

Total Return % as of 21 Jan 2025. Last Close as of 21 Jan 2025. Fair Value as of 22 Jan 2025 21:38, UTC

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Meta: Uncertainty Around TikTok's Future in the US Should

Benefit Meta's Ad Sales

Analyst Note Malik Ahmed Khan, CFA, Equity Analyst, 22 Jan 2025

Over the past week, there has been a lot of uncertainty around TikTok's future in the US, with a Supreme Court decision that upheld a TikTok ban followed by President Trump's executive order granting TikTok a 75-day extension to either sell 50% of its platform to US investors or face a ban.

Why it matters: TikTok is an incredibly popular social media platform, with more than 170 million users in the US. While lower than Meta's 70%, TikTok has a respectable 15% market share of US social media ad spending, larger than peers such as Snap, Reddit, and Pinterest.

► We believe Meta's Reels and YouTube's Shorts are the most obvious beneficiaries of any user or advertiser shift away from TikTok. We saw both products gain material user engagement following the TikTok ban in India in 2020 and foresee a similar trend if TikTok is banned in the US.

► Short-form video is a fast-growing and popular medium, with its proliferation particularly strong in younger demographics. Advertisers targeting this medium may be put off by the uncertainty around TikTok's future and divert their dollars to other short-form video products like Reels and Shorts.

The bottom line: We are raising our fair value estimate for wide-moat Meta to \$590 from \$560 as we incorporate slightly stronger US advertising revenue for upcoming 2025 primarily due to advertisers looking to spread some of their TikTok ad budgets elsewhere.

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	Last Price 616.46 USD 21 Jan 2025	Fair Value Estimate 590.00 USD 22 Jan 2025 21:38, UTC	Price/FVE 1.04	Market Cap 1.57 USD Tril 22 Jan 2025	Economic Moat™ ♥ Wide	Equity Style Box	Uncertainty High	Capital Allocation Standard	ESG Risk Rating Assessment ¹ (i) (i) (i) (i) (i) 1 Jan 2025 06:00, UTC
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Sector	Industry
Communication Servio	Internet Content &
	Information

Business Description

Meta is the largest social media company in the world, boasting close to 4 billion monthly active users worldwide. The firm's "Family of Apps," its core business, consists of Facebook, Instagram, Messenger, and WhatsApp. End users can leverage these applications for a variety of different purposes, from keeping in touch with friends to following celebrities and running digital businesses for free. Meta packages customer data, gleaned from its application ecosystem and sells ads to digital advertisers. While the firm has been investing heavily in its Reality Labs business, it remains a very small part of Meta's overall sales. Our base case incorporates TikTok remaining operational in the US, likely through a 50% sale to a USbased company.

► If ByteDance, TikTok's parent company, does not come to an agreement with the US regarding TikTok's future in the next 75 days, resulting in a TikTok ban, we'd expect a more material flow of ad dollars and users toward Meta, resulting in an additional 20% fair value increase.

Coming up: Meta reports fourth-quarter earnings on Jan. 29. We expect management to provide commentary on changes in ad demand stemming from uncertainty around TikTok's future in the US.

Business Strategy & Outlook Malik Ahmed Khan, CFA, Equity Analyst, 22 Jan 2025

We view Meta as the clear leader in social media. The firm's application lineup, which includes Facebook, Instagram, WhatsApp, and Messenger, has close to 4 billion monthly active users, giving Meta unmatched scale in the sector.

The firm's strategy is dual-pronged. On the user side, Meta has leveraged its scale and social media savvy to iteratively improve its product lineup, adding attractive features such as Stories, Reels, and even new products such as Threads. Such improvements/additions not only improve user engagement, but also allow Meta to monetize these features/products by layering advertisements onto them.

On the advertising side, Meta allows advertisers of all shapes and sizes to place ads in front of engaged users. The company has benefited greatly from a general shift toward digital advertising within the broader advertising market, with social media advertising gaining substantial share, especially since the covid-19 pandemic. To bolster its advertising business, Meta has invested heavily to improve its ad-targeting algorithms, allowing it to improve its advertisers' return on ad spending and increasing its average revenue per user over time.

While the firm's core business remains advertising, Meta has shown a proclivity to expand beyond its ad-based revenue model by investing heavily in hardware, via Reality Labs, and AI, by investing in its own Llama large language model. While the firm's investments in Reality Labs have been demonstrably unprofitable, we are more optimistic about Meta's investments in AI. We believe Meta's AI investments, especially those aimed at improving the firm's ad-targeting algorithms, are value-accretive.

Beyond ad-targeting, Meta is also investing in consumer-facing AI, via its Llama chatbot, which is accessible to users across its applications. While a monetization strategy for this chatbot remains elusive in the near term, we believe the firm could drive increased user engagement/time spent by allowing its users access to a chatbot assistant within Meta's applications.

Bulls Say Malik Ahmed Khan, CFA, Equity Analyst, 22 Jan 2025

Meta's core advertising business has benefited greatly through improved ad targeting and content

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Last Price 616.46 USD 21 Jan 2025	D 590.00 USD 1.04 1.57 U				Equity Style Box			ESG Risk Rating Assessment	
Competitors									
	Meta Platforms Ir	nc Class A META	Alphabet	Inc Class A GOOGL	Snap Inc Class	SNAP	Pinterest	Inc Class A PINS	
	Last Cl 616.4 Fair Va 590.0 Uncerta	6 Ilue		Fair Value 220.00 Uncertainty : Medium Last Close 198.05		tainty: Very High		Fair Value 43.00 Uncertainty: Very High Last Close 32.07	
Economic Moat	🙄 Wide		🙄 Wid	le	🖱 None			row	
Currency	USD		USD		USD		USD		
Fair Value	590.00 22 Jan	590.00 22 Jan 2025 21:38, UTC		30 Oct 2024 02:50, UTC	12.00 21 Oct	2024 15:45, UTC	43.00 9	Feb 2024 12:44, UTC	
1-Star Price	914.50	914.50		297.00		21.00		75.25	
5-Star Price	354.00	354.00		154.00			21.50		
Assessment	Fairly Valued 2	Fairly Valued 22 Jan 2025		Undervalued 22 Jan 2025		Fairly Valued 22 Jan 2025		Undervalued 22 Jan 2025	
Morningstar Rating	★★★22 Jan 2	★★★22 Jan 2025 21:44, UTC		21 Jan 2025 22:40, UT	; ★★★21 Jan	★★★21 Jan 2025 22:56, UTC		★★★★21 Jan 2025 22:53, UTC	
Analyst	Malik Ahmed K	Malik Ahmed Khan, Equity Analyst		hmed Khan, Equity Ana	st Malik Ahmed Khan, Equity Analyst		nalyst Malik A	st Malik Ahmed Khan, Equity Analyst	
Capital Allocation	Standard		Exempla	ary	Standard		Standar	Standard	
Price/Fair Value	1.04		0.90		0.88	0.88		0.75	
Price/Sales	10.35		7.29		3.37	3.37		6.42	
Price/Book	9.46		7.73		7.99	7.99			
Price/Earning	28.93		26.83			_			
Dividend Yield	0.32%		0.30%		0.00%	0.00%			
Market Cap	1,574.02 Bil		2,428.2	5 Bil	17.54 Bil		21.38 B	il	
52-Week Range	381.16-638.4	0	130.67 -	-201.42	8.29 — 17.50		27.00-	45.19	
Investment Style	Large Blend		Large B	end	Mid Growth		Mid Gro	owth	

recommendation algorithms as well as a secular increase in digital advertising spending.

- Meta's scale, with the majority of the world's internet-connected users accessing its applications, allows it access to high-quality user data which it can package and sell to advertisers.
- The firm has an opportunity to drive more ad inventory growth, leveraging new products such as Threads while also improving its monetization of ads on more nascent features such as Stories and Reels.

Bears Say Malik Ahmed Khan, CFA, Equity Analyst, 22 Jan 2025

- Meta's investments in Reality Labs and generative AI stand to lose the firm billions of dollars annually, taking some of the shine off its overall business.
- The firm has a monopoly case against it in the US which could potentially force it to break up, severing some of the scale advantages it has built up over time.
- Meta has disproportionately benefited from increased ad spending by Chinese retailers including Temu

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Last Price 616.46 USD ^{21 Jan 2025}	Fair Value Estimate 590.00 USD 22 Jan 2025 21:38, UTC	Price/FVE 1.04	Market Cap 1.57 USD Tril 22 Jan 2025	Economic Moat™ Ш Wide	Equity Style Box	Uncertainty High	Capital Allocation Standard	ESG Risk Rating Assessment ¹
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and Shein. A slowdown in spending by these firms could hit Meta's growth.

Economic Moat Malik Ahmed Khan, CFA, Equity Analyst, 22 Jan 2025

We believe Meta merits a wide economic moat rating due to the firm's intangible assets and the potent network effect around its Family of Apps business. While the firm's Reality Labs segment continues to hemorrhage cash, we believe Meta's FoA business' strong competitive advantages will likely allow the firm to generate returns in excess of its cost of capital over the next two decades.

Family of Apps

We assign a wide moat rating to Meta's Family of Apps, or FoA, business segment. We believe that the firm has built significant intangible assets, primarily via the customer data it collects and a potent network effect that has enabled Meta to be the most dominant social media platform in the world.

Meta's FoA segment includes revenue from its social media applications including Facebook, Instagram, WhatsApp, and Messenger. The firm's dominance in social media is evidenced by its four primary applications constituting four of the six most popular social media applications globally. Also, Meta's scale in the social media business is staggering. Almost 4 billion people use at least one of its applications every month. For context, according to various estimates, a little more than 5 billion people in the world have access to the internet, implying that around 75% of people connected to the internet globally are users of Meta's applications.

The vast majority of Meta's massive user base across its application ecosystem uses its applications free of charge. Instead of paying Meta a subscription fee to use its applications, they provide Meta with an audience that it can sell advertisements to. Meta can accumulate data on users, such as demographic information, likes/dislikes, and topics of interest to feed into its advertising engine, which lets advertisers target ads placed on Meta's properties.

We view Meta's collection, storage, and subsequent monetization of this rich, high-quality data as an intangible asset that provides the firm with a meaningful competitive advantage over other social media platforms and advertising venues. This data, and the ad technology and algorithms built on top of it, provide Meta a peerless position when it comes to monetizing its large user base. Further, as Meta's data collection and ad-targeting algorithms have gotten better, the firm has also flexed its pricing power. A prime example of this pricing power, and the increasingly strong value proposition the firm offers advertisers, is the rapid growth in Meta's average ad revenue per user, which has increased to more than \$40 globally at the end of 2023 from around \$25 in 2018.

Further, Meta's ad-targeting and content recommendation algorithms improve as more users give it their data by using its applications. This dynamic creates a potent network effect with the value of its application ecosystem increasing as more people use it. These network effects serve to create barriers



Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat [™]		Uncertainty	Capital Allocation	ESG Risk Rating Assessment ¹
616.46 USD 21 Jan 2025	590.00 USD 22 Jan 2025 21:38, UTC	1.04	1.57 USD Tril 22 Jan 2025	凹 Wide	📕 Large Blend	High	Standard	() () () () () 1 Jan 2025 06:00, UTC

to success for new social network upstarts, who would start off subscale, as well as barriers to exit for existing users who might leave behind friends, contacts, pictures, memories, and more by completely departing to alternative applications such as Snapchat or TikTok.

Meta has leveraged its scale and large installed base to create new avenues of user engagement that directly compete with applications that stand to threaten its social media dominance. When threatened by Snapchat, Meta launched Stories, a Snapchat copycat, that allows FoA users to post short picture or video collections that disappear after 24 hours. Similarly, when threatened by TikTok and its engaging short-form video content, Meta rolled out Reels, a short-form video offering nearly identical to TikTok.

While Stories and Reels can be seen as defensive maneuvers aimed to keep users on Meta's applications, Meta has demonstrated its ability to use this copycat model as an offensive, land-grab strategy as well. When Twitter/X was undergoing substantial turmoil following Elon Musk's takeover of the platform, Meta launched Threads, a Twitter/X copycat. In all three cases, Stories, Reels, and Threads, Meta has been able to create strong, monetizable products that have hundreds of millions of users across them. We believe Meta's ability to weaponize its scale as a competitive advantage makes the economic moat around its business more durable.

Meta's scale is also important when contextualizing the firm's ongoing investments in Al. Meta's capital expenditure, mostly on data centers equipped with expensive graphics processing units, has led investors to question whether the firm's investments in Al will yield meaningful results and generate returns in excess of the firm's cost of capital. When discerning the impact of these Al investments on Meta's return on invested capital profile and its durable competitive advantage and differentiation, we see positives and negatives.

On the positive side, the firm could leverage AI to improve its ad tech business, improving advertiser ROI and encouraging more ad dollars to be spent on its platform. Investments in AI that serve this end are, in our view, explicitly value-accretive. By investing within its moat, Meta could leverage its AI infrastructure to further pull away from competition by driving a higher ad revenue per user in its highly profitable ad business. However, investments to drive better ad targeting are nothing new. Also, the firm's AI investments could be leveraged to drive more engaging content for its end users on Facebook and Instagram. Again, such investments in better user engagement are ultimately value-accretive as they increase Meta's value to advertisers who can place ads for more engaged users.

On the other hand, the firm's investments in generative AI and its push to have Llama as the chatbot of choice for its users don't inspire the same confidence in us. First, the firm lacks any meaningful monetization strategy around its chatbot. We understand that if users have a competent chatbot within their Meta application of choice they don't need to leave Meta's properties, boosting time spent on Meta's application ecosystem. However, at the same time we'd imagine it'd be significantly cheaper for



Meta to have a licensing agreement with a company like OpenAl/Anthropic/Perplexity, which could provide Meta with chatbots that would have the same end user-engagement result.

Also, we see the investments that public cloud vendors are making in Al as beneficial for public cloud infrastructure providers like Amazon, Microsoft, and Alphabet. Meta, on the other hand, does not have a presence in the public cloud market and isn't planning to become a public cloud vendor either. As a result, it strikes us as odd that the company would invest billions of dollars in developing a technology that doesn't have an obvious monetization strategy behind it. In sum, while we like Meta's investments in Al as they relate to the firm's core advertising business, we remain skeptical of the long-term value added by the firm's investments in user-facing chatbots.

Reality Labs

We believe Meta's Reality Labs business merits a no moat rating. While the firm's investments in metaverse and virtual/augmented reality could lead to profitable growth in the future, the segment continues to burn capital for Meta, with the segment's operating losses exceeding \$16 billion in 2023. Due to its insignificant size, as a proportion of Meta's overall business, it does not preclude us from viewing the overall firm as having a wide moat.

Fair Value and Profit Drivers Malik Ahmed Khan, CFA, Equity Analyst, 22 Jan 2025

Our fair value estimate for Meta is \$590 per share, implying a 2024 adjusted price/earnings multiple of 26 times and an enterprise value/adjusted EBITDA multiple of 14 times.

We forecast Meta's sales growing at a 13% compound annual growth rate for the next five years, spearheaded primarily by an increase in average revenue per user, with user growth also chipping in.

Drilling deeper, we believe Meta has a strong monetization opportunity ahead of it in Asia and the rest of the world. While we expect advertising sales from North America and Europe to grow steadily, we believe increasingly affluent and growing middle classes in Asia, Africa, and the Middle East will allow Meta to improve its ad monetization in those regions, lifting its overall top line.

While we expect Reality Labs sales to grow at a double-digit rate over the next five years, we believe Meta's advertising juggernaut will remain the primary driver of its business and intrinsic value over our explicit forecast.

On the profitability side, we remain impressed by Meta's ability to drive efficiency across its operational footprint, with the firm's 2024 operating margins expected to be close to 40%, up from the 2022 nadir of 25%. Looking ahead, we believe that the firm's profitability will slightly improve, with operating margins rising to 42% over our explicit five-year forecast as increased efficiency and strong topline growth more than offset expanding investments in areas such as Generative AI and Reality Labs.



616.46 USD 590.00 USD 1.04 1.57 USD Tril 🜑 Wide 🆽 Large Blend High Standard	ESG Risk Rating Assessment ¹
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Risk and Uncertainty Malik Ahmed Khan, CFA, Equity Analyst, 22 Jan 2025

We assign Meta a Morningstar Uncertainty Rating of High. We believe Meta's investments in unprofitable ventures such as generative AI and Reality Labs add a layer of uncertainty around its business, even as its large and stable advertising business continues to generate substantial cash flows in our forecast.

As we look ahead, we believe Meta's considerable scale and intangible assets, such as its ad-targeting algorithms, will most likely enable the firm to maintain its dominance in the social media application space. While there are antitrust concerns around Meta's business, with US antitrust regulators pursuing a monopoly case against the firm, we view an often-hypothesized breakup of Meta's applications into separate businesses as unlikely. At the same time, there is headline risk that the firm faces as the case moves through the courts with a trial likely starting in 2025.

Beyond advertising, Meta's investments in Reality Labs and generative AI, primarily via its Llama LLM, add uncertainty to the firm's overall business. Along with losing Meta billions of dollars every year, a profitable monetization strategy for both investments remains elusive. While the firm has shown a panache of proving investors and analysts wrong with large business decisions in the past, we remain uncertain about the long-term value accretion these investments stand to provide Meta.

The firm's high dependence on user behavior data represents an environmental, social, and governance risk. If it fails to maintain adequate data privacy and security, Meta's advertising business will likely suffer. Also, the broader impact of social media on its users' mental health, especially that of teenagers, is also a pertinent ESG risk for Meta. There appears to be bipartisan support in the US for increased regulation of social media platforms that could include forcing Meta to change its content recommendation algorithms, potentially hitting the firm's advertising business.

Capital Allocation Malik Ahmed Khan, CFA, Equity Analyst, 22 Jan 2025

We assign Meta a Standard Morningstar Capital Allocation Rating based on its sound balance sheet, fair investments, and appropriate shareholder distributions.

Meta's balance sheet remains enviable, especially given that digital advertising has not been very cyclical thus far. Meta's leverage ratios remain exceptionally strong, with \$47 billion in net cash and cash equivalents as of the end of 2023.

Meta's research and development investments over the past decade have largely been value-accretive as the firm has been able to drive user growth while also improving monetization across its applications. While some recent R&D investments, particularly in Reality Labs, have been more questionable, we find the firm's internal investment strategy solid. With its large amount of cash, Meta is well positioned to make additional investments primarily by building out new features and products that drive increased



Last PriceFair Value EstimatePrice/FVEMarket CapEconomic Moat™Equity Style616.46 USD590.00 USD1.041.57 USD Tril© WideImage: Large21 Jan 202522 Jan 2025 21:38, UTC22 Jan 202522 Jan 2025Image: Large	
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user engagement.

Coupled with investments within the business, previous acquisitions have strengthened the firm's network effect moat source and accelerated top-line growth, most notably including Instagram and WhatsApp. The management team — more specifically, founder and CEO Mark Zuckerberg — has demonstrated its focus on long-term returns on investments, which we view as positive.

However, at the same time we believe that combative antitrust regulators scrutinizing Meta's every move and an ongoing monopoly case against the firm make it unlikely that Meta will be able to engage in any blockbuster mergers and acquisitions in the near future.

We also applaud management's walled-garden strategy as it continues to protect the firm's most valuable asset, its user base and usage data. However, the US and other governments around the world may also impose restrictions on Meta's use of user data. Management has responded well as it continues to increase its influence in Washington, D.C.

In terms of shareholder distributions, Meta declared a dividend for the first time in the first quarter of 2024. The firm has repurchased shares consistently, spending \$44.5 billion, \$28 billion, and \$19.8 billion in 2021, 2022, and 2023, respectively. It had \$81 billion authorized for additional repurchases as of the end of 2023.

Our main knock on Meta's management is its use of a multiple share class structure that may limit the voice of minority shareholders. This has become more of an issue given how Meta is addressing data privacy and security, which has led to some shareholders wanting to reduce Zuckerberg's control of the company. Some continue to believe that Zuckerberg's control of Meta creates a conflict of interest, allowing him to pursue passion projects whether or not they have the potential to generate exceptional returns for shareholders.

Analyst Notes Archive

Meta Earnings: Powerful Advertising Engine Continues to Chug Along Malik Ahmed Khan, CFA, Equity Analyst, 31 Oct 2024

Meta reported strong third-quarter financial results, with revenue growing 19% year over year to \$41 billion. Profitability also improved, with operating margins expanding 300 basis points from a year ago to 43%. Capital expenditures remain elevated due to heavy artificial intelligence investment. Why it matters: Meta's advertising juggernaut produced another solid quarter, with ad impressions and average price per ad both up year over year. Management called out its investments in generative AI, or GenAI, as also value-accretive by improving user engagement and monetization. Ad impressions and average price per ad increased 7% and 11% year over year, respectively. The firm saw broad-based strength, with ad impressions and prices growing across geographies. More than 500 million people are using Meta's chat assistant within its applications. We were encouraged to see management call out



improvements in user engagement stemming from increased usage of the chat assistant. The bottom line: We maintain our \$560 fair value estimate for wide-moat Meta, and we continue to view the firm as well positioned to leverage AI to improve user engagement and user monetization. With Meta's shares trading slightly down after hours, we view them as fairly valued. While Meta's investments in GenAI have raised eyebrows, we reiterate our belief that their true value will manifest itself in Meta's core advertising product. We believe ad campaigns on Meta can derive greater value using GenAI tools, which Meta can capture via its potent monetization engine. At the same time, we expect near-term margins to remain pressured as Meta's capital expenditures flow through its income statement as depreciation charges and it continues to spend heavily on AI talent.

Meta: Firm's Scale and Prowess in Digital Advertising Is Hard to Match Malik Ahmed Khan, CFA,Equity Analyst, 19 Sep 2024

We are raising our fair value estimate for wide-moat Meta to \$560 from \$450 after taking a fresh look at the firm's overall business and incorporating a more optimistic outlook on the firm's investments in artificial intelligence, especially as they relate to Meta's ability to improve its ad-targeting business. While the firm's investments in AI could potentially improve its core business, we remain pessimistic on the long-term value created by Meta's investments in its Reality Labs division and are reducing our Morningstar Capital Allocation Rating to Standard from Exemplary.We view Meta as the clear leader in social media. The firm's application lineup, which includes Facebook, Instagram, WhatsApp, and Messenger, has close to 4 billion monthly active users, giving Meta unmatched scale in the space. The firm's strategy is two-pronged. On the user side, Meta has leveraged its scale and social media savvy to improve its product lineup, adding features such as Stories, Reels, and even new products such as Threads. Such enhancements and additions not only improve user engagement, but also allow Meta to grow revenue by layering ads onto them. On the ad side, Meta allows advertisers of all shapes and sizes to place ads in front of engaged users. The company has benefited greatly from a general shift toward digital advertising within the broader advertising market, with social media advertising gaining substantial share, especially since the covid-19 pandemic. To bolster its ad business, Meta has invested heavily in improving its ad-targeting algorithms, allowing it to improve advertisers' returns on ad spending and increasing its average revenue per user over time. We forecast Meta's sales growing at a 12% compound annual growth rate for the next five years, spearheaded primarily by an increase in average revenue per user with user growth also chipping in. We believe Meta has a strong opportunity ahead in Asia and the rest of the world.

Meta Earnings: Strong Advertising Demand Drives Impressive Cash Flow Despite Ramping Investments Michael Hodel, CFA,Director,1 Aug 2024

Meta continues to deliver solid results amid strong digital advertising demand while investing aggressively in Al-related infrastructure, technology, and products. The firm tightened its capital

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spending forecast to the upper end of its previous expectations and said that investment growth will be "significant" in 2025. Meta reiterated that it believes the computing capacity it is building can be used for various tasks, with the flexibility to shift wherever the best opportunities emerge, a similar view that Alphabet has shared. We aren't convinced Meta will earn strong returns on its infrastructure investment, but we expect the firm will continue to generate strong cash flow regardless of the direction AI takes. We were also pleased the firm maintained its expense forecast for the year. We are increasing our fair value estimate to \$450 from \$400. Revenue increased 22% to \$39.1 billion during the second guarter, beating the high end of management's forecast. User growth slowed a bit, with daily family-of-apps users expanding less than 1% sequentially for the first time in two years, reaching 3.27 billion. Ad impression growth slowed sharply to 10% year over year from 20% last quarter, but this deceleration primarily reflects a surge in impressions last year - volume growth on a two-year and three-year basis has held fairly steady over the past several quarters. Ad pricing was impressive, increasing 10% year over year. Meta indicated that ad demand was broad-based across geographies and industries, but again pointed to strong demand among retailers, especially those based in Asia, as the biggest growth driver. The operating margin held steady with the prior quarter at 38%, up from 29% a year ago, thanks to lower restructuring costs and operating leverage against R&D, marketing, and overhead costs. While capital investment increased to \$8.2 billion from \$6.1 billion a year ago, free cash flow increased nearly 20% to \$13.2 billion during the quarter.

Meta Earnings: Another Potential Investment Surge Overshadows Solid Growth Michael Hodel, CFA, Director, 25 Apr 2024

Meta posted a solid first quarter, with revenue growth and management's second-quarter outlook — while modestly disappointing relative to FactSet consensus — putting the firm on a path to exceed our 2024 revenue expectations. However, the firm increased its budget for both full-year operating expenses and capital spending, with CEO Mark Zuckerberg convinced that the firm should "invest significantly more in the coming years" into artificial intelligence. Zuckerberg expects a big step up in investment before AI services generate meaningful direct revenue. After accounting for faster revenue and expense growth in our forecast, we're leaving our fair value estimate at \$400 per share. With the selloff following the earnings release, we believe the shares are fairly valued. Total revenue increased 27% to \$36.5 billion during the first quarter, with growth accelerating across geographies. Meta served 3.24 billion daily users across its apps during the quarter, up 7% versus a year ago. The volume of ads delivered increased 20% year over year, indicating continued strong growth in engagement thanks to improving content recommendations, a practical benefit of recent Al investment. Meta indicated that more than 50% of the content delivered on Instagram and 30% on Facebook is now Al-recommended. Ad pricing increased 6% year over year, showing continued acceleration from the fourth quarter after nearly two years of declines as advertiser demand remains strong. Operating expenses increased 6% compared with a year ago, with headcount increasing for the second

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610.40 0SD 590.00 0SD 1.04 1.57 0SD Fill Earge Biend Fight Standard Write 21 Jan 2025 22 Jan 2025 21:38, UTC 22 Jan 2025 1 Jan 2025 06:00, UTC 1 Jan 2025 06:00, UTC	Last Price 616.46 USD 21 Jan 2025	Fair Value Estimate 590.00 USD 22 Jan 2025 21:38, UTC	Price/FVE 1.04	Market Cap 1.57 USD Tril 22 Jan 2025	Economic Moat™ () Wide	Equity Style Box	Uncertainty High	Capital Allocation Standard	ESG Risk Rating Assessment ¹
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consecutive quarter. The operating margin expanded to 38% from 25% a year ago. Meta now expects operating expenses to total \$96 billion-\$99 billion this year, raising the low end of the range of its prior forecast from \$94 billion. Capital spending is expected in the range of \$35 billion-\$40 billion, up from \$30 billion-\$37 billion previously, and the firm again said that it plans to increase spending further in 2025.

Meta Earnings: Wide-Moat Meta Surpassed Expectations Again, but the Shares Are Overvalued Ali Mogharabi, Senior Equity Analyst, 2 Feb 2024

We are increasing our Meta fair value estimate significantly to \$400 from \$322, as we are more optimistic about its profit margin expansion. Meta's fourth-quarter results showed strong network effects, which attracted more users and increased engagement while allowing it to sell more ads at higher prices with lower user and advertiser acquisition costs, impressively expanding margins. We also commend Meta for instituting a dividend alongside share buybacks. However, we think the stock remains overvalued. Meta's advertising growth may benefit in 2024 from easier comparisons and political ad spending, but we foresee a slowdown in 2025-28 as economic growth moderates. The traditional drivers of digital ad spending growth, such as online users and mobile expansion, are less influential. Innovations like artificial intelligence may improve ad effectiveness and efficiency but won't significantly accelerate spending growth in our view. While digital ad spending grew around 20% annually over the past 25 years, overall ad spending increased by just 4% yearly, staying within 1%-1.6% of gross domestic product. We think it will remain at the midpoint of this range through 2028. We are also cautious of increased geopolitical risks, especially Meta's growing reliance on Chinese businesses, which contributed 10% of its fourth-quarter revenue. This demand could decline amid China's economic uncertainties and rising Middle East tensions, potentially affecting supply chains. In addition, Meta and its peers continue to face pressure from regulators in the U.S. and international markets regarding data access and usage and censorship of content, all of which could affect user interaction and demand from advertisers. Total fourth-guarter revenue of \$40 billion was up 25% from last year, driven by both advertising revenue (up 24%) and reality labs (up 54%), which was helped by strong Holiday sales of Quest 2 and Quest 3. Operating margin expanded to 41% from 20% last year.

Meta Earnings: Still Impressive but the Shares Remain Fairly Valued Ali Mogharabi, Senior Equity Analyst, 26 Oct 2023

Meta continues its leadership in social media advertising, with third-quarter numbers demonstrating strength on all fronts: user growth, engagement, and monetization with a leaner operation. Reels keeps attracting more advertisers and its impact on Meta's advertising revenue is now neutral, unlike its negative effect in the past. The impressive results also display Meta's success in creating better data analytics, campaign planning, and measurement tools using artificial intelligence. While we remain confident about a soft landing in the economy, we are a bit concerned that higher spending by Chinese

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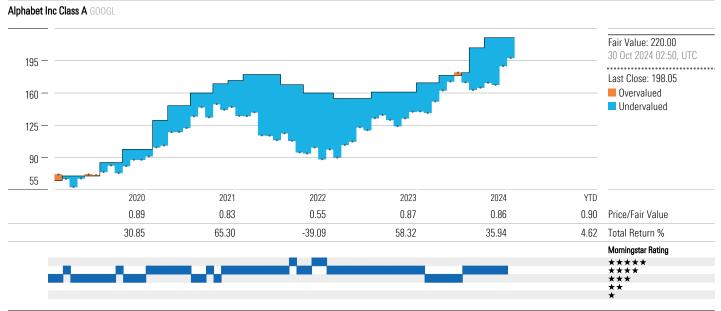
	Last Price 616.46 USD 21 Jan 2025	Fair Value Estimate 590.00 USD 22 Jan 2025 21:38, UTC	Price/FVE 1.04	Market Cap 1.57 USD Tril 22 Jan 2025	Economic Moat™ () Wide	Equity Style Box	Uncertainty High	Capital Allocation Standard	ESG Risk Rating Assessment ¹
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businesses is a primary ad revenue growth driver. This adds more geopolitical risk given the questions surrounding the U.S. and China relationship, which could affect product shipments and thereby lower ad demand. However, we also think that Meta's strong network effect will keep attracting direct-response ads, which are affected a bit less by economic instability and geopolitical issues.Given Meta's impressive operating efficiency in the third quarter, which the firm expects will continue into 2024, plus our expectation of low-double-digit average revenue growth during the next five years, we have slightly upped our operating margin assumption, lifting our fair value estimate to \$322 from \$311. The shares of wide-moat Meta remain fairly valued. Total revenue increased 23% from last year to \$34.1 billion, driven mainly by growth in advertising. With a smaller headcount, lower spending on sales and marketing, and a decline in general and administrative expenses due to lower legal costs, the non-GAAP operating margin, which excludes restructuring charges, expanded impressively to over 41% from 22% last year.

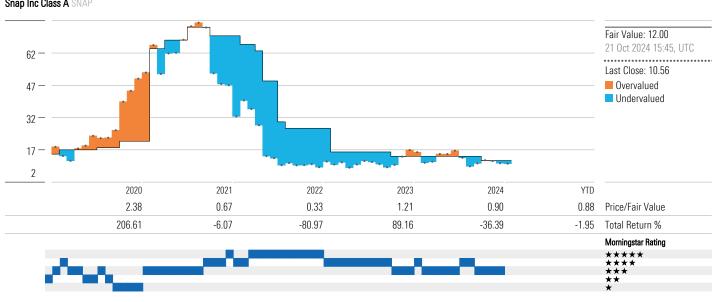
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Competitors Price vs. Fair Value



Total Return % as of 21 Jan 2025. Last Close as of 21 Jan 2025. Fair Value as of 30 Oct 2024 02:50, UTC



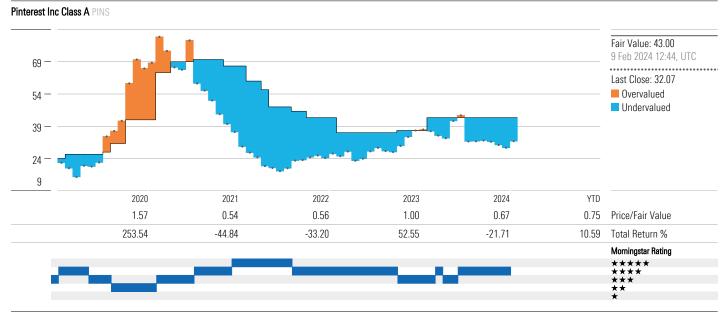
Snap Inc Class A SNAP

Total Return % as of 21 Jan 2025. Last Close as of 21 Jan 2025. Fair Value as of 21 Oct 2024 15:45, UTC.

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Competitors Price vs. Fair Value



Total Return % as of 21 Jan 2025. Last Close as of 21 Jan 2025. Fair Value as of 9 Feb 2024 12:44, UTC.

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Last Price 616.46 USD ^{21 Jan 2025}	Fair Value Estimate 590.00 USD 22 Jan 2025 21:38, UTC	Price/FVE 1.04	Market Cap 1.57 USD 7 22 Jan 2025	īril	Economic Moa		i ty Style Box Large Blend		certainty gh	Capital Allocation Standard	()	Risk Rating A	
Morningstar H	istorical Summary												
Financials as of 30) Sep 2024												
Fiscal Year, ends 31	Dec	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	YTD	TTM
Revenue (USD K)		17,928,000 27	,638,000 40,	653,000 55,	838,00070,697	7,000 85,	965,000117,	929,00011	16,609,0001	34,902,000	-1	16,116,0001	56,227,000
Revenue Growth %	, D	43.8	54.2	47.1	37.4	26.6	21.6	37.2	-1.1	15.7	_	22.5	23.1
EBITDA (USD K)		8,162,00014	4,870,000 23,	625,000 29,	228,000 29,72	7,000 39,	533,000 55,	274,000 3	37,690,000	59,052,000	- !	58,613,000	78,728,000
EBITDA Margin %		45.5	53.8	58.1	52.3	42.1	46.0	46.9	32.3	43.8	_	50.5	50.4
Operating Income	(USD K)	6,225,000 12	2,427,000 20,	203,000 24,	913,00023,986	6,000 32,	,671,000 46,	753,000 2	28,944,000	46,751,000	_ /	46,016,000	62,400,000
Operating Margin	%	34.7	45.0	49.7	44.6	33.9	38.0	39.7	24.8	34.7	_	39.6	39.9
Net Income (USD k	<)	3,688,000 10),217,000 15,	934,000 22,	112,000 18,485	5,000 29,	,146,000 39,	370,000 2	23,200,000	39,098,000	_ /	41,522,000	55,539,000
Net Margin %		20.5	36.9	39.2	39.6	26.2	33.9	33.4	19.9	29.0	_	35.8	35.6
Diluted Shares Out	standing (K)	2,853,000 2	2,925,000 2,	956,000 2,	921,000 2,876	6,000 2,	,888,000 2,	859,000	2,702,000	2,629,000	_	2,615,000	2,623,000
Diluted Earnings Po	er Share (USD)	1.29	3.49	5.39	7.57	6.43	10.09	13.77	8.59	14.87	_	15.88	21.19
Dividends Per Shar	re (USD)	_	_	_	_	_	_	_	_	_	_	1.50	1.50
Valuation as of 31	Dec 2024												
Dring (Cales		2015	2016	2017	2018	2019	2020	2021				Recent Otr	TTM
Price/Sales Price/Earnings		18.6 105.3	13.5 44.4	14.3 34.2	7.4 19.7	8.9 32.9	10.0 31.2	8.6 24.0			9.8 27.6	9.8 27.6	9.8 27.6
Price/Cash Flow		40.3	26.5	24.3	13.1	16.9	23.3	18.1			18.6	18.6	18.6
Dividend Yield %		_	_	_	_	_	_	_			0.34	0.34	0.34
Price/Book		7.2	6.2	7.2	4.7	6.2	6.6	6.9	2.5	5 6.3	9.0	9.0	9.0
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 Perforn	nance / Profitability as o	of 30 Sep 2024											
Fiscal Year, ends 31	Dec	2015	2016	2017	2018	2019	2020	2021	202	2 2023	2024	YTD	TTM
ROA %		8.2	17.8	21.3	24.3	16.0	19.9	24.2			_	_	23.5
ROE %		9.1	19.7	23.8	27.9	20.0	25.4	31.1			_	—	36.1
ROIC % Asset Turnover		9.0 0.4	19.4 0.5	23.4 0.5	27.0 0.6	18.2 0.6	22.8 0.6	28.1 0.7			_	_	27.5 0.7
		0.4	0.0	0.0	0.0	0.0	0.0	0.7	0.	0.0		_	0.7
Financial Leverage Fiscal Year, ends 31		2015	2016	2017	2018	2019	2020	2021	202	2 2023	2024	Recent Otr	TTM
Debt/Capital %		0.2	_	_	_	8.6	7.0	9.3			_	22.2	_
Equity/Assets %		89.5	91.1	88.0	86.4	75.8	80.5	75.2	67.	7 66.7	_	64.2	
Total Debt/EBITDA		0.0	_	_	0.0	0.3	0.3	0.3			_	0.8	_
EBITDA/Interest Ex	pense	354.9	1,486.9	3,937.5	—	_	—	2,403.5	203.	7 132.4	Infinite	126.3	131.2

Morningstar Analyst Historical/Forecast Summary as of 22 Jan 2025

Financials			Estimates		
Fiscal Year, ends 31 Dec 2023	2022	2023	2024	2025	2026
Revenue (USD Mil)	116,608	134,902	163,256	187,793	210,038
Revenue Growth %	-1.1	15.7	21.0	15.0	11.9
EBITDA (USD Mil)	49,621	71,956	98,918	122,535	138,100
EBITDA Margin %	42.6	53.3	60.6	65.3	65.8
Operating Income (USD Mil)	28,944	46,751	65,229	73,709	84,540
Operating Margin %	24.8	34.7	40.0	39.3	40.3
Net Income (USD Mil)	23,198	39,098	58,890	66,184	75,550
Net Margin %	19.9	29.0	36.1	35.2	36.0
Diluted Shares Outstanding (Mil)	2,702	2,629	2,630	2,630	2,630
Diluted Earnings Per Share(USD)	8.59	14.87	22.39	25.17	28.73
Dividends Per Share(USD)	0.00	0.00	2.00	2.23	2.53

Forward Valuation		Es	timates		
	2022	2023	2024	2025	2026
Price/Sales	2.7	6.7	9.5	8.3	7.4
Price/Earnings	14.0	23.8	27.5	24.5	21.5
Price/Cash Flow	_	_	_	_	_
Dividend Yield %	_		0.3	0.4	0.4
Price/Book	2.6	6.1	7.8	6.1	4.8
EV/EBITDA	6.0	12.3	15.5	12.5	11.1

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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 36.9% 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 is of Jan 01, 2025. Highest Controversy Level is as of Jan 08, 2025. Sustainalytics Subindustry: Internet Software and 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 01 Jan 2025	Peers are selected f	rom the company's Sustainalyti	ics-defined Subindustry and are displayed based on the closest market cap values						
Company Name	Exposure		Management		ESG Risk Rating				
Meta Platforms Inc	49.7 Medium	0 55+	36.9 Average	100 — 0	32.7 High	0 — 40+			
Alphabet Inc	44.1 Medium	0 55+	46.8 Average	100 — 0	24.9 Medium	0 — 40+			
Snap Inc	39.3 Medium	0 55+	52.9 Strong	100 — 0	20.0 Medium	0 — 40+			
Pinterest Inc	35.7 Medium	0 55+	52.1 Strong	100 — 0	18.4 Low	0 40+			
IAC Inc	38.8 Medium	0 55+	36.6 Average	100 — 0	25.6 Medium	0 40+			

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Appendix Historical Morningstar Rating

Meta Platforms Inc Class A META 21 Jan 2025 22:53, 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	0ct 2024	Sep 2024	Aug 2024	Jul 2024	Jun 2024	May 2024	Apr 2024	Mar 2024	Feb 2024	Jan 2024
★★★	★★★	★★★	★★★	★★	★★	★★	★★	★★★	★★	★★	★★
Dec 2023	Nov 2023	0ct 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	0ct 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
★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★★	★★★	★★★

Alphabet Inc Class A GOOGL 21 Jan 2025 22:40, 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
***	***	****	***	***	***	***	***	***	****	***	***

Snap Inc Class A SNAP 21 Jan 2025 22:56, 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
*	*	*	**	***	**	**	***	***	****	***	**

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Pinterest Inc Class A PINS 21 Jan 2025 22:53, UTC

Dec 2023	Nov 2023	Oct 2023	Sep 2023	Aug 2023	Jul 2023	Jun 2023	May 2023	Apr 2023	Mar 2023	Feb 2023	Jan 2023
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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 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-

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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

4.5 4.0 400% 3.5 3.0 2.5 2.0 175% 155% 1.5 135% 125% 125 115% 1.0 95% 90% 85% Price/Fair Value 80% 80% 70% 60% 50% 50% 0.5 25% 0.0 Low Medium High Very High Extreme

Uncertainty

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.

Uncertainty

Uncertainty

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.

Uncertainty

Uncertainty

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

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

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

★ Indicates a high probability of undesirable risk-adjusted returns from the current market price over a multiyear time frame, based on our analysis. Scenario analysis by our analysts indicates that the market is pricing in an excessively optimistic outlook, limiting upside potential and leaving the investor exposed to Capital loss.

Other Definitions

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

Capital Allocation Rating: Our Capital Allocation (or Stewardship) Rating represents our assessment of the quality of management's capital allocation, with particular emphasis on the firm's balance sheet, investments, and shareholder distributions. Analysts consider compan-

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Morningstar Equity Research Star Rating Methodology





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/

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