



# US Economic Pulse: April 2025

The nightmare scenario for tariffs is playing out.



# Table of Contents

---

<b>Forecast Update:</b> Economic Outlook Upended by Tariffs	3
---	---

# Morningstar Multi-Asset Research

---

**Preston Caldwell**  
Chief US Economist

**Important Disclosure**  
The conduct of Morningstar’s analysts is governed by Code of Ethics/Code of Conduct Policy, Personal Security Trading Policy (or an equivalent of), and Investment Research Policy. For information regarding conflicts of interest, please visit: <http://global.morningstar.com/equitydisclosures>

# Forecast Update

Economic outlook upended by tariffs.

# Our Economic Outlook Has Been Upended by Tariffs

## US Economy to Get Perilously Close to Recession

Tariff rates have blasted up to levels not seen in a century, which will set in motion a cascade of supply/demand side shocks, all acting to weigh on the rate of economic growth. We’ve reduced our real gross domestic product growth forecast by 0.7 percentage points in 2025 and 0.9 percentage points in 2026. This is accompanied by some catch-up in 2028 and 2029, but there will be some permanent damage, so the level of real GDP in 2029 is still down by 1.1% compared with our prior forecast.

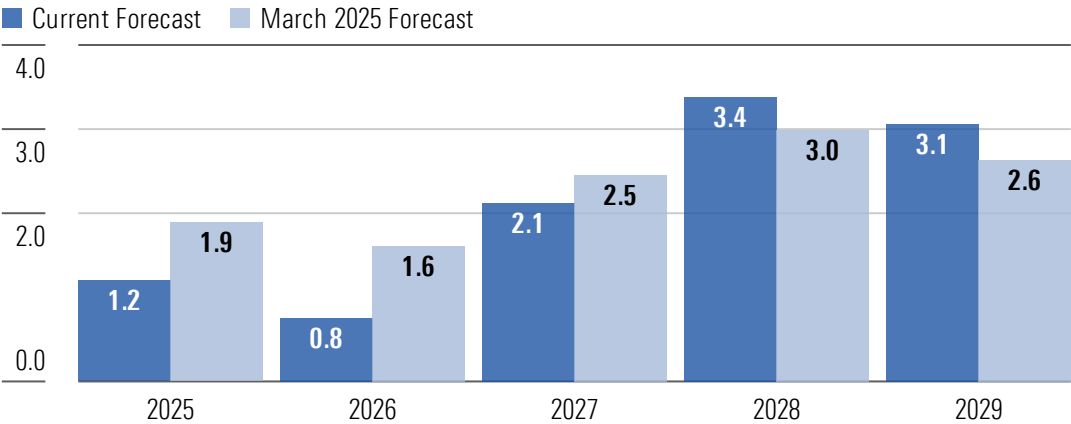
There is plenty of room for uncertainty. Our expected GDP growth rates skirt just above recessionary territory, but we see the probability of a recession at 40%-45%. On the other hand, we could see more of a slow burn, where the deleterious consequences of tariffs for economic efficiency steadily drag on growth for the next 5-10 years.

## Inflation<sup>1</sup> to Rise Again on Tariffs

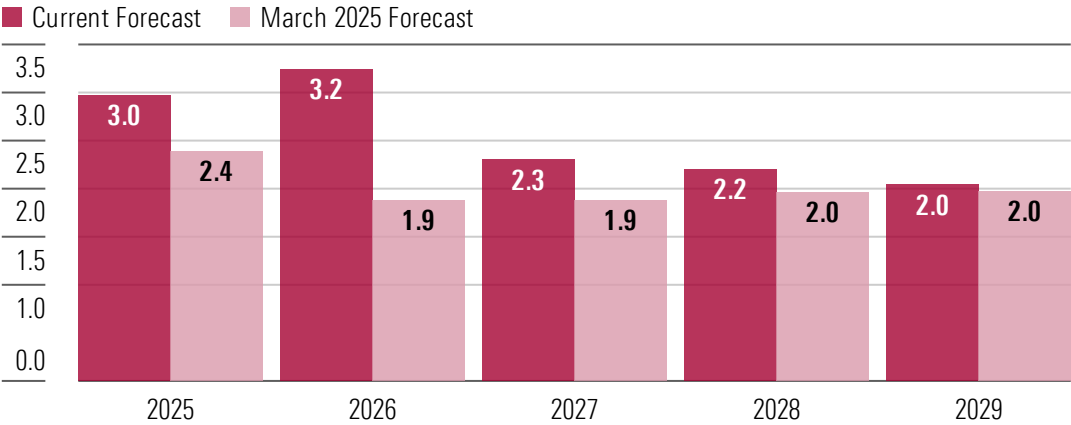
The US had nearly beaten back inflation, which dropped from 6.6% in 2022 to 2.5% in 2024. But tariffs will breathe new life into inflation, starting with goods prices, but likely flowing into the rest of the economy with a lag. Our inflation forecast rises by 0.6 percentage points in 2025 and 1.3 percentage points in 2026. After that, inflation should drop off as the slack created by very weak GDP growth engenders disinflationary pressure.

<sup>1</sup> Our inflation measure is the Personal Consumption Expenditures Price Index, which has several advantages over the Consumer Price Index and is preferred by the Fed.

## Real GDP Growth (%) Forecast *Annual Averages*



## Inflation (% PCE) Forecast *Annual Averages*



# Tariffs May Be Diluted, but Bulk Will Probably Remain in Place

Once all the tariffs announced on April 2 take effect, we estimate the average US tariff rate will stand at a staggering 25.5%, up 23 percentage points from 2024.

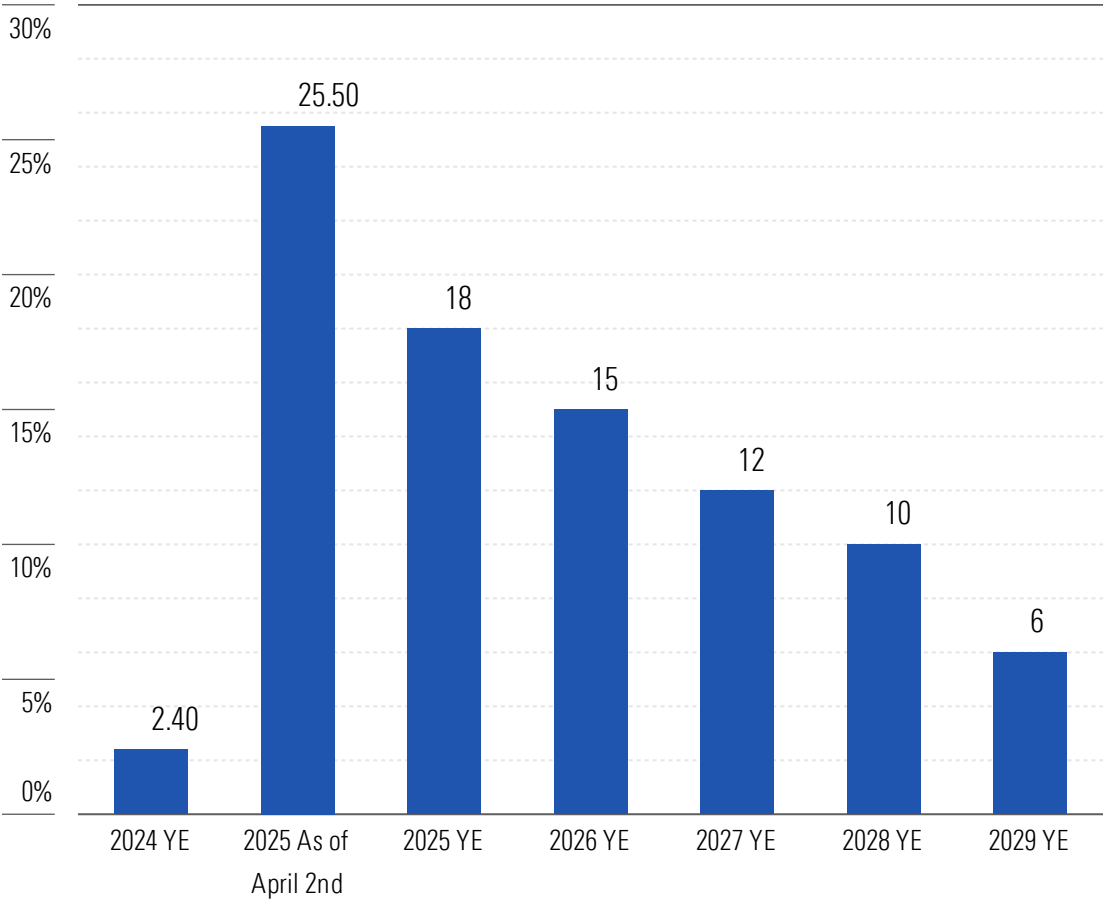
We expect the average tariff rate to still stand at a hefty 18% at the end of 2025. Some exemptions are likely, and the possibility of an about-face from President Donald Trump can't be ruled out. But escalation is also possible, with retaliation following retaliation, as Trump threatens to add another 50% tariff on China.

Previously, we had viewed tariff threats largely as saber-rattling designed to push through ancillary geopolitical goals, as happened during Trump's first administration. The first few months of his second term seemed to conform to this; tariffs were implemented on Canada and Mexico for a few days, but quickly rescinded after he deemed concessions had been made around border security and other issues.

But in his April 2 executive order, Trump's rhetoric was purely mercantilist. He is determined to use tariffs to quash the US trade deficit and revive the country's manufacturing dominance to its historical heights. As he reminded us, he's harbored this vision since the 1980s. In contrast to his first administration, he's now surrounded by personnel who align with this vision.

Thus, we now think high tariffs are here for the long haul. We see tariffs coming down only gradually over several years after the cumulative toll of economic misery (and likely Republican Party election losses) compels a shift in policy.

US-Weighted Average Tariff Rate, %



# Tariffs Bring Supply/Demand Shocks

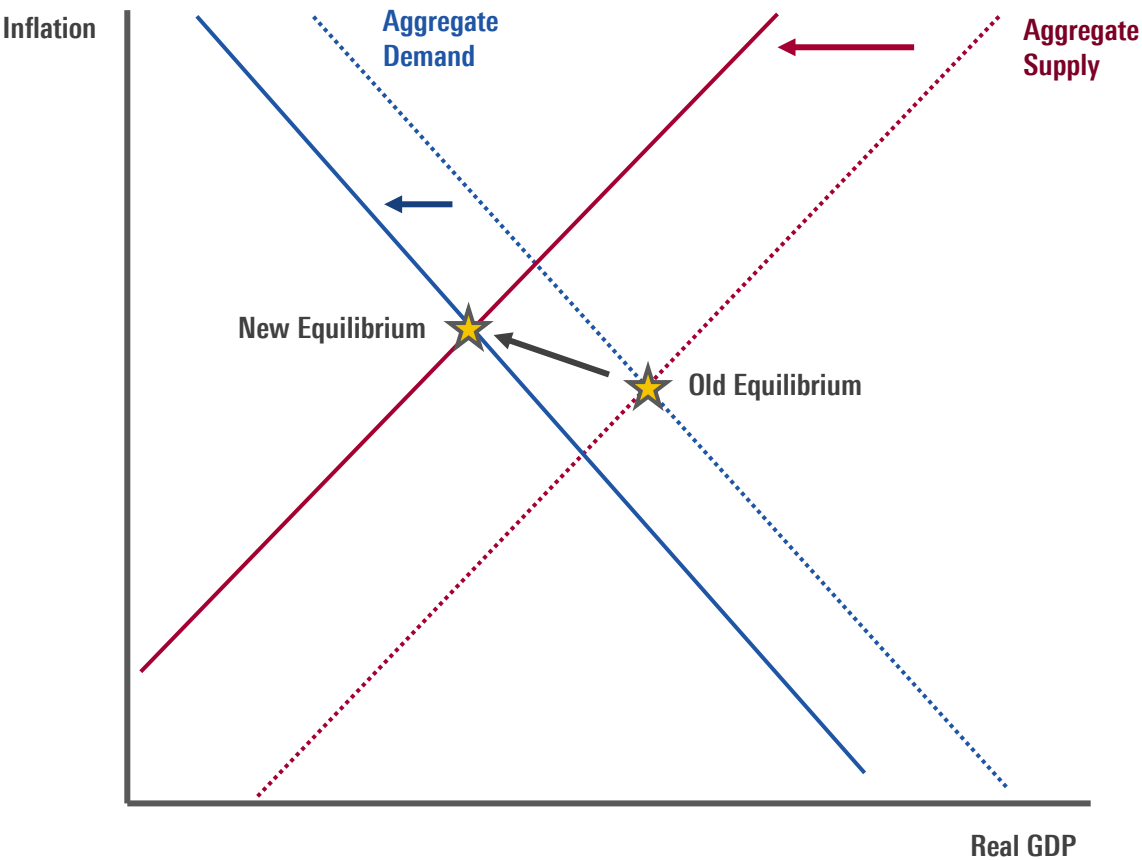
A normal recession is precipitated by an abrupt contraction in aggregate demand—2008 was a classical example. But, like the recent pandemic recession, the tariff surge is associated with a mix of demand and supply-side shocks.

The direct impact of the tariffs is a supply-side shock, representing the hit to economic efficiency from curtailing foreign trade. In general, deviating from the free-market equilibrium diminishes the productive capacity of the economy. But unlike the pandemic shock (when people could eventually return to work), this hit to the supply side is permanent if the tariffs aren’t rescinded. There’s no scope for countercyclical policy (fiscal or monetary) to offset the impact of a permanent supply-side shock.

Aggregate demand will also contract. Partly, this is because the tariffs represent a large tax increase, hitting private sector incomes, unless the tariff revenue is totally recycled into new tax cuts and government spending. Perhaps the bigger demand-side factor, though, is the surge in uncertainty and associated deterioration in financial conditions, which could lead to firms and households cutting back on spending.

Uncertainty also exacerbates the supply-side contraction—the lack of clarity around the permanence of tariffs makes it hard for businesses to adapt to the new regime. Because of this, we may see little domestic supply response to make up for lower foreign imports. Altogether, we expect the supply shocks to dominate, making the tariffs moderately inflationary over the next couple of years. Both demand shocks and supply shocks will act in concert to reduce real GDP.

Supply/Demand Shocks from Tariffs (Illustrative Diagram)



# The Worst-Case Tariff Hikes Would Erase Nearly a Century of Trade Opening

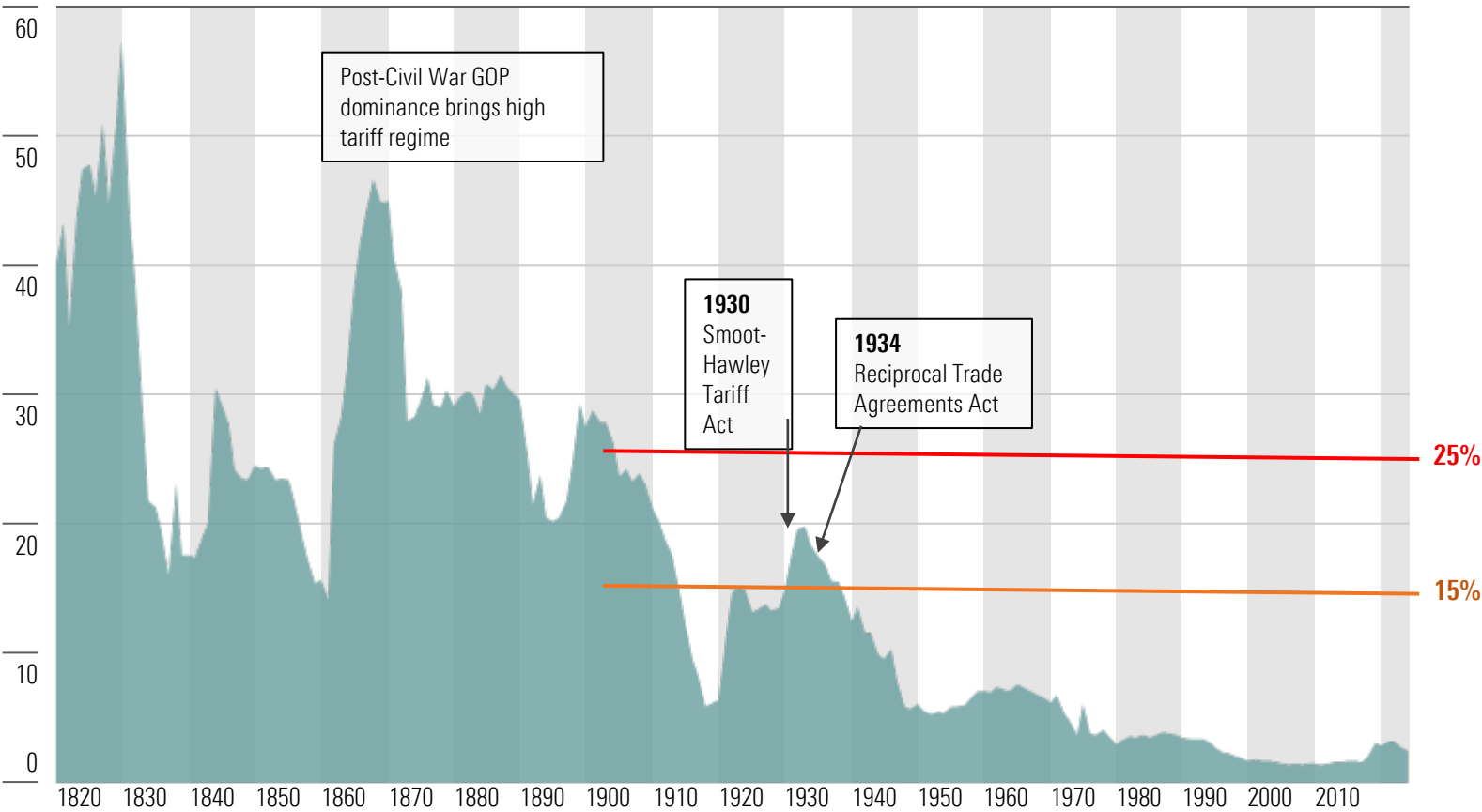
Low tariff rates have been the standard for the US and most other major economies since the end of World War II. The average US tariff rate<sup>1</sup> was about 2.5% in 2024, up only modestly from 1.7% in 2016 owing to the tariff hikes implemented in 2018-19.

With all of the tariffs announced on April 2, the average US tariff rate will explode up to 25%, the highest since 1905. Even our projected end-2026 tariff rate of 15% is the highest since the 1930s. But the US and global economy are vastly more interconnected than in that bygone era. US imports as a share of GDP averaged 3.7% in the 1930s, but stood at 14% in 2024.

<sup>2</sup> The “average tariff rate” (total tariff revenue divided by total imports) is not a perfect measure of trade restrictiveness. To illustrate, imagine that Country A and Country B each account for half of the home country’s imports, with tariffs initially at 0%. The home country then levies a 200% tariff on Country B, making imports from them prohibitively expensive. Imports from Country B cease, so the average tariff rate stays at zero (the rate applied to Country A).

## US Average Tariff Rate, %

Customs duties/total imports of goods.



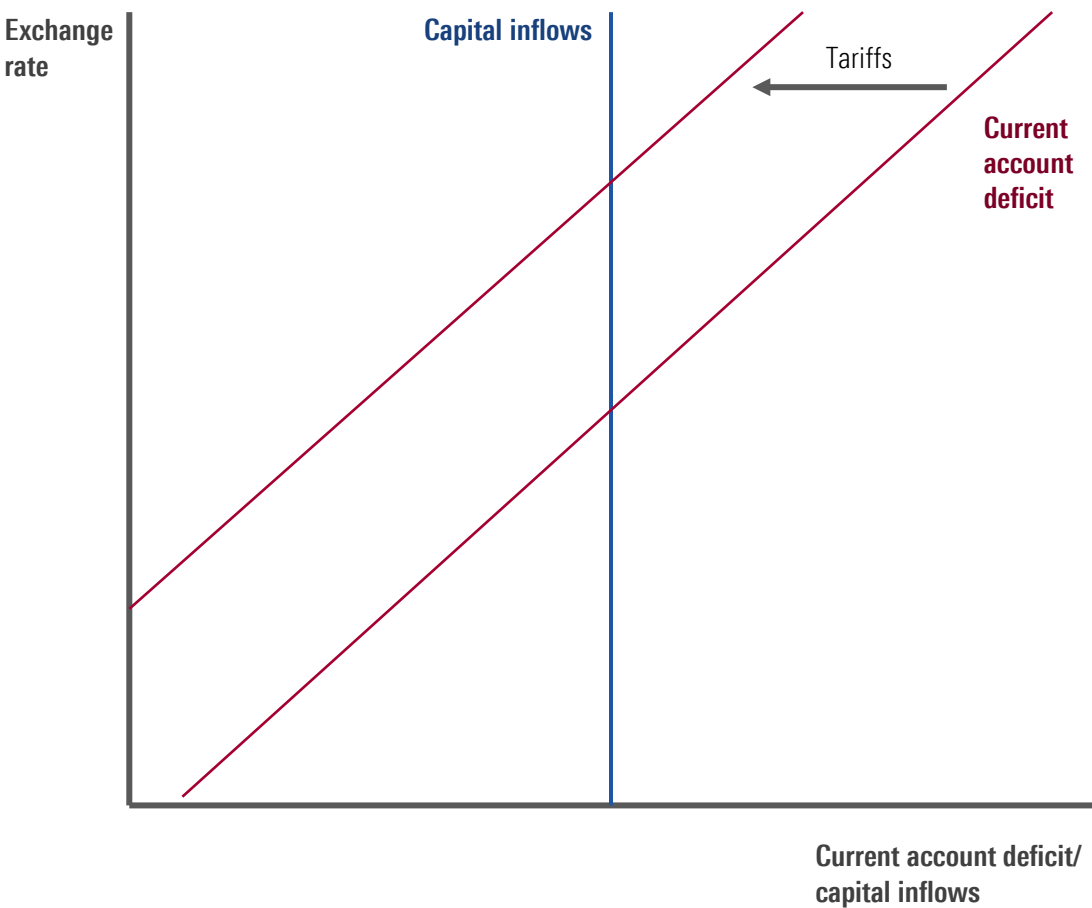
# Why It's Unlikely Tariffs Would Reduce the Trade Deficit

In part, Trump's agitation with tariffs stems partly from a long-standing grievance against the US current account deficit.<sup>3</sup> However, the direct impact of tariffs is extremely unlikely to make a dent in that deficit. This may seem counterintuitive, but it's a logical consequence of a basic accounting identity: The current account deficit equals the net inflow of capital. This is not merely a theory, but an accounting identity that holds with certitude.

If the flow of capital is inelastic with respect to the exchange rate (conveyed by the verticality of the line in the diagram), then an increase in tariffs cannot improve the current account deficit. The foreign-exchange market reaches a new equilibrium via exchange-rate appreciation. This appreciation mitigates the tariff hit to imports and causes exports to fall to the exact degree required to leave the current account balance unchanged. Also, to the extent that foreign countries retaliate with higher tariffs of their own, this impairs exports and reduces the need for exchange rates to adjust.

The only assumption we've made is the inelasticity of capital inflows with respect to the exchange rate. It's true that capital inflows should adjust to expectations of future exchange-rate changes, but there's little strong reason for inflows to shift in response to a one-time exchange-rate appreciation. Thus, the standard economic view is that capital inflows would be essentially unchanged in this scenario.

Illustrative Equilibrium in the Current Account Balance



<sup>3</sup> The current account balance equals the trade balance plus the balance on international investment income and various other international transfers. The trade balance is by far the largest component.

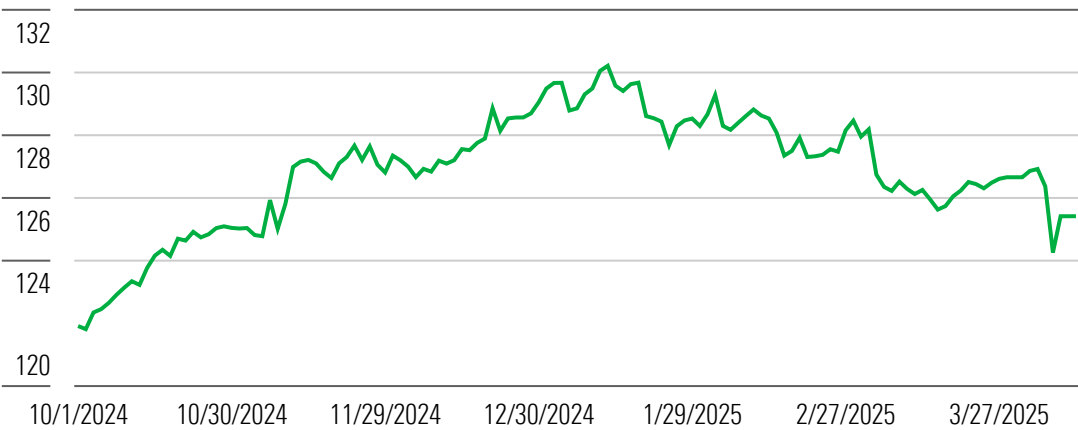
# Foreign Capital Flows and Fiscal Policy Will Mediate Economic Consequences of Tariffs

Exchange-rate appreciation would mitigate the inflationary ramifications of the tariffs. On the previous slide, we suggested that economic theory would suggest a large appreciation would be a likely outcome. Yet the US dollar hasn't appreciated at all since the announcement and is down around 3% year to date. Partly, this could be because markets are anticipating retaliation from US trading partners. But retaliation against the US tariffs is unlikely to be measure-for-measure, so the lack of exchange-rate appreciation is something of a puzzle.

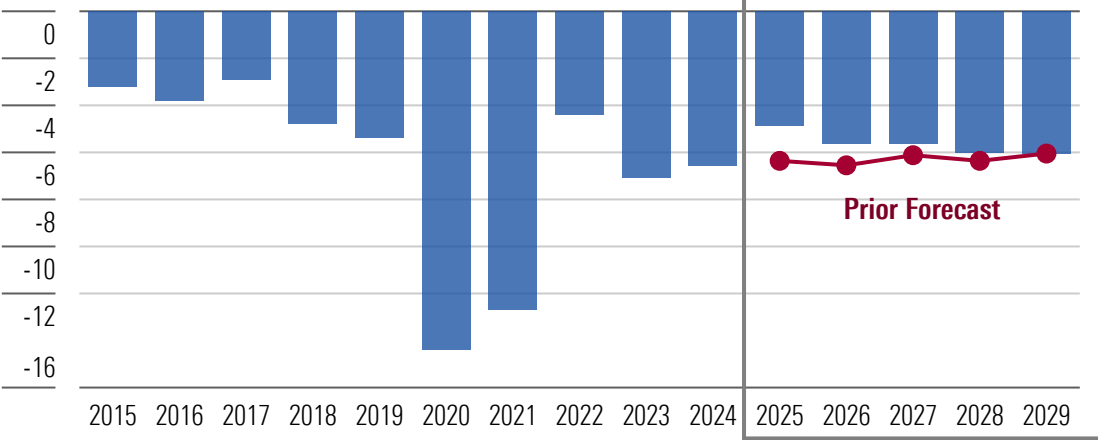
It's possible the tariff chaos is degrading confidence in US markets, stemming the flow of capital into the US. Ironically, such a contraction in capital flows could achieve Trump's goal of making a dent in the trade deficit, albeit not via the intended route. While a measured reduction in capital flows into the US could represent a healthy rebalancing of the global economy, a panic could lead to a sudden stop, with calamitous consequences.

Fiscal policy can't fix the supply-side shock from the tariffs, but it can cushion the demand-side shock. The tariff revenue in 2025 will amount to a fiscal contraction (a reduction in the budget deficit) of around 1.8% of GDP, by our estimates. Given uncertainty around the tariffs' permanence, we doubt Congress will fully pass on the tariff revenue to new tax cuts and spending. Thus, our expectation is for the federal deficit in 2025 to be reduced by 1.5% of GDP compared with our prior forecast. More generous fiscal policy would better prop up near-term GDP growth, albeit at the cost of higher inflation.

US Dollar Index (Federal Reserve Nominal Broad)



US Federal Budget Balance, % GDP



Source: Federal Reserve, Bureau of Economic Analysis, Morningstar.

See Important Disclosures at the end of this report.

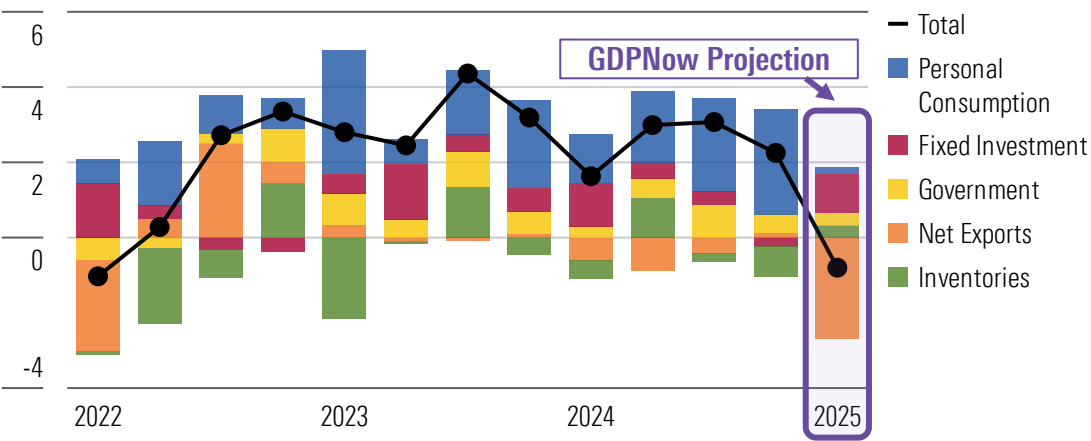
# Activity Data: Recession Isn't Here, but Growth Is Probably Trending Down

## GDPNow's Projected First-Quarter Decline Reflects Measurement Error

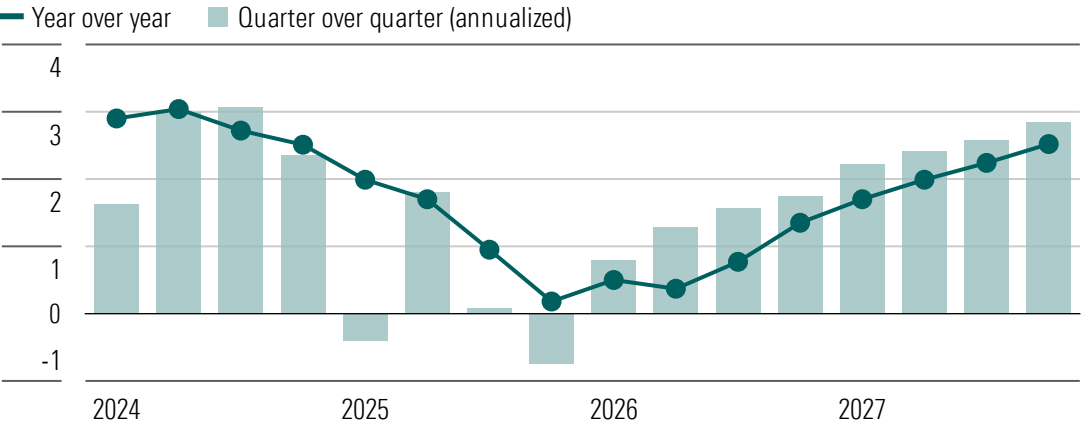
The Federal Reserve Bank of Atlanta's [GDPNow](#) currently projects a 0.8% decline in real GDP in the first quarter of 2025 (quarter over quarter, annualized). But, while there are signs of slowing growth, this is not yet the beginning of a recession. The cause of the large negative figure is a surge in imports (subtracting from net exports) as companies race to stock up on imported goods before tariffs hit. In principle, that should be fully offset by an increase in inventories and other expenditures accounting for the use of the imported goods. The offsetting impact isn't yet showing up owing to measurement error, but it eventually will, either via revisions to the first-quarter estimate or a rebound in the second quarter.

Still, real consumption growth is likely to slow to around 0.5% in the first quarter. Even prior to the tariffs, we had cited consumer exhaustion and other factors as likely to provoke a growth slowdown in 2025. Now with the tariffs, we're expecting the US economy to dance on the edge of recession. We project real GDP growth in year-over-year terms to reach a nadir sometime between fourth-quarter 2025 and second-quarter 2026, at around 0%-0.5%. A negative year-over-year reading for real GDP growth would be unambiguously a recession, in our view.

Real GDP by Expenditure, % Quarter-Over-Quarter Growth (Annualized)



GDP Growth, % Quarterly Forecast



# Financial: Further Fed Rate Cuts Still to Come

## We Expect More Cuts Than the Market Does

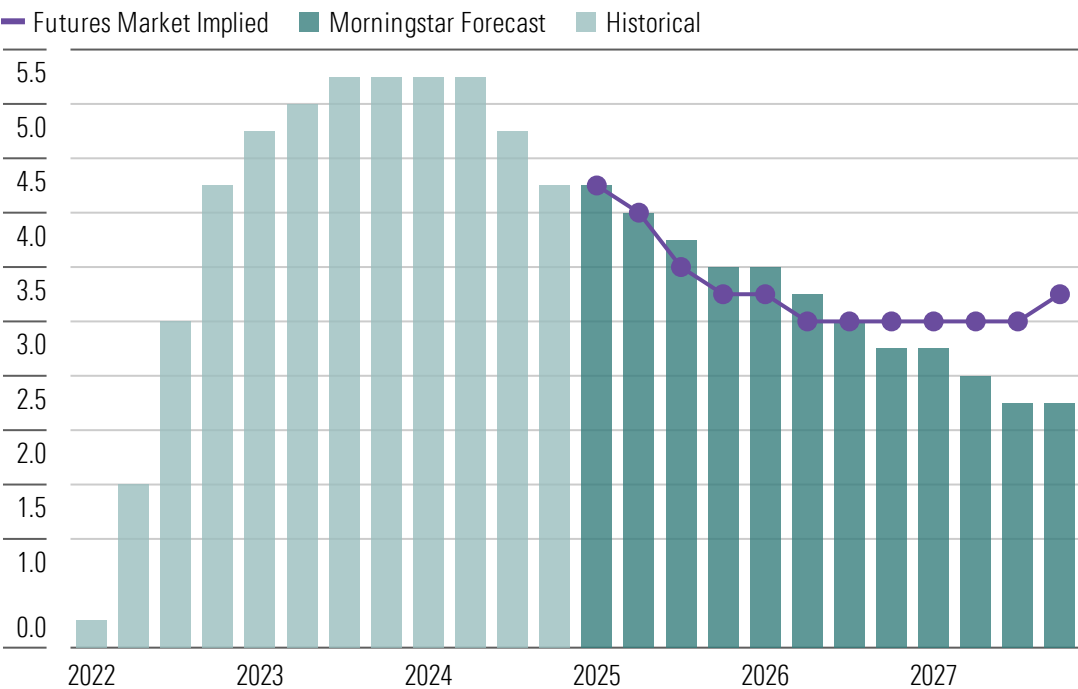
The federal-funds rate has been maintained in the target range of 4.25%-4.50% since last December. The Federal Reserve cut it by 1 percentage point over September to December 2024. That followed a period with rates at 5.25%-5.50% from July 2023 to September 2024, which, having risen from nearly 0% during the pandemic, constituted the largest rate hike in over 40 years. Even with the downward adjustment last autumn, current rates are still well above the prepandemic (2017-19) average federal-funds rate of 1.7%.

The Fed has plenty of room to cut further and the threat of a recession would seemingly present an easy choice. Still, unlike a typical recession, the mixture of demand and (potentially permanent) supply-side shocks puts the Fed in a bit of a bind. We expect inflation to rise again and remain significantly above the Fed’s 2% target in 2025 and 2026. If inflationary momentum becomes entrenched (also known as “unanchored inflation expectations”), then the tariff shock is not just a one-time hit to inflation, but would require some stringency from the Fed to push inflation back to 2%.

Given drastically slowing growth and the recession risk, on balance we expect the Fed to move cautiously, but ultimately push the federal-funds rates down to 3.50%-3.75% at end-2025 (three cuts), 2.75%-3.00% at end-2026 (three cuts), and 2.25%-2.50% at end-2027 (two cuts).

## Federal-Funds Rate Expectations, %

Bottom of Target Range



(%) Annual Average	2025	2026	2027	2028	2029
Federal-Funds Rate	4.20	3.35	2.67	2.38	2.38
10-Year Treasury	4.10	3.50	3.25	3.25	3.25
30-Year Mortgage	6.35	5.50	5.00	5.00	5.00

# Labor Market: Slowing GDP Growth Likely to Drag on Job Growth Later in 2025

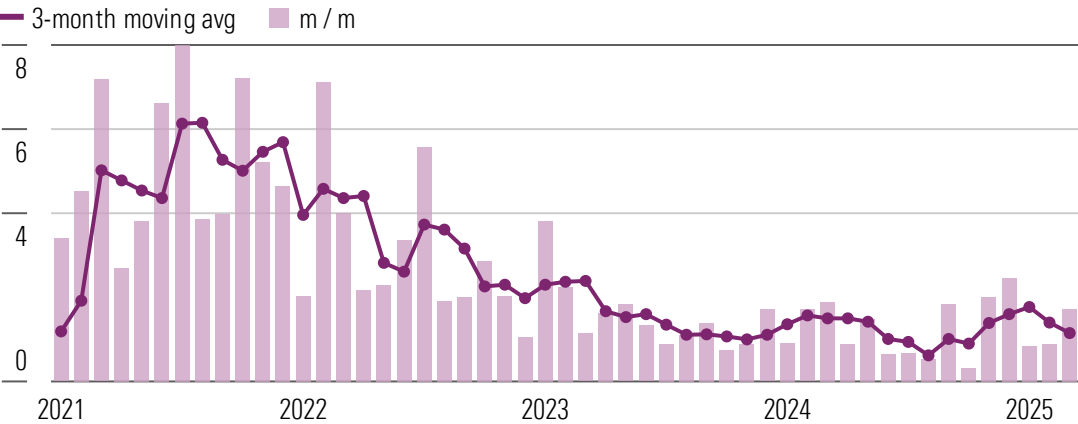
## Labor Market Is Still in Calm Before the Storm

Nonfarm payroll employment grew at a 1.2% annualized pace in the three months ended February 2025, slipping slightly from 1.8% as of January, but still a solid result. In year-over-year terms, employment growth stood at 1.2%, about where it's been since mid-2024. For comparison, employment growth averaged 1.5% in the prepandemic period of 2017-19. The unemployment rate has been steady in the last several months at around 4.1%, following a climb over the year through August 2024.

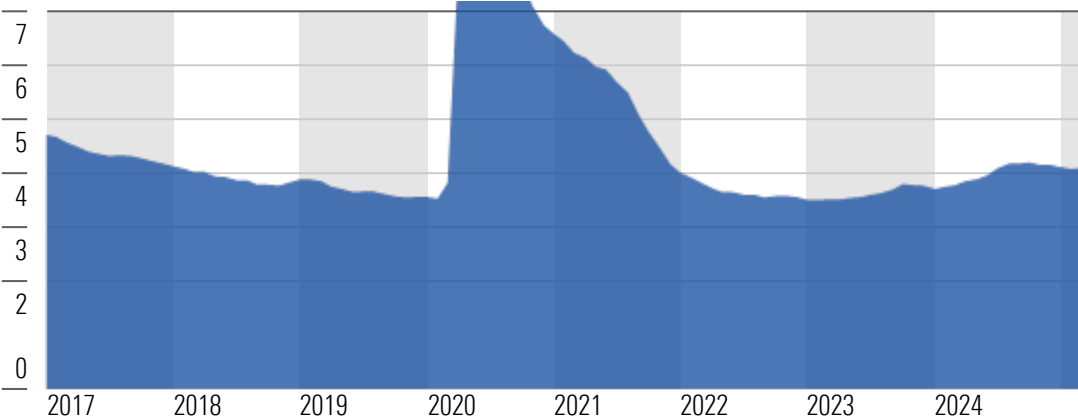
The Bureau of Labor Statistics' surveys likely have yet to register all of the impact of federal government layoffs. Federal employment decreased by a combined 15,000 in February and March, whereas the total number of announced cuts have been tallied at nearly 300,000. It's possible that the legal limbo associated with many of these cuts is preventing them from registering in the official figures, for now.

We expect unemployment to rise from an average 4.0% in 2024 to 4.4% in 2025 and 4.8% in 2026. This is consistent with our expected GDP growth slowdown and high recession probability.

Nonfarm Payroll Employment, % Growth (Annualized)



Unemployment Rate, % Three-Month Moving Average



Source: Bureau of Labor Statistics, CNBC, Morningstar.

See Important Disclosures at the end of this report.

# Appendix

Morningstar - US Economics Dashboard

Morningstar - US Economics Dashboard																			CAGR:				
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025 E	2026 E	2027 E	2028 E	2029 E	2014-19	2019-24	2024-29		
U.S. Real GDP by Expenditure (% Growth)																							
Personal Consumption	1.4%	1.7%	2.8%	3.4%	2.5%	2.6%	2.7%	2.1%	-2.5%	8.8%	3.0%	2.5%	2.8%	1.6%	0.7%	1.7%	2.9%	2.7%	2.7%	2.9%	1.9%		
Residential Investment	13.0%	12.7%	4.3%	10.6%	7.1%	4.3%	-0.7%	-0.9%	7.7%	10.9%	-8.6%	-8.3%	4.2%	-6.9%	-0.1%	4.7%	9.2%	7.9%	4.0%	0.9%	2.8%		
Business Investment	10.6%	6.2%	7.0%	5.0%	-2.1%	4.5%	7.6%	4.3%	-7.9%	7.6%	10.5%	3.2%	3.7%	0.8%	-1.3%	3.5%	5.7%	4.9%	3.8%	3.2%	2.7%		
Government Spending	-2.1%	-2.4%	-0.9%	2.0%	2.0%	0.6%	2.0%	3.9%	3.4%	-0.3%	-1.1%	3.9%	3.4%	1.0%	0.8%	1.2%	1.4%	1.4%	2.1%	1.8%	1.2%		
Exports	4.0%	3.0%	3.9%	0.3%	0.5%	4.1%	2.9%	0.5%	-13.1%	6.5%	7.5%	2.8%	3.2%	-3.0%	-5.0%	-3.0%	1.0%	1.0%	1.6%	1.1%	-1.8%		
Imports	2.4%	1.2%	5.2%	5.2%	1.5%	4.7%	4.0%	1.2%	-9.0%	14.7%	8.6%	-1.2%	5.4%	-3.0%	-6.0%	-3.0%	0.5%	0.5%	3.3%	3.4%	-2.2%		
GDP Growth %	2.3%	2.1%	2.5%	2.9%	1.8%	2.5%	3.0%	2.6%	-2.2%	6.1%	2.5%	2.9%	2.8%	1.2%	0.7%	2.1%	3.4%	3.1%	2.6%	2.4%	2.1%		
Nominal GDP - \$ Trillion														30.3	31.4	32.7	34.5	36.2	4.1%	6.3%	4.4%		
% Growth	4.2%	3.9%	4.3%	3.9%	2.8%	4.3%	5.3%	4.3%	-0.9%	10.9%	9.8%	6.6%	5.3%	3.9%	3.5%	4.2%	5.5%	5.0%					
Inflation (% Growth)																							
GDP Deflator	1.9%	1.7%	1.7%	0.9%	1.0%	1.8%	2.3%	1.7%	1.3%	4.6%	7.1%	3.6%	2.4%	2.7%	2.7%	2.0%	2.0%	1.9%	1.5%	3.8%	2.3%		
PCE	1.9%	1.3%	1.4%	0.2%	1.0%	1.7%	2.0%	1.4%	1.1%	4.1%	6.6%	3.8%	2.5%	3.0%	3.2%	2.3%	2.2%	2.0%	1.3%	3.6%	2.5%		
PCE - Core	1.9%	1.5%	1.5%	1.2%	1.6%	1.6%	1.9%	1.6%	1.3%	3.6%	5.4%	4.1%	2.8%	3.4%	3.5%	2.3%	2.2%	2.2%	1.6%	3.4%	2.7%		
Labor Market																							
Unemployment Rate (%)	8.1%	7.4%	6.2%	5.3%	4.9%	4.4%	3.9%	3.7%	8.1%	5.3%	3.6%	3.6%	4.0%	4.4%	4.8%	4.4%	3.9%	3.5%					
Labor Force Participation (%)	63.7%	63.2%	62.9%	62.7%	62.8%	62.9%	62.9%	63.1%	61.7%	61.7%	62.2%	62.6%	62.6%	62.7%	62.7%	62.7%	62.7%	62.7%					
LFP % - Prime Age	81.4%	81.0%	80.9%	80.9%	81.3%	81.7%	82.1%	82.5%	81.4%	81.6%	82.4%	83.3%	83.4%	83.3%	83.5%	83.7%	83.8%	84.0%					
Supply Side (% Growth)																							
Total Hours Worked	1.9%	1.3%	2.0%	2.1%	1.2%	1.2%	1.9%	1.0%	-6.5%	4.4%	3.2%	1.4%	1.0%	0.8%	0.1%	1.0%	1.2%	1.4%	1.5%	0.5%	0.9%		
Labor Productivity	0.4%	0.8%	0.6%	0.8%	0.6%	1.3%	1.1%	1.5%	4.7%	1.6%	-0.6%	1.5%	1.8%	0.4%	0.6%	1.1%	2.2%	1.7%	1.1%	1.8%	1.2%		
Output Gap (% Potent. GDP)														-1.9%	-2.5%	-2.2%	-0.9%	0.0%					
Other																							
Govt Budget Balance (% GDP)	-9.3%	-5.9%	-5.2%	-4.6%	-5.4%	-4.4%	-6.1%	-6.7%	-15.0%	-11.8%	-3.7%	-7.6%	-7.6%	-6.1%	-6.9%	-6.9%	-7.3%	-7.4%					
Net Exports (% GDP)	-3.4%	-2.8%	-2.9%	-2.9%	-2.7%	-2.8%	-2.9%	-2.7%	-2.9%	-3.6%	-3.7%	-2.9%	-3.1%	-3.1%	-2.9%	-2.9%	-2.8%	-2.8%					
Market (Year Avg)																							
Fed Funds Rate	0.14%	0.11%	0.09%	0.13%	0.40%	1.00%	1.83%	2.16%	0.38%	0.08%	1.68%	5.02%	5.14%	4.18%	3.35%	2.67%	2.38%	2.38%					
10-Year Treasury Yield	1.80%	2.35%	2.54%	2.14%	1.84%	2.33%	2.91%	2.14%	0.89%	1.44%	2.95%	3.96%	4.21%	4.10%	3.60%	3.25%	3.25%	3.25%					

Source: Bureau of Economic Analysis, Morningstar.

See Important Disclosures at the end of this report.

**General Disclosure**

“Morningstar” is used throughout this section to refer to Morningstar, Inc., and/or its affiliates, as applicable. Unless otherwise provided in a separate agreement, recipients of this report may only use it in the country in which the Morningstar distributor is based. Unless stated otherwise, the original distributor of the report is Morningstar, Inc., a USA-domiciled company.

This report is for informational purposes only, should not be the sole piece of information used in making an investment decision, and has no regard to the specific investment objectives, financial situation, or particular needs of any specific recipient. This publication is intended to provide information to assist investors in making their own investment decisions, not to provide investment advice to any specific investor. Therefore, investments discussed and recommendations made herein may not be suitable for all investors; recipients must exercise their own independent judgment as to the suitability of such investments and recommendations in the light of their own investment objectives, experience, taxation status, and financial position.

The information, data, analyses, and opinions presented herein are not warranted to be accurate, correct, complete, or timely. Unless otherwise provided in a separate agreement, neither Morningstar, Inc., nor its affiliates represents that the report contents meet all of the presentation and/or disclosure standards applicable in the jurisdiction the recipient is located.

Except as otherwise required by law or provided for in a separate agreement, Morningstar, Inc. and its affiliates and their officers, directors, and employees shall not be responsible or liable for any trading decisions, damages, or other losses resulting from, or related to, the information, data, analyses, or opinions within the report. We encourage recipients of this report to read all relevant issue documents—a prospectus, for example) pertaining to the security concerned, including without limitation, information relevant to its investment objectives, risks, and costs before making an investment decision and when deemed necessary, to seek the advice of a legal, tax, and/or accounting professional.

The report and its contents are not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country, or other jurisdiction where such distribution, publication, availability, or use would be contrary to law or regulation or that would subject Morningstar, Inc., or its affiliates to any registration or licensing requirements in such jurisdiction.

Where this report is made available in a language other than English and in the case of inconsistencies between the English and translated versions of the report, the English version will control and supersede any ambiguities associated with any part or section of a report that has been issued in a foreign language. Neither Morningstar, Inc. nor its affiliates guarantees the accuracy of the translations.

This report may be distributed in certain localities, countries, and/or jurisdictions ("territories") by independent third parties or independent intermediaries and/or distributors ("distributors"). Such distributors are not acting as agents or representatives of Morningstar, Inc. or its affiliates. In territories where a distributor distributes our report, the distributor is solely responsible for complying with all applicable regulations, laws, rules, circulars, codes, and guidelines established by local and/or regional regulatory bodies, including laws in connection with the distribution of third-party research reports.

**Risk Warning**

Please note that investments in securities are subject to market and other risks, and there is no assurance or guarantee that the intended investment objectives will be achieved. Past performance of a security may or may not continue in the future and is no indication of future performance. A security investment’s return and an investor's principal value will fluctuate so that, when redeemed, an investor's shares may be worth more or less than their original cost.

A security's current investment performance may be lower or higher than the investment performance noted within the report. Morningstar's Uncertainty Rating is a useful data point with respect to sensitivity analysis of the assumptions used in our determining a fair value price.

**Conflicts of Interest**

- ▶ No interests are held by the author(s) with respect to the securities subject of this investment research report.
- ▶ Morningstar, Inc., may hold a long position in the securities subject of this investment research report that exceeds 0.5% of the total issued share capital of the security. To determine if such is the case, see <https://www.morningstar.com/company/disclosures/holdings>.
- ▶ Employees' compensation is derived from Morningstar, Inc.'s or an affiliate or business group's earnings and consists of salary, bonus, and in some cases restricted stock.
- ▶ Morningstar’s overall earnings are generated in part by the activities of the Investment Management and Research groups, and other affiliates, that provide services to product issuers.
- ▶ Neither Morningstar, Inc. nor Research and Investments Group receives commissions, compensation, or other material benefits in connection with providing research, nor do they charge companies to be rated.
- ▶ Morningstar employees may not pursue business or employment opportunities outside Morningstar within the investment industry (including, but not limited to, working as a financial planner, an investment professional or investment professional representative, a broker/dealer or broker/dealer agent, a financial writer, reporter, or analyst) without the approval of Morningstar’s Legal and if applicable, Compliance teams.
- ▶ Neither Morningstar, Inc. nor the Research and Investments Group is a market maker or a liquidity provider of the securities noted within this report.
- ▶ Neither Morningstar, Inc., nor the Equity Research Group has been a lead manager or co-lead manager over the previous 12 months of any publicly disclosed offer of financial instruments of the issuer.
- ▶ Morningstar, Inc.'s Investment Management group has arrangements with financial institutions to provide portfolio management/investment advice, some of which Morningstar may issue investment research reports on. In addition, the Investment Management group creates and maintains model portfolios whose underlying holdings can include financial products, including securities that may be the subject of this report. However, analysts do not have authority over Morningstar's Investment Management group's business arrangements or allow employees from the Investment Management group to participate or influence the analysis or opinion prepared by them.
- ▶ Morningstar, Inc., is a publicly traded company (ticker: MORN) and thus a financial institution the security of which is the subject of this report may own more than 5% of Morningstar, Inc.'s total outstanding shares. Please access Morningstar, Inc.'s proxy statement, "Security Ownership of Certain Beneficial Owners and Management" section at <https://shareholders.morningstar.com/investor-relations/financials/sec-filings/default.aspx>.

Morningstar may provide the product issuer or its related entities with services or products for a fee and on an arm’s-length basis, including software products and licenses, research and consulting services, data services, licenses to republish our ratings and research in their promotional material, event sponsorship, and website advertising. Further information on Morningstar’s conflict-of-interest policies is at <http://global.morningstar.com/equitydisclosures>.

**For Recipients in Australia:** This report has been issued and distributed in Australia by Morningstar Australasia Pty. Ltd. (ABN: 95 090 665 544; ASFL: 240892). Morningstar Australasia Pty. Ltd. is the provider of the general advice ("the service") and takes responsibility for the production of this report. The service is provided through the research of investment products. To the extent the report contains general advice, it has been prepared without reference to an investor's objectives, financial situation, or needs. Investors should consider the advice in light of these matters and, if applicable, the relevant Product Disclosure Statement before making any decision to invest. Refer to our Financial Services Guide, or FSG, for more information at <http://www.morningstar.com.au/s/fsg.pdf>.

**For Recipients in New Zealand:** This report has been issued and distributed by Morningstar Australasia Pty Ltd and/or Morningstar Research Ltd (together ‘Morningstar’). This report has been prepared and is intended for distribution in New Zealand to wholesale clients only and has not been prepared for use by New Zealand retail clients (as those terms are defined in the Financial Markets Conduct Act 2013). The information, views and any recommendations in this material are provided for general information purposes only, and solely relate to the companies and investment opportunities specified within. Our reports do not take into account any particular investor’s financial situation, objectives or appetite for risk, meaning no representation may be implied as to the suitability of any financial product mentioned for any particular investor. We recommend seeking financial advice before making any investment decision.

**For recipients in Canada:** This research is not prepared subject to Canadian disclosure requirements.

**For recipients in Hong Kong:** The report is distributed by Morningstar Investment Management Asia Limited, which is regulated by the Hong Kong Securities and Futures Commission to provide investment research and investment advisory services to professional investors only. Neither Morningstar Investment Management Asia Limited nor its representatives are acting or will be deemed to be acting as an investment advisor to any recipients of this information unless expressly agreed to by Morningstar Investment Management Asia Limited.

**For recipients in India:** This investment research is issued by Morningstar Investment Research India Private Limited (formerly known as Morningstar Investment Adviser India Private Limited). Morningstar Investment Research India Private Limited is registered with SEBI as a Research Entity (registration number INH000008686). Morningstar Investment Research India Private Limited has not been the subject of any disciplinary action by SEBI or any other legal/regulatory body. Morningstar Investment Research India Private Limited is a wholly owned subsidiary of Morningstar Investment Management LLC. In India, Morningstar Investment Research India Private Limited has one associate, Morningstar India Private Limited, which provides data-related services, financial data analysis, and software development. The research analyst has not served as an officer, director, or employee of the fund company within the last 12 months, nor have they or their associates engaged in market-making activity for the fund company.

**For recipients in Japan:** This report is distributed by Morningstar Japan, Inc. for informational purposes only. Neither Morningstar Japan, Inc. nor its representatives are acting or will be deemed to be acting as an investment advisor to any recipients of this information.

**For recipients in Korea:** This report is distributed by Morningstar Korea Ltd., which has filed to the Financial Services Committee, for informational purposes only. Neither Morningstar Korea Ltd. nor its representatives are acting or will be deemed to be acting as an investment advisor to any recipients of this information.

**For recipients in Singapore:** This report is distributed by Morningstar Investment Adviser Singapore Pte Limited, which is licensed and regulated by the Monetary Authority of Singapore to provide financial advisory services in Singapore. Recipients of this report should contact their financial advisor in Singapore in relation to this report. Morningstar, Inc., and its affiliates rely on certain exemptions (Financial Advisers Regulations, Section 28(1)(e), Section 32B and 32C) to provide its investment research to recipients in Singapore.



22 West Washington Street  
Chicago, IL 60602 USA

**About Morningstar® Research and Investments™**

©2025 Morningstar. All Rights Reserved. Unless otherwise provided in a separate agreement, you may use this report only in the country in which its original distributor is based. The information, data, analyses, and opinions presented herein do not constitute investment advice; are provided solely for informational purposes and therefore are not an offer to buy or sell a security; and are not warranted to be correct, complete, or accurate. The opinions expressed are as of the date written and are subject to change without notice. Except as otherwise required by law, Morningstar shall not be responsible for any trading decisions, damages, or other losses resulting from, or related to, the information, data, analyses, or opinions or their use.

Investment research is produced and issued by subsidiaries of Morningstar, Inc. including, but not limited to, Morningstar Investment Management LLC and Morningstar Research Services LLC, registered with the US Securities and Exchange Commission. The information contained herein is the proprietary property of Morningstar and may not be reproduced, in whole or in part, or used in any manner, without the prior written consent of Morningstar. To license the research, call +1 312 696-6869.



**Retirement Starts Today**

**517-999-8888**