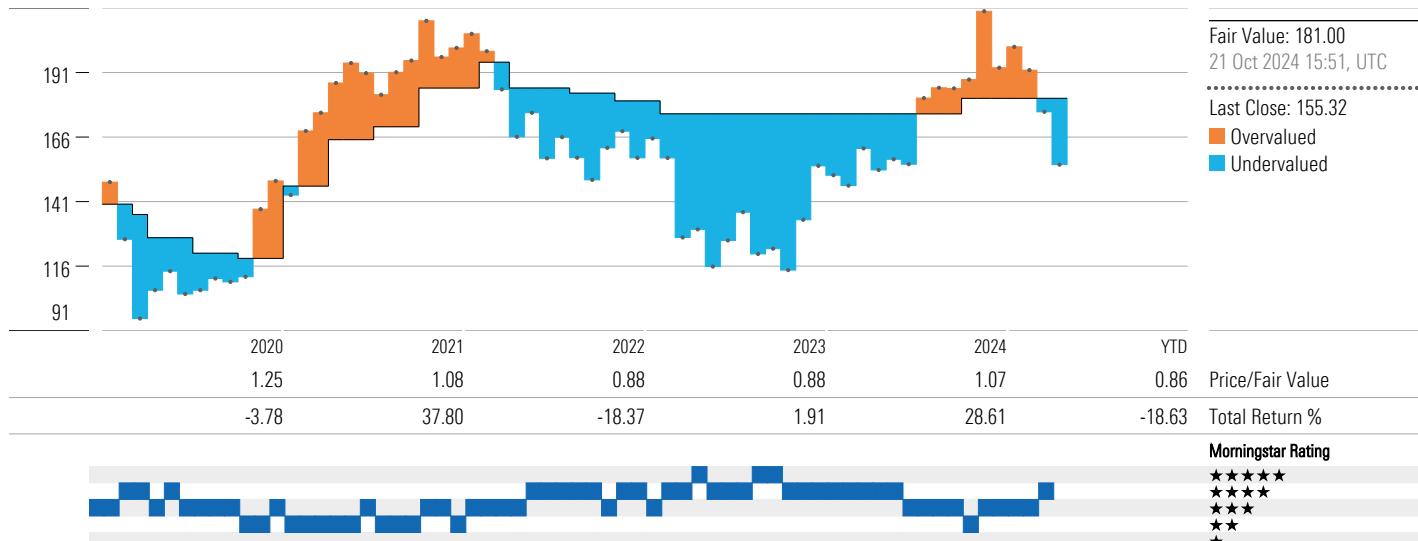


PNC Financial Services Group Inc PNC ★★★★ 14 Apr 2025 21:32, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
155.32 USD 14 Apr 2025	181.00 USD 21 Oct 2024 15:51, UTC	0.86	61.87 USD Bil 15 Apr 2025	Narrow	Large Value	Medium	Standard	 2 Apr 2025 05:00, UTC

Price vs. Fair Value



Total Return % as of 14 Apr 2025. Last Close as of 14 Apr 2025. Fair Value as of 21 Oct 2024 15:51, UTC.

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

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

PNC Earnings: Management Guidance Remains Unchanged Despite Tariff Uncertainty; Loan Growth Muted

Analyst Note Suryansh Sharma, Senior Equity Analyst, 15 Apr 2025

PNC reported decent first-quarter results, with earnings per share of \$3.51, about 13% higher on a year-over-year basis. While management didn't change its guidance much, investors should remain cognizant of the economy facing considerable turbulence in 2025 due to tariff-related disruptions.

Why it matters: The impact of tariff-related disruptions didn't show up in the first quarter, but we think that the effect will be more visible in future quarters. The bank kept its allowance for loan losses as a percentage of loans roughly flat on a sequential basis and was reported at 1.64%.

- NII declined around 1% from the prior quarter. We still believe that the bank should see strong improvement in NII in future quarters, driven by the continued impact of the bank's repricing of fixed-rate long-duration securities and locking in receive-fixed swaps at higher yields.
- We don't expect to see a strong recovery in loan growth this year because of additional uncertainty around tariff policy and a higher probability of a mild recession.

The bottom line: We plan on maintaining our \$181 per share fair value estimate for narrow-moat-rated PNC Financial after incorporating first-quarter results and believe that the shares are slightly undervalued.

- We were skeptical about the rally in US bank stocks after the US presidential election, given the uncertainty around the Trump administration's policies and the healthy valuations in the sector. Bank

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Sector	Industry
Financial Services	Banks - Regional

Business Description

PNC Financial Services Group is a diversified financial services company offering retail banking, corporate and institutional banking, asset management, and residential mortgage banking across the United States.

stocks have corrected by more than 20% and valuations look much more appealing now.

Key stats: We expect annual expense growth to remain under 2% despite the bank's focus on branch expansion for the next few years in faster-growing southeast and southwest markets. Management has consistently proven its ability to control expenses and deliver on its efficiency initiatives.

- We think that expense control will be vital to maintaining PNC's long-term profitability targets.

Business Strategy & Outlook Suryansh Sharma, Senior Equity Analyst, 10 Apr 2025

PNC is one of the larger regional banks in the US, has a fairly diversified fee base, and has a national presence, but is concentrated primarily in the East and Midwest. The bank has grown substantially from acquisitions, transforming itself with the integration of the troubled National City (doubling the size of PNC) in 2008, acquiring RBC's US branch network in the Southeast in 2012, and more recently picking up BBVA USA in 2021 (a roughly 25% increase in size).

The bank has also been successful at organically expanding its customer base, both in commercial banking and in retail. An expanding client base has led to solid loan, deposit, and fee income growth. Selling new products into the formerly underperforming RBC branch network has worked as well, and PNC now seems poised to repeat this effort with the integration of the BBVA branch network. The bank is also attempting to grow its Midwest commercial franchise, along with retail growth efforts in the same areas where commercial expansion has been successful in the past.

A successful acquisition history and improved credit performance during the 2007 downturn make PNC one of the better operators we cover. Overall, we view the bank as a solid regional banking franchise, with a national presence and scale, retail and commercial offerings, a successful asset management unit, and solid middle-market investment banking operations with its Harris Williams unit.

PNC has executed many expense-saving initiatives over the years, and management has been actively reinvesting many of these savings back into the business, with multiple acquisitions completed. We expect some savings to contribute to PNC opening up more than 200 branches in fast-growing markets over the next five years. As more and more retail transactions go through digital channels and commercial margins improve in PNC's newer markets, we expect the bank's operating efficiency to improve.

In 2025 and beyond, we expect the bank to continue to optimize the old BBVA footprint and we should see steady improvement in its financials. We also view PNC's more-conservative duration risk management favorably in the current market environment.

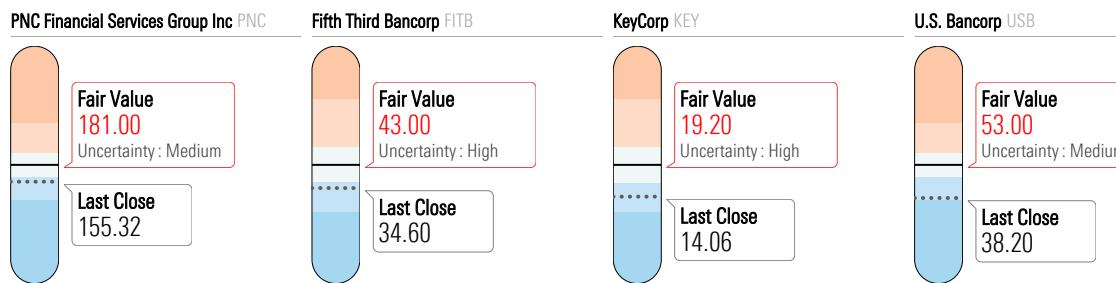
Bulls Say Suryansh Sharma, Senior Equity Analyst, 10 Apr 2025

- PNC's acquisition of BBVA seems likely to add value to the franchise and for shareholders. It will make

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Competitors



	PNC Financial Services Group Inc PNC	Fifth Third Bancorp FITB	KeyCorp KEY	U.S. Bancorp USB
Economic Moat	Narrow	None	None	Wide
Currency	USD	USD	USD	USD
Fair Value	181.00 21 Oct 2024 15:51, UTC	43.00 21 Mar 2025 14:08, UTC	19.20 9 Oct 2024 06:39, UTC	53.00 26 Mar 2024 14:09, UTC
1-Star Price	244.35	66.65	29.76	71.55
5-Star Price	126.70	25.80	11.52	37.10
Assessment	Undervalued 14 Apr 2025	Undervalued 14 Apr 2025	Undervalued 14 Apr 2025	Undervalued 14 Apr 2025
Morningstar Rating	★★★★ 14 Apr 2025 21:32, UTC	★★★★ 14 Apr 2025 21:35, UTC	★★★★ 14 Apr 2025 21:36, UTC	★★★★ 14 Apr 2025 21:36, UTC
Analyst	Suryansh Sharma, Senior Equity Analyst	Rajiv Bhatia, Equity Analyst	Maoyuan Chen, Equity Analyst	Maoyuan Chen, Equity Analyst
Capital Allocation	Standard	Standard	Standard	Exemplary
Price/Fair Value	0.86	0.80	0.73	0.72
Price/Sales	2.99	2.88	3.04	2.18
Price/Book	1.26	1.32	0.99	1.15
Price/Earning	12.50	10.99	—	9.56
Dividend Yield	4.09%	4.22%	5.83%	5.21%
Market Cap	61.47 Bil	23.00 Bil	15.41 Bil	59.52 Bil
52-Week Range	143.52—216.26	32.25—49.07	12.73—20.04	35.18—53.98
Investment Style	Large Value	Mid Blend	Mid Value	Large Value

PNC one of the regional banks with the most scale and could drive above-market fee growth for several years.

- Valuations are not demanding for the banking sector overall, or for PNC specifically, leaving room for future outperformance.
- In addition to acquisitions, PNC has organic expansion opportunities it is taking advantage of, which could lead to higher organic growth than peers over time.

Bears Say Suryansh Sharma, Senior Equity Analyst, 10 Apr 2025

- There are few positive catalysts left for the banks. Funding costs are running higher, higher regulatory scrutiny is likely, and a potential economic slowdown may be around the corner.
- Bank earnings may be stuck for years to come as they face multiple headwinds.
- PNC is expanding into newer markets and revenue synergies often don't play out as expected, increasing the chances for mistakes or disappointments along the way.

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Economic Moat Suryansh Sharma, Senior Equity Analyst, 10 Apr 2025

We believe PNC Financial Services deserves a narrow Morningstar Economic Moat Rating, based on maintainable cost advantages that are consistent with our moat framework for banks. While we believe PNC likely has some credit cost advantages, we think this has become less of a differentiator as essentially all the largest banks have improved underwriting standards compared with pre-2007. Instead, we would point to the bank's scale and operating efficiency, particularly after the BBVA acquisition. We now expect returns on tangible common equity to average closer to 17% easily above our cost of equity of 9%. We also expect the bank's efficiency ratio to improve to the high-50s over time, generally within the range we consider moatworthy.

We argue that bank moats are primarily derived from two sources: cost advantages and switching costs. Cost advantages are derived from three key factors: strong underwriting, a low-cost deposit base, and excellent operating efficiency, with regulatory costs a final consideration that must be factored in. Within the operating efficiency bucket, we also see room for economies of scope leading to a cost advantage via lower relative customer acquisition costs. This factor applies primarily to the banks with the largest distributional scale and the largest breadth of products.

The bank has historically demonstrated superior underwriting abilities in comparison to its peers. During the financial crisis of 2007, the bank performed much better than peers, reporting provisioning as a proportion of net interest income of approximately 24% compared with a peer group average of about 37% (2007-12). Additionally, PNC consistently reported lower net charge-offs than peers through the cycle, with the net charge-off ratio peaking at 1.9% compared with 2.4% for the peer group. With the 2008 acquisition of National City, PNC effectively doubled in size and has been growing ever since, both organically and inorganically. While mergers of this nature can change a bank's culture, we still feel the bank's underwriting culture has remained strong, demonstrated by lower net charge-offs than peers over the last five years. Therefore, it could be argued that PNC has developed some amount of cost advantage due to its underwriting prowess.

While PNC once had some funding cost advantages, we believe these have eroded over time, leaving the bank somewhere in the middle of the pack within our coverage. As such, we don't see the its cost of funding as a major advantage compared with peers.

Rather, we think the most important driver of the bank's narrow moat is its scale and operating efficiency. PNC had tended to be fairly average here, particularly if the effects of the BlackRock stake were removed. However, the bank made a major move in June 2021, closing its acquisition of BBVA (increased balance sheet by approximately 25%). The bank funded this acquisition by selling off its stake in BlackRock. The bank's stake in BlackRock funded the acquisition, one for one, with essentially all the cash generated from the sale deployed toward the acquisition of BBVA USA. This accomplished two

PNC Financial Services Group Inc PNC ★★★★

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major things, first, it removed the BlackRock stake (which we had previously viewed as a non-operating asset and therefore excluded it from our moat consideration), and second, this replaced these non-operating assets entirely with core operations that were expected to generate an IRR of greater than 19%, improve the bank's core ROE, and also improve operating efficiency as PNC cut roughly 35% of BBVA's expense base. Therefore, we feel comfortable looking at PNC's overall numbers now (without excluding anything), and we project the additional scale will lead to a new critical mass, helping the bank achieve moatworthy operating efficiency. This event has therefore driven our upgrade of PNC to a narrow moat rating. We now expect the bank to eventually reach an efficiency ratio of 58% over time, better than the historical ratio that often struggled to break 60%.

We also think the largest banks with the most scale will be in the best position to compete in the future, and PNC fits this description. With PNC now being one of the largest regional banks in the country, with national scale and a fairly complete product set (more complete digital offerings, retail, commercial, asset and wealth management, and investment banking), we think PNC will be in an advantaged position to invest in technology and expansion activities compared with smaller peers. We think this will only increase in significance over time as competition heats up and the importance of technology matters more and more.

From a systemic standpoint, we believe the US banking system has improved over the last decade, as capital levels supporting the banking system are at all-time highs. Further, regulation has also improved since the financial crisis. The US banking market is quite fragmented, and PNC must compete with a variety of regional and community banks as well as large money center institutions, although this fragmentation has gradually decreased since the 1990s. While we view the banking sector as intensely competitive, the largest banks by asset size have generally been able to earn higher returns on equity for the last several decades, and still do so today. Our long-run outlook is generally positive from a macroeconomic and political standpoint for the US banking system, as the US is still the world's leading democracy, has increased GDP at a steady pace for years, and maintains the world's reserve currency, all of which should contribute to long-run banking stability.

PNC is not large enough to be considered a global systemically important bank and does not have to comply with some of the more burdensome regulatory requirements. Recently, the Federal Reserve eased liquidity coverage requirements for banks with assets between \$250 billion and \$700 billion, as a result of which PNC is no longer expected to maintain 100% liquidity coverage. This will allow the bank to have a greater degree of control over its operations. Other previous requirements for PNC still hold, and the bank is still subject to the Federal Reserve's annual stress tests, which are required of banks with over \$250 billion in assets. As PNC is one of the largest regional banks not labeled a GSIB, it can enjoy better relative regulatory costs to some extent.

Fair Value and Profit Drivers Suryansh Sharma, Senior Equity Analyst, 10 Apr 2025

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We are maintaining our \$181 per share fair value estimate for PNC Financial after incorporating the bank's latest quarterly results and 2025 guidance. Our fair value estimate is equivalent to 1.9 times tangible book value at the end of 2024 (or 1.6 times when excluding the effects of accumulated other comprehensive income).

Our base-case scenario assumes the bank's efficiency ratio eventually declines to about 58% as management realizes operating leverage from infrastructure investments and the BBVA acquisition helps push efficiency for PNC to the next level. We also assume slightly above-average fee growth as a result of the bank's expansion initiatives, along with a recovery in the firm's capital markets group, which is currently seeing strong fee income growth from cyclical lows.

We are projecting a 7% improvement in net interest income in 2025, primarily due to the repricing of low-yielding securities and swaps. In 2026, we expect stable NII as the repricing benefits have already been baked in and continued rate cuts cause earned interest to decline. We have loan growth of around 3% on average annually the next couple of years as economic growth picks up from rates continuing to move lower.

We expect roughly 1.5% growth in expenses in 2025, and 2.5% growth in 2026, as core expenses are kept under control. Finally, on the fee side, we project lower fee income growth in the near term due to tariff-related uncertainties, leading to around 2.5% growth in 2025 and 5% growth in 2026. We expect normalized fee income growth of around 3.5% for the bank in the long run.

Our 2025 net charge-off ratio is forecast at 0.51% due to slight pressure in the CRE loan book, especially in the office space and the impacts of tariff-related uncertainties. We have the net charge-off ratio normalizing to 0.47% through the cycle for the bank, as credit quality reverts to prepandemic levels from the cyclical lows we've seen the past few years. Overall, we expect a normalized return on tangible common equity of roughly 16.5% for the bank compared with our estimate of its cost of equity at 9%.

Risk and Uncertainty Suryansh Sharma, Senior Equity Analyst, 10 Apr 2025

PNC has made transformational banking-related acquisitions in the past, and we believe it has been largely successful. This success was achieved despite often very difficult circumstances, notably the takeover of National City. Given PNC's history of successful acquisitions and the strategic fit of the BBVA franchise, we view the integration risks of the BBVA acquisition as low.

We view the macroeconomic backdrop as the primary risk for regional banks. PNC's future profitability will be affected by the interest-rate cycles, as well as the effects of credit and debt cycles, all of which are not under management's control. In addition, the bank is subject to the Federal Reserve's annual stress test. Depending on the results of that review, PNC may be subject to capital return restrictions. If it were required to hold more capital, returns on equity could be affected. The bank has performed well

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on the most recent tests, and we would be surprised to see issues here in the future.

From an environmental, social, and governance perspective, commercial banks are expected to have strong product governance. Predatory or discriminatory lending practices are examples of poor product governance, and this can affect certain banks at times. We view most product governance and social risks as manageable and incorporate a steady level of operational expenses related to compliance and litigation in our models. Outside of the rare, headline-grabbing scandals, we don't see social risks as having a material effect on our valuation. Banks also lend to particular sectors which can come under more scrutiny at times, like gun manufacturers, or energy, for example. Commercial banks don't directly have a large environmental footprint, and governance practices are in line with most companies.

We assign PNC a Medium Uncertainty Rating due to these considerations.

Capital Allocation Suryansh Sharma, Senior Equity Analyst, 10 Apr 2025

We give PNC a Standard Capital Allocation Rating. In our opinion, the company's balance sheet is sound, its capital investment decisions are standard, and its capital return strategy is appropriate. We view the company's capital investments as standard. PNC has done a good job of managing credit risk and avoiding value-destroying products while simultaneously investing in value-accretive acquisitions. National City and RBC's US operations come to mind, with BBVA set to be another likely success story. Over the last decade-plus, PNC's acquisitions, organic growth investments, and other internal investments have built one of the more complete US banking franchises, and PNC has emerged as one of the largest regional banks in the United States. We also view the bank's duration risk management favorably, something particularly important in the current environment. We assess the company's capital return strategy as appropriate. PNC, like most banks, maintains a healthy payout ratio for dividends, uses some of its earnings to invest back into growth, and returns extra capital to shareholders via share repurchases.

William Demchak took over as CEO in April 2013 after joining PNC in 2002 as its chief financial officer. Current CFO Robert Reilly joined PNC in 1987 and has held numerous positions in investment and commercial banking. We believe Demchak has set the company's course in a positive direction as PNC's focus has shifted toward improving internal operations, such as modernizing and consolidating the bank's data centers, moving to an internal cloud-based infrastructure, integrating systems that ran on separate platforms, increasing the speed of consumer loan fulfillment, and aiming to bring operating leverage to these centralized operations. We believe these have been the right moves to help the bank continue to compete.

We are also impressed by PNC's acquisition history. The bank has avoided overpaying and has successfully navigated often complex and difficult integrations. We point to the acquisition of National City—which was done under contentious circumstances, in the heat of the crisis, and which doubled the size of the bank—as a prime example of where the bank has done well. The acquisition of the RBC

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branch network and successful growth efforts in the Southeast are other examples of exceptional execution. We think the bank's convergence of return on equity and return on tangible equity over time helps support our positive view on management, as well as the strong total shareholder returns over the past 10- and 15-year periods, which are among the best under our coverage. We believe much of this value creation has been in no small part due to management. The investment and decision to hold a stake in BlackRock over the past two decades has also added value and we believe the decision to sell the stake in the second quarter of 2020 also made sense. The bank is open to increasing its scale through acquiring other banks but maintains a disciplined approach by glossing over deals it considers expensive. PNC seems poised to repeat its past successes with the BBVA acquisition, and we think the move will add value for shareholders and represents another good move by management.

Credit risk has been dealt with better than most through the cycle, stemming largely from the decisions and culture established at the top of the organization. M&A, credit risk, and extra investments are rife with potential problems and are constant sources of value destruction for bank shareholders in general, and they have all been handled well by PNC.

Analyst Notes Archive

US Blanket Tariffs Pose Significant Macroeconomic Risks and Are Unconditionally Bad for US Banks

Suryansh Sharma, Senior Equity Analyst, 3 Apr 2025

President Donald Trump unleashed a barrage of tariffs on US trading partners that were significantly more aggressive and broader in scope than the market's expectation. US banks reacted negatively to the tariff announcements, and the US bank index was down more than 8%. Why it matters: The banking business is inherently tied to the macroeconomic performance of the US economy, and any negative impact on the economy will eventually percolate through the US banking industry's profitability. Economic slowdowns (or recessions) have a materially adverse impact on the US banking industry's loan growth, credit costs, investment banking fees, trading profitability, and asset management fees. The bottom line: Given the significant uncertainty associated with the tariff announcements, we are currently in the wait-and-see stance and do not plan to materially change our fair value estimates for US banks. While there are selective opportunities, US banks are fairly valued on average even after today's sharp correction, and we think investors should wait for a bigger margin of safety before going all-in into the sector. Big picture: If the current tariff regime remains in place in the long run, the US banking industry will certainly be hit hard, and the probability of recession will increase substantially. We estimate a midteens percentage fair value estimate decrease for the sector in a bear-case scenario, but the bank stocks can correct significantly more than that in the near term, given the hit to their profitability.

PNC Earnings: Management Guides for Decent Revenue Growth and Controlled Expenses in 2025

Suryansh Sharma, Senior Equity Analyst, 16 Jan 2025

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PNC Financial reported fourth-quarter earnings of \$3.77 per share, equating to an annualized return on tangible common equity of 15.8%. The 2025 guidance implies decent growth in NII and fee income, while expenses are expected to be well controlled. Why it matters: Net interest income improved on a sequential basis, but fee income remained relatively muted compared to other banks that have reported. The outlook for credit costs has also improved, as management expects the macroeconomic environment to remain strong in the upcoming year. Net interest margins expanded to 2.75% on a sequential basis compared to 2.64% in the previous quarter as the bank benefited from lower deposit costs and fixed-rate asset repricing. This led to NII growth of 3.3% on a sequential basis. Fee income performance remained slightly disappointing during the quarter, as growth in asset management and capital markets segments was slower than its larger peers. The bottom line: We are maintaining our \$181 per share fair value estimate for narrow-moat PNC Financial after incorporating fourth-quarter results. We think that the stock is slightly pricey and investors considering this firm should wait for a better entry point. Key stats: The bank's credit quality metrics improved as nonperforming loans declined by around 10% sequentially and office commercial real estate exposure reduced. Coming up: Management projected NII to grow by 6%-7% in 2025 compared with 2024 levels. This implies 2% growth compared with annualized NII in the fourth quarter. On a slightly negative note, NII guidance implies average loan balances to remain flat in the upcoming year. Fee income is expected to grow by around 5% in 2025, which, we think, is decent in the current context. On a positive note, expenses are expected to be up around 1% for the upcoming year. We like management's expense discipline and believe that it will be key to the bank managing its expense base to achieve its profitability targets.

US Banks Election Impact: Tailwinds From Softer Regulation, More M&A, and Steepening Yield Curve

Maoyuan Chen, Equity Analyst, 15 Nov 2024

We think that the election of Donald Trump and Republican control of both the Senate and the House bring mostly tailwinds to the US banking industry. We will adjust our valuation models as the incoming government's policies solidify, but with a rally of over 10% for many US banks after the Nov. 5 election results, we believe potential tailwinds have largely been incorporated into share prices and view the banking sector as fairly valued to slightly overvalued. We expect less pressure from bank capital regulation, benefiting mainly the big banks. The 2023 Basel III Endgame proposal originally had about a 19% increase in capital for the biggest banks. However, Bloomberg reported in September 2024 that the revised proposal would only increase capital requirement by 9% for the US global systemically important banks. While it will take some time for the final capital regulation to come out, we think the eventual revision for bank capital regulation will end up on the lighter side. This will allow banks to grow their balance sheets more, have higher profitability, and give back more excess capital to shareholders, all else equal. The Republican Party's more friendly stance toward mergers and acquisitions also means the banking industry can see more consolidation, benefiting the regional banks. Through acquisitions, regional banks can enter into new markets, gain new product capabilities, and get more efficient

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through cost savings. We also think scale is going to be increasingly important as technology rapidly changes. A likely steepening yield curve should add to banks' net interest income. The Federal Reserve is cutting rates on the short end and the 10-year US Treasury yield is picking up after the election as the market is pricing in likely higher inflation in the long term. Because banks lend long and borrow short, an upward-sloping yield curve is better for bank earnings than a flat or inverted yield curve.

PNC Earnings: Fee Income Comes in Strong, but Loan Growth Remains Tepid Suryansh

Sharma, Senior Equity Analyst, 15 Oct 2024

Narrow-moat-rated PNC Financial reported third-quarter earnings per share of \$3.49, 3% lower compared with \$3.60 per share reported in the same quarter of the last year. Loan growth remained tepid in the third quarter, as loan balances were flattish both sequentially and on a year-over-year basis. We do expect loan demand to pick up in the upcoming quarters as rates decline. The bank reported that its C&I credit line utilization was at 50.7% in the third quarter, compared with a historical average of 55%. We don't expect to change our \$175 fair value estimate as we incorporate the third-quarter results. Net interest income improved 3% from the prior quarter, demonstrating a further sign that NII has bottomed out. Management expects NII to be up approximately 1% in the fourth quarter compared to the current quarter. NII will benefit from the maturation of long-duration low-yielding securities that have been stuck on the bank's balance sheet, but most of it would be offset by the impact of declining rates, given the bank's asset sensitivity. The deposit mix shift into non-interest-bearing deposits has stabilized, and we expect the rate paid on interest-bearing deposits to peak in 2024, with deposit costs starting to decline in 2025. The sharp growth in capital markets fees drove fee income up 11% on a year-over-year basis. Asset management and brokerage income also showed 5% sequential growth from strong equity market performance. PNC has shown progress toward its expense savings goal during the year. We maintain our expense forecast for the year and believe the bank is on track to decrease core expenses by 1% through the full year. We think PNC should have higher expense growth within the next few years as it continues to invest in strengthening its consumer lending offerings and positions itself for better loan growth opportunities down the line.

PNC Earnings: Net Interest Income Holds Up Relatively Well; Maintaining Our \$175 Fair Value Estimate Suryansh Sharma, Senior Equity Analyst, 16 Jul 2024

Narrow-moat-rated PNC Financial Services reported second-quarter earnings per share of \$3.39. Special items this quarter included an accounting gain on Visa Class B shares, partially offset by security repositioning, derivative fair value adjustments, and a contribution expense to the PNC Foundation. The net impact of all nonrecurring items was about \$0.09 to EPS. Fees came in slightly higher than the first quarter, primarily driven by growth in capital markets fees and other income. Loan growth numbers were muted in the first half of the year, and management doesn't see evidence of this improving in the near term. We don't anticipate a significant change to our \$175 fair value estimate as we incorporate

PNC Financial Services Group Inc PNC ★★★★ 14 Apr 2025 21:32, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
155.32 USD 14 Apr 2025	181.00 USD 21 Oct 2024 15:51, UTC	0.86	61.87 USD Bil 15 Apr 2025	 Narrow	 Large Value	Medium	Standard	 2 Apr 2025 05:00, UTC

second-quarter results. Net interest income fared better than expected in the second quarter, up 1% sequentially. It is expected to be down 3%-4% for the full year. We believe NII is now close to its bottom, but future growth should be modest. The bank should benefit from the continued repositioning of its balance sheet as long-duration securities earning relatively low yields have been replaced with securities earning higher market yields. Management estimates the repositioning of around \$3.8 billion of low-yielding securities should result in a positive impact of \$140 million on NII in 2025. However, the NII growth coming from this repositioning will be partially offset by the impact of lower rates on the bank's asset-sensitive balance sheet in upcoming years. PNC's prudent continuous improvement program and workforce reduction efforts have kept expense growth in check. We do think expenses will pick up slightly in the back half of the year but still be within 2% of total first-half expenses. Our expense forecast for the year is in line with PNC's guidance. We think the bank is well on its way to decrease core expenses by 1% for the year.

PNC Earnings: Expenses Are Well-Managed; Net Interest Income Will Worsen Before Seeing Improvement

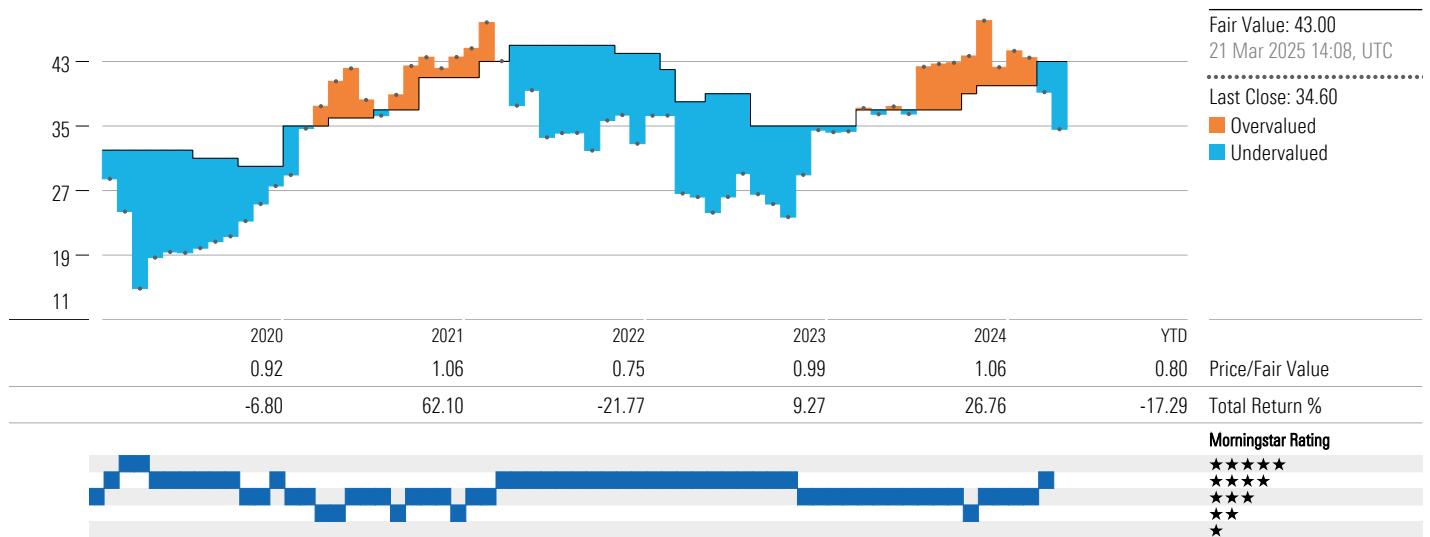
Suryansh Sharma, Senior Equity Analyst, 16 Apr 2024

Narrow-moat-rated PNC Financial reported decent results in the first quarter as earnings came in at \$3.10 per share, compared with FactSet's consensus estimate of \$3.01 per share. Included in the results was an incremental \$130 million FDIC special assessment charge related to the FDIC increasing its estimated loss from the March 2023 banking events. We do not anticipate a significant change to our \$175 per share fair value estimate as we incorporate first-quarter results. Net interest income, or NII, in the first quarter was reported at \$3.26 billion. This was down 4% from last quarter and down 9% from the previous year's first quarter. PNC's net interest margin ticked down 9 basis points to 2.57% from the prior quarter as deposit costs continue to rise, albeit at a much slower pace than the hiking phase of the interest-rate cycle. PNC will reap the benefits of being able to reprice many of its fixed-rate long-duration securities that are currently stuck on the balance sheet, earning low yield. This will provide a bump to NII on a quarter-over-quarter basis after it bottoms out in the second quarter of the year. Management emphasized that this dynamic will play out irrespective of the speed of interest-rate cuts, given the neutral positioning of PNC's balance sheet to short-term interest rates. We like that PNC is tracking well on its full-year, core expense guidance for stable year-over-year growth. Management's expense guidance includes one-time charges, management cost-saving initiatives, and the multiyear \$1 billion investment for branch openings and renovations. Fee income came in a little lower than consensus expectations, and there is still a lot of room for growth to meet full-year guidance, including management's expectation of a 20% rebound in capital-markets income. Although fee income growth remained muted this quarter, we are hoping to see improvements in the upcoming quarters. ■■■

PNC Financial Services Group Inc PNC ★★★★ 14 Apr 2025 21:32, UTC

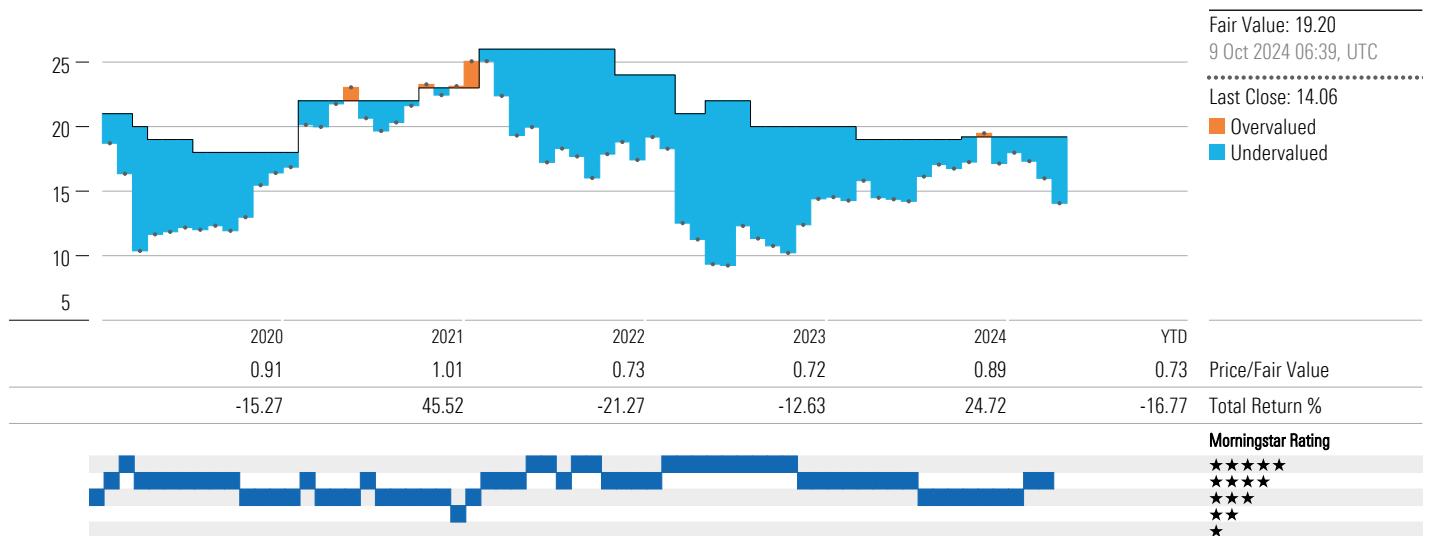
Competitors Price vs. Fair Value

Fifth Third Bancorp FITB



Total Return % as of 14 Apr 2025. Last Close as of 14 Apr 2025. Fair Value as of 21 Mar 2025 14:08, UTC.

KeyCorp KEY



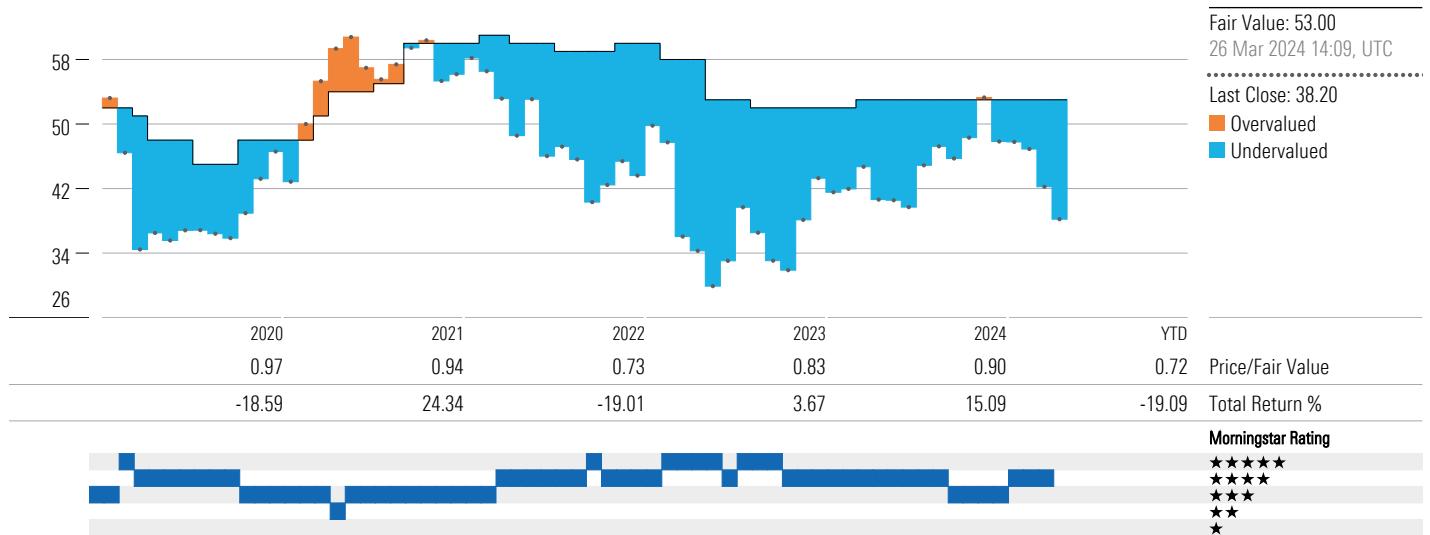
Total Return % as of 14 Apr 2025. Last Close as of 14 Apr 2025. Fair Value as of 9 Oct 2024 06:39, UTC.

PNC Financial Services Group Inc PNC ★★★★

14 Apr 2025 21:32, UTC

Competitors Price vs. Fair Value

U.S. Bancorp USB



Total Return % as of 14 Apr 2025. Last Close as of 14 Apr 2025. Fair Value as of 26 Mar 2024 14:09, UTC.

PNC Financial Services Group Inc PNC ★★★★ 14 Apr 2025 21:32, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
155.32 USD 14 Apr 2025	181.00 USD 21 Oct 2024 15:51, UTC	0.86	61.87 USD Bil 15 Apr 2025	Narrow	Large Value	Medium	Standard	 2 Apr 2025 05:00, UTC

Morningstar Valuation Model Summary

Financials as of 10 Apr 2025	Actual			Forecast				
	2022	2023	2024	2025	2026	2027	2028	2029
Fiscal Year, ends 31 Dec								
Net Interest Income (USD Mil)	13,014	13,916	13,499	14,441	14,589	14,482	14,364	14,991
Non Interest Income (USD Mil)	8,106	7,574	8,056	8,256	8,642	9,057	9,384	9,724
Total Pre-Provision Revenue (USD Mil)	21,120	21,490	21,555	22,697	23,232	23,539	23,748	24,715
Provision for Loan Losses (USD Mil)	477	742	789	2,679	1,902	1,757	1,354	1,204
Operating Expenses (USD Mil)	13,170	14,012	13,524	13,707	14,047	14,396	14,759	15,151
Operating Income (USD Mil)	7,473	6,736	7,242	6,311	7,283	7,386	7,636	8,359
Net Income Available to Common Stockholders (USD Mil)	6,041	5,578	5,889	5,057	5,871	5,955	6,156	6,739
Adjusted Net Income (USD Mil)	5,735	5,153	5,529	4,697	5,511	5,595	5,796	6,379
Weighted Average Diluted Shares Outstanding (Mil)	412	401	400	368	358	350	345	337
Earnings Per Share (Diluted) (USD)	13.92	12.85	13.82	12.78	15.41	16.00	16.81	18.94
Adjusted Earnings Per Share (Diluted) (USD)	13.92	12.85	13.82	12.78	15.41	16.00	16.81	18.94
Dividends Per Share (USD)	5.75	6.10	6.30	6.62	6.95	7.29	7.66	8.04
Margins & Returns as of 10 Apr 2025	Actual			Forecast				
	3 Year Avg	2022	2023	2024	2025	2026	2027	2028
Net Interest Margin %	2.6	2.5	2.7	2.6	2.8	2.7	2.7	2.6
Efficiency Ratio %	63.4	62.4	65.2	62.7	60.4	60.5	61.2	62.2
Provision as % of Loans	0.2	0.1	0.2	0.2	0.8	0.6	0.5	0.4
0.3								
Growth & Ratios as of 10 Apr 2025	Actual			Forecast				
	3 Year Avg	2022	2023	2024	2025	2026	2027	2028
Net Interest Income Growth %	8.2	22.2	6.9	-3.0	7.0	1.0	-0.7	-0.8
Non Interest Income Growth %	-2.0	-5.4	-6.6	6.4	2.5	4.7	4.8	3.6
Total Pre-Provision Revenue Growth %	—	9.9	1.8	0.3	5.3	2.4	1.3	0.9
Operating Expenses Growth %	—	1.3	6.4	-3.5	1.4	2.5	2.5	2.7
Operating Income Growth %	—	6.9	-9.9	7.5	-12.9	15.4	1.4	3.4
Net Income Growth %	0.6	6.5	-7.7	5.6	-14.1	16.1	1.4	3.4
Earnings Per Share Growth %	2.7	9.1	-7.7	7.6	-7.6	20.6	3.8	5.0
6.5								
Valuation as of 10 Apr 2025	Actual			Forecast				
	2022	2023	2024	2025	2026	2027	2028	2029
Price/Earning	11.3	12.1	14.0	12.2	10.1	9.7	9.2	8.2
Price/Book	—	—	—	—	—	—	—	—
Price/Tangible Book	1.9	1.5	1.8	1.4	1.3	1.3	1.2	1.1
Dividend Yield %	3.9	3.3	4.1	4.3	4.5	4.7	4.9	5.2
Dividend Payout %	41.7	47.7	43.2	43.2	43.2	43.2	43.2	43.2
5.2								
Operating Performance / Profitability as of 10 Apr 2025	Actual			Forecast				
	2022	2023	2024	2025	2026	2027	2028	2029
Fiscal Year, ends 31 Dec								
ROA %	1.1	1.0	1.1	0.9	1.0	1.0	1.0	1.1
ROE %	11.9	11.5	11.2	9.6	11.4	11.3	11.2	11.9
Return on Tangible Equity %	14.4	13.8	13.2	11.2	13.6	13.3	13.2	13.9
13.9								

PNC Financial Services Group Inc PNC ★★★★ 14 Apr 2025 21:32, UTC

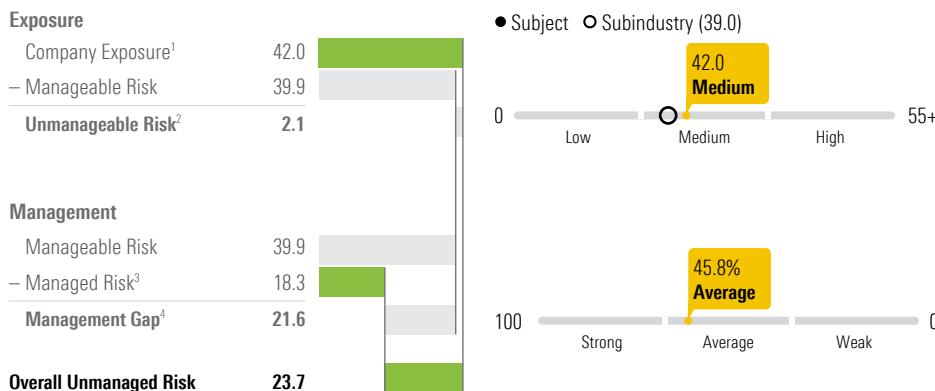
Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment ¹
155.32 USD 14 Apr 2025	181.00 USD 21 Oct 2024 15:51, UTC	0.86	61.87 USD Bil 15 Apr 2025	Narrow	Large Value	Medium	Standard	 2 Apr 2025 05:00, UTC

Financial Leverage (Reporting Currency)	Actual			Forecast				
	2022	2023	2024	2025	2026	2027	2028	2029
Fiscal Year, ends 31 Dec								
Equity/Assets %	8.2	9.1	9.7	8.9	8.9	8.9	9.0	9.0
Forecast Revisions as of	2025			2026			2027	
Prior data as of	Current	Prior		Current	Prior		Current	Prior
Fair Value Estimate Change (Trading Currency)	181.00	—		—	—		—	—
Net Interest Income (USD Mil)	14,441	13,422		14,589	13,944		14,482	13,709
Total Pre-Provision Revenue (USD Mil)	22,697	21,493		23,232	22,360		23,539	22,529
Operating Income (USD Mil)	6,311	6,463		7,283	7,050		7,386	6,967
Net Income (USD Mil)	—	—		—	—		—	—
Earnings Per Share (Diluted) (USD)	12.78	12.63		15.41	14.38		16.00	14.61
Adjusted Earnings Per Share (Diluted) (USD)	12.78	12.63		15.41	14.38		16.00	14.61
Dividends Per Share (USD)	6.62	6.30		6.95	6.62		7.29	6.95
Key Valuation Drivers as of 10 Apr 2025								
Cost of Equity %	9.0							
Stage II Net Income Growth Rate %	3.0							
Stage II Incremental ROIC %	10.3							
Perpetuity Year	15							
Additional estimates and scenarios available for download at https://pitchbook.com/ .								
Discounted Cash Flow Valuation as of 10 Apr 2025								
								USD Mil
Present Value Stage I								0
Present Value Stage II								0
Present Value of the Perpetuity								0
Total Common Equity Value before Adjustment								0
Other Adjustments								—
Equity Value								65,074
Projected Diluted Shares								364
Fair Value per Share (USD)								181.00

PNC Financial Services Group Inc PNC ★★★★ 14 Apr 2025 21:32, UTC

Last Price	Fair Value Estimate	Price/FVE	Market Cap	Economic Moat™	Equity Style Box	Uncertainty	Capital Allocation	ESG Risk Rating Assessment¹
155.32 USD 14 Apr 2025	181.00 USD 21 Oct 2024 15:51, UTC	0.86	61.87 USD Bil 15 Apr 2025	Narrow	Large Value	Medium	Standard	 2 Apr 2025 05:00, UTC

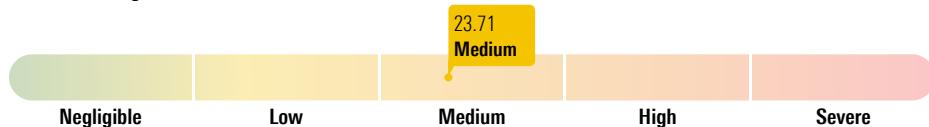
ESG Risk Rating Breakdown



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

- Management measures a company's ability to manage ESG risks through its commitments and actions
- Management assesses a company's efficiency on ESG programs, practices, and policies
- Management score ranges from 0-100% showing how much manageable risk a company is managing

ESG Risk Rating



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 45.8% 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 Assessment²



ESG Risk Rating is of Apr 02, 2025. Highest Controversy Level is as of Apr 08, 2025. Sustainalytics Subindustry: Regional Banks. 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

Company Name	Exposure	Management	ESG Risk Rating
PNC Financial Services Group Inc	42.0 Medium	45.8 Average	23.7 Medium
Fifth Third Bancorp	39.9 Medium	60.5 Strong	16.9 Low
KeyCorp	46.1 Medium	48.4 Average	25.2 Medium
U.S. Bancorp	41.5 Medium	43.9 Average	24.2 Medium
—	— —	— —	— —

Appendix

Historical Morningstar Rating

PNC Financial Services Group Inc PNC 14 Apr 2025 21:32, 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
★★	★★	★★★	★★★	★★★	★★★	★★★★	★★★	★★★★	★★★★	★★★	★★★

Fifth Third Bancorp FITB 14 Apr 2025 21:35, 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
★★★	★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★

KeyCorp KEY 14 Apr 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
★★★	★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★

U.S. Bancorp USB 14 Apr 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, 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 shortterm market-price movements), but we believe these negatives are mitigated by deep analysis and our longterm approach.

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

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

1. Economic Moat

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

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

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

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

2. Estimated Fair Value

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

Our model is divided into three distinct stages:

Stage I: Explicit Forecast

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

rive our annual free cash flow forecast.

Stage II: Fade

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

Stage III: Perpetuity

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

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

3. Uncertainty Around That Fair Value Estimate

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

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

Morningstar Equity Research Star Rating Methodology



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

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

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

Margin of Safety

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

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

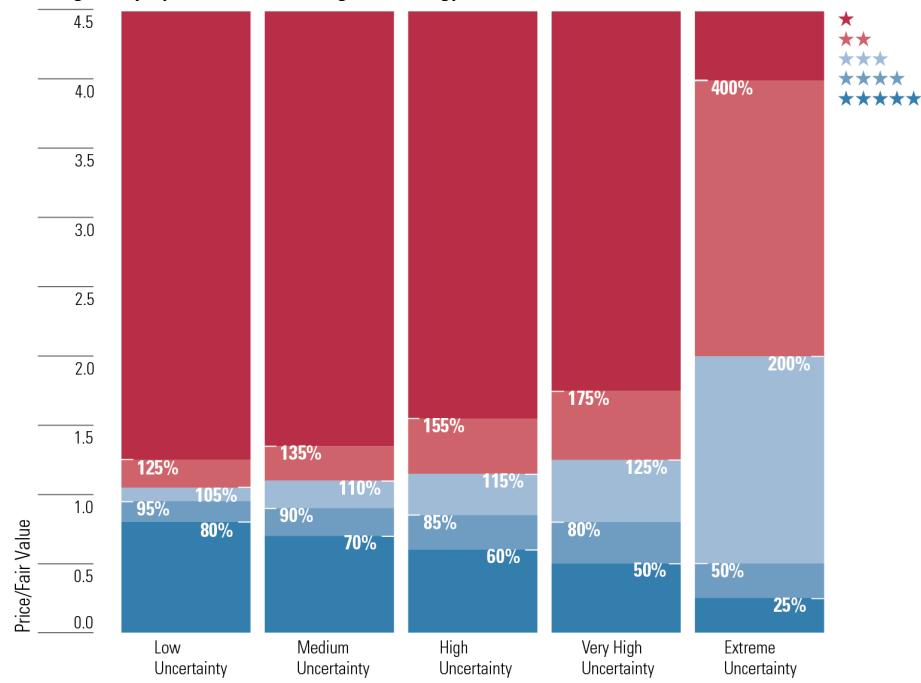
4. Market Price

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

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

Morningstar Star Rating for Stocks

Morningstar Equity Research Star Rating Methodology



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

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

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

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

The Morningstar Star Ratings for stocks are defined below:

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

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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 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/

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