PLTR ★★★ 21 May 2025 21:45, UTC

Last Price 120.58 USD 21 May 2025

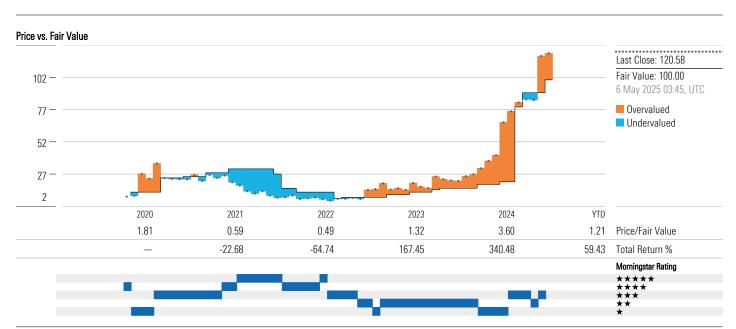
Fair Value Estimate 100.00 USD 6 May 2025 03:45, UTC Price/FVE 1.21 Market Cap 284.56 USD Bil 21 May 2025

Economic Mo
Narrow

Equity Style Box

Large Growth

Uncertainty Very High Capital Allocation Standard ESG Risk Rating Assessment¹
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Total Return % as of 21 May 2025. Last Close as of 21 May 2025. Fair Value as of 6 May 2025 03:45, UTC.

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Research Methodology for Valuing Companies

Important Disclosure

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

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

Palantir Earnings: Penetration of US Government and US Commercial Is Impressive; Fair Value Up 11%

Analyst Note Mark Giarelli, Analyst, 6 May 2025

Palantir shares are down 9% in after-hours trading despite the firm beating both management's guidance and FactSet analyst expectations on revenue by 3%. Contribution margins, an efficiency metric, reached an all-time high of 61%. Revenue growth was 39% and adjusted operating margin was 44%.

Why it matters: Palantir continues to impressively penetrate the US government and commercial segments. That said, we believe we have reached a point where respectable earnings beats and raised guidance aren't enough to materially move the stock to the upside.

- ▶ Palantir trades at 73 times revenue, nearly a 400% premium over other artificial intelligence software companies. We believe the premium multiple creates high expectations where management's 4% guidance raise on 2025 revenue appears underwhelming.
- ➤ We believe Palantir justifies high expectations due in part to US commercial customers increasing 65% year over year. Not only are the customer counts increasing, but the size of deals is also increasing, as exhibited by a doubling of agreements worth more than \$1 million.

The bottom line: We maintain our narrow moat rating and raise our fair value estimate by 11% to \$100 per share, thanks to increasing demand from government and commercial customers for Palantir's optimization software.



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Sector

Industry

Technology

Software - Infrastructure

Business Description

Palantir is an analytical software company that focuses on leveraging data to create efficiencies in its clients' organizations. The firm serves commercial and government clients via its Foundry and Gotham platforms, respectively. Palantir works only with entities in Western-allied nations and reserves the right not to work with anyone that is antithetical to Western values. The Denver-based company was founded in 2003 and went public in 2020.

- ► We believe that the Department of Government Efficiency, the Golden Dome US missile defense system, and a potential \$1 trillion-plus national security budget serve as tailwinds for Palantir's growth in the coming years.
- ▶ Palantir is trading in 3-star territory, which indicates fair risk-adjusted return potential. If we see the stock move back into the \$80 level, we believe upside potential would favor adding shares.

Between the lines: Palantir is blowing past the traditional Rule of 40 for software firms. This rule holds that a sum of revenue growth and operating margin above 40 is particularly strong. Palantir's score of 83 shows an exemplary balance between market capture and efficiency.

Business Strategy & Outlook Mark Giarelli, Analyst, 30 Jan 2025

Palantir is a leading Al company that enables optimized decision-making through its proprietary platforms. The company can aggregate and clean the world's most complex datasets. It derives actionable insights beyond traditional analytics because it creates a closed read-write loop where it engages with all stakeholders and data sources in an organization for a dynamic understanding of any problem. Over time, Palantir's systems continuously improve, enabling automated, machine-learning-based solutions that drive efficiency gains across entities in any industry.

Palantir's core differentiator is referred to as the ontology framework, which uses data to establish undiscovered relationships and advanced decision-making. The ontology framework is named after a branch of metaphysics that studies the "nature and relations of being." The name captures the interconnectivity and vagaries of real-world problems, highlighting Palantir's broad potential to solve any problem for any business, government, or military in the Western world.

Palantir's main business segments are the government-focused Gotham platform and the commercial-focused Foundry platform. The company began its journey exclusively solving military-related problems, but eventually realized that the problems being solved apply to any organization or company type. Thanks to the 2023 release of the Artificial Intelligence Platform, Palantir now provides a layer for large language models to help nontechnical users understand its work. Palantir has also rapidly improved a traditionally long and complicated customer acquisition process through the development of boot camps that act as high-turnover touchpoints with clients, where Palantir exhibits tailored solutions to a customer's biggest pain points.

Forecasting the size of Palantir's total addressable market is difficult and we believe this imprecise measurement will drive a lot of the volatility in the near term, but we don't think there is another company that combines Palantir's pattern recognition with customer switching costs, and we expect Palantir's state-of-the-art Al solutions to achieve rapid growth and adoption over the coming years.

Bulls Say Mark Giarelli, Analyst, 6 May 2025



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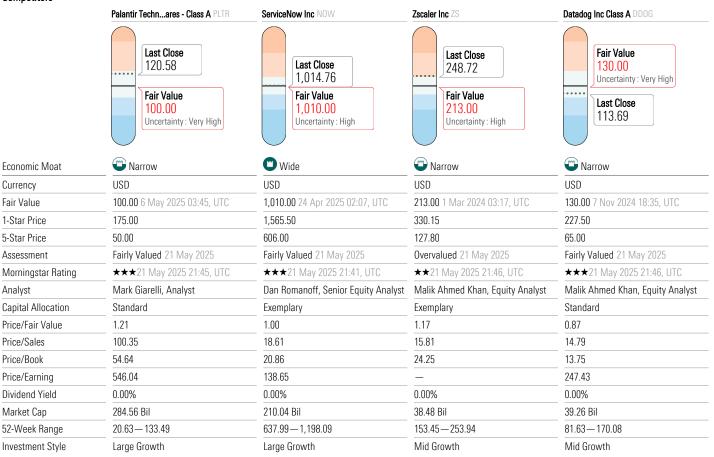
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Economic Moat™ Narrow Equity Style Box

Large Growth

Uncertainty Very High Capital Allocation Standard ESG Risk Rating Assessment¹
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Competitors



- ▶ Palantir has developed the premier Al software, primed to take advantage of the trend toward digitization and automation. Al software maintains a strategic position on the Al-value chain.
- ► Palantir's ontology framework and Al orchestration allow for the democratization of machine learning. Its software is useful to employees at all levels of a business to drive efficiency enhancements.
- ▶ The new boot camp-style sales effort has allowed Palantir to achieve rapid growth in the US commercial segment. The US commercial business has a large total addressable market.

Bears Say Mark Giarelli, Analyst, 6 May 2025

- ▶ Palantir's end markets are confined to entities that coalesce with Western ethos. This caps the total addressable market.
- ► The decreasing cost of Al inference and the convergence of LLMs will result in lower barriers to entry in the Al decision-making software industry that Palantir currently dominates.
- ▶ Palantir's dual-class share structure opens the door for overzealous noncore investment opportunities



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Equity Style Box

Large Growth

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without common shareholders' checks and balances.

Economic Moat Mark Giarelli, Analyst, 30 Jan 2025

We believe that Palantir warrants a narrow moat rating, based on switching costs and intangible assets.

Companies like AWS, Snowflake, and ServiceNow have developed data analytics tools, but Palantir differentiates itself as the only Al company with a framework that organizes disparate datasets and facilitates optimized decision-making. This machine-learning framework that identifies opaque yet significant relationships in data and translates

solutions to the end user is referred to as the "ontology framework." Palantir engineers a read-write feedback loop that enables connectivity throughout a business, creating an accessible analytical framework to drive nuanced decision-making that improves over time. Palantir often competes against internal information technology departments because it also analyzes data and create information dashboards for interpretation. This traditional in-house IT and data aggregation framework often results in patchwork solutions that are cumbersome, difficult to improve, and costly to scale.

To differentiate, Palantir creates a comprehensive, closed loop where data flows both from individual sources and data users. Put simply, Palantir gathers customer data of all forms, from structured data (stored in rows and columns) to unstructured (lacking a defined schema like emails, reports, logs from IT systems, or video/image files) to intelligence data (satellite data, troop movements, criminal records, threat assessments) to operational information (supply chain, demand, production or output), to analog sources (physical-world data like temperature, pressure, sound, or vibration in factories or field environments). The software cleans this data, identifies relationships, and deploys machine-learning algorithms that derive operational insights on the ground, ready for interaction and implementation.

Palantir's data-driven insights create actionable productivity enhancers throughout all roles and operations in an organization. As of 2023, Palantir provides an upsell artificial intelligence platform, or AIP, that acts as a large language model orchestration tool, lowering the barriers to adoption for all nontechnical users. The core ontology function and value proposition is that Palantir not only organizes and displays data, but it also creates prioritized, ranked data that can be quickly understood and interacted with, ultimately automating real-world efficiency gains. Whether it is aggregating legacy data lakes, understanding patient data to increase bed turnover, or digitizing analog data from around the world, the company is driving efficiency gains from data. The real-world efficiency gains accumulate and translate into switching costs for customers. Effectively, to stop using Palantir's ontology framework means massive inconvenience and a monetary cost through lost productivity. Simply buying the software and not renewing is not an option if customers want to maintain their newfound edge. Palantir provides a dashboard that continually updates and learns as time progresses. Without the software, excustomers would need to rely on former systems that lack the complex ontology framework, and they



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Narrow

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Uncertainty Very High Capital Allocation Standard ESG Risk Rating Assessment¹

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would lose the simplified dashboard that brings the productivity gains together.

To quantify switching costs as a moat source, we start with the most widely accepted indicator: net revenue retention. Palantir has the highest NRR (approximately 120%) across other data-forward software companies like Snowflake, DataDog, and Splunk. Palantir's NRR has also been increasing rapidly quarter over quarter since the release of its AIP. NRR is effectively a measure of a company's ability to capitalize on touchpoints and expand interaction with the upselling of additional capabilities, and AIP is a great example. Palantir's top-of-class and rapidly improving NRRs are an exhibition of not only customer stickiness but also expanding adoption. Customers see value in Palantir's framework, and they continue to invest in it. We expect this trend to continue.

The average Palantir customer spends more than \$1 million a quarter on the software. Customers have sunk significant monetary, intellectual, and data capital into acquiring and learning the software and are reaping associated rewards. Switching often doesn't make sense.

To anecdotally quantify the high-stakes problems that Palantir is solving that contribute additional switching costs, one must look no further than mission-critical healthcare and military operations. For example, Tampa General Hospital partnered with Palantir and reduced patient length of stay by 30%, helping save lives. On the military front, Palantir's software was critical to accumulating intelligence data and providing the framework for capturing Osama Bin Laden. When complex issues involve human lives, institutions must rely upon the most robust frameworks and software solutions, which Palantir provides. Switching away from this novel platform could open the customer to both monetary and immeasurable human costs.

Customer growth has been impressive. Since a bottoming in mid-2023, we have seen rapid year-over-year growth in the US commercial segment. Facilitating this growth is the recently introduced boot camp strategy for its sales and marketing efforts, which allows for a high number of touchpoints with prospective buyers. Once landing a contract there is still a specialized onboarding period when Palantir engineers learn the ins and outs of the customer's data to tailor the optimal framework for complex processes. We think this unique customer acquisition and retention process deepens Palantir's relationship with the end user and boosts growth. We also appreciate that the company has been diversifying its revenue base by adding commercial customers, which often come with more-lucrative contract terms compared with those in the government segment.

Overall, Palantir is an innovative Al company that offers nuanced and optimized solutions derived from the world's most complex datasets. The company is deeply ingrained within diverse end markets and mission-critical customer infrastructure and has top-of-class net revenue retention metrics that justify a narrow moat rating.



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Fair Value and Profit Drivers Mark Giarelli, Analyst, 6 May 2025

Our fair value estimate of \$100 implies a 2025 enterprise value/sales multiple of 57 times.

In our opinion, the primary driver of the stock's value is the total addressable market Palantir's software can ultimately serve. TAM size is truly a trillion-dollar question that is unfortunately laden with assumptions. Our base case has Palantir's TAM growing to \$1.4 trillion by 2033. From today, we assume growth is non-linear, with a slight inflection higher from 2028-30 to rates nearing 35% per year. Our analysis concludes that we are in the early innings of an Al revolution. In our base case, we expect Palantir to have a growth profile similar to that of innovative software companies like Salesforce in the late 2010s. Salesforce was able to drive efficiency by creating a standardized workflow and logging process for enterprises that were accustomed to bloated sales teams compiling data in disparate locations. We expect Palantir to similarly drive efficiency amongst enterprises that now lean on large information technology teams that interpret and present data to assist in decision-making.

If Palantir executes well, it could become necessary for businesses looking to aggregate and decipher data, much like Salesforce became a necessity for sales teams. As such, we believe most of Palantir's growth to come from the US commercial business and we expect net revenue retention rates from existing clients to remain strong. Our bull case scenario calls for a TAM larger than \$1.6 trillion and penetration of nearly 3% which results in a valuation of approximately \$280 per share.

Since going public, Palantir's gross margins have grown from an initial low of 68% in 2020 to 80.5% in early 2025. The 2020 low gross margin was due to the accumulation of restricted stock units that were vested immediately when the company went public. Since then, the company has steadily improved its gross margin by scaling revenue faster than growth in salaries, hardware costs, stock-based compensation and payments to cloud hosting services. We project approximately 500 basis points in gross margin improvement over the next 10 years due to the addition of higher-margin commercial customers, but we are apprehensive about projecting much more appreciation due to the potential for cloud costs to go up with ever-increasing demand for computing resources.

Palantir has spent heavily on research and sales in the past. In 2023, the firm's research and sales spending combined totaled approximately 52% of revenue. That said, Palantir's top-line revenue has been growing faster than research and sales costs, ultimately benefiting the bottom line. We like Palantir's rollout of a 'bootcamp' based sales approach, which encourages rapid turnover of sales touchpoints at a lower customer acquisition cost, all while still providing a customized solution that organizations expect from Palantir's ontology framework. Palantir's capability to grow the top line while keeping major costs in check has been a positive trend that should continue.

Palantir is the premier player for Al decision-making software and we are bullish on its growth and



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profitability going forward.

Risk and Uncertainty Mark Giarelli, Analyst, 30 Jan 2025

We assign Palantir a Very High Morningstar Uncertainty Rating. The company's biggest uncertainty is the broad potential size of the total addressable market, or TAM, that its software can serve, and the level of customer penetration it can achieve.

We like the versatility of the ontology framework that makes Palantir software valuable to almost any company. This versatility creates significant upside potential. Unfortunately, because the TAM estimate is so uncertain and is one of the largest drivers of the stock's valuation, downward share price corrections can be severe and painful when there is an unfavorable change in investors' perception of future market size. We have modeled multiple scenarios for future demand, and the resulting range of valuations is extreme, illustrating the massive uncertainty investors face. If our bear case on TAM emerges, the shares will likely prove worth far less than we expect.

We do not see a direct comparable to the superior capabilities of Palantir's ontology framework. As such, we like the competitive positioning and value proposition as it stands today. That said, there is the chance that a new entrant or a technological juggernaut like Google will develop software rivaling Palantir's Al solutions. A new entrant encroaching on Palantir's position would increase competition and diminish pricing power. Protecting Palantir is the 10–20-year head start it has on Al solutions derived from machine-learning software. A new entrant would need to invest large amounts of capital into research and development to surpass the Palantir offering.

Considering the sensitivity of the data that Palantir ingests, there is a privacy-related ESG risk should a hack materialize. Fortunately, Palantir's Cipher service allows for advanced encryption techniques and there has not been a major data breach to date.

Capital Allocation Mark Giarelli, Analyst, 6 May 2025

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

Palantir has low-to-medium revenue cyclicality thanks to its diversified revenue streams between the sticky government segment and the lucrative commercial segment. Commercial contracts are more volatile in terms of net revenue retention, but Palantir plays a mission-critical role that drives efficiency. The company's lack of debt, high level of cash and marketable securities, and moderate operating leverage allow us to conclude that there is low balance-sheet risk.

Palantir's history of investments is hit or miss. The company attempted a foray into venture investing during the special-purpose acquisition company boom of 2021-22 that ultimately resulted in nearly \$300 million in losses when the speculative investments soured. The initial idea was to fund nascent



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Uncertainty Very High Capital Allocation Standard ESG Risk Rating Assessment¹

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innovators and simultaneously court new Palantir customers in return. It didn't go well. At the same time, we believe the company's investments in research and development have allowed it to maintain a significant first-mover advantage in the machine-learning and decision-making solutions market. Additionally, the firm's investment in designing a boot camp sales process allows for rapid turnover in sales touchpoints, ultimately increasing growth. Overall, we believe we are in the beginning stages of these investments paying off, and we expect economic value to be generated over the next decade.

Because Palantir is in a high-growth phase, it does not pay a dividend, and we do not expect this to change. With high cash generation, the firm approved a \$1 billion share repurchase program where deployment is at the management team's discretion. We think this shareholder distribution strategy is appropriate given the firm's current position and future growth prospects.

Analyst Notes Archive

Palantir Earnings: US Exceptionalism and Al-Value Chain Justify Excitement; FVE to \$90 From \$79 Mark Giarelli, Analyst, 4 Feb 2025

Palantir's outstanding fourth-quarter results, rapid growth amid the artificial intelligence arms race, and strategic positioning in the Al-value chain further solidify our base case expectations that this company can be the next software juggernaut. As a result, we are raising our fair value estimate to \$90 from \$79.This quarter's results highlight Palantir's exemplary execution and continued penetration of the US commercial market, with 73% more US customers than a year ago and 63% growth in US commercial revenue year over year. US Government revenue remains sticky, growing a robust 45% year over year, with a potential second-half 2025 tailwind from the Department of Government Efficiency as it looks to slim down government budgets. We are witnessing increasing adoption of the artificial intelligence platform, which is acting as a revenue accelerant since it can utilize any large language model to ultimately drive productivity gains and democratize machine learning for non-technical users across organizations. While most of this customer and revenue acceleration is driven by US enterprises, even a fraction of this growth replicated in Western Europe could provide additional upside to our valuation. We continue to view switching costs as a key moat source as customers adopt Palantir's software and deepen their investment through various add-on opportunities. This is reflected in net revenue retention which now hovers around 120% and continued an upward trend quarter over quarter. This quarter's results further reinforce our conclusion that we are in the early stages of an Al arms race, where most of the economic value is flowing downstream — both to software companies that make Al "work" and to enterprises leveraging AI for productivity gains. We continue to believe that Palantir's best days are ahead and that the company has a significant runway for its bull case to emerge.

Palantir: A Strong Position in the Al-Value Chain Warrants Enthusiasm Mark Giarelli, Analyst, 30 Jan 2025



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We are transferring coverage of Palantir, maintaining a narrow moat rating and roughly quadrupling our fair value from \$21 to \$79. We view the company as fairly valued despite the premium it trades at relative to other software companies. We believe we are in the early phases of an artificial intelligence revolution, where downstream software companies like Palantir disproportionately stand to benefit. Our base case assumes that Palantir can achieve a growth profile like Salesforce in the 2010s. Salesforce was able to streamline bloated sales teams and drive productivity by creating a software that organizes sales data and workflow processes. We believe Palantir will similarly disrupt the current assembly line approach to data analytics where data is gathered, analyzed, presented and then dropped. Palantir instead creates a read-write loop where the software learns and improves as data is engaged with, which results in "what should we do?" solutions that boost productivity and can replace significant chunks of internal information technology efforts. We have been witnessing ongoing commodification of large language models, or LLMs, in the Al-value chain, and we believe economic value is shifting downstream to software companies that can orchestrate smarter LLMs that drive productivity gains. Traditional LLMs are more akin to statistical word generators, but when Palantir orchestrates them with every bit of disparate data available to a customer, they become significantly more useful thanks to much-needed context about the individual customer and their pain points. We believe that the drivers for this company's valuation are expectations for the total addressable market that Palantir's software can address and the firm's ability to drive penetration of this market. Changes in these expectations can result in significant price volatility, but we believe the company is well positioned, and its best days are ahead of it, which justifies its current market valuation.

Palantir Earnings: Al Flame Continues to Burn Bright, but Shares Are Overheated Malik Ahmed Khan, CFA, Equity Analyst, 5 Nov 2024

Palantir reported robust third-quarter financial results, with the firm's top line growing 30% year over year to \$726 million and operating margins expanding to 15.6% from 7.2% a year ago. US commercial customers drove the firm's top line, with sales from the segment growing 54% year over year. Why it matters: Palantir remains one of the clearest beneficiaries of an uptick in demand for artificial intelligence-related solutions. The firm's AI platform, AIP, continued to fire on all cylinders in the third quarter, with demand from both commercial and government clients. Palantir's commercial revenue grew 27% year over year to \$317 million, with US commercial sales now constituting 56% of the total commercial sales. US commercial customer accounts rose to 321 from 181 a year ago, highlighting Palantir's ability to land new business via AIP. Palantir's government sales were impressive as well. Government revenue expanded 33% year over year to \$408 million. We see a long runway of growth in the government sector, owing to the massive demand for AI-first solutions across governmental functions such as the military and healthcare. The bottom line: With another better-than-expected quarter in the books, we are raising our fair value estimate for narrow-moat Palantir to \$21 per share from \$19. While we view the stock as materially overvalued, we remain optimistic about the firm's



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growth and margin expansion opportunity in the coming years. Palantir is by far the most expensive software company under our coverage, with an enterprise value 31 times our 2025 sales estimate. We view the long-term growth implied in Palantir's current valuation as unrealistic. With the firm's shares priced for perfection, we'd remind investors that any bump in the road—such as sales execution challenges or weaker-than-expected top-line growth or guidance—could materially affect the stock's valuation.

Palantir's Earnings: Continued Success in Commercial Sales Drives Home Another Strong Quarter Malik Ahmed Khan, CFA, Equity Analyst, 6 Aug 2024

We are raising our fair value estimate for narrow-moat Palantir to \$19 from \$16 after the firm reported blockbuster second-quarter financial results and raised its topline and profitability guidance for fiscal 2024. In retrospect, some of our prior estimates, while being above consensus, did not fully capture the Al momentum uplifting Palantir's commercial sales. We continue to be optimistic about the firm's Al opportunity as a deeply embedded player in the space with years of experience working with large commercial and government clients. We also think the firm's rising profitability is a testament to the attractive unit economics built into its software business, with revenue growth far outpacing the increase in operating expenses. From a valuation standpoint, while our forward-looking estimates testify to our optimism on the name, we remain skeptical of the exuberant valuation at which Palantir is trading. Even without factoring in the sharp rise in the firm's stock price after hours, Palantir remains the most expensive software company in our coverage, with an enterprise value/sales multiple of around 20 times. We'd caution investors that, with the sky-high expectations baked into the firm's current valuation, any small bump on the road can crater the stock price. Palantir's second-quarter sales clocked in at \$678 million, up 27% year over year and more than \$27 million ahead of our \$651 million prior estimate. The firm's success in the US commercial market continues to impress us, with sales from this segment expanding 55% year over year to \$159 million and with US commercial customer count expanding to 295, up from 161 a year ago. Alongside commercial customer strength, Palantir's government sales growth was no slouch either, expanding 23% year over year to \$371 million. Over the long term, we expect Palantir to materially benefit from governments and businesses alike expanding their use of Al across their organizations.

Palantir's Earnings: Strength in Commercial Applications Continues to Drive Sales Malik Ahmed Khan, CFA, Equity Analyst, 7 May 2024

We maintain our \$16 per share fair value estimate for narrow-moat Palantir after the firm kicked off fiscal 2024 with a set of strong financial results, largely in line with our prior estimates. Spearheading these results was continued momentum for the firm's artificial intelligence platform, or AIP, a trend we see continuing, especially in the US commercial space. While we model robust top-line growth and margin expansion for Palantir, we remain unable to rationalize the market's current valuation on the



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name. For context, our top line and profitability estimates for the upcoming two years are all above consensus, highlighting our view that Palantir stands to materially benefit from increased Al spending as a leader in the Al platform space. Despite the firm's shares trading down after hours, we continue to view them as overvalued. When modeling Palantir's growth and profitability, we also looked at a hypothetical bull case in which the firm's AIP saw robust adoption as customers new and old flocked to use Palantir's Al solutions to power their businesses. This scenario bakes in a higher-for-longer growth outlook for Palantir's government and commercial businesses, resulting in a \$22 per share fair value estimate. First-quarter sales reached \$634 million, up 22% year over year and up 4% sequentially. While the sales number was shy of our above-consensus estimate, we were impressed by Palantir's continued traction in the US commercial market. Sales from this segment rose 40% year over year to \$150 million as Palantir increased its US commercial customer count by 69% year over year to 262. We believe strong adoption of AIP within the US commercial space is a good sign for Palantir as US companies are often early adopters when it comes to software, with other global markets following suit. We were equally impressed by the firm's strong forward-looking metrics, with remaining performance obligations, or RPO, up strongly year over year and outpacing revenue growth.

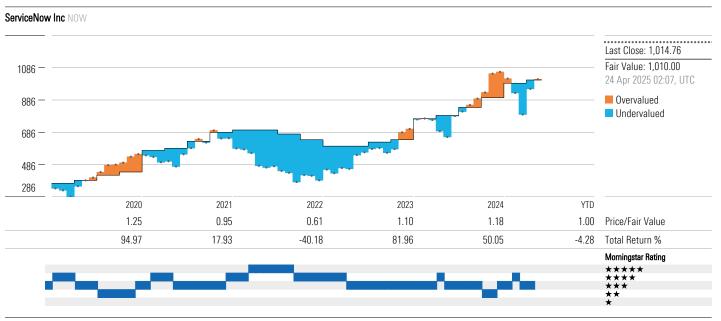
Palantir: Titan Contract Win Underscores Continued Strength in the Government Vertical Malik Ahmed Khan, CFA, Equity Analyst, 6 Mar 2024

We are raising our fair value estimate for narrow-moat Palantir to \$16 from \$15 as we incorporate the financial impact of the firm winning the 24-month, \$178 million U.S. Army Titan, or Tactical Intelligence Targeting Access Node, contract. Along with the near-term uplift as the contract value flows through Palantir's financials, we also see this contract award as a potential long-term value driver for the business. First, we believe Palantir's success in landing the Titan contract could enable the firm to improve its software capabilities, leading to better bids for future large contracts. Second, while not set in stone, we see the US Army possibly extending the TITAN contract beyond its initial 24-month phase. If Palantir executes well over the next couple of years, the firm could potentially bag additional mandates as the Army builds out TITAN further. The market also had a positive read on the contract award, with Palantir's shares climbing following the announcement. Despite our bullish, aboveconsensus growth and profitability assumptions, we remain unable to rationalize Palantir's current valuation, however. We continue to view Palantir as overvalued relative to our updated fair value estimate. As part of the Titan program, Palantir will help the US Army build five basic and five advanced ground vehicles that will allow soldiers to incorporate multidimensional data. This data will stream in from various sensors into their combat maneuvers, to make better tactical decisions on the battlefield. Over the next two years, Palantir will help develop software for Titan vehicles while getting feedback from soldiers and the Army through an iterative process. After the two-year prototype phase and the development of the 10 vehicles, the Army will potentially expand its Titan program to increased production. III

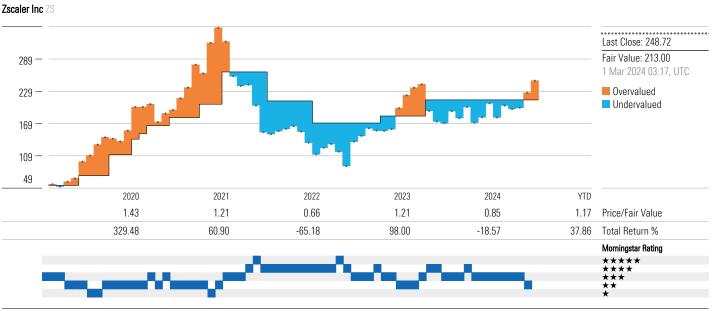


PLTR ★★★ 21 May 2025 21:45, UTC

Competitors Price vs. Fair Value



Total Return % as of 21 May 2025. Last Close as of 21 May 2025. Fair Value as of 24 Apr 2025 02:07, UTC

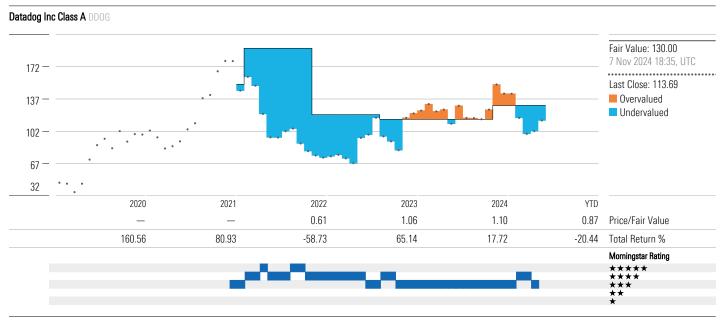


Total Return % as of 21 May 2025. Last Close as of 21 May 2025. Fair Value as of 1 Mar 2024 03:17, UTC



PLTR ★★★ 21 May 2025 21:45, UTC

Competitors Price vs. Fair Value



Total Return % as of 21 May 2025. Last Close as of 21 May 2025. Fair Value as of 7 Nov 2024 18:35, UTC.



PLTR ★★★ 21 May 2025 21:45, UTC

Last Price 120.58 USD 21 May 2025

ROIC %

Fair Value Estimate 100.00 USD 6 May 2025 03:45, UTC Price/FVE 1.21 Market Cap 284.56 USD Bil 21 May 2025 Economic Moat™

Narrow

Equity Style Box

Large Growth

Uncertainty Very High **Capital Allocation** Standard ESG Risk Rating Assessment¹

7 May 2025 05:00, UTC

Morningstar Valuation Model Summary										
Financials as of 05 May 2025		Actual			Forecast					
Fiscal Year, ends 31 Dec		2022	2023	2024	2025	2026	2027	2028	2029	
Revenue (USD Bil)		1,906	2,225	2,866	4,066	5,625	7,762	10,417	14,063	
Operating Income (USD Bil)		-161	120	310	854	1,702	2,661	3,719	5,423	
EBITDA (USD Bil)		-355	141	324	895	1,758	2,738	3,823	5,564	
Adjusted EBITDA (USD Bil)		-355	141	324	895	1,758	2,738	3,823	5,564	
Net Income (USD Bil)		-374	210	462	866	1,610	2,391	3,197	4,463	
Adjusted Net Income (USD Bil)		135	572	1,016	1,348	2,028	2,797	3,645	5,002	
Free Cash Flow To The Firm (USD Bil)		-267	274	321	1,422	1,710	2,543	3,398	4,748	
Weighted Average Diluted Shares Outstanding (Bil)		2,064	2,298	2,451	2,451	2,451	2,451	2,451	2,451	
Earnings Per Share (Diluted) (USD)		-0.18	0.09	0.19	0.35	0.66	0.98	1.30	1.82	
Adjusted Earnings Per Share (Diluted) (USD)		0.07	0.25	0.41	0.55	0.83	1.14	1.49	2.04	
Dividends Per Share (USD)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Margins & Returns as of 05 May 2025		Actual			Forecast					
On analis a Managin O/	3 Year Avg	2022	2023	2024	2025	2026	2027	2028	2029	5 Year Avg
Operating Margin % EBITDA Margin %	-1.6 —	-8.5 -18.6	5.4 6.4	10.8	21.0	30.3	34.3 35.3	35.7 36.7	38.6 39.6	32.0
Adjusted EBITDA Margin %	_	-18.6	6.4	11.3	22.0	31.3	35.3	36.7	39.6	33.0
Net Margin %	2.0	-19.6	9.4	16.1	21.3	28.6	30.8	30.7	31.7	28.6
Adjusted Net Margin %	22.8	7.1	25.7	35.5	33.1	36.1	36.0	35.0	35.6	35.2
Free Cash Flow To The Firm Margin %	3.2	-14.0	12.3	11.2	35.0	30.4	32.8	32.6	33.8	32.9
Growth & Ratios as of 05 May 2025		Actual			Forecast					
Revenue Growth %	3 Year CAGR	2022	2023	2024	2025	2026	2027	2028		5 Year CAGR
Operating Income Growth %	23.0	23.6 -60.8	16.8 -174.4	28.8 158.7	41.9 175.1	38.3 99.3	38.0 56.4	34.2 39.8	35.0 45.8	37.5 77.2
EBITDA Growth %	-11.8	-24.8	-139.8	129.2	176.1	96.5	55.8	39.6	45.5	82.7
Adjusted EBITDA Growth %	-188.2	-24.8	-139.8	129.2	176.1	96.5	55.8	39.6	45.5	76.6
Earnings Per Share Growth %	_	-33.1	-150.4	106.5	87.4	85.9	48.5	33.7	39.6	57.4
Adjusted Earnings Per Share Growth %	_	-59.0	279.2	66.7	32.6	50.5	37.9	30.3	37.3	57.4
Valuation as of 05 May 2025		Actual			Forecast					
		2022	2023	2024	2025	2026	2027	2028	2029	
Price/Earning		91.7	68.7	184.5	219.2	145.3	105.8	80.9	59.1	
Price/Sales Price/Book		0.0 5.2	0.0 11.4	0.1 37.1	0.1 52.2	0.1 41.7	0.0 31.6	0.0 23.7	0.0 17.5	
Price/Cash Flow		J.Z —	11.4	37.1	JZ.Z	41.7	31.0	Z3.7 —	17.5	
EV/EBITDA		0.0	0.2	0.5	0.3	0.2	0.1	0.1	0.1	
EV/EBIT		-0.1	0.3	0.6	0.3	0.2	0.1	0.1	0.1	
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 05 May 2025		Actual			Forecast					
Fiscal Year, ends 31 Dec		2022	2023	2024	2025	2026	2027	2028	2029	
ROA %		-10.8	4.6	7.3	11.8	17.7	20.2	20.6	21.5	
ROE %		-14.1	5.9	9.1	15.3	22.7	25.5	25.6	26.4	



45.4

8.7

11.7

14.5

23.8

32.8

38.9

42.1

PLTR ★★★ 21 May 2025 21:45, UTC

Last Price 120.58 USD 21 May 2025

Fair Value Estimate 100.00 USD 6 May 2025 03:45, UTC Price/FVE 1.21 Market Cap 284.56 USD Bil 21 May 2025 Economic Moat™

Narrow

Equity Style Box

Large Growth

Uncertainty Very High Capital Allocation Standard ESG Risk Rating Assessment¹

7 May 2025 05:00, UTC

Financial Leverage (Reporting Currency)	Actual	Actual				Forecast				
Fiscal Year, ends 31 Dec	2022	2023	2024	2025	2026	2027	2028	2029		
Debt/Capital %	1.8	0.6	0.1	0.0	0.0	0.0	0.0	0.0		
Assets/Equity	1.3	1.3	1.2	1.3	1.3	1.3	1.2	1.2		
Net Debt/EBITDA	0.0	0.0	0.0	-7.1	-4.5	-3.8	-3.6	-3.3		
Total Debt/EBITDA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
EBITDA/ Net Interest Expense	21.8	-1.1	-1.6	-9.5	-18.7	-29.1	-40.7	-59.2		

Forecast Revisions as of 5 May 2025	2025		2026		2027	
Prior data as of 3 Feb 2025	Current	Prior	Current	Prior	Current	Prior
Fair Value Estimate Change (Trading Currency)	100.00	89.85		_		
Revenue (USD Bil)	4,066	4,083	5,625	5,608	7,762	7,310
Operating Income (USD Bil)	854	1,174	1,702	1,932	2,661	2,693
EBITDA (USD Bil)	895	1,215	1,758	1,988	2,738	2,766
Net Income (USD Bil)	1,348	1,600	2,028	2,210	2,797	2,822
Earnings Per Share (Diluted) (USD)	0.35	0.47	0.66	0.74	0.98	0.99
Adjusted Earnings Per Share (Diluted) (USD)	0.55	0.65	0.83	0.90	1.14	1.15
Dividends Per Share (USD)	0.00	0.00	0.00	0.00	0.00	0.00

Projected Diluted Shares

Fair Value per Share (USD)

Key Valuation Drivers as of 05 May 2025	
Cost of Equity %	9.0
Pre-Tax Cost of Debt %	8.0
Weighted Average Cost of Capital %	9.0
Long-Run Tax Rate %	20.0
Stage II EBI Growth Rate %	14.7
Stage II Investment Rate %	40.0
Perpetuity Year	20

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

Discounted Cash Flow Valuation as of 05 May 2025	
	USD Mil
Present Value Stage I	37,202,197
Present Value Stage II	53,439,946
Present Value Stage III	141,005,971
Total Firm Value	231,648,114
Cash and Equivalents	5,229,987
Debt	0
Other Adjustments	0
Equity Value	236,878,101

2,449 **100.00**

PLTR ★★★ 21 May 2025 21:45, UTC

Last Price 120.58 USD 21 May 2025

ESG Risk Rating

Negligible

Fair Value Estimate 100.00 USD 6 May 2025 03:45, UTC Price/FVE Market Cap 284.56 USD Bil 1.21 21 May 2025

Economic Moat™ Narrow

Equity Style Box Large Growth

Severe

Uncertainty Very High

Capital Allocation Standard

ESG Risk Rating Assessment¹ **@@@@** 7 May 2025 05:00, UTC

ESG Risk Rating Breakdown



► 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 Assessment⁵













Medium 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.

21.59 Medium

Low

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 43.9% 4. Management Gap assesses risks that are not managed, but are considered manageable 5. ESG Risk Rating Assessment = Overall Unmanaged Risk = Management Gap plus Unmanageable Risk

ESG Risk Rating is of May 07, 2025. Highest Controversy Level is as of May 08, 2025. Sustainalytics Subindustry: Enterprise and Infrastructure Software 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/

Peer Analysis 07 May 2025	Peers are selected f	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					
Palantir Technologies Inc	36.4 Medium	0 55+	43.9 Average	100 0	21.6 Medium	0 40+				
ServiceNow Inc	35.1 Medium	0 55+	57.7 Strong	100 - 0	16.3 Low	0 — 40+				
Zscaler Inc	35.9 Medium	0 55+	58.0 Strong	100 0	16.5 Low	0				
Datadog Inc	30.7 Low	0	50.1 Strong	100 - 0	16.3 Low	0				
Snowflake Inc	30.8 Low	0	48.5 Average	100 0	16.8 Low	0 — 40+				

High



Appendix

Historical Morningstar Rating

Palantir Tec	chnologies Inc	Ordinary Shar	es - Class A PLT	R 21 May 2025	21:45, UTC						
Dec 2025	Nov 2025	Oct 2025	Sep 2025	Aug 2025	Jul 2025	Jun 2025	May 2025	Apr 2025	Mar 2025	Feb 2025	Jan 2025
—	—	—	—	—	—	—	★★★	★★	★★★	★★★	★★★
Dec 2024	Nov 2024	0ct 2024	Sep 2024	Aug 2024	Jul 2024	Jun 2024	May 2024	Apr 2024	Mar 2024	Feb 2024	Jan 2024
★	★	★	★	★★	★★	★★	★★	★★	★★	★★	★★
Dec 2023	Nov 2023	0ct 2023	Sep 2023	Aug 2023	Jul 2023	Jun 2023	May 2023	Apr 2023	Mar 2023	Feb 2023	Jan 2023
★★	★★	★★	★★	★★	★	★★	★★	★★★	★★★	★★★	★★★
Dec 2022	Nov 2022	0ct 2022	Sep 2022	Aug 2022	Jul 2022	Jun 2022	May 2022	Apr 2022	Mar 2022	Feb 2022	Jan 2022
★★★★★	★★★	★★★	★★★	★★★★	★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★
Dec 2021	Nov 2021	0ct 2021	Sep 2021	Aug 2021	Jul 2021	Jun 2021	May 2021	Apr 2021	Mar 2021	Feb 2021	Jan 2021
★★★★	★★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★
Dec 2020	Nov 2020	0ct 2020	Sep 2020	Aug 2020	Jul 2020	Jun 2020	May 2020	Apr 2020	Mar 2020	Feb 2020	Jan 2020
★	★	★★★	—	—	—	—	—	—	—	—	—
ServiceNow	/ Inc NOW 21 i	May 2025 21:41	, UTC								
Dec 2025	Nov 2025	Oct 2025	Sep 2025	Aug 2025	Jul 2025	Jun 2025	May 2025	Apr 2025	Mar 2025	Feb 2025	Jan 2025
—	—	—	—	—	—	—	★★★	★★★	★★★	★★★	★★★
Dec 2024	Nov 2024	0ct 2024	Sep 2024	Aug 2024	Jul 2024	Jun 2024	May 2024	Apr 2024	Mar 2024	Feb 2024	Jan 2024
★★	★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★
Dec 2023	Nov 2023	0ct 2023	Sep 2023	Aug 2023	Jul 2023	Jun 2023	May 2023	Apr 2023	Mar 2023	Feb 2023	Jan 2023
★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★★
Dec 2022	Nov 2022	0ct 2022	Sep 2022	Aug 2022	Jul 2022	Jun 2022	May 2022	Apr 2022	Mar 2022	Feb 2022	Jan 2022
★★★★	★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★
Dec 2021	Nov 2021	0ct 2021	Sep 2021	Aug 2021	Jul 2021	Jun 2021	May 2021	Apr 2021	Mar 2021	Feb 2021	Jan 2021
★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★★	★★★★	★★★★	★★★	★★★
Dec 2020	Nov 2020	0ct 2020	Sep 2020	Aug 2020	Jul 2020	Jun 2020	May 2020	Apr 2020	Mar 2020	Feb 2020	Jan 2020
★★	★★	★★	★★	★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★
Zscaler Inc	ZS 21 May 202	5 21:46, UTC									
Dec 2025	Nov 2025	Oct 2025	Sep 2025	Aug 2025	Jul 2025	Jun 2025	May 2025	Apr 2025	Mar 2025	Feb 2025	Jan 2025
—	—	—	—	—	—	—	★★	★★★	★★★	★★★	★★★
Dec 2024	Nov 2024	0ct 2024	Sep 2024	Aug 2024	Jul 2024	Jun 2024	May 2024	Apr 2024	Mar 2024	Feb 2024	Jan 2024
★★★	★★★	★★★	★★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★	★★
Dec 2023	Nov 2023	0ct 2023	Sep 2023	Aug 2023	Jul 2023	Jun 2023	May 2023	Apr 2023	Mar 2023	Feb 2023	Jan 2023
★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★	★★★★	★★★	★★★	★★★★
Dec 2022	Nov 2022	0ct 2022	Sep 2022	Aug 2022	Jul 2022	Jun 2022	May 2022	Apr 2022	Mar 2022	Feb 2022	Jan 2022
★★★★	★★★	★★★	★★★	★★★★	★★★	★★★	★★★★	★★★	★★★	★★★	★★★
Dec 2021	Nov 2021	0ct 2021	Sep 2021	Aug 2021	Jul 2021	Jun 2021	May 2021	Apr 2021	Mar 2021	Feb 2021	Jan 2021
★★	★	★★	★★	★★	★★	★★	★★★	★★	★★★	★★	★★
Dec 2020	Nov 2020	0ct 2020	Sep 2020	Aug 2020	Jul 2020	Jun 2020	May 2020	Apr 2020	Mar 2020	Feb 2020	Jan 2020
★★	★★	★★	★★	★	★	★★	★★	★★	★★★	★★★	★★★



Datadog In	c Class	Α	DDOG 2	1 May	2025 21:46	LITC:
Datauou III	C Class	н	. ווווווו 🖊	' i iviav	70/0 / 1.40	. UII

Dec 2025 —	Nov 2025 —	Oct 2025 —	Sep 2025 —	Aug 2025 —	Jul 2025 —	Jun 2025 —	May 2025 ★★★	Apr 2025 ★★★★	Mar 2025 ★★★★	Feb 2025 ★★★	Jan 2025 ★★★
Dec 2024 ★★★	Nov 2024 ★★★	0ct 2024 ★★★	Sep 2024 ★★★	Aug 2024 ★★★	Jul 2024 ★★★	Jun 2024 ★★★	May 2024 ★★★	Apr 2024 ★★★	Mar 2024 ★★★	Feb 2024 ★★★	Jan 2024 ★★★
Dec 2023 ★★★	Nov 2023 ★★★	0ct 2023 ★★★	Sep 2023 ★★★★	Aug 2023 ★★★	Jul 2023 ★★★	Jun 2023 ★★★	May 2023 ★★★	Apr 2023 ★★★	Mar 2023 ★★★★	Feb 2023 ★★★★	Jan 2023 ★★★★
Dec 2022	Nov 2022	Oct 2022	Sep 2022	Aug 2022	Jul 2022	Jun 2022	May 2022	Apr 2022	Mar 2022	Feb 2022	Jan 2022
***	****	****	****	****	****	****	****	****	****	***	***
Dec 2021	Nov 2021	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
_	_	_			_	_	_ ′		_	_	_



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 re-

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

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

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

2. Estimated Fair Value

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

Our model is divided into three distinct stages:

Stage I: Explicit Forecast

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

rive our annual free cash flow forecast.

Stage II: Fade

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

Stage III: Perpetuity

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

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

3. Uncertainty Around That Fair Value Estimate

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

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

Morningstar Equity Research Star Rating Methodology





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						

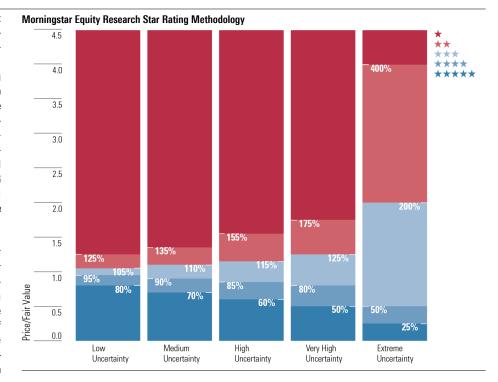
Our uncertainty rating is based on the interquartile range, or the middle 50% of potential outcomes, covering the 25th percentile–75th percentile. This means that when a stock hits 5 stars, we expect there is a 75% chance that the intrinsic value of that stock lies above the current market price. Similarly,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



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.
- $\star\star\star$ 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-



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

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

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

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

Sustainalytics analyzes over 1,300 data points to assess a company's exposure to and management of ESG risks. In other words, ESG Risk Ratings measures a company's unmanaged ESG Risks represented as a quantitative score. Unmanaged Risk is measured on an open-ended scale

starting at zero (no risk) with lower scores representing less unmanaged risk and, for 95% of cases, the unmanaged ESG Risk score is below 50.

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

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

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