	37.4	37.8	39.0

Growth & Ratios as of 29 Apr 2025

	3 Year CAGR	Actual			Forecast					2029 5 Year CAGR
		2022	2023	2024	2025	2026	2027	2028	2029	
Revenue Growth %	28.5	11.1	67.9	13.7	5.1	5.9	6.9	6.4	6.2	6.1
Operating Income Growth %	19.9	13.4	12.6	35.1	13.4	9.8	11.7	9.7	9.2	10.8
EBITDA Growth %	28.3	9.2	44.0	31.7	12.8	3.5	8.8	7.5	7.5	8.0
Adjusted EBITDA Growth %	27.4	9.2	44.0	31.7	12.8	3.5	8.8	7.5	7.5	8.0
Earnings Per Share Growth %	12.8	12.4	-14.8	50.0	18.2	9.3	15.6	12.6	12.5	13.6
Adjusted Earnings Per Share Growth %	12.8	14.6	12.6	24.6	7.7	9.9	12.3	10.3	10.5	13.6

Valuation as of 29 Apr 2025

	Actual			Forecast				
	2022	2023	2024	2025	2026	2027	2028	2029
Price/Earning	29.9	35.0	31.7	28.3	25.8	23.0	20.8	18.9
Price/Sales	14.7	11.2	10.8	9.8	9.3	8.7	8.2	7.7
Price/Book	159.5	4.1	4.7	4.3	4.3	4.2	4.0	3.9
Price/Cash Flow	—	—	—	—	—	—	—	—
EV/EBITDA	33.3	29.1	24.1	20.6	19.9	18.3	17.0	15.8
EV/EBIT	33.1	37.0	29.9	25.3	23.0	20.6	18.8	17.2
Dividend Yield %	0.8	0.8	0.7	0.8	0.9	1.0	1.1	1.2
Dividend Payout %	24.0	28.6	23.2	22.7	22.7	22.3	22.2	22.1
Free Cash Flow Yield %	—	—	—	—	—	—	—	—

Operating Performance / Profitability as of 29 Apr 2025

Fiscal Year, ends 31 Dec	Actual			Forecast				
	2022	2023	2024	2025	2026	2027	2028	2029
ROA %	18.7	4.3	6.4	7.4	8.0	9.0	9.9	10.7
ROE %	69.8	6.9	10.3	11.7	12.7	14.3	15.6	16.7
ROIC %	36.6	10.8	9.0	10.4	11.6	13.2	14.7	16.3

S&P Global Inc SPGI ★★★★★

28 Apr 2025 21:19, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment ¹
479.37 USD 28 Apr 2025	540.00 USD 19 Feb 2025 20:43, UTC	0.89	150.81 USD Bil 29 Apr 2025	Wide	Large Growth	Low	Exemplary	

Financial Leverage (Reporting Currency)

Fiscal Year, ends 31 Dec	Actual			Forecast				
	2022	2023	2024	2025	2026	2027	2028	2029
Debt/Capital %	9.6	7.9	7.2	5.9	5.4	5.0	4.6	4.1
Assets/Equity	3.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Net Debt/EBITDA	2.9	2.1	1.5	1.0	0.9	0.7	0.6	0.4
Total Debt/EBITDA	3.2	2.3	1.8	1.4	1.3	1.1	1.0	0.9
EBITDA/ Net Interest Expense	25.4	15.4	22.8	23.5	25.5	29.1	29.4	33.3

Forecast Revisions as of 29 Apr 2025

Prior data as of 19 Feb 2025	2025		2026		2027	
	Current	Prior	Current	Prior	Current	Prior
Fair Value Estimate Change (Trading Currency)	540.00	543.62	—	—	—	—
Revenue (USD Mil)	14,934	15,186	15,816	16,162	16,899	17,273
Operating Income (USD Mil)	6,212	6,338	6,823	7,027	7,621	7,856
EBITDA (USD Mil)	7,648	7,551	7,917	8,146	8,616	8,873
Net Income (USD Mil)	5,183	5,245	5,585	5,732	6,129	6,288
Earnings Per Share (Diluted) (USD)	14.60	14.25	15.96	16.38	18.44	18.93
Adjusted Earnings Per Share (Diluted) (USD)	16.91	17.11	18.58	19.07	20.86	21.40
Dividends Per Share (USD)	3.84	3.84	4.22	4.22	4.65	4.65

Key Valuation Drivers as of 29 Apr 2025

Cost of Equity %	7.5
Pre-Tax Cost of Debt %	5.5
Weighted Average Cost of Capital %	7.3
Long-Run Tax Rate %	21.0
Stage II EBI Growth Rate %	7.0
Stage II Investment Rate %	9.5
Perpetuity Year	20

Additional estimates and scenarios available for download at <https://pitchbook.com/>.

Discounted Cash Flow Valuation as of 29 Apr 2025

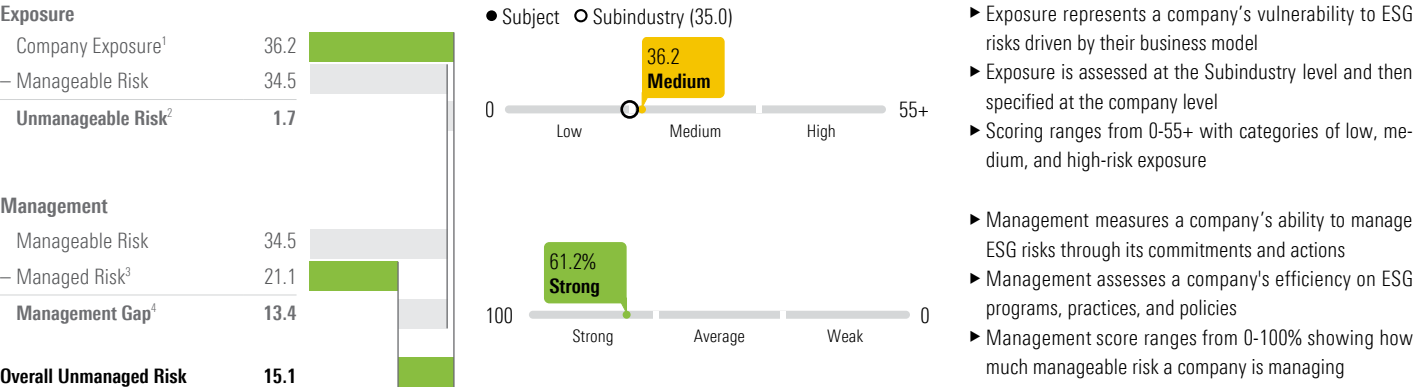
	USD Mil
Present Value Stage I	24,193
Present Value Stage II	70,764
Present Value Stage III	75,478
Total Firm Value	170,434
Cash and Equivalents	1,686
Debt	11,398
Other Adjustments	0
Equity Value	160,722
Projected Diluted Shares	304
Fair Value per Share (USD)	540.00

S&P Global Inc SPGI★★★★

28 Apr 2025 21:19, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
479.37 USD	540.00 USD	0.89	150.81 USD Bil	Wide	Large Growth	Low	Exemplary	
28 Apr 2025	19 Feb 2025 20:43, UTC		29 Apr 2025					2 Apr 2025 05:00, UTC

ESG Risk Rating Breakdown



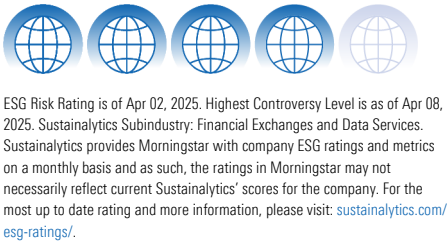
ESG Risk Rating



ESG Risk Ratings measure the degree to which a company’s value is impacted by environmental, social, and governance risks, by evaluating the company’s ability to manage the ESG risks it faces.

1. A company’s Exposure to material ESG issues 2. Unmanageable Risk refers to risks that are inherent to a particular business model that cannot be managed by programs or initiatives 3. Managed Risk = Manageable Risk multiplied by a Management score of 61.2% 4. Management Gap assesses risks that are not managed, but are considered manageable 5. ESG Risk Rating Assessment = Overall Unmanaged Risk = Management Gap plus Unmanageable Risk

ESG Risk Rating Assessment⁵



Peer Analysis 02 Apr 2025	Peers are selected from the company's Sustainalytics-defined Subindustry and are displayed based on the closest market cap values							
Company Name	Exposure			Management			ESG Risk Rating	
S&P Global Inc	36.2 Medium	0	55+	61.2 Strong	100	0	15.1 Low	40+
FactSet Research Systems Inc	33.4 Low	0	55+	56.1 Strong	100	0	15.5 Low	40+
Moodys Corp	36.0 Medium	0	55+	61.2 Strong	100	0	15.0 Low	40+
MSCI Inc	33.4 Low	0	55+	59.5 Strong	100	0	14.4 Low	40+
TransUnion	36.3 Medium	0	55+	46.0 Average	100	0	20.5 Medium	40+

Appendix

Historical Morningstar Rating

S&P Global Inc SPGI 28 Apr 2025 21:19, UTC

Dec 2025	Nov 2025	Oct 2025	Sep 2025	Aug 2025	Jul 2025	Jun 2025	May 2025	Apr 2025	Mar 2025	Feb 2025	Jan 2025
—	—	—	—	—	—	—	—	★★★★	★★★★	★★★	★★
Dec 2024	Nov 2024	Oct 2024	Sep 2024	Aug 2024	Jul 2024	Jun 2024	May 2024	Apr 2024	Mar 2024	Feb 2024	Jan 2024
★★★	★★	★★★	★★	★★	★★★	★★★	★★★	★★★	★★★	★★★	★★
Dec 2023	Nov 2023	Oct 2023	Sep 2023	Aug 2023	Jul 2023	Jun 2023	May 2023	Apr 2023	Mar 2023	Feb 2023	Jan 2023
★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★
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
★★	★★	★★	★★	★★	★★	★★	★★	★★	★★★	★★	★★

FactSet Research Systems Inc FDS 28 Apr 2025 21:21, UTC

Dec 2025	Nov 2025	Oct 2025	Sep 2025	Aug 2025	Jul 2025	Jun 2025	May 2025	Apr 2025	Mar 2025	Feb 2025	Jan 2025
—	—	—	—	—	—	—	—	★★★	★★★	★★	★★
Dec 2024	Nov 2024	Oct 2024	Sep 2024	Aug 2024	Jul 2024	Jun 2024	May 2024	Apr 2024	Mar 2024	Feb 2024	Jan 2024
★★	★★	★★	★★	★★★★	★★★	★★★	★★★	★★★	★★	★★	★★
Dec 2023	Nov 2023	Oct 2023	Sep 2023	Aug 2023	Jul 2023	Jun 2023	May 2023	Apr 2023	Mar 2023	Feb 2023	Jan 2023
★★	★★	★★	★★	★★	★★	★★	★★★	★★	★★	★★	★★
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
★	★	★	★	★	★	★	★	★	★	★	★

Moodys Corp MCO 28 Apr 2025 21:20, UTC

Dec 2025	Nov 2025	Oct 2025	Sep 2025	Aug 2025	Jul 2025	Jun 2025	May 2025	Apr 2025	Mar 2025	Feb 2025	Jan 2025
—	—	—	—	—	—	—	—	★★★★	★★★★	★★★★	★★
Dec 2024	Nov 2024	Oct 2024	Sep 2024	Aug 2024	Jul 2024	Jun 2024	May 2024	Apr 2024	Mar 2024	Feb 2024	Jan 2024
★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★
Dec 2023	Nov 2023	Oct 2023	Sep 2023	Aug 2023	Jul 2023	Jun 2023	May 2023	Apr 2023	Mar 2023	Feb 2023	Jan 2023
★★	★★★	★★★★	★★★★	★★★★	★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★
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
★★	★★	★★★	★★	★★	★★	★★	★★	★★★★	★★★★	★★★★	★★

MSCI Inc MSCI 28 Apr 2025 21:26, UTC

Dec 2025 —	Nov 2025 —	Oct 2025 —	Sep 2025 —	Aug 2025 —	Jul 2025 —	Jun 2025 —	May 2025 —	Apr 2025 ★★★	Mar 2025 ★★★	Feb 2025 ★★★	Jan 2025 ★★
Dec 2024 ★★	Nov 2024 ★★	Oct 2024 ★★★	Sep 2024 ★★★	Aug 2024 ★★★	Jul 2024 ★★★	Jun 2024 ★★★	May 2024 ★★★	Apr 2024 ★★★	Mar 2024 ★★	Feb 2024 ★★	Jan 2024 ★★
Dec 2023 ★★	Nov 2023 ★★	Oct 2023 ★★★	Sep 2023 ★★	Aug 2023 ★★	Jul 2023 ★★	Jun 2023 ★★	May 2023 ★★★	Apr 2023 ★★★	Mar 2023 ★★	Feb 2023 ★★	Jan 2023 ★★
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 ★★

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 re-

turns 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.

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 midcycle basis. If we deem the probability of occurrence sufficiently high, we would not characterize the company as possessing an economic moat.

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 (EBIT) and the net new investment (NNI) to de-

rive 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 EBIT 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 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 any-

Morningstar Equity Research Star Rating Methodology



Research Methodology for Valuing Companies

thing 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	★★★★★ Rating	★ Rating
Uncertainty Ratings		
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.

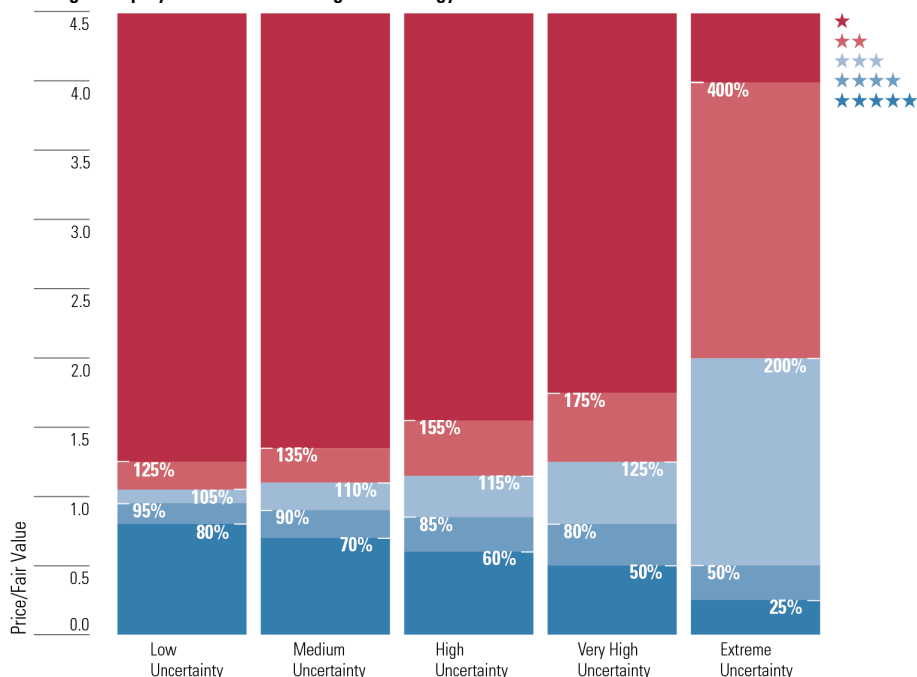
4. Market Price

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.

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Morningstar Star Rating for Stocks

Morningstar Equity Research Star Rating Methodology



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 ad-

justed 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.

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 compan-

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ies' 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 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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