

Boston Scientific Corp

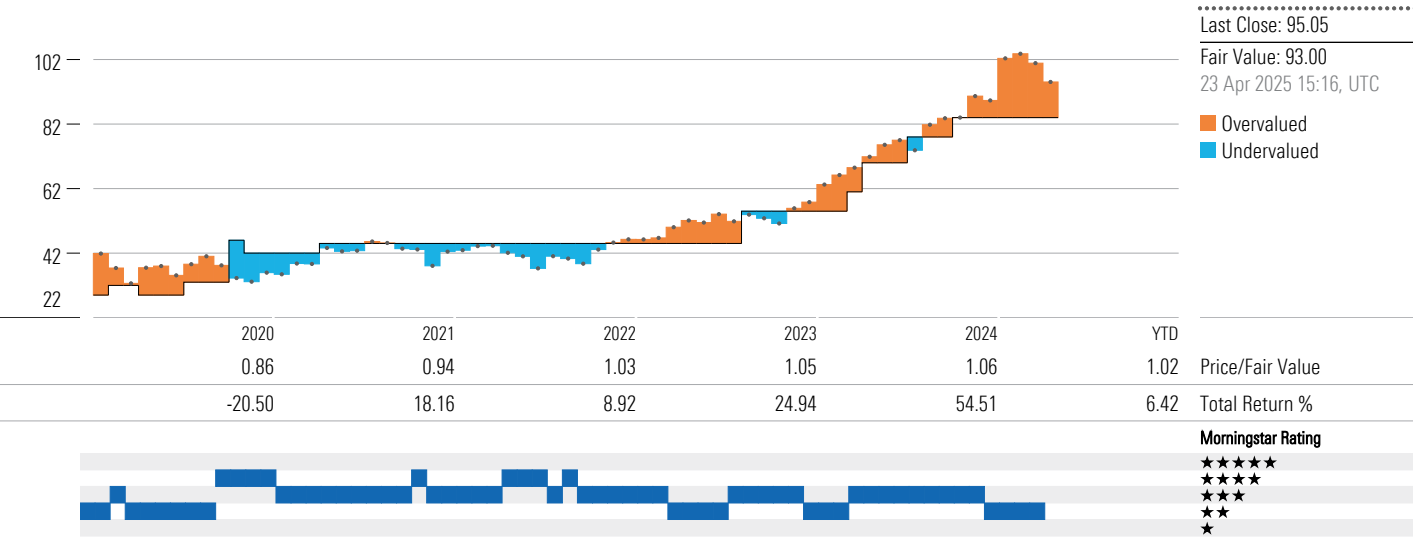
BSX

★★★

23 Apr 2025 15:17, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
95.05 USD 22 Apr 2025	93.00 USD 23 Apr 2025 15:16, UTC	1.02	148.13 USD Bil 23 Apr 2025	Narrow	Large Growth	Medium	Standard	 2 Apr 2025 05:00, UTC

Price vs. Fair Value



Total Return % as of 22 Apr 2025. Last Close as of 22 Apr 2025. Fair Value as of 23 Apr 2025 15:16, UTC.

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

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

Boston Scientific: Stellar Farapulse and Watchman Growth

Boost Our Fair Value Estimate

Analyst Note Debbie S. Wang, Senior Equity Analyst, 23 Apr 2025

Boston Scientific delivered strong first-quarter results, building on its hefty performance seen in 2024, as adoption of Farapulse and Watchman have impressed.

Why it matters: Boston has exceeded our already-optimistic expectations for Farapulse roughly one year after its launch in the US.

- ▶ The company has firmly upended the competitive landscape for atrial fibrillation ablation, where it had historically been a peripheral competitor.
- ▶ Boston is now number two globally in the category, breathing down the neck of number one Johnson & Johnson, which recently ran into trouble with Varipulse that resulted in a pause in the first quarter on its own US launch.

The bottom line: We've bumped up our fair value estimate on narrow-moat Boston Scientific to \$93 per share, from \$84, with higher projections for Farapulse and Watchman in the 2025-26 time frame, slightly offset by more gradual margin improvements over the longer term due to tariffs.

- ▶ We're holding gross margin for 2025 steady, as management indicated the full-year impact of tariffs will be roughly \$200 million, primarily driven by the approximately 7% of consolidated revenue derived from China.
- ▶ Boston plans to offset roughly half the tariff impact through favorable foreign exchange and the

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Sector	Industry
Healthcare	Medical Devices

Business Description

Boston Scientific produces less invasive medical devices that are inserted into the human body through small openings or cuts. It manufactures products for use in angioplasty, blood clot filtration, kidney stone management, cardiac rhythm management, catheter-directed ultrasound imaging, upper gastrointestinal tract diagnostics, interventional oncology, neuromodulation for chronic pain, and treatment of incontinence. The firm markets its devices to healthcare professionals and institutions globally. Foreign sales account for nearly half of the firm's total sales.

other half through cost-cutting.

Big picture: We think Boston is quickly carving out new dominance in the pulsed field ablation, or PFA, market thanks to the appeal of its Farapulse platform, which now includes Faraview for mapping and Farawave for magnetic navigation.

- ▶ Though Boston was third to market in Japan, it has already taken over clear category leadership.
- ▶ This leaves us more pessimistic about Abbott and J&J's ability to re-exert leadership in atrial fibrillation ablation when they've been late to PFA.

Business Strategy & Outlook Debbie S. Wang, Senior Equity Analyst, 22 Apr 2025

Boston Scientific has proven itself to be a fierce competitor among three major cardiac device makers, with a track record of meaningful innovation and impressive operational chops. Even a prolonged period of operational and management upheaval from 2006 to 2014 wasn't enough to permanently impair Boston's underlying business or the organization's ability to develop and commercialize new technology platforms. Under CEO Michael Mahoney, the firm has focused on introducing novel technology and leveraging its historically formidable sales and marketing resources.

In the last decade, Boston has materially reduced its reliance on traditional cardiac rhythm management and coronary stents, which are mature markets at this point and has focused on new technologies. Boston has tapped into novel platforms, including its drug-coated balloon, subcutaneous implantable defibrillator, left atrial appendage closure and atrial fibrillation ablation products. The firm has also acquired adjacent technologies that open the door for it to compete in underpenetrated markets, including sacral neuromodulation for incontinence and intravascular lithotripsy for calcified coronary arteries. Despite trailing Medtronic on cardiac rhythm management, Boston remains in the game there with launches of comparable technologies and respectable market share.

As with other device firms, Boston has also seen some disappointments, such as its Lotus transcatheter aortic valve. Though we're not particularly optimistic about its new Acurate Neo TAVR franchise, we think Boston's extensive and differentiated product portfolio can maintain growth. The big question is whether Boston's wide-ranging presence across device categories will be enough to maintain its competitive position, especially as rivals (including Medtronic, Stryker, Johnson & Johnson, and Abbott) seek further consolidation to solidify their place as hospital vendors.

Bulls Say Debbie S. Wang, Senior Equity Analyst, 23 Apr 2025

- ▶ Boston remains one of the top players when it comes to intellectual property in the medical technology arena, which bodes well for its ability to innovate enough to keep up with rivals.
- ▶ Boston's breadth of products and emphasis on differentiation put the company on firm footing as a supplier to hospitals.
- ▶ More recent acquisitions have put Boston in the leadership role in several niche markets, including

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Competitors

	Boston Scientific Corp BSX	Abbott Laboratories ABT	Edwards Lifesciences Corp EW	Johnson & Johnson JNJ
	 Last Close 95.05 Fair Value 93.00 Uncertainty: Medium	 Last Close 131.73 Fair Value 122.00 Uncertainty: Medium	 Fair Value 84.00 Uncertainty: High Last Close 70.60	 Fair Value 164.00 Uncertainty: Low Last Close 157.75
Economic Moat	Narrow	Narrow	Narrow	Wide
Currency	USD	USD	USD	USD
Fair Value	93.00 23 Apr 2025 15:16, UTC	122.00 17 Mar 2025 21:58, UTC	84.00 25 Jul 2024 13:33, UTC	164.00 19 Sep 2022 11:58, UTC
1-Star Price	125.55	164.70	130.20	205.00
5-Star Price	65.10	85.40	50.40	131.20
Assessment	Overvalued 22 Apr 2025	Fairly Valued 22 Apr 2025	Undervalued 22 Apr 2025	Undervalued 22 Apr 2025
Morningstar Rating	★★★ 23 Apr 2025 15:17, UTC	★★★ 22 Apr 2025 21:26, UTC	★★★★ 22 Apr 2025 21:31, UTC	★★★★ 22 Apr 2025 21:27, UTC
Analyst	Debbie S. Wang, Senior Equity Analyst	Debbie S. Wang, Senior Equity Analyst	Debbie S. Wang, Senior Equity Analyst	Karen Andersen, Director
Capital Allocation	Standard	Standard	Exemplary	Standard
Price/Fair Value	1.02	1.08	0.84	0.96
Price/Sales	8.43	5.49	7.78	4.29
Price/Book	6.44	4.79	4.16	5.31
Price/Earning	37.87	17.27	29.42	15.16
Dividend Yield	0.00%	1.73%	0.00%	3.14%
Market Cap	140.59 Bil	228.46 Bil	41.35 Bil	380.15 Bil
52-Week Range	67.80—107.17	99.71—141.23	58.93—95.25	140.68—169.99
Investment Style	Large Growth	Large Blend	Mid Blend	Large Value

subcutaneous ICDs, interventional oncology, and left atrial appendage closure devices.

Bears Say Debbie S. Wang, Senior Equity Analyst, 23 Apr 2025

- Boston's coronary stent business is less moaty than its cardiac rhythm management segment.
- Boston's halt of its development of the Millipede product suggests any progress in the transcatheter mitral valve repair area is likely a long way off.
- Boston faces an uphill battle to create a presence in the TAVR market, based on its efforts in Europe and how well entrenched rivals Edwards and Medtronic are.

Economic Moat Debbie S. Wang, Senior Equity Analyst, 22 Apr 2025

We think Boston sports a narrow moat that is firmly rooted in intangible assets. Boston benefits from its cache of patents covering its various products. Although this intellectual property does not necessarily lock out competitors for years, as it can in pharmaceuticals, the asset does shield the firm from

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competition based primarily on price. Boston, along with other medical device companies, has aggressively defended its intellectual property. If intellectual property rights have been violated, this can result in sales injunctions where competitors are required to stop selling the product. In the near and midterm, this can pose a setback to peer companies that must revisit the drawing board to redesign its product in a way that does not infringe on any existing patents. Over the longer term, however, device manufacturers can usually invent their way around those patents, or they come to agreement on cross-licensing agreements with royalties exchanging hands.

Outside of intellectual property, we recognize that highly engineered medical devices are typically differentiated and that physicians often develop preferences for certain vendors and/or individual devices based on user experience. How easily and reliably a guidewire works compared with others, or how quick the procedure is with one device compared with another can lead to strong practitioner preference.

Product differentiation (often in combination with practitioner skill) can also lead to differences in patient safety and clinical outcomes. Clinical studies that capture this data can also amount to another intangible asset. Peer-reviewed clinical data that demonstrates safety or efficacy can be influential with physicians.

Boston enjoys an extensive network of relationships with practitioners--another intangible asset contributing to its moat. Boston has established a significant footprint in CRM, stents, electrophysiology, endoscopy, urology, neuromodulation, and other interventional cardiology and interventional oncology devices. With specialists demonstrating preference for certain products, the role of the sales rep can help cement that preference through high-touch service.

The coronary stent business strikes us as the least moaty, considering the quick learning curve and the general substitutability among brands. However, the devices in these other areas generally have a steeper learning curve and require a greater investment from practitioners to use well, making it less likely the devices will be used interchangeably with competitive brands.

We view switching costs as a secondary moat source that especially applies to cardiac rhythm management and neuromodulation devices. The devices are typically designed as a system consisting of a generator and leads (wires) that are implanted into the body and connect with the generator. While the generator will need to undergo periodic replacement as the battery wears out, the leads become enmeshed with tissue growth that makes explantation or substitution clinically risky. As a result, replacement generators are typically from the same vendor as the leads to avoid compromising the intended operation of the system.

Finally, the cardiac medical device industry is structured in such a way that makes it highly unlikely that a new market entrant could come in and edge out Boston. Any small startup is likely to be purchased by

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a bigger fish if the technology pans out. For example, Boston, Medtronic, and Abbott hold more than 90% of the global CRM market, by our estimates. The presence of these top-tier competitors has remained unscathed by the peripheral rivals. With Livanova (legacy Sorin, one of the small ancillary competitors) exiting the CRM business in 2018, the field has become even more consolidated.

In terms of environmental, social, and governance issues, we think the most substantial risks involve the risk of defects or recalls of relatively invasive products. These product governance issues can hurt near-term performance for Boston and hold implications for potential legal settlements that can stretch into the much longer term, such as it did for the firm's transvaginal mesh. However, we think the likelihood of any permanent damage to brand reputation is unlikely, based on how previous product recalls have played out. First, it typically doesn't take too long to re-engineer these products to address the defect or inferior performance. Even if the problematic product is challenging to re-engineer, the firm can resort to selling previous-generation products that have already established a record for safety.

Second, Boston's product liability is often mitigated by the legal protections encompassed in the case law governing the regulation of medical devices by the Food and Drug Administration. This insulates Boston from legal liability for some of its most invasive, life-saving devices.

There are also the lesser risks of data privacy and having some electronic devices hacked as well as the challenge of attracting and retaining engineers and experienced sales reps. Nevertheless, we think it is unlikely for any of these risks to diminish Boston's narrow moat.

Fair Value and Profit Drivers *Debbie S. Wang, Senior Equity Analyst, 23 Apr 2025*

We're boosting our fair value estimate to \$93 per share, up from \$84, driven primarily by the more optimistic projections for Farapulse in atrial fibrillation and further growth of the Watchman left atrial appendage closure device, slightly offset by more gradual margin gains pressured by tariffs. We anticipate the acquisitions of Axonics and Silk Road Medical should add topspin to revenue growth in 2025. We remain comfortable with our relatively strong projections for endoscopy, urology, peripheral interventions, and interventional cardiology for the full year as more of Boston's novel technologies are adopted. We have also baked in cautious expectations for the Acurate Neo TAVR device, considering the substantial headwinds Boston faces in penetrating the TAVR market. The favorable ADVENT data on Farapulse at 12 months leaves us confident that electrophysiologists will be eager to adopt this technology. We anticipate Farapulse should significantly increase penetration of atrial fibrillation ablation, as an alternative to medical therapy, and capture greater share of ablations from rivals Abbott and Johnson & Johnson. This translates into 11% average annual top-line growth through 2029, fueled primarily by interventional cardiology, electrophysiology, urology, and endoscopy on the strength of new product adoption.

We remain bullish on the Watchman left atrial appendage closure franchise (despite Abbott's

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competitive presence) and increased adoption of the S-ICD and advances in spinal cord stimulation for chronic pain. The 2020 dip in profitability due to covid notwithstanding, management's efforts to streamline operations and enhance efficiency took hold over the last few years, and we forecast operating margin to peak at 27% in 2029.

Risk and Uncertainty Debbie S. Wang, Senior Equity Analyst, 22 Apr 2025

Thanks to Boston's consistent cash flow generation and robust product pipeline, we think a Medium Morningstar Uncertainty Rating is appropriate.

The greatest near-term risk for Boston is heightened competition in key product lines as competitors launch new products. We think the entry of J&Johnson into the pulsed field ablation category could potentially hit Boston's key growth driver, the Farapulse franchise.

We're mindful that medical device companies always face the possibility of device defects or product recalls. For example, Boston finally reached the tail end of settlements for its transvaginal mesh product—a process that has lasted a decade and cost the industry nearly \$8 billion to settle.

Thanks to healthcare reform, the hurdles to securing reimbursement and technology add-on payments have risen. Boston will need to invest more in clinical studies to demonstrate superiority of outcomes and/or cost savings in order to establish reimbursement.

Capital Allocation Debbie S. Wang, Senior Equity Analyst, 22 Apr 2025

We give Boston a Standard Morningstar Capital Allocation Rating based on its sound balance-sheet management, fair investment decisions, and appropriate distributions.

Management has exhibited discipline in holding leverage at lower levels (compared with previous management teams). Boston's recent substantial purchases of BTG in 2019, Baylis Medical in 2022, and Silk Road Medical in 2024 didn't strain the balance sheet. The firm has consistently paid down debt in the years soon after deals closed.

We have a fair view of Boston's investments. In particular, we think the investment strategy focused on emerging innovation, faster-growing technologies, and expanding the breadth of the product portfolio is likely to add value. CEO Mike Mahoney has approached investment with a much more prudent eye and disciplined manner than previous management teams at Boston. We've been pleased with the tuck-in acquisitions in adjacent fields that strengthen Boston's portfolio in key therapeutic areas. For instance, the acquisition of Farapulse gave Boston solid footing to compete in the evolution toward pulsed field ablation to treat atrial fibrillation. We're more wary of the acquisition of Baylis Medical, which comes with a hefty price tag. While we can appreciate the strategic importance of bringing Baylis' radio frequency energy-based transseptal access into the fold for electrophysiology purposes, we also interpret this move as another bid to arm Boston with a key technology that would potentially pave the

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way for other opportunities in transcatheter mitral valve repair or replacement—an area that has proved challenging and littered with gutterballs.

On the whole, we think distributions are appropriate. While Boston does not pay a dividend, it does engage in share repurchases. Buybacks have generally been measured during periods when we've considered the shares overvalued, but by late 2020, the firm picked up the pace on repurchases at a time when we viewed shares as slightly undervalued.

We are favorable about Mahoney's influence on Boston's performance over the last 10 years. He brings impressive device experience from J&J and has focused on repopulating the pipeline and re-energizing the firm to focus on meaningful innovation.

Analyst Notes Archive

Boston Scientific Earnings: Powered by Farapulse, Boston Ends 2024 in Stellar Fashion Debbie S. Wang,Senior Equity Analyst,5 Feb 2025

Boston Scientific posted quarterly organic top-line and adjusted bottom-line growth of 20% and 15%, respectively, fueled by 172% year-over-year growth in electrophysiology, or EP, which includes new product Farapulse. Why it matters: The first year of rolling out Farapulse in the US has been a smashing success, and we think Boston has made the most of its opportunity to upset what had been the long-standing competitive order dominated by Johnson & Johnson and Abbott. For the last two quarters, Boston's EP sales have grown in the triple digits, as adoption of Farapulse accelerated in the second half of 2024. These results have pressured Abbott and J&J, which only saw fourth-quarter US EP growth of 8% and 2%, respectively. We anticipate Boston could further depress competitive growth now that it has rolled out its own navigation and mapping platform. The bottom line: Nonetheless, we're holding steady on our \$84 fair value estimate, as the narrow-moat-rated Boston Scientific largely met our full-year expectations, and our 2025 projections remain bounded by management's outlook. We expect the Farapulse franchise for atrial fibrillation, along with integrated tools, can push revenue growth to 15% this year, which is at the high end of guidance. However, shares appear overvalued, perhaps fed by buoyant market expectations of Boston's pulsed field ablation, or PFA, business. Long view: We think Boston's new Farawave Nav catheter could potentially cement the firm into an EP leader. This navigation catheter is integrated with Faraview mapping software, making it a two-in-one catheter that can identify ablation sites and then deliver pulsed field ablation. J&J and Abbott are already late to the market with their own PFA platforms, and now their remaining strongholds in mapping and navigation are under threat by Boston.

Boston Scientific: Strong Adoption of Farapulse Fueled Outstanding Third-Quarter Results Debbie S. Wang,Senior Equity Analyst,23 Oct 2024

Boston Scientific posted stellar third-quarter results that showcased the runaway success of its pulsed

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field ablation, or PFA, technology, along with an extra boost from recent acquisitions. However, investment to support new product launches puts near-term pressure on margins. Why it matters: Quarterly operational revenue growth of 20% exceeded our expectations, with Farapulse driving the electrophysiology, or EP, category up 177% year over year. Though Farapulse has been growing off a small base, the rapid uptake bodes well for Boston’s bid to upend the ablation market. It didn’t take long for practitioners to gravitate toward Farapulse’s ease of use, shorter procedure times, and safety profile. As one of the first ones out of the gate, Boston has benefited the most. We recently learned that one major academic medical center in Chicago has already switched virtually all its atrial fibrillation, or AF, ablations to PFA from thermal methods. This is consistent with our thesis that PFA will likely capture more than 90% of the ablation market. The bottom line: We’ve raised our fair value estimate on narrow-moat Boston to \$84 per share, up from \$78, after adjusting upward our projections for electrophysiology in 2024 and 2025, along with the incorporation of the recent Silk Road Medical purchase. We think it’s likely that Boston can translate its fast start with Farapulse into new leadership in AF ablation, especially as Johnson & Johnson and Abbott are lagging behind with their own PFA technologies. We estimate average annual EP growth of 54% for Boston through 2028. The recent regulatory approvals for Faraview software and Farawave navigation catheter, as well as the upcoming Farapoint catheter, should solidify Boston’s strong position in AF ablation and bolster its moat.

Boston Scientific Earnings: Strong Farapulse Adoption and Pipeline Prospects Lead to Higher FVE

Debbie S. Wang,Senior Equity Analyst,24 Jul 2024

Narrow-moat Boston Scientific's second-quarter results ran ahead of our expectations, and we've raised our fair value estimate to \$78 per share, up from \$70, after incorporating more optimistic estimates for electrophysiology, urology, and interventional cardiology. Impressive organic quarterly topline growth of 15% was fueled by strength across the MedSurg and cardiovascular portfolios. In particular, electrophysiology revenue rose 125% year over year, mainly due to the adoption of Farapulse (pulsed field ablation, or PFA) for atrial fibrillation, or AF, albeit off a small base. Nonetheless, this is the first full quarter of Farapulse performance since it was launched in the US. We think the enthusiastic reception reflects both strong execution by Boston's commercial organization, as well as underlying demand for the safety advantages of Farapulse. While teaching- and research-oriented providers seem to be comfortable with AF ablation as an option for patients, we suspect providers beyond those institutions were less comfortable with ablation than medical therapy to address the risk of stroke. With all eyes on the Farapulse launch, we expect upcoming product launches, including Farawave for integrated mapping and navigation on the Farapulse platform and regulatory approval in Japan, to support outside double-digit growth in electrophysiology through 2028. Outside of PFA, Boston continues to see strong results with Watchman revenue growing 20% organically in the quarter, despite rival Abbott's progress in penetrating the base of implantation centers. Boston's success in defending its left atrial appendage closure position is likely due to strong commercial execution, from our perspective. We anticipate more

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of the same through 2024, in the absence of any clinical data demonstrating superiority for Abbott's Amulet product.



Boston Scientific Earnings: Farapulse Drives Impressive Start to 2024 Debbie S. Wang, Senior Equity Analyst, 24 Apr 2024

Boston Scientific saw a fast start to 2024 thanks to the much-anticipated launch of its new pulsed field ablation, or PFA, platform for atrial fibrillation, or AF. With both Farapulse PFA and the Watchman franchise performing so strongly, we've raised our fair value estimate to \$70 per share, up from \$61, to reflect our more optimistic expectations for cardiology in the 2024-26 time frame. First-quarter revenue grew 15% in constant currency, fueled by strength in cardiology and peripheral interventions. With key products growing faster than the medical device market and the impending acquisition of Axonics, Boston is well positioned to accelerate growth through the midterm and reinforce the intangible assets supporting its narrow economic moat. With all eyes on the rollout of Farapulse halfway through the first quarter, initial results didn't disappoint, with quarterly US electrophysiology growing 85% year over year (albeit off a relatively small base). Management indicated initial uptake was pulling from both radiofrequency and cryo-ablation. We continue to think the safety profile and efficiency of Farapulse has generated a great deal of physician interest that should support growth. The additional integration of cardiac mapping from Faraview software and the Farawave navigation catheter, expected to launch later this year, should also add topspin. On the whole, we think the PFA technology has generated much excitement for AF ablation overall, which might help explain why rival Abbott saw robust quarterly growth in its electrophysiology business despite the lack of its own PFA platform. The Watchman franchise saw more double-digit growth, and we're eager to see data from the Option trial in early 2025 which could establish Watchman as an alternative to oral anticoagulants after AF ablation. The Champion trial (data in 2026) could be even more key, as it would position left atrial appendage closure as first line treatment for AF.

Boston Scientific Earnings: All Eyes Are on Farapulse to Drive Growth in 2024 Debbie S. Wang, Senior Equity Analyst, 31 Jan 2024

Narrow-moat Boston Scientific posted impressive fourth-quarter results that continued the strength seen in earlier quarters and generally met our expectations. As a result, we're holding steady on our fair value estimate. Quarterly operational revenue growth of 13% exceeded our estimates slightly, while better-than-expected gross margin in 2023 was offset by higher-than-expected spending on sales and marketing. Nevertheless, Boston remains in a strong position to grow faster than the medtech market again in 2024 thanks to U.S. rollout of Farapulse (pulsed field ablation, or PFA) for atrial fibrillation and continued adoption of Watchman FLX. Boston's strength in 2023 was remarkably broad-based, featuring double-digit growth across virtually all businesses, with the exception of neuromodulation. We think the firm's prospects remain bright for this year. With the Food and Drug Administration's approval of

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Farapulse on Jan. 31, 2024, Boston is set to disrupt the long-standing hierarchy in atrial fibrillation ablation that has Johnson & Johnson and Abbott in the dominant position. With both Boston and Medtronic first out of the gate with the PFA technology, we anticipate both conversion from existing radiofrequency ablation as well as increased penetration of ablation therapy for atrial fibrillation as an alternative to medication. Considering the significantly better efficacy of any ablation over optimal medical therapy, we expect PFA's substantially improved safety profile will be compelling to practitioners and patients alike. We also think Boston's impending acquisition of Axonics and its sacral neuromodulation for overactive bladder makes a lot of strategic sense, given Boston's long-standing presence in the urology and pelvic health markets. Though these neuromodulators are substantially more invasive than the medication used in first-line treatment, the devices offer solid efficacy for refractory patients.

Boston Scientific Earnings: Underlying Strength Across Products Fuels Double-Digit Sales Growth

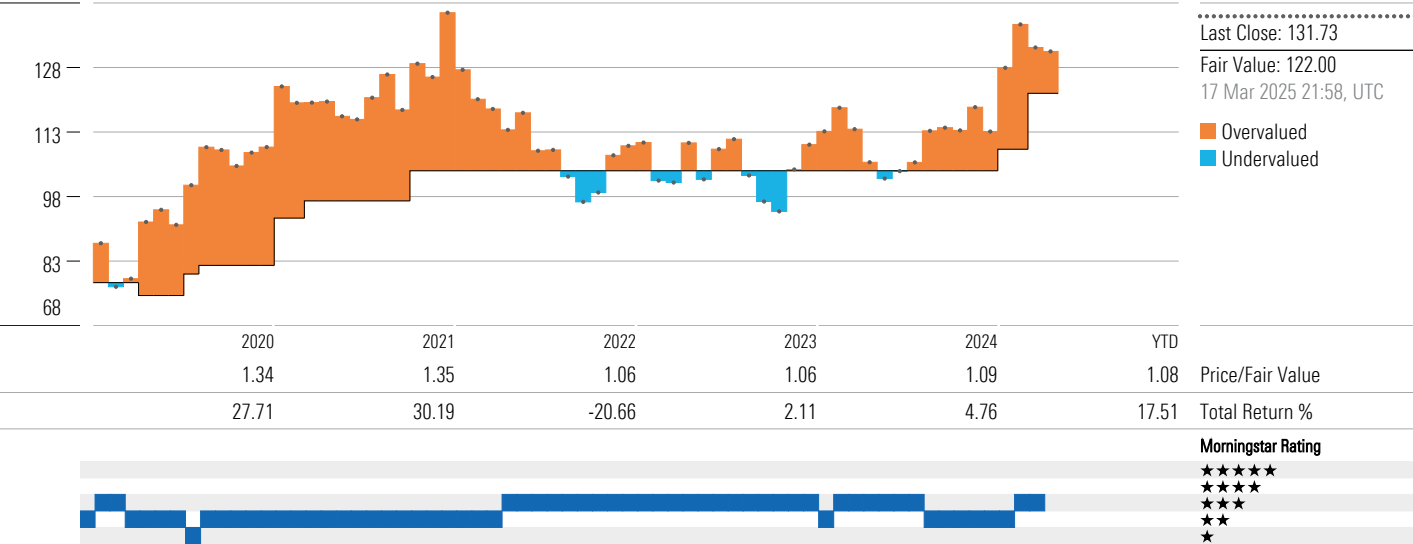
Debbie S. Wang, Senior Equity Analyst, 26 Oct 2023

Boston Scientific posted another quarter of robust results. As the firm is on track to meet our full-year expectations, we're leaving our \$55 fair value estimate unchanged. Boston saw quarterly revenue growth of 11% in constant currency year over year, driven by double-digit growth from virtually all product categories. Though management narrowed its outlook, our 2023 estimates remain bounded by the new parameters. Boston's atrial fibrillation ablation and spinal cord stimulation pipeline technologies leave us confident that the firm can maintain its narrow economic moat with such innovation support. Boston remains in a holding pattern on its upcoming Farapulse pulsed field ablation system for atrial fibrillation, with U.S. regulatory approval not expected until later in 2024. However, the firm recently received approval for its Polarx cryoablation system, which expands Boston's AF ablation portfolio to encompass another major modality. We think Polarx and Farapulse put Boston in a strong position to break out of its minor AF ablation position and challenge the leaders in this field, Johnson & Johnson and Abbott. Separately, data shared on its Agent drug-coated balloon at a key interventional cardiology conference this week offered impressive results for peripheral in-stent restenosis. Considering the perennial challenges of stenting arteries in the legs and how these stents are prone to reoccluding, DCBs offer an appealing solution. Nonetheless, we recognize the potential for disruptive technologies to come along in the peripheral vascular market. Abbott also presented favorable data on its resorbable stent for leg use, and we think this device could become popular if results turn out to be durable. ■■

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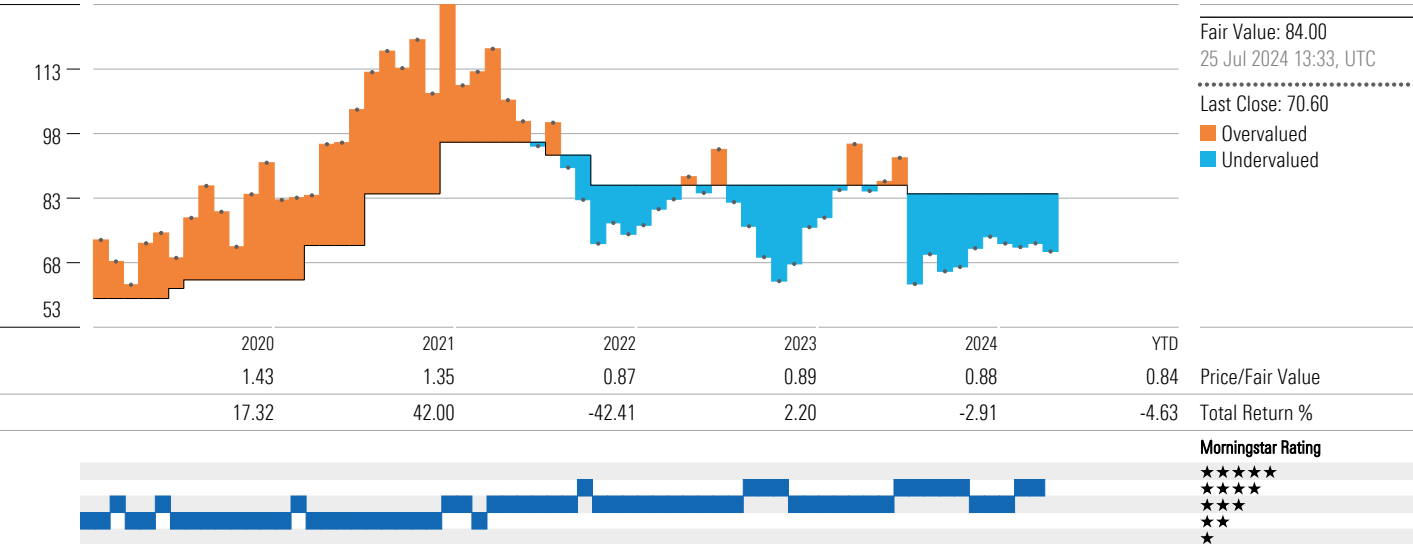
Competitors Price vs. Fair Value

Abbott Laboratories ABT



Total Return % as of 22 Apr 2025. Last Close as of 22 Apr 2025. Fair Value as of 17 Mar 2025 21:58, UTC.

Edwards Lifesciences Corp EW



Total Return % as of 22 Apr 2025. Last Close as of 22 Apr 2025. Fair Value as of 25 Jul 2024 13:33, UTC.

Boston Scientific Corp

BSX

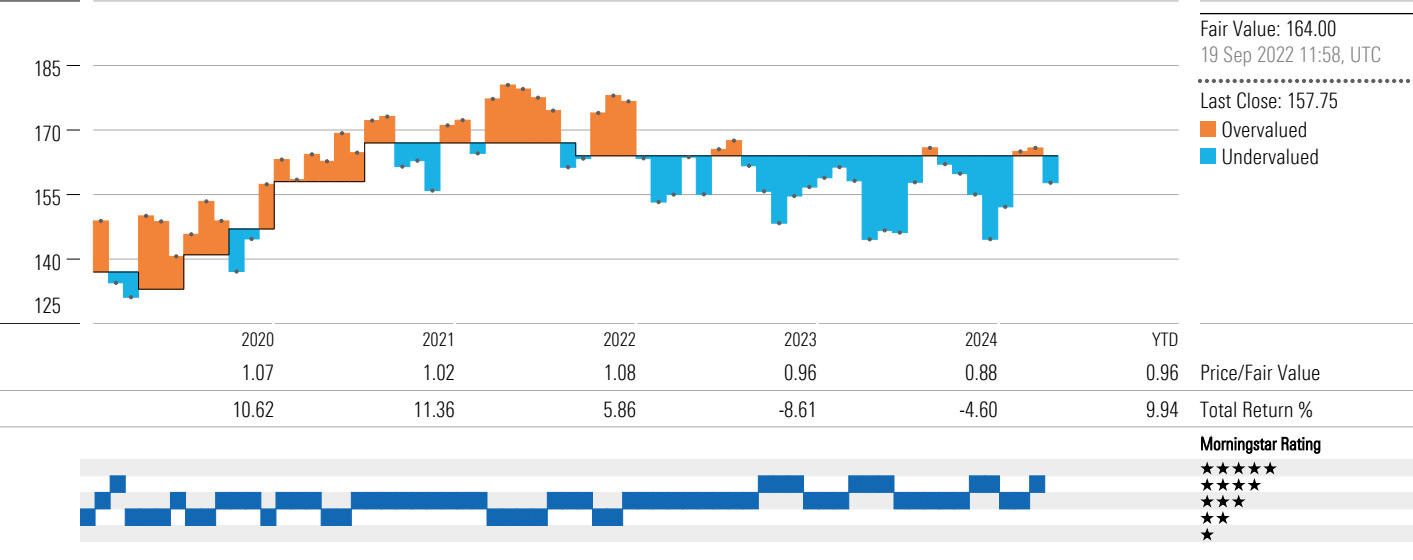
★★★

23 Apr 2025 15:17, UTC

Competitors Price vs. Fair Value

Johnson & Johnson

JNJ



Total Return % as of 22 Apr 2025. Last Close as of 22 Apr 2025. Fair Value as of 19 Sep 2022 11:58, UTC.

Boston Scientific Corp **BSX** ★★★

23 Apr 2025 15:17, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
95.05 USD 22 Apr 2025	93.00 USD 23 Apr 2025 15:16, UTC	1.02	148.13 USD Bil 23 Apr 2025	Narrow	Large Growth	Medium	Standard	2 Apr 2025 05:00, UTC

Morningstar Valuation Model Summary

Financials as of 07 Mar 2025

Fiscal Year, ends 31 Dec	Actual			Forecast				
	2022	2023	2024	2025	2026	2027	2028	2029
Revenue (USD Mil)	12,682	14,240	16,747	18,608	20,302	22,095	23,991	26,018
Operating Income (USD Mil)	2,033	2,416	3,002	3,728	4,476	5,544	6,383	7,141
EBITDA (USD Mil)	2,783	3,538	3,874	5,144	5,934	7,017	7,865	8,666
Adjusted EBITDA (USD Mil)	2,783	3,538	3,874	5,144	5,934	7,017	7,865	8,666
Net Income (USD Mil)	679	1,661	1,864	2,798	3,417	4,295	4,984	5,630
Adjusted Net Income (USD Mil)	1,638	2,617	3,122	4,176	4,516	5,155	5,796	6,424
Free Cash Flow To The Firm (USD Mil)	1,319	360	-1,112	1,529	1,678	3,254	3,669	3,457
Weighted Average Diluted Shares Outstanding (Mil)	1,440	1,465	1,486	1,486	1,486	1,486	1,486	1,486
Earnings Per Share (Diluted) (USD)	0.47	1.13	1.25	1.88	2.30	2.89	3.35	3.79
Adjusted Earnings Per Share (Diluted) (USD)	1.14	1.79	2.10	2.81	3.04	3.47	3.90	4.32
Dividends Per Share (USD)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Margins & Returns as of 07 Mar 2025

	3 Year Avg	Actual			Forecast					5 Year Avg
		2022	2023	2024	2025	2026	2027	2028	2029	
Operating Margin %	15.0	16.0	17.0	17.9	20.0	22.1	25.1	26.6	27.5	24.1
EBITDA Margin %	—	21.9	24.9	23.1	27.6	29.2	31.8	32.8	33.3	—
Adjusted EBITDA Margin %	—	21.9	24.9	23.1	27.6	29.2	31.8	32.8	33.3	30.9
Net Margin %	9.4	5.4	11.7	11.1	15.0	16.8	19.4	20.8	21.6	18.7
Adjusted Net Margin %	16.7	12.9	18.4	18.6	22.4	22.2	23.3	24.2	24.7	23.4
Free Cash Flow To The Firm Margin %	2.1	10.4	2.5	-6.6	8.2	8.3	14.7	15.3	13.3	12.0

Growth & Ratios as of 07 Mar 2025

	3 Year CAGR	Actual			Forecast					2029 5 Year CAGR
		2022	2023	2024	2025	2026	2027	2028	2029	
Revenue Growth %	12.2	6.8	12.3	17.6	11.1	9.1	8.8	8.6	8.5	9.2
Operating Income Growth %	18.4	12.3	18.8	24.3	24.2	20.1	23.9	15.1	11.9	18.9
EBITDA Growth %	19.6	22.2	27.1	9.5	32.8	15.4	18.3	12.1	10.2	17.8
Adjusted EBITDA Growth %	19.4	22.2	27.1	9.5	32.8	15.4	18.3	12.1	10.2	17.5
Earnings Per Share Growth %	33.7	-10.1	140.5	10.6	50.1	22.1	25.7	16.0	13.0	24.7
Adjusted Earnings Per Share Growth %	33.7	-14.3	57.1	17.6	33.8	8.1	14.2	12.4	10.9	24.7

Valuation as of 07 Mar 2025

	Actual			Forecast				
	2022	2023	2024	2025	2026	2027	2028	2029
Price/Earning	40.6	32.3	42.5	33.8	31.3	27.4	24.4	22.0
Price/Sales	5.2	5.9	7.9	7.6	6.9	6.4	5.9	5.4
Price/Book	3.8	4.4	6.1	5.8	5.0	4.4	3.8	3.3
Price/Cash Flow	—	—	—	—	—	—	—	—
EV/EBITDA	26.9	26.3	36.3	29.4	25.5	21.6	19.2	17.5
EV/EBIT	36.8	38.5	46.8	40.6	33.8	27.3	23.7	21.2
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 07 Mar 2025

Fiscal Year, ends 31 Dec	Actual			Forecast				
	2022	2023	2024	2025	2026	2027	2028	2029
ROA %	2.1	4.7	4.7	6.7	7.5	8.6	9.1	9.3
ROE %	3.9	8.6	8.6	11.4	12.2	13.3	13.4	13.1
ROIC %	7.7	8.1	8.9	6.5	8.7	12.1	15.3	18.4

Boston Scientific Corp **BSX** ★★★

23 Apr 2025 15:17, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
95.05 USD 22 Apr 2025	93.00 USD 23 Apr 2025 15:16, UTC	1.02	148.13 USD Bil 23 Apr 2025	Narrow	Large Growth	Medium	Standard	2 Apr 2025 05:00, UTC

Financial Leverage (Reporting Currency)

Fiscal Year, ends 31 Dec	Actual			Forecast				
	2022	2023	2024	2025	2026	2027	2028	2029
Debt/Capital %	12.3	10.1	7.8	7.2	6.6	6.1	5.6	5.2
Assets/Equity	1.8	1.8	1.8	1.7	1.6	1.5	1.5	1.4
Net Debt/EBITDA	3.0	2.4	2.8	1.4	0.5	-0.2	-0.8	-1.4
Total Debt/EBITDA	3.3	2.7	2.9	2.1	1.8	1.5	1.4	1.2
EBITDA/ Net Interest Expense	5.9	13.4	12.7	18.7	21.6	26.4	30.3	38.6

Forecast Revisions as of 7 Mar 2025

Prior data as of 5 Feb 2025	2025		2026		2027	
	Current	Prior	Current	Prior	Current	Prior
Fair Value Estimate Change (Trading Currency)	93.00	86.17	—	—	—	—
Revenue (USD Mil)	18,608	19,156	20,302	21,420	22,095	23,767
Operating Income (USD Mil)	3,728	4,182	4,476	5,221	5,544	6,141
EBITDA (USD Mil)	5,144	5,489	5,934	6,576	7,017	7,543
Net Income (USD Mil)	4,176	4,234	4,516	4,891	5,155	5,640
Earnings Per Share (Diluted) (USD)	1.88	2.19	2.30	2.78	2.89	3.30
Adjusted Earnings Per Share (Diluted) (USD)	2.81	2.85	3.04	3.29	3.47	3.80
Dividends Per Share (USD)	0.00	0.00	0.00	0.00	0.00	0.00

Key Valuation Drivers as of 07 Mar 2025

Cost of Equity %	9.0
Pre-Tax Cost of Debt %	5.8
Weighted Average Cost of Capital %	8.6
Long-Run Tax Rate %	19.0
Stage II EBI Growth Rate %	10.5
Stage II Investment Rate %	26.3
Perpetuity Year	20

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

Discounted Cash Flow Valuation as of 07 Mar 2025

	USD Mil
Present Value Stage I	10,289
Present Value Stage II	55,363
Present Value Stage III	72,070
Total Firm Value	137,722
Cash and Equivalents	414
Debt	10,746
Other Adjustments	0
Equity Value	127,390
Projected Diluted Shares	1,486
Fair Value per Share (USD)	93.00

Boston Scientific Corp **BSX** ★★★ 23 Apr 2025 15:17, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment ¹
95.05 USD 22 Apr 2025	93.00 USD 23 Apr 2025 15:16, UTC	1.02	148.13 USD Bil 23 Apr 2025	Narrow	Large Growth	Medium	Standard	2 Apr 2025 05:00, UTC

ESG Risk Rating Breakdown

Exposure

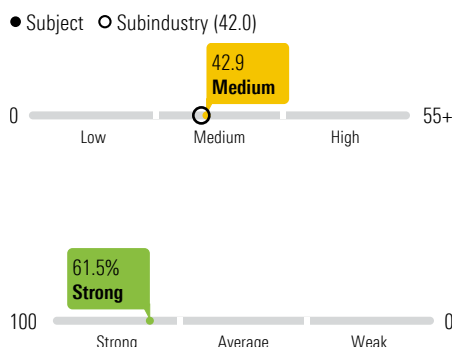
Company Exposure ¹	42.9
– Manageable Risk	39.3
Unmanageable Risk²	3.5

Management

Manageable Risk	39.3
– Managed Risk ³	24.2
Management Gap⁴	15.1

Overall Unmanaged Risk

18.6



- 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 61.5% 4. Management Gap assesses risks that are not managed, but are considered manageable 5. ESG Risk Rating Assessment = Overall Unmanaged Risk = Management Gap plus Unmanageable Risk

ESG Risk Rating Assessment⁵



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

Peer Analysis 02 Apr 2025

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

Company Name	Exposure	Management	ESG Risk Rating
Boston Scientific Corp	42.9 Medium 0 —●— 55+	61.5 Strong 100 —●— 0	18.6 Low 0 —●— 40+
Medtronic PLC	42.6 Medium 0 —●— 55+	60.9 Strong 100 —●— 0	18.7 Low 0 —●— 40+
Abbott Laboratories	41.8 Medium 0 —●— 55+	55.6 Strong 100 —●— 0	20.4 Medium 0 —●— 40+
Edwards Lifesciences Corp	43.7 Medium 0 —●— 55+	54.1 Strong 100 —●— 0	22.0 Medium 0 —●— 40+
Johnson & Johnson	47.1 Medium 0 —●— 55+	62.2 Strong 100 —●— 0	19.9 Low 0 —●— 40+

Appendix

Historical Morningstar Rating

Boston Scientific Corp BSX 22 Apr 2025 21:29, 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
★★★★	★★★★	★★★★	★★	★★	★★	★★	★★	★★	★★★★	★★	★★

Abbott Laboratories ABT 22 Apr 2025 21:26, 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
★★	★★	★★	★★	★	★★	★★	★★	★★	★★★★	★★★★	★★

Edwards Lifesciences Corp EW 22 Apr 2025 21:31, 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
★★	★★	★★	★★	★★	★★	★★★★	★★	★★	★★★★	★★	★★

Johnson & Johnson JNJ 22 Apr 2025 21:27, UTC

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

Research Methodology for Valuing Companies

Overview

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

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

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

1. Economic Moat

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

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

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

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

2. Estimated Fair Value

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

Our model is divided into three distinct stages:

Stage I: Explicit Forecast

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

rive our annual free cash flow forecast.

Stage II: Fade

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

Stage III: Perpetuity

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

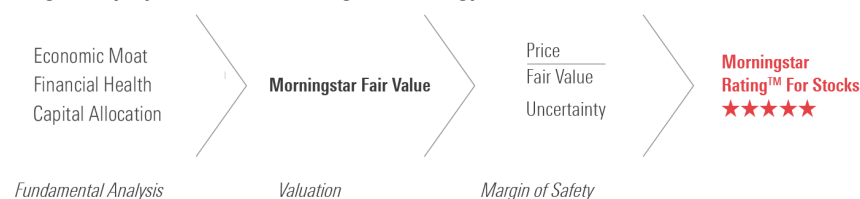
Because a dollar earned today is worth more than a dollar earned tomorrow, we discount our projections of cash flows in stages I, II, and III to arrive at a total present value of expected future cash flows. Because we are modeling free cash flow to the firm—representing cash available to provide a return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

3. Uncertainty Around That Fair Value Estimate

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

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

Morningstar Equity Research Star Rating Methodology



Research Methodology for Valuing Companies

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

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

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

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

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

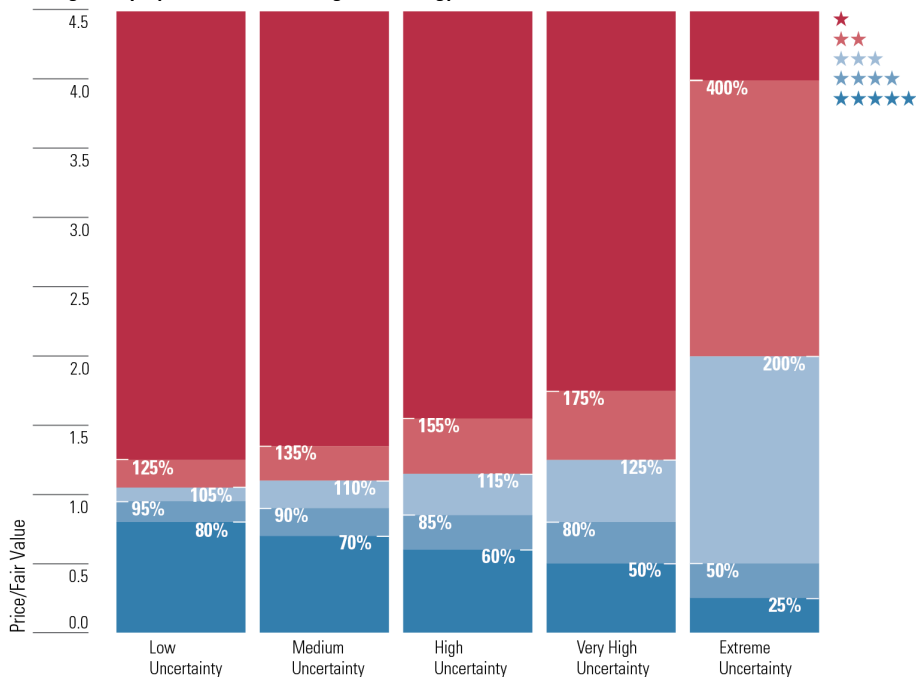
4. Market Price

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

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

Morningstar Star Rating for Stocks

Morningstar Equity Research Star Rating Methodology



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

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

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

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

The Morningstar Star Ratings for stocks are defined below:

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

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

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

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

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

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

Other Definitions

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

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

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

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

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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