

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
25.68 USD	31.50 USD	0.82	26.64 USD Bil	🛡️ None	📊 Large Growth	Very High	Standard	🌐🌐🌐🌐🌐
6 May 2025	17 Mar 2025 03:53, UTC		7 May 2025					2 Apr 2025 05:00, UTC

Year	2020	2021	2022	2023	2024	YTD
Price/Fair Value	—	—	0.70	0.96	0.71	0.82
Total Return %	—	11.34	-36.45	83.48	-35.91	7.04

Morningstar Rating

★★★★★
★★★★★
★★★★★
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★★
★

Strong PHEV Product Offering, but Lacking Clear BEV Strategy and Track Record

Li Auto is a leading new energy vehicle, or NEV, manufacturer in China, producing plug-in hybrid electric sport utility vehicles, or SUVs, for family car use. Li Auto put a lot of effort into its range-extension powertrain, which has become a key selling point for its value-for-money vehicles. As it uses less battery, plug-in hybrid electric vehicles, or PHEVs, offer significant price advantages compared with battery electric vehicles, or BEVs.


Its first model six-seater Li One SUV is built on its proprietary extended-range electric vehicle technology, offering total driving range of 800 km. Unlike competitors, Li Auto adopts a single point pricing strategy for enhanced price transparency. The full-size SUV L9, built on the company's new-generation plug-in hybrid powertrain platform, started delivery in third-quarter 2022 priced at CNY 459,800. In addition, Li Auto released the L7 SUV in February 2023, the Mega in March 2024, and the L6 in April 2024.

We see rapid new energy vehicle, or NEV, adoption in China, stimulated by regulatory push and improving charging infrastructure, among others. By 2028, we expect passenger NEVs to account for more than 60% of total passenger car sales, up from 16% in 2021. Riding on the vehicle electrification tailwind, we forecast Li Auto's delivery to reach close to 1 million units in 2028 from around 500,000

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Li Auto Inc ADR LI ★★★ 7 May 2025 21:54, UTC

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Sector	Industry
 Consumer Cyclical	Auto Manufacturers

Business Description

Li Auto is a leading Chinese NEV manufacturer that designs, develops, manufactures, and sells premium smart NEVs. The company started volume production of its first model Li One in November 2019. The model is a six-seater, large, premium plug-in electric SUV equipped with a range extension system and advanced smart vehicle solutions. It sold over 500,000 NEVs in 2024, accounting for about 4% of China's passenger new energy vehicle market. Beyond Li One, the company expands its product line, including both BEVs and PHEVs, to target a broader consumer base.

units in 2024, taking about 5% share in the passenger NEV market by volume. We forecast an improved outlook for vehicle sales profit due to increased vehicle deliveries and lower unit production cost.

Li Auto acquired its Changzhou plant, which was leased previously, in 2021. The plant, with annual designed capacity of 100,000 units, is used for manufacturing Li L7, L8 and L9. The company further expanded its Changzhou capacity to 200,000 units in 2024. It has also commenced production at its Beijing factory for the company's BEV cars.

Bulls Say Vincent Sun, CFA, Senior Equity Analyst, 17 Mar 2025

- ▶ Li Auto's strong product capacity, targeting family car users and focusing on the mid- to large-size SUV segment, will ensure the success of its future NEV models, including but not limited to extended range electric vehicles, or EREVs.
- ▶ EREV technology eases consumers' range anxiety on electric cars. Chinese consumers' soaring demand for EV cars will benefit NEV carmakers such as Li Auto.
- ▶ Younger car buyers value vehicle tech experience, which provides Li Auto with an advantage over legacy carmakers.

Bears Say Vincent Sun, CFA, Senior Equity Analyst, 17 Mar 2025

- ▶ Li Auto's range-extension vehicles will face increasing pressure as the industry moves to pure electric models, while the company lacks track record in pure electric vehicles.
- ▶ Decreasing battery cost will shrink the cost advantage the company established with plug-in electric vehicles, or PHEVs.
- ▶ Rising competition in China's NEV market indicates legacy OEMs will defend their market share with aggressive new model launches.


Economic Moat Vincent Sun, CFA, Senior Equity Analyst, 17 Mar 2025

We like Li Auto's precise product positioning, offering value-for-money family cars to Chinese consumers. However, we do not think product capability alone is moaty and guarantees a competitive advantage for NEV manufacturers in the midcycle as competition gradually catches up with similar value proposition cars.

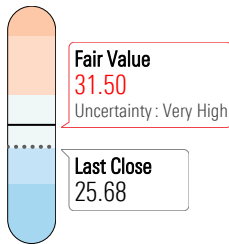
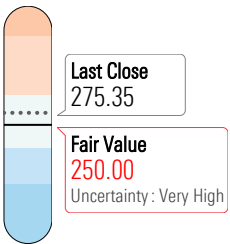
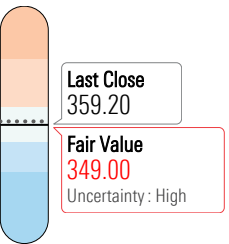
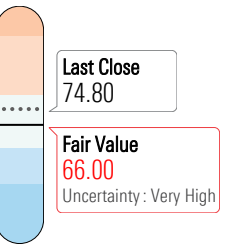
Li Auto accounted for 4% of China's passenger NEV market in 2024. The stellar performance was attributable to the company's successful positioning of its first model Li One, in our view. The plug-in hybrid electric vehicle, or PHEV, is a six-seater, large-size SUV. The model is attractively priced to compete with SUVs of the same size. It is the same size as a Tesla Model X but at a Model 3 price, or BMW X5 size at an X1 price.

The company is also leading the development of PHEV powertrain technology in China. The range-extension system was developed in-house using electric motors, a range extender (generator), and an

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Competitors




	Li Auto Inc ADR LI	Tesla Inc TSLA	BYD Co Ltd Class A 002594	XPeng Inc Class A 09868
				
Economic Moat	None	Narrow	None	None
Currency	USD	USD	CNY	HKD
Fair Value	31.50 17 Mar 2025 03:53, UTC	250.00 30 Jan 2025 05:50, UTC	349.00 28 Apr 2025 04:06, UTC	66.00 19 Mar 2025 08:53, UTC
1-Star Price	55.13	437.50	540.95	115.50
5-Star Price	15.75	125.00	209.40	33.00
Assessment	Fairly Valued 7 May 2025	Fairly Valued 7 May 2025	Fairly Valued 7 May 2025	Fairly Valued 7 May 2025
Morningstar Rating	★★★ 7 May 2025 21:54, UTC	★★★ 7 May 2025 21:39, UTC	★★★ 7 May 2025 16:38, UTC	★★★ 7 May 2025 16:44, UTC
Analyst	Vincent Sun, Senior Equity Analyst	Seth Goldstein, Strategist	Vincent Sun, Senior Equity Analyst	Vincent Sun, Senior Equity Analyst
Capital Allocation	Standard	Exemplary	Standard	Standard
Price/Fair Value	0.82	1.10	1.03	1.13
Price/Sales	1.36	10.09	1.28	3.20
Price/Book	2.66	11.88	5.01	4.29
Price/Earning	24.64	142.82	21.51	—
Dividend Yield	0.00%	0.00%	0.86%	0.00%
Market Cap	26.64 Bil	889.69 Bil	1,091.63 Bil	142.21 Bil
52-Week Range	17.44 — 33.12	167.41 — 488.54	206.58 — 403.40	25.50 — 106.00
Investment Style	Large Growth	Large Growth	Large Growth	Large Blend

internal combustion engine, or ICE. The range extender, propelled by an ICE engine, can either power the electric motors to drive the vehicle or charge the battery pack. Li One is equipped with a 40.5 kWh battery pack for 180 km driving range on battery and a 45 L fuel tank and a 1.2-liter turbocharged engine for a total range of 800 km on full-charge and fuel tank.

While range-extension technology offers an alternative NEV powertrain solution, we think price advantage is only attractive to consumers before pure electric models reach cost parity with ICEs. According to Li Auto, the bill of material, or BOM, cost of its PHEVs is approximately 10% higher than comparable ICE models. Given NEVs are exempt from the 10% purchase tax, we believe the company's PHEVs have reached price parity with ICEs on an aftertax basis, but offer enhanced digital experiences.

We do not think Li Auto has a moat as the firm does not prove to have pricing power. While Li One is priced as entry-level luxury autos, pricing is below premium brand models of comparable size. Rather, it

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is in the price range of the ICE versions of Toyota Highlander or Volkswagen Teramont. The large-size electric SUV segment is currently not as crowded as compact and midsize segments. Once competition heats up, we believe other automakers can offer similar value proposition NEV products.

In addition, the company’s product strategy benefits from lower battery cost of PHEV powertrain than pure electric EVs, or BEVs. According to Li Auto, the BOM cost of comparable BEVs are currently about 25%-30% higher than PHEVs given BEVs require a larger battery pack. With BEVs expected to become as affordable as ICEs in the next three to five years, the scarcity of Li Auto’s value proposition will disappear with competitors launching pure battery large SUVs at similar price levels.

Fair Value and Profit Drivers Vincent Sun, CFA, Senior Equity Analyst, 17 Mar 2025

Our fair value estimate is USD 31.50 per ADS, based on our expectation that Li Auto will continue to gain market share from legacy automakers. Riding on the industry electrification trend and increasing consumer adoption of NEVs, we anticipate rising demand for the company’s NEV models and improving profitability on economies of scale over the next few years. Our fair value estimate implies a forward 2025 price/sales ratio of 1.6 times and price/earnings of 31 times.

We expect the company’s revenue to expand at a CAGR of 16% over 2024-29, mainly driven by an expansion in vehicle delivery volume. We estimate an increasing NEV penetration rate, coupled with a demand shift to Chinese local brands, will lead to a total volume growth of 13% CAGR over the next five years. Despite international and local automakers continuing to aggressively bring new NEV models to market, we believe Li Auto enjoys unique product positioning with PHEVs offering value-for-money vehicles to family car users.


Increasing scale effect will improve the company’s profitability, in our view. In addition, the diffusion of NEV technology and battery energy density will result in higher profitability over the longer term, reaffirming our improving margin assumptions. As a result, we project the group’s operating margin to expand to 5.8% in 2029, from 4.4% in 2024.

Risk and Uncertainty Vincent Sun, CFA, Senior Equity Analyst, 17 Mar 2025

We have a Very High Morningstar Uncertainty Rating for Li Auto as the firm operates in a cyclical, capital-intensive, and highly competitive auto manufacturing industry. These factors combined can drive huge swings in return on invested capital, even for pure-play NEV automakers. Heavy fixed costs induce fluctuating profitability from quite small changes in demand, or from lost production due to supply shocks.

Li Auto’s key threats include escalating competition in China’s NEV market. Motivated by robust demand growth in electric vehicles, major automakers have accelerated their NEV product development in recent years. Legacy automakers, whether Chinese or global, continue to bring new electric models

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onto the market and compete on prices. We believe it will be increasingly challenging for Li Auto to increase its market share if it fails to differentiate its models from peers.

Li Auto depends on a limited number of models. If new models don't meet consumer expectations or experience delay in product launch, sales may be adversely affected. Development in NEV technologies may also reduce the competitive advantages of EREVs. While the firm plans to launch two BEV models in 2025, there is uncertainty on its BEV strategy given lack of track record.

The automotive industry is capital-intensive. Li Auto needs significant capital to ramp up production capacity, expand the sales and service network, and conduct research and development. Its future capital needs may require the firm to obtain external financing through equity or debt issuances that may dilute existing shareholders or introduce covenants that may restrict its operations. Such financing might not be available in a timely manner or on acceptable terms, which will delay its expansion plans.

Capital Allocation Vincent Sun, CFA, Senior Equity Analyst, 17 Mar 2025

We have assigned a Standard Morningstar Capital Allocation Rating to Li Auto. The rating reflects our assessment of a sound balance sheet, fair investment and shareholder distributions. Li Auto's balance sheet looks sound with a conservative level of debt in its book. The company has been in a net cash position since 2019 and we think the balance sheet will remain solid as its access to capital is likely to remain solid amid automotive electrification tailwinds.

The company has not paid out dividends historically. In addition, given the large capital expenditure required for NEV investments, it is unlikely to pay any dividends in the next five years. We believe this is the appropriate shareholder distribution strategy as management continues to expand sales and invest in related technologies.

Li Xiang, founder and CEO of the company, built one of China's largest electric vehicle manufacturing enterprises from the ground up. He holds close to 70% voting rights in Li Auto, indicating his significant vested interest in the firm's long-term success. Unlike the case for many other Chinese automakers, the government does not have a direct stake in the listed entity. Such a shareholding structure enables the company to prioritize shareholder interests and be more nimble when it comes to staying on top of the competition.




Analyst Notes Archive

Li Auto Earnings: 2024 Largely In Line, but Weak First-Quarter Outlook Triggers Growth Concern

Vincent Sun, CFA, Senior Equity Analyst, 17 Mar 2025

Li Auto's fourth-quarter revenue was around the midpoint of its guidance and largely in line with our expectations. Vehicle margin slipped 310 basis points year on year and 130 basis points from the previous quarter due to product mix and retail discounts. Why it matters: While stringent cost control

Li Auto Inc ADR 7 May 2025 21:54, UTC




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led to net profit beating our estimates, management remained vague on the battery model pipeline. We think investors still lack confidence in Li Auto resuming fast delivery growth, as the firm failed to provide a convincing growth outlook. The L series' facelift will be introduced in May, which would likely help sales of plug-in models resume mild growth. The battery sport utility vehicle i8 will be launched in July and the i6 in September. We believe low visibility remains for 1) delivery volume growth potential from the firm's current plug-in lineup and 2) prospects for Li Auto's new battery vehicle launch in 2025 after the Mega's lackluster sales. The bottom line: We cut our fair value estimate to USD 31.50 per ADS (HKD 123 per share) from USD 33.70 (HKD 132.40), which implies a 2025 price/sales ratio of 1.6 times and a P/E ratio of 31 times. Stocks are trading in 3-star territory and are fairly valued. We cut 2025-28 vehicle delivery by 9%-11% and 2025-28 revenue estimates by 8%-10%, as we expect competition to slow Li Auto's volume growth and contribution from new battery models remains low. Partly offset by lower operating expense ratios, we reduce our 2025-28 net profit forecasts by 6%-11%. Between the lines: Li Auto guided first-quarter vehicle delivery to grow 9%-16% year on year to 88,000-93,000 units. The guidance implies around 35,000 unit sales in March, which appears short of market expectations. Management is conservative in guiding 19% vehicle margin for the first quarter, which indicates competition pressure. We think launch of battery models in the second half and the L6 becoming the largest sales driver will introduce further margin pressure.

Li Auto: Visibility for 2025 Growth Outlook Remains Low Vincent Sun, CFA, Senior Equity Analyst, 19 Feb 2025

Li Auto closed 2024 with 500,508 units delivery of plug-in hybrid electric vehicles. Because of an early Chinese New Year, January delivery was down 4% year over year to about 30,000 units. Why it matters: The fourth-quarter vehicle delivery volume was 4% below our sales forecast and missed the low end of company guidance by 1%. The lackluster sales and unexciting new model pipeline led to Li Auto's share price underperformance compared with BYD and Xpeng for the year to date, in our view. As lower-priced model L6 ramped up volume contribution to 49% in the fourth quarter compared with nothing a year ago, coupled with competition from Huawei and retail discounts for major models, we think Li Auto likely saw continued margin pressure in the December quarter. The bottom line: We maintain our fair value estimate at USD 33.70 per ADS (HKD 132.40 per share), implying 1.5 times 2025 price/sales ratio and 30 times price/earnings. Stocks are undervalued, with shares trading in 4-star territory. We await the release of fourth-quarter results for additional details. We think the growth outlook for the existing plug-in lineup lacks visibility in the face of consumer shift toward full EVs, and there is an uncertain timeline for its battery vehicle launch. Investors will likely stay on the sidelines until there is confidence on Li Auto maintaining fast delivery growth, in our view. Between the lines: The company will report fourth-quarter results in March. In order to gauge a concrete growth outlook for 2025, we believe delivery guidance, new PHEV models, and the battery electric vehicle launch plan will be investors' key focus for the results' announcement. While we expect delivery will remain decent for Li Auto in 2025,

Li Auto Inc ADR ★★★ 7 May 2025 21:54, UTC

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retaining its leading position in PHEV segment, price competition and sales mix change would offset the benefits from higher volume. In addition, a launch of new BEV models this year will introduce additional margin pressure.


Li Auto Earnings: Revenue in Line; Profit Beat on Stronger Vehicle Margin Recovery Vincent Sun,
CFA, Senior Equity Analyst, 1 Nov 2024

Li Auto's third-quarter revenue was 2% above guidance and largely in line with our expectation. Net profit beat as margin recovered from the past quarter's trough. Vehicle margin was flat year on year but picked up 220 basis points from past quarter supported by larger delivery and supplier rebate. Why it matters: Shares were down 14% in US trading after the announcement, as management failed to provide a concrete growth outlook for 2025 and remained silent on the model pipeline. We think investors will likely stay on the sidelines until there is visibility on Li Auto's battery vehicle launches. The bottom line: We lift our fair value estimate to USD 33.70 per ADS (HKD 132.40 per share) from USD 32.80 per ADS (HKD 127.40 per share), which implies 2025 price/sales ratio of 1.5 times and P/E of 30 times. Stocks are trading in 4-star territory after price movement overnight. We lift 2024-28 vehicle deliveries by 5%-6% and 2024-28 revenue estimates by 4%-7%. With higher vehicle margin and lower operating expense ratios, we raise 2024 net profit largely by 58% but only lift 2025-28 profit by 1%-5% as we expect competition and new battery models to depress profitability. Between the lines: For the fourth quarter, management guided vehicle delivery to grow 21%-29% year over year to 160,000-170,000 units. The guidance implies monthly sales of around 55,000 units for October-December, which we believe is below market expectations. Despite a larger delivery scale, management is conservative in guiding around a 20% vehicle margin for the fourth quarter, which indicates uncertainty around consumer sentiment and competition. As L6 becomes the largest sales driver, its aggressive pricing will introduce additional margin pressure. Low visibility remains on further delivery growth potential from the firm's plug-in lineup after monthly volume passed 55,000 units, and the timeline for Li Auto's battery vehicle launch after the first battery MPV Mega's lacklustre start.

Li Auto Earnings: Vehicle Margin and Profit Missed, Amid Competition Pressure Vincent Sun,
CFA, Senior Equity Analyst, 29 Aug 2024

Li Auto's second-quarter revenue was largely in line with the firm's guidance, but net profit missed our expectation due to a soft margin. Vehicle margin of 19% declined 2 percentage points year over year due to negative impact from price promotions and sales mix shift despite a larger delivery volume. We reduce our fair value estimate to USD 32.80 per ADS (HKD 127.40 per share) from USD 37.50 (HKD 147.40), which implies a forward 2025 price/sales ratio of 1.5 times and price/earnings of 30 times. While Li Auto's shares are trading in 4-star territory, we still prefer Geely on valuation grounds. For the third quarter, management guided for vehicle delivery to grow 38%-47% year over year to 145,000-155,000 units and total revenue to rise at a slower rate of 14%-22% to CNY 39.4 billion-CNY 42.2 billion.

Li Auto Inc ADR 7 May 2025 21:54, UTC

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The midpoint of the delivery guidance implies a monthly sales volume of around 50,000 units for August and September, which we believe slightly missed market expectations. We believe market disappointment over margins and volume is leading to the over 10% share price fall in the Aug. 29, 2024, morning trading session. Now that the company has decided to delay its pure battery electric vehicle, or BEV, model launches to 2025, the lackluster guidance also indicates uncertainty around consumer sentiment amid market competition, especially from Huawei's Aito. We expect Li Auto's vehicle average selling price, or ASP, and margin to remain pressured in the near term with price discounts. In addition, the aggressive pricing for the L6 sport utility vehicle, launched in April, will introduce additional margin pressure as the model ramps up volume contribution and becomes the largest sales driver. Therefore, we keep our 2024-26 vehicle sales forecasts but cut our 2024-26 revenue estimates by 7%-8% to factor in lower vehicle ASP assumptions. With reduced vehicle margin assumptions, as witnessed in the first half, we reduce our 2024-26 net profit forecasts by 13%-30%.

Tariffs of Up to 25% on Chinese EV Manufacturers Won't Change Our Growth Outlook Vincent Sun, CFA, Senior Equity Analyst, 12 Jun 2024

Shares of Chinese electric vehicle manufacturers fell 4%-9% on June 12 in Hong Kong on news that the European Commission will provisionally apply additional tariffs of up to 25% on imported electric vehicles made in China starting next month, compared with the 10% standard import duties on EVs. The European Union launched an investigation in October 2023 into subsidies given to EV automakers in China. The EU accused Chinese automakers of unfairly benefiting from incentives and support from the Chinese government and such subsidies have raised overcapacity concerns. The commission alleged that subsidized car imports posed an economic threat to the healthy development of the EV industry in the EU. The move is modest compared with the stiff 100% tariffs on Chinese EV imports into the US, hiked from 25% last month, by the Joe Biden administration and the 25% provisional duties are in line with market expectations of 20%-25%, in our view. Unlike the US market where imports of China-made EVs have been negligible, we believe the import levies imposed by the EU will put pressure on sales for Chinese EV manufacturers in the near term. However, we think Chinese producers are still competitive compared with their rivals. The commission estimates that prices of Chinese EVs are typically 20% lower than prices of EU-made equivalent models. With additional tariffs, Chinese cars are at similar prices, but with more attractive designs and vehicle technology. In addition, the tariffs will apply not only to Chinese carmakers including BYD and Geely, but also to global automakers such as Tesla and BMW, which export EVs from China to Europe. In the medium term, we do not think the import levies will derail Chinese EV manufacturers' expansion plans to set up factories in Europe. The increase in local production in the EU could largely offset the impact of tariffs. For example, BYD announced last year it would build a new manufacturing plant in Hungary for localized production.




Li Auto Earnings: Profit Missed on Lower Vehicle Margin and Higher Expenses Vincent Sun,

Li Auto Inc ADR

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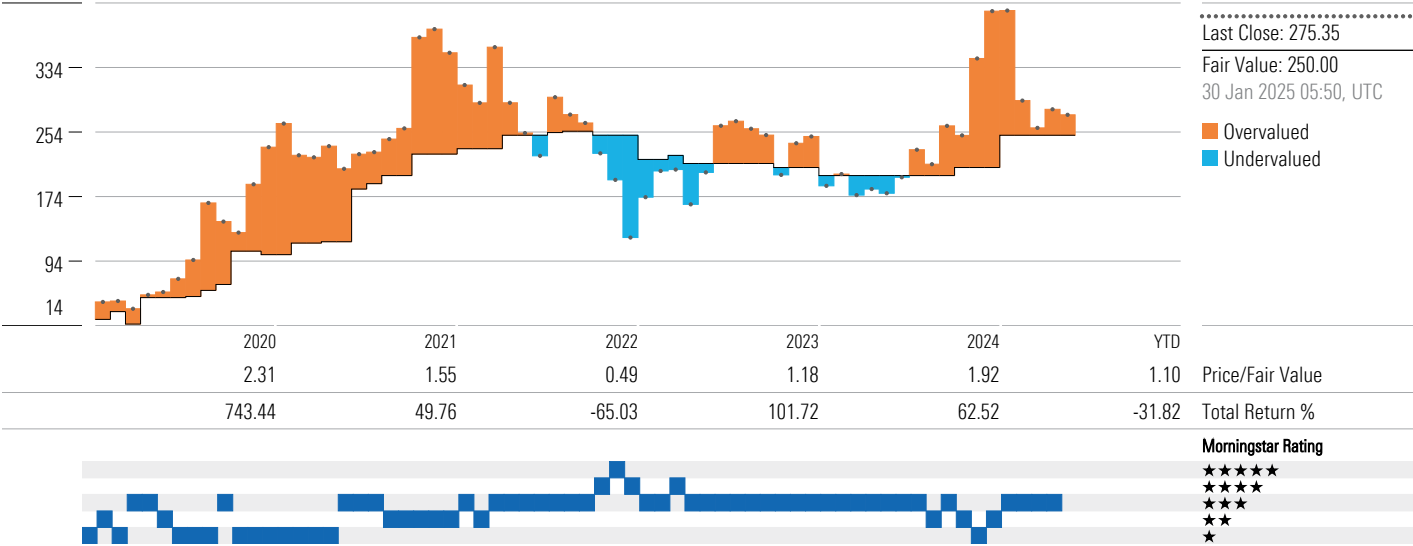
CFA,Senior Equity Analyst,21 May 2024

Li Auto’s first-quarter revenue was in line with Refinitiv consensus, but net profit missed expectations. Vehicle margin of 19% staged a small year-over-year decline due to the negative impact of price promotions despite a larger delivery volume. Vehicle delivery guidance also missed market expectations, with disappointing sales of the Mega, the firm's first pure battery electric vehicle, or BEV. We cut our 2023-26 revenue and profit estimates to reflect lower volume and margin assumptions. We reduce our fair value estimate to USD 37.50 per ADS (HKD 147.40 per share) from USD 51.00 (HKD 198.20), which implies a forward 2024 price/sales ratio of 2 times and price/earnings of 42 times.For the second quarter, management guided vehicle delivery to increase 21%-27% year over year to 105,000-110,000 units and total revenue to only increase 4%-10% year over year to CNY 29.9 billion-CNY 31.4 billion. The high end of the delivery guidance implies a monthly sales volume of about 42,000 units for May and June. For its new model pipeline, Li Auto will delay the three BEV model launches to 2025 to have more time to build out its fast-charging network.We cut our 2024-26 vehicle sales forecasts by 20%-24% to factor in the year-to-date run rate and uncertainty about Li Auto’s BEV new model launches. Together with weaker average selling price, or ASP, assumptions, our 2024-26 revenue estimates are cut by 28%-31%. With higher operating expenses ratio assumptions, as witnessed in the first quarter, we reduce our 2024-26 net profit forecasts by 35%-44%. We expect the firm's ASP and vehicle margin to stay under near-term pressure with price discounts and the new model L6 delivery. The aggressive pricing for the L6 sport utility vehicle, launched in April, is likely to introduce additional margin pressure as the model ramps up volume contribution and becomes the largest sales driver. The conservative guidance also indicates uncertainty amid market competition, especially from Huawei. ■■

Li Auto Inc ADR LI ★★★ 7 May 2025 21:54, UTC

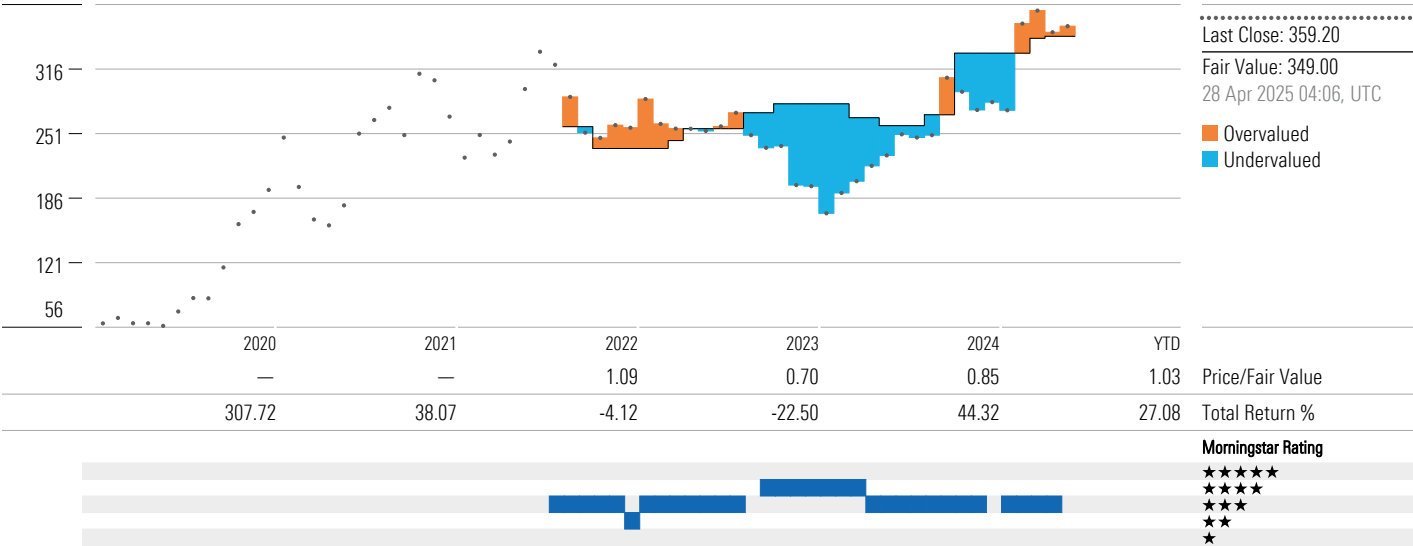
Competitors Price vs. Fair Value

Tesla Inc TSLA



Total Return % as of 06 May 2025. Last Close as of 06 May 2025. Fair Value as of 30 Jan 2025 05:50, UTC.

BYD Co Ltd Class A 002594



Total Return % as of 07 May 2025. Last Close as of 07 May 2025. Fair Value as of 28 Apr 2025 04:06, UTC.

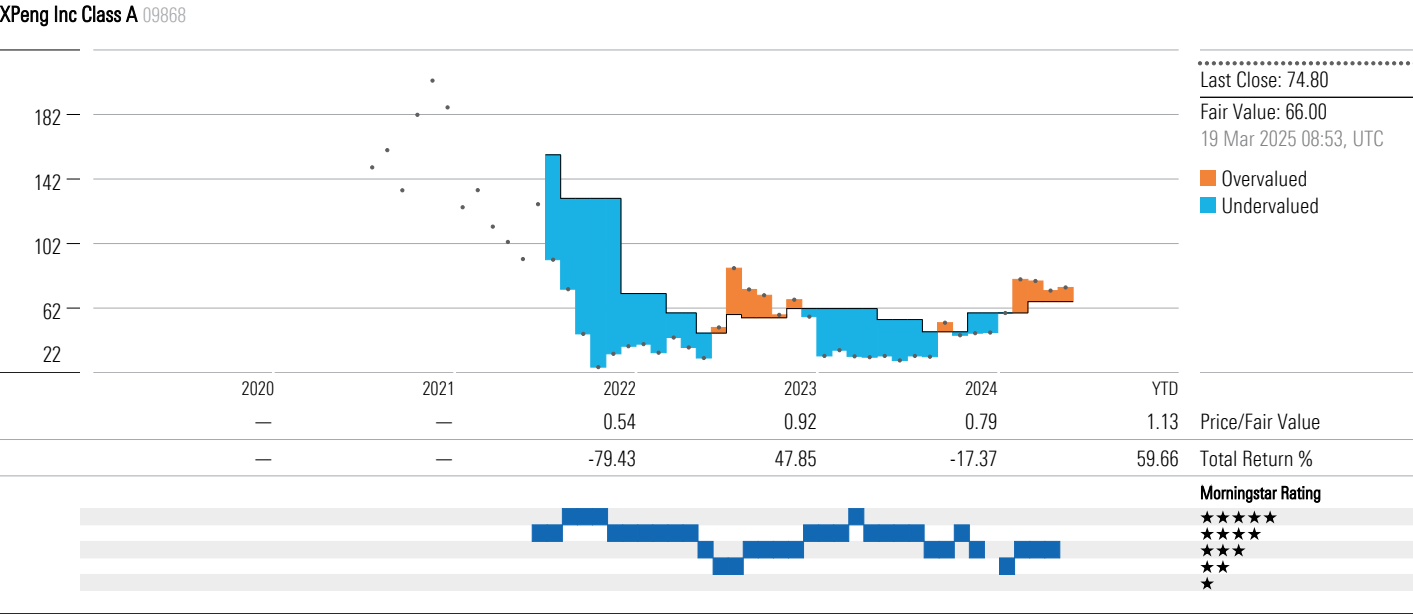
Li Auto Inc ADR

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Competitors Price vs. Fair Value



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Morningstar Valuation Model Summary

Financials as of 17 Mar 2025

Fiscal Year, ends 31 Dec	Actual			Forecast				
	2022	2023	2024	2025	2026	2027	2028	2029
Revenue (CNY Mil)	45,287	123,851	144,460	162,644	194,778	230,054	264,929	299,853
Operating Income (CNY Mil)	-3,655	7,143	6,355	6,921	9,918	12,980	15,522	17,525
EBITDA (CNY Mil)	-1,815	10,260	9,488	10,000	13,755	17,689	21,216	24,305
Adjusted EBITDA (CNY Mil)	-2,441	8,948	8,160	9,336	13,091	17,025	20,552	23,641
Net Income (CNY Mil)	-2,012	11,704	8,032	8,095	11,062	13,811	16,142	18,033
Adjusted Net Income (CNY Mil)	-2,601	10,221	6,885	7,530	10,498	13,246	15,578	17,468
Free Cash Flow To The Firm (CNY Mil)	-4,451	8,151	-3,885	965	2,340	3,313	3,976	4,641
Weighted Average Diluted Shares Outstanding (Mil)	1,941	2,115	2,129	2,244	2,244	2,244	2,244	2,244
Earnings Per Share (Diluted) (CNY)	-1.04	5.53	3.77	3.61	4.93	6.15	7.19	8.04
Adjusted Earnings Per Share (Diluted) (CNY)	-1.34	4.83	3.23	3.36	4.68	5.90	6.94	7.78
Dividends Per Share (CNY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Margins & Returns as of 17 Mar 2025

	3 Year Avg	Actual			Forecast					5 Year Avg
		2022	2023	2024	2025	2026	2027	2028	2029	
Operating Margin %	1.8	-8.1	5.8	4.4	4.3	5.1	5.6	5.9	5.8	5.6
EBITDA Margin %	—	-4.0	8.3	6.6	6.2	7.1	7.7	8.0	8.1	—
Adjusted EBITDA Margin %	—	-5.4	7.2	5.7	5.7	6.7	7.4	7.8	7.9	7.1
Net Margin %	3.6	-4.4	9.5	5.6	5.0	5.7	6.0	6.1	6.0	5.8
Adjusted Net Margin %	2.4	-5.7	8.3	4.8	4.6	5.4	5.8	5.9	5.8	5.5
Free Cash Flow To The Firm Margin %	-2.0	-9.8	6.6	-2.7	0.6	1.2	1.4	1.5	1.6	1.3

Growth & Ratios as of 17 Mar 2025

	3 Year CAGR	Actual			Forecast					2029 5 Year CAGR
		2022	2023	2024	2025	2026	2027	2028	2029	
Revenue Growth %	74.9	67.7	173.5	16.6	12.6	19.8	18.1	15.2	13.2	15.7
Operating Income Growth %	—	259.3	-295.4	-11.0	8.9	43.3	30.9	19.6	12.9	22.5
EBITDA Growth %	-5.0	657.8	-665.2	-7.5	5.4	37.6	28.6	19.9	14.6	21.2
Adjusted EBITDA Growth %	-367.4	471.8	-466.5	-8.8	14.4	40.2	30.1	20.7	15.0	23.7
Earnings Per Share Growth %	—	497.7	-633.8	-31.8	-4.4	36.7	24.8	16.9	11.7	16.3
Adjusted Earnings Per Share Growth %	—	247.1	-460.6	-33.1	3.8	39.4	26.2	17.6	12.1	16.3


Valuation as of 17 Mar 2025

	Actual			Forecast				
	2022	2023	2024	2025	2026	2027	2028	2029
Price/Earning	-52.9	27.5	27.1	28.2	20.3	16.1	13.7	12.2
Price/Sales	3.0	2.2	1.2	1.2	1.0	0.8	0.7	0.6
Price/Book	3.1	4.7	2.6	2.7	2.4	2.1	1.8	1.5
Price/Cash Flow	—	—	—	—	—	—	—	—
EV/EBITDA	-38.5	21.4	10.7	10.1	7.2	5.6	4.6	4.0
EV/EBIT	-25.7	26.9	13.7	13.7	9.5	7.3	6.1	5.4
Dividend Yield %	—	—	—	—	—	—	—	—
Dividend Payout %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Free Cash Flow Yield %	—	—	—	—	—	—	—	—

Operating Performance / Profitability as of 17 Mar 2025

Fiscal Year, ends 31 Dec	Actual			Forecast				
	2022	2023	2024	2025	2026	2027	2028	2029
ROA %	-2.3	8.2	5.0	4.5	5.4	5.9	6.1	6.1
ROE %	-4.5	19.3	11.3	10.2	12.2	13.2	13.4	13.0
ROIC %	86.1	-51.9	-47.2	-254.6	127.7	58.0	39.1	29.9

Li Auto Inc ADR | ★★★ 7 May 2025 21:54, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
25.68 USD 6 May 2025	31.50 USD 17 Mar 2025 03:53, UTC	0.82	26.64 USD Bil 7 May 2025	None	Large Growth	Very High	Standard	 2 Apr 2025 05:00, UTC

Financial Leverage (Reporting Currency)

Fiscal Year, ends 31 Dec	Actual			Forecast				
	2022	2023	2024	2025	2026	2027	2028	2029
Debt/Capital %	38.9	26.4	—	3.7	3.9	4.2	4.3	4.4
Assets/Equity	1.9	2.4	2.3	2.3	2.3	2.2	2.2	2.1
Net Debt/EBITDA	24.4	-8.7	—	-11.1	-9.0	-7.8	-7.3	-7.0
Total Debt/EBITDA	-5.0	1.5	—	1.1	0.9	0.8	0.8	0.8
EBITDA/ Net Interest Expense	2.8	-4.5	-5.0	-4.8	-5.3	-6.5	-7.2	-7.7

Forecast Revisions as of 16 Mar 2025

Prior data as of 1 Nov 2024	2025		2026		2027	
	Current	Prior	Current	Prior	Current	Prior
Fair Value Estimate Change (Trading Currency)	31.50	33.66	—	—	—	—
Revenue (CNY Mil)	162,644	145,094	194,778	176,297	230,054	216,907
Operating Income (CNY Mil)	6,921	5,841	9,918	7,558	12,980	11,667
EBITDA (CNY Mil)	9,336	8,706	13,091	12,045	17,025	17,884
Net Income (CNY Mil)	7,530	6,638	10,498	8,244	13,246	11,802
Earnings Per Share (Diluted) (CNY)	3.61	3.49	4.93	3.98	6.15	5.56
Adjusted Earnings Per Share (Diluted) (CNY)	3.36	2.96	4.68	3.67	5.90	5.26
Dividends Per Share (CNY)	0.00	0.00	0.00	0.00	0.00	0.00

Key Valuation Drivers as of 17 Mar 2025


Cost of Equity %	9.0
Pre-Tax Cost of Debt %	5.3
Weighted Average Cost of Capital %	9.8
Long-Run Tax Rate %	15.0
Stage II EBI Growth Rate %	3.0
Stage II Investment Rate %	10.0
Perpetuity Year	11

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

Discounted Cash Flow Valuation as of 17 Mar 2025

	CNY Mil
Present Value Stage I	24,377
Present Value Stage II	9,379
Present Value Stage III	109,915
Total Firm Value	143,671
Cash and Equivalents	112,806
Debt	8,433
Other Adjustments	2,261
Equity Value	250,304
Projected Diluted Shares	2,244
Fair Value per Share (USD)	31.50

Li Auto Inc ADR | ★★★ 7 May 2025 21:54, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
25.68 USD 6 May 2025	31.50 USD 17 Mar 2025 03:53, UTC	0.82	26.64 USD Bil 7 May 2025	None	Large Growth	Very High	Standard	 2 Apr 2025 05:00, UTC

ESG Risk Rating Breakdown

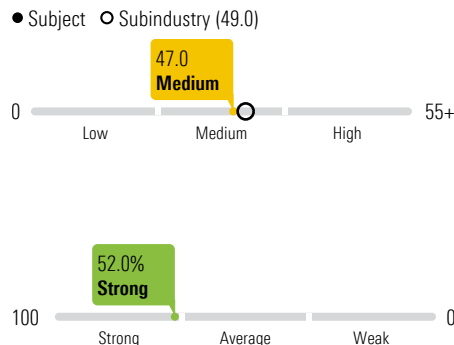
Exposure

Company Exposure¹	47.0
– Manageable Risk	44.6
Unmanageable Risk²	2.4

Management

Manageable Risk	44.6
– Managed Risk³	23.2
Management Gap⁴	21.4

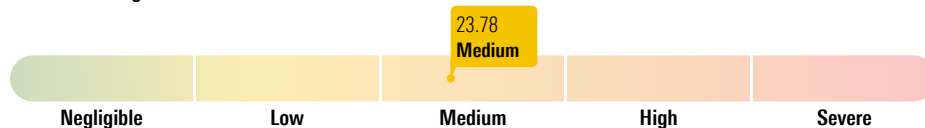
Overall Unmanaged Risk 23.8



- 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 52.0% 4. Management Gap assesses risks that are not managed, but are considered manageable 5. ESG Risk Rating Assessment = Overall Unmanaged Risk = Management Gap plus Unmanageable Risk

ESG Risk Rating Assessment⁵



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

Peer Analysis 02 Apr 2025

Peers are selected from the company's Sustainalytics-defined Subindustry and are displayed based on the closest market cap values

Company Name	Exposure	Management	ESG Risk Rating
Li Auto Inc	47.0 Medium 0 — 55+	52.0 Strong 100 — 0	23.8 Medium 0 — 40+
BYD Co Ltd	47.4 Medium 0 — 55+	43.0 Average 100 — 0	28.0 Medium 0 — 40+
Tesla Inc	41.7 Medium 0 — 55+	42.4 Average 100 — 0	24.8 Medium 0 — 40+
NIO Inc	44.8 Medium 0 — 55+	41.1 Average 100 — 0	27.2 Medium 0 — 40+
XPeng Inc	44.0 Medium 0 — 55+	45.1 Average 100 — 0	25.0 Medium 0 — 40+

Appendix

Historical Morningstar Rating

Li Auto Inc ADR LI 7 May 2025 21:54, 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
—	—	—	—	—	—	—	—	—	—	—	—

Tesla Inc TSLA 7 May 2025 21:39, 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
★	★	★★★★	★	★	★	★★	★★★★	★★★★	★	★★	★

BYD Co Ltd Class A 002594 7 May 2025 16:38, 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
—	—	—	—	—	—	—	—	—	—	—	—

XPeng Inc Class A 09868 7 May 2025 16:44, UTC

Dec 2025 —	Nov 2025 —	Oct 2025 —	Sep 2025 —	Aug 2025 —	Jul 2025 —	Jun 2025 —	May 2025 ★★★	Apr 2025 ★★★	Mar 2025 ★★★	Feb 2025 ★★	Jan 2025 —
Dec 2024 ★★★	Nov 2024 ★★★★	Oct 2024 ★★★	Sep 2024 ★★★	Aug 2024 ★★★★	Jul 2024 ★★★★	Jun 2024 ★★★★	May 2024 ★★★★	Apr 2024 ★★★★★	Mar 2024 ★★★★	Feb 2024 ★★★★	Jan 2024 ★★★★
Dec 2023 ★★★	Nov 2023 ★★★	Oct 2023 ★★★	Sep 2023 ★★★	Aug 2023 ★★	Jul 2023 ★★	Jun 2023 ★★★	May 2023 ★★★★	Apr 2023 ★★★★	Mar 2023 ★★★★	Feb 2023 ★★★★	Jan 2023 ★★★★
Dec 2022 ★★★★	Nov 2022 ★★★★★	Oct 2022 ★★★★★	Sep 2022 ★★★★★	Aug 2022 ★★★★	Jul 2022 ★★★★	Jun 2022 —	May 2022 —	Apr 2022 —	Mar 2022 —	Feb 2022 —	Jan 2022 —
Dec 2021 —	Nov 2021 —	Oct 2021 —	Sep 2021 —	Aug 2021 —	Jul 2021 —	Jun 2021 —	May 2021 —	Apr 2021 —	Mar 2021 —	Feb 2021 —	Jan 2021 —
Dec 2020 —	Nov 2020 —	Oct 2020 —	Sep 2020 —	Aug 2020 —	Jul 2020 —	Jun 2020 —	May 2020 —	Apr 2020 —	Mar 2020 —	Feb 2020 —	Jan 2020 —

Research Methodology for Valuing Companies

Overview

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

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

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

1. Economic Moat

The concept of an economic moat plays a vital role not only in our qualitative assessment of a firm's long-term investment potential, but also in the actual calculation of our fair value estimates. An economic moat is a structural feature that allows a firm to sustain excess profits over a long period of time. We define economic profits as re-

turns on invested capital (or ROIC) over and above our estimate of a firm's cost of capital, or weighted average cost of capital (or WACC). Without a moat, profits are more susceptible to competition. We have identified five sources of economic moats: intangible assets, switching costs, network effect, cost advantage, and efficient scale.

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

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

2. Estimated Fair Value

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

Our model is divided into three distinct stages:

Stage I: Explicit Forecast

In this stage, which can last five to 10 years, analysts make full financial statement forecasts, including items such as revenue, profit margins, tax rates, changes in working capital accounts, and capital spending. Based on these projections, we calculate earnings before interest, after taxes (EBIT) and the net new investment (NNI) to de-

rive our annual free cash flow forecast.

Stage II: Fade

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

Stage III: Perpetuity

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

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

3. Uncertainty Around That Fair Value Estimate

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

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

Morningstar Equity Research Star Rating Methodology



Research Methodology for Valuing Companies

thing that can affect our ability to accurately predict these outcomes. The rating begins with a suggested rating produced by a quantitative process based on the trailing 12-month standard deviation of daily stock returns. An analyst overlay is then applied, with analysts using the suggested rating, historical rating data, and their own knowledge of the company to inform them as they make the final Uncertainty Rating decision. Ultimately, the rating decision rests with the analyst. Analysts take into account many characteristics when making their final decision, including cyclical factors, operational and financial factors such as leverage, company-specific events, ESG risks, and anything else that might increase the potential dispersion of future outcomes and our ability to estimate those outcomes.

Our recommended margin of safety—the discount to fair value demanded before we'd recommend buying or selling the stock—widens as our uncertainty of the estimated value of the equity increases. The more uncertain we are about the potential dispersion of outcomes, the greater the discount we require relative to our estimate of the value of the firm before we would recommend the purchase of the shares. In addition, the Uncertainty Rating provides guidance in portfolio construction based on risk tolerance.

Our Uncertainty Ratings are: Low, Medium, High, Very High, and Extreme.

Margin of Safety		
Qualitative Analysis	★★★★★ Rating	★ Rating
Uncertainty Ratings		
Low	20% Discount	25% Premium
Medium	30% Discount	35% Premium
High	40% Discount	55% Premium
Very High	50% Discount	75% Premium
Extreme	75% Discount	300% Premium

Our uncertainty rating is based on the interquartile range, or the middle 50% of potential outcomes, covering the 25th percentile–75th percentile. This means that when a stock hits 5 stars, we expect there is a 75% chance that the intrinsic value of that stock lies above the current market price. Similarly, when a stock hits 1 star, we expect there is a 75% chance that the intrinsic value of that stock lies below the current market price.

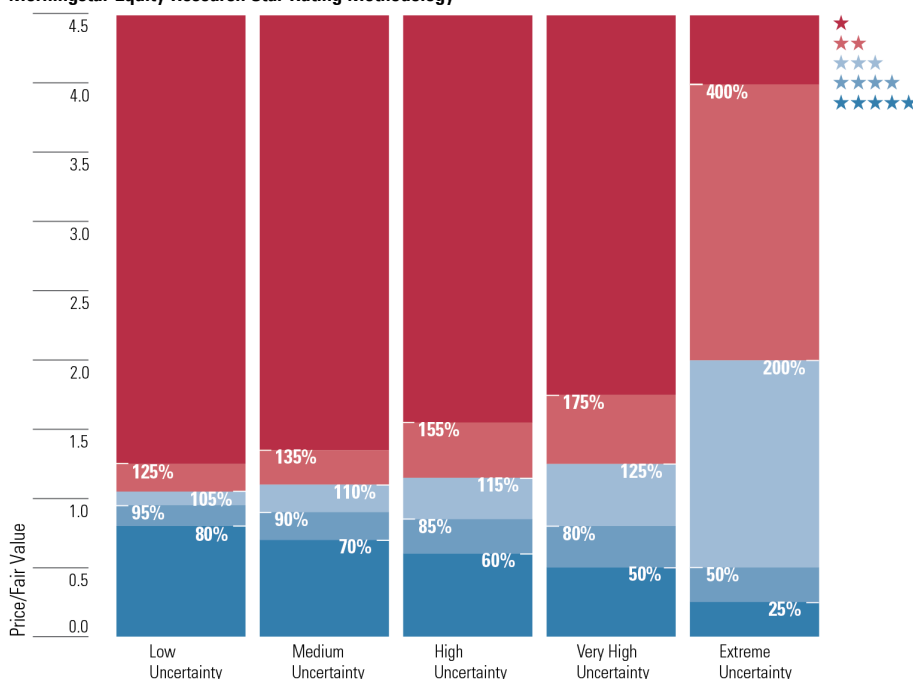
4. Market Price

The market prices used in this analysis and noted in the report come from exchange on which the stock is listed which we believe is a reliable source.

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

Morningstar Star Rating for Stocks

Morningstar Equity Research Star Rating Methodology



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

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

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

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

The Morningstar Star Ratings for stocks are defined below:

★★★★★ We believe appreciation beyond a fair risk ad-

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

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

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

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

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

Other Definitions

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

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

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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.

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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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