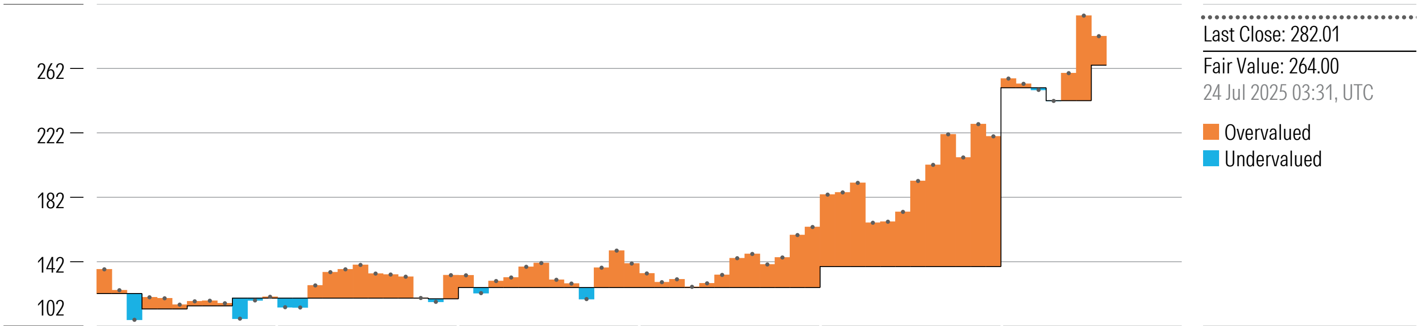
Morningstar Equity Analyst Report | Report as of 24 Jul 2025 15:33, UTC | Reporting Currency: USD | Trading Currency: USD | Exchange: NEW YORK STOCK EXCHANGE, INC.

International Business Machines Corp IBM ★★★ 24 Jul 2025 03:35, UTC

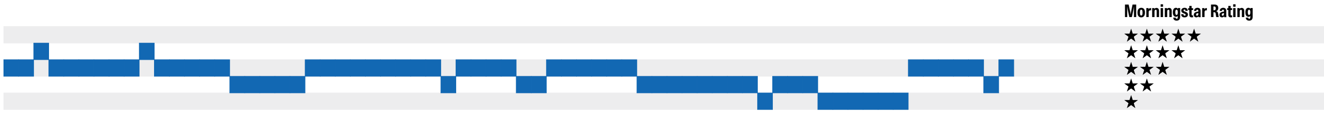
Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment[1]
282.01 USD 23 Jul 2025	264.00 USD 24 Jul 2025 03:31, UTC	1.07	241.27 USD Bil 24 Jul 2025	Narrow	Large Blend	Medium	Exemplary	4 Jun 2025 05:00, UTC

Price vs. Fair Value



2020	2021	2022	2023	2024	YTD	
1.01	1.12	1.12	1.30	1.58	1.07	Price/Fair Value
-1.23	16.37	10.34	20.79	38.49	29.81	Total Return %

Morningstar Rating



Total Return % as of 23 Jul 2025. Last Close as of 23 Jul 2025. Fair Value as of 24 Jul 2025 03:31, UTC.

Contents

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

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

IBM Earnings: Near-Term Uncertainty Shadows Solid Portfolio Poised for Long-Term Growth

Analyst Note Luke Yang, CFA, Equity Analyst, 24 Jul 2025

IBM's second-quarter revenue grew 5% in constant currency to $17 billion, driven by consistent software growth and its new mainframe launch. Operating margin of 18.3% was 150 basis points higher than a year ago, ahead of management's expected full-year margin expansion of 100 basis points.

Why it matters: Accelerated growth of IBM's hybrid cloud offerings continues to support its mix shift toward higher-margin software. Also, adopting artificial intelligence tools internally helps IBM drive a forecast companywide cost saving of $4.5 billion for 2025, or $1 billion higher than 2024.

- Management offered a positive macroeconomic outlook that supports resilient demand for IBM products. We view those comments as long-term oriented, and we believe IBM's performance is still prone to near-term economic volatility, just like its IT services peers.

The bottom line: We are raising our fair value estimate for narrow-moat IBM to $264 per share, from $242 previously, primarily based on our updated cost of equity assumption that better reflects the stable nature of IBM's customer base. Shares look fairly valued to us.

- We believe the strong growth momentum of Red Hat and continued buildout of data and automation products reinforces IBM's reputation as an integrated IT services provider.
- We reiterate our Exemplary Capital Allocation Rating for IBM. The HashiCorp acquisition has already

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Sector
Technology

Industry
Information Technology Services

Business Description

Incorporated in 1911, International Business Machines, or IBM, is one of the oldest technology companies in the world. It provides software, IT consulting services, and hardware to help business customers modernize their technology workflows. IBM operates in 175 countries and employs approximately 300,000 people. The company has a robust roster of business partners to service its clients, which includes 95% of all Fortune 500 companies. IBM's products, including Red Hat, watsonx, and mainframes, handle some of the world's most important data workloads in areas like finance and retail.

tripled IBM's second-half automation pipeline from last year. We believe the synergy between Red Hat's Ansible and HashiCorp's Terraform should drive durable high-single-digit growth for IBM software.

Coming up: While IBM is now confident that its free cash flow can surpass $13.5 billion, the company's constant-currency revenue growth guidance remained at 5% or higher.

- We attribute the 5% after-hours stock price drop to the lack of a guidance raise following a solid quarter, which also underpins the demand uncertainty that IBM and other IT services providers are facing in the near term.

Business Strategy & Outlook Luke Yang, CFA, Equity Analyst, 2 Jun 2025

While IBM has not always converted technological innovation into commercial success in its century-long history, we think the company's latest effort to reinvent itself by expanding its software business has been successful so far. Many enterprise customers are searching for IT upgrade solutions to their decades-old infrastructure, and IBM's leadership in hybrid cloud positions itself as a trustworthy partner to preserve legacy IT systems' stability and compatibility during the modernization process.

We see strong synergies among IBM's software, consulting, and infrastructure businesses, as it is one of the few major technology companies that provide end-to-end enterprise IT solutions. Customers value the convenience of procuring IT services from IBM's one-stop shop, especially given that IBM Consulting also supplies third-party enterprise software and cloud services to meet client needs. We think continued expansion of IBM Consulting's strategic partnerships with third-party vendors should make the company's consulting services a more attractive offering to customers.

We believe the software segment should remain IBM's main growth driver. Customers value Red Hat's vital role in coordinating different computing resources, making hybrid cloud software the fastest-growing category among IBM's software offerings. IBM already owns a comprehensive portfolio of automation and transaction processing software, and these two categories should continue to benefit from healthy synergies with IBM's hybrid cloud and infrastructure products. Currently, we don't view IBM as a leader in the database market. However, strategic acquisitions like the DataStax deal announced in February 2025 should boost the competitiveness of IBM's data software over time.

We think IBM's infrastructure business is still relevant in the cloud era. The latest IBM mainframes can run artificial intelligence-related workloads and serve as a great platform to deploy quantum-based safety features. As quantum computing gradually matures, we look forward to more use cases where customers leverage IBM's hybrid infrastructure that combines quantum and traditional computing power to solve business challenges.

Bulls Say Luke Yang, CFA, Equity Analyst, 24 Jul 2025

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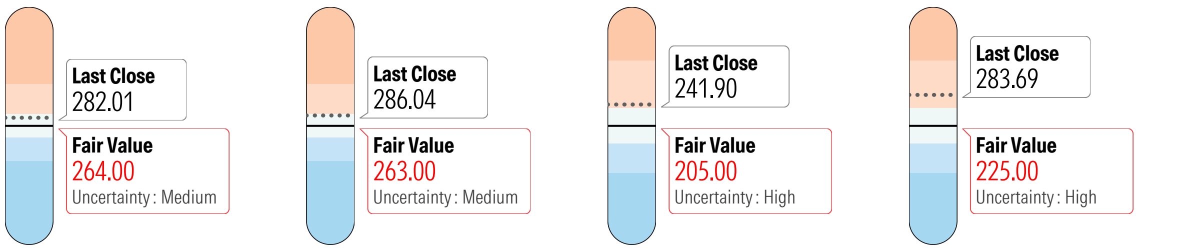
Competitors



	International ... Machines Corp IBM	Accenture PLC Class A ACN	Oracle Corp ORCL	Broadcom Inc AVGO
Economic Moat	Narrow	Wide	Wide	Wide
Currency	USD	USD	USD	USD
Fair Value	264.00 24 Jul 2025 03:31, UTC	263.00 25 Jun 2025 19:41, UTC	205.00 12 Jun 2025 03:57, UTC	225.00 6 Jun 2025 02:36, UTC
1-Star Price	356.40	355.05	317.75	348.75
5-Star Price	184.80	184.10	123.00	135.00
Assessment	Fairly Valued 24 Jul 2025	Fairly Valued 23 Jul 2025	Overvalued 23 Jul 2025	Overvalued 23 Jul 2025
Morningstar Rating	★★★24 Jul 2025 03:35, UTC	★★★23 Jul 2025 21:22, UTC	★★23 Jul 2025 21:21, UTC	★★23 Jul 2025 21:36, UTC
Analyst	Luke Yang, Equity Analyst	Luke Yang, Equity Analyst	Luke Yang, Equity Analyst	William Kerwin, Senior Equity Analyst
Capital Allocation	Exemplary	Standard	Standard	Exemplary
Price/Fair Value	1.07	1.09	1.18	1.26
Price/Sales	4.16	2.65	12.08	24.01
Price/Book	9.53	6.32	33.20	19.17
Price/Earning	48.00	22.76	52.76	98.42
Dividend Yield	2.37%	2.07%	0.74%	0.81%
Market Cap	262.10 Bil	178.16 Bil	679.46 Bil	1,334.33 Bil
52-Week Range	181.81—296.16	273.19—398.35	118.86—251.60	128.50—290.54
Investment Style	Large Blend	Large Value	Large Growth	Large Growth

- IBM's leadership in hybrid cloud can cater to enterprise customers' demand of keeping sensitive, mission-critical workflows on-premises, especially for regulated industries.
- IBM is a forerunner in the quantum computing field, and potential quantum-based use cases in the future can unlock additional growth upside.
- Customers value IBM's capability of providing integrated IT solutions encompassing software, hardware, and consulting services.

Bears Say Luke Yang, CFA, Equity Analyst, 24 Jul 2025

- IBM's rich legacy can make it a slow adopter of the latest technology trends, such as general-purpose cloud computing and artificial intelligence.
- IBM's relatively high dividend payout and conservative capital allocation can constrain its capacity to compete with other tech giants.
- It can be challenging for IBM to consistently source suitable acquisition targets that drive strong

synergy with its existing business, as inorganic growth has become a key revenue driver for the company.

Economic Moat Luke Yang, CFA, Equity Analyst, 2 Jun 2025

We assign IBM a narrow moat rating based on the company's strong switching costs across the board and intangible assets from the consulting segment. IBM today operates in three segments—software, consulting, and infrastructure. As one of the few vertically integrated technology companies, we believe IBM can cater to all aspects of an enterprise's IT needs.

Following the Red Hat acquisition in 2019, software has become IBM's largest business segment. IBM currently owns a wide array of software products across four categories—hybrid cloud, automation, data, and transaction processing. IBM's hybrid cloud software, led by Red Hat, coordinates an enterprise's on-premises and cloud IT infrastructures and serves as a foundation where customers can process their workflows reliably. On top of the hybrid cloud platform, IBM's automation, data, and transaction processing software handles specific business needs such as lifecycle management and business analytics. IBM Consulting leverages deep domain expertise to provide design, strategy, and implementation that aims to modernize IT experiences, primarily for customers that have an existing IBM footprint. IBM Infrastructure includes its Z mainframes and distributed cloud infrastructure that supports the company's hybrid cloud and AI solutions by providing local high-performance computing power.

We see strong synergies across IBM's offerings, with nearly 80% of clients purchasing from more than one of IBM's segments. For example, clients can come to IBM Consulting for an IT modernization plan that moves IBM's automation software from an IBM mainframe to a hybrid cloud environment facilitated by Red Hat. The high level of interconnectivity among different IBM systems makes it challenging for clients to switch, supporting a narrow moat derived from switching costs. In addition, IBM has an established reputation in IT consulting. We believe IBM boasts intangible assets in the form of brand, relationships, and expertise that the company has accumulated over its history.

In our view, IBM's leadership in hybrid cloud software reinforces high switching costs for enterprise customers operating in regulated environments that prioritize resiliency and security. Hybrid cloud integrates on-premises IT resources into a cloud environment, providing a cost-effective way for customers to modernize their legacy applications without compromising stability and performance. With the addition of Red Hat, we believe IBM has built an industry-leading hybrid cloud software portfolio. Red Hat Enterprise Linux orchestrates various computing environments at the enterprise level, while Red Hat OpenShift facilitates application development and deployment at scale. We think IBM's hybrid cloud solutions offer customers a feasible choice to modernize workflows currently running on mainframes. Given IBM's established dominance in the mainframe market, an increased adoption of hybrid cloud should underpin maintainable growth for IBM's software business and help retain customers within IBM's ecosystem.

Besides its hybrid cloud software, IBM's automation, data, and transaction processing software is also accretive to the company's high switching costs. Following the Apptio and HashiCorp acquisitions, IBM now owns a comprehensive automation software portfolio for optimizing and managing enterprises' technology investments, which serves as a great complement to the company's hybrid cloud and AI products. IBM's data and transaction processing offerings are already mature with limited growth potential. However, we don't see customers moving away from these products anytime soon. Most IBM transaction processing systems have been handling mission-critical workflows, including bank transactions and air ticket reservations, for decades. The deep integration of IBM systems within some of the world's largest companies' existing tech stack means that switching to another system can be prohibitively expensive and time-consuming, let alone the high execution risk, which can render the migration infeasible.

We see both switching costs and intangible assets in IBM's consulting business. As the only global consultancy that sits within a technology firm, IBM Consulting has rich domain expertise in IBM's proprietary software and hardware. Clients that still operate legacy IBM technology, such as the Db2 database and the AIX operating system, can benefit from the continuity of IBM's decades-long understanding of their tech infrastructure. Switching to another consulting firm may lead to a costly ramp-up process for the new vendor to familiarize itself with the client's IT history, which can also become a potential source of service disruptions. For clients looking to modernize their tech stack with new systems, IBM Consulting also formed strategic partnerships with popular third-party enterprise software suppliers, including Oracle, SAP, and Salesforce. We think the variety of technology solutions IBM Consulting provides is sufficient to meet customers' demand to modernize their workflows, reinforcing high switching costs as they embrace hybrid cloud and artificial intelligence.

We believe IBM Consulting's deep relationships with the world's largest companies and governments underpin the intangible assets it enjoys. The company's domain expertise can help clients design and implement mission-critical IT solutions across different industries. We view IBM's existing reputation and relationships as a crucial part to help the company win new mandates, and we are encouraged to see that IBM Consulting has maintained a book-to-bill ratio of above 1 over the past few years. As IBM continues to expand its capacity in hybrid cloud and artificial intelligence, we expect the consulting segment to earn a growth rate higher than the industry average, thanks to the intangible assets it has accumulated.

We think the robust ecosystem around IBM's Z mainframe platform warrants high switching costs. Mainframes are almost exclusively used by the world's largest companies to process millions of transactions within milliseconds. Customers often have the highest requirements for mainframes' performance and reliability, as each machine can cost millions of dollars. IBM is the dominant mainframe supplier that has built a comprehensive ecosystem to facilitate customers' high-performance computing demands. The z/OS operating system, Db2 database, and DevOps tools are known for their stability, helping enterprise customers handle critical workflows for decades. In recent years, IBM has been actively modernizing its mainframe offering by introducing AI-based security and automation capabilities, and we believe IBM's refreshed mainframe products can help its infrastructure business stay relevant in the cloud era. Furthermore, new innovations in quantum computing should provide additional upside to IBM mainframes in the long term.

Fair Value and Profit Drivers Luke Yang, CFA, Equity Analyst, 24 Jul 2025

Our fair value estimate for IBM is $264 per share, which implies a 2025 adjusted price/earnings ratio of 25 times, and an enterprise value/adjusted EBITDA ratio of 15 times. We expect IBM to maintain a companywide revenue growth rate above 5% over the next decade, mainly driven by the strength of its software business. The consulting and infrastructure segments should also contribute positively to IBM's revenue growth.

We believe IBM's hybrid cloud software should grow in the low teens over the next five years as more enterprise customers adopt Red Hat in an effort to modernize their IT infrastructures. Red Hat should remain a centerpiece of IBM's strategy, and IBM's other software categories, including automation, data, and transaction processing, should benefit from a larger installed base of Red Hat. We expect the majority of IBM's future acquisitions to happen in the software space, making inorganic growth an important part of IBM's pivot into software. Overall, we model an 8% 10-year cumulative annual growth rate for IBM's software segment. And we forecast that IBM's software revenue as a percentage of total revenue should cross 50% in 2029.

We estimate a low-single-digit annual growth rate for IBM's consulting and infrastructure segments. Similar to other IT consulting firms, IBM Consulting's performance is subject to the overall trend of enterprise IT spending, and we expect a rebound of demand over the next several years, driven by AI-oriented projects. IBM keeps a regular refreshment schedule for its Z mainframes, and we think new capabilities around AI should drive maintainable growth for the company's infrastructure business. Additionally, mass-market adoption of potential quantum use cases can bring further upside to IBM Infrastructure in the long term.

On profitability, we expect to see gross margin expand from 57% in 2024 to 64% in 2034, driven by a continued business mix shift toward the higher-margin software segment. We don't foresee any meaningful profitability improvement on the segment level over the next decade. As software becomes a bigger part of IBM's business, we expect to see IBM moderately step up its usage of stock-based compensation, partially contributing to an adjusted EBITDA margin expansion from 26% in 2024 to 35% in 2034.

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Risk and Uncertainty Luke Yang, CFA, Equity Analyst, 2 Jun 2025

We assign IBM a Medium Morningstar Uncertainty Rating because the company has a stable customer base that brings in positive recurring cash flows across its software, consulting, and infrastructure businesses. In our view, IBM's main source of risk lies in its ability to capture market opportunities that come with changing technological trends. Furthermore, there is still much uncertainty regarding how IBM can convert its leadership in quantum computing into a future growth driver.

IBM has pivoted multiple times during its century-long history to meet enterprise customers' shifting computing demands. While its latest transition into a hybrid cloud and AI-powered solution provider has been successful, IBM has admittedly missed key market opportunities in data and cloud infrastructure. We attribute IBM Cloud's underwhelming performance to the company's reliance on its lucrative mainframe computers. There are very limited reasons for IBM to double down on a service that has the potential of cannibalizing its moaty mainframe ecosystem while bringing in worse unit economics. However, enterprise customers' desire to access affordable computing and storage resources is remarkably strong, and IBM's slow response in cloud infrastructure leads us to believe that the company is prone to the risk of not transforming fast enough to cater to changing enterprise IT trends.

IBM currently operates the largest quantum computing fleet in the world. However, we think the total size of the quantum computing market remains unclear, and there is very high uncertainty regarding IBM's role in the quantum computing world. In the 1980s, IBM was also the first company to introduce personal computers, or PCs, but many other companies captured more economic benefits than IBM as PCs became prevalent. We still need more time to evaluate the timeframe of quantum computing's evolution and how IBM can benefit from its existing expertise in the field to claim more business opportunities.

Capital Allocation Luke Yang, CFA, Equity Analyst, 24 Jul 2025

We assign IBM an Exemplary Morningstar Capital Allocation Rating based on our assessment of a sound balance sheet, exceptional investments, and appropriate shareholder distributions.

IBM's balance sheet is healthy. We think IBM is subject to moderately higher revenue cyclicality compared with other software pure-plays because the performance of its consulting business depends on overall enterprise IT spending trends. About one third of IBM's total debt is due over the next three years, and we believe the company is in a good position to maintain a stable capital structure, given its strong cash flow generation and healthy single-A credit rating.

In our view, IBM's recent investments, especially the Red Hat acquisition, warrant an exceptional rating. In 2019, IBM completed the $34 billion acquisition of Red Hat, a leading provider of hybrid cloud technologies. This is the largest acquisition in IBM's history, and the purchase price looked high back

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then due to the 63% price premium over Red Hat's stock price when IBM announced the deal in 2018. However, we think there is a strong strategic rationale behind the acquisition because of the overlap between IBM and Red Hat customers. Both Red Hat and IBM's existing software benefited from extraordinarily strong synergies, which helped IBM's software business regain its growth momentum. Red Hat's total revenue more than doubled over the past five years, and annual recurring revenue for Red Hat OpenShift and Red Hat Ansible also grew by 13 times and 8 times, respectively, during the same period. Beyond software, IBM Consulting also gained firsthand access to Red Hat's hybrid cloud technology, solidifying IBM's reputation as the leading hybrid cloud solution provider. Red Hat also modernized IBM's mainframe platform by acting as a reliable intermediary between on-premises and cloud IT resources that meet enterprises' performance requirements.

Looking back, we believe IBM was able to unlock more economic value from the Red Hat deal than its purchase price, especially after the market recognized enterprise customers' demand for hybrid cloud products. And we view the successful execution of the Red Hat acquisition as one of the main factors that lifted IBM's stock price over the past two years. Our exceptional rating for IBM's investments recognizes its efforts that reshape the market conception of itself as a software-driven business.

We model an average of over $4 billion in acquisitions every year for IBM over the next decade, and acquisitions should continue to be an important part of IBM's overall growth. According to PitchBook data, IBM is the top strategic acquirer in the infrastructure software-as-a-service space, carrying out a total of eight deals between 2020 and the first quarter of 2025. We think IBM has been consistently following its acquisition principles of targeting firms that have strong synergy with the company's hybrid cloud and AI initiatives. More recently, IBM acquired Apptio, an enterprise tech investment planning software, and HashiCorp, a cloud infrastructure automation company, for $4.6 billion and $6.4 billion, respectively. We think these two acquisitions should solidify IBM's leadership in automation software, making the overall automation portfolio more competitive in a hybrid cloud context.

We view IBM's shareholder distribution as appropriate. IBM is a mature company, and maintaining a healthy dividend is an imperative part of its capital allocation strategy. IBM has a consistent track record of dividend increases for almost 30 years, and we expect the trend to continue over the next decade. We think the company's healthy cash flow generation can support a high dividend payout ratio of 60%, but we would not be surprised to see this ratio decline over time, since a high dividend payout ratio can constrain IBM's financial capacity to pursue strategic acquisitions in the long term.

Analyst Notes Archive

IBM: End-to-End IT Solution Provider's Leadership in Hybrid Cloud Supports Narrow Moat Luke Yang, CFA,Equity Analyst,2 Jun 2025

We are transferring coverage of IBM and maintaining the company's narrow moat rating. In recent years, IBM has been reinventing itself as a software-oriented company. We view IBM's efforts as successful so far, and we estimate that over half of IBM's revenue will come from software products by 2029. While we maintain IBM's $242 fair value estimate, we are raising the company's Morningstar Capital Allocation Rating to Exemplary from Standard to reflect the successful execution of IBM's recent investments in hybrid cloud and automation.IBM is one of the few vertically integrated technology companies that operates across three different segments—software, consulting, and infrastructure. We see strong synergies across IBM's offerings, with nearly 80% of clients purchasing from more than one of IBM's segments. Clients that have IBM hardware tend to choose IBM software to ensure stability and compatibility, and they often rely on IBM Consulting for IT upgrades and modernization. The high level of interconnectivity among different IBM systems makes it challenging for clients to switch, supporting IBM's narrow moat derived from switching costs. In addition, we think IBM's established reputation and expertise in IT consulting warrant intangible assets as its secondary moat source.Our upgrade of IBM's Morningstar Capital Allocation Rating to Exemplary from Standard is mainly driven by the company's exceptional recent investment records. In 2019, IBM acquired Red Hat, a leading provider of hybrid cloud technologies, for $34 billion. Hybrid cloud provides a low-risk option for customers to modernize the mission-critical workflows currently running on mainframes, while preserving the system's stability and compliance. We think the Red Hat acquisition helped IBM's software business regain its growth momentum, and the deal unlocked more economic value than the purchase price after the market recognized enterprise customers' strong demand for hybrid cloud products.

IBM Earnings: Software Sales Stay Strong Despite Cloudy Macro; Guidance Reflects Cautious Optimism Eric Compton, CFA,Director,24 Apr 2025

Narrow-moat IBM reported first-quarter earnings that exceeded both consensus and our revenue estimates, but they fell short of our profitability expectations. The stronger-than-anticipated performance was primarily driven by the company's software segment, which continues to show resilience amid ongoing macroeconomic turbulence. As IBM increasingly shifts its sales mix toward software, the segment's stability has become a key pillar of the firm's performance. Management laid out second-quarter guidance to soothe tariff and discretionary spending concerns, expecting strong sales in the range of $16.4 billion-$16.75 billion. However, full-year guidance is unchanged at 5% constant-currency revenue growth, suggesting that revenue growth may decelerate after the second quarter.We anticipate that constrained discretionary budgets and ongoing federal contract reductions will weigh on consulting revenue in the near to medium term. Nevertheless, robust software demand should continue to support overall growth. As a result, we have adjusted our fair value estimate slightly downward to $242 from $250. Shares declined 7% in after-hours trading, and we view them as slightly undervalued.First-quarter revenue reached $14.5 billion, up 2% in constant currency, with software growing 9% and now accounting for approximately 45% of total revenue. Red Hat remained a standout performer, fueled by strong demand for virtualization. It posted 13% year-over-year growth in constant currency and marked its seventh consecutive quarter of high-teens annual contract value bookings.

IBM Earnings: Strong AI Backlog and 2025 Guidance Drive Up Shares, Raising Our FVE 80% Eric Compton, CFA,Director,30 Jan 2025

Narrow-moat IBM reported good fourth-quarter earnings, which surpassed both our top-line and bottom-line expectations. Red Hat was a key growth driver during the quarter, reflecting robust demand for hybrid solutions. This strength was offset by a decline in consulting revenue, which continued to be impacted by stringent discretionary spending by customers. Management projected 5% year-over-year growth in constant currency and further margin expansion.We are revisiting our expectations as we transfer coverage to a new analyst. We have raised our revenue and profitability outlook materially to reflect our increased confidence in IBM's ability to benefit from growing artificial intelligence and digital transformation spending. The recent quarter's performance reinforced our confidence, as the firm's AI-related bookings grew $2 billion sequentially to $5 billion. While we anticipate tight IT spending to dampen near term results, we expect growing demand for AI deployments to drive sales for IBM's consulting and software arms and boost long-term growth. As a result, we are raising our fair value estimate to $250 from $139 and view shares as fairly valued.Fourth-quarter revenue reached $17.6 billion, up 2% year over year in constant currency. Software grew 11% year over year in constant currency due to strong demand for Red Hat and transaction solutions. This growth was partially offset by infrastructure revenue, which declined 6% year over year in constant currency, though management is optimistic about the launch of the upcoming mainframe to help turn the tides. Consulting revenue declined 1% year over year in constant currency, but we anticipate a recovery in the second half of fiscal 2025 as the firm continues to convert its growing backlog. We expect this demand to also trickle down to software sales due to growing customer preference for vendor consolidation.Correction: The original title of this note had an incorrect fair value estimate increase percentage.

IBM Earnings: Red Hat Reacceleration Masks Still-Gloomy Consulting Revenue; Shares Overvalued
Julie Bhusal Sharma,Equity Analyst,24 Oct 2024

IBM's third-quarter results came in nicely above our expectations, as Red Hat is turning the corner on its prior weakness. Still, the fourth-quarter outlook is bleak; consulting and infrastructure revenue remains muted due to overall cost scrutiny from customers and geopolitical influences. We are maintaining our $139 fair value estimate for the narrow-moat IT services provider, which leaves the stock overvalued, in our view.IBM reported revenue of $15 billion for the quarter, a 1% year-over-year increase. Software revenue led the pack, increasing 10% year over year in constant currency, as Red Hat had a nice reacceleration to 14% year-over-year growth. Red Hat is working to right the ship after temporarily experiencing weaker implementation sales from the soft macroeconomic environment. Automation software didn't fall far behind Red Hat in the quarter, posting revenue growth of 13% year over year. While the firm highlighted that its artificial intelligence book of business now stands at more than $3 billion, we were unimpressed that data and AI software grew a meager 5% year over year. Infrastructure revenue decreased 7% year over year as the firm is toward the end of its latest product cycle. Consulting revenue was flat, indicating that there's still a ways to go in the recovery from clients' conservative spending in IBM's most discretionary segment.Non-GAAP operating margin of 57.5% marked an increase of 2.1 percentage points year over year as software growth is boosting gross margin. Non-GAAP earnings per share came in at $2.30 for the quarter.IBM expects fourth-quarter revenue growth that is consistent with the third quarter in constant currency. We see 2025 as having new life for IBM in the launch of a new mainframe product cycle and continued acceleration in software.

IBM Earnings: Healthy AI Traction, but Revenue Outlook Unchanged; Shares Overvalued Julie Bhusal Sharma,Equity Analyst,25 Jul 2024

IBM's second-quarter results beat all our expectations, while not rocking the boat on outlook. IBM's software segment helped drive results, specifically in business transformation. Nonetheless, IBM wasn't immune from consulting weakness throughout the IT services sector. We are maintaining our fair value estimate of $139 per share for the narrow-moat IT services provider, which leaves shares overvalued. While IBM's generative artificial intelligence business is healthy, we weigh IBM's AI growth prospects with a grain of salt. IBM's Watson Health AI failure was not too long ago and, in our view, resulted from existing execution issues we still see throughout the firm. We continue to believe that there are more appealing opportunities in the IT services segment, such as Cognizant.IBM posted $15.8 billion in revenue in the quarter, marking a 2% year-over-year increase. We were encouraged by strength in business transformations, particularly in supply chain and finance. Consulting revenue weighed on overall revenue growth as the IT services industry continues to see weakness in the more discretionary business offering. Nonetheless, IBM's book of business for generative AI work has now surpassed $2 billion and with roughly 75% of these signings being consulting deals, this should help moderately relieve the consulting segment in the future. Adjusted EPS of $2.43 also topped FactSet consensus estimates, thanks to revenue outperformance.IBM maintained its fiscal 2024 revenue growth outlook in the mid-single-digit range at constant currency, while now expecting over $12 billion in free cash flow for the year.

IBM Earnings: Kicks Off 2024 With Strong Financial Results and Deal to Buy HashiCorp Malik Ahmed Khan, CFA,Equity Analyst,25 Apr 2024

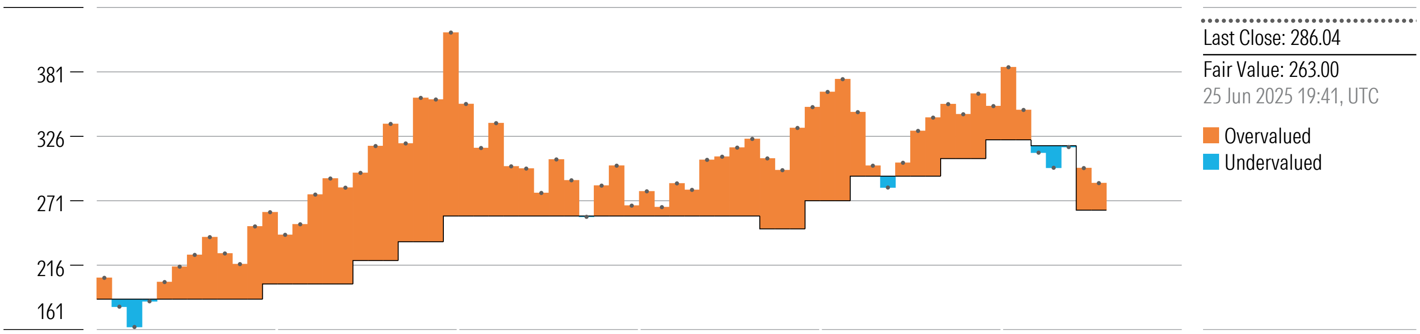
We are maintaining our $139 fair value estimate for narrow-moat IBM after the firm started 2024 on the right foot, with solid first-quarter sales and profitability, and reaffirmed its guidance for the remaining three quarters of the year. IBM also announced its intention to acquire HashiCorp for roughly $6.4 billion in an all-cash deal. While this acquisition does not affect our IBM valuation, we think HashiCorp's cloud infrastructure software has synergies with IBM's existing products, especially Red Hat.At the same time, we reiterate our long-term thesis that while IBM will continue to have standout parts of its broader product portfolio, including high-growth solutions, the new age of IT interoperability will drive an unraveling of the average customer's spending with IBM. We continue to view IBM's shares as overvalued.First-quarter sales clocked in at $14.5 billion, up 3% in constant currency. Software sales spearheaded the firm's top line, growing 6% in constant-currency terms to $5.9 billion. While infrastructure sales were flat year over year, we believe that mainframes, grouped within infrastructure, remain a specialty in IBM's portfolio relative to spaces that we believe now have less differentiation from the competition. Consulting sales were another bright spot in the quarter, growing 2% year over year as IBM saw strength with business transformations, technology consulting, and application operations.We were impressed by IBM's continued ability to eke out margin gains despite the tough macro environment. Adjusted gross margin was 54.7%, up 100 basis points year over year. Adjusted earnings per share came in at $1.68, up from $1.36 a year ago.

Morningstar Equity Analyst Report | Report as of 24 Jul 2025 15:33, UTC | Reporting Currency: USD | Trading Currency: USD | Exchange: NEW YORK STOCK EXCHANGE, INC.

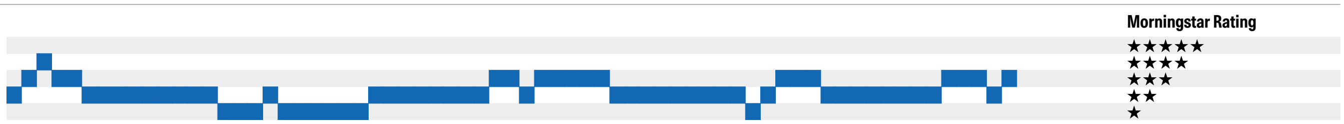
International Business Machines Corp IBM ★★★ 24 Jul 2025 03:35, UTC

Competitors Price vs. Fair Value

Accenture PLC Class A ACN

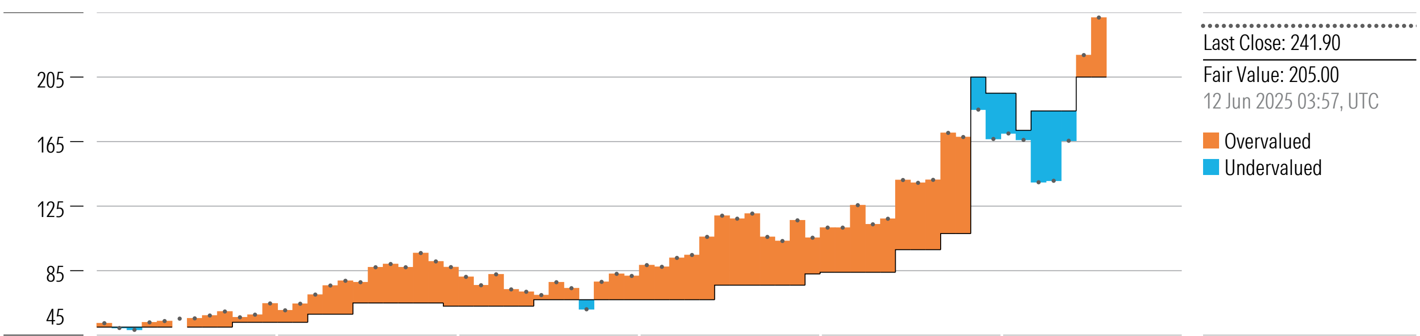


	2020	2021	2022	2023	2024	YTD	
	1.31	1.61	1.03	1.29	1.09	1.09	Price/Fair Value
	25.61	60.09	-34.66	33.25	1.78	-17.43	Total Return %

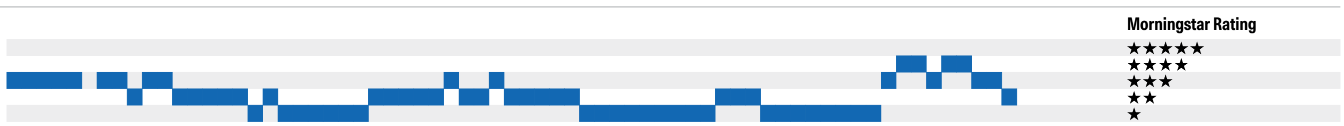


Total Return % as of 23 Jul 2025. Last Close as of 23 Jul 2025. Fair Value as of 25 Jun 2025 19:41, UTC.

Oracle Corp ORCL



	2020	2021	2022	2023	2024	YTD	
	1.22	1.38	1.22	1.27	0.85	1.18	Price/Fair Value
	23.91	36.67	-4.80	30.84	59.58	46.00	Total Return %



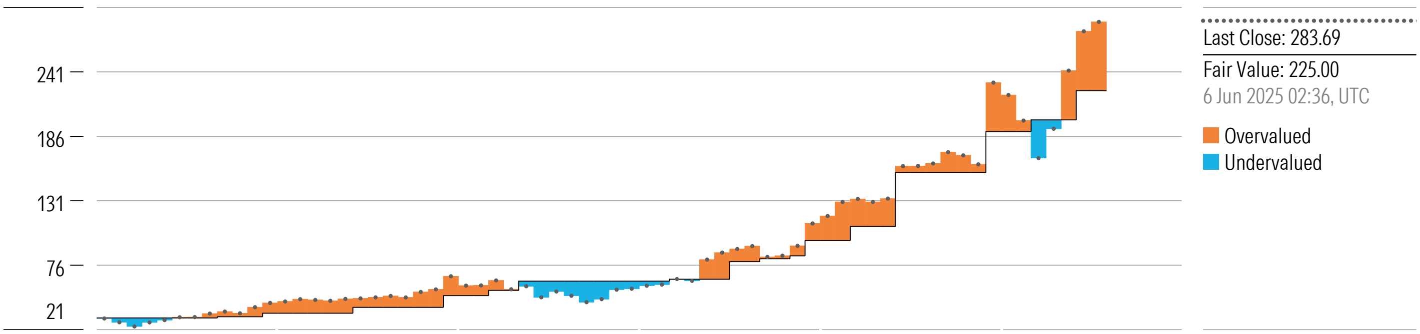
Total Return % as of 23 Jul 2025. Last Close as of 23 Jul 2025. Fair Value as of 12 Jun 2025 03:57, UTC.

Morningstar Equity Analyst Report | Report as of 24 Jul 2025 15:33, UTC | Reporting Currency: USD | Trading Currency: USD | Exchange: NEW YORK STOCK EXCHANGE, INC.

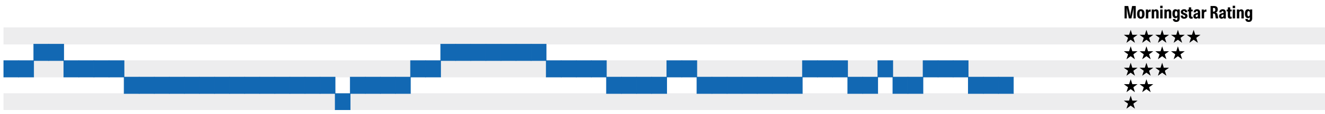
International Business Machines Corp IBM ★★★ 24 Jul 2025 03:35, UTC

Competitors Price vs. Fair Value

Broadcom Inc AVGO



	2020	2021	2022	2023	2024	YTD	
	1.25	1.33	0.90	1.15	1.22	1.26	Price/Fair Value
	42.78	55.38	-13.43	103.05	109.64	22.87	Total Return %



Total Return % as of 23 Jul 2025. Last Close as of 23 Jul 2025. Fair Value as of 6 Jun 2025 02:36, UTC.

Morningstar Equity Analyst Report | Report as of 24 Jul 2025 15:33, UTC | Reporting Currency: USD | Trading Currency: USD | Exchange: NEW YORK STOCK EXCHANGE, INC. Page 15 of 24

International Business Machines Corp IBM ★★★ 24 Jul 2025 03:35, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment[1]
282.01 USD 23 Jul 2025	264.00 USD 24 Jul 2025 03:31, UTC	1.07	241.27 USD Bil 24 Jul 2025	Narrow	Large Blend	Medium	Exemplary	4 Jun 2025 05:00, UTC

Morningstar Valuation Model Summary

Financials as of 23 Jul 2025	Actual			Forecast				
Fiscal Year, ends 31 Dec	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**
Revenue (USD Mil)	60,533	61,861	62,753	66,768	69,731	73,528	78,012	82,293
Operating Income (USD Mil)	7,511	8,522	8,384	10,261	10,924	11,758	12,874	14,388
EBITDA (USD Mil)	7,173	14,691	12,176	15,887	16,275	16,627	17,609	18,947
Adjusted EBITDA (USD Mil)	14,004	15,443	16,418	19,077	20,837	22,455	23,937	26,194
Net Income (USD Mil)	1,638	7,501	6,023	8,185	8,722	9,546	10,397	11,758
Adjusted Net Income (USD Mil)	8,181	8,858	9,692	9,832	10,284	11,205	12,169	13,618
Free Cash Flow To The Firm (USD Mil)	10,723	8,317	10,299	4,882	9,073	9,143	9,155	10,080
Weighted Average Diluted Shares Outstanding (Mil)	912	922	937	945	952	959	960	959
Earnings Per Share (Diluted) (USD)	1.80	8.13	6.43	8.67	9.16	9.95	10.83	12.26
Adjusted Earnings Per Share (Diluted) (USD)	8.97	9.61	10.34	10.41	10.80	11.68	12.67	14.20
Dividends Per Share (USD)	6.59	6.63	6.67	6.71	6.75	6.79	6.83	6.87

Margins & Returns as of 23 Jul 2025		Actual			Forecast					
	3 Year Avg	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**5 Year Avg**
Operating Margin %	10.8	12.4	13.8	13.4	15.4	15.7	16.0	16.5	17.5	18.1
EBITDA Margin %	—	11.9	23.8	19.4	23.8	23.3	22.6	22.6	23.0	—
Adjusted EBITDA Margin %	—	23.1	25.0	26.2	28.6	29.9	30.5	30.7	31.8	30.3
Net Margin %	8.1	2.7	12.1	9.6	12.3	12.5	13.0	13.3	14.3	13.1
Adjusted Net Margin %	14.4	13.5	14.3	15.4	14.7	14.8	15.2	15.6	16.6	15.4
Free Cash Flow To The Firm Margin %	15.9	17.7	13.4	16.4	7.3	13.0	12.4	11.7	12.3	11.4

Growth & Ratios as of 23 Jul 2025		Actual			Forecast					
	3 Year CAGR	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**5 Year CAGR**
Revenue Growth %	3.1	5.6	2.2	1.4	6.4	4.4	5.4	6.1	5.5	5.6
Operating Income Growth %	10.3	20.1	13.5	-1.6	22.4	6.5	7.6	9.5	11.8	11.4
EBITDA Growth %	15.2	-42.2	104.8	-17.1	30.5	2.4	2.2	5.9	7.6	9.7
Adjusted EBITDA Growth %	7.9	7.2	10.3	6.3	16.2	9.2	7.8	6.6	9.4	9.8
Earnings Per Share Growth %	0.4	-71.7	353.1	-21.0	34.8	5.8	8.6	8.8	13.2	13.8
Adjusted Earnings Per Share Growth %	0.4	-1.2	7.1	7.6	0.7	3.8	8.1	8.5	12.1	13.8

Valuation as of 23 Jul 2025	Actual			Forecast				
	2022	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**
Price/Earning	15.7	17.0	21.3	27.1	26.1	24.1	22.3	19.9
Price/Sales	2.1	2.4	3.2	3.9	3.8	3.6	3.4	3.2
Price/Book	5.9	6.7	7.5	8.6	7.6	6.7	6.1	5.5
Price/Cash Flow	—	—	—	—	—	—	—	—
EV/EBITDA	12.3	12.7	15.2	16.5	15.1	14.0	13.1	12.0
EV/EBIT	22.9	23.1	29.8	30.6	28.8	26.7	24.4	21.8
Dividend Yield %	4.7	4.1	3.0	2.4	2.4	2.4	2.4	2.4
Dividend Payout %	73.5	69.0	64.5	64.5	62.5	58.1	53.9	48.4
Free Cash Flow Yield %	—	—	—	—	—	—	—	—

Operating Performance / Profitability as of 23 Jul 2025	Actual			Forecast				
Fiscal Year, ends 31 Dec	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**
ROA %	1.3	5.6	4.4	5.3	5.4	5.6	5.8	6.3
ROE %	7.4	33.2	22.0	26.3	24.7	23.5	23.2	23.8
ROIC %	11.7	12.0	11.2	12.3	12.0	12.1	12.4	12.9

Morningstar Equity Analyst Report | Report as of 24 Jul 2025 15:33, UTC | Reporting Currency: USD | Trading Currency: USD | Exchange: NEW YORK STOCK EXCHANGE, INC. Page 16 of 24

International Business Machines Corp IBM ★★★ 24 Jul 2025 03:35, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment[1]
282.01 USD 23 Jul 2025	264.00 USD 24 Jul 2025 03:31, UTC	1.07	241.27 USD Bil 24 Jul 2025	Narrow	Large Blend	Medium	Exemplary	4 Jun 2025 05:00, UTC

Financial Leverage (Reporting Currency)	Actual			Forecast				
Fiscal Year, ends 31 Dec	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**
Debt/Capital %	29.8	28.6	22.3	20.3	19.7	19.3	18.9	18.6
Assets/Equity	5.8	6.0	5.0	4.9	4.5	4.2	4.0	3.8
Net Debt/EBITDA	6.3	3.2	3.6	2.6	2.3	2.0	1.9	1.6
Total Debt/EBITDA	3.9	3.9	3.6	3.4	3.2	3.0	2.9	2.7
EBITDA/ Net Interest Expense	11.5	9.6	9.6	8.4	9.6	11.8	12.7	14.0

Forecast Revisions as of 23 Jul 2025	2025		2026		2027	
Prior data as of 9 Jun 2025	**Current**	**Prior**	**Current**	**Prior**	**Current**	**Prior**
Fair Value Estimate Change (Trading Currency)	264.00	245.60	—	—	—	—
Revenue (USD Mil)	66,768	66,544	69,731	69,985	73,528	73,765
Operating Income (USD Mil)	10,261	9,390	10,924	10,708	11,758	11,802
EBITDA (USD Mil)	19,077	20,027	20,837	21,170	22,455	22,774
Net Income (USD Mil)	9,832	9,648	10,284	10,544	11,205	11,454
Earnings Per Share (Diluted) (USD)	8.67	8.53	9.16	9.43	9.95	10.20
Adjusted Earnings Per Share (Diluted) (USD)	10.41	10.21	10.80	11.08	11.68	11.94
Dividends Per Share (USD)	6.71	6.71	6.75	6.75	6.79	6.79

Key Valuation Drivers as of 23 Jul 2025	
Cost of Equity %	7.5
Pre-Tax Cost of Debt %	5.8
Weighted Average Cost of Capital %	7.0
Long-Run Tax Rate %	15.0
Stage II EBI Growth Rate %	6.0
Stage II Investment Rate %	10.0
Perpetuity Year	15

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

Discounted Cash Flow Valuation as of 23 Jul 2025	**USD Mil**
Present Value Stage I	76,849
Present Value Stage II	48,301
Present Value Stage III	158,868
Total Firm Value	**284,018**
Cash and Equivalents	14,805
Debt	54,973
Other Adjustments	0
Equity Value	**243,850**
Projected Diluted Shares	949
Fair Value per Share (USD)	**264.00**

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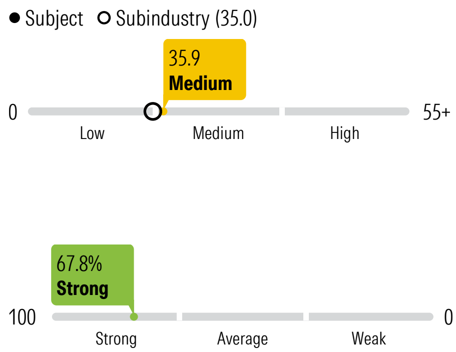
International Business Machines Corp IBM ★★★ 24 Jul 2025 03:35, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment[1]
282.01 USD 23 Jul 2025	264.00 USD 24 Jul 2025 03:31, UTC	1.07	241.27 USD Bil 24 Jul 2025	Narrow	Large Blend	Medium	Exemplary	4 Jun 2025 05:00, UTC

ESG Risk Rating Breakdown

Exposure	
Company Exposure[1]	35.9
– Manageable Risk	33.3
Unmanageable Risk[2]	**2.5**
Management	
Manageable Risk	33.3
– Managed Risk[3]	22.6
Management Gap[4]	**10.7**
Overall Unmanaged Risk	**13.3**



- 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 67.8% 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 Jun 04, 2025. Highest Controversy Level is as of Jul 08, 2025. Sustainalytics Subindustry: IT Consulting. 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 04 Jun 2025 Peers are selected from the company's Sustainalytics-defined Subindustry and are displayed based on the closest market cap values

Company Name	Exposure				Management				ESG Risk Rating			
International Business Machines Corp	35.9 | Medium	0		55+	67.8 | Strong	100		0	13.3 | Low	0		40+
Accenture PLC	30.5 | Low	0		55+	68.0 | Strong	100		0	11.1 | Low	0		40+
Oracle Corp	33.8 | Low	0		55+	61.4 | Strong	100		0	14.4 | Low	0		40+
Broadcom Inc	42.0 | Medium	0		55+	58.7 | Strong	100		0	19.2 | Low	0		40+
Hewlett Packard Enterprise Co	34.2 | Low	0		55+	70.5 | Strong	100		0	11.7 | Low	0		40+

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Appendix
Historical Morningstar Rating

International Business Machines Corp IBM 24 Jul 2025 03:35, UTC

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

Accenture PLC Class A ACN 23 Jul 2025 21:22, UTC

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

Oracle Corp ORCL 23 Jul 2025 21:21, UTC

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

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Broadcom Inc AVGO 23 Jul 2025 21:36, UTC

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

Research Methodology for Valuing Companies

Overview

At the heart of our valuation system is a detailed projection of a company's future cash flows, resulting from our analysts' research. Analysts create custom industry and company assumptions to feed income statement, balance sheet, and capital investment assumptions into our globally standardized, proprietary discounted cash flow, or DCF, modeling templates. We use scenario analysis, 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.

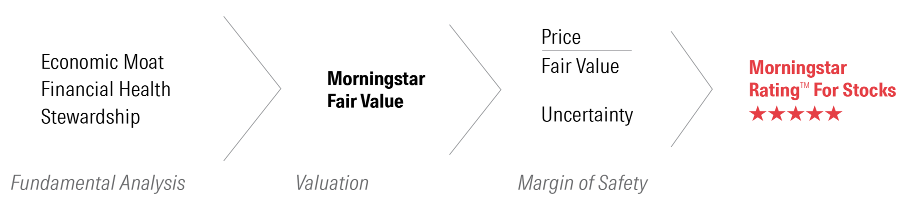
Because a dollar earned today is worth more than a dollar earned tomorrow, we discount our projections of cash flows in stages I, II, and III to arrive at a total present value of expected future cash flows. Because we are modeling free cash flow to the firm—representing cash available to provide a return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

Morningstar Equity Research Star Rating Methodology



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outcomes for the intrinsic value of a company, and anything 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

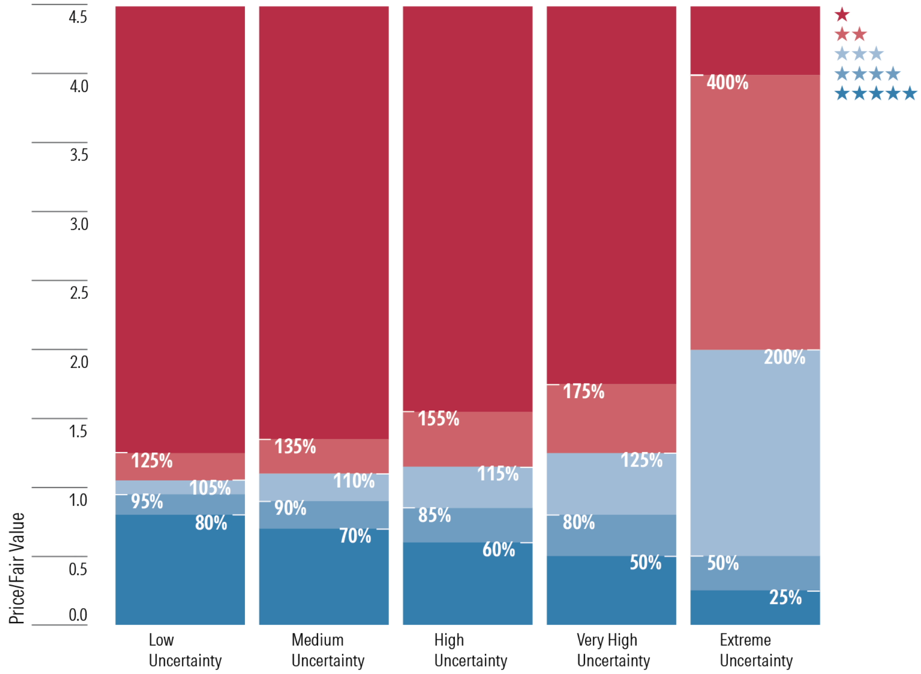
Our uncertainty rating is based on the interquartile range, or the middle 50% of potential outcomes, covering the 25th percentile–75th percentile. This means that when a stock hits 5 stars, we expect there is a 75% chance that the intrinsic value of that stock lies above the current market price. Similarly,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



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 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,

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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.

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

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

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

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

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

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

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

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