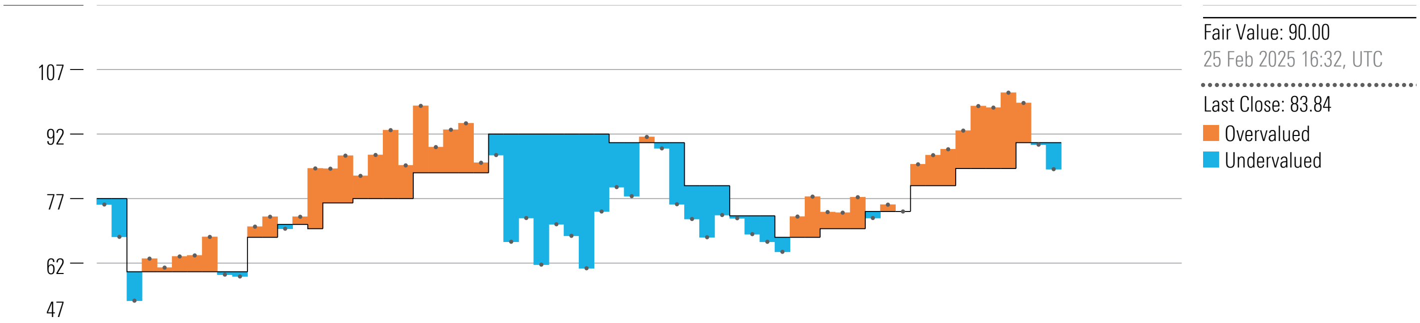
Morningstar Equity Analyst Report | Report as of 23 Apr 2025 00:35, UTC | Reporting Currency: USD | Trading Currency: USD | Exchange: NEW YORK STOCK EXCHANGE, INC.

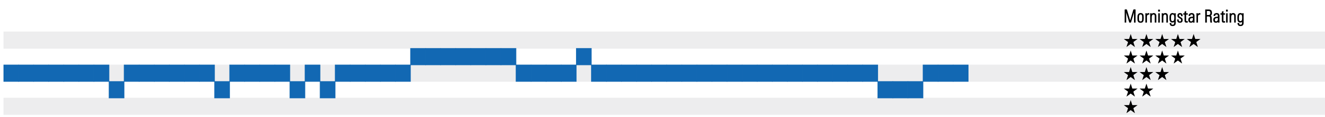
State Street Corp STT ★★★ 22 Apr 2025 21:27, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment[1]
83.84 USD 22 Apr 2025	90.00 USD 25 Feb 2025 16:32, UTC	0.93	24.20 USD Bil 22 Apr 2025	Wide	Mid Value	Medium	Standard	2 Apr 2025 05:00, UTC

Price vs. Fair Value



	2020	2021	2022	2023	2024	YTD	
	1.07	1.12	0.86	1.14	1.17	0.93	Price/Fair Value
	-5.36	30.78	-14.01	3.26	29.47	-13.03	Total Return %



Total Return % as of 22 Apr 2025. Last Close as of 22 Apr 2025. Fair Value as of 25 Feb 2025 16:32, UTC.

Contents

Important Disclosure

The conduct of Morningstar's analysts is governed by Code of Ethics/Code of Conduct Policy, Personal Security Trading Policy (or an equivalent of), and Investment Research Policy. For information regarding conflicts of interest, please visit: http://global.morningstar.com/equitydisclosures.

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

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

State Street Earnings: Decent Quarter and Unchanged 2025 Outlook Is a Relief

Analyst Note Rajiv Bhatia, CFA, Equity Analyst, 17 Apr 2025

With total revenue up 5%, State Street reported a first quarter that was mostly in line with market expectations. The firm maintained its 2025 revenue and expense outlook despite a more uncertain macroeconomic environment, which sent the company's shares higher.

Why it matters: Amid tariff-related uncertainty and sharp market movements, the firm's outlook is understandably taking center stage. State Street continues to expect 3%-5% fee revenue growth and flat net interest income growth for 2025.

- State Street acknowledges, however, that a higher degree of uncertainty and that markets falling from current levels could weigh further on asset-based servicing fees and investment management fees.
- Adjusted expenses are also still expected to grow 2%-3% in 2025. Management believes it has some flexibility if conditions worsen, and estimates its variable expenses at about one third of total expenses.

The bottom line: As we incorporate these results, we will maintain our wide moat rating and fair value estimate of $90 per share. In the near term, we expect revenue generated from elevated market volatility will offset some headwinds. We remind investors that State Street has little credit risk relative to other banks.

Morningstar Equity Analyst Report | Report as of 23 Apr 2025 00:35, UTC | Reporting Currency: USD | Trading Currency: USD | Exchange: NEW YORK STOCK EXCHANGE, INC. Page 2 of 22

State Street Corp STT ★★★ 22 Apr 2025 21:27, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment[1]
83.84 USD 22 Apr 2025	90.00 USD 25 Feb 2025 16:32, UTC	0.93	24.20 USD Bil 22 Apr 2025	Wide	Mid Value	Medium	Standard	2 Apr 2025 05:00, UTC

Sector	Industry
Financial Services	Asset Management

Business Description

State Street is a leading provider of financial services, including investment servicing, investment management, and investment research and trading. With approximately $47 trillion in assets under custody and administration and $4.7 trillion assets under management as of Dec. 31, 2024, State Street operates globally in more than 100 geographic markets and employs about 53,000 worldwide.

Key stats: Net interest income was down 5% sequentially but flat year over year.

- The firm’s net interest margin was 1.00%, down from 1.07% in the fourth quarter. Despite lower rates, non-interest-bearing deposits as a percentage of mix declined slightly.
- The firm’s adjusted pretax margin of 25.0% was up from 23.2% in the year-ago quarter as markets benefited from fees and expenses were well controlled.

Business Strategy & Outlook Rajiv Bhatia, CFA, Equity Analyst, 25 Feb 2025

State Street provides a range of asset servicing and ancillary servicing, including maintaining custody of assets, fund administration, record-keeping, securities lending, foreign-exchange trading services, and data services to institutional asset owners and asset managers. Although State Street is a market leader, its asset manager and asset owner clients are sophisticated on the pricing of its custody and ancillary services. In addition, as asset managers consolidate and face industrywide fee pressure, they are increasingly seeking operating expense savings. State Street saw pricing compression of 4% in 2018 and 2019, though it did moderate to about a 2% headwind in 2020-23 and then it ticked up slightly to a 3% headwin in 2024. The rapid rise in interest rates during 2022 helped the custody banks expand their net interest income but the benefit has moderated due to deposit costs. While net interest income may only make up about 20%-25% of State Street's revenue, there is little incremental operating cost to this revenue and thus net interest income is an important profitability driver.

With the acquisition of Charles River Development in 2018, State Street is emphasizing its integrated "front to back" offering (branded as State Street Alpha), which it believes will lead to stickier, high-revenue-generating customer relationships. State Street’s back-office offerings include custody, fund accounting, and fund administration. Its middle office includes client reporting, post-trade workflows, investment risk monitoring, and performance/attribution analysis. State Street’s front office includes Charles River’s portfolio modeling and data-management software as well as legacy State Street’s foreign-exchange trading and securities finance solutions.

State Street is also one of the largest global asset managers, with about $4.7 trillion in primarily passive assets under management. This business, which is less than 15% of the firm’s revenue, has underperformed. Media reports indicate that the firm may explore strategic alternatives, including a joint venture; while such action may make strategic sense, we don’t expect it to materially affect our fair value estimate.

Bulls Say Rajiv Bhatia, CFA, Equity Analyst, 25 Feb 2025

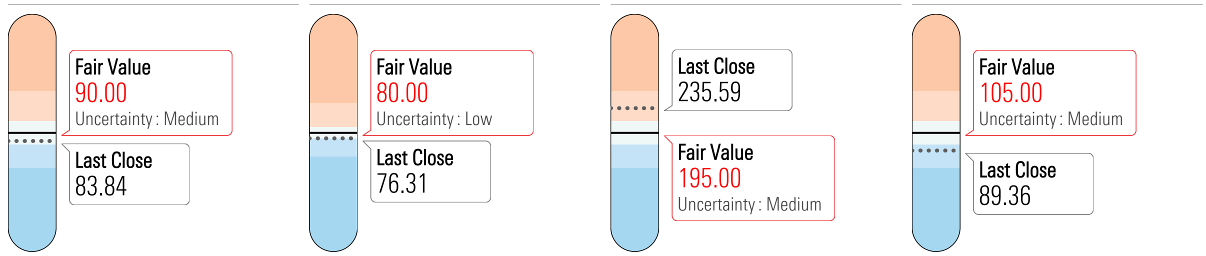
- With the acquisition of Charles River Development, State Street’s front-to-back offerings offer competitive advantages and should lead to a greater wallet share of clients and stickier client relationships.
- In comparison with a traditional bank, State Street has very modest exposure to credit risk.

Morningstar Equity Analyst Report | Report as of 23 Apr 2025 00:35, UTC | Reporting Currency: USD | Trading Currency: USD | Exchange: NEW YORK STOCK EXCHANGE, INC. Page 3 of 22

State Street Corp STT ★★★ 22 Apr 2025 21:27, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment[1]
83.84 USD 22 Apr 2025	90.00 USD 25 Feb 2025 16:32, UTC	0.93	24.20 USD Bil 22 Apr 2025	Wide	Mid Value	Medium	Standard	2 Apr 2025 05:00, UTC

Competitors



	State Street Corp STT	Bank of New York Mellon Corp BK	JPMorgan Chase & Co JPM	Northern Trust Corp NTRS
Economic Moat	Wide	Wide	Wide	Wide
Currency	USD	USD	USD	USD
Fair Value	90.00 25 Feb 2025 16:32, UTC	80.00 13 Mar 2025 22:03, UTC	195.00 24 Jan 2025 21:20, UTC	105.00 24 Mar 2025 13:56, UTC
1-Star Price	121.50	100.00	263.25	141.75
5-Star Price	63.00	64.00	136.50	73.50
Assessment	Fairly Valued 22 Apr 2025	Fairly Valued 22 Apr 2025	Overvalued 22 Apr 2025	Undervalued 22 Apr 2025
Morningstar Rating	★★★22 Apr 2025 21:27, UTC	★★★22 Apr 2025 21:30, UTC	★★22 Apr 2025 21:26, UTC	★★★★22 Apr 2025 21:29, UTC
Analyst	Rajiv Bhatia, Equity Analyst	Rajiv Bhatia, Equity Analyst	Suryansh Sharma, Senior Equity Analyst	Rajiv Bhatia, Equity Analyst
Capital Allocation	Standard	Standard	Exemplary	Exemplary
Price/Fair Value	0.93	0.95	1.21	0.85
Price/Sales	1.84	2.95	3.79	2.11
Price/Book	1.01	1.40	1.92	1.43
Price/Earning	9.37	11.71	12.39	8.61
Dividend Yield	3.68%	2.54%	2.21%	3.46%
Market Cap	24.20 Bil	54.59 Bil	654.73 Bil	17.42 Bil
52-Week Range	70.20—103.00	56.08—90.34	185.98—280.25	79.68—114.67
Investment Style	Mid Value	Mid Blend	Large Value	Mid Blend

- A joint venture or sale of its asset-management business could unlock value for shareholders.

Bears Say Rajiv Bhatia, CFA, Equity Analyst, 25 Feb 2025

- Fee compression and lower margins in the asset-management industry could result in asset managers being more conscious of their costs and limit the pricing power of custody banks. Pricing power can also manifest itself in higher funding costs on deposits.
- State Street is exposed to many factors outside its control, such as equity market movements, interest-rate movements, and foreign-exchange volatility.
- Despite being a first mover, State Street's ETF business has meaningfully underperformed competitors BlackRock and Vanguard.

Economic Moat Rajiv Bhatia, CFA, Equity Analyst, 26 Nov 2024

We believe the custody business tends to have a wide moat built on cost advantages and switching costs. State Street is roughly tied with BNY Mellon as the number-one custodian based on assets under custody and administration. Given the low basis points paid for custody services, we believe this is a business where scale matters. Both State Street and BNY Mellon each spent over $1.5 billion on technology annually in recent years, a level that smaller firms cannot match.

We believe cost advantages for large trust banks are derived primarily from scale. There are large upfront costs to develop software systems and processes to service such a large amount of assets. State Street spent $1.7 billion on information systems and communications in 2023 and about $1.0 billion on transaction processing services.

Clients of the custody banks do face switching costs due to process disruption, the interconnectedness of a client's workflows and the custodian's infrastructure, and onboarding costs. Custody is central to the operations of asset manager and asset owners (such as pension funds) and as a result the decision to switch is not a light one. Switching custodians takes time, it involves integrating new systems and retraining staff. Large asset owners and asset managers may have a formal policy to conduct custody reviews after a certain number of years. In general, we point out that the decision to switch custodian often takes 6-18 months.

A very public switch among asset managers was BlackRock's decision to transition the majority of it iShares ETF custodian from State Street to other players. In May 2020, Barron's reported that BlackRock was looking to diversify custodians. In February 2021, State Street announced it would lose a large chunk of the iShares business (this represented about 1.5% of State Street's fee revenue). The transition mostly occurred in late 2023 with the final transition expected to occur in 2025. We make two points. First, the transition took several years. Second, we do believe there is some truth to the idea that BlackRock wanted to diversify providers rather than only generate cost savings. BlackRock's custody vendors went from the vast majority State Street to roughly 40% Citi, 30% JPMorgan, 15% BNY Mellon, and 15% State Street. We note that State Street's SPDR business is a meaningful competitor to the iShares ETF business, something that is not the case for the other providers.

The asset management industry continues to consolidate and both asset managers and assets owners are sophisticated about pricing. As a result, the custody business continues to see pricing pressure. Despite, this pricing pressure the firm's returns on tangible equity have remained strong as scale and slow expense growth have been able to offset headwinds. Moreover, market shares have been stable.

We view State Street's investment management arm, which represents about 17% of firmwide revenue, as having a narrow moat. Switching costs and intangible assets tend to be the primary moat sources for asset managers and we do not view State Street as an exception. Switching costs stem from inertia, the uncertainty of achieving better results at another asset manager, and the potential tax consequences of switching funds for appreciated assets. Intangible assets stem from client relationships, the breadth of

Morningstar Equity Analyst Report | Report as of 23 Apr 2025 00:35, UTC | Reporting Currency: USD | Trading Currency: USD | Exchange: NEW YORK STOCK EXCHANGE, INC. Page 5 of 22

State Street Corp STT ★★★ 22 Apr 2025 21:27, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment[1]
83.84 USD 22 Apr 2025	90.00 USD 25 Feb 2025 16:32, UTC	0.93	24.20 USD Bil 22 Apr 2025	Wide	Mid Value	Medium	Standard	2 Apr 2025 05:00, UTC

State Street Global Advisors' offerings, and its brand/reputation.

While State Street boasts $4.7 trillion in primarily passive AUM, we do not believe its scale means it has a cost advantage. State Street's AUM is still a fraction of market leaders BlackRock (over $11 trillion in AUM) and Vanguard (over $10 trillion in AUM). In addition, the firm's ETF business (30% of AUM and likely a greater percent of segment revenue) is disadvantaged from a cost perspective. The SPDR trademark is owned by S&P Global and as a result State Street pays significantly higher license fees for use of its indices. We also point out that State Street has been losing share in the ETF business.

Fair Value and Profit Drivers Rajiv Bhatia, CFA, Equity Analyst, 25 Feb 2025

After updating our model, we are increasing our fair value estimate on State Street to $90 from $84 primarily as we tweak our fee revenue estimates higher. We expect fee revenue to benefit from market appreciation and increased our forecast for foreign exchange trading services. We expect net interest income to be up just 1% in 2025 but note that net interest income can be difficult to forecast. Over the medium term we expect the firm's NII to face meaningful pressures and only expect low-single-digit growth. Our fair value estimate equates to about 1.8 times tangible book value and roughly 9.5 times our 2025 GAAP earnings per share estimate.

NII (pre-provision) declined by double digits in both 2020 and 2021 but rebounded sharply (34%) in 2022 as a result of the Federal Reserve raising interest rates. NII peaked in the fourth quarter of 2022 but still rose 8% in 2023 and 6% in 2024. NII has proven difficult to forecast. Fee revenue is sensitive to many factors, such as equity market movements and volatility. After 2025, we expect low-single-digit growth as the firm continues to face pricing headwinds from a consolidating asset management industry. We expect State Street's returns on tangible equity to be in the mid to high teens during the forecast period.

Risk and Uncertainty Rajiv Bhatia, CFA, Equity Analyst, 25 Feb 2025

We assign a Morningstar Uncertainty Rating of Medium for State Street.

The firm's revenue is roughly 75% fee-based, with the remainder net interest income. We do believe the firm's fee revenue tends to be relatively stable, but it is affected by market levels, foreign-exchange volume, and securities lending volume. About 55% of State Street's servicing fees are asset-based and 55%-60% of State Street's assets under custody or administration are equity-based. State Street's investment-management unit (approximately 15%-20% of revenue) is affected by market levels and flows. State Street has lost ETF market share to BlackRock and Vanguard, and we expect this to continue.

Unlike most financial institutions, credit risk is generally not meaningful for the custody banks. The banks tend to invest in highly rated assets (95%+ of securities portfolio rated AA or higher). Net charge-

Morningstar Equity Analyst Report | Report as of 23 Apr 2025 00:35, UTC | Reporting Currency: USD | Trading Currency: USD | Exchange: NEW YORK STOCK EXCHANGE, INC. Page 6 of 22

State Street Corp STT ★★★ 22 Apr 2025 21:27, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment[1]
83.84 USD 22 Apr 2025	90.00 USD 25 Feb 2025 16:32, UTC	0.93	24.20 USD Bil 22 Apr 2025	Wide	Mid Value	Medium	Standard	2 Apr 2025 05:00, UTC

offs on the bank's loan portfolio have been much less than the industry average.

From an environmental, social, and governance perspective, we expect the largest risks to be product governance. If product pricing is not perceived as fair, that can create headline risks. One example is foreign-exchange trading services. In October 2009, the attorney general of California (then Jerry Brown) filed a complaint against State Street regarding the rates at which indirect trades were executed. California was one of many states that sued. In 2016, the company mostly settled its claims, paying $575 million. As another example, the firm identified it incorrectly invoiced clients in 2015 and then discovered another billing problem in 2017. It also settled with the Securities and Exchange Commission in 2019 for undisclosed markups for sending messages through the Swift network. We believe if incidents like these continue, State Street's reputation may suffer and its ability to get new clients would diminish.

Capital Allocation Rajiv Bhatia, CFA, Equity Analyst, 25 Feb 2025

In our view, State Street merits a Standard Capital Allocation Rating. We view the company's balance sheet as sound, capital investment decisions as fair, and capital returns strategy as appropriate. State Street finished September 2024 with a common equity Tier 1 ratio of 10.9% and a Tier 1 leverage ratio of 5.2%.

We view the firm's investment decisions as fair. Its largest corporate development activity in recent years was the 2018 acquisition of Charles River Development. The acquisition was not cheap, but we do think it enhances the firm's moat and we're pleased with the revenue performance of Charles River. We believe the acquisitions of Goldman Sachs' fund administration business and General Electric's asset-management business made strategic sense and were at reasonable valuations. State Street made a $3.5 billion bid for Brown Brothers Harriman. The deal had strategic merit as it would allow further consolidation in the custody industry. However, amid regulatory hurdles and a market downturn, State Street walked away from the deal, which strikes us as the right move given the circumstances.

State Street's capital returns strike us as appropriate. The firm has a payout ratio of 30%-35%, in line with peers. The rest of the capital returns are share repurchases, and the company can be flexible with the amount.

Ronald O'Hanley has served as CEO since January 2019. Before that, he was president and chief operating officer since November 2017 and led the asset-management business from April 2017 to November 2017. We like that the firm is focusing on its core strengths and is being disciplined on operating expenses. While O'Hanley also serves as the chair of the board of directors, we prefer to see the chair and CEO roles separated. Previously, Joseph Hooley had been CEO since 2010. We liked the acquisitions of Goldman Sachs' fund administration business and GE's asset-management business, and while not cheap, the acquisition of Charles River had strategic merit, in our view. Hooley was present during the financial crisis, and we believe the write-downs and dilutive share issuances during that period disappointed shareholders. In addition, despite being a first mover in the ETF business, a series of missteps caused State Street to lose market share of a rapidly growing segment.

Analyst Notes Archive

State Street Earnings: Decent Finish to 2024 With 2025 Outlook Generally OK Rajiv Bhatia, CFA,Equity Analyst,17 Jan 2025

State Street reported a decent finish to 2024. However, the stock had a strong run during the last six months of the year, and we believe investor expectations may have been elevated as a result. Relative to our model, the firm's fee revenue outlook for 2025 came in more favorably than our expectations, while the company's net interest income outlook was a bit soft. As we incorporate these results, we expect to maintain our wide moat rating and $84 per share fair value estimate. We regard shares as modestly overvalued right now.Fourth-quarter fee revenue was up 2% sequentially and 13% from the year-ago quarter. Servicing fees were up 1% sequentially and 6% year over year, which, in our view, was not a bad result as assets under custody or administration was flat sequentially and up 11% year over year. We note that not all servicing contracts are based on assets and there is typically tiered pricing, so we would expect servicing fee growth to lag asset growth for reasons other than pricing. Management fees were up 20% year over year, driven primarily by asset growth, and foreign exchange trading services benefited from ongoing volatility. Overall, State Street expects fee revenue growth of 3%-5% in the year ahead, which is better than our 2% expectation but more in line with where we believe consensus expectations are right now.Fourth-quarter net interest income grew 4% sequentially and 10% from the year-ago period. Compared with the third quarter, the firm's net interest margin of 1.07% was unchanged, which means the sequential gain came from asset growth. This is in contrast to peer BNY, where net interest margin expanded to 1.32% from 1.16% during the fourth quarter. Encouragingly, State Street's noninterest-bearing deposits increased during the quarter. Overall, the company expects net interest income to be roughly flat in 2025, below our expectation of 2% growth. Adjusted expenses in 2025 are also expected to be up 2%-3%, in line with our expectations.

State Street: Maintaining Our Fair Value Estimate of $84; Tweaking Uncertainty Rating to Medium Rajiv Bhatia, CFA,Equity Analyst,26 Nov 2024

We are maintaining our wide moat rating and $84 fair value estimate on State Street. As we calibrate our uncertainty ratings across our coverage universe, we are decreasing our Morningstar Uncertainty Rating to Medium from High. State Street's asset-based revenue is sensitive to market movements, and net interest income can be difficult to value. That said, State Street has consistently generated high returns on tangible equity in a variety of operating environments, and we believe a Medium rating is more appropriate.

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.

State Street Earnings: Market Appreciation and Volumes Boosting Fee Revenue Rajiv Bhatia, CFA,Equity Analyst,15 Oct 2024

Wide-moat State Street reported a decent third quarter with markets and volumes boosting fee revenue. Adjusted pretax income grew by 15% as expense growth trailed fee revenue growth, which grew 7%, and net interest income growth, which grew 16%. We expect to raise our fair value estimate of $80 by a single-digit percentage due to higher market values and slightly higher net interest income.Adjusted fee revenue was up 7%. Servicing fees were up 3%, much less than the 14% growth in average assets under custody or administration as lower client activity, pricing, and mix shift were headwinds. We expect servicing fees to continue to trail asset growth. Foreign exchange trading services and securities finance grew by double-digit percentages, driven by volumes, but we note volume trends in these categories can be volatile. Software and processing fees grew 11% as Charles River Development continues to perform well. Investment management fees were up 10% as average assets under management grew by 22% by our calculations.Net interest income grew 16% to $723 million but declined from $735 million in the second quarter as higher deposits were offset by net interest margin compression. For full-year 2024, State Street now expects net interest income to grow 4%-5%, which compares with our pre-earnings expectation of about 2%. State Street's outlook implies about $710 million in net interest income in the fourth quarter.Adjusted expenses grew 6% in the quarter. While 6% is an uptick from 3% in the second quarter, we are not too concerned with the increase as revenue grew faster. State Street notes that about half of the 6% increase is from incentive compensation and revenue-related expenses.State Street also announced that CFO Eric Aboaf will step down in February 2025 as he has accepted the CFO role at S&P Global. We believe it may be several months before a new CFO is named, but we do not believe State Street's strategy will change much with a new CFO.

State Street Earnings: Net Interest Income Shines, Fee Revenue Robust Rajiv Bhatia, CFA,Equity Analyst,16 Jul 2024

State Street reported a strong second quarter, with the firm's net interest income outlook exceeding our expectations. NII, which tends to be more volatile than fee-based revenue, grew 6% from the year-ago period and 3% sequentially, a healthy result, in our view. Net interest margin was flat sequentially at 1.13% as higher yields on investment securities were offset by higher deposit costs. Earnings per share did decline from the year-ago quarter, but that was almost entirely due to an unusually low tax rate in the year-ago quarter. As State Street's results are coming in modestly ahead of our expectations, we expect to raise our fair value estimate of $74 by a single-digit percentage.NII represented 23% of the firm's revenue, but with little incremental cost to this revenue, changes in net interest income tend to flow to the bottom line and thus have an outsized effect on profitability. Noninterest bearing deposits averaged 11.3% of total deposits in the quarter, down from 12.3% in the first quarter and 14.3% in the fourth quarter. In our view, the mix shift away from noninterest-bearing deposits is showing signs of deceleration. Overall, State Street now expects full-year NII to increase slightly, versus its previous expectation of down 5% and our preearning model of flat year over year.Fee revenue grew 2%. Pricing continues to be a headwind, but market appreciation is helping, with investment management revenue growing 11%. On the fee revenue side, State Street expects fee revenue to grow in a 4%-5% range versus its previous expectation for about 4% growth, driven by market appreciation and some strength in foreign-exchange trading services. Adjusted expenses grew 3% and given higher revenue expectations, State Street now expects adjusted expenses to grow 3%, up from 2.5%.

State Street Earnings: Decent Start to 2024 as Revenue Outlook Tweaked Higher Rajiv Bhatia, CFA,Equity Analyst,12 Apr 2024

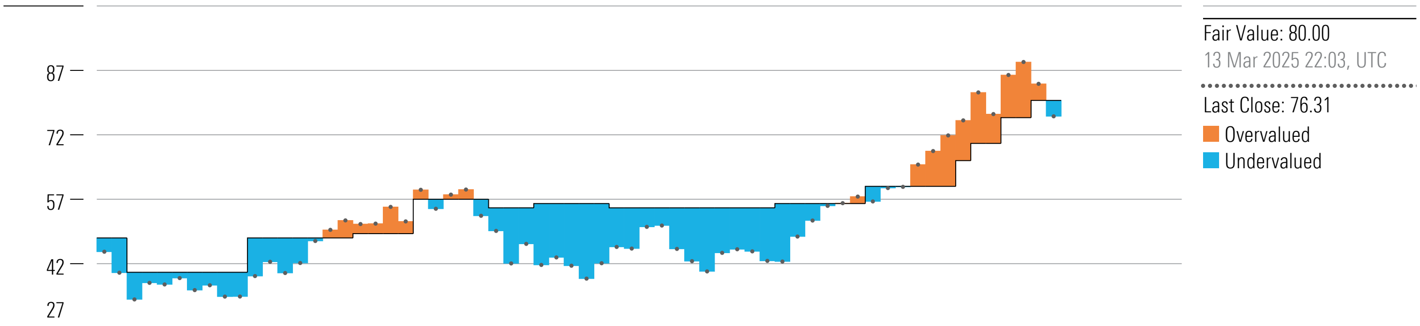
State Street is off to a decent start to 2024. First-quarter revenue of $3.14 billion and adjusted EPS of $1.69 edged out the respective FactSet consensus estimates of $3.06 billion and $1.49. Net interest income, which tends to be more volatile than fee revenue, was the driver of the beat. State Street did tweak its outlook higher, but our model was above the firm's prior outlook. Overall, we will maintain our wide moat rating and fair value estimate of $74 and regard shares as being roughly fairly valued.Net interest income was up 6% sequentially and better than its flat to down 3% outlook, driven by average interest-earnings asset balances that were up 10% sequentially. State Street notes that clients are holding more cash on their balance sheets in the current environment, which is helping their deposits, but we note that deposit trends can be choppy. Noninterest bearing deposits averaged 12.3% (of total deposits) in the quarter, down from 14.3% in the fourth quarter, but we are encouraged that noninterest bearing deposits ended the quarter at 14.8% of total deposits, roughly flat from the beginning of the quarter. Overall, State Street now expects full-year net interest income to be down 5% versus its previous expectation of down 10% and our model of down 7%.Fee revenue, which is the bulk of the firm’s revenue, increased 4% amid a 17% increase in assets under custody or administration and a 20% increase in assets under management. While higher equity markets are helping, lower client activity, the loss of the BlackRock iShares business, subdued foreign exchange volatility, and pricing pressure are headwinds. State Street now expects fee revenue to be up around 4% (previous: 3%-4%). Core expenses were up 1% as the firm aims to keep a lid on expense growth.

Morningstar Equity Analyst Report | Report as of 23 Apr 2025 00:35, UTC | Reporting Currency: USD | Trading Currency: USD | Exchange: NEW YORK STOCK EXCHANGE, INC. Page 11 of 22

State Street Corp STT ★★★ 22 Apr 2025 21:27, UTC

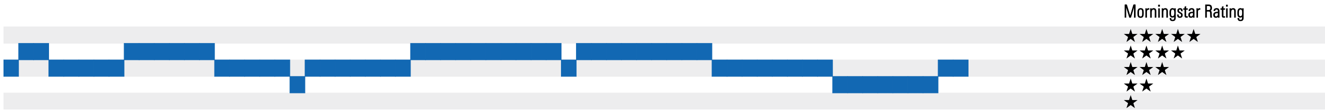
Competitors Price vs. Fair Value

Bank of New York Mellon Corp BK



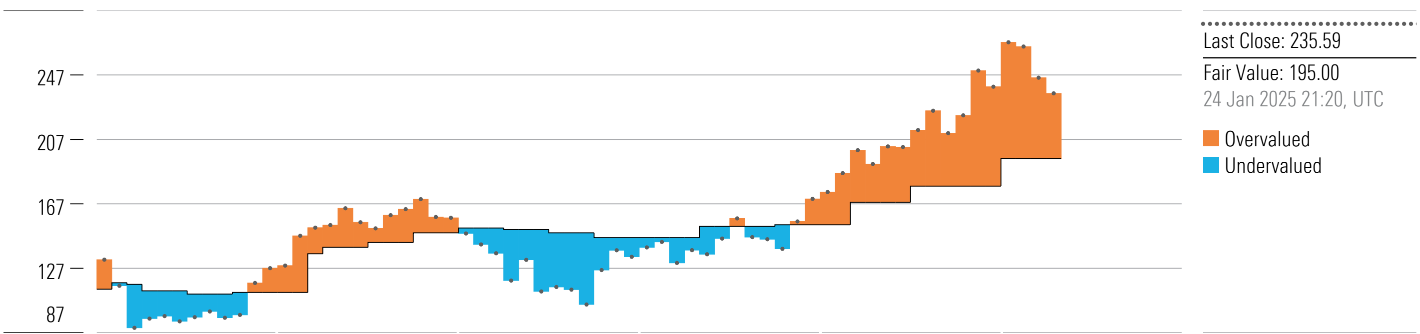
	2020	2021	2022	2023	2024	YTD
Price/Fair Value	0.88	1.02	0.83	0.93	1.10	0.95
Total Return %	-13.21	39.92	-19.18	17.82	51.03	0.55

Morningstar Rating



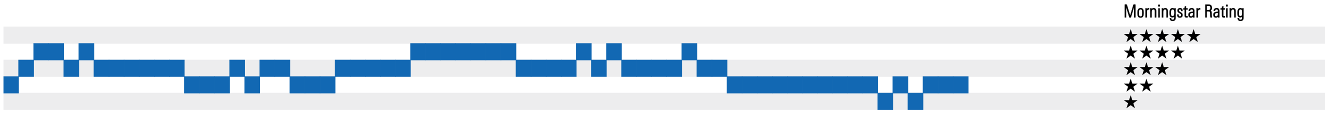
Total Return % as of 22 Apr 2025. Last Close as of 22 Apr 2025. Fair Value as of 13 Mar 2025 22:03, UTC.

JPMorgan Chase & Co JPM



	2020	2021	2022	2023	2024	YTD
Price/Fair Value	1.13	1.06	0.92	1.10	1.35	1.21
Total Return %	-6.26	27.53	-12.79	29.87	43.63	-0.61

Morningstar Rating



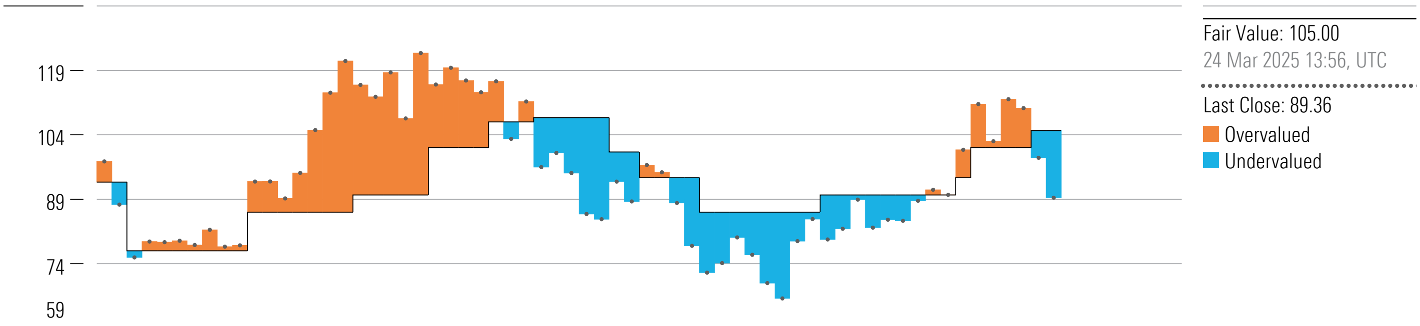
Total Return % as of 22 Apr 2025. Last Close as of 22 Apr 2025. Fair Value as of 24 Jan 2025 21:20, UTC.

Morningstar Equity Analyst Report | Report as of 23 Apr 2025 00:35, UTC | Reporting Currency: USD | Trading Currency: USD | Exchange: NEW YORK STOCK EXCHANGE, INC. Page 12 of 22

State Street Corp STT ★★★ 22 Apr 2025 21:27, UTC

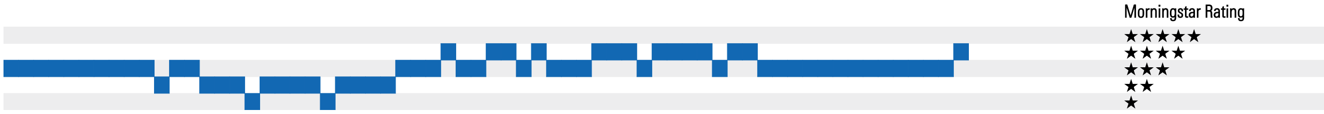
Competitors Price vs. Fair Value

Northern Trust Corp NTRS



2020	2021	2022	2023	2024	YTD	
1.08	1.18	0.88	0.98	1.01	0.85	Price/Fair Value
-9.70	31.43	-23.59	-1.25	25.03	-12.09	Total Return %

Morningstar Rating



Total Return % as of 22 Apr 2025. Last Close as of 22 Apr 2025. Fair Value as of 24 Mar 2025 13:56, UTC.

Morningstar Equity Analyst Report | Report as of 23 Apr 2025 00:35, UTC | Reporting Currency: USD | Trading Currency: USD | Exchange: NEW YORK STOCK EXCHANGE, INC. Page 13 of 22

State Street Corp STT ★★★ 22 Apr 2025 21:27, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment[1]
83.84 USD 22 Apr 2025	90.00 USD 25 Feb 2025 16:32, UTC	0.93	24.20 USD Bil 22 Apr 2025	Wide	Mid Value	Medium	Standard	2 Apr 2025 05:00, UTC

Morningstar Valuation Model Summary

Financials as of 21 Feb 2025	Actual			Forecast				
Fiscal Year, ends 31 Dec	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**
Net Interest Income (USD Mil)	2,544	2,759	2,923	2,948	3,012	3,078	3,145	3,213
Non Interest Income (USD Mil)	9,604	9,186	10,077	10,622	10,844	11,104	11,374	11,624
Total Pre-Provision Revenue (USD Mil)	12,148	11,945	13,000	13,570	13,856	14,182	14,519	14,838
Provision for Loan Losses (USD Mil)	20	46	75	23	27	27	27	28
Operating Expenses (USD Mil)	8,801	9,583	9,530	9,744	9,973	10,208	10,448	10,693
Operating Income (USD Mil)	3,327	2,316	3,395	3,803	3,856	3,947	4,044	4,117
Net Income Available to Common Stockholders (USD Mil)	2,774	1,944	2,687	2,947	2,988	3,059	3,134	3,191
Adjusted Net Income (USD Mil)	2,660	1,821	2,483	2,745	2,786	2,857	2,932	2,989
Weighted Average Diluted Shares Outstanding (Mil)	370	327	302	289	274	259	244	229
Earnings Per Share (Diluted) (USD)	7.19	5.58	8.22	9.49	10.15	11.01	12.00	13.03
Adjusted Earnings Per Share (Diluted) (USD)	7.19	5.58	8.22	9.49	10.15	11.01	12.00	13.03
Dividends Per Share (USD)	2.40	2.64	2.90	3.05	3.20	3.36	3.53	3.70

Margins & Returns as of 21 Feb 2025		Actual			Forecast					
	3 Year Avg	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**5 Year Avg**
Net Interest Margin %	1.1	1.0	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0
Efficiency Ratio %	75.3	72.5	80.2	73.3	71.8	72.0	72.0	72.0	72.1	72.0
Provision as % of Loans	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1

Growth & Ratios as of 21 Feb 2025		Actual			Forecast					
	3 Year Avg	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**5 Year Avg**
Net Interest Income Growth %	15.3	33.5	8.5	5.9	0.9	2.2	2.2	2.2	2.2	1.9
Non Interest Income Growth %	0.0	-4.6	-4.4	9.7	5.4	2.1	2.4	2.4	2.2	2.9
Total Pre-Provision Revenue Growth %	—	1.5	-1.7	8.8	4.4	2.1	2.4	2.4	2.2	—
Operating Expenses Growth %	—	-0.4	8.9	-0.5	2.3	2.4	2.4	2.4	2.4	—
Operating Income Growth %	—	4.9	-30.4	46.6	12.0	1.4	2.4	2.5	1.8	—
Net Income Growth %	-1.2	3.0	-29.9	38.2	9.7	1.4	2.4	2.5	1.8	—
Earnings Per Share Growth %	4.5	-0.1	-22.4	47.3	15.5	7.0	8.5	8.9	8.6	9.7

Valuation as of 21 Feb 2025	Actual			Forecast				
	2022	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**
Price/Earning	10.8	13.9	11.9	8.8	8.3	7.6	7.0	6.4
Price/Book	—	—	—	—	—	—	—	—
Price/Tangible Book	2.0	2.0	2.2	1.7	1.6	1.5	1.4	1.2
Dividend Yield %	3.4	2.9	3.5	3.6	3.8	4.0	4.2	4.4
Dividend Payout %	32.3	46.5	33.4	32.1	31.4	30.4	29.3	28.3

Operating Performance / Profitability as of 21 Feb 2025	Actual			Forecast				
Fiscal Year, ends 31 Dec	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**
ROA %	0.9	0.7	0.8	0.8	0.8	0.8	0.8	0.8
ROE %	10.5	7.9	10.9	11.5	11.5	11.8	11.9	11.9
Return on Tangible Equity %	17.7	13.5	18.7	19.5	19.4	19.9	20.0	19.6

Morningstar Equity Analyst Report | Report as of 23 Apr 2025 00:35, UTC | Reporting Currency: USD | Trading Currency: USD | Exchange: NEW YORK STOCK EXCHANGE, INC. Page 14 of 22

State Street Corp STT ★★★ 22 Apr 2025 21:27, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment[1]
83.84 USD 22 Apr 2025	90.00 USD 25 Feb 2025 16:32, UTC	0.93	24.20 USD Bil 22 Apr 2025	Wide	Mid Value	Medium	Standard	2 Apr 2025 05:00, UTC

Financial Leverage (Reporting Currency)	Actual			Forecast				
Fiscal Year, ends 31 Dec	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**
Equity/Assets %	8.4	8.0	7.2	7.4	7.1	7.0	6.9	6.9

Forecast Revisions as of	2025		2026		2027	
Prior data as of	**Current**	**Prior**	**Current**	**Prior**	**Current**	**Prior**
Fair Value Estimate Change (Trading Currency)	90.00	—	—	—	—	—
Net Interest Income (USD Mil)	2,948	2,890	3,012	2,972	3,078	3,036
Total Pre-Provision Revenue (USD Mil)	13,570	12,735	13,856	13,207	14,182	13,504
Operating Income (USD Mil)	3,803	3,380	3,856	3,651	3,947	3,734
Net Income (USD Mil)	—	—	—	—	—	—
Earnings Per Share (Diluted) (USD)	9.49	8.04	10.15	9.24	11.01	9.97
Adjusted Earnings Per Share (Diluted) (USD)	9.49	8.04	10.15	9.24	11.01	9.97
Dividends Per Share (USD)	3.05	2.77	3.20	2.91	3.36	3.06

Key Valuation Drivers as of 21 Feb 2025	
Cost of Equity %	9.0
Stage II Net Income Growth Rate %	4.0
Stage II Incremental ROIC %	12.0
Perpetuity Year	20

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

Discounted Cash Flow Valuation as of 21 Feb 2025	**USD Mil**
Present Value Stage I	0
Present Value Stage II	0
Present Value of the Perpetuity	0
Total Common Equity Value before Adjustment	**0**
Other Adjustments	—
Equity Value	**26,855**
Projected Diluted Shares	281
Fair Value per Share (USD)	**90.00**

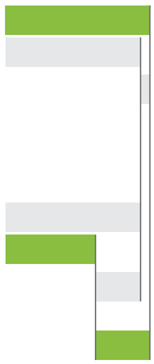
Morningstar Equity Analyst Report | Report as of 23 Apr 2025 00:35, UTC | Reporting Currency: USD | Trading Currency: USD | Exchange: NEW YORK STOCK EXCHANGE, INC. Page 15 of 22

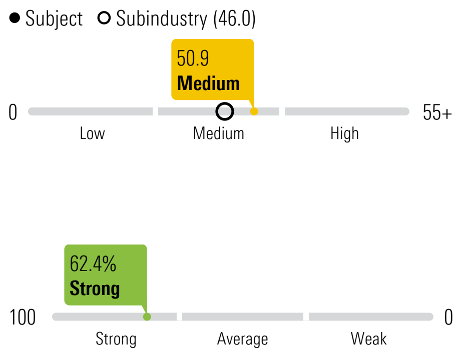
State Street Corp STT ★★★ 22 Apr 2025 21:27, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment[1]
83.84 USD 22 Apr 2025	90.00 USD 25 Feb 2025 16:32, UTC	0.93	24.20 USD Bil 22 Apr 2025	Wide	Mid Value	Medium	Standard	2 Apr 2025 05:00, UTC

ESG Risk Rating Breakdown

Exposure	
Company Exposure[1]	50.9
– Manageable Risk	47.6
Unmanageable Risk[2]	**3.2**
Management	
Manageable Risk	47.6
– Managed Risk[3]	29.7
Management Gap[4]	**17.9**
Overall Unmanaged Risk	**21.2**

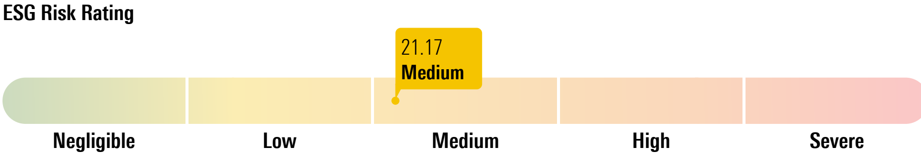




- Exposure represents a company's vulnerability to ESG risks driven by their business model
- Exposure is assessed at the Subindustry level and then specified at the company level
- Scoring ranges from 0-55+ with categories of low, medium, and high-risk exposure

- Management measures a company's ability to manage ESG risks through its commitments and actions
- Management assesses a company's efficiency on ESG programs, practices, and policies
- Management score ranges from 0-100% showing how much manageable risk a company is managing

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 62.4% 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 Assessment[5]

ESG Risk Rating is of Apr 02, 2025. Highest Controversy Level is as of Apr 08, 2025. Sustainalytics Subindustry: Asset Management and Custody Services. Sustainalytics provides Morningstar with company ESG ratings and metrics on a monthly basis and as such, the ratings in Morningstar may not necessarily reflect current Sustainalytics' scores for the company. For the most up to date rating and more information, please visit: sustainalytics.com/esg-ratings/.

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	
State Street Corp	50.9 | Medium	0 – 55+	62.4 | Strong	100 – 0	21.2 | Medium	0 – 40+
Bank of New York Mellon Corp	50.5 | Medium	0 – 55+	65.0 | Strong	100 – 0	19.8 | Low	0 – 40+
Raymond James Financial Inc	44.2 | Medium	0 – 55+	41.6 | Average	100 – 0	26.7 | Medium	0 – 40+
JPMorgan Chase & Co	53.7 | Medium	0 – 55+	52.9 | Strong	100 – 0	27.3 | Medium	0 – 40+
Northern Trust Corp	45.7 | Medium	0 – 55+	46.6 | Average	100 – 0	25.4 | Medium	0 – 40+

Morningstar Equity Analyst Report | Report as of 23 Apr 2025 00:35, UTC | Reporting Currency: USD | Trading Currency: USD | Exchange: NEW YORK STOCK EXCHANGE, INC. Page 16 of 22

Appendix
Historical Morningstar Rating

State Street Corp STT 22 Apr 2025 21:27, 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
★★★	★★★	★★★	★★★	★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★

Bank of New York Mellon Corp BK 22 Apr 2025 21:30, 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
★★★★	★★★★	★★★★	★★★★	★★★	★★★	★★★	★★★	★★★	★★★★	★★★★	★★★

JPMorgan Chase & Co JPM 22 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
★★★	★★★	★★★	★★★	★★★	★★★	★★★★	★★★	★★★★	★★★★	★★★	★★

Morningstar Equity Analyst Report | Report as of 23 Apr 2025 00:35, UTC | Reporting Currency: USD | Trading Currency: USD | Exchange: NEW YORK STOCK EXCHANGE, INC. Page 17 of 22

Northern Trust Corp NTRS 22 Apr 2025 21:29, 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, indepth 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 shortterm market-price movements), but we believe these negatives are mitigated by deep analysis and our longterm 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 singlepoint star rating.

1. Economic Moat

The concept of an economic moat plays a vital role not only in our qualitative assessment of a firm's long-term investment potential, but also in the actual calculation of our fair value estimates. An economic moat is a structural feature that allows a firm to sustain excess profits over a long period of time. We define economic profits as returns on invested capital (or ROIC) over and above our estimate of a firm's cost of capital, or weighted average cost of capital (or WACC). Without a moat, profits are more susceptible to competition. We have identified five sources of economic moats: intangible assets, switching costs, network effect, cost advantage, and efficient scale.

Companies with a narrow moat are those we believe are more likely than not to achieve normalized excess returns for at least the next 10 years. Wide-moat companies are those in which we have very high confidence that excess returns will remain for 10 years, with excess returns more likely than not to remain for at least 20 years. The longer a firm generates economic profits, the higher its intrinsic value. We believe low-quality, no-moat companies will see their normalized returns gravitate toward the firm's cost of capital more quickly than companies with moats.

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 workingcapital 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.

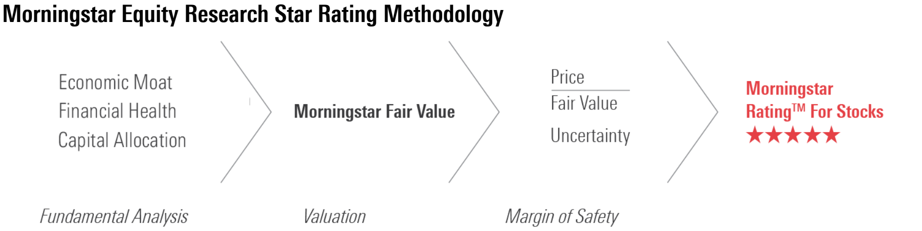
Because a dollar earned today is worth more than a dollar earned tomorrow, we discount our projections of cash flows in stages I, II, and III to arrive at a total present value of expected future cash flows. Because we are modeling free cash flow to the firm—representing cash available to provide a return 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 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



Morningstar Equity Analyst Report | Report as of 23 Apr 2025 00:35, UTC | Reporting Currency: USD | Trading Currency: USD | Exchange: NEW YORK STOCK EXCHANGE, INC.

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 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.

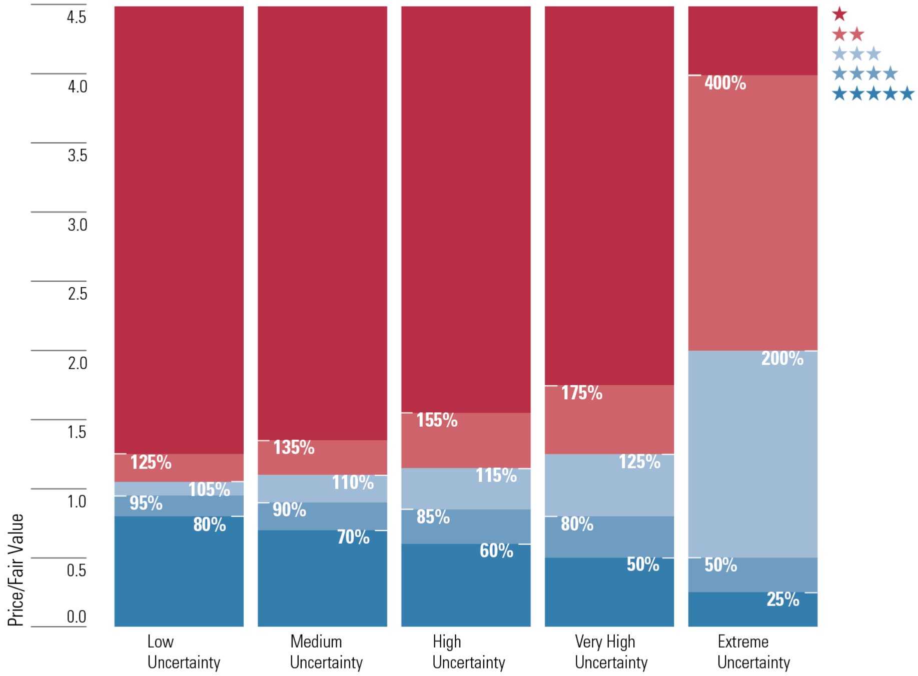
4. Market Price

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.

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

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 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.

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-

Research Methodology for Valuing Companies

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.

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.

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/

Ratings should not be used as the sole basis in evaluating a company or security. Ratings involve unknown risks and uncertainties which may cause our expectations not to occur or to differ significantly from what was expected and should not be considered an offer or solicitation to buy or sell a security.

Risk Warning

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

General Disclosure

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

This Report is for informational purposes, should not be the sole piece of information used in making an investment decision, and has no regard to the specific investment objectives, financial situation or particular needs of any specific recipient. This publication is intended to provide information to assist investors in making their own investment decisions, not to provide investment advice to any specific investor. Therefore, investments discussed herein may not be suitable for all investors; investors must exercise their own independent judgment as to the suitability of such investments and recommendations in the light of their own investment objectives, experience, taxation status and financial position. Morningstar encourages Report recipients to read all relevant issue documents (e.g., prospectus) pertaining to the security concerned, including without limitation, information relevant to its investment objectives, risks, and costs before making an investment decision and when deemed necessary, to seek the advice of a financial, legal, tax, and/or accounting professional. The information, data, analyses and opinions presented herein are not warranted to be accurate, correct, complete or timely. Unless otherwise provided in a separate agreement, neither Morningstar, Inc. or the Equity Research Group represents that the report contents meet all of the presentation and/or disclosure standards applicable in the jurisdiction the recipient is located.

Except as otherwise required by law or provided for in a separate agreement, the analyst, Morningstar, Inc. and the Equity Research Group and their officers, directors and employees shall not be responsible or liable for any trading decisions, damages or other losses resulting from, or related to, the information, data, analyses or opinions within the report.

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

Where this report is made available in a language other than English and in the case of inconsistencies between the English and translated versions of the report, the English version will control and supersede any ambiguities associated with any part or section of a report that has been issued in a foreign language. Neither the analyst, Morningstar, Inc., or the Equity Research Group guarantees the accuracy of the translations.

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

Research Methodology for Valuing Companies

connection with the distribution third-party research reports.

Conflicts of Interest

- No interests are held by the analyst with respect to the security subject of this investment research report.
- Morningstar, Inc. may hold a long position in the security subject of this investment research report that exceeds 0.5% of the total issued share capital of the security. To determine if such is the case, please click http://msi.morningstar.com and http://mdi.morningstar.com
- Analysts' compensation is derived from Morningstar, Inc.'s overall earnings and consists of salary, bonus and in some cases restricted stock.
- Neither Morningstar, Inc. or the Equity Research Group receives commissions for providing research nor do they charge companies to be rated.
- Morningstar's overall earnings are generated in part by the activities of the Investment Management and Research groups, and other affiliates, who provide services to product issuers.
- Morningstar employees may not pursue business and employment opportunities outside Morningstar within the investment industry (including but not limited to, working as a financial planner, an investment professional or investment professional representative, a broker-dealer or broker-dealer agent, a financial writer, reporter, or analyst) without the approval of Morningstar's Legal and if applicable, Compliance teams.
- Neither Morningstar, Inc. or the Equity Research Group is a market maker or a liquidity provider of the security noted within this report.
- Neither Morningstar, Inc. or the Equity Research Group has been a lead manager or co-lead manager over the previous 12-months of any publicly disclosed offer of financial instruments of the issuer.
- Morningstar, Inc.'s investment management group does have arrangements with financial institutions to provide portfolio management/investment advice some of which an analyst may issue investment research reports on. However, analysts do not have authority over Morningstar's investment management group's business arrangements nor allow employees from the investment management group to participate or influence the analysis or opinion prepared by them.
- Morningstar, Inc. is a publicly traded company (Ticker Symbol: MORN) and thus a financial institution the security of which is the subject of this report may own more than 5% of Morningstar, Inc.'s total outstanding shares. Please access Morningstar, Inc.'s proxy statement, "Security Ownership of Certain Beneficial Owners and Management" section https://shareholders.morningstar.com/investor-relations/financials/sec-filings/default.aspx
- Morningstar, Inc. may provide the product issuer or its related entities with services or products for a fee and on an arms' length basis including software products and licenses, research and consulting services, data services, licenses to republish our ratings and research in their promotional material, event sponsorship and website advertising.

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

Risk Warning Please note that investments in securities are subject to market and other risks and there is no assurance or guarantee that the intended investment objectives will be achieved. Past performance of a security may or may not be sustained in future and is no indication of future performance. A security's investment return and an investor's principal value will fluctuate so that, when redeemed, an investor's shares may be worth more or less than their original cost. A security's current investment performance may be lower or higher than the investment performance noted within the report. For investments in foreign markets there are further risks, generally based on exchange rate changes or changes in political and social conditions.

For more information about Morningstar's methodologies, please visit global.morningstar.com/equitydisclosures

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

For recipients in Australia: This Report has been issued and distributed in Australia by Morningstar Australasia Pty Ltd (ABN: 95 090 665 544; ASFL: 240892). Morningstar Australasia Pty Ltd is the provider of the general advice ('the Service') and takes responsibility for the production of this report. The Service is provided through the research of investment products.

To the extent the Report contains general advice it has been prepared without reference to an investor's objectives, financial situation or needs. Investors should consider the advice in light of these matters and, if applicable, the relevant Product Disclosure Statement before making any decision to invest. Refer to our Financial Services Guide (FSG) for more information at http://www.morningstar.com.au/fsg.pdf

For recipients in New Zealand: This report has been issued and distributed by Morningstar Australasia Pty Ltd and/or Morningstar Research Ltd (together 'Morningstar'). This report has been prepared and is intended for distribution in New Zealand to wholesale clients only and has not been prepared for use by New Zealand retail clients (as those terms are defined in the Financial Markets Conduct Act 2013).The information, views and any recommendations in this material are provided for general information purposes only, and solely relate to the companies and investment opportunities specified within. Our reports do not take into account any particular investor's financial situation, objectives or appetite for risk, meaning no representation may be implied as to the suitability of any financial product mentioned for any particular investor. We recommend seeking financial advice before making any investment decision.

For recipients in Hong Kong: The Report is distributed by Morningstar Investment Management Asia Limited, which is regulated by the Hong Kong Securities and Futures Commission to provide services to professional investors only. Neither Morningstar Investment Management Asia Limited, nor its representatives, are acting or will be deemed to be acting as an investment professional to any recipients of this information unless expressly agreed to by Morningstar Investment Management Asia Limited.

For recipients in India: This investment research is issued by Morningstar Investment Adviser India Private Limited. Morningstar Investment Adviser India Private Limited is registered with SEBI as a Portfolio Manager (registration number INP000006156) and as a Research Entity (registration number INH000008686). Morningstar Investment Adviser India Private Limited has not been the subject of any disciplinary action by SEBI or any other legal/regulatory body. Morningstar Investment Adviser India Private Limited is a wholly owned subsidiary of Morningstar Investment Management LLC. In India, Morningstar Investment Adviser India Private Limited has one associate, Morningstar India Private Limited, which provides data-related services, financial data analysis, and software development. The research analyst has not served as an officer, director, or employee of the fund company within the last 12 months, nor have they or their associates engaged in market-making activity for the fund company.The ESG-related information, methodologies, tool, ratings, data and opinions contained or reflected herein are not directed to or intended for use or distribution to India-based clients or users and their distribution to Indian resident individuals or entities is not permitted, and Morningstar/Sustainalytics accepts no responsibility or liability whatsoever for the actions of third parties in this respect.

*The Conflicts of Interest disclosure above also applies to relatives and associates of Manager Research Analysts in India # The Conflicts of Interest disclosure above also applies to associates of Manager Research Analysts in India. The terms and conditions on which Morningstar In-

Research Methodology for Valuing Companies

vestment Adviser India Private Limited offers Investment Research to clients, varies from client to client, and are detailed in the respective client agreement.

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

For recipients in Singapore: For Institutional Investor audiences only. The Report is distributed by Morningstar Investment Adviser Singapore Pte. Limited, which is licensed by the Monetary Authority of Singapore to provide financial advisory services in Singapore. Morningstar Investment Adviser Singapore Pte. Limited is the entity responsible for the creation and distribution of the research services described in this presentation. Investors should consult a financial adviser regarding the suitability of any investment product, taking into account their specific investment objectives, financial situation or particular needs, before making any investment decisions.

For recipients in Korea: The report is distributed by Morningstar Korea Ltd., which has filed to the Financial Services Committee, for informational purposes only. Neither Morningstar Korea Ltd. nor its representatives are acting or will be deemed to be acting as an investment advisor to any recipients of this information.