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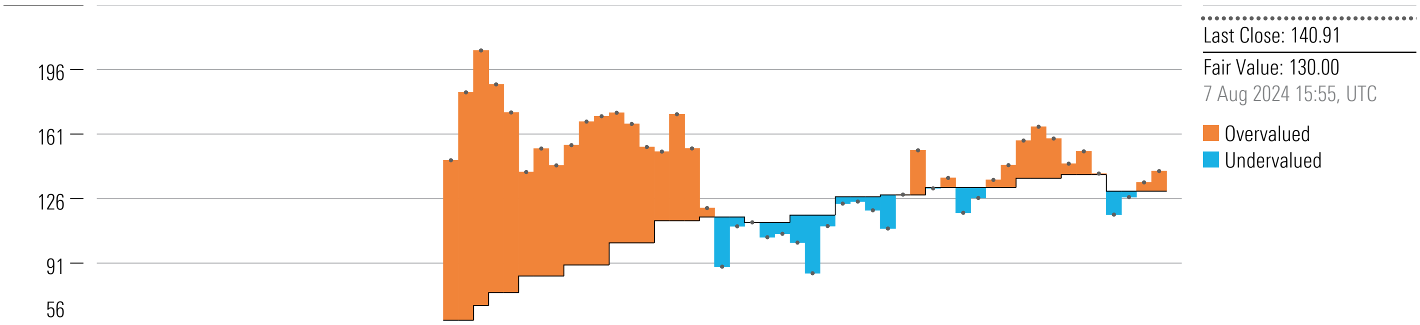
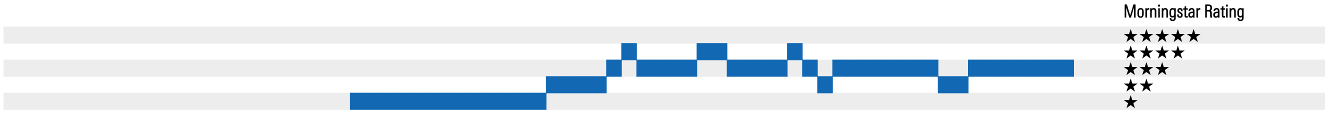
Airbnb Inc Ordinary Shares - Class A ABNB ★★★ 7 Nov 2024 23:03, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment[1]
140.91 USD 6 Nov 2024	130.00 USD 7 Aug 2024 15:55, UTC	1.08	93.20 USD Bil 7 Nov 2024	Narrow	Large Growth	High	Standard	6 Nov 2024 06:00, UTC

Price vs. Fair Value



	2019	2020	2021	2022	2023	YTD	
	—	2.45	1.63	0.73	1.03	1.08	Price/Fair Value
	—	—	13.41	-48.65	59.23	3.50	Total Return %



Total Return % as of 06 Nov 2024. Last Close as of 06 Nov 2024. Fair Value as of 7 Aug 2024 15:55, UTC.

Contents

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

Airbnb Earnings: Near-Term Demand Solid and Long-Term Opportunity Exciting

Analyst Note Dan Wasiolek, Senior Equity Analyst, 8 Nov 2024

We plan to increase our $130 per share fair value estimate for narrow-moat Airbnb by a low-single-digit percentage to account for slightly higher near-term sales and the time value of money. After viewing the last quarter's share pullback as an investment opportunity, we now see shares as slightly overvalued after the 30% appreciation since early August. That said, we wouldn't need much discount to our valuation to recommend shares of this high-quality network-advantaged company with attractive growth drivers that should allow it to drive low-double-digit sales growth for the foreseeable future.

Revenue and bookings increased 10%, just edging our 9% estimates. The slight upside was driven by nights booked growing 8% versus our 7% forecast. Encouragingly, nights booked growth accelerated throughout the quarter and into the fourth quarter. Airbnb expects its fourth-quarter lift to exceed the third-quarter result. As a result, we plan to lift our 2024 and 2025 sales growth estimates toward 11% and 10% from 10.4% and 8.6% previously and continue to expect low-double-digit annual increases during the next several years.

The attractive growth opportunities Airbnb is presenting in expanding its core business globally and developing new markets like experiences are stoking our long-term enthusiasm. In fact, Airbnb's top five countries represent three-fourths of its total bookings, and the company believes it can bring many other countries to similar penetration rates over the next several years, supporting our long-term

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Sector	Industry
Consumer Cyclical	Travel Services

Business Description

Started in 2008, Airbnb is the world's largest online alternative accommodation travel agency, also offering booking services for boutique hotels and experiences. Airbnb's platform offered over 8 million active accommodation listings as of June 30, 2024. Listings from the company's over 5 million hosts are spread over almost every country in the world. In 2023, 50% of revenue was from the North American region. Transaction fees for online bookings account for all its revenue.

revenue forecast. Brazil offers confidence that Airbnb can successfully expand its user base globally, as the country's nights booked is three times the prepandemic level, due to increased supply, awareness, and local payment offerings. Meanwhile, we think Airbnb's communal culture adheres well to offering a unique experiences platform starting in 2025, which we believe can yield over $10 billion in booking by the end of this decade.

Business Strategy & Outlook Dan Wasiolek, Senior Equity Analyst, 7 Aug 2024

Despite near-term softening in demand, we think that Airbnb's global online travel agency, or OTA, position will strengthen over the next decade, driven by a leading alternative accommodation network (source of its narrow moat) of over 5 million hosts and cumulative 1.5 billion guest arrivals since its start in 2008. We think this network advantage will be supported by artificial intelligence investment and expansion into the experiences vertical and international markets over the next several years. Also, Airbnb is positioned to benefit from the ongoing shift to mobile bookings, witnessed by Airbnb being a top-10 iPhone travel app in 116 markets versus 24 for Expedia and 136 for Booking Holdings, according to App Annie on August 1, 2024.

Mitigating our otherwise favorable view of Airbnb's network position in the online travel growth industry are competitive, regulatory, and structural cost threats. We expect Expedia and Booking's investment into the vacation rental industry to continue. Also, focused entry into the OTA market from Google, Alibaba, Amazon, and others could double the current handful of players that have dominant scale, leading to a meaningful impact on profitability. That said, replicating Airbnb's network would require significant time and expense, and we expect most of the aforementioned operators to deploy a metasearch model (which doesn't control hotel relationships) versus directly competing against Airbnb's OTA model (which does control hotel relationships). Beyond competitive threats, Airbnb's core alternative accommodation faces opposition concerned with the industry's impact on society (resident quality of life), safety (adhering to codes), and economics (cost of living). Regulation could place requirements (such as sharing personal information with local governments) and restrictions (such as the number days a listing can be rented out) on hosts and guests that reduces demand and elevates cost. And in addition to these regulatory costs, servicing individual vacation rental hosts can lift expenses compared with that found in the traditional accommodation industry.

Bulls Say Dan Wasiolek, Senior Equity Analyst, 7 Aug 2024

- Airbnb's network has reached critical-mass scale, supported by its leading booking share of the alternative accommodation market and ongoing expansion into experiences.
- Mobile application usage is increasing rapidly, and Airbnb has strong global awareness, which aids its roughly 90% of traffic that comes directly and through unpaid searches to its platform.
- Airbnb stands to benefit from worker flexibility driving higher long-term travel demand, aided by higher-income occupations in fields like technology, finance, legal, and architecture.

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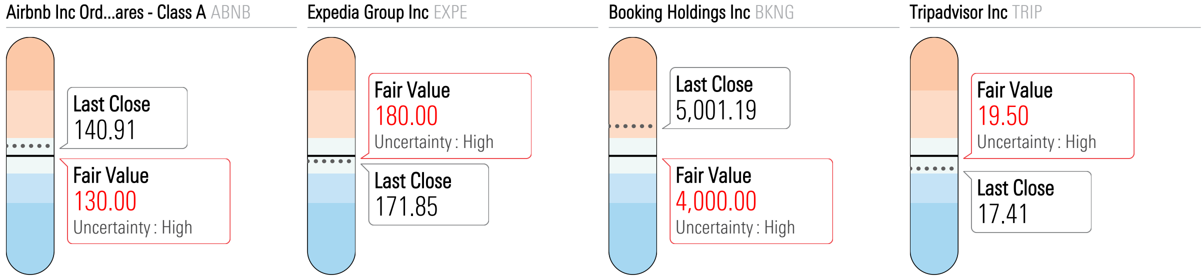
Competitors



	Airbnb Inc Ord...ares - Class A ABNB	Expedia Group Inc EXPE	Booking Holdings Inc BKNG	Tripadvisor Inc TRIP
Economic Moat	Narrow	Narrow	Narrow	None
Currency	USD	USD	USD	USD
Fair Value	130.00 7 Aug 2024 15:55, UTC	180.00 12 Aug 2024 19:43, UTC	4,000.00 3 Nov 2024 23:21, UTC	19.50 30 Oct 2024 14:20, UTC
1-Star Price	201.50	279.00	6,200.00	30.23
5-Star Price	78.00	108.00	2,400.00	11.70
Assessment	Fairly Valued 7 Nov 2024	Fairly Valued 7 Nov 2024	Overvalued 7 Nov 2024	Undervalued 7 Nov 2024
Morningstar Rating	★★★7 Nov 2024 23:03, UTC	★★★7 Nov 2024 22:37, UTC	★★7 Nov 2024 22:37, UTC	★★★★7 Nov 2024 22:51, UTC
Analyst	Dan Wasiolek, Senior Equity Analyst	Dan Wasiolek, Senior Equity Analyst	Dan Wasiolek, Senior Equity Analyst	Dan Wasiolek, Senior Equity Analyst
Capital Allocation	Standard	Standard	Exemplary	Standard
Price/Fair Value	1.08	0.97	1.23	0.79
Price/Sales	8.77	1.85	7.49	1.43
Price/Book	11.16	25.29	—	2.57
Price/Earning	19.17	19.85	32.64	55.60
Dividend Yield	0.00%	0.00%	0.52%	0.00%
Market Cap	93.20 Bil	22.67 Bil	164.97 Bil	2.14 Bil
52-Week Range	110.38—170.10	107.25—174.42	2,963.76—5,060.50	12.93—28.76
Investment Style	Large Growth	Mid Blend	Large Growth	Small Growth

Bears Say Dan Wasiolek, Senior Equity Analyst, 7 Aug 2024

- Booking and Expedia are investing in their US alternative accommodation supply and awareness. Also, Google's continued emphasis on placing its paid ads and metasearch platform ahead of free organic search links could elevate marketing cost for Airbnb.
- Alternative accommodations face regulation headwinds around the industry's impact on society (resident quality of life), safety (adhering to codes), and economics (cost of living).
- Airbnb’s core individual host alternative accommodation platform requires higher servicing costs than traditional hotels and other travel verticals.

Economic Moat Dan Wasiolek, Senior Equity Analyst, 7 Aug 2024

Like narrow-moat companies Booking Holdings and Expedia, we surmise that Airbnb has developed a two-sided marketplace network effect that it is able to properly monetize, thereby driving a narrow

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economic moat for the company. Airbnb's network advantage was established by attracting the fragmented marketplace of private accommodation owners to post their dwellings (supply side) on the company's platform, which in turn attracted more travelers (demand side) subsequently enticing more supply, creating a virtuous cycle that increases value for both new and existing users (hosts and guests).

Airbnb's platform took time to reach a network advantage. In fact, it had to launch its platform a few times to generate an increased amount of interest, while resorting to aggressive marketing tactics like door-to-door communication and innovative engineering (links to Craigslist and Google AdWords that generated free or lower-cost advertising) before reaching critical-mass scale. Even when Airbnb launched its website for a third time on Aug. 11, 2008, it still had only 800 listings with an undisclosed number of bookings. However, continued investment into the platform and word of mouth drove an inflection point, where the network of hosts and guests entered a virtuous cycle. By March 2009, the company had 2,500 listings with 10,000 users, and by the end of 2010, around 700,000 cumulative nights had been booked on Airbnb, reaching 1.6 million by May 2011. Since then, Airbnb's network has continued to expand, reaching over 8 million active listings with more than 1.5 billion cumulative guest arrivals, as of June 30, 2024.

We believe Airbnb's platform hosts the industry's largest amount of individual rental owners, which are tough to aggregate given their fragmented nature, driving the supply side of its network advantage. In total, Airbnb's network actively lists more than 8 million alternative accommodations across its 5 million hosts, the majority of which are individuals. Booking Holding's vacation rental supply is also near 8 million listings, although we estimate around half are property managers versus individual hosts, which are easier to aggregate. Meanwhile, Airbnb's content offering in the vertical sits well ahead of Expedia's more than 2 million listings through its VRBO brand as well as other much smaller competitors.

Airbnb's rental supply offering has driven strong user metrics, buoying the demand-side of its network advantage. In this vein, Airbnb is a top 10 travel iPhone app in 116 countries, versus 136 at Booking and 24 at Expedia, as of August 1, 2024, according to App Annie. In 2023, Airbnb's platform saw 446 million rental room night bookings versus roughly 900 million at Booking (rental and hotel combined) and 351 million at Expedia (rental and hotel combined).

The supply and demand of Airbnb's platform has allowed the company's core alternative accommodations business to reach a critical-mass advantage, which we believe is achieved when a company garners at least 10% demand share of a market, at which point it becomes increasingly challenging for smaller competitors to catch up. This view is buoyed by Airbnb's $73 billion in alternative accommodation and experience bookings in 2023, equating to over 50% revenue share, according to Euromonitor. Airbnb's bookings in the vertical stand well above the estimated roughly $40 billion in 2023 for Booking Holdings, the number two player in the market.

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Airbnb, Booking, and Expedia have a large share of the online travel agency market, making it extremely challenging for any smaller competitor or new entrant to gain customer traffic or supplier scale. In fact, the next biggest peers, Trip.com (narrow moat) and MakeMyTrip (not rated), had sales of just two thirds and a high-single-digit percentage compared with Airbnb's sales in 2023. Smaller competitors need substantial human capital to build relationships with travel suppliers as well as provide service and a user-friendly technology platform to customers. A successful travel network not only involves personnel and technology investments but also advertising expense to attract and retain traffic to the platform. Here, Airbnb spent $1.8 billion, or 17% of sales in 2023 on marketing, including both direct spending on marketing channels and indirect spending on marketing personnel. And while Booking and Expedia spend a few times Airbnb's amount on marketing, smaller competitors like MakeMyTrip and Trip.com each spend less than half compared with Airbnb.

The ability of Airbnb and its largest peers to spend behind their travel networks aids traffic scale, which further supports its network advantage by allowing it to test and implement platform changes quicker than smaller competitors, leading to an improved user experience and conversion. Here, we see that in June 2024, total monthly traffic to the airbnb.com domain was 113 million, according to SimilarWeb. This compares with traffic that month of 574 million to booking.com and 88 million to expedia.com (this is traffic only to these dot-com domains and doesn't represent other brands or geography domains controlled by these companies). For perspective, the domain makemytrip.com garnered 34 million in monthly traffic, while smaller online travel agency peers received even less domain traffic, making it tough for them to improve the user experience and conversion to the degree of Airbnb and other larger peers. One way to gauge how a travel platform is resonating with travelers is through the percentage of traffic that comes direct to the network, as this signals users are aware of and find value in the customer experience, supporting network advantages. Encouragingly, in June 2024, 61% of Airbnb's traffic was direct, compared with 50% and 47% at narrow-moat peer domains booking.com and expedia.com. In our view, the high level of direct traffic to Airbnb not only is aided by the company's network advantage but also benefits from its namesake having become a verb in society.

Airbnb generates healthy adjusted ROICs, which we expect to average 31% over the next five years, well above our 9% average cost of capital estimate. Further, Airbnb's 37% adjusted EBITDA margin in 2023—and our forecast for the high-30s to endure over the intermediate term—offers quantitative evidence of a competitive advantage.

Despite its strong ROICs and operating margins, we don't believe Airbnb has carved a wide moat due to potential changes in technology that could alter the online travel landscape and meaningful competition beyond the next 10 years from existing and new entrants that already have the customer traffic and budgets to build network scale, which include Google, Meta, Alibaba, Amazon, and hotel consortia. In the past 15 years, online travel industry platforms have had to adapt to the proliferation of mobile devices or risk losing share to peers. It is not hard to envision industry players having to stay in tune with the evolution of virtual reality, blockchain, artificial intelligence, and other future technologies in the online travel industry. While we think it is likely that no technology will alter economic profits for the next 10 years, we can't have a high degree of certainty this will be the case in more than 20 years. Focused entry from these competitors would double the current handful of players that have dominant scale, leading to commodification of the industry and a meaningful impact to margins.

That said, we expect the market to support some level of increased competition over the next several years. The travel booking market remains large at $2 trillion, and we believe online penetration of the travel market can continue to expand the next 10 years from its current mid-60% level.

Fair Value and Profit Drivers Dan Wasiolek, Senior Equity Analyst, 7 Aug 2024

After reviewing Airbnb's second-quarter results, we have lowered our fair value estimate to $130 per share from $139 due to lower-than-expected demand for the rest of 2024 and into 2025. Our fair value estimate implies a 2025 enterprise value/adjusted EBITDA multiple of 17 times.

Airbnb demand, which has led the travel industry's recovery from the depths of the pandemic in April 2020, is beginning to moderate, as the company has experienced a robust recovery, with its 2022 bookings reaching 167% of 2019's level. Even after the strong rebound from the pandemic in 2022, Airbnb's 2023 bookings grew 16%.

With second-quarter sales growth of 11% (driven by 9% volume and 2% rate increases) in line with expectations, investors focus turned to Airbnb’s third-quarter revenue guidance for 8%-10% growth, which trailed our 13% preprint prognosis. After normalizing to 2019’s level during the first half of the year, the company noted that its booking window began to shorten in July, which reduces visibility on demand and places increased importance on last minute bookings. We our have reduced our 2024 and 2025 revenue growth to 10.4% and 8.6%, respectively, from 13.5% and 11.8% to account for reduced demand visibility in the near term.

Our bookings growth forecast is for 11% (12% prior) average annual growth during 2024-33, aided by expansion into experiences, further penetration in international markets, insurance, promoted listing offerings, and share gains in its core alternative accommodation business.

We see Airbnb leveraging near-term platform investments over the intermediate- to longer term. We forecast operation and support costs as a percentage of revenue to stand at 10.8% in 2033 versus 17% in the prepandemic year of 2019, as near-term trust and safety investments wane and generative artificial intelligence customer service drives savings long term. We also expect artificial intelligence to aid product development expense, which we estimate at 11.2% of revenue in 2033 versus the 20% posted in 2019, which was a heavier investment year (2018's product development as a percentage of

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sales was 15.9%). Further, we expect Airbnb to lower marketing expense to 15.5% of revenue in 2033 from 34% in 2019 (2019 was a heavier investment year, with 2018 marketing costs at 30% of sales), as the company benefits from strong global awareness and a more complete platform offering long term.

As a result, we estimate Airbnb's revenue growth to average 11% (12% prior) over the next 10 years, with operating margins still expanding to 33.6% in 2033 from negative 17% in 2020 (before stock-based compensation), and the 10% in 2019.

Risk and Uncertainty Dan Wasiolek, Senior Equity Analyst, 7 Aug 2024

Airbnb's Morningstar Uncertainty Rating is High.

The spread of covid-19 represented a material headwind to travel demand in 2020, driving Airbnb's revenue down 30% in 2020. But even before the pandemic, the travel industry has been cyclical and affected by changes in economic growth. Additionally, terrorist attacks can lead to a near-term disruption in bookings. Moreover, potential European "gatekeeper" regulation could affect the competitive positioning of Airbnb and Booking. Also, changes to the innovation and lodging tax policy could lift tax provisions and working capital. Further, directors, executives, and 5%-plus stockholders combined have 90% voting control, which could hinder the ability of individual shareholders to effect operational change.

Airbnb's core alternative accommodation market faces opposition concerned with the industry's impact on society (resident quality of life), safety (adhering to codes), and economics (cost of living). Regulation could entail guests and hosts sharing information with cities, having hosts register for a license to list on alternative accommodation platforms, limiting the amount of days a unit can be rented, and requiring units to meet safety standards. Further, Airbnb faces environmental, social, and governance risks around innovative tax code changes, data breaches, and potential fees should its platform be viewed as anticompetitive.

Focused entry from Google, Amazon, Alibaba, and Facebook, and accelerated investment from Booking and Expedia could have a meaningful impact on Airbnb's growth.

Capital Allocation Dan Wasiolek, Senior Equity Analyst, 7 Aug 2024

Although we see Airbnb's balance sheet as sound, we view its investment strategy and shareholder distribution as fair, resulting in a Standard Capital Allocation Rating.

Airbnb's balance sheet remains sound, given the company's medium revenue cyclicality and operating leverage. Further, we see plenty of financial flexibility, as we forecast Airbnb to retain a net cash position for the foreseeable future, and note the company's existing 0% convertible debt of roughly $2 billion is not scheduled to mature until 2026, which we see as very manageable, given our expectation

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for $10.6 billion in free cash flow to the firm generation during 2024-28.

We hold a fair view on Airbnb's investment strategy. We are favorable that the company is investing in building out its advantaged alternative accommodation. We applaud Airbnb's biannual innovation updates, which add guest and hosting tools, leading to an improved network experience. In this vein, leadership has made wise improvements to its mobile app, via adding flexible date and location search capability, which we think matches the industry's evolving landscape of enduring remote working conditions. Also, Airbnb is investing behind pricing tools, which should enhance the value proposition for both users and hosts. Additionally, Airbnb is planning to integrate generative artificial intelligence on its platform by 2024, which we think will further enhance the network experience. Management has done well to turn what was an inefficient cost structure prior to covid-19 to a lean model, removing meaningful marketing expense while still maintaining strong sales. This execution is supporting Airbnb's ability to invest back into product innovation, buttressing its network advantage. That said, we believe Airbnb should also be investing more into building out its experiences platform, as we see the company as well positioned to leverage its individual host network with offering unique and differentiated things to do content.

Additionally, while Airbnb's founders deserve credit for building an industry leading vacation rental platform, our fair view of management's investment capability is balanced by the company's beginnings having benefitted from favorable timing and its leadership continuing to advance along a learning curve, in our view. To illustrate, technology advancement opened an opportunity to improve the user experience that existed in the online alternative accommodation space at the time when Airbnb was established. For instance, Amazon Web Services (launched in 2006) allowed the founders to outsource data center processing needs at a lower cost than it would have been to build, enabling them to focus time and capital on the user experience. Additionally, the launch of the iPhone in 2007 began to allow for accessible search of places across the world at any moment, helping drive Airbnb's mobile platform and expand the marketplace. The timing was also right for the Airbnb concept from an economic and demographic standpoint. Coming out of the Great Recession, people were looking for cheaper travel options and ways to generate income, which room-sharing on Airbnb's platform offered. Also, millennials were seeking an alternative to the commoditized nature of many hotels, preferring to experience the local culture of a destination, which was provided by the neighborhood-hosted listings on Airbnb's network.

Also, it is our stance that Airbnb management could have benefited from making more proactive versus reactive investments in regulatory and safety safeguards. As detailed in the book "The Airbnb Story," the company's founders received business training from investors during its early establishment years, which guided the young entrepreneurs to reach out to the platform's users (arguably something they could have been doing more of initially), allowing them to use their skill sets and build an improved user

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experience. Also, one could argue that the founders lacked a full understanding of the market environment, as an Airbnb host was the one that notified the company of New York's anti-room-sharing legislation in 2010. Having an upfront understanding of affordability issues that often framed anti-room-sharing laws across cities throughout the world could have allowed the company to partner earlier with local governments and develop legislation more favorable to the accommodations platform operator.

Finally, we see Airbnb's shareholder distribution as appropriate, as the company refrains from paying dividends (something growth companies in growth industries tend to shy away from, given the opportunity to invest into growth prospects). Airbnb started repurchasing share in 2022, which we view as prudent when occurring at discount to our intrinsic valuation., given the strong demand recovery and cash flow generation since the pandemic.

Analyst Notes Archive

Airbnb Earnings: Overzealous Selloff on Softer Near-Term Demand Presents an Investment Opportunity Dan Wasiolek, Senior Equity Analyst, 7 Aug 2024

Shares of narrow-moat Airbnb traded down 14% during Aug. 7 trading, as signs of a more discerning consumer led to weaker third-quarter guidance. We have reduced our 2024-25 sales estimates, leading to our change in our $139 per share fair value estimate to $130. We view the pullback as an opportunity for investors to own a high-quality network-advantaged company with attractive growth drivers that can continue to drive low-double-digit sales growth beyond 2025.

With second-quarter 11% sales growth (driven by 9% volume and 2% rate increases) in line with expectations, investors turned to Airbnb’s third-quarter revenue guidance for 8%-10% growth, which trailed our 13% forecast. With sales growth normalizing to 2019’s level during the first half of the year, the company noted that its booking window begun to shorten in July, which reduces visibility on demand and places increased importance on last minute bookings. But we see reasons for investors to look past the slowdown.

First, no other travel operator has experienced the magnitude of recovery as Airbnb, and as such, some moderation in demand should be expected. In this vein, Airbnb’s second-quarter room nights were a stout 149% of 2019’s level. Second, while Airbnb is not immune to near-term cyclicality, its demand doesn’t appear to be falling off a cliff. To this point, rates are still projected to grow in the third quarter, as travelers are booking higher-priced homes, implying that they’re not trading down. Also, its third-quarter guidance implies around a 7% increase in room nights, representing around 140% of 2019’s level. Additionally, long-term stays of 28 days or more remain stable at 17% of total nights, and last-minute bookings remain strong, signaling healthy demand. But even in the context of a near-term macro-induced slowdown, investors should focus on the intermediate-term positioning of the company, which remains quite strong.

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Airbnb Earnings: Demand in 2024 Looks Healthy as the Network Advantage Strengthens Dan Wasiolek, Senior Equity Analyst, 9 May 2024

We don't expect much change to our $137 fair value estimate for Airbnb, as 2024 sales and EBITDA margins continue to track our 14% growth and 35.6% forecast, respectively. Airbnb shares traded down 9% in May 8 after-hours trading, driven by undue concern over second-quarter sales guidance. We wouldn't require much discount on our valuation to view the shares of this high-quality company as attractive.

First-quarter sales increased 18%, well above our 13% forecast and 12%-14% guidance, benefiting from broad-based regional growth and the timing of Easter. Specifically, room nights increased by 9.5% (versus our 8% estimate), led by 21% and 19% increases in the Asia-Pacific and Latin America, respectively. At the same time, the rest of the world saw good increases in group travel. Meanwhile, daily rates rose 3% (above our 1% growth estimate), driven by a higher mix of shorter stays and whole homes.

Second-quarter sales growth was guided to 8%-10%, below our 13% forecast, which we think is largely attributable to a reversal of the Easter timing benefit in the first quarter. Overall, first-quarter results and second-quarter guidance leave our first-half forecast intact. In the third quarter, Airbnb expects sales growth to reaccelerate, supported by robust demand for summer travel and the Olympics and Euro Cup, instilling confidence in our 2024 14% revenue growth projection.

Airbnb's network advantage (the source of its narrow moat) is strengthening. This is evidenced by 15% first-quarter supply growth (including a 2-percentage point headwind of listing removals) outpacing 12% bookings growth. On the demand side, US mobile app downloads grew 60% from last year as management worked to shift usage from mobile website engagement, which has a much lower user experience and conversion. Further, the company plans to launch a few travel-related verticals over the next few years, starting with experiences, which we think can add a few percentage points of sales growth by 2030.

Airbnb Earnings: Solid Demand and Profitability Set to Continue in 2024; Shares a Touch Rich Dan Wasiolek, Senior Equity Analyst, 14 Feb 2024

We plan to increase our Airbnb $132 fair value estimate by a low-single-digit percentage, after incorporating fourth-quarter revenue growth of 17%, ahead of our 14% expectation and lifting our 2024 sales prognosis to around 13%-14% growth from 10% prior, based on forward commentary. In our view, the 5% pullback in Feb. 13 after-hours trading is a function of elevated expectations—with the stock up 12% year to date and trading about 17% above our valuation before the earnings release—as well as concerns that travel demand is weakening, given guidance that first-quarter room night growth is set to moderate from the 12% level in the fourth quarter. On the latter point, we see decelerating growth as expected and a natural evolution back to normalized levels after a strong recovery in 2020-23. While shares of travel companies could remain choppy over the next few months as investors grapple with the industry's transition to normalized growth, we wouldn't need much discount to our valuation to view shares of this narrow-moat company as attractive.

Airbnb's fourth-quarter demand remained healthy, with room night volume up 12% (versus our 11% estimate) and rate higher by 3% (2%), resulting in gross booking increasing 15% (13%). This demand has been met with rising supply, with active listings up 18% to 7.7 million, which instills confidence that the company's revenue can grow at a low-double-digit rate annually for the foreseeable future. Turning to the first quarter, Airbnb expects sales to lift 12%-14%, despite a hard comparison. And although sales are set to be aided by 1-2 percentage points by a favorable calendar shift, we think this sets the table for low-teens revenue growth this year.

Profitability improved in 2023, with adjusted EBITDA margins increasing 220 basis points to 36.8%, as Airbnb saw leverage across marketing, operational, and technology expense lines. In 2024, we expect margins to hold at around 36%, as the company invests in overseas markets.

Airbnb Earnings: Solid Sales Growth and Profitability With an Eye to Further Enhance Its Offering

Dan Wasiolek, Senior Equity Analyst, 2 Nov 2023

We don't expect to materially change our $132 fair value estimate for narrow-moat Airbnb after the company reported slightly better third-quarter results and guided its fourth-quarter sales in line with our forecast.

Airbnb's booking growth was 17%, slightly ahead of our 15% forecast, with sales lifting 18%, edging our 16% estimate. Revenue was derived from a 14% increase in night volume (in line with our prognosis) and a daily rate rise of 3% (above our 1% expectation). Looking ahead to the fourth quarter, Airbnb guided sales to grow 12%-14%, squaring with our 13% forecast, with rates expected to be up slightly and night growth targeted to decelerate some for the 14% rise in the third quarter.

In the long term, we see ample drivers for the company to achieve the 12% average sales growth we estimate during 2024-32. For one, the platform is adding supply (up 19% in the third quarter) across all segments and regions, which should help drive future booking growth. Additionally, the company's penetration in most international markets remains below that in the U.S., and as the company looks to optimize product and marketing in these countries, bookings should follow. In this vein, Airbnb's recent efforts to expand in Germany, Brazil, and Korea have resulted in combined gross nights booked in these countries being 54% ahead of 2019's level. Also, many markets still have room to recover, with urban and cross-border representing 49% and 45% of total nights, respectively, compared with the prepandemic marks of 58% and 48%. Finally, Airbnb's platform should continue to be enhanced by new service and product offerings, such as boutique hotels and experiences in the future.

Morningstar Equity Analyst Report | Report as of 8 Nov 2024 00:20, UTC | Reporting Currency: USD | Trading Currency: USD | Exchange: NASDAQ - ALL MARKETS Page 12 of 24

Airbnb Inc Ordinary Shares - Class A ABNB ★★★ 7 Nov 2024 23:03, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment[1]
140.91 USD 6 Nov 2024	130.00 USD 7 Aug 2024 15:55, UTC	1.08	93.20 USD Bil 7 Nov 2024	Narrow	Large Growth	High	Standard	6 Nov 2024 06:00, UTC

Airbnb's profitability remains stout, with EBITDA margins at 54%, an improvement from the 51% achieved last quarter. Overall, we still expect EBITDA margins to equal 2022's 34.6% level in 2023 and expand to the high-30s by 2026, as Airbnb continues to drive cost efficiencies and leverage top-line growth.

Airbnb Earnings: Resilient Demand and Supply Growth Support an Enduring Network Advantage Dan Wasiolek, Senior Equity Analyst, 4 Aug 2023

We plan to lift our narrow-moat Airbnb $128 fair value estimate by around a low-single-digit percentage, to account for stronger near-term demand, leaving shares slightly overvalued.

Second-quarter bookings and revenue rose 13% and 18%, respectively, compared with our 9% and 13% forecast, driven by an 11% increase in room nights (matching our estimate) and rates up 1% (above our 2% decline prognosis). We don't see signs that travel demand is weakening. In fact, we were encouraged that bookings for long-term stays accelerated every month during the quarter (staying at 18% of total nights versus just 13% prepandemic), which we believe is stoked by enduring work flexibility and the human-ingrained desire to travel. Further, night growth ramped to 15% in June from 10% in April. Additionally, and perhaps most noteworthy, Airbnb mentioned that rate is remaining more resilient as guests are booking larger accommodation. In this vein, third-quarter rates are expected to be up year over year versus prior guidance for declines. As a result, the company guided third-quarter revenue growth of 14%-18%, above our 11% preprint forecast, which we plan to lift to within the firm's range. Meanwhile, EBITDA margins dipped to 33% from 34% last year, but it was due to the timing of marketing spending. But Airbnb still expects slight margin expansion in 2023, which corroborates with our model.

Airbnb's network appears in good shape with active listing growth of 19% compared with main narrow-moat peer Booking's 8%, with both companies having about 7 million in total listings. Airbnb noted supply content is up double digits in all regions, with particular focus on underpenetrated international regions. That said, we continue to hold the view that Airbnb should not just focus investment on perfecting its core alternative accommodation platform, but also lean into the attractive experiences vertical, where we think it can hold a unique edge of offering individual host content.

Airbnb Earnings: Shares Drop 10% on Unwarranted Near-Term Profit and Demand Concerns Dan Wasiolek, Senior Equity Analyst, 10 May 2023

Narrow-moat Airbnb shares fell more than 10% after hours as 14% second-quarter sales growth guidance (at the midpoint) came below FactSet consensus expectations of 15% (our estimate was 14%), and the company mentioned near-term elevated marketing investment. We see neither of these as a reason to lower our forecast or $127 per share fair value estimate, leaving shares slightly undervalued.

Morningstar Equity Analyst Report | Report as of 8 Nov 2024 00:20, UTC | Reporting Currency: USD | Trading Currency: USD | Exchange: NASDAQ - ALL MARKETS Page 13 of 24

Airbnb Inc Ordinary Shares - Class A ABNB ★★★ 7 Nov 2024 23:03, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment[1]
140.91 USD 6 Nov 2024	130.00 USD 7 Aug 2024 15:55, UTC	1.08	93.20 USD Bil 7 Nov 2024	Narrow	Large Growth	High	Standard	6 Nov 2024 06:00, UTC

First-quarter sales were up 20% versus 16%-21% guidance (our estimate was 17%), driven by solid 19% growth in volumes (19%), representing an astounding 149% of 2019's level, and steady rates (drop of 2%), which were 138% of prepandemic marks. For 2023, we continue to forecast Airbnb's volume and rates at 142% and 134% of 2019's level, respectively, equating to sales growth of 13% for the year versus 14% consensus forecasts. In our view, our volume prognosis is supported by Airbnb's room night bookings which for the second half of this year are 25% higher than this time last year. We think our forecast for weakening rates is prudent, as the mix of cross-border (63% of 2019 revenue) and urban (around 12% of room night bookings in 2019) travel increases, given that these locations and types of lodging (more apartment than full home) can pressure pricing. To this effect, cross-border nights grew 36%, well in excess of the 19% lift for the consolidated company. Further, Airbnb has launched tools to improve affordability on its platform, namely total price display, pricing tools for hosts, and a tab for shared rooms, which we also think will be a moderating driver for the overall rate.

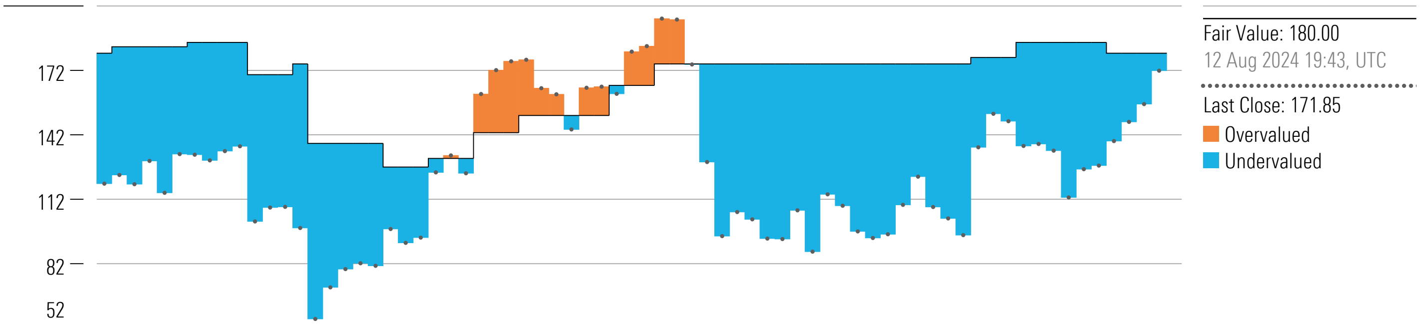
Finally, EBITDA margin was 14% versus 15% last year, and management commented that it expects to spend on marketing earlier in this year versus last year to take advantage of summer demand, which we think is justified. While this will curb near-term profits, we see this as a timing issue, and don't think it will change Airbnb's ability to print 2023 margins near 2022's 34.6% (our 2023 estimate is 34.7%).

Morningstar Equity Analyst Report | Report as of 8 Nov 2024 00:20, UTC | Reporting Currency: USD | Trading Currency: USD | Exchange: NASDAQ - ALL MARKETS Page 14 of 24

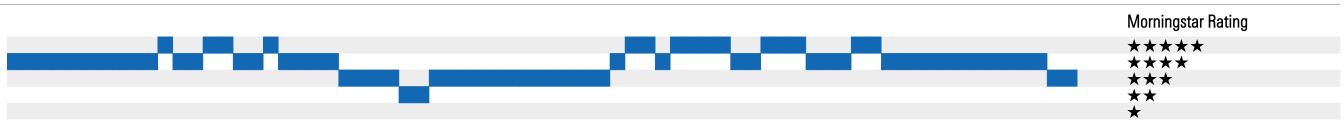
Airbnb Inc Ordinary Shares - Class A ABNB ★★★ 7 Nov 2024 23:03, UTC

Competitors Price vs. Fair Value

Expedia Group Inc EXPE

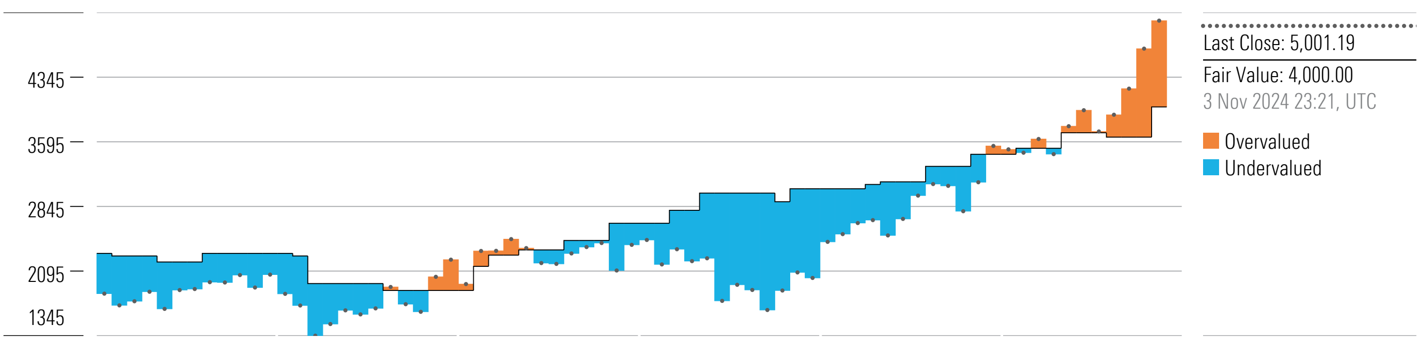


	2019	2020	2021	2022	2023	YTD	
	0.64	1.01	1.10	0.50	0.85	0.97	Price/Fair Value
	-2.83	22.75	36.50	-51.53	73.28	13.22	Total Return %

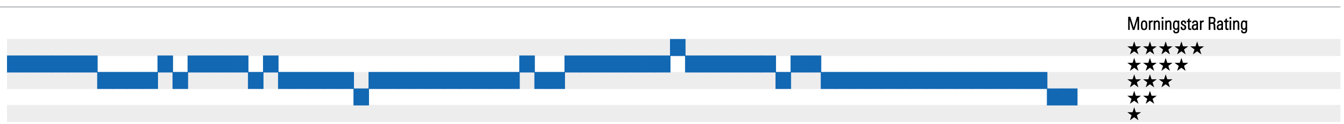


Total Return % as of 06 Nov 2024. Last Close as of 06 Nov 2024. Fair Value as of 12 Aug 2024 19:43, UTC.

Booking Holdings Inc BKNG



	2019	2020	2021	2022	2023	YTD	
	0.89	1.19	0.91	0.66	1.03	1.23	Price/Fair Value
	19.24	8.45	7.72	-16.00	76.02	41.73	Total Return %



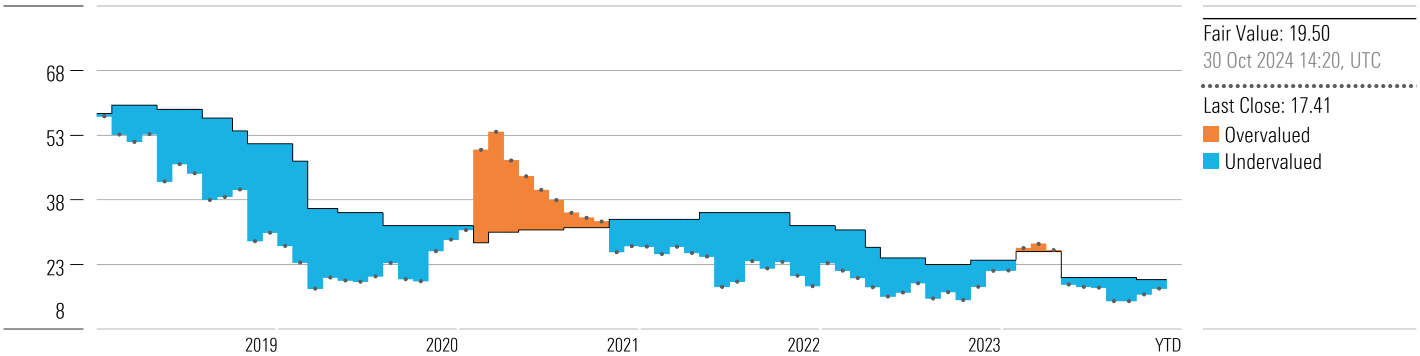
Total Return % as of 06 Nov 2024. Last Close as of 06 Nov 2024. Fair Value as of 3 Nov 2024 23:21, UTC.

Morningstar Equity Analyst Report | Report as of 8 Nov 2024 00:20, UTC | Reporting Currency: USD | Trading Currency: USD | Exchange: NASDAQ - ALL MARKETS

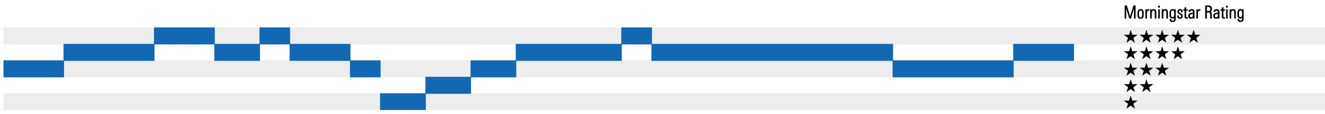
Airbnb Inc Ordinary Shares - Class A ABNB ★★★ 7 Nov 2024 23:03, UTC

Competitors Price vs. Fair Value

Tripadvisor Inc TRIP



	2019	2020	2021	2022	2023	YTD
Price/Fair Value	0.60	0.90	0.81	0.56	0.90	0.79
Total Return %	-37.19	-5.27	-5.28	-34.04	19.74	-19.14



Total Return % as of 06 Nov 2024. Last Close as of 06 Nov 2024. Fair Value as of 30 Oct 2024 14:20, UTC.

Airbnb Inc Ordinary Shares - Class A ABNB ★★★ 7 Nov 2024 23:03, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment[1]
140.91 USD 6 Nov 2024	130.00 USD 7 Aug 2024 15:55, UTC	1.08	93.20 USD Bil 7 Nov 2024	Narrow	Large Growth	High	Standard	6 Nov 2024 06:00, UTC

Morningstar Historical Summary

Financials as of 30 Jun 2024

Fiscal Year, ends 31 Dec	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	YTD	TTM
Revenue (USD K)	—	—	—	2,561,721	3,651,985	4,805,239	3,378,199	5,992,000	8,399,000	9,917,000	4,890,000	10,505,000
Revenue Growth %	—	—	—	—	42.6	31.6	-29.7	77.4	40.2	18.1	13.7	15.6
EBITDA (USD K)	—	—	—	36,646	155,577	-287,573	-4,384,374	276,000	2,094,000	2,229,000	626,000	2,317,000
EBITDA Margin %	—	—	—	1.4	4.3	-6.0	-129	4.6	24.9	22.5	12.8	22.1
Operating Income (USD K)	—	—	—	-81,362	18,744	-501,543	-3,438,792	542,000	1,891,000	1,518,000	598,000	1,598,000
Operating Margin %	—	—	—	-3.2	0.5	-10.4	-101	9.0	22.5	15.3	12.2	15.2
Net Income (USD K)	—	—	—	-70,046	-16,860	-674,339	-4,584,716	-352,000	1,893,000	4,792,000	819,000	4,844,000
Net Margin %	—	—	—	-2.7	-0.5	-14.0	-135	-5.9	22.5	48.3	16.8	46.1
Diluted Shares Outstanding (K)	—	—	—	521,709	530,945	530,945	284,363	616,000	680,000	662,000	651,000	654,000
Diluted Earnings Per Share (USD)	—	—	—	-0.13	-0.03	-1.27	-16.12	-0.57	2.79	7.24	1.26	7.35
Dividends Per Share (USD)	—	—	—	—	—	—	—	—	—	—	—	—

Valuation as of 31 Oct 2024

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Recent Qtr	TTM
Price/Sales	—	—	—	—	—	—	21.1	19.6	7.1	9.5	7.9	8.4
Price/Earnings	—	—	—	—	—	—	-73.5	-24.3	35.5	16.6	17.2	18.3
Price/Cash Flow	—	—	—	—	—	—	-111.1	62.5	17.7	21.2	19.0	20.2
Dividend Yield %	—	—	—	—	—	—	—	—	—	—	—	—
Price/Book	—	—	—	—	—	—	270.3	23.7	9.7	9.5	10.0	10.6
EV/EBITDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0

Operating Performance / Profitability as of 30 Jun 2024

Fiscal Year, ends 31 Dec	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	YTD	TTM
ROA %	—	—	—	—	-0.3	-9.0	-48.8	-2.9	12.7	26.1	3.5	20.4
ROE %	—	—	—	—	—	—	-437	-9.2	36.6	69.8	10.1	74.2
ROIC %	—	—	—	—	—	—	-183	-0.7	23.0	46.7	4.4	47.6
Asset Turnover	—	—	—	—	0.6	0.6	0.4	0.5	0.6	0.5	0.2	0.4

Financial Leverage

Fiscal Year, ends 31 Dec	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Recent Qtr	TTM
Debt/Capital %	—	—	—	—	—	—	43.6	33.0	29.1	21.6	21.7	—
Equity/Assets %	—	—	—	—	—	—	27.7	34.8	34.7	39.5	30.4	—
Total Debt/EBITDA	—	—	—	—	—	—	-0.5	8.8	1.1	1.0	3.6	—
EBITDA/Interest Expense	Infinite	Infinite	Infinite	2.2	6.0	-28.8	-25.5	0.6	87.2	26.9	—	—

Morningstar Analyst Historical/Forecast Summary as of 07 Aug 2024

Financials

Fiscal Year, ends 31 Dec 2023	2022	2023	Estimates 2024	2025	2026
Revenue (USD Mil)	8,399	9,917	10,949	11,895	13,106
Revenue Growth %	40.2	18.1	10.4	8.6	10.2
EBITDA (USD Mil)	2,903	3,653	3,865	4,223	4,810
EBITDA Margin %	34.6	36.8	35.3	35.5	36.7
Operating Income (USD Mil)	1,891	1,518	2,453	2,766	3,306
Operating Margin %	22.5	15.3	22.4	23.3	25.2
Net Income (USD Mil)	1,893	4,792	2,618	2,770	3,228
Net Margin %	22.5	48.3	23.9	23.3	24.6
Diluted Shares Outstanding (Mil)	680	662	633	621	608
Diluted Earnings Per Share(USD)	2.78	7.24	4.13	4.46	5.31
Dividends Per Share(USD)	0.00	0.00	0.00	0.00	0.00

Forward Valuation

	2022	2023	Estimates 2024	2025	2026
Price/Sales	6.4	8.8	8.5	7.8	7.1
Price/Earnings	30.8	18.8	35.7	33.0	27.8
Price/Cash Flow	—	—	—	—	—
Dividend Yield %	—	—	—	—	—
Price/Book	10.5	11.0	10.1	8.7	7.6
EV/EBITDA	16.1	21.5	21.8	19.9	17.5

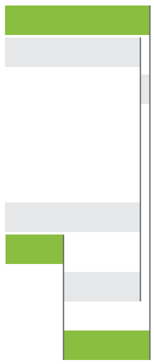
Morningstar Equity Analyst Report | Report as of 8 Nov 2024 00:20, UTC | Reporting Currency: USD | Trading Currency: USD | Exchange: NASDAQ - ALL MARKETS

Airbnb Inc Ordinary Shares - Class A ABNB ★★★ 7 Nov 2024 23:03, UTC

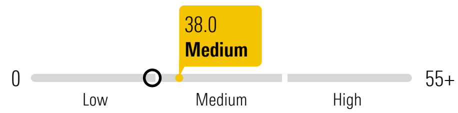
Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment[1]
140.91 USD 6 Nov 2024	130.00 USD 7 Aug 2024 15:55, UTC	1.08	93.20 USD Bil 7 Nov 2024	Narrow	Large Growth	High	Standard	6 Nov 2024 06:00, UTC

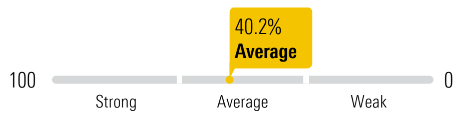
ESG Risk Rating Breakdown

Exposure	
Company Exposure[1]	38.0
– Manageable Risk	35.5
Unmanageable Risk[2]	**2.5**
Management	
Manageable Risk	35.5
– Managed Risk[3]	14.3
Management Gap[4]	**21.2**
Overall Unmanaged Risk	**23.7**



● Subject ○ Subindustry (34.0)

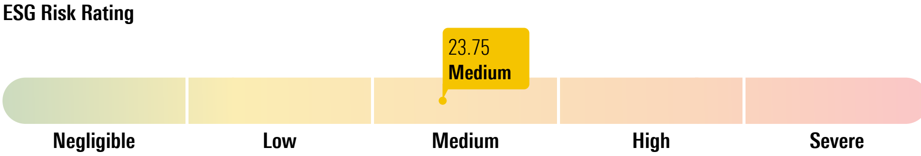




- Exposure represents a company's vulnerability to ESG risks driven by their business model
- Exposure is assessed at the Subindustry level and then specified at the company level
- Scoring ranges from 0-55+ with categories of low, medium, and high-risk exposure

- 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 40.2% 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 Nov 06, 2024. Highest Controversy Level is as of Oct 08, 2024. 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 06 Nov 2024

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		
Airbnb Inc	38.0 | Medium	0	55+	40.2 | Average	100	0	23.7 | Medium	0	40+
Expedia Group Inc	41.6 | Medium	0	55+	49.4 | Average	100	0	22.5 | Medium	0	40+
Booking Holdings Inc	33.3 | Low	0	55+	54.6 | Strong	100	0	16.3 | Low	0	40+
Trip.com Group Ltd	37.7 | Medium	0	55+	45.2 | Average	100	0	21.8 | Medium	0	40+
Tripadvisor Inc	42.1 | Medium	0	55+	37.2 | Average	100	0	27.5 | Medium	0	40+

Morningstar Equity Analyst Report | Report as of 8 Nov 2024 00:20, UTC | Reporting Currency: USD | Trading Currency: USD | Exchange: NASDAQ - ALL MARKETS Page 18 of 24

Appendix
Historical Morningstar Rating

Airbnb Inc Ordinary Shares - Class A ABNB 7 Nov 2024 23:03, UTC

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
★	—	—	—	—	—	—	—	—	—	—	—
Dec 2019	Nov 2019	Oct 2019	Sep 2019	Aug 2019	Jul 2019	Jun 2019	May 2019	Apr 2019	Mar 2019	Feb 2019	Jan 2019
—	—	—	—	—	—	—	—	—	—	—	—

Expedia Group Inc EXPE 7 Nov 2024 22:37, UTC

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
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Morningstar Equity Analyst Report | Report as of 8 Nov 2024 00:20, UTC | Reporting Currency: USD | Trading Currency: USD | Exchange: NASDAQ - ALL MARKETS

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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.

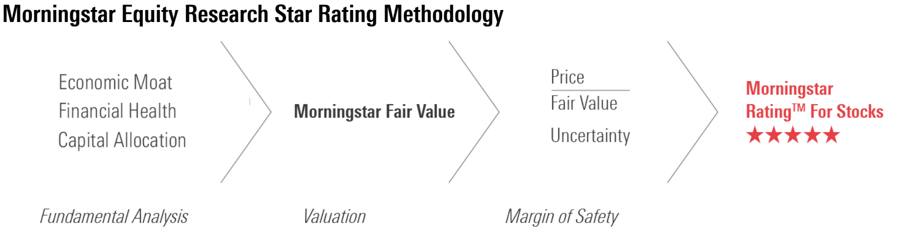
Because a dollar earned today is worth more than a dollar earned tomorrow, we discount our projections of cash flows in stages I, II, and III to arrive at a total present value of expected future cash flows. Because we are modeling free cash flow to the firm—representing cash available to provide a return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

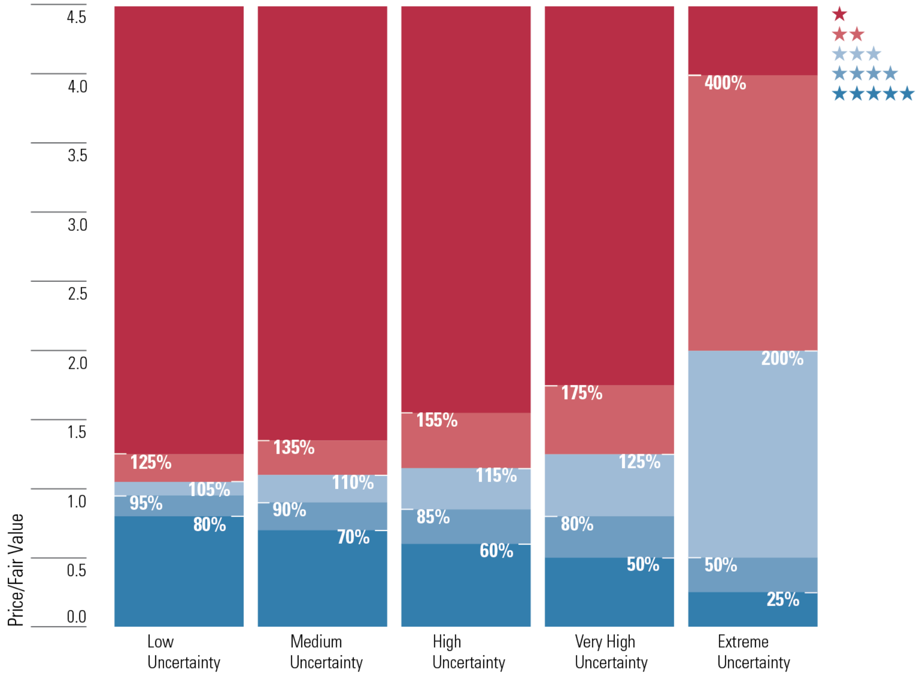
4. Market Price

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.

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

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

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

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

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

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

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

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