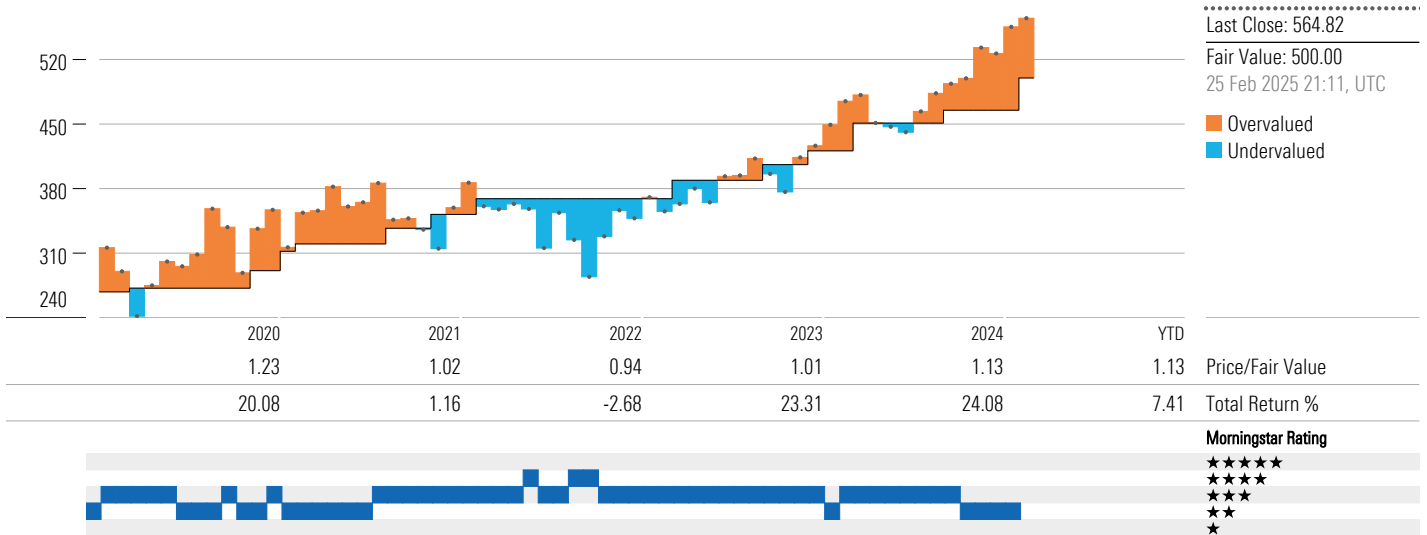


# Mastercard Inc Class A MA ★★ 27 Feb 2025 22:31, UTC

<b>Last Price</b> 564.82 USD 27 Feb 2025	<b>Fair Value Estimate</b> 500.00 USD 25 Feb 2025 21:11, UTC	<b>Price/FVE</b> 1.13	<b>Market Cap</b> 514.95 USD Bil 27 Feb 2025	<b>Economic Moat™</b> Wide	<b>Equity Style Box</b> Large Blend	<b>Uncertainty</b> Medium	<b>Capital Allocation</b> Standard	<b>ESG Risk Rating Assessment<sup>1</sup></b> 5 Feb 2025 06:00, UTC
--	--	--------------------------	--	-------------------------------	--	------------------------------	---------------------------------------	--

## Price vs. Fair Value



Total Return % as of 27 Feb 2025. Last Close as of 27 Feb 2025. Fair Value as of 25 Feb 2025 21:11, UTC.

### Contents

- Business Description
- Business Strategy & Outlook (25 Feb 2025)
- Bulls Say / Bears Say (25 Feb 2025)
- Economic Moat (25 Feb 2025)
- Fair Value and Profit Drivers (25 Feb 2025)
- Risk and Uncertainty (25 Feb 2025)
- Capital Allocation (25 Feb 2025)
- Analyst Notes Archive
- Financials
- ESG Risk
- Appendix
- Research Methodology for Valuing Companies

## Mastercard Enjoys a Wide Moat and Strong Growth Prospects

### Business Strategy & Outlook Brett Horn, CFA, Senior Equity Analyst, 25 Feb 2025

Mastercard has multiple characteristics that should draw investors' attention. First, despite ongoing evolution in the payment space, we think a wide moat surrounds the business and view Mastercard's position in the current global electronic payment infrastructure as essentially unassailable. Second, Mastercard benefits from the ongoing shift toward electronic payments, which should provide plenty of opportunities to utilize its wide moat to create value over the long term. Digital payments, on a global basis, surpassed cash payments just a few years ago, suggesting that this trend still has a lot of room to run, and we think emerging markets could offer a further leg of growth even as growth in developed markets starts to slow. Finally, Mastercard is something of a tollbooth business, and the company is relatively agnostic to smaller shifts within the electronic payment space, as it earns fees regardless of whether payment is credit, debit, or mobile.

Mastercard has faced some volatility over the past few years. Cross-border transactions, which are particularly lucrative for the networks, came under heavy pressure due to the fallout from the pandemic and a reduction in global travel. We expected a full recovery, and we believe that has largely played out. Although the ongoing bounceback remains a modest tailwind, we think the benefit is now mostly realized. From a longer-term point of view, we think it is likely that smaller and more regional networks are building out capacity for cross-border transactions, which could eat into growth a bit in the coming

#### 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.

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

© Morningstar 2025. All Rights Reserved. Unless otherwise provided in a separate agreement, you may use this report only in the country in which its original distributor is based. The information, data, analyses and opinions presented herein do not constitute investment advice; are provided solely for informational purposes and therefore are not an offer to buy or sell a security; and are not warranted to be correct, complete or accurate. The opinions expressed are as of the date written and are subject to change without notice. Except as otherwise required by law, Morningstar shall not be responsible for any trading decisions, damages or other losses resulting from, or related to, the information, data, analyses or opinions or their use. The information contained herein is the proprietary property of Morningstar and may not be reproduced, in whole or in part, or used in any manner, without the prior written consent of Morningstar. Investment research is produced and issued by subsidiaries of Morningstar, Inc. including, but not limited to, Morningstar Research Services LLC, registered with and governed by the U.S. Securities and Exchange Commission. To order reprints, call +1 312-696-6100. To license the research, call +1 312-696-6869. Please see important disclosures at the end of this report.



# Mastercard Inc Class A MA ★★

27 Feb 2025 22:31, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment <sup>1</sup>
564.82 USD 27 Feb 2025	500.00 USD 25 Feb 2025 21:11, UTC	1.13	514.95 USD Bil 27 Feb 2025	Wide	Large Blend	Medium	Standard	5 Feb 2025 06:00, UTC

Sector	Industry
Financial Services	Credit Services

## Business Description

Mastercard is the second-largest payment processor in the world, having processed close to \$10 trillion in volume during 2024. Mastercard operates in over 200 countries and processes transactions in over 150 currencies.

years, but we haven't seen a material effect yet.

In the near term, we expect Mastercard's results to normalize to a level in line with the prepandemic period. We see the state of the economy as Mastercard's biggest risk. A downturn in the economy would slow overall growth, as Mastercard's revenue is sensitive to the volume and dollar amount of consumer transactions. But we don't see any secular industry trends that will impede Mastercard's ability to maintain double-digit growth in the coming years, and the company looks poised to continue to modestly outperform its larger peer, Visa.

### Bulls Say Brett Horn, CFA, Senior Equity Analyst, 25 Feb 2025

- ▶ Mastercard historically has outperformed Visa in terms of growth. Its smaller size and some leveling in market share between the two could maintain this trend.
- ▶ There is still plenty of runway for growth in electronic payments. Electronic payments only surpassed cash payments on a global basis a few years ago.
- ▶ Management is appropriately focused on long-term growth opportunities and not near-term margins.

### Bears Say Brett Horn, CFA, Senior Equity Analyst, 25 Feb 2025

- ▶ Mastercard is a distant number-two player in a scalable industry, which could hamper long-term margins.
- ▶ The oligopolistic nature of the industry makes Visa and Mastercard a target for regulators, and the companies have historically paid some large fines.
- ▶ UnionPay provides an example of how governments could favor local networks, and this could shut Mastercard out of some emerging-market opportunities.

### Economic Moat Brett Horn, CFA, Senior Equity Analyst, 25 Feb 2025

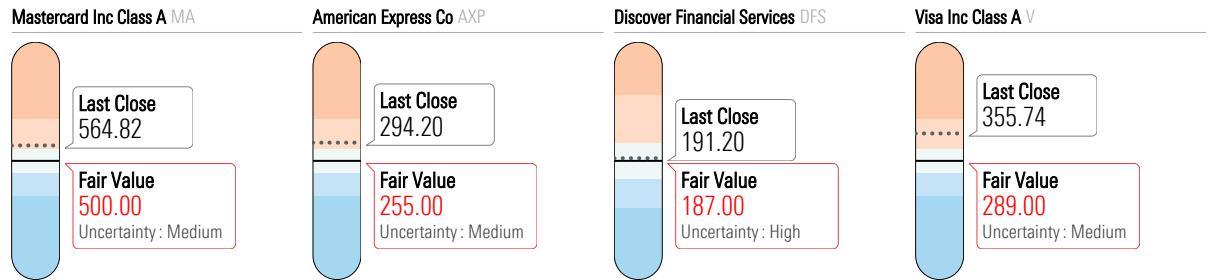
Payment networks such as Mastercard benefit, unsurprisingly, from a network effect. The more consumers that are plugged into a payment network, the more attractive that payment network becomes for merchants, which, in turn, makes the network more convenient for consumers and so on. In our view, this dynamic explains why a handful of networks have come to dominate electronic payments over time, and at this point, Mastercard has reached essentially universal acceptance in most developed markets. While the network effect is the initial and primary driver of economic moats in the space, the highly scalable nature of payment processing leads to sizable cost advantages for large payment networks, which further cements their competitive positions. For the dominant payment networks with global footprints, such as Mastercard, the network effect and resulting cost advantage is strong enough to lead to a wide moat, in our view.

Mastercard's origin lies in the formation of the Interbank Card Association by a group of banks that acquired Master Charge in 1969 and adopted the company's current logo. In the decades since, Mastercard has been one of the largest beneficiaries of the ongoing shift toward using electronic

# Mastercard Inc Class A MA ★★ 27 Feb 2025 22:31, UTC

<b>Last Price</b> 564.82 USD 27 Feb 2025	<b>Fair Value Estimate</b> 500.00 USD 25 Feb 2025 21:11, UTC	<b>Price/FVE</b> 1.13	<b>Market Cap</b> 514.95 USD Bil 27 Feb 2025	<b>Economic Moat™</b> Wide	<b>Equity Style Box</b> Large Blend	<b>Uncertainty</b> Medium	<b>Capital Allocation</b> Standard	<b>ESG Risk Rating Assessment¹</b> 5 Feb 2025 06:00, UTC
--	--	--------------------------	--	-------------------------------	--	------------------------------	---------------------------------------	---

## Competitors



	Mastercard Inc Class A MA	American Express Co AXP	Discover Financial Services DFS	Visa Inc Class A V
Economic Moat	Wide	Wide	Narrow	Wide
Currency	USD	USD	USD	USD
Fair Value	500.00 25 Feb 2025 21:11, UTC	255.00 24 Feb 2025 19:22, UTC	187.00 23 Jan 2025 16:04, UTC	289.00 13 Dec 2024 19:08, UTC
1-Star Price	675.00	344.25	289.85	390.15
5-Star Price	350.00	178.50	112.20	202.30
Assessment	Overvalued 27 Feb 2025	Overvalued 27 Feb 2025	Fairly Valued 27 Feb 2025	Overvalued 27 Feb 2025
Morningstar Rating	★★ 27 Feb 2025 22:31, UTC	★★ 27 Feb 2025 22:28, UTC	★★★ 27 Feb 2025 22:31, UTC	★★ 27 Feb 2025 22:34, UTC
Analyst	Brett Horn, Senior Equity Analyst	Michael Miller, Equity Analyst	Michael Miller, Equity Analyst	Brett Horn, Senior Equity Analyst
Capital Allocation	Standard	Standard	Standard	Standard
Price/Fair Value	1.13	1.15	1.02	1.23
Price/Sales	18.47	3.20	2.67	19.19
Price/Book	79.05	6.87	2.83	18.10
Price/Earning	38.44	21.83	10.73	33.75
Dividend Yield	0.49%	0.95%	1.46%	0.62%
Market Cap	514.95 Bil	206.68 Bil	48.11 Bil	686.23 Bil
52-Week Range	428.86—576.94	214.51—326.28	118.74—205.76	252.70—360.31
Investment Style	Large Blend	Large Blend	Mid Growth	Large Blend

payments. During 2024, the company processed over \$8 trillion in purchase transactions. Visa, meanwhile, processes roughly twice as many transactions as Mastercard and leads it in terms of market share in every major global region. However, Mastercard has a similarly commanding lead over any other network and is the only other company with a truly global presence. Mastercard’s global market share for credit and debit cards has been estimated at 29% and 24%, respectively, a level that dwarfs competitors outside of Visa. Mastercard may face some competition in processing domestic transactions, but we think the company’s global presence is a relatively unique asset that allows the company to process cross-border transactions and charge materially higher fees in this area. We don’t believe that building a new network with a comparable size and reach is realistic over any foreseeable time line and view Mastercard’s position within the current global electronic payment infrastructure as essentially unassailable.

Mastercard has translated its dominant competitive position into an enviable level of profitability.

© Morningstar 2025. All Rights Reserved. Unless otherwise provided in a separate agreement, you may use this report only in the country in which its original distributor is based. The information, data, analyses and opinions presented herein do not constitute investment advice; are provided solely for informational purposes and therefore are not an offer to buy or sell a security; and are not warranted to be correct, complete or accurate. The opinions expressed are as of the date written and are subject to change without notice. Except as otherwise required by law, Morningstar shall not be responsible for any trading decisions, damages or other losses resulting from, or related to, the information, data, analyses or opinions or their use. The information contained herein is the proprietary property of Morningstar and may not be reproduced, in whole or in part, or used in any manner, without the prior written consent of Morningstar. Investment research is produced and issued by subsidiaries of Morningstar, Inc. including, but not limited to, Morningstar Research Services LLC, registered with and governed by the U.S. Securities and Exchange Commission. To order reprints, call +1 312-696-6100. To license the research, call +1 312-696-6869. Please see important disclosures at the end of this report.



# Mastercard Inc Class A MA ★★

27 Feb 2025 22:31, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment <sup>1</sup>
564.82 USD 27 Feb 2025	500.00 USD 25 Feb 2025 21:11, UTC	1.13	514.95 USD Bil 27 Feb 2025	Wide	Large Blend	Medium	Standard	 5 Feb 2025 06:00, UTC

Operating margins (using net revenue) in 2024 were 58%, and margins have generally trended upward over time due to the scalability of the business. Further, given the relatively asset-light nature of the business, returns on invested capital are multiple above any reasonable estimate of the cost of capital.

## Fair Value and Profit Drivers Brett Horn, CFA, Senior Equity Analyst, 25 Feb 2025

We are increasing our fair value estimate for Mastercard to \$500 per share from \$465, due to time value since our last update and some modest changes to our assumptions. Our new fair value estimate equates to 31.6 times projected 2025 earnings, adjusted for one-time expenses.

While revenue declined in 2020 due to the coronavirus and that issue bled into the start of 2021, growth bounced back quickly and Mastercard has enjoyed outsize growth the past few years. We think conditions have now normalized and we expect a return to growth levels more in line with the prepandemic period. We think secular trends and improving share should allow Mastercard to maintain strong growth rates over the next five years. We project net revenue to grow at a 12% compound annual growth rate. We think growth will be increasingly fueled by international markets, and Mastercard's mix leaves it relatively well-positioned.

While margins were materially pressured in 2020, profitability has recovered since, and margins (based on net revenue) are now slightly ahead of the prepandemic level. In the future, we expect operating margins (based on net revenue) to improve from 58% in 2024 to 61% by 2029, based on the scalability of the business. This equates to an annual average improvement of about 70 basis points. On a gross revenue basis, we expect increasing client incentives to result in basically flat margins over the projection period. Given the company's history of fines and one-time charges, we include ongoing one-time costs roughly in line with historical averages in our projections, but these costs are excluded from the margin levels above.

We use a cost of equity of 9%.

## Risk and Uncertainty Brett Horn, CFA, Senior Equity Analyst, 25 Feb 2025

We assign Mastercard a Medium Morningstar Uncertainty Rating.

Mastercard's revenue is tied to the amount and volume of consumer purchases, which creates significant macroeconomic sensitivity. Cross-border transactions are highly lucrative for Mastercard, making the company particularly sensitive to any swings in these types of transactions. Cross-border transactions are disproportionately tied to travel and online transactions, both of which tend to be sensitive to macroeconomic conditions.

Both Visa and Mastercard have paid substantial fines historically related to the oligopolistic nature of the industry, and we see legal and regulatory risk as intrinsic to the business model, given merchants'

# Mastercard Inc Class A MA ★★

27 Feb 2025 22:31, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
564.82 USD 27 Feb 2025	500.00 USD 25 Feb 2025 21:11, UTC	1.13	514.95 USD Bil 27 Feb 2025	 Wide	 Large Blend	Medium	Standard	 5 Feb 2025 06:00, UTC

desires to lower fees.

While Visa's and Mastercard's positions in the current electronic payment infrastructure are largely set, the payment industry continues to evolve in ways that could reduce their volume or profitability. Some governments have shown a preference for local payment networks, which could freeze Mastercard out of certain markets and impede the value it drives from its global network.

We see the company's largest environmental, social, and governance risk as data security. Any company involved in processing payments has potential exposure to breaches in its systems.

### Capital Allocation Brett Horn, CFA, Senior Equity Analyst, 25 Feb 2025

Our Morningstar Capital Allocation Rating for Mastercard is Standard. In our opinion, the company's balance sheet is sound, its capital investment decisions are fair, and its capital return strategy is appropriate. We have a favorable view of the management team at Mastercard, but we believe the company's wide moat and positive secular tailwinds have been the dominant factor behind its strong historical results.

Ajay Banga served as the company's CEO from 2010 until the end of 2020. Banga initially moved to the chairman position, but then retired at the end of 2021. Michael Miebach, who has been with the company for over 10 years and previously served as chief product officer, replaced Banga as CEO. We like that Miebach held leadership positions in the company across geographic regions, as we expect the company's growth to come increasingly from international markets over time. Still, given that the company turned to a company veteran for the CEO role, we didn't expect any major strategic pivots as a result of this change, and think this view has largely played out. We view staying the course as the right move for Mastercard.

While we attribute the company's strong historical performance primarily to the wide moat that surrounds the business and secular tailwinds, it is notable that Mastercard has generally outperformed Visa in terms of growth in recent years. This suggests management is effectively exploiting the growth opportunities the company has in front of it. Further, we like that management has been hesitant to commit to operating margin targets over the short term. We believe the company still has significant growth opportunities, and the nature of the business requires reinvestment through the income statement. We think focusing on near-term profitability targets could hamper long-term value creation, and we think management is right to maintain flexibility on this score, although we think the scalability of the business model will allow for margin improvement over time.

While Mastercard has completed some acquisitions, they have generally been small and sporadic. We think the company's competitive position argues against aggressive M&A, and we are pleased that management has shown discipline in this regard.

Management historically has returned essentially all of Mastercard's profitability to shareholders and

# Mastercard Inc Class A MA ★★ 27 Feb 2025 22:31, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
564.82 USD 27 Feb 2025	500.00 USD 25 Feb 2025 21:11, UTC	1.13	514.95 USD Bil 27 Feb 2025	Wide	Large Blend	Medium	Standard	 5 Feb 2025 06:00, UTC

we appreciate the company's diligence on this front. Dividends per share have doubled over the past five years. We like this trend and think committing to a larger dividend helps to signal management's commitment to returning capital.

## Analyst Notes Archive

### Mastercard Earnings: Growth Picks Up Brett Horn, CFA, Senior Equity Analyst, 30 Jan 2025

Mastercard's recent results suggested that consumer spending was largely holding steady as impacts from one-time issues started to fade. But fourth-quarter results suggest the environment may be improving a bit. We will maintain our \$465 fair value estimate. We see the shares as modestly overvalued. The quarter suggests the near-term outlook may be a little better than we had anticipated, and we think the market is reacting to that, but we believe significant uncertainty still exists on this front. On a constant-currency basis, net revenue grew 16% year over year, up from 14% last quarter. Payment volume grew 11.6% on a constant-currency basis, up from 10.5% in the previous quarter. Management pointed to low unemployment and moderate inflation as supportive of consumer spending. Cross-border volume has been a tailwind for the networks over the past couple of years, as the bounceback in travel from pandemic lows drove outsize growth. That tailwind has been fading in recent quarters, but this quarter bucked the trend. Constant-currency cross-border volume, excluding intra-Europe transactions—which are priced similarly to domestic transactions—grew 20% year over year, up from 17% last quarter. We believe most of the benefit from the travel recovery has been realized, but this quarter suggests there could be further upside. Still, we'd like to see more than one quarter to materially revise our view. Adjusted operating margin improved to 56.3% from 56.2% last year. For the full year, the company saw a 40-basis-point improvement. Margin improvement appears to have slowed, but we don't read much into near-term margin results, as we think lower margins are often driven by investments for growth. Client incentives grew 17% year over year on a constant-currency basis. We think incentives growing faster than revenue supports our view that Mastercard will not achieve margin improvement on a gross revenue basis over time.

### Mastercard Earnings: Settling Into a Groove Brett Horn, CFA, Senior Equity Analyst, 31 Oct 2024

We think Mastercard's third-quarter earnings largely mirrored what we saw from Visa, although Mastercard appears to be performing a bit better at the margin. In recent quarters, we've seen pandemic, political, and macro effects dissipate, and we see this quarter as further evidence of stability. We think Mastercard's attractive long-term growth prospects and its strong profitability become more clear in this type of situation. We will maintain our \$465 fair value estimate for the wide-moat company and see shares as about fairly valued. Constant currency net revenue increased 14% year over year, a 1-percentage-point improvement from the previous quarter. Payment volume was up 10% constant currency, also up slightly from last quarter. Overall, though, we think results from the networks suggest

# Mastercard Inc Class A MA ★★ 27 Feb 2025 22:31, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment <sup>1</sup>
564.82 USD 27 Feb 2025	500.00 USD 25 Feb 2025 21:11, UTC	1.13	514.95 USD Bil 27 Feb 2025	Wide	Large Blend	Medium	Standard	 5 Feb 2025 06:00, UTC

consumer spending is holding steady. Cross-border volume has been the one area seeing an ongoing tailwind over the past couple of years. But this tailwind has been fading, and this quarter provided further evidence. Constant-currency cross-border volume, excluding intra-Europe transactions—which are priced similarly to domestic transactions—grew 17% year over year in the quarter, down a bit from 18% in the last quarter. While Mastercard is seeing cross-border growth fade at a similar rate as Visa, its absolute growth is higher, suggesting its volumes might not have fully normalized yet. Adjusted operating margins (based on net revenue) improved to 59.3%, compared with 58.8% last year. The rate of margin improvement was in line with what we've seen from the company this year and with our long-term expectations. Mastercard is outperforming Visa on this front, but we don't read much into near-term margin results, as we think lower margins are often driven by investments for growth. Client incentives grew 19% year over year on a constant currency basis, highlighting how margin improvement on a gross revenue basis is a much more difficult task.

## Mastercard: Buying Recorded Future for \$2.65 Billion Brett Horn, CFA, Senior Equity Analyst, 12 Sep 2024

Mastercard announced that it will acquire Recorded Future for \$2.65 billion. Recorded Future is a cyber defense company with 1,900 customers across 75 countries. Mastercard believes the addition of Recorded Future will add to its fraud prevention capabilities. Controlling fraud within its payment networks is an ongoing issue for Mastercard, so investing in this area seems appropriate. Due to its wide moat, we don't think Mastercard needs to be aggressive in terms of mergers and acquisitions, but smaller deals like this that add certain capabilities make sense, in our view. However, the deal is not large enough to have a material impact on our \$465 fair value estimate, which we maintain. We see Mastercard's shares as fairly valued at the moment.

## Mastercard Earnings: Results Suggest Consumer Spending Remains Steady Brett Horn, CFA, Senior Equity Analyst, 31 Jul 2024

While Mastercard's second-quarter results show many of the same dynamics we saw from Visa, Mastercard appears to be modestly outperforming its peer at the moment. We continue to believe that Mastercard has slightly stronger long-term prospects given its smaller size and lower exposure to relatively mature markets. We will maintain our \$451 fair value estimate for the wide-moat company and see shares as fairly valued at the moment. Net revenue increased 11% year over year, or 13% on a constant-currency basis. Gross dollar volume was up 9% on a constant-currency basis, and switched transactions were up 11%. This represented a slight decline from the previous quarter, but this appears to be mainly due to the inclusion of leap year last quarter. Overall, while we think macro conditions remain the biggest potential swing factor in the near term, these results suggest that consumer spending remains relatively stable for now. Cross-border volume is particularly lucrative for Mastercard and has been a significant tailwind recently. However, we've seen signs that the impact is tapering off

# Mastercard Inc Class A MA ★★ 27 Feb 2025 22:31, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment <sup>1</sup>
564.82 USD 27 Feb 2025	500.00 USD 25 Feb 2025 21:11, UTC	1.13	514.95 USD Bil 27 Feb 2025	Wide	Large Blend	Medium	Standard	 5 Feb 2025 06:00, UTC

for both Visa and Mastercard, and this quarter provided further evidence. Constant-currency cross-border volume, excluding intra-Europe transactions—which are priced similarly to domestic transactions—grew 18% year over year in the quarter, down slightly from 19% in the last quarter. While growth in this area is still healthy and Mastercard is modestly outperforming Visa, the recovery in cross-border volume increasingly looks to be largely realized. Adjusted operating margin for the quarter was 59.4% compared with 58.6% last year. With Mastercard seeing relatively strong growth, it appears to be benefiting from some scale benefits. Client incentives increased 16% year over year on a constant-currency basis. With client incentives resuming their historical upward path, margin improvement on a gross revenue basis will likely be harder to realize.

**Visa and Mastercard: Judge May Not Approve Settlement** Brett Horn, CFA, Senior Equity Analyst, 14 Jun 2024

In March, Visa and Mastercard announced that they had reached a settlement to a long-standing antitrust lawsuit. As part of the agreement, the networks would slightly lower credit interchange fees and cap these fees at the current level for five years. At the time, we were happy to see this lawsuit seemingly resolved. But according to The Wall Street Journal, the judge has now informed Visa and Mastercard that she deems these changes inadequate and is unlikely to approve the settlement. This would presumably force the networks to arrange a new settlement or go to trial. While this is an obvious setback and we would prefer to see this matter closed as quickly as possible, we believe Visa and Mastercard's unique competitive positions and their wide moats create ongoing legal and regulatory event risk, and this lawsuit represents just one piece of that. We will maintain our \$272 and \$451 fair value estimates for Visa and Mastercard, respectively, and see shares for both companies as about fairly valued.

**Mastercard Earnings: A Stable Environment Highlights Mastercard's Strengths** Brett Horn, CFA, Senior Equity Analyst, 1 May 2024

Mastercard's first-quarter results show that the company is on a steady path and performing roughly in line with its peer Visa. Following the dramatic ups and downs of the pandemic and the ensuing recovery, we think Mastercard has settled into a more stable environment, and the company's first-quarter results are largely in line with our long-term expectations. We will maintain our \$451 fair value estimate and wide moat rating, and we consider shares fairly valued at the moment. Net revenue was up 11% year over year on a constant-currency basis. Gross dollar volume increased 10% on a constant-currency basis, and transactions were up 13%. While macro uncertainty exists, consumer spending appears to be holding for now, and we think the current environment highlights the solid growth the company can achieve over time, given favorable long-term secular tailwinds. Cross-border volume, which has been the most volatile area over the past few years, has now settled into a more stable groove.

Constant-currency cross-border volume excluding intra-Europe transactions—which are priced similarly



# Mastercard Inc Class A MA ★★ 27 Feb 2025 22:31, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
564.82 USD <small>27 Feb 2025</small>	500.00 USD <small>25 Feb 2025 21:11, UTC</small>	1.13	514.95 USD Bil <small>27 Feb 2025</small>	Wide	Large Blend	Medium	Standard	<small>5 Feb 2025 06:00, UTC</small>

to domestic transactions—grew 19% year over year in the quarter, in line with the last quarter. Mastercard appears to be modestly outperforming Visa on this front. Cross-border growth is still a bit above our long-term expectations, but we think most of the benefit from the bounceback in travel has been realized. Adjusted operating margins (on a net revenue basis and excluding one-time items) increased to 58.8% from 58.2% last year. With solid growth, we think the scalability of the business is showing through. However, client incentives increased 20% year over year on a constant-currency basis. With incentives increasing again now that pandemic-related distortions have rolled off, margin improvement on a gross revenue basis will be much harder to come by. **III**

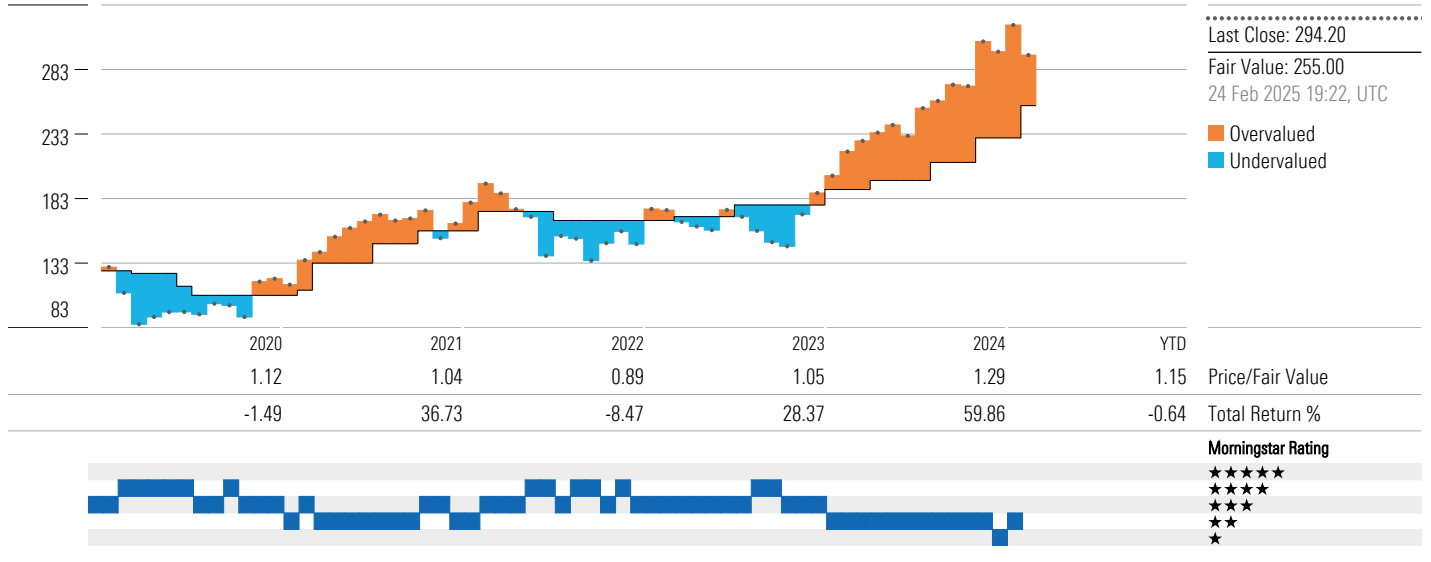
© Morningstar 2025. All Rights Reserved. Unless otherwise provided in a separate agreement, you may use this report only in the country in which its original distributor is based. The information, data, analyses and opinions presented herein do not constitute investment advice; are provided solely for informational purposes and therefore are not an offer to buy or sell a security; and are not warranted to be correct, complete or accurate. The opinions expressed are as of the date written and are subject to change without notice. Except as otherwise required by law, Morningstar shall not be responsible for any trading decisions, damages or other losses resulting from, or related to, the information, data, analyses or opinions or their use. The information contained herein is the proprietary property of Morningstar and may not be reproduced, in whole or in part, or used in any manner, without the prior written consent of Morningstar. Investment research is produced and issued by subsidiaries of Morningstar, Inc. including, but not limited to, Morningstar Research Services LLC, registered with and governed by the U.S. Securities and Exchange Commission. To order reprints, call +1 312-696-6100. To license the research, call +1 312-696-6869. Please see important disclosures at the end of this report.



# Mastercard Inc Class A MA ★★ 27 Feb 2025 22:31, UTC

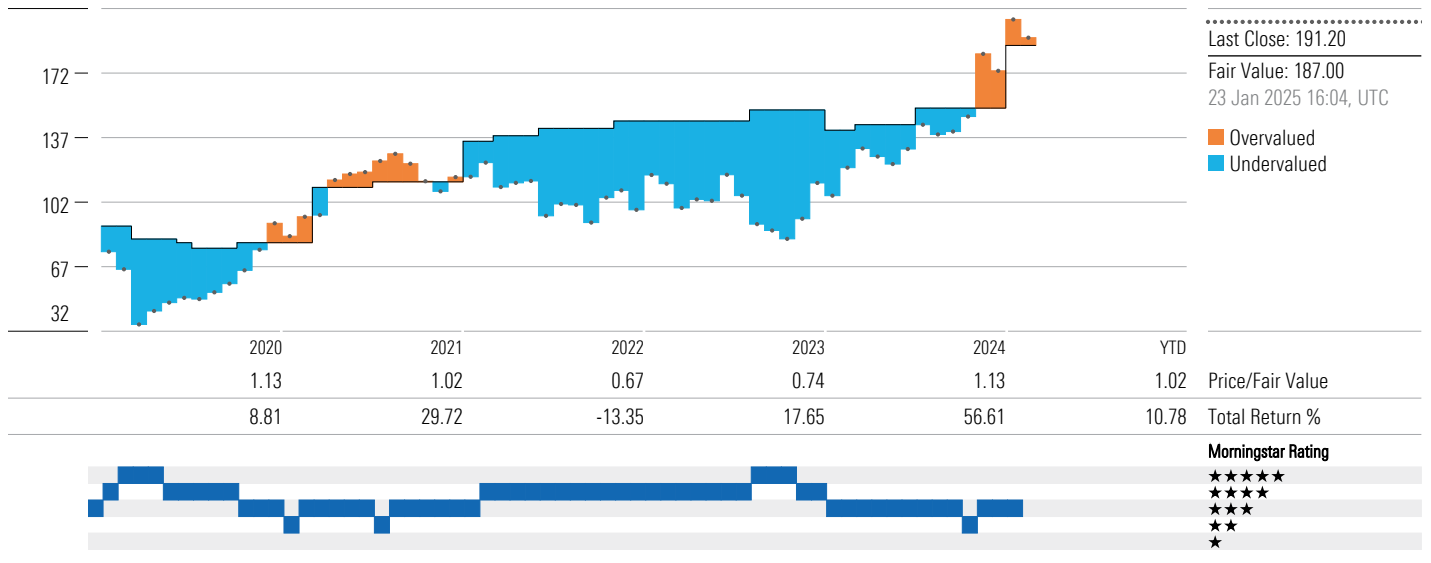
## Competitors Price vs. Fair Value

### American Express Co AXP



Total Return % as of 27 Feb 2025. Last Close as of 27 Feb 2025. Fair Value as of 24 Feb 2025 19:22, UTC.

### Discover Financial Services DFS

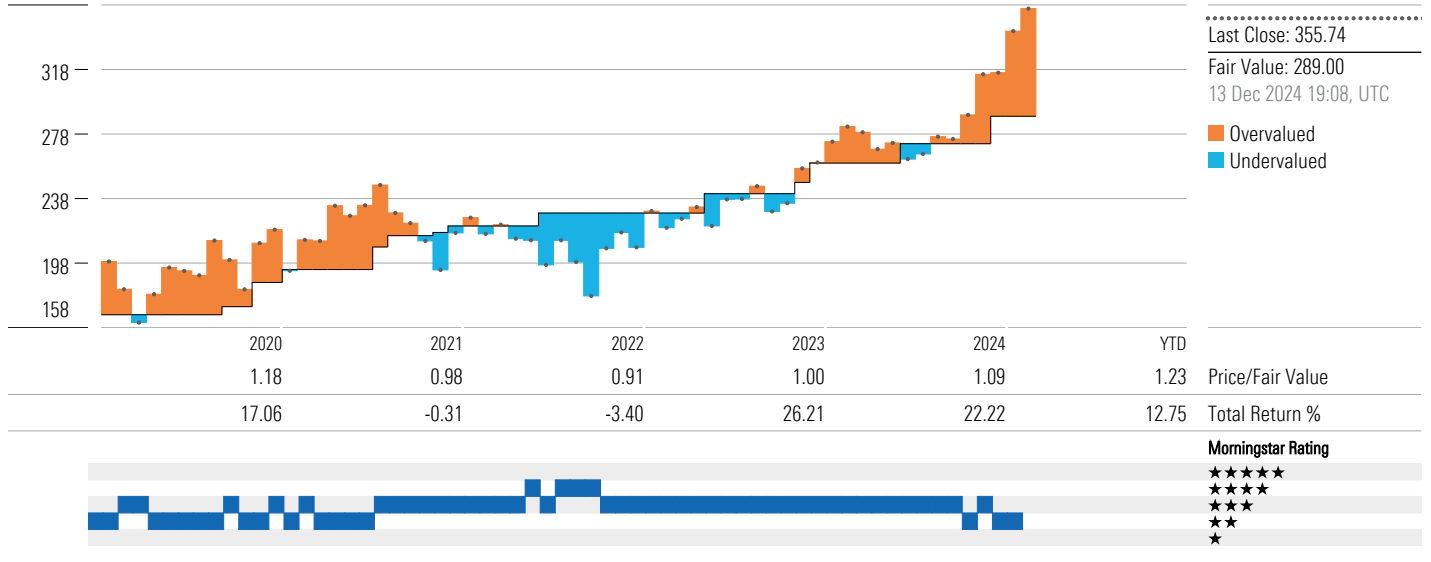


Total Return % as of 27 Feb 2025. Last Close as of 27 Feb 2025. Fair Value as of 23 Jan 2025 16:04, UTC.

# Mastercard Inc Class A MA ★★ 27 Feb 2025 22:31, UTC

## Competitors Price vs. Fair Value

### Visa Inc Class A V



Total Return % as of 27 Feb 2025. Last Close as of 27 Feb 2025. Fair Value as of 13 Dec 2024 19:08, UTC.

# Mastercard Inc Class A MA ★★ 27 Feb 2025 22:31, UTC

<b>Last Price</b> 564.82 USD 27 Feb 2025	<b>Fair Value Estimate</b> 500.00 USD 25 Feb 2025 21:11, UTC	<b>Price/FVE</b> 1.13	<b>Market Cap</b> 514.95 USD Bil 27 Feb 2025	<b>Economic Moat™</b> Wide	<b>Equity Style Box</b> Large Blend	<b>Uncertainty</b> Medium	<b>Capital Allocation</b> Standard	<b>ESG Risk Rating Assessment†</b> 5 Feb 2025 06:00, UTC
--	--	--------------------------	--	-------------------------------	--	------------------------------	---------------------------------------	---

## Morningstar Historical Summary

### Financials as of 31 Dec 2024

Fiscal Year, ends 31 Dec	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	YTD	TTM
Revenue (USD Bil)	9.67	10.78	12.50	14.95	16.88	15.30	18.88	22.24	25.10	28.17	28.17	28.17
Revenue Growth %	2.4	11.5	16.0	19.6	12.9	-9.4	23.4	17.8	12.9	12.2	12.2	12.2
EBITDA (USD Bil)	5.39	6.11	7.11	7.85	10.48	8.72	11.46	12.95	15.01	16.80	16.80	16.80
EBITDA Margin %	55.7	56.7	56.9	52.5	62.1	57.0	60.7	58.3	59.8	59.6	59.6	59.6
Operating Income (USD Bil)	5.06	5.91	6.74	8.37	9.70	8.16	10.23	12.72	14.63	16.33	16.33	16.33
Operating Margin %	52.3	54.9	54.0	56.0	57.4	53.3	54.2	57.2	58.3	58.0	58.0	58.0
Net Income (USD Bil)	3.81	4.06	3.92	5.86	8.12	6.41	8.69	9.93	11.20	12.87	12.87	12.87
Net Margin %	39.4	37.7	31.3	39.2	48.1	41.9	46.0	44.7	44.6	45.7	45.7	45.7
Diluted Shares Outstanding (Mil)	1,137	1,101	1,072	1,047	1,022	1,006	992	971	946	927	927	927
Diluted Earnings Per Share (USD)	3.35	3.69	3.65	5.60	7.94	6.37	8.76	10.22	11.83	13.89	13.89	13.89
Dividends Per Share (USD)	0.64	0.76	0.88	1.00	1.32	1.60	1.76	1.96	2.28	2.64	2.64	2.64

### Valuation as of 31 Jan 2025

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Recent Qtr	TTM
Price/Sales	11.6	10.9	13.7	13.8	18.9	23.1	20.1	15.7	16.7	18.0	18.0	18.3
Price/Earnings	29.9	28.5	35.3	38.2	44.2	53.5	44.2	34.7	37.2	39.8	39.8	40.0
Price/Cash Flow	29.9	25.3	34.5	30.1	46.9	45.2	42.0	30.1	37.0	34.8	34.8	34.8
Dividend Yield %	0.66	0.74	0.58	0.53	0.44	0.45	0.49	0.56	0.53	0.5	0.5	0.49
Price/Book	17.3	18.0	24.8	33.7	60.6	61.3	52.6	52.4	63.3	64.5	64.5	78.1
EV/EBITDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

### Operating Performance / Profitability as of 31 Dec 2024

Fiscal Year, ends 31 Dec	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	YTD	TTM
ROA %	24.1	23.2	19.6	25.4	30.0	20.4	24.4	26.0	27.6	28.4	28.4	28.4
ROE %	59.4	69.5	70.4	107	143	104	126	145	169	192	192.0	192.0
ROIC %	43.9	41.0	36.9	52.0	64.8	39.4	44.9	49.7	54.4	56.7	56.7	56.7
Asset Turnover	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.6	0.6	0.6	0.6	0.6

### Financial Leverage

Fiscal Year, ends 31 Dec	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Recent Qtr	TTM
Debt/Capital %	35.2	47.8	49.8	51.9	59.1	65.3	64.2	68.6	67.4	72.9	72.9	—
Equity/Assets %	37.1	30.3	25.6	21.7	20.2	19.0	19.4	16.3	16.3	13.5	13.5	—
Total Debt/EBITDA	0.6	0.8	0.8	0.8	0.8	1.5	1.2	1.1	1.0	1.1	1.1	—
EBITDA/Interest Expense	88.3	64.4	46.2	42.2	46.8	22.9	26.6	27.5	26.1	26.0	26.0	26.0

## Morningstar Analyst Historical/Forecast Summary as of 25 Feb 2025

Financials	Estimates					Forward Valuation	Estimates					
	2023	2024	2025	2026	2027		2023	2024	2025	2026	2027	
Fiscal Year, ends 31 Dec 2024												
Revenue (USD Mil)	40,279	45,796	51,608	58,193	65,677	Price/Sales	9.9	10.5	10.0	8.8	7.8	
Revenue Growth %	14.0	13.7	12.7	12.8	12.9	Price/Earnings	34.7	36.3	35.5	30.4	26.1	
EBITDA (USD Mil)	15,013	16,797	18,808	21,341	24,401	Price/Cash Flow	—	—	—	—	—	
EBITDA Margin %	37.3	36.7	36.4	36.7	37.2	Dividend Yield %	0.5	0.5	0.5	0.6	0.7	
Operating Income (USD Mil)	14,547	16,262	17,960	20,397	23,348	Price/Book	58.3	75.2	84.9	96.1	94.8	
Operating Margin %	36.1	35.5	34.8	35.1	35.6	EV/EBITDA	27.2	29.0	27.9	24.6	21.5	
Net Income (USD Mil)	11,637	13,448	14,422	16,417	18,610							
Net Margin %	28.9	29.4	28.0	28.2	28.3							
Diluted Shares Outstanding (Mil)	946	927	906	882	860							
Diluted Earnings Per Share(USD)	12.30	14.51	15.93	18.60	21.64							
Dividends Per Share(USD)	2.28	2.64	3.04	3.49	4.02							

# Mastercard Inc Class A MA ★★ 27 Feb 2025 22:31, UTC

<b>Last Price</b> 564.82 USD 27 Feb 2025	<b>Fair Value Estimate</b> 500.00 USD 25 Feb 2025 21:11, UTC	<b>Price/FVE</b> 1.13	<b>Market Cap</b> 514.95 USD Bil 27 Feb 2025	<b>Economic Moat™</b> Wide	<b>Equity Style Box</b> Large Blend	<b>Uncertainty</b> Medium	<b>Capital Allocation</b> Standard	<b>ESG Risk Rating Assessment<sup>1</sup></b> 5 Feb 2025 06:00, UTC
--	--	--------------------------	--	-------------------------------	--	------------------------------	---------------------------------------	--

## ESG Risk Rating Breakdown

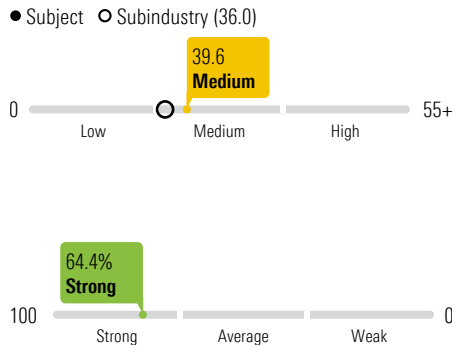
### Exposure

Company Exposure <sup>1</sup>	39.6
– Manageable Risk	36.5
<b>Unmanageable Risk<sup>2</sup></b>	<b>3.1</b>

### Management

Manageable Risk	36.5
– Managed Risk <sup>3</sup>	23.5
<b>Management Gap<sup>4</sup></b>	<b>13.0</b>

**Overall Unmanaged Risk 16.1**



- ▶ 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 64.4% 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<sup>5</sup>



ESG Risk Rating is of Feb 05, 2025. Highest Controversy Level is as of Feb 08, 2025. Sustainalytics Subindustry: Data Processing. 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/](https://sustainalytics.com/esg-ratings/).

## Peer Analysis 05 Feb 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
<b>Mastercard Inc</b>	39.6   Medium 0 —●— 55+	64.4   Strong 100 —●— 0	16.1   Low 0 —●— 40+
American Express Co	39.2   Medium 0 —●— 55+	56.6   Strong 100 —●— 0	18.3   Low 0 —●— 40+
The Western Union Co	34.3   Low 0 —●— 55+	53.3   Strong 100 —●— 0	17.4   Low 0 —●— 40+
Discover Financial Services	36.4   Medium 0 —●— 55+	39.4   Average 100 —●— 0	22.8   Medium 0 —●— 40+
Visa Inc	36.8   Medium 0 —●— 55+	63.2   Strong 100 —●— 0	15.4   Low 0 —●— 40+

# Appendix

## Historical Morningstar Rating

### Mastercard Inc Class A MA 27 Feb 2025 22:31, 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
★★	★★	★★★	★★	★★	★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★

### American Express Co AXP 27 Feb 2025 22:28, 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
★★★★	★★★★	★★★★★	★★★★	★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★	★★★★

### Discover Financial Services DFS 27 Feb 2025 22:31, 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
★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★★	★★★★★	★★★★★	★★★★	★★★★

**Visa Inc Class A V** 27 Feb 2025 22:34, 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 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 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 workingcapital accounts, and capital spending. Based on these projections, we calculate earnings before interest, after taxes (EBI) 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 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





# 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	★★★★★ 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.

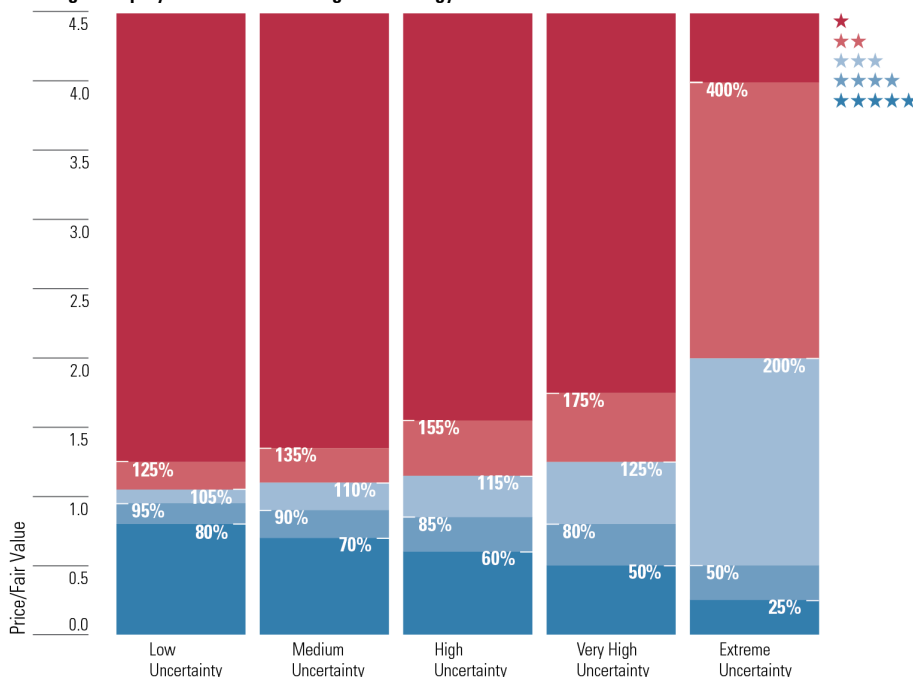
## 4. Market Price

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 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-

© Morningstar 2025. All Rights Reserved. Unless otherwise provided in a separate agreement, you may use this report only in the country in which its original distributor is based. The information, data, analyses and opinions presented herein do not constitute investment advice; are provided solely for informational purposes and therefore are not an offer to buy or sell a security; and are not warranted to be correct, complete or accurate. The opinions expressed are as of the date written and are subject to change without notice. Except as otherwise required by law, Morningstar shall not be responsible for any trading decisions, damages or other losses resulting from, or related to, the information, data, analyses or opinions or their use. The information contained herein is the proprietary property of Morningstar and may not be reproduced, in whole or in part, or used in any manner, without the prior written consent of Morningstar. Investment research is produced and issued by subsidiaries of Morningstar, Inc. including, but not limited to, Morningstar Research Services LLC, registered with and governed by the U.S. Securities and Exchange Commission. To order reprints, call +1 312-696-6100. To license the research, call +1 312-696-6869. Please see important disclosures at the end of this report.



# 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/](https://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 ad-

vice 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](http://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.