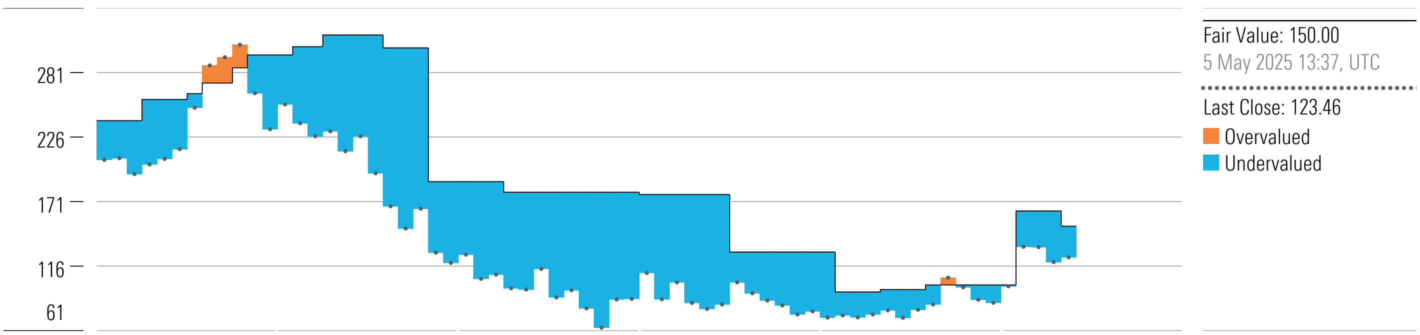
Morningstar Equity Analyst Report | Report as of 19 May 2025 22:45, UTC | Reporting Currency: CNY | Trading Currency: USD | Exchange: NEW YORK STOCK EXCHANGE, INC. Page 1 of 24

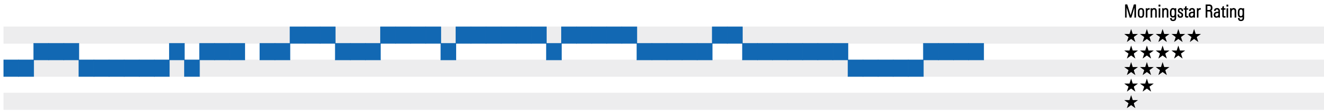
Alibaba Group Holding Ltd ADR BABA ★★★★ 19 May 2025 21:35, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment[1]
123.46 USD 16 May 2025	150.00 USD 5 May 2025 13:37, UTC	0.82	293.27 USD Bil 19 May 2025	Wide	Large Blend	High	Standard	7 May 2025 05:00, UTC

Price vs. Fair Value



	2020	2021	2022	2023	2024	YTD	
	0.79	0.63	0.49	0.61	0.85	0.82	Price/Fair Value
	9.73	-48.96	-25.84	-10.88	11.53	45.61	Total Return %



Total Return % as of 16 May 2025. Last Close as of 16 May 2025. Fair Value as of 5 May 2025 13:37, UTC.

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Important Disclosure

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

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

Alibaba Earnings: Results In Line, With Cloud Business to Drive Growth; Valuation Intact

Analyst Note Chelsey Tam, Senior Equity Analyst, 16 May 2025

Alibaba's March-quarter cloud revenue grew 18% year on year. Taobao and Tmall Group customer management revenue growth accelerated to 12%. The cloud business' adjusted EBITA margin fell to 8.0% from 9.9% last quarter due to higher investments.

Why it matters: The results met Refinitiv consensus. A 0.6% software fee was introduced on Taobao in September 2024. Initially, Alibaba provided rebates and supportive measures to merchants, but these will be phased out in 2025. This should support monetization from software fees beyond September 2025.

- We estimate that the rising adoption of Quanzhantui, launched in April 2024, should help Alibaba enhance monetization until fiscal 2026 (ending March), similar to the two years of monetization growth that PDD Holdings experienced after introducing Quanzhantui in 2022.
- We expect adjusted EBITA margin for Alibaba's cloud business to stay at high single digits in the coming year. We think lower utilizations should offset the positive impact of a higher mix of higher-margin artificial intelligence revenue.

The bottom line: We maintain our USD 150/HKD 146 fair value estimate for wide-moat Alibaba. The shares now appear fairly valued.

Long view: Given the company's aggressive AI and cloud capital expenditures to meet excess demand,

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Sector	Industry
Consumer Cyclical	Internet Retail

Business Description

Alibaba is the world's largest online and mobile commerce company as measured by gross merchandise volume. It operates China's online marketplaces, including Taobao (consumer-to-consumer) and Tmall (business-to-consumer). The China commerce retail division is the most valuable cash flow-generating business at Alibaba. Additional revenue sources include China commerce wholesale, international commerce retail/wholesale, local consumer services, cloud computing, digital media and entertainment platforms, Cainiao logistics services, and innovation initiatives/ other.

its leading public cloud market share, and its strong AI revenue growth potential, we remain optimistic about Alibaba's cloud business outlook.

Key stats: In 2023, Alibaba held the fourth-largest global market share in public cloud infrastructure as a service at 7.9%, just behind Google's 8.2%, according to Gartner.

Business Strategy & Outlook Chelsey Tam, Senior Equity Analyst, 5 May 2025

Alibaba is losing market share to PDD and Douyin in the China e-commerce business, and we don't see a quick fix in the near term. Alibaba's number of annual active consumers in the China retail marketplace was surpassed by PDD in the fiscal year ended March 2021. Meanwhile, Douyin has gained share from Alibaba, especially in the beauty and apparel categories in recent years, and entered the traditional search-based e-commerce space, competing directly with Alibaba. The number of annual active consumers at Alibaba is close to the ceiling in China. Alibaba's gross merchandise volume to China's online retail sales of goods ratio was 62% in the year ended March 2023 at Alibaba, down from 72% in the year-ago period. We believe Alibaba's marketplace monetization rates will decline in the long run, due to a mix shift toward Taobao, which has a lower take rate compared with Tmall, and more competition.

In our view, the Taobao/Tmall marketplaces remain as Alibaba's core cash flow driver and can support the expansion of AliCloud as well as the firm's globalization strategy, which offers long-term growth potential. While AliCloud will remain in investment mode in the medium term, downsizing low-margin businesses can drive segment margins higher over time. On globalization, the Alibaba international digital commerce group's year-on-year revenue growth has been strong recently, thanks to AliExpress' expanding cross-border business.

We expect Alibaba to return more capital to shareholders and increase its return on invested capital after divestments of noncore investments. We are pleased that Alibaba has upsized its share-repurchase program by USD 25 billion until March-end 2027 to USD 35.3 billion. Management targets to lift ROIC (based on Alibaba's calculation) from single digits in fiscal 2023 to double digits in the next few years. Alibaba had sizable cash and equivalents and investments of CNY 829 billion on its balance sheet as of December 2023.

Bulls Say Chelsey Tam, Senior Equity Analyst, 5 May 2025

- Alibaba is able to maintain or increase its gross merchandise volume share in China's e-commerce space, demonstrating its ability to execute its turnaround strategy.
- Alibaba successfully increases key metrics such as customer retention, purchase frequency, and average order value, driving gross merchandise volume growth to outperform the growth of China's online retail sales of physical goods.
- Alibaba delivers better-than-expected adjusted EBITA margins despite competition and reinvestment.

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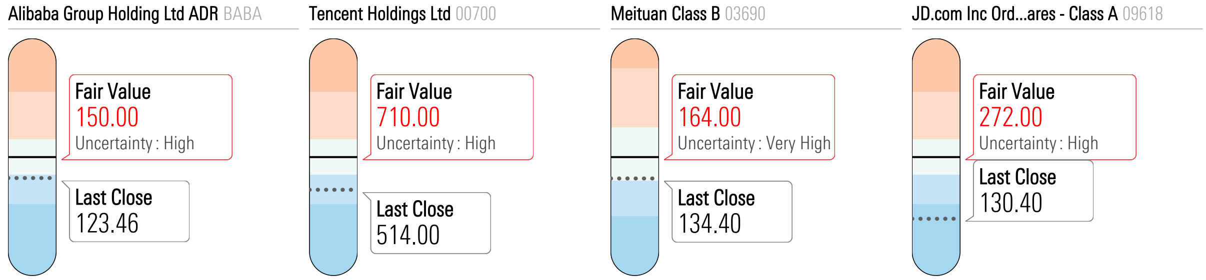
Competitors



	Alibaba Group Holding Ltd ADR BABA	Tencent Holdings Ltd 00700	Meituan Class B 03690	JD.com Inc Ord...ares - Class A 09618
Economic Moat	Wide	Wide	Narrow	Wide
Currency	USD	HKD	HKD	HKD
Fair Value	150.00 5 May 2025 13:37, UTC	710.00 20 Mar 2025 07:23, UTC	164.00 5 May 2025 14:09, UTC	272.00 7 Mar 2025 12:07, UTC
1-Star Price	232.50	1,100.50	287.00	421.60
5-Star Price	90.00	426.00	82.00	163.20
Assessment	Undervalued 19 May 2025	Undervalued 19 May 2025	Fairly Valued 19 May 2025	Undervalued 19 May 2025
Morningstar Rating	★★★★ 19 May 2025 21:35, UTC	★★★★ 19 May 2025 16:48, UTC	★★★ 19 May 2025 16:49, UTC	★★★★★ 19 May 2025 16:49, UTC
Analyst	Chelsey Tam, Senior Equity Analyst	Ivan Su, Senior Equity Analyst	Chelsey Tam, Senior Equity Analyst	Chelsey Tam, Senior Equity Analyst
Capital Allocation	Standard	Exemplary	Standard	Exemplary
Price/Fair Value	0.82	0.72	0.82	0.48
Price/Sales	2.16	6.66	2.23	0.31
Price/Book	2.11	4.13	4.33	1.51
Price/Earning	13.60	19.96	17.26	7.91
Dividend Yield	0.81%	0.89%	0.00%	2.94%
Market Cap	293.27 Bil	4,680.63 Bil	821.13 Bil	375.94 Bil
52-Week Range	71.80—148.43	349.00—547.00	100.10—217.00	94.65—192.30
Investment Style	Large Blend	Large Growth	Large Growth	Large Value

Bears Say Chelsey Tam, Senior Equity Analyst, 5 May 2025

- Alibaba's gross merchandise volume share in China decreases faster than our expectation as competitors such as Douyin successfully enter the search-based e-commerce business.
- Expansion into the nonphysical goods marketplace businesses and other regions leads to lower-than-expected margins, and the timing of profitability is delayed.
- Alibaba fails in its globalization, public cloud, and AI efforts and delivers slower-than-expected earnings growth.

Economic Moat Chelsey Tam, Senior Equity Analyst, 5 May 2025

Despite increasing competition, we're maintaining our wide economic moat rating based on Alibaba's strong network effect, where the value of the platform to consumers increases with a greater number of sellers and vice versa. Alibaba is monetizing its network effect better than any other e-commerce platform in China. The short video platforms Douyin and Kuaishou have not proved they can monetize the physical goods e-commerce market with a durable profit margin, but Alibaba has been profitable for a decade, and we believe it will remain profitable for the next 20 years. In addition, we think that the livestreaming e-commerce that Kuaishou and Douyin offer is a supplement to e-commerce offerings, not a replacement of the mainstream e-commerce platforms. Livestreaming e-commerce tends to satisfy impulsive purchases instead of planned or urgent purchases. The return and refund ratio of livestreaming is high, which we think is inherent in its impulse purchase nature; this makes it difficult for brands to rely on this channel solely in the long term.

Even if these new competitors are successful in generating long-term durable profit, we still see Alibaba remaining as a key e-commerce marketplace for consumers due to its vast range of stock-keeping units, logistics infrastructure, operational expertise (governance of products and merchants, protection of consumers), and tools for merchants to manage full product lifecycles. It is the largest e-commerce platform that provides its merchants with predictability in sales and production volume, which leads to predictable production costs. There were over 124 million active consumers who spent over CNY 10,000 on Taobao and Tmall in fiscal 2022 (ending March) and fiscal 2023, respectively, while the retention rate of these consumers stayed at a similar level in fiscal 2023 as compared with the 98% in fiscal 2022. Alibaba has solutions for diversifying consumption scenarios like on-demand delivery, online-to-offline, offline, and content e-commerce. We think Alibaba will always have its place in China's increasingly complex retail market.

Alibaba continues to most effectively monetize the network in terms of gross merchandise volume and margin, in our estimate. This should last for the next 20 years. According to Analysys, a data analytics company, Alibaba's China commerce retail business was the largest in the world in terms of GMV in the 12 months ended March 31, 2023. We estimate Pinduoduo should have a similar number of customers as Alibaba, but its GMV in 2022 should be less than half of Alibaba's GMV in fiscal 2023. Meanwhile, we believe JD.com's GMV should be similar to PDD's in 2022. We estimate Alibaba's Taobao Tmall Group's adjusted EBIT margin was 46% in the September quarter of 2023, higher than JD Retail's 5.2% EBIT margin and PDD's 26.3% non-GAAP EBIT margin during the same period. Even though we think there will be a decline in Alibaba's adjusted EBIT margin in the marketplace businesses in the next five years due to reinvestment into the Taobao Tmall business, we don't think this will be significant enough to reduce Alibaba's return on invested capital to below that of Pinduoduo and JD Retail.

We don't see the key competitors PDD and Douyin registering higher adjusted operating margins than Alibaba in the foreseeable future. PDD's strategy has shifted to focus more on research and development—such as in technology and marketing tools—from a previous focus on sales and marketing in the first five years of the company's history. It started its global e-commerce platform Temu to take on Shein. Management also reiterated the importance of investing in businesses such as Temu and in technology, while profitability is not the priority for now. These will offset the margin improvement from increasing the monetization rate of the Pinduoduo platform. These lead us to think that Pinduoduo's adjusted EBIT margin is likely to be lower than 40% on a full-year basis in our next five-year forecast period. On the other hand, ByteDance is competing with many internet companies on many new fronts—cloud, business services, search, and e-commerce. There is no detail on its 2023 profit level as it is a private company. It is unclear if ByteDance's China e-commerce segment will be able to register profit consistently, in our view. In addition, a successful e-commerce company cannot only rely on online traffic to succeed—customer service; governance of e-commerce platforms to balance the interests of merchants and consumers, such as the management of issues like false advertisement and promises, and formulating return policies; the supply chain; logistics; and merchant support are critical as well.

We think the livestreaming e-commerce that Kuaishou and Douyin offer is a supplement to the e-commerce offerings, not a replacement of the mainstream e-commerce platforms. These newer platforms monetize their network of users mainly by content e-commerce—that is, content such as short videos or livestreaming—or interest e-commerce, which is selling products by understanding and predicting users' interests. Key opinion leaders and livestreaming hosts in these short video platforms conduct livestreaming sessions to sell products online. Livestreaming e-commerce tends to satisfy impulse purchases instead of planned or urgent purchases. The return and refund ratio of livestreaming is higher, which we think is inherent in its impulse purchase nature, which makes it difficult for brands to rely on this channel solely in the long term. As per the 2020 Livestreaming E-commerce White paper published by Xiaohulu, a livestreaming e-commerce service provider, the livestreaming industry's return rate can be as high as 30%-40%, much higher than the traditional online sales return ratio of 10%-15%. The return rate of the leading livestreaming hosts is 10%-15%. We don't think the return rate has improved significantly over the years. According to e-commerce insight provider DongGeJieDuDianShang, Douyin e-commerce's 2022 Double 11 Shopping Festival return rate was at least 40%. Meanwhile, Kuaishou's most famous key opinion leader Xinba, who generated CNY 9.6 billion of paid GMV in the month of October 2023, disclosed that the return rate was 42% in the same month. We think the impulse purchase nature of livestreaming should keep the return rate higher than that of traditional e-commerce. The uncertainty in sales volume makes it difficult for established brands to plan production volume, which makes it difficult to achieve economies of scale. Such merchants wouldn't rely on content e-commerce companies as their sole e-commerce channel. Thanks to the support of venture capitalists in China, new brands can spend generously on advertising dollars on the short video platforms to get brand exposure and sell their products, but maintaining the GMV of these brands is questionable if they reduce their advertising spending on these platforms.

Short-form video platforms Douyin and Kuaishou have entered the e-commerce arena with quick GMV growth, but we see less significant growth opportunities for livestreaming e-commerce in the future. Douyin's GMV was up 80% year on year to CNY 2.1 trillion and Kuaishou's GMV rose 31% to CNY 1.2

trillion in 2023, based on our estimate. Livestreaming e-commerce GMV was estimated to be CNY 4.6 trillion in 2023 as per data analytics firm DianShuBao, about 31.9% of the China internet shopping market, which is already high in terms of penetration. Meanwhile, Double 11 Shopping Festival livestreaming GMV year-on-year growth in 2023 slowed to 19% from 146% in the same period in 2022, per data analytics firm Syntun. In our opinion, Douyin and Kuaishou will need to be successful in traditional search-based e-commerce in order to overtake the incumbents.

Anticompetitive exclusivity arrangements between merchants and Alibaba are a key environmental, social, and governance risk. We think the end of exclusive merchants on Alibaba's platform has some but not significant impact on Alibaba's wide moat, and we have accounted for the share loss in GMV to other platforms in our forecasts.

Fair Value and Profit Drivers Chelsey Tam, Senior Equity Analyst, 5 May 2025

Our fair value estimate is USD 150 per ADS.

Alibaba's ratio of China retail marketplace gross merchandise volume to China's retail sales of consumer goods declined to 16% in the year ended March 2024 from 17% the year prior on our estimate. This ratio, on our estimate, will go to 14% in a decade. Considering intensive competition, we assume monetization of the China retail marketplace to be flattish in the coming decade.

The 10-year compound annual growth rate of total revenue is 8%. We assume 10-year revenue CAGRs to be 3% in Taobao and Tmall, 9% in international digital commerce, 6% in local services, 5% in Cainiao, 22% in cloud intelligence, and 3% in digital media and entertainment. Our 10-year adjusted EBITA CAGR estimate is 8% as we expect a faster turnaround of loss-making businesses to offset the negative impact from defending market share in China e-commerce.

Risk and Uncertainty Chelsey Tam, Senior Equity Analyst, 20 Feb 2025

We assign Alibaba a High Morningstar Uncertainty Rating. China's e-commerce landscape has become increasingly competitive, with Pinduoduo registering faster GMV and user growth than Alibaba and JD.com demonstrating its quality services amid covid-19. Short video platforms and Tencent have also entered the e-commerce sector. Pinduoduo's number of active buyers in the year ended December 2020 already surpassed that of Alibaba.

The largest material environmental, social, and governance issue for Alibaba is its business ethics with regard to anticompetitive measures. It was fined CNY 18.2 billion in April 2021 for forcing merchants to choose its platform exclusively and required to curb its anticompetitive behavior. Financial regulators in China have continuously scrutinized online financial services, leading to the cancelation of investee Ant Financial's IPO. Alibaba has persistently faced the issue of counterfeit and infringing goods on its marketplaces. The Hangzhou government's assigning of representatives to work inside Alibaba also

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raises concerns, although there is no any evidence of value destruction for Alibaba.

Expansion into peripheral businesses might distract management and reduce profitability without materially improving Alibaba's ecosystem. While we're optimistic about Alibaba's ability to become a preferred partner for international retailers and consumer brands looking to sell in China, the firm does not enjoy the same network effect and brand recognition in other countries, and it may face challenges directly expanding in these markets.

Another ESG issue is corporate governance. In 2011, the company transferred the ownership of Alipay to a new company (now called Ant Financial, which is 33% owned by Alibaba) without the approval of key shareholders Yahoo and SoftBank.

Capital Allocation Chelsey Tam, Senior Equity Analyst, 5 May 2025

We assign Alibaba a Standard Morningstar Capital Allocation Rating.

The shareholder distribution policy of Alibaba is conservative despite a sound balance sheet with a net cash position. Alibaba had sizable cash and equivalents and investments of CNY 829 billion on its balance sheet as of December 2023. While we are pleased that Alibaba approved the first annual dividend of USD 1 per ADS for fiscal 2023, it translated to a low dividend yield. In 2023, Alibaba repurchased approximately 3.3% of the ordinary shares issued and outstanding. We are pleased with Alibaba’s decision to upsize its share-repurchase program to March-end 2027 by USD 25 billion to USD 35.3 billion. Alibaba is also committed to reducing share count by at least 3% per year in the next three fiscal years. In our view, Alibaba has room to increase its return to shareholders.

Return on invested capital excluding idle cash and investments fell from fiscal 2018’s (ended March 2018) 29% to fiscal 2023’s 15% as the firm has invested heavily in emerging businesses for future growth at the expense of margin. As a comparison, wide-moat-rated Tencent also saw a reduction in adjusted ROIC from 2016’s 369% to 30% in 2022.

We believe management has delivered mixed results when it comes to its investment. The prime example is its inability to maintain its gross merchandise volume share in China’s retail marketplace. GMV to China’s online retail sales of goods ratio was 62% in the year ended March 2023 for Alibaba, down from 72% in the year-ago period, due to competition. Additionally, we think Alibaba’s food delivery business in the local consumer services group, digital media and entertainment group, and Southeast Asia e-commerce businesses in the international digital commerce group lag its competitors while generating losses. The local consumer services group, digital media and entertainment group, and international digital commerce group represented negative 14%, negative 10%, and negative 11%, respectively, of Alibaba’s adjusted EBITA in the 2023 December quarter. Meanwhile, its local consumer services group competitor, Meituan, is profitable. Despite being the early mover in Southeast Asian E-commerce, Lazada’s (under international digital commerce) gross merchandise volume share in Indonesia (the largest e-commerce market with a majority of GMV market share in the region) was only

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10% in 2022, versus 36% for latecomer Shopee and 35% for Tokopedia. Adjusted EBITA margin has dwindled to 20% in the December 2023 quarter from 26.9% in fiscal 2020, while the revenue growth has also moderated to 5% year on year in the December 2023 quarter compared with 35% in fiscal 2020. On the other hand, we like Alibaba's investment in Cainiao to improve the delivery quality of its e-commerce goods. Meanwhile, the company started its cloud business in China in 2009, earlier than its competitor Tencent. Alibaba announced in October 2023 that the firm had been the world's third-largest IaaS provider by revenue for the fifth consecutive year with a market share of 7.7% in 2022, per Gartner.

We expect Alibaba's adjusted EBITA margin to decline in the next 10 years, mainly due to investments in its retail business, which we think is necessary to maintain its competitiveness amid heavy investments among its Chinese e-commerce peers. These investments will go into technology, merchant support, user acquisition, user experience enhancement, improving the supply chain, and merchandising for high-frequency categories.

We are not giving Alibaba a Poor Capital Allocation Rating because the firm is returning capital to shareholders by monetizing its noncore assets. For instance, Alibaba sold some shares of GoGoX and Xpeng. Based on Alibaba's calculation, ROIC was single digits in fiscal 2023, and Alibaba is working to increase ROIC to double digits in the next few years.

Analyst Notes Archive

Heated Competition Reduces Valuations for Meituan and Alibaba; JD.com Unchanged Chelsey Tam,Senior Equity Analyst,6 May 2025

Per Leifengwang, Meituan instashopping's computers, communications, and consumer electronics home appliance orders were half of JD.com's in 2024. Its alcohol, water, snacks, and dairy orders exceeded JD's. Taobao upgraded its on-demand delivery feature and launched a CNY 10 billion subsidy program.Why it matters: Meituan's instashopping threatens JD's stronghold in the high-tier cities, electronics, and supermarket categories. In Shenzhen, its instashopping daily average order volume exceeded that of JD's e-commerce, 7Fresh, and non-food and beverage on-demand delivery Miasong orders combined. We think this threat has led JD to enter the high-purchase-frequency food delivery market to increase its user base and engagement for its traditional and on-demand retail businesses. The move should also drive down unit costs for its on-demand business in the long run. Alibaba's e-commerce segment faces the same threat from Meituan's instashopping. Cash-rich Alibaba's entry into the on-demand delivery turf war amplifies the competitive pressure on Meituan and reduces its resources for expanding its on-demand retail business.The bottom line: We keep our USD 70/HKD 272 fair value estimate and forecasts intact for JD; we believe the shares are cheap. We factor in heavy investment in food delivery, offset by benefits from the national trade-in subsidy. We assume 4% EBIT growth and a 20-basis-point decline in EBIT margin in 2025. We have reduced our fair value estimate for wide-moat Alibaba by 8%, to USD 150/HKD 145 per share, on the launch of subsidies by the local services segment's Eleme and Taobao. We cut our forecast for fiscal 2026-34 adjusted EBITA by 5%-9%. Alibaba shares still appear undervalued. We cut our fair value estimate for narrow-moat Meituan by 9% to HKD 164 per share. The shares are fairly valued, in our view. We cut our core EBIT forecast by 11%-23% for 2025-33 to factor in higher competitive pressure.

Alibaba: Fair Value Estimate Raised by 27% Due to Faster Breakeven of Most Segments and Cloud Growth Chelsey Tam,Senior Equity Analyst,21 Feb 2025

Alibaba expects most of its loss-making businesses to be profitable in the next one to two years. It has forecast that capital expenditures in the next three years will be larger than in the past decade. Taobao Tmall Group's adjusted EBITA turned positive at 2% year on year in the quarter. Why it matters: We now have stronger confidence that Alibaba can turn around its loss-making businesses. Amap achieved profitability in the December quarter, and Alibaba International Digital Commerce Group, or AIDC, targets profitability next fiscal year. We think aggressive cloud capex will protect its leadership in cloud and AI in China, fulfill excess demand, and accelerate cloud revenue growth. Cloud margin will rise eventually because of an increasing mix of higher-margin AI revenue and utilization. TTG's customer-management revenue growth will be supported by increasing adoption of digital marketing tool, Quanzhantui, and the introduction of Taobao software fees in September 2024. However, whether it can maintain gross merchandise volume share and margin is still uncertain, in our view. The bottom line: We raised wide-moat Alibaba's fair value estimate by 27% to USD 163 per ADS (HKD 158 per share) after raising our earnings forecasts, partially offset by higher capex. Undervalued Alibaba is our top pick in the China e-commerce sector, followed by wide-moat JD.com and narrow-moat PDD Holdings. We increased Alibaba's 10-year adjusted EBITA CAGR forecast to 9% from 5% due to faster-than-expected turnaround of loss-making businesses, an increasing contribution from higher-margin AI revenue, and higher efficiency associated with the deployment of AI in Alibaba's businesses. Alibaba's 10-year total revenue CAGR estimate remains largely intact at 8%. We assume 10-year revenue CAGRs to be 3% in TTG, 9% in AIDC, 6% in Local Services Group, 5% in Cainiao (versus 9% previously), 22% in Cloud Intelligence (versus 17%), and 3% in Digital Media and Entertainment Group.

Alibaba: Fair Value Estimate Up by 28% Due to Higher AI Adoption and Capital Returns to Shareholders Chelsey Tam,Senior Equity Analyst,20 Feb 2025

Alibaba on Jan. 29 launched its self-developed model Qwen 2.5-Max, surpassing the capabilities of DeepSeek-V3, GPT-4o, and Llama-3.1405B. On Feb. 3, it started offering all DeepSeek models on its cloud. The Information reported on Feb. 11 that Alibaba will provide AI features in iPhones in China.Why it matters: Given the positive sentiment driven by DeepSeek and Alibaba's Qwen, Alibaba's share price has risen by 31% since Jan. 28. We believe investors are anticipating stronger growth from its cloud unit. We think the increasing adoption of DeepSeek and Qwen by Alibaba's customers will raise cloud solution demand (API access, compute, storage, consulting fees, implementation, integration, and support) and improve its adjusted EBITA margin due to a higher mix of higher-margin artificial intelligence services. In our view, large Western companies looking to introduce AI-enabled products in China are more likely to select Alibaba as their partner, as its partnership with Apple is a vote of confidence in Alibaba's AI and cloud capabilities and data insights. The bottom line: We raise wide-moat Alibaba's fair value estimate by 28% to USD 128 per ADS and HKD 125 per share. We view shares as fairly valued currently. We increased Alibaba's 10-year revenue compound annual growth rate forecast by 1 percentage point to 8%, driven by higher cloud revenue, and its 10-year adjusted EBITA CAGR forecast to 5% from 3%, due to a greater contribution from the higher-margin AI business and improved efficiency with the deployment of AI across Alibaba's businesses. We reduced the discount of noncurrent investments to 30% from 50%, as Alibaba continues to sell noncore assets and return capital to shareholders. Alibaba sold a 78.7% stake in the loss-making Sun Art on Dec. 31, 2024, and repurchased 4.9% of its shares between March 31 and Dec. 31, 2024.

China Vows to Be Looser in Monetary Policy and 'More Proactive' in Its Fiscal Policy; Shares Jump

Kai Wang, CFA,Senior Equity Analyst,10 Dec 2024

China's leaders announced greater measures to loosen monetary policy and for more proactive fiscal policy in its Politburo meeting on Dec. 9. The Hang Seng Index jumped 3% toward the end of the trading day on the announcement. Large-cap ADRs that are indicative of China's consumer confidence such as Alibaba and Pinduoduo saw their shares increase 7% and 10%, respectively. However, we are still waiting for specific policy details before assessing whether the policies will be effective in lifting consumption and ensuring economic growth doesn't slow further.We think the announcement highlights that China stocks are underweight, given there were no quantitative details on the policy yet many ADRs increased sharply in their US trading sessions. Our fair value estimates for most names in China remain unchanged without knowing the details of the policies, and without seeing signs of consumer confidence first, as macrodata remains soft.We note that Trump's potential incremental tariffs remain a risk for China and could derail a 2025 rally. Thus, we recommend investors lean toward names with lesser exposure to US exports.The announcement also comes after Consumer Price Index and Producer Price Index data was released earlier in the day, which showed an increase of 0.2% and a decline of 2.5% year on year, respectively. We believe the announcement helps to ease worries about the weak data.The 2.5% PPI decrease is the 26th straight month of declines. When combined with flat CPI data, this suggests that consumer demand is still low, and China remains in a deflationary environment. The PBOC's stimulus push this year has yet to lead to a persistent boost to consumer confidence.Despite muted consumer demand, we believe there are still undervalued companies as many names in the consumer sector still trade at 20-plus% discounts to our fair value estimates. We still favor domestic-focused companies with wide moats, such as Tencent, Yum China, and Luzhou Laojiao.

Alibaba Earnings: Results in Line; Shares Fairly Valued Chelsey Tam,Senior Equity Analyst,17 Nov

2024

We maintain Alibaba Group's fair value estimate at USD 100 per ADS (HKD 97 per share) after it reported in-line September-quarter results. In our view, Alibaba is fairly valued currently, given the high investment needs in Taobao and Tmall Group and the overseas e-commerce businesses. We think our valuation can be driven higher if Alibaba proves its ability to consistently maintain or regain market share for Taobao and Tmall Group while at the same time maintaining or improving margins and expediting capital return to shareholders.In our estimate, online gross merchandise volume of the cash-cow business, Taobao and Tmall Group, achieved low-single-digit year-over-year growth in the September quarter, but adjusted EBITA of the segment fell 5% year on year due to its focus on competitively priced products, and investment in customer service and membership benefits. We expect rising monetization of this segment—higher customer management revenue as a percentage of GMV—will improve year-on-year adjusted EBITA growth in the second half of fiscal 2025 (ending March) thanks to the launch of the new marketing tool Quanzhantui and new GMV-based service fees. Nonetheless, higher investment in Alibaba International Digital Commerce Group and Taobao and Tmall Group could pressure its bottom line in the near term. We forecast a 10-year adjusted EBITA compound annual growth rate of 3% for Alibaba.Correction (Nov. 22, 2024): A previous version of this note incorrectly stated that the Taobao and Tmall Group business' online GMV rose by double digits year over year, it has been corrected to our estimate of single-digit growth.

Alibaba Earnings: Higher Sales Growth Offset by Increasing Investments; Valuation Raised by 4%

Chelsey Tam,Senior Equity Analyst,16 Aug 2024

Alibaba Group's June-quarter results are on track to meet our full-year estimate. However, messages from the earnings are mixed as higher future top-line growth will be offset by rising investments. At the same time, we see uncertainty in the turnaround of businesses outside of e-commerce and cloud. We have rolled our model while keeping our estimates largely intact, leading to a 4% increase in fair value estimate to USD 100 per ADS (HKD 97 per share). Alibaba is currently undervalued, in our view, underpinned by our 10-year adjusted EBITA compound annual growth rate forecast of 3%. We estimate that cash, cash equivalents, and investments account net of debt, as of June, accounted for 58% of the current market cap. We think our valuation can be driven higher if Alibaba proves its ability to consistently maintain or regain market share for Taobao and Tmall Group while at the same time improving margins and expediting capital return to shareholders.We find management's reiteration that take rate (customer management revenue/gross merchandise volume) will pick up and that cloud revenue, excluding Alibaba's consolidated subsidiaries, will return to double-digit growth in the second half of fiscal 2025 (ending March) encouraging. Management now expects the businesses outside e-commerce and cloud to break even in one to two years and become profitable after that. Nonetheless, we think these positives will be offset by (1) continuous investments in the Taobao and Tmall Group, which could pressure the bottom line, (2) growing losses in Alibaba International Digital Commerce group in the near term as it expands, (3) potentially slower than expected turnaround in the businesses outside of e-commerce and cloud, and (4) large capital expenditure on artificial intelligence.

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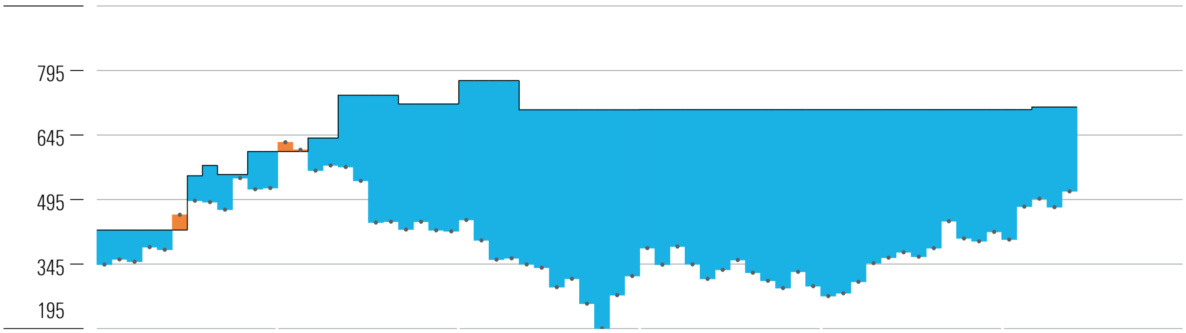
Alibaba Group Holding Ltd ADR BABA ★★★★ 19 May 2025 21:35, UTC

Competitors Price vs. Fair Value

Tencent Holdings Ltd 00700

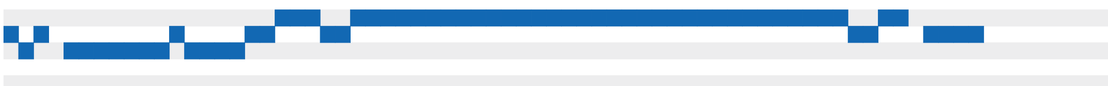


Fair Value: 710.00
20 Mar 2025 07:23, UTC

Last Close: 514.00
Overvalued
Undervalued

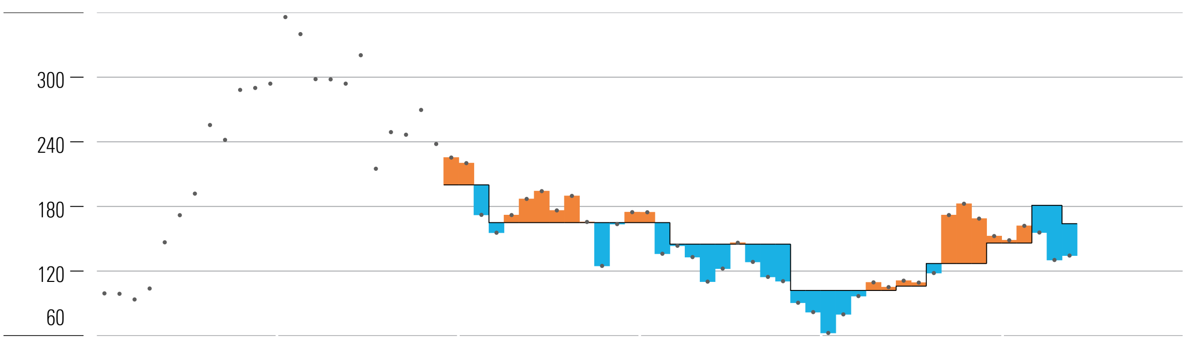
	2020	2021	2022	2023	2024	YTD	
	0.86	0.59	0.45	0.42	0.60	0.72	Price/Fair Value
	51.01	-19.01	-29.99	-7.43	44.14	23.51	Total Return %

Morningstar Rating



Total Return % as of 19 May 2025. Last Close as of 19 May 2025. Fair Value as of 20 Mar 2025 07:23, UTC.

Meituan Class B 03690

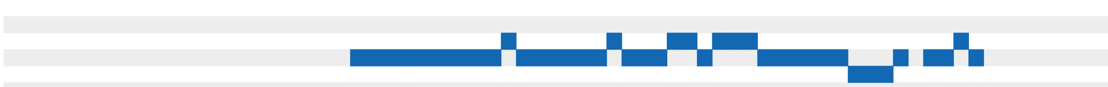


Fair Value: 164.00
5 May 2025 14:09, UTC

Last Close: 134.40
Overvalued
Undervalued

	2020	2021	2022	2023	2024	YTD	
	—	1.13	1.06	0.80	1.04	0.82	Price/Fair Value
	188.52	-23.33	-22.49	-53.12	86.20	-11.87	Total Return %

Morningstar Rating



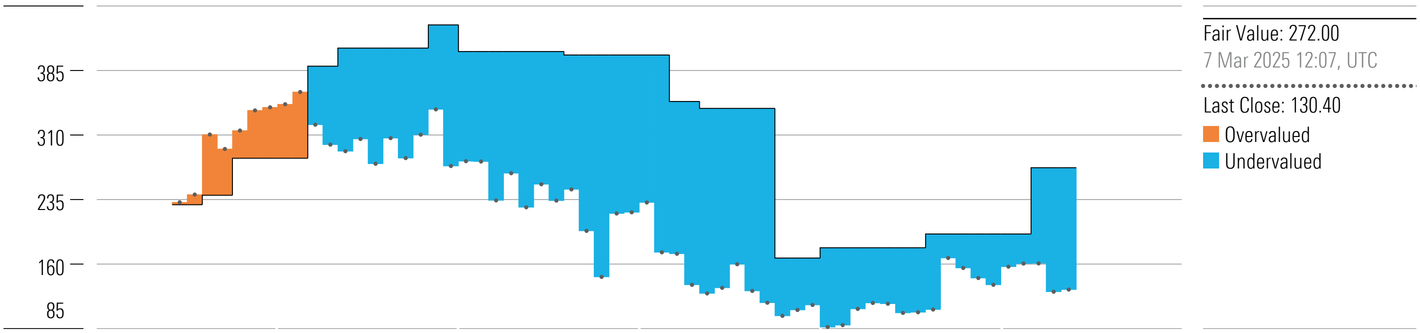
Total Return % as of 19 May 2025. Last Close as of 19 May 2025. Fair Value as of 5 May 2025 14:09, UTC.

Morningstar Equity Analyst Report | Report as of 19 May 2025 22:45, UTC | Reporting Currency: CNY | Trading Currency: USD | Exchange: NEW YORK STOCK EXCHANGE, INC.

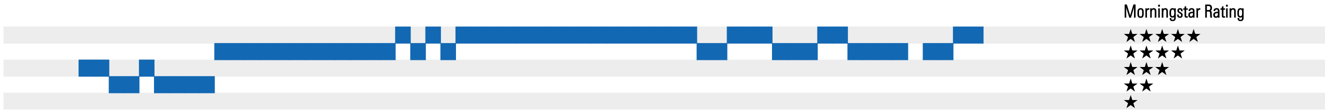
Alibaba Group Holding Ltd ADR BABA ★★★★ 19 May 2025 21:35, UTC

Competitors Price vs. Fair Value

JD.com Inc Ordinary Shares - Class A 09618



	2020	2021	2022	2023	2024	YTD
Price/Fair Value	1.21	0.63	0.55	0.67	0.70	0.48
Total Return %	—	-19.93	-17.83	-47.81	23.44	-1.19



Total Return % as of 19 May 2025. Last Close as of 19 May 2025. Fair Value as of 7 Mar 2025 12:07, UTC.

Morningstar Equity Analyst Report | Report as of 19 May 2025 22:45, UTC | Reporting Currency: CNY | Trading Currency: USD | Exchange: NEW YORK STOCK EXCHANGE, INC. Page 15 of 24

Alibaba Group Holding Ltd ADR BABA ★★★★ 19 May 2025 21:35, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment[1]
123.46 USD 16 May 2025	150.00 USD 5 May 2025 13:37, UTC	0.82	293.27 USD Bil 19 May 2025	Wide	Large Blend	High	Standard	7 May 2025 05:00, UTC

Morningstar Valuation Model Summary

Financials as of 18 May 2025	Actual			Forecast				
Fiscal Year, ends 31 Mar	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Revenue (CNY Mil)	867,098	941,168	996,347	1,063,335	1,107,645	1,169,292	1,230,974	1,307,582
Operating Income (CNY Mil)	101,476	123,871	146,315	166,231	166,974	185,080	194,931	208,573
EBITDA (CNY Mil)	143,460	156,276	180,980	205,963	218,141	246,293	263,258	281,016
Adjusted EBITDA (CNY Mil)	100,351	113,350	140,905	166,231	166,974	185,080	194,931	208,573
Net Income (CNY Mil)	70,920	79,741	128,709	141,808	145,530	160,428	170,262	183,829
Adjusted Net Income (CNY Mil)	141,379	157,479	158,122	146,482	160,161	175,531	186,003	200,328
Free Cash Flow To The Firm (CNY Mil)	-356,490	119,027	24,489	236,060	47,031	71,072	113,746	134,789
Weighted Average Diluted Shares Outstanding (Bil)	21	20	19	19	18	18	18	18
Earnings Per Share (Diluted) (CNY)	3.36	3.92	6.66	7.58	8.03	8.85	9.39	10.14
Adjusted Earnings Per Share (Diluted) (CNY)	6.70	7.74	8.19	7.82	8.84	9.69	10.26	11.05
Dividends Per Share (CNY)	0.86	0.90	1.54	1.75	1.86	2.05	2.17	2.35

Margins & Returns as of 18 May 2025		Actual			Forecast					
	3 Year Avg	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**5 Year Avg**
Operating Margin %	12.7	11.7	13.2	14.7	15.6	15.1	15.8	15.8	16.0	16.2
EBITDA Margin %	—	16.5	16.6	18.2	19.4	19.7	21.1	21.4	21.5	—
Adjusted EBITDA Margin %	—	11.6	12.0	14.1	15.6	15.1	15.8	15.8	16.0	15.7
Net Margin %	9.9	8.2	8.5	12.9	13.3	13.1	13.7	13.8	14.1	13.6
Adjusted Net Margin %	16.3	16.3	16.7	15.9	13.8	14.5	15.0	15.1	15.3	14.7
Free Cash Flow To The Firm Margin %	-8.7	-41.1	12.7	2.5	22.2	4.3	6.1	9.2	10.3	10.4

Growth & Ratios as of 18 May 2025		Actual			Forecast					
	3 Year CAGR	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**5 Year CAGR**
Revenue Growth %	5.3	1.7	8.5	5.9	6.7	4.2	5.6	5.3	6.2	5.6
Operating Income Growth %	15.6	7.1	22.1	18.1	13.6	0.4	10.8	5.3	7.0	7.4
EBITDA Growth %	8.4	0.6	8.9	15.8	13.8	5.9	12.9	6.9	6.8	9.3
Adjusted EBITDA Growth %	26.5	44.1	13.0	24.3	18.0	0.4	10.8	5.3	7.0	8.2
Earnings Per Share Growth %	32.8	18.1	16.6	70.1	13.7	6.0	10.2	6.1	8.0	8.8
Adjusted Earnings Per Share Growth %	32.8	7.0	15.5	5.8	-4.4	12.9	9.6	6.0	7.7	8.8

Valuation as of 18 May 2025	Actual			Forecast				
	2023	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Price/Earning	13.1	1.2	14.6	14.2	12.5	11.4	10.8	10.0
Price/Sales	2.4	0.3	1.3	2.0	1.9	1.8	1.7	1.6
Price/Book	1.9	0.2	2.3	2.0	1.8	1.7	1.5	1.4
Price/Cash Flow	—	—	—	—	—	—	—	—
EV/EBITDA	17.1	1.9	6.0	11.4	11.4	10.3	9.7	9.1
EV/EBIT	16.9	1.7	5.8	11.4	11.4	10.3	9.7	9.1
Dividend Yield %	1.0	10.0	1.3	1.6	1.7	1.8	2.0	2.1
Dividend Payout %	12.8	19.4	40.3	22.4	21.0	21.1	21.2	21.2
Free Cash Flow Yield %	—	—	—	—	—	—	—	—

Operating Performance / Profitability as of 18 May 2025	Actual			Forecast				
Fiscal Year, ends 31 Mar	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
ROA %	4.1	4.5	7.1	7.8	7.8	7.9	7.8	7.8
ROE %	6.3	7.2	11.9	12.7	12.6	12.6	12.1	11.9
ROIC %	23.9	35.8	45.1	40.1	41.1	54.7	50.9	52.9

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Alibaba Group Holding Ltd ADR BABA ★★★★ 19 May 2025 21:35, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment[1]
123.46 USD 16 May 2025	150.00 USD 5 May 2025 13:37, UTC	0.82	293.27 USD Bil 19 May 2025	Wide	Large Blend	High	Standard	7 May 2025 05:00, UTC

Financial Leverage (Reporting Currency)

Fiscal Year, ends 31 Mar	Actual 2023	2024	2025	Forecast 2026	2027	2028	2029	2030
Debt/Capital %	42.5	53.4	—	5.4	5.1	4.7	4.3	3.9
Assets/Equity	1.6	1.6	1.7	1.6	1.6	1.6	1.6	1.5
Net Debt/EBITDA	-2.3	-2.3	—	-2.4	-2.1	-2.2	-2.5	-2.8
Total Debt/EBITDA	1.9	1.8	—	1.2	1.2	1.1	1.0	0.9
EBITDA/ Net Interest Expense	5.9	6.3	-12.6	-35.4	-19.4	-20.1	-16.7	-13.8

Forecast Revisions as of 18 May 2025

Prior data as of 5 May 2025	2026 Current	2026 Prior	2027 Current	2027 Prior	2028 Current	2028 Prior
Fair Value Estimate Change (Trading Currency)	150.00	150.32	—	—	—	—
Revenue (CNY Mil)	1,063,335	1,057,158	1,107,645	1,117,786	1,169,292	1,176,326
Operating Income (CNY Mil)	166,231	164,889	166,974	181,050	185,080	187,319
EBITDA (CNY Mil)	166,231	164,889	166,974	181,050	185,080	187,319
Net Income (CNY Mil)	146,482	148,905	160,161	159,375	175,531	163,377
Earnings Per Share (Diluted) (CNY)	7.58	6.77	8.03	7.39	8.85	7.62
Adjusted Earnings Per Share (Diluted) (CNY)	7.82	7.70	8.84	8.25	9.69	8.45
Dividends Per Share (CNY)	1.75	1.56	1.86	1.70	2.05	1.75

Key Valuation Drivers as of 18 May 2025

Cost of Equity %	9.0
Pre-Tax Cost of Debt %	5.3
Weighted Average Cost of Capital %	9.5
Long-Run Tax Rate %	22.1
Stage II EBI Growth Rate %	5.0
Stage II Investment Rate %	13.0
Perpetuity Year	20

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

Discounted Cash Flow Valuation as of 18 May 2025

	CNY Mil
Present Value Stage I	891,517
Present Value Stage II	747,173
Present Value Stage III	775,197
Total Firm Value	**2,413,888**
Cash and Equivalents	428,093
Debt	194,869
Other Adjustments	476,354
Equity Value	**3,123,465**
Projected Diluted Shares	19
Fair Value per Share (USD)	**150.00**

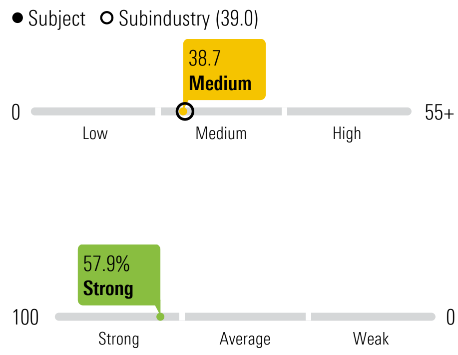
Morningstar Equity Analyst Report | Report as of 19 May 2025 22:45, UTC | Reporting Currency: CNY | Trading Currency: USD | Exchange: NEW YORK STOCK EXCHANGE, INC. Page 17 of 24

Alibaba Group Holding Ltd ADR BABA ★★★★ 19 May 2025 21:35, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment[1]
123.46 USD 16 May 2025	150.00 USD 5 May 2025 13:37, UTC	0.82	293.27 USD Bil 19 May 2025	Wide	Large Blend	High	Standard	7 May 2025 05:00, UTC

ESG Risk Rating Breakdown

Exposure	
Company Exposure[1]	38.7
– Manageable Risk	35.8
Unmanageable Risk[2]	**2.9**
Management	
Manageable Risk	35.8
– Managed Risk[3]	20.7
Management Gap[4]	**15.0**
Overall Unmanaged Risk	**18.0**



- 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 57.9% 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 Assessment[5]

ESG Risk Rating is of May 07, 2025. Highest Controversy Level is as of May 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 07 May 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	
Alibaba Group Holding Ltd	38.7 | Medium	0 – 55+	57.9 | Strong	100 – 0	18.0 | Low	0 – 40+
Baidu Inc	39.0 | Medium	0 – 55+	57.1 | Strong	100 – 0	18.3 | Low	0 – 40+
Tencent Holdings Ltd	37.3 | Medium	0 – 55+	53.4 | Strong	100 – 0	18.8 | Low	0 – 40+
JD.com Inc	35.4 | Medium	0 – 55+	29.0 | Average	100 – 0	25.8 | Medium	0 – 40+
Meituan	35.8 | Medium	0 – 55+	41.6 | Average	100 – 0	21.8 | Medium	0 – 40+

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Appendix
Historical Morningstar Rating

Alibaba Group Holding Ltd ADR BABA 19 May 2025 21:35, 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
★★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★★	★★★★	★★★★	★★★	★★★

Tencent Holdings Ltd 00700 19 May 2025 16:48, 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
★★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	—	★★★★	★★★	★★★★

Meituan Class B 03690 19 May 2025 16:49, 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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Dec 2025	Nov 2025	Oct 2025	Sep 2025	Aug 2025	Jul 2025	Jun 2025	May 2025	Apr 2025	Mar 2025	Feb 2025	Jan 2025
—	—	—	—	—	—	—	★★★★★	★★★★★	★★★★	★★★★	—
Dec 2024	Nov 2024	Oct 2024	Sep 2024	Aug 2024	Jul 2024	Jun 2024	May 2024	Apr 2024	Mar 2024	Feb 2024	Jan 2024
★★★★	★★★★	★★★★	★★★★	★★★★★	★★★★★	★★★★	★★★★	★★★★	★★★★★	★★★★★	★★★★★
Dec 2023	Nov 2023	Oct 2023	Sep 2023	Aug 2023	Jul 2023	Jun 2023	May 2023	Apr 2023	Mar 2023	Feb 2023	Jan 2023
★★★★	★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Dec 2022	Nov 2022	Oct 2022	Sep 2022	Aug 2022	Jul 2022	Jun 2022	May 2022	Apr 2022	Mar 2022	Feb 2022	Jan 2022
★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★	★★★★★	★★★★	★★★★★	★★★★	★★★★
Dec 2021	Nov 2021	Oct 2021	Sep 2021	Aug 2021	Jul 2021	Jun 2021	May 2021	Apr 2021	Mar 2021	Feb 2021	Jan 2021
★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★	★★
Dec 2020	Nov 2020	Oct 2020	Sep 2020	Aug 2020	Jul 2020	Jun 2020	May 2020	Apr 2020	Mar 2020	Feb 2020	Jan 2020
★★	★★	★★★	★★	★★	★★★	★★★	—	—	—	—	—

Research Methodology for Valuing Companies

Overview

At the heart of our valuation system is a detailed projection of a company's future cash flows, resulting from our analysts' research. Analysts create custom industry and company assumptions to feed income statement, balance sheet, and capital investment assumptions into our globally standardized, proprietary discounted cash flow, or DCF, modeling templates. We use scenario analysis, indepth competitive advantage analysis, and a variety of other analytical tools to augment this process. Moreover, we think analyzing valuation through discounted cash flows presents a better lens for viewing cyclical companies, high-growth firms, businesses with finite lives (e.g., mines), or companies expected to generate negative earnings over the next few years. That said, we don't dismiss multiples altogether but rather use them as supporting cross-checks for our DCF-based fair value estimates. We also acknowledge that DCF models offer their own challenges (including a potential proliferation of estimated inputs and the possibility that the method may miss shortterm market-price movements), but we believe these negatives are mitigated by deep analysis and our longterm approach.

Morningstar's equity research group ("we," "our") believes that a company's intrinsic worth results from the future cash flows it can generate. The Morningstar Rating for stocks identifies stocks trading at a discount or premium to their intrinsic worth—or fair value estimate, in Morningstar terminology. Five-star stocks sell for the biggest risk adjusted discount to their fair values, whereas 1-star stocks trade at premiums to their intrinsic worth.

Four key components drive the Morningstar rating: (1) our assessment of the firm's economic moat, (2) our estimate of the stock's fair value, (3) our uncertainty around that fair value estimate and (4) the current market price. This process ultimately culminates in our singlepoint star rating.

1. Economic Moat

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

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

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

2. Estimated Fair Value

Combining our analysts' financial forecasts with the firm's economic moat helps us assess how long returns on invested capital are likely to exceed the firm's cost of capital. Returns of firms with a wide economic moat rating are assumed to fade to the perpetuity period over a longer period of time than the returns of narrow-moat firms, and both will fade slower than no-moat firms, increasing our estimate of their intrinsic value.

Our model is divided into three distinct stages:

Stage I: Explicit Forecast

In this stage, which can last five to 10 years, analysts make full financial statement forecasts, including items such as revenue, profit margins, tax rates, changes in workingcapital accounts, and capital spending. Based on these projections, we calculate earnings before interest, after taxes (EBI) and the net new investment (NNI) to derive our annual free cash flow forecast.

Stage II: Fade

The second stage of our model is the period it will take the company's return on new invested capital—the return on capital of the next dollar invested ("RONIC")—to decline (or rise) to its cost of capital. During the Stage II period, we use a formula to approximate cash flows in lieu of explicitly modeling the income statement, balance sheet, and cash flow statement as we do in Stage I. The length of the second stage depends on the strength of the company's economic moat. We forecast this period to last anywhere from one year (for companies with no economic moat) to 10–15 years or more (for wide-moat companies). During this period, cash flows are forecast using four assumptions: an average growth rate for EBI over the period, a normalized investment rate, average return on new invested capital (RONIC), and the number of years until perpetuity, when excess returns cease. The investment rate and return on new invested capital decline until a perpetuity value is calculated. In the case of firms that do not earn their cost of capital, we assume marginal ROICs rise to the firm's cost of capital (usually attributable to less reinvestment), and we may truncate the second stage.

Stage III: Perpetuity

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

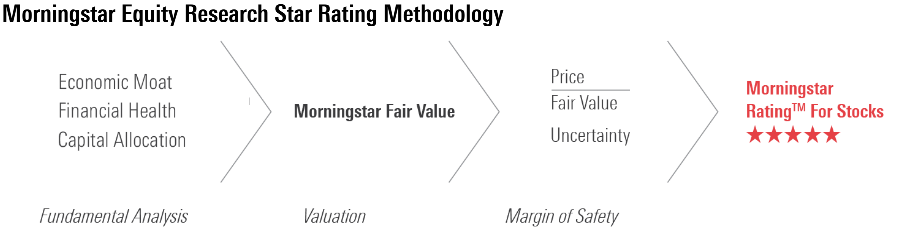
Because a dollar earned today is worth more than a dollar earned tomorrow, we discount our projections of cash flows in stages I, II, and III to arrive at a total present value of expected future cash flows. Because we are modeling free cash flow to the firm—representing cash available to provide a return to all capital providers—we discount future cash flows using the WACC, which is a weighted average of the costs of equity, debt, and preferred stock (and any other funding sources), using expected future proportionate long-term, market-value weights.

3. Uncertainty Around That Fair Value Estimate

Morningstar's Uncertainty Rating is designed to capture the range of potential outcomes for a company's intrinsic value. This rating is used to assign the margin of safety required before investing, which in turn explicitly drives our stock star rating system. The Uncertainty Rating is aimed at identifying the confidence we should have in assigning a fair value estimate for a given stock.

Our Uncertainty Rating is meant to take into account anything that can increase the potential dispersion of future outcomes for the intrinsic value of a company, and any-

Morningstar Equity Research Star Rating Methodology



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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.

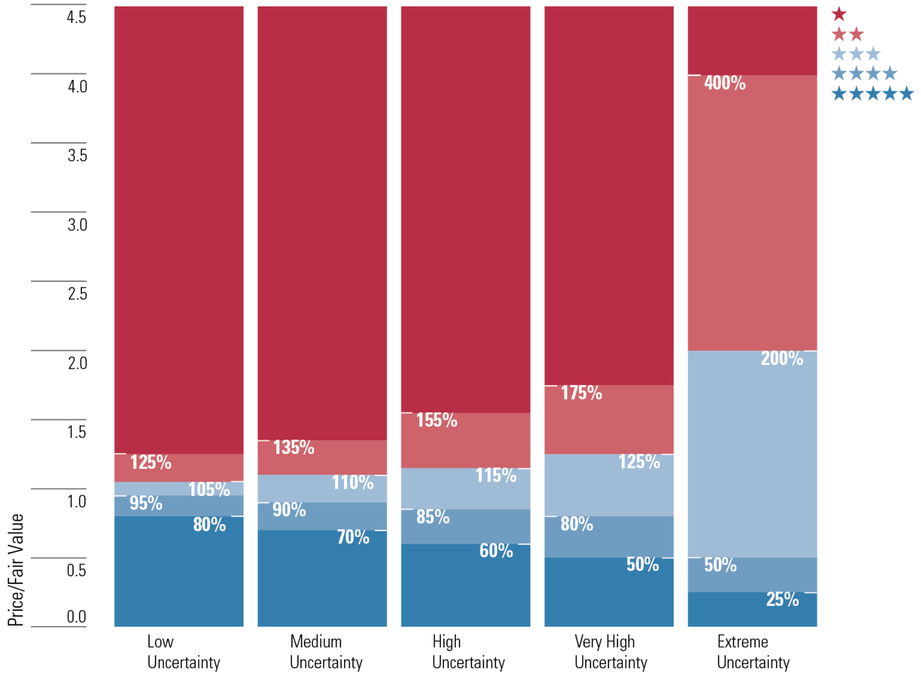
4. Market Price

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

Morningstar Equity Research Star Rating Methodology



Once we determine the fair value estimate of a stock, we compare it with the stock's current market price on a daily basis, and the star rating is automatically re-calculated at the market close on every day the market on which the stock is listed is open. Our analysts keep close tabs on the companies they follow, and, based on thorough and ongoing analysis, raise or lower their fair value estimates as warranted.

Please note, there is no predefined distribution of stars. That is, the percentage of stocks that earn 5 stars can fluctuate daily, so the star ratings, in the aggregate, can serve as a gauge of the broader market's valuation. When there are many 5-star stocks, the stock market as a whole is more undervalued, in our opinion, than when very few companies garner our highest rating.

We expect that if our base-case assumptions are true the market price will converge on our fair value estimate over time generally within three years (although it is impossible to predict the exact time frame in which market prices may adjust).

Our star ratings are guideposts to a broad audience and individuals must consider their own specific investment goals, risk tolerance, tax situation, time horizon, income needs, and complete investment portfolio, among other factors.

The Morningstar Star Ratings for stocks are defined below:

★★★★★ We believe appreciation beyond a fair risk adjusted return is highly likely over a multiyear time frame. Scenario analysis developed by our analysts indicates that the current market price represents an excessively pessimistic outlook, limiting downside risk and maximizing upside potential.

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

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

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

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

Other Definitions

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

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

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

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

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

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

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

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

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

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

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

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