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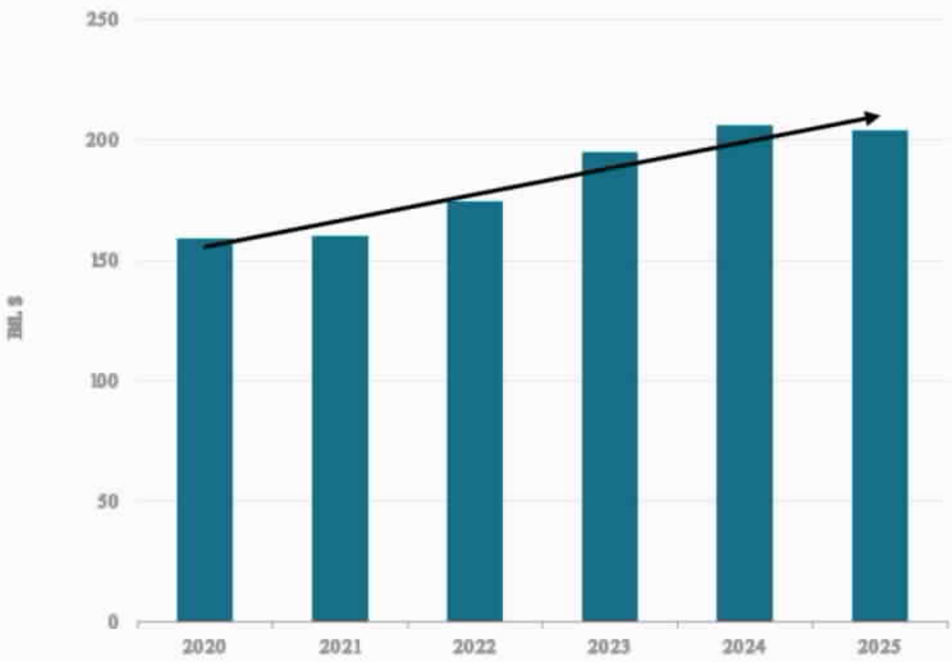
Key Takeaways

- Costs for North America's investor-owned utilities (IOU) have been on the rise recently, pressuring the customer bill, the industry's financial measures, and its credit quality.
- Prior to 2022, low commodity costs, slower inflation growth, and lower interest rates contributed to a manageable customer bill, providing bill headroom for utilities to recover steadily rising capital spending.
- Capital spending continues to escalate as the IOUs invest in safety, reliability, and energy transition, and we expect their 2023 capital spending will remain robust at about $200 billion.
- Escalating costs along with rising capital spending may challenge IOUs to effectively manage regulatory risk, potentially pressuring credit quality.

Chart 1

North American regulated utilities' rising capital expenditures

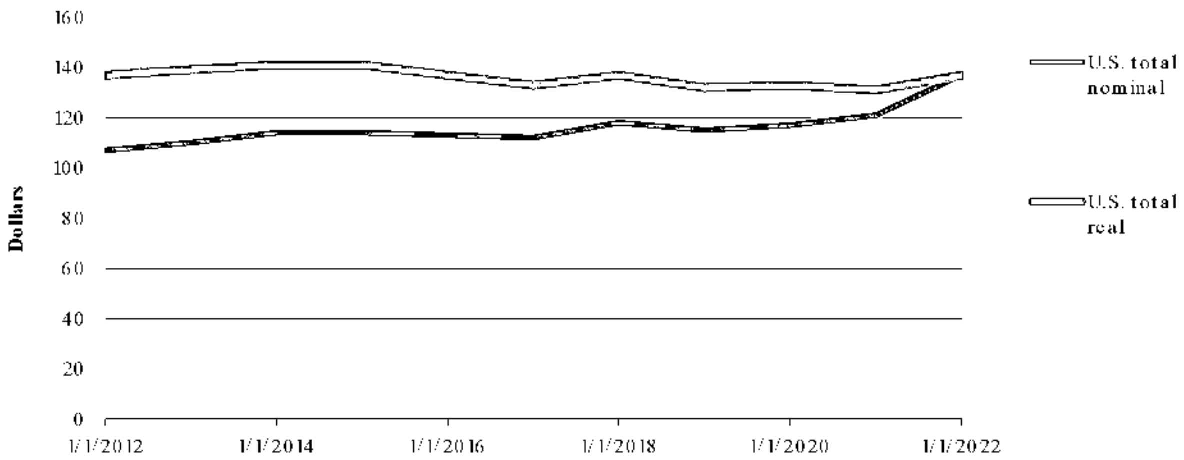


Source: S&P Global Ratings.

In 2022, rising commodity prices combined with inflation, brought an increase in average U.S. customer bills by a staggering 13% on a nominal basis and 5% on an inflation-adjusted (real) basis (see chart 2).

Chart 2

Average U.S monthly residential electric bill
Dollars per customer



Source: U.S. Energy Information Administration (www.eia.gov/todayinenergy).

These rising costs continue to pressure the customer bill and hamper the industry's ability to effectively manage regulatory risk. As the customer bill rises, regulators may issue somewhat less constructive rate case orders to balance the interests of all stakeholders, including customers, potentially hurting the industry's credit quality. We've examined some of the key drivers for such rising costs, including growing capital spending for energy transition and system hardening, physical risks, supply chain pressures, inflation, interest rates, and volatile commodity costs, and their effects on credit quality.

How The Industry Is Managing Energy Transition

The industry continues its long-term transition to reduce greenhouse gas emissions by growing renewable energy and closing its coal-fired generation. Over the past decade more than half of the U.S.'s coal generation capacity closed and we expect that by 2040 almost all of the remaining coal plants will retire. Meeting these goals requires a thoughtful multi-decade expansion of renewable energy and battery storage, contributing to the industry's robust capital spending. Simultaneously, companies have had to align the depreciation and retirement of coal assets to avoid under-recovery or stranded assets. Although we expect companies will proactively minimize the impact to the customer bill by making use of renewable tax credits and reducing costs, given the extent of the transformation, maintaining credit quality could still be challenging.

In 2021, the Arizona Corporation Commission (ACC) disallowed Arizona Public Service Co. (APS) from recovering about $215 million related to spending on selective catalytic reduction (SCR) equipment at the company's Four Corners coal-fired power plant. We viewed this development as negative for credit quality. As such, S&P Global Ratings lowered its rating on parent Pinnacle West Capital Corp. and its utility APS to 'BBB+' from 'A-', and assigned a negative outlook on both entities.

Subsequently, APS appealed this rate case decision to the Arizona Court of Appeals and in March 2023, the court vacated the ACC's disallowance of the SCR investment and remanded the issue to the commission. In mid-2023, the ACC revised its order, authorizing APS's rate recovery of the $215.5 million SCR costs through a rate surcharge beginning July 2023. We continue to monitor future developments, including the company's pending rate case filing.

In March 2023, Kentucky passed Senate Bill 4, which prohibits the Kentucky Public Service Commission (KPSC) from approving utility requests to retire coal-fired electric generation resources unless the utility demonstrates that the retirement will not negatively affect customer rates or grid reliability. We believe this law could increase the challenges for Kentucky's utilities to effectively manage regulatory risk while closing older power plants and replacing them with cleaner energy.

Shortly after the law was passed, PPL Corp.'s Kentucky utilities filed for the retirement of about 1,500 megawatts (MW) of coal-fired capacity and about 50 MW of natural gas-fired generation by 2028. The utilities plan to replace these plants with two natural gas-fired facilities, 1,000 MW of solar capacity, and 125 MW of battery storage. We expect a KPSC decision on these requests toward the end of 2023 and will continue to monitor these developments.

New Mexico is another state in which utilities could be affected by rising credit risks associated with energy transition. In March 2021, Public Service Co. of New Mexico (PSNM) filed an application seeking New Mexico Public Regulation Commission's (NMPRC) approval to divest and transfer its 13% ownership interest in the Four Corners plant to the Navajo Transitional Energy Co. (NTEC) at the end of 2024 and to securitize the $300 million in transition bonds to finance its exit. In December 2021, the NMPRC rejected the utility's proposal and PSNM appealed the decision to the New Mexico Supreme Court.

Subsequently, in July 2023, the New Mexico Supreme Court upheld the 2021 NMPRC order, denying PSNM's sale of its interest in the plant, preventing the company from abandoning the facility and securitizing the unrecovered costs. We expect that the NMPRC's denial of PSNM's request will delay the company's exit from coal, which could increase PSNM's environmental risks.

Physical Risks Loom Large

Climate change has contributed to a significant increase in the number of adverse weather-related events like wildfires, severe storms, and hurricanes since 2018. The IOUs face resultant credit risks, among them rising system restoration costs. These expenditures lead to higher debt levels because of regulatory lag--the timing difference between when the higher costs are incurred and when utilities ultimately recover them from ratepayers.

In early 2021, severe weather, particularly Winter Storm Uri, drove electricity and natural gas prices in the southern U.S. to extraordinary levels. Utilities deferred collecting these unusually high costs from their customers, and in the process increased debt to fund these costs, thereby leveraging their balance sheets and weakening financial measures.

As a result, S&P Global Ratings downgraded Atmos Energy Corp. and ONE Gas Inc. and revised the outlook on OGE Energy Corp. to negative from stable. Similarly, during 2020 and 2021 Entergy Louisiana LLC and Cleco Power LLC incurred higher energy costs as a result of Winter Storm Uri along with severe damages to their distribution and transmission systems due to a series of hurricanes. Because of weaker financial measures from these physical events, S&P Global Ratings downgraded Entergy Louisiana to 'BBB+' from 'A-' and revised the outlooks on Cleco Power and its parent, Cleco Corporate Holdings LLC to negative from stable.

Focusing On Grid Hardening And Undergrounding

To reduce risks and costs associated with severe weather events, utilities are investing in system resiliency and hardening to strengthen service reliability, reduce outages, and reduce storm damages. Although grid hardening initiatives usually require significant capital expenditures, resilient infrastructure that withstands severe storms is likely the most effective means to reduce risks related to climate change. Below we discuss several examples of utilities' investments in grid hardening and system resiliency.

Florida Power & Light Co. (FP&L)

FP&L is exposed to severe storm and hurricanes. In 2018, the company began a pilot undergrounding project to improve resiliency. By year-end 2021, it had hardened or undergrounded more than 65% of all main distribution power lines. The company also replaced wood transmission structures with concrete or steel. FP&L plans to continue spending about 15% of its total five-year capital plan--or $5 billion to $6 billion--for storm hardening. We view the undergrounding of electricity lines in higher-risk areas as supportive of credit quality, increasing the company's resiliency toward hurricane risk, reducing customer outages, and improving reliability.

Pacific Gas & Electric Co. (PG&E)

PG&E is currently undertaking a long-term system hardening initiative that includes undergrounding about 10,000 miles of its powerlines in its service territory. PG&E's initiative to underground powerlines in high-fire-risk areas represents the largest effort by a utility in the U.S to underground powerlines to reduce its wildfire risks. From 2019 to 2022, the company undergrounded approximately 300 miles. We expect the company will underground an additional 350 miles in 2023.

Entergy Corp. and its subsidiaries

These companies, which are mostly located around U.S. Gulf Coast, have experienced higher storm risks than most other utilities. They incurred significant damages in 2020 and 2021 from hurricanes, with Entergy Louisiana LLC alone incurring approximately $2.6 billion in restoration costs. Entergy Louisiana and Entergy New Orleans LLC expect to invest approximately $10 billion and $1 billion, respectively over a 10-year period toward improving system resilience. We believe that approval of this plan would be supportive of credit quality, likely reducing physical risks for the company over the longer term.

Dealing With Supply Chain Issues

Since COVID-19, supply chain disruptions have emerged as an increasing risk for the industry. During 2020 and 2021, utilities were able to navigate these challenges by using inventory at hand. However, longer lead times to procure materials has since affected the cost and timing of capital projects. The regulatory lag associated with recovering these higher costs is increasing working capital, leading to higher leverage and interest costs for the industry. We expect that this rising risk could constrain credit quality as financial performance weakens.

In June 2022, two Wisconsin utilities, WEC Energy Group Inc. and Alliant Energy Corp., deferred the retirement of their coal-fired generating units due to a delay in the commercial operation of renewable energy projects stemming from supply chain issues. Similarly, costs for renewable projects increased for Madison Gas & Electric Co., a subsidiary of MGE Energy Inc., primarily because supply chain disruptions delayed the construction timelines for its solar energy centers. While in these instances, credit quality was not affected because the project delays were limited relative to the overall size of these companies, larger and more material delays could potentially hurt credit quality.

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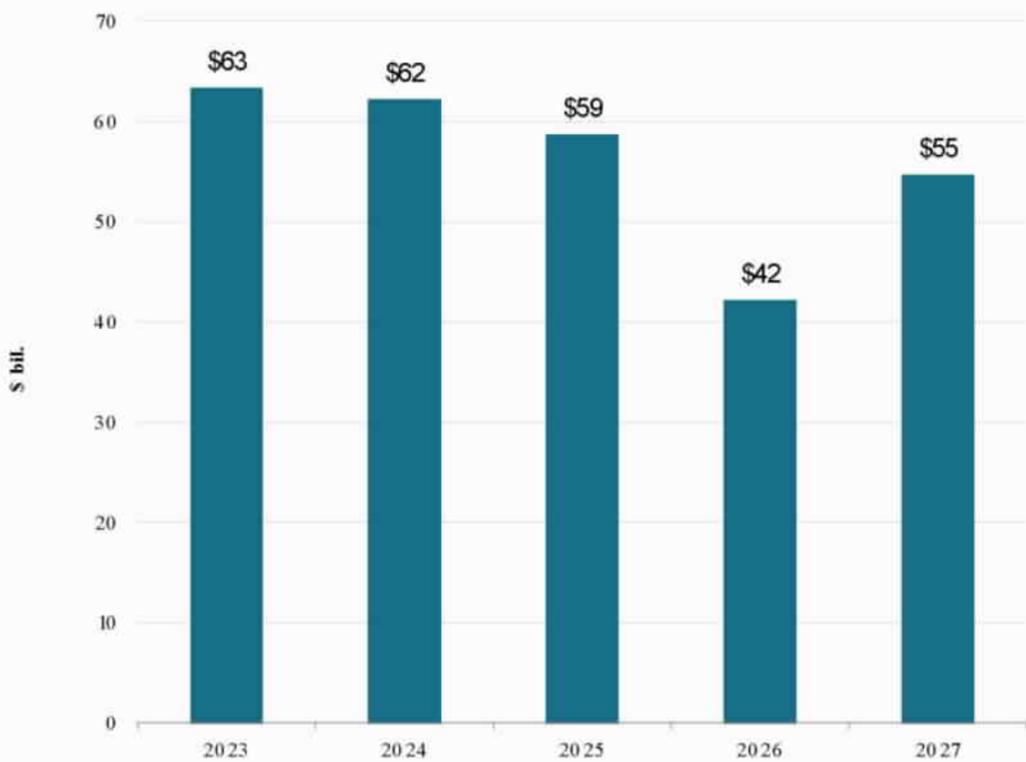
The Impact Of Rising Interest Rates

Since 2022, rising interest rates have increased costs for all industries, including IOUs. IOUs generally have considerable near-term debt maturities and ever higher discretionary cash flow deficits that they mostly fund with debt. That further increases costs for the industry, and pressures financial metrics. Adding regulatory lag to the mix means that these continuously rising costs weakens the industry's financial measures. We expect that higher interest rates will continue to increase costs, pressure financial measures, and over time may contribute to a weakening of the industry's credit quality.

Chart 3

Near-term debt maturities for regulated IOUs



IOUs--Investor-owned utilities. Source: S&P Global Ratings.

Inflation Is Still A Consideration

Although the rate of inflation has slowed from 2022 levels, it remains elevated relative to historical levels. We anticipate this will result in higher operations and maintenance (O&M) and capital costs. While some utilities have interim mechanisms that reduces the regulatory lag, most will have to file rate cases on a more frequent basis should inflation remain high over the longer term.

In September of this year, rate case filings for the month reached the highest level compared to the previous five years. Companies filed 10 rate case filings (compared to the 5-year historical average of 7) totaling $334 million in requested increases or more than 13% higher than the $295 million rate increase requests in August. This suggests that the frequency of rate case filings may increase, partially reflecting rising costs from inflation. While more frequent rate case filings can reduce the regulatory lag, consistent rate case filings can lead to regulatory fatigue. This necessitates that the industry carefully balances the use of these mechanisms to effectively manage regulatory risk. We believe management of regulatory risk may have recently become more challenging in Connecticut and Kansas.

In Connecticut, the Governor recently signed Senate Bill 7 into law, which discontinued the use of the electric system improvement charge in future rate proceedings and allowed the Connecticut Public Utilities Regulatory Authority (PURA) to have discretion regarding the previous consistent implementation of decoupling. Furthermore, recent rate orders for Aquarion Co. (a subsidiary of Eversource Energy) and The United Illuminating Co. (UIC) (a subsidiary of Avangrid Inc.) significantly deviated from our base case. The orders did not approve the multiyear rate plans filed, included material disallowances, penalties for UIC, and below-average returns on equity. We view these developments as inconsistent with our view of the state's regulatory framework for investor-owned utilities. We expect that these decisions will decrease cash flow predictability and increase regulatory lag for these utilities.

Earlier in 2023, Evergy Inc. subsidiaries Evergy Kansas Central Inc. (EKC) and Evergy Metro Inc. (Metro) filed their first rate cases in Kansas since Evergy was formed in 2018. The utilities filed for net rate increases of $204 million and $14 million, respectively, and the Kansas Corporation Commission (KCC) staff recommended a net increase of $109.5 million for EKC and a net decrease of $42.3 million for Metro, which is approximately $150 million below the company's requested amounts.

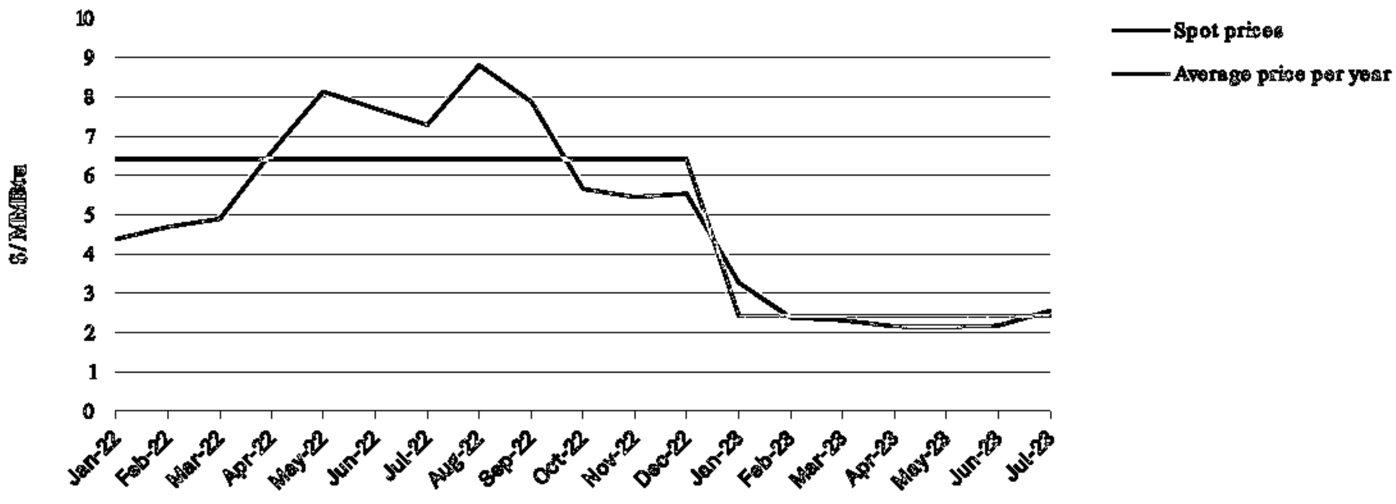
Recently, Evergy's subsidiaries along with the other parties filed a unanimous settlement with the KCC, agreeing to a net rate increase of $74 million for EKC and a net decrease of $32.9 million for Metro, which is approximately $177 million below their initial request. We expect the KCC to issue an order by December 2023. Overall, we assess this settlement as negative for credit quality, reflecting a potentially more challenging regulatory environment in Kansas for its utilities.

Commodity Costs Volatility

Although commodity costs have stabilized in 2023, the high natural gas prices experienced in 2022 put a temporary squeeze on the industry's credit metrics. Utilities typically recover gas costs on a monthly basis from ratepayers, with minimal regulatory lag. However, given the dramatic increase in commodity costs, many utilities strategically deferred these costs for future recovery to minimize the near-term impact on the customer bill. While deferring costs for future recovery, physical and financial hedges, and securitization are all useful tools that can effectively smooth the customer bill from short-term commodity price volatility, there is no practical solution to longer-term and persistently rising commodity prices. Such a scenario would likely pressure both the customer bill and the industry's credit quality.

Chart 4

Henry Hub natural gas spot prices
Henry Hub spot prices 2022-2023



Source: S&P Global Ratings.

The confluence of higher operating costs due to rising inflation, higher interest rates, storm restoration costs, increasing capital spending, and the recovery of previously deferred higher commodity costs, has resulted in growing rate case filings and increased rate rider recovery requests from state regulators. We expect to closely monitor the industry's ability to not just recover these rising costs but to do so in such a manner that minimizes the regulatory lag. However, given the impact of these higher costs to the customer bill, the industry's ability to effectively manage regulatory risk could become increasingly challenging, possibly pressuring its credit quality.

Related Research

- Evergy Inc. Rate Case Settlement As Filed Could Weaken Credit Quality, Oct. 2, 2023
- Step Up Transformers: How Will North American Power Producers Adapt To An Evolving Grid?, Sept. 14, 2023
- Record CapEx Fuels Growth Along With Credit Risk For North American Investor-Owned Utilities, Sept. 12, 2023
- Although Commodity Costs Are A Pass Through For Utilities, They Still Affect Credit Quality, Sept. 6, 2023
- Public Service Co. of New Mexico, Aug. 9, 2023
- The Outlook For North American Regulated Utilities Turns Stable, May 18, 2023
- Evergy Missouri West Inc. Ratings Affirmed On Approved Cost Recovery, Outlook Negative, Dec. 15, 2022
- Pinnacle West Capital Corp. Downgraded To 'BBB+, Outlook Negative, On Arizona Rate Reduction, Nov. 9, 2021
- Evergy Inc. Outlook Revised To Negative On Increasing Capital Spending And Limited Financial Cushion, Sept. 30, 2021
- OGE Energy Corp. And Sub. OG&E Outlooks Revised To Negative On Unprecedented Winter Related Costs; Ratings Affirmed, March 3, 2021
- ONE Gas Inc. Downgraded To 'BBB+' From 'A' On Unprecedented Weather Conditions; Outlook Negative, Feb. 23, 2021
- Atmos Energy Corp. Downgraded To 'A-' On Weakening Credit Metrics; Ratings Placed On CreditWatch Negative

, Feb. 22, 2021

This report does not constitute a rating action.

Primary Credit Analysts:	Gerrit W Jepsen, CFA, New York + 1 (212) 438 2529; **gerrit.jepsen@spglobal.com**
	Shiny A Rony, Toronto +1-437-247-7036; **shiny.rony@spglobal.com**
Secondary Contact:	Daniela Fame, New York +1 2124380869; **daniela.fame@spglobal.com**

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FitchRatings

North American Utilities, Power & Gas Outlook 2024

Elevated Capex and Higher Funding Costs Pose Headwinds

Fitch's Sector Outlook: Deteriorating

Fitch Ratings' deteriorating outlook for the North American Utilities, Power & Gas sector reflects continuing macroeconomic headwinds and elevated capex that are putting pressure on credit metrics in the high-cost funding environment. Bill affordability concerns for ratepayers continue to persist despite the pull back in natural gas prices and inflationary pressures.

Fitch expects utility capex to grow by double digits in 2024, underpinned by investments needed to make the electric infrastructure more resilient against extreme weather events and to accommodate renewable generation, including distributed sources. Rate case outcomes are key to watch as regulators balance more rate requests with increases in customer bills. Authorized ROEs could prove to be sticky despite an increase in cost of capital.

Higher weather-normalized retail electricity sales, driven by datacenter growth and onshoring of manufacturing activities, and tax transferability provisions of the Inflation Reduction Act could somewhat offset headwinds to utilities. Ongoing management actions to sell assets and issue equity, in some cases, is supportive of parent companies' ratings.

Rating Outlook Distribution

Within Fitch's coverage, 90% of ratings hold Stable Rating Outlooks. We expect limited rating movement in 2024. The number of upgrades in 2023 so far exceeds the number of downgrades, and is driven by positive rating actions on several parent holding companies and their regulated subsidiaries. Notable examples are one-notch upgrades of PG&E Corporation (BB+/Stable) and Edison International (BBB/Stable). An increase in extreme weather activity, including catastrophic wildfires, could present material event risks to electric utilities, especially those serving wildfire-prone states. Execution risk with large, complex projects, such as offshore wind, is an additional source of concern.

The median senior unsecured rating for operating subsidiaries remains steadfast in 2023 at 'A–', and we expect no change in 2024. The median senior unsecured rating for parent holding companies is 'BBB'. We expect this median to hold in 2024 despite Negative Rating Outlooks on some parent holding companies, including Eversource Energy (BBB+), Emera Incorporated (BBB), and Pinnacle West Capital Corporation (BBB+).

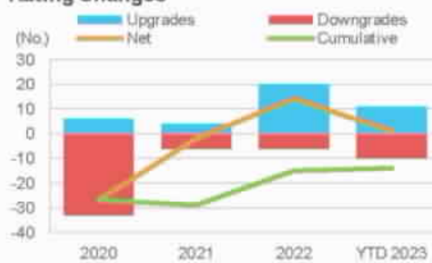
What to Watch

- The macroeconomic environment.
- Rate case outcomes.
- Continued higher capex supported partially by Inflation Reduction Act tailwinds.
- Extreme weather events.

Shalini Mahajan, Managing Director

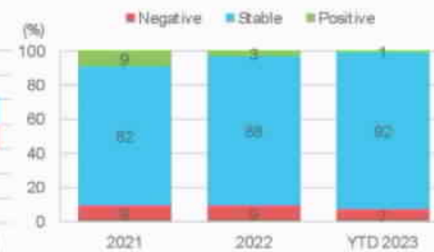
"Elevated capex combined with higher financing costs continue to weigh on North American utilities' credit metrics. Affordability concerns for ratepayers could lead to a longer than usual lag for authorized ROEs to track the rise in cost of capital. Fitch expects ongoing management actions to sell assets and issue equity, in some cases, to be supportive of credit ratings."

North American Utilities, Power & Gas — Rating Changes



Source: Fitch Ratings

North American Utilities, Power & Gas — Rating Outlooks



Source: Fitch Ratings

North American Utilities, Power & Gas — Median Credit Metrics

(%)	2022	2023F	2024F	2025F
Revenue growth	18.6	-0.3	2.4	3.1
FFO margin	22.4	25.0	27.4	28.6
FFO leverage (x)	5.1	4.7	4.5	4.4
FFO interest coverage (x)	5.8	5.4	5.4	5.3

F - Forecast
Source: Fitch Ratings, Fitch Solutions

What to Watch

Uncertain Macroeconomic Environment

The key economic assumptions underlying our sector and Rating Outlooks include a mild recession in 2024, CPI inflation of 2.7% and a 10-year U.S. Treasury rate of 4.0% at YE 2024. We use Fitch's natural gas price assumption for Henry Hub of $3.30/per million British thermal units. Other key assumptions include 0.5%–1.0% weather-normalized retail electricity sales growth in 2024 and elevated capex across the industry.

Bill Affordability

Fitch expects utility bill affordability to remain a major issue for the industry, as rising operating and financing costs coupled with continued high capex put pressure on customer bills and could affect future regulatory outcomes. The average residential price of electricity increased 10% in 2022 compared with 2021 and is up 6% YTD following almost a decade of very modest annual increases. A material decline in natural gas prices in 2023 provided some relief to customer rates, but another sharp increase in commodity prices could shrink utilities' ability to seek timely recovery of expenses.

Higher Capex

Utilities continue to invest in storm-hardening, grid modernization and renewable generation among other capex. Based on data from Edison Electrical Institute (EEI), industry capex is projected to increase 11% in 2023 (projections as of July 2023), after growing 11% in 2022. EEI projections for 2024 and 2025 are mostly flat compared with 2023, but are likely to be revised higher as capex tends to be underestimated for outer years. Many utilities continue to target 7%–9% rate base growth over the next five years, which is driving elevated rate case activity and creating regulatory headwinds.

Climate-Related Risks

The catastrophic wildfire in Maui in August 2023 and the multi-notch downgrade of Hawaiian Electric Company, Inc. (B/Rating Watch Negative) highlight the heightened physical risks faced by electric utilities as a result of climate change. Investor-owned utilities in several states, including in California, Oregon, Colorado and Hawaii, are facing billions of dollars of potential wildfire-related claims.

California provides a roadmap for other states for both developing comprehensive plans to prevent, mitigate and respond to wildfires; and effective legislative, regulatory and other mechanisms to recover prudently incurred costs and wildfire-related liabilities. Some states began to address this issue with key constituents; progress on these initiatives would be key to preserving utilities' creditworthiness.

Additional Key Sector Issues

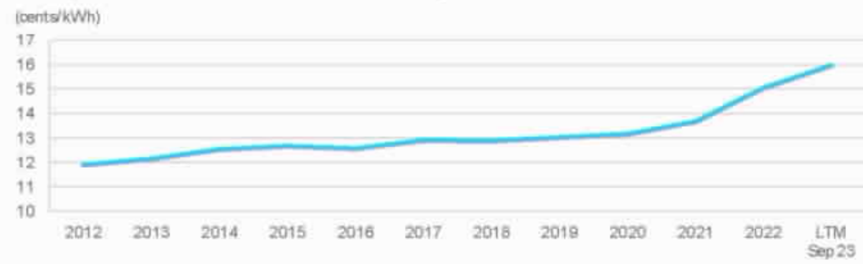
- The execution of asset sales and equity issuances.
- Wildfire-mitigation plans.
- The pace of energy transition.

U.S. Macroeconomic Forecasts and Key Performance Indicators

(% change, unless otherwise noted)	2022	2023F	2024F
GDP growth	2.1	2.0	0.3
10-year Treasury yield	3.9	4.3	4.0
CPI growth	6.5	3.3	2.7
Henry Hub (USD/mcf)	6.4	2.8	3.3
Retail electricity sales	2.7	-2.0	2.5

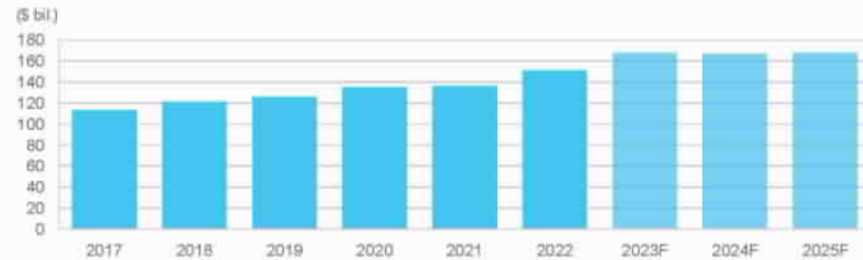
F – Forecast. Mcf – Thousand cubic feet
Source: Fitch Ratings, Fitch Solutions

Average U.S. Residential Price of Electricity



Source: U.S. Energy Information Administration

Total Capex of U.S. Investor-Owned Electric Utilities



F – Forecast
Source: Edison Electric Institute

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Key Sector Issues

Retail Sales Trend

Retail electricity sales in 2023 were affected by mild weather, and are down 2% YTD compared with the corresponding period of 2022. Residential sales, which are the most sensitive to weather, declined 4%, while commercial and industrial sales declined by 2% and 1%, respectively. Several electric utilities began to see robust sales growth from data centers, expansion of auto and other manufacturing facilities, and electrification trends in oil and gas drilling. Fitch expects weather-normalized total retail sales to be 0.5%–1.0% higher in 2024 compared with 2023.

Potential for Higher ROEs

Given a historic spread between median authorized ROEs and 10-year U.S. Treasury rates of 600bps–700bps, Fitch expects authorized ROEs to start trending up with the increase in interest rates, albeit with a lag. However, given the uncertain macroenvironment and bill pressure on customers, the lag could be longer than in previous cycles. More importantly, the gap between authorized and earned ROEs continues to narrow, reflecting a better regulatory construct in most jurisdictions.

Portfolio Management Actions to Slow

Driven by higher valuations compared with issuing equity, utility parent companies have been selling noncore, nonregulated renewable businesses and partial ownership interest in regulated subsidiaries. However, with the rise in interest costs, such sales are a less attractive option. Some utility parent companies would need to issue equity to support large capex plans at their regulated subsidiaries and to maintain credit metrics. We are beginning to see managements taking step in this direction.

Tailwinds from the Inflation Reduction Act

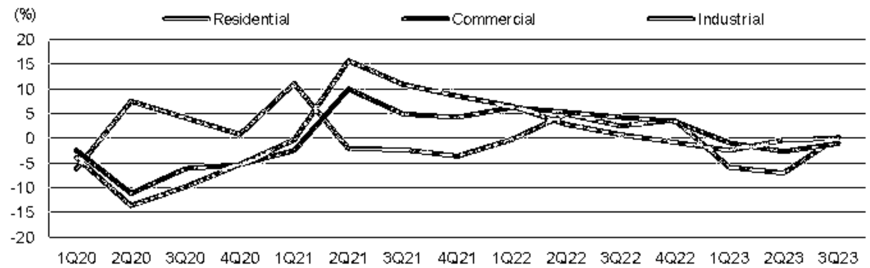
Fitch views the Inflation Reduction Act to be positive for the industry, because the attractive tax incentives for clean generation will offset the inflationary bill pressures and lower the cost of energy transition to customers. Transferability of tax credits provides utilities and power generation companies enhanced financial flexibility to fund clean investments. Integrated utilities benefit the most, and Fitch expects them to accelerate the replacement of fossil generation with renewables.

Improving Leverage Metrics

Fitch expects median leverage metrics for the sector to improve in 2024, driven by recovery of deferred fuel balances. Specifically, Fitch expects median FFO leverage for operating subsidiaries to be approximately 4.3x in 2023 and improve in 2024 as utilities recover deferred fuel balances in the next 12–24 months.

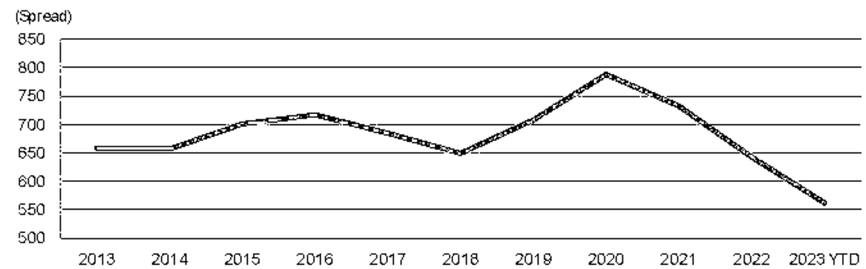
Median FFO leverage for parent holding companies continues to be elevated. Asset-monetization opportunities to replace equity needs are mostly exhausted and pending sales are already mostly reflected in Fitch's forward credit metrics. Companies are increasingly considering issuing equity to maintain their existing credit ratings. Fitch expects median FFO leverage for the utility parent companies to be 5.3x in 2023 and to improve modestly to 5.1x in 2024. The sharp escalation in interest rates significantly narrowed the headroom in FFO fixed-charge coverage for the sector.

Yoy Change in Retail Electricity Sales



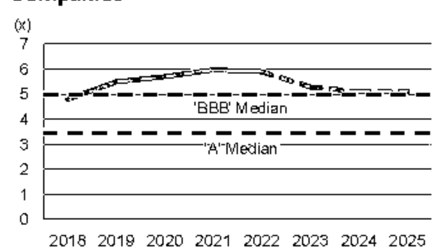
Source: U.S Energy Information Administration

Electric Utilities Authorized ROEs Versus 30-Year Treasury



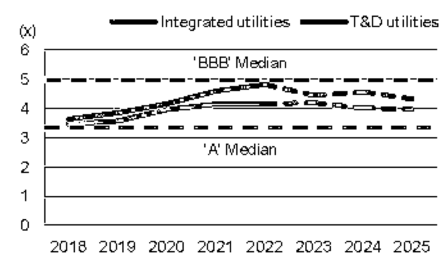
Source: Fitch Ratings, Fitch Solutions, U.S. Federal Reserve, S&P Capital IQ

Trend in Median FFO Leverage for Parent Companies



Source: Fitch Ratings, Fitch Solutions

Trend in Median FFO Leverage for Opcos



T&D – Transmission and distribution
Source: Fitch Ratings, Fitch Solutions

Appendix

North American Utilities, Power & Gas — Issuer Level Forecasts

			Net revenue growth (%)				FFO margin (%)				FFO leverage (x)				FFO interest coverage (x)			
Issuer	IDR	Outlook	2022	2023F	2024F	2025F	2022	2023F	2024F	2025F	2022	2023F	2024F	2025F	2022	2023F	2024F	2025F
Algonquin Power & Utilities Corp.	BBB	Stable	21.0	21.0	-5.0	4.0	26.3	22.7	20.0	22.6	6.6	5.8	5.8	5.5	3.5	3.8	3.3	3.7
American Electric Power Company, Inc.	BBB	Stable	17.1	-4.9	2.5	2.2	29.2	27.3	31.3	31.4	5.7	5.8	5.5	5.8	5.3	5.1	5.3	4.7
AVANGRID, Inc.	BBB+	Stable	13.6	3.4	16.9	4.4	18.5	22.1	19.4	21.4	5.0	4.7	4.7	4.7	4.8	4.1	3.4	3.7
Black Hills Corporation	BBB+	Stable	30.9	-4.1	-3.0	2.6	20.9	30.2	30.3	29.9	6.9	4.7	5.0	5.1	4.5	6.0	5.4	4.9
CenterPoint Energy, Inc.	BBB	Stable	11.9	-7.5	10.6	4.3	20.3	29.1	30.1	31.3	7.2	6.0	5.6	5.4	4.6	6.5	4.8	4.8
CMS Energy Corporation	BBB	Stable	18.7	-8.9	-2.2	2.9	22.0	24.5	27.2	29.5	5.6	5.7	5.7	5.6	5.0	4.0	4.0	4.3
Consolidated Edison, Inc.	BBB+	Stable	14.6	-5.0	4.1	1.9	23.6	24.3	32.2	28.7	5.1	5.0	4.1	4.6	5.0	4.7	6.0	5.3
DTE Energy Company	BBB	Stable	28.5	-5.4	-25.0	12.8	16.1	16.6	23.0	21.0	5.0	5.2	5.5	5.7	5.7	5.0	4.8	4.3
Edison International	BBB	Stable	15.5	-5.6	3.5	7.3	15.5	38.2	35.5	34.9	9.2	4.2	4.4	4.4	3.3	4.3	4.1	4.1
Emera Incorporated	BBB	Negative	31.6	-11.0	4.6	N.A.	24.7	30.9	30.7	N.A.	7.2	6.6	6.4	N.A.	3.5	3.7	3.7	N.A.
Eversource Energy	BBB+	Negative	24.8	6.8	-3.5	4.8	20.1	25.5	29.1	28.7	7.4	5.9	5.4	5.2	4.7	5.0	5.1	5.0
Exelon Corporation	BBB	Stable	-46.7	12.9	4.8	3.4	26.8	24.3	25.5	30.5	6.0	6.2	6.0	5.4	4.4	3.9	3.8	4.2
FirstEnergy Corp.	BBB–	Stable	12.0	10.2	5.6	3.2	19.1	19.9	19.4	18.2	6.3	6.1	5.1	5.2	3.3	3.6	3.6	3.5
Hawaiian Electric Industries, Inc.	B	RWN	31.3	-20.5	-3.3	-0.7	14.5	16.1	17.6	18.4	4.0	4.3	4.1	4.1	5.9	5.2	5.3	5.2
NextEra Energy, Inc.	A–	Stable	22.8	27.5	1.7	-2.0	37.6	39.5	40.0	41.2	6.7	5.1	5.0	4.5	6.1	4.8	4.5	4.3
NiSource Inc.	BBB	Stable	19.4	4.5	2.6	3.1	25.2	28.6	31.3	33.1	6.3	5.2	5.5	5.5	4.7	4.6	5.8	5.4
NorthWestern Corporation	BBB	Stable	7.7	5.5	3.1	4.5	23.3	29.2	30.2	32.0	6.0	4.6	4.2	3.4	4.6	6.6	7.1	8.4
OGE Energy Corp.	BBB+	Stable	-7.6	-13.2	5.5	3.7	16.9	29.5	30.0	30.3	6.2	4.3	4.1	4.2	4.4	5.2	5.1	5.1
Otter Tail Corporation	BBB	Stable	22.0	-15.3	1.5	2.2	27.3	25.0	23.9	20.7	1.9	2.8	2.8	3.5	11.9	10.0	7.5	6.3
PG&E Corporation	BB+	Stable	3.1	-1.0	2.3	5.2	19.2	29.8	34.4	41.8	7.8	5.7	5.0	4.1	3.4	4.8	5.1	6.1
Pinnacle West Capital Corporation	BBB+	Negative	13.7	4.4	9.0	2.5	28.9	24.9	32.3	31.0	5.4	5.8	4.4	4.8	5.5	4.0	4.9	4.8
Puget Energy Inc.	BBB–	Stable	10.9	-1.4	4.5	4.4	19.7	26.9	26.3	26.9	6.3	5.3	5.2	5.1	3.5	4.3	4.2	4.2
Sempra	BBB+	Stable	12.3	6.4	-1.0	7.7	34.0	34.1	36.7	35.8	4.6	4.5	4.4	4.5	5.3	5.2	5.1	4.8
The Southern Company	BBB+	Stable	26.7	-5.0	3.4	1.9	20.0	32.0	33.5	31.5	7.0	5.0	4.8	5.0	4.2	4.7	4.7	4.4
WEC Energy Group, Inc.	BBB+	Stable	15.4	-4.1	1.4	3.4	24.9	31.9	33.5	34.5	5.9	5.2	5.1	4.9	5.9	5.2	4.7	4.5
Xcel Energy Inc.	BBB+	Stable	14.0	-2.1	-0.1	-0.7	26.1	31.0	34.1	34.6	5.1	4.7	4.5	4.8	5.4	5.7	5.7	5.4
Sector Median			**13.9**	**-3.1**	**2.5**	**3.4**	**22.7**	**28.0**	**30.3**	**30.5**	**6.1**	**5.2**	**5.0**	**4.9**	**4.7**	**4.8**	**4.9**	**4.8**

F – Forecast. RWN – Rating Watch Negative
Source: Fitch Ratings, Fitch Solutions

HCC RFP02-04 -- 88_Fitch - North American Gas & Power 2024 Outlook (12-6-23)

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Sector outlooks are a general forward-looking assessment of the underlying operational and business conditions of the sector compared to the previous calendar year. A neutral outlook is an assessment that these conditions will remain mostly unchanged. Sector outlooks are distinct from Rating Outlooks.

Outlooks and Related Research

2024 Outlooks
Global Economic Outlook - September 2023 (September 2023)
North American Utilities, Power & Gas — Relative Credit Analysis (November 2023)
North American Utilities, Power & Gas Dashboard: Third-Quarter 2023 (October 2023)

Analysts

Shalini Mahajan
+1 212 908-0351
shalini.mahajan@fitchratings.com

Ivana Ergovic
+1 212 908-0354
ivana.ergovic@fitchratings.com

Tony Kim
+1 647 930-8683
tony.kim@fitchratings.com

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Blue Chip Financial Forecasts®

Top Analysts' Forecasts Of U.S. And Foreign Interest Rates, Currency Values And The Factors That Influence Them

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BLUE CHIP FINANCIAL FORECASTS®

Executive Editor: Joseph Aguinaldo
Assistant Editor: Jules Valencia
Haver Analytics
60 East 42nd Street
New York, NY 10165
Phone (212) 986-9300
E-mail: bluechip@haver.com

Robert J. Eggert, Founder
Randell E. Moore, Editor Emeritus
Rocco Impreveduto, General Manager

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Interest Rates Have Peaked Amid Tight Financial Conditions

The Blue Chip Financial Forecasts (BCFF) see an economy that is likely to slow down in coming quarters due to tighter financial conditions. As a result of slowing growth and an accompanying decline in inflation, market yields are likely to continue to fall. The consensus expects that the Fed has completed its tightening cycle and will begin easing in 2024. The economy is expected to avoid a recession as it has shown resilience (especially in the labor market) in the face of policy tightening.

Slowdown ahead. The latest GDP figures for Q3 2023 showed a sizable 5.2% quarter-to-quarter annualized growth rate, but recent data suggest that demand is dwindling. The Atlanta Fed nowcast is currently pointing to a 2.1% pace in Q4. The BCFF consensus looks for an even slower growth rate of 1.2%. Importantly, the consensus expects tepid growth to persist for the entire forecast horizon. The average GDP growth forecast for all of 2024 is 0.7%, with particular weakness in the first three quarters.

In a special question, the median BCFF forecaster puts the odds of recession in the next 12 months at 45%. A significant minority of forecasters (27%) believes that a recession is the most likely path for the economy, and expects two or more consecutive quarterly declines in GDP. The other 73% of panelists expect a slowdown without recession.

Consistent with a soft economic outlook, the consensus projects continued declines in the inflation rate. The PCE inflation rate is expected to slide to 2.2% by midyear 2024, nearly a percentage point lower than the current inflation rate.

Tight financial conditions. Earlier this year, market interest rates had increased to levels not seen since before the 2008 financial crisis. For example, the 10-year Treasury yield nearly reached 5% in October. Rates rose for a variety of reasons including data showing economic resilience, which in turn signaled that the Fed might have to keep rates high for longer than anticipated. High rates have taken a toll on interest-sensitive sectors, such as housing and capital goods expenditures. There is a growing sense that elevated rates have done some of the work for the Fed in slowing the economy. In a special question, BCFF panelists overwhelmingly stated that the rise in rates has tightened financial conditions sufficiently to delay/prevent further interest rate increases.

Indeed, with the funds rate above 5%, inflation subsiding, and Fed asset holdings declining, policy does already seem quite tight. In a special question, panelists estimated that the neutral fed funds rate was 2.9%, which is well below the current funds rate target.

Falling market yields. As a result of tightening financial conditions and the drag on economic activity, the 10-year yield has actually begun to decline, falling by more than 60 basis points in the past month. This decline was aided by better-than-expected inflation news for October, with the CPI posting an unchanged reading for a 3.2% rise year to year. Core CPI rose 0.2% for a 4.0% rise year to year, the lowest reading since August 2021.

The BCFF consensus expectation that both economic growth and inflation will slow significantly in the near term is being reflected in projections for market rates. The slide in rates over the past month is expected to continue over the next six quarters. For example, consensus expectations for the 10-year Treasury yield are for a half-point drop to 4.3% by Q1 2025. At the same time, the 1-year Treasury bill rate is expected to fall by nearly 1.5 percentage points to 4.1%, suggesting a significant steepening of the yield curve and a move away from inversion.

Importantly, the BCFF consensus expects mortgage rates to fall by nearly 1 percentage point over the next six quarters, which could bring much needed relief to the beleaguered housing market. The weakness in the economy is also expected to affect corporate debt somewhat, as panelists look for the spread between corporates and Treasurys to widen slightly.

No more Fed tightening. Policymakers have made a point of leaving the door open to further hikes, even as Fed Chair Powell suggests that the economy may be resistant to higher rates. While supply chains have improved, aiding the decline in inflation, Powell has stated repeatedly that the path to lower inflation involves below-trend growth and softening in the labor market. Conversely, BCFF panelists believe that the Fed is finished hiking rates. In a special question, 100 percent of panelists indicated that the Fed had completed its tightening cycle. Markets agree – the federal funds futures market does not price in any further tightening either.

Funds rate cuts. Against this backdrop, every BCFF panelist expects the Fed to cut the fed funds rate in the forecast horizon. Three-quarters of the panelists believe the Fed will cut rates for the first time either in Q2 or Q3 2024. Respondents seem to be pushing out the timing of the first rate cut – two months ago no panelist thought rate cuts would start after Q3 2024, now 22% do. Still, the BCFF consensus is that the fed funds rate will drop to 4.2% by Q1 2025, with nearly all panelists indicating that Fed easing will be ongoing at that time.

Long-range forecasts. The Blue Chip semi-annual longer-range forecasts show BCFF panelists' views on trend growth, inflation, and interest rates out to 2034. From 2026 on, panelists expect US GDP growth will hover near 2%, which is slightly higher than the CBO estimate of the steady state. They anticipate inflation will subside toward the Fed's target through 2026 and remain there.

Interest rates are expected to fall but remain elevated relative to pre-pandemic norms. The BCFF consensus looks for the funds rate to drop to 3% by 2028 and remain there. Similarly, the 10-year yield is expected to decline to 3.9% in 2025 and stay there. For comparison, in the decade prior to the latest tightening cycle, the funds rate averaged 0.6% and the 10-year yield averaged 2%. The higher rate projections are consistent with panelists' judgments about the neutral fed funds rate, which is substantially higher than before the pandemic.

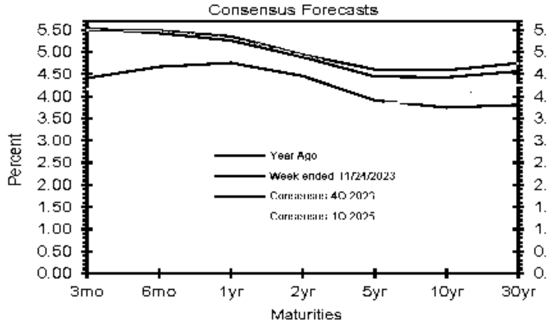
Peter D'Antonio (Haver Analytics, New York, NY)

Consensus Forecasts of U.S. Interest Rates and Key Assumptions

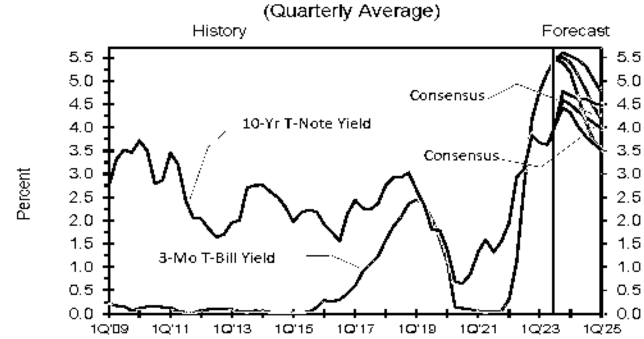
	History								Consensus Forecasts-Quarterly Avg.					
	Average For Week Ending				Average For Month			*Latest Qtr*	4Q	1Q	2Q	3Q	4Q	1Q
Interest Rates	Nov 24	Nov 17	Nov 10	Nov 3	Oct	Sep	Aug	3Q 2023	2023	2024	2024	2024	2024	2025
Federal Funds Rate	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.26	**5.4**	**5.4**	**5.2**	**4.9**	**4.6**	**4.2**
Prime Rate	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.43	**8.5**	**8.5**	**8.3**	**8.1**	**7.7**	**7.4**
SOFR	5.31	5.32	5.32	5.33	5.31	5.31	5.30	5.23	**5.4**	**5.3**	**5.2**	**4.9**	**4.6**	**4.3**
Commercial Paper, 1-mo.	5.33	5.34	5.32	5.33	5.33	5.31	5.30	5.26	**5.4**	**5.4**	**5.1**	**4.9**	**4.5**	**4.2**
Treasury bill, 3-mo.	5.54	5.52	5.54	5.57	5.60	5.56	5.56	5.54	**5.5**	**5.4**	**5.1**	**4.8**	**4.5**	**4.2**
Treasury bill. 6-mo.	5.43	5.41	5.46	5.51	5.57	5.51	5.54	5.53	**5.5**	**5.3**	**5.1**	**4.7**	**4.4**	**4.1**
Treasury bill, 1 yr.	5.26	5.27	5.35	5.38	5.42	5.44	5.37	5.39	**5.4**	**5.2**	**4.9**	**4.6**	**4.3**	**4.1**
Treasury note, 2 yr.	4.89	4.89	4.97	4.97	5.07	5.02	4.90	4.92	**4.9**	**4.8**	**4.5**	**4.2**	**4.0**	**3.9**
Treasury note. 5 yr.	4.45	4.50	4.59	4.69	4.77	4.49	4.31	4.31	**4.6**	**4.5**	**4.3**	**4.1**	**4.0**	**3.8**
Treasury note. 10 yr.	4.43	4.50	4.59	4.75	4.80	4.38	4.17	4.15	**4.6**	**4.5**	**4.3**	**4.2**	**4.1**	**4.0**
Treasury note, 30 yr.	4.57	4.65	4.75	4.93	4.95	4.47	4.28	4.24	**4.8**	**4.7**	**4.5**	**4.5**	**4.4**	**4.3**
Corporate Aaa bond	5.41	5.53	5.66	5.86	5.87	5.38	5.25	5.20	**5.5**	**5.5**	**5.3**	**5.3**	**5.1**	**5.0**
Corporate Baa bond	6.02	6.17	6.31	6.52	6.53	6.03	5.90	5.86	**6.4**	**6.4**	**6.4**	**6.3**	**6.2**	**6.1**
State & Local bonds	4.45	4.55	4.67	4.90	4.88	4.54	4.39	4.38	**4.6**	**4.7**	**4.6**	**4.6**	**4.5**	**4.4**
Home mortgage rate	7.29	7.44	7.50	7.76	7.62	7.20	7.07	7.04	**7.4**	**7.3**	**7.1**	**6.9**	**6.7**	**6.5**
	History								Consensus Forecasts-Quarterly					
	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q
Key Assumptions	2021	2022	2022	2022	2022	2023	2023	2023	2023	2024	2024	2024	2024	2025
Fed's AFE $ Index	106.9	108.3	113.5	118.8	119.8	115.5	114.6	115.1	**116.6**	**116.3**	**115.9**	**115.9**	**115.7**	**115.7**
Real GDP	7.0	-2.0	-0.6	2.7	2.6	2.2	2.1	5.2	**1.2**	**0.7**	**0.3**	**0.6**	**1.2**	**1.7**
GDP Price Index	7.0	8.5	9.1	4.4	3.9	3.9	1.7	3.6	**2.7**	**2.4**	**2.3**	**2.2**	**2.2**	**2.2**
Consumer Price Index	8.8	9.2	9.7	5.5	4.2	3.8	2.7	3.6	**2.9**	**2.5**	**2.3**	**2.5**	**2.3**	**2.2**
PCE Price Index	6.8	7.7	7.2	4.7	4.1	4.2	2.5	2.8	**2.6**	**2.4**	**2.2**	**2.3**	**2.2**	**2.1**

Forecasts for interest rates and the Federal Reserve's Advanced Foreign Economies Index represent averages for the quarter. Forecasts for Real GDP, GDP Price Index, CPI and PCE Price Index are seasonally adjusted annual rates of change (saar). Individual panel members' forecasts are on pages 4 through 9. Historical data: Treasury rates from the Federal Reserve Board's H.15; AAA-AA and A-BBB corporate bond yields from Bank of America-Merrill Lynch and are 15 years, yield to maturity; State and local bond yields from Bank of America-Merrill Lynch, A-rated, yield to maturity; Mortgage rates from Freddie Mac, 30-year, fixed; SOFR from the New York Fed. All interest rate data are sourced from Haver Analytics. Historical data for Fed's Major Currency Index are from FRSR H.10. Historical data for Real GDP, GDP Price Index and PCE Price Index are from the Bureau of Economic Analysis (BEA). Consumer Price Index history is from the Department of Labor's Bureau of Labor Statistics (BLS).

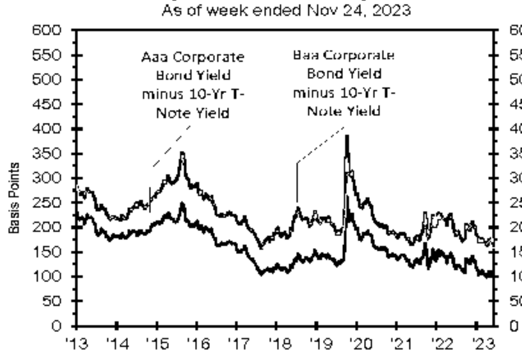
US Treasury Yield Curve
Week ended Nov 24, 2023 & Year Ago vs. 4Q 2023 & 1Q 2025 Consensus Forecasts



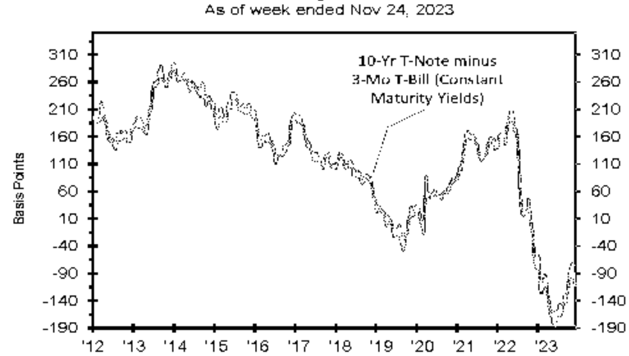
US 3-Mo T-Bills & 10-Yr T-Note Yield
(Quarterly Average)



Corporate Bond Spreads
As of week ended Nov 24, 2023



US Treasury Yield Curve
As of week ended Nov 24, 2023



Policy Rates[1]

	History Latest:	Month Ago:	Year Ago:	Consensus Forecasts Months From Now: 3	6	12
U.S.	5.38	5.38	3.88	**5.28**	**5.06**	**4.52**
Japan	-0.10	-0.10	-0.10	**-0.08**	**-0.06**	**0.01**
U.K.	5.25	5.25	3.00	**5.25**	**5.01**	**4.25**
Switzerland	1.75	1.75	0.50	**1.78**	**1.72**	**1.55**
Canada	5.00	5.00	3.75	**5.03**	**4.78**	**4.12**
Australia	4.35	4.10	2.85	**4.32**	**4.24**	**3.81**
Euro area	4.50	4.50	2.00	**4.39**	**4.11**	**3.61**

10-Yr. Government Bond Yields[2]

	History Latest:	Month Ago:	Year Ago:	Consensus Forecasts Months From Now: 3	6	12
U.S.	4.47	4.84	3.68	**4.54**	**4.33**	**4.03**
Germany	2.64	2.81	1.97	**2.60**	**2.50**	**2.32**
Japan	0.79	0.88	0.28	**0.88**	**0.86**	**0.90**
U.K.	4.34	4.61	3.26	**4.25**	**4.12**	**3.87**
France	3.20	3.45	2.44	**3.17**	**3.03**	**2.87**
Italy	4.39	4.84	3.85	**4.43**	**4.28**	**4.15**
Switzerland	0.98	1.09	1.01	**1.10**	**1.17**	**1.19**
Canada	3.72	3.98	2.94	**3.78**	**3.52**	**3.37**
Australia	4.55	4.81	3.58	**4.70**	**4.33**	**3.95**
Spain	3.58	3.98	2.82	**3.67**	**3.51**	**3.40**

Foreign Exchange Rates[3]

	History Latest:	Month Ago:	Year Ago:	Consensus Forecasts Months From Now: 3	6	12
U.S.	115.81	118.73	117.55	**115.9**	**114.9**	**113.6**
Japan	149.57	149.60	139.21	**148.1**	**145.4**	**139.8**
U.K.	1.26	1.22	1.21	**1.24**	**1.24**	**1.26**
Switzerland	0.88	0.90	0.95	**0.90**	**0.89**	**0.88**
Canada	1.36	1.39	1.34	**1.36**	**1.34**	**1.31**
Australia	0.66	0.64	0.68	**0.65**	**0.66**	**0.69**
Euro	1.09	1.06	1.04	**1.08**	**1.09**	**1.11**

Consensus Policy Rates vs. US Rate

	Now	In 12 Mo.
Japan	-5.48	**-4.51**
U.K.	-0.13	**-0.28**
Switzerland	-3.63	**-2.98**
Canada	-0.38	**-0.40**
Australia	-1.03	**-0.72**
Euro area	-0.88	**-0.92**

Consensus 10-Year Gov't Yields vs. U.S. Yield

	Now	In 12 Mo.
Germany	-1.83	**-1.71**
Japan	-3.68	**-3.13**
U.K.	-0.13	**-0.16**
France	-1.27	**-1.17**
Italy	-0.08	**0.12**
Switzerland	-3.49	**-2.85**
Canada	-0.75	**-0.66**
Australia	0.08	**-0.08**
Spain	-0.89	**-0.63**

Forecasts of panel members are on pages 10 and 11. Definitions of variables are as follows: [1]Monetary policy rates. [2]Government bonds are yields to maturity. [3]Foreign exchange rate forecasts for U.K., Australia and the Euro are U.S. dollars per currency unit. For the U.S dollar, forecasts are of the U.S. Federal Reserve Board's AFE Dollar Index.

International. Growing conviction that central banks have concluded their tightening cycles has fueled a rally in both bond and equity markets over the past few weeks. That conviction has been bolstered by a number of factors. First, global inflationary pressures have continued to diminish, in large part because of weaker energy prices. And, notwithstanding the recent instability in the Middle East, oil prices have continued to decline over the past two months, which has further eased concerns that this trend toward weaker inflation might stall. Second, there is growing evidence to suggest that higher interest rates are taking a heavier toll on global economic activity, evidence that's particularly compelling in the euro area and the UK. Lastly, the latest policy decisions and accompanying statements from various central banks - including the Fed, the ECB, and the BoE - indicate a growing consensus among policymakers that further tightening may not be necessary.

This month's survey of Blue Chip Financial Forecasters aligns with that narrative. The policy rate projections for the US, Canada, Europe, and Australia, for example, indicate a broadly shared consensus that tightening cycles have reached their conclusion. And that corresponds too with the responses to a special question, where approximately 90% of panelists believe the ECB and BoE have completed their tightening cycles with that proportion rising to 100% for the Fed.

Closer scrutiny of these policy rate projections further reveals that easing cycles are now expected to commence in the euro area, Switzerland, Australia, the UK as well as the US within the next 6 months. Financial futures contracts, moreover, indicate that investors believe that easing campaigns could potentially begin even earlier. Those views do not, however, chime with the messages from central banks in recent weeks. Even the more dovish members of most central banks' policy committees have staunchly opposed these views over the last few weeks.

That dichotomy of views could reflect a more downbeat view from our panelists about the outlook for growth and inflation next year compared with the expectations of central banks. In response to another special question, for example, 55% of our panelists expect a euro area recession over the next 12 months while 58% expect a UK recession. As noted above, moreover, downbeat views about the growth outlook – and euro area growth in particular - have been validated of late by much of the incoming data. The flash PMI surveys for November, for example, reveal ongoing contractions in the manufacturing sector in the euro area, UK, Japan and the US.

Still, those recession odds for Europe and downbeat data points for manufacturing have not been amplified elsewhere. For example, only 44% of our panelists now anticipate a US recession phase over the next 12 months, down a little from 47% in our last survey. Those same flash PMI surveys for November, in the meantime, suggest that activity has held up quite well in the service sector in the US, UK and Japan.

Against this backdrop, investors are likely to be alert to how this dichotomy of views is resolved. Will the incoming data for both growth and inflation disappoint to the downside and thereby validate the consensus view that easing cycles will shortly commence? Alternatively, will growth and hold up and thereby challenge the dovish Blue Chip consensus but at the same time validate the more hawkish central bank consensus?

However, the outlook for the world economy and financial markets will not solely hinge on these considerations. Economic developments in Asia will also be closely watched. In response to another special question, 74% of our panelists believe the situation in China poses significant risks to global growth. Moreover, Japan's economic outlook could wield considerable influence over global financial stability as well. There is ample speculation in particular about if and when the BoJ will start to normalize its monetary policy. In a final special question this month, for example, 62% of our panelists expect that an interest rate normalization campaign could begin before the middle of 2024.

Fourth Quarter 2023

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	Percent Per Annum -- Average For Quarter: Short-Term							Intermediate-Term			Long-Term					Avg. For Qtr.	(Q-Q % Change) (SAAR)			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	A.	B.	C.	D.	E.
	Federal Funds Rate	Prime Bank Rate	SOFR Rate	Com. Paper 1-Mo.	Treas. Bills 3-Mo.	Treas. Bills 6-Mo.	Treas. Bills 1-Yr.	Treas. Notes 2-Yr.	Treas. Notes 5-Yr.	Treas. Notes 10-Yr.	Treas. Bond 30-Yr.	Aaa Corp. Bond	Baa Corp. Bond	State & Local Bonds	Home Mtg. Rate	Fed's Adv Fgn Econ $ Index	Real GDP	GDP Price Index	Cons. Price Index	PCE Price Index
Scotiabank Group	5.5 H	na	5.3 L	na	5.5	na	na	5.2 H	5.0 H	5.0 H	5.1 H	na	na	na	na	na	0.2 L	1.5 L	4.7 H	4.7 H
TS Lombard	5.5 H	8.6 H	5.4	5.5	5.4	5.5	5.1 L	4.7 L	4.3	4.4	4.5	5.2	6.1	4.4	6.2 L	115.0	1.5	3.6 H	3.6	3.6
Bank of America	5.4	na	na	na	na	na	na	4.9	4.7	4.5	4.8	na	na	na	na	na	1.5	2.7	2.6	2.5
BMO Capital Markets	5.4	8.5	5.3 L	5.4	5.6 H	5.5	5.3	4.9	4.6	4.6	4.7	5.5	6.6	5.1	7.5	117.8	0.9	2.2	2.8	2.3
Chan Economics	5.4	8.4 L	5.3 L	5.3 L	5.4	5.5	5.3	4.8	4.3	4.4	4.6	5.6	6.6	5.0	7.2	115.0	1.5	2.7	2.9	2.6
Comerica Bank	5.4	8.6 H	5.4	na	5.4	5.5	5.3	4.9	4.7	4.7	4.9	5.6	6.6	na	7.7	na	0.7	2.4	2.4	2.4
Daiwa Capital Markets America	5.4	8.5	na	na	5.3 L	na	na	4.9	4.5	4.5	4.7	na	na	na	7.3	117.0	1.0	2.6	3.0	3.3
Fannie Mae	5.4	8.5	na	na	5.5	5.5	5.3	4.9	4.5	4.5	4.7	na	na	na	7.3	na	1.1	2.9	2.4	2.4
Georgia State University	5.4	8.5	na	na	5.5	5.4	5.5	5.0	4.7	4.6	4.8	5.5	6.6	na	7.6	na	1.1	2.6	2.8	2.6
GLC Financial Economics	5.4	8.5	5.4	5.4	5.5	5.4	5.3	4.8	4.5	4.4	4.6	5.2	6.0 L	4.2	6.8	117.1	0.7	3.6 H	2.4	2.0
Goldman Sachs & Co.	5.4	na	na	na	5.6 H	na	na	5.0	4.7	4.8	4.4	na	na	na	na	na	1.9	1.8	2.6	2.1
ING	5.4	na	na	na	na	na	na	4.8	4.5	4.5	4.6	na	na	na	na	na	1.9	na	na	na
J.P. Morgan Chase	5.4	na	na	na	na	na	na	4.7 L	4.2 L	4.1 L	4.3 L	na	na	na	na	na	2.0 H	3.0	2.9	2.4
KPMG	5.4	8.5	5.4	5.4	5.6 H	5.6	5.5	5.1	4.7	4.7	4.8	5.6	6.7	na	7.6	na	1.1	2.9	2.8	2.6
MacroPolicy Perspectives	5.4	8.5	5.3 L	5.4	5.6 H	5.5	5.4	5.0	4.7	4.5	4.8	5.1 L	6.0 L	4.5	7.3	116.1	1.5	2.5	3.1	2.1
Nomura Securities, Inc.	5.4	8.5	na	na	na	na	na	4.9	4.6	4.6	na	na	na	na	na	na	0.9	1.9	2.8	2.4
Oxford Economics	5.4	8.5	5.4	na	5.6 H	5.6	5.4	5.1	4.7	4.7	4.9	5.3	na	na	7.6	118.8 H	1.0	2.7	4.3	3.3
RDQ Economics	5.4	8.5	5.4	5.8 H	5.5	5.5	5.2	4.9	4.7	4.6	4.7	5.5	6.3	4.7	7.4	116.9	1.5	3.2	3.0	2.8
S&P Global Market Intelligence	5.4	8.5	5.4	na	5.5	5.4	5.5	5.1	4.7	4.7	4.9	na	na	na	7.6	na	1.1	2.9	2.8	2.6
The Lonski Group	5.4	8.5	5.3 L	5.4	5.5	5.5	5.2	4.9	4.6	4.6	4.7	5.6	6.3	4.6	7.4	117.0	1.1	2.6	2.9	3.5
The Northern Trust Company	5.4	8.5	5.3 L	5.4	5.6 H	5.5	5.4	5.0	4.6	4.6	4.8	5.4	6.4	4.7	7.5	117.5	0.8	2.3	3.2	2.9
Wells Fargo	5.4	8.5	5.4	5.4	5.4	5.4	5.2	4.8	4.5	4.5	4.7	5.7	6.7	5.1	7.5	na	0.7	2.7	3.4	2.7
Action Economics	5.3 L	8.5	5.7 H	5.4	5.5	5.5	5.4	5.0	4.8	4.9	5.0	5.7	6.7	4.5	8.0 H	115.1	1.6	2.2	2.2	1.4 L
Barclays	5.3 L	na	na	na	5.4	na	na	na	na	na	na	na	na	na	na	na	1.5	2.8	2.9	2.7
Chmura Economics & Analytics	5.3 L	8.5	5.3 L	5.4	5.6 H	5.5	5.4	5.0	4.6	4.6	4.8	5.4	na	na	7.5	na	1.7	3.3	3.3	3.1
DePrince & Assoc.	5.3 L	8.5	5.4	5.4	5.6 H	5.5	5.4	5.0	4.6	4.6	4.8	5.4	6.4	4.3	7.5	116.7	1.1	3.0	3.3	3.1
Economist Intelligence Unit	5.3 L	8.5	na	5.4	5.6 H	5.5	5.3	5.1	4.7	4.5	4.8	na	na	na	7.5	na	0.6	na	2.9	na
EY-Parthenon	5.3 L	na	na	na	5.4	na	na	na	na	4.6	na	na	na	na	na	na	1.3	2.7	2.5	2.1
Loomis, Sayles & Company	5.3 L	8.5	5.3 L	5.3 L	5.5	5.5	5.3	5.0	4.6	4.5	4.7	5.3	6.3	4.6	7.4	117.2	1.1	2.9	2.9	2.6
MacroFin Analytics & Rutgers Bus School	5.3 L	8.5	5.3 L	5.4	5.5	5.4	5.4	4.9	4.4	4.5	4.6	5.5	6.0 L	4.5	7.4	115.8	1.2	3.3	3.3	2.7
Moody's Analytics	5.3 L	8.5	5.3 L	5.4	5.3 L	5.3 L	5.3	5.1	4.8	4.7	5.0	5.8	6.8 H	4.4	7.7	na	0.8	2.7	3.2	3.1
NatWest Markets	5.3 L	na	na	5.4	5.6 H	5.7 H	5.8 H	4.8	4.5	4.5	4.8	5.8	6.7	5.2 H	7.0	na	1.0	2.2	2.5	2.2
PNC Financial Services Corp.	5.3 L	8.5	5.3 L	na	5.4	5.5	5.4	5.0	4.7	4.6	4.8	na	6.5	4.1	7.5	114.6 L	1.4	2.7	2.4	2.1
Regions Financial Corporation	5.3 L	8.5	5.3 L	5.4	5.5	5.5	5.3	4.9	4.6	4.6	4.7	5.6	6.4	4.7	7.4	117.3	0.6	2.7	2.9	2.7
Santander Capital Markets	5.3 L	8.5	5.3 L	5.4	5.6 H	5.5	5.3	4.9	4.6	4.6	4.8	5.4	6.4	3.9 L	7.5	116.8	1.9	3.0	2.6	2.5
Societe Generale	5.3 L	8.5	5.3 L	na	5.5	5.5	5.3	4.9	4.6	4.6	4.7	na	na	na	na	na	1.6	2.7	2.7	2.0
Via Nova Investment Mgt.	5.3 L	8.5	5.3 L	5.3 L	5.6 H	5.5	5.5	5.1	4.8	4.9	5.0	6.0 H	6.6	4.9	7.7	117.6	2.0 H	2.2	2.1 L	2.0
December Consensus	**5.4**	**8.5**	**5.4**	**5.4**	**5.5**	**5.5**	**5.4**	**4.9**	**4.6**	**4.6**	**4.8**	**5.5**	**6.4**	**4.6**	**7.4**	**116.6**	**1.2**	**2.7**	**2.9**	**2.6**
Top 10 Avg.	5.4	8.5	5.4	5.5	5.6	5.5	5.5	5.1	4.8	4.8	4.9	5.7	6.7	4.9	7.7	117.4	1.8	3.2	3.5	3.3
Bottom 10 Avg.	5.3	8.5	5.3	5.4	5.4	5.4	5.3	4.8	4.4	4.4	4.6	5.3	6.2	4.3	7.1	115.9	0.7	2.1	2.4	2.0
November Consensus	5.4	8.5	5.4	5.4	5.5	5.5	5.4	5.0	4.7	4.7	4.8	5.6	6.6	4.8	7.5	117.6	0.9	2.7	3.2	2.9
Number of Forecasts Changed From A Month Ago:																				
Down	8	4	4	4	13	16	12	18	20	20	17	13	12	14	17	11	9	15	21	19
Same	29	24	21	16	16	8	13	12	8	6	7	3	4	5	2	4	9	5	5	8
Up	0	1	0	1	4	4	3	5	7	10	10	7	6	0	9	3	19	15	10	8
Diffusion Index	39%	45%	42%	43%	36%	29%	34%	31%	31%	36%	40%	37%	36%	13%	36%	28%	64%	50%	35%	34%

First Quarter 2024

Interest Rate Forecasts / Key Assumptions

Blue Chip Financial Forecasts Panel Members	Percent Per Annum -- Average For Quarter: Short-Term							Intermediate-Term			Long-Term					Avg. For Qtr.	(Q-Q % Change) (SAAR)			
	1 Federal Funds Rate	2 Prime Bank Rate	3 SOFR Rate	4 Com. Paper 1-Mo.	5 Treas. Bills 3-Mo.	6 Treas. Bills 6-Mo.	7 Treas. Bills 1-Yr.	8 Treas. Notes 2-Yr.	9 Treas. Notes 5-Yr.	10 Treas. Notes 10-Yr.	11 Treas. Bond 30-Yr.	12 Aaa Corp. Bond	13 Baa Corp. Bond	14 State & Local Bonds	15 Home Mtg. Rate	A. Fed's Adv Fgn Econ $ Index	B. Real GDP	C. GDP Price Index	D. Cons. Price Index	E. PCE Price Index
S&P Global Market Intelligence	5.6 H	8.7 H	5.6	na	5.6 H	5.5	5.6	5.1 H	4.7	4.6	4.8	na	na	na	7.5	na	0.9	2.4	1.9	1.9
J.P. Morgan Chase	5.5	na	na	na	na	na	na	4.8	4.4	4.4	4.6	na	na	na	na	na	1.3	1.9	2.1	1.7
Scotiabank Group	5.5	na	5.3	na	5.4	na	na	4.4	4.2	4.5	4.6	na	na	na	na	na	0.0	1.6 L	2.3	2.6
Bank of America	5.4	na	na	na	na	na	na	4.8	4.5	4.4	4.7	na	na	na	na	na	0.5	3.1	3.2	3.1
BMO Capital Markets	5.4	8.5	5.3	5.4	5.5	5.4	5.1	4.6	4.4	4.4	4.6	5.4	6.5	5.0	7.4	117.2	0.2	2.7	3.2	3.0
Chan Economics	5.4	8.4	5.3	5.3	5.4	5.5	5.3	4.8	4.3	4.4	4.6	5.6	6.6	5.0	7.2	114.7	1.0	2.6	2.8	2.4
Chmura Economics & Analytics	5.4	8.5	5.4	5.4	5.5	5.5	5.4	4.9	4.6	4.6	4.7	5.4	na	na	7.6	na	0.3	3.0	3.0	2.9
Comerica Bank	5.4	8.6	5.4	na	5.4	5.4	5.1	4.5	4.4	4.5	4.7	5.4	6.3	na	7.3	na	0.5	2.2	2.4	2.5
Daiwa Capital Markets America	5.4	8.5	na	na	5.3	na	na	4.5	4.1 L	4.3	4.4 L	na	na	na	7.1	116.0	-1.0 L	2.6	2.6	2.5
DePrince & Assoc.	5.4	8.5	5.4	5.4	5.5	5.4	5.3	4.9	4.6	4.6	4.7	5.5	6.5	4.6	7.3	117.2	0.7	2.7	2.9	2.7
GLC Financial Economics	5.4	8.5	5.4	5.3	5.4	5.2	5.0	4.5	4.7	4.6	4.7	5.4	6.2	4.4	6.7	116.9	1.3	3.5 H	2.8	2.4
Goldman Sachs & Co.	5.4	na	na	na	5.5	na	na	5.0	4.7	4.8 H	4.7	na	na	na	na	na	1.8	2.3	2.7	2.4
ING	5.4	na	na	na	na	na	na	4.5	4.2	4.3	4.5	na	na	na	na	na	0.0	na	na	na
KPMG	5.4	8.5	5.4	5.3	5.5	5.6	5.5	5.0	4.7	4.6	4.7	5.5	6.6	na	7.5	na	0.8	2.4	1.9	1.9
MacroPolicy Perspectives	5.4	8.5	5.3	na	na	na	na	4.7	4.3	4.5	na	na	na	na	7.2	na	1.2	2.0	1.8	1.6
Nomura Securities, Inc.	5.4	8.5	na	na	na	na	na	4.8	4.5	4.5	na	na	na	na	na	na	1.3	1.6 L	2.5	2.2
Oxford Economics	5.4	8.5	5.4	na	5.6 H	5.5	5.4	5.0	4.6	4.6	4.8	5.3	na	na	7.5	119.4 H	0.0	2.6	2.9	2.5
RDQ Economics	5.4	8.5	5.4	6.0 H	5.3	5.2	4.9	4.7	4.6	4.6	4.6	5.8	6.6	4.7	7.3	117.3	0.5	3.0	3.4 H	3.2 H
The Northern Trust Company	5.4	8.5	5.3	5.4	5.5	5.4	5.4	5.0	4.8	4.7	5.0 H	5.6	6.6	4.9	7.6	116.0	0.9	2.3	2.8	2.6
Wells Fargo	5.4	8.5	5.4	5.4	5.2	5.1	4.7	4.4	4.2	4.3	4.6	5.5	6.5	4.9	7.2	na	0.9	2.5	2.9	2.5
Action Economics	5.3	8.5	5.8 H	5.4	5.5	5.4	5.3	4.9	4.7	4.7	4.8	5.6	6.6	4.5	7.8 H	118.4	0.6	1.8	1.9	1.4 L
Barclays	5.3	na	na	na	5.4	na	na	5.0	4.7	4.8 H	5.0 H	na	na	na	na	na	1.0	3.1	2.9	3.0
Economist Intelligence Unit	5.3	8.5	na	5.4	5.5	5.4	5.1	5.0	4.7	4.6	4.8	na	na	na	7.5	na	-0.9	na	2.3	na
EY-Parthenon	5.3	na	na	na	5.0	na	na	na	na	4.2 L	na	na	na	na	na	na	-0.1	2.5	2.5	2.2
Fannie Mae	5.3	8.4	na	na	5.3	5.3	5.0	4.7	4.3	4.4	4.5	na	na	na	7.0	na	0.1	2.2	1.8	1.8
Georgia State University	5.3	8.4	na	na	5.4	5.2	5.2	4.8	4.5	4.5	4.7	5.4	6.6	na	7.4	na	0.3	2.3	1.9	1.9
Loomis, Sayles & Company	5.3	8.5	5.3	5.3	5.5	5.5	5.3	5.0	4.6	4.5	4.7	5.3	6.3	4.6	7.3	116.8	1.5	2.1	1.7 L	1.6
MacroFin Analytics & Rutgers Bus School	5.3	8.5	5.3	5.4	5.3	5.4	5.4	4.8	4.4	4.4	4.5	5.4	5.9 L	4.4	7.2	115.7	1.0	2.5	2.8	2.6
Moody's Analytics	5.3	8.5	5.3	5.3	5.1	5.1	5.0	4.8	4.5	4.3	4.7	5.7	6.7	4.4	7.1	na	1.1	2.1	2.7	2.4
NatWest Markets	5.3	na	na	5.4	5.6 H	5.7 H	5.8 H	4.5	4.3	4.4	4.7	5.7	6.6	5.1	6.9	na	1.3	1.6 L	2.2	1.9
PNC Financial Services Corp.	5.3	8.5	5.3	na	5.3	5.4	5.2	4.9	4.7	4.5	4.6	na	6.9 H	5.3 H	7.4	115.0	0.4	2.2	1.8	1.8
Regions Financial Corporation	5.3	8.5	5.3	5.4	5.5	5.4	5.2	4.8	4.4	4.4	4.6	5.3	6.3	4.6	7.2	116.5	0.4	2.4	2.8	2.9
Santander Capital Markets	5.3	8.5	5.3	5.4	5.5	5.4	5.2	4.9	4.5	4.6	4.8	5.4	6.4	4.0 L	7.4	116.0	1.2	3.1	2.8	2.6
Societe Generale	5.3	8.5	5.3	na	5.3	5.1	4.7	4.2 L	4.3	4.3	4.5	na	na	na	na	na	0.5	1.8	2.2	2.2
The Lonski Group	5.3	8.5	5.3	5.4	5.5	5.3	5.0	4.8	4.5	4.3	4.5	5.4	6.1	4.5	7.2	117.9	0.4	2.2	2.3	2.6
Via Nova Investment Mgt.	5.3	8.5	5.4	5.4	5.3	5.3	5.3	4.9	4.9 H	4.8 H	4.9	5.9 H	6.5	4.8	7.6	116.0	2.5 H	2.1	2.1	2.1
TS Lombard	4.8 L	7.9 L	4.8 L	4.8 L	4.7 L	4.8 L	4.5 L	4.3	4.2	4.3	4.4 L	5.1 L	6.0	4.3	6.1 L	110.0 L	0.2	3.2	3.2	3.2 H
December Consensus	**5.4**	**8.5**	**5.3**	**5.4**	**5.4**	**5.3**	**5.2**	**4.8**	**4.5**	**4.5**	**4.7**	**5.5**	**6.4**	**4.7**	**7.3**	**116.3**	**0.7**	**2.4**	**2.5**	**2.4**
Top 10 Avg.	5.4	8.5	5.5	5.5	5.5	5.5	5.4	5.0	4.7	4.7	4.8	5.6	6.6	4.9	7.5	117.4	1.5	3.0	3.0	2.9
Bottom 10 Avg.	5.3	8.4	5.3	5.3	5.2	5.2	4.9	4.4	4.2	4.3	4.5	5.3	6.3	4.4	7.0	115.3	-0.1	1.9	1.9	1.8
November Consensus	5.4	8.5	5.4	5.4	5.4	5.4	5.2	4.8	4.5	4.5	4.7	5.5	6.5	4.8	7.3	118.0	0.3	2.4	2.5	2.4
Number of Forecasts Changed From A Month Ago:																				
Down	10	7	7	6	12	10	10	14	12	14	12	12	11	13	13	11	10	14	11	12
Same	25	19	17	9	13	11	13	15	13	10	11	3	3	2	6	3	12	9	8	11
Up	2	3	1	5	7	6	4	7	11	13	11	7	7	3	9	3	15	12	17	12
Diffusion Index	39%	43%	38%	48%	42%	43%	39%	40%	49%	49%	49%	39%	40%	22%	43%	26%	57%	47%	58%	50%

Second Quarter 2024

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	Percent Per Annum -- Average For Quarter: Short-Term: 1 Federal Funds Rate	2 Prime Bank Rate	3 SOFR Rate	4 Com. Paper 1-Mo.	5 Treas. Bills 3-Mo.	6 Treas. Bills 6-Mo.	7 Treas. Bills 1-Yr.	Intermediate-Term: 8 Treas. Notes 2-Yr.	9 Treas. Notes 5-Yr.	10 Treas. Notes 10-Yr.	Long-Term: 11 Treas. Bond 30-Yr.	12 Aaa Corp. Bond	13 Baa Corp. Bond	14 State & Local Bonds	15 Home Mtg. Rate	Avg. For --Qtr.-- A. Fed's Adv Fgn Econ $ Index	(Q-Q % Change) (SAAR): B. Real GDP	C. GDP Price Index	D. Cons. Price Index	E. PCE Price Index
S&P Global Market Intelligence	5.6 H	8.7 H	5.5	na	5.4	5.2	5.2	4.8	4.4	4.4	4.6	na	na	na	7.2	na	0.1	2.9	2.8	2.6
J.P. Morgan Chase	5.5	na	na	na	na	na	na	4.6	4.3	4.4	4.7	na	na	na	na	na	0.5	2.0	1.9	1.5
Action Economics	5.4	8.5	5.6 H	5.4	5.5	5.3	5.1	4.8	4.6	4.6	4.7	5.4	6.4	4.4	7.7 H	118.7	1.0	1.9	2.3	1.7
BMO Capital Markets	5.4	8.5	5.3	5.4	5.5	5.4	5.0	4.3	4.3	4.3	4.5	5.4	6.5	5.0	7.3	117.2	0.8	2.2	2.4	2.3
Chan Economics	5.4	8.4	5.3	5.3	5.4	5.5 H	5.3 H	4.8	4.3	4.4	4.6	5.6	6.6	5.0	7.2	114.8	0.5	2.6	2.8	2.4
Goldman Sachs & Co.	5.4	na	na	na	5.3	na	na	4.9	4.6	4.7	4.7	na	na	na	na	na	1.6	2.2	2.3	2.3
Nomura Securities, Inc.	5.4	8.5	na	na	na	na	na	4.6	4.4	4.5	na	na	na	na	na	na	1.4	1.5	2.2	1.9
Oxford Economics	5.4	8.5	5.4	na	5.6 H	5.5 H	5.3 H	5.0 H	4.4	4.4	4.7	5.2	na	na	7.3	119.0 H	0.0	2.2	2.3	2.2
RDQ Economics	5.4	8.5	5.4	5.9 H	5.3	5.2	4.8	4.5	4.5	4.5	4.5	5.9 H	7.0	4.7	7.1	116.4	-1.1	3.1	3.4 H	3.2 H
The Northern Trust Company	5.4	8.5	5.3	5.5	5.4	5.4	5.3 H	4.7	4.7 H	4.7	5.0 H	5.7	6.8	5.0	7.5	115.0	1.1	2.2	2.5	2.4
Barclays	5.3	na	na	na	5.4	na	na	4.9	4.6	4.7	4.9	na	na	na	na	na	0.0	2.4	1.8	2.2
Chmura Economics & Analytics	5.3	8.4	5.3	5.3	5.3	5.4	5.3 H	4.9	4.6	4.8 H	4.8	5.5	na	na	7.7 H	na	0.5	3.1	2.9	2.6
Comerica Bank	5.3	8.5	5.3	na	5.3	5.2	4.8	4.1	4.1	4.2	4.5	5.2	6.1	na	6.8	na	1.0	2.1	2.0	2.2
Economist Intelligence Unit	5.3	8.5	na	5.3	5.3	5.2	4.9	4.8	4.5	4.5	4.6	na	na	na	7.3	na	0.5	na	2.3	na
EY-Parthenon	5.3	na	na	na	4.9	na	na	na	na	4.0	na	na	na	na	na	na	0.8	2.3	2.0	2.1
KPMG	5.3	8.5	5.3	5.1	5.3	5.3	5.1	4.7	4.3	4.3	4.4	5.1	6.3	na	7.1	na	0.5	2.9	2.7	2.6
Loomis, Sayles & Company	5.3	8.5	5.3	5.3	5.5	5.5 H	5.3 H	5.0 H	4.6	4.5	4.7	5.3	6.3	4.6	7.2	116.8	1.1	2.5	2.1	1.9
Moody's Analytics	5.3	8.5	5.3	5.2	5.0	4.9	4.8	4.7	4.4	4.2	4.7	5.6	6.7	4.3	6.8	na	1.2	2.0	2.6	2.5
PNC Financial Services Corp.	5.3	8.5	5.3	na	5.3	5.2	5.1	4.8	4.7 H	4.6	4.7	na	7.1 H	5.9 H	7.3	117.2	-0.8	2.1	1.7	1.7
Regions Financial Corporation	5.3	8.5	5.3	5.3	5.4	5.4	5.1	4.5	4.3	4.2	4.4	5.2	6.2	4.5	7.0	116.1	1.0	2.7	3.1	3.0
Santander Capital Markets	5.3	8.5	5.3	5.4	5.4	5.3	5.1	4.9	4.5	4.5	4.7	5.4	6.5	3.9 L	7.2	115.5	1.1	2.9	2.9	2.6
Scotiabank Group	5.3	na	5.1	na	5.0	na	na	3.9	3.9	4.2	4.3	na	na	na	na	na	0.2	0.8 L	1.7	1.5
DePrince & Assoc.	5.2	8.3	5.3	5.2	5.3	5.3	5.2	4.9	4.6	4.6	4.7	5.6	6.6	4.8	7.1	117.6	1.0	2.6	2.8	2.6
MacroFin Analytics & Rutgers Bus School	5.2	8.4	5.1	5.3	5.2	5.3	5.1	4.8	4.2	4.4	4.5	5.2	5.8	4.3	7.1	115.5	1.0	2.3	2.5	2.5
MacroPolicy Perspectives	5.2	8.4	5.1	na	na	na	na	4.5	4.3	4.5	na	na	na	na	7.1	na	1.5	1.8	1.5	1.4
Bank of America	5.1	na	na	na	na	na	na	4.5	4.4	4.3	4.7	na	na	na	na	na	0.5	2.6	2.8	2.5
Daiwa Capital Markets America	5.1	8.3	na	na	4.9	na	na	4.1	3.7 L	3.9	4.2	na	na	na	6.6	116.0	-1.4	2.5	2.5	2.4
Fannie Mae	5.1	8.3	na	na	5.1	5.0	4.8	4.5	4.3	4.3	4.5	na	na	na	6.9	na	-1.5	2.6	2.0	2.1
GLC Financial Economics	5.1	8.2	5.1	5.0	5.0	4.8	4.7	4.2	4.3	4.3	4.5	5.1	6.1	4.3	6.4	113.3	1.2	2.9	2.6	2.2
Societe Generale	5.1	8.3	5.1	na	4.9	4.6	4.1	3.5 L	3.7 L	3.8 L	4.1 L	na	na	na	na	na	-1.8	1.8	2.2	2.0
Wells Fargo	5.1	8.3	5.1	5.1	4.8	4.4	3.9	3.7	3.7 L	3.9	4.2	5.1	6.1	4.5	6.7	na	-0.3	1.3	1.0 L	1.3 L
Via Nova Investment Mgt.	5.0	8.3	5.1	5.1	5.0	5.0	5.0	4.6	4.6	4.5	4.6	5.6	6.2	4.5	7.3	114.0	2.5 H	2.1	2.1	2.1
ING	4.9	na	na	na	na	na	na	4.1	4.0	4.0	4.4	na	na	na	na	na	-2.0 L	na	na	na
The Lonski Group	4.9	8.1	4.9	4.9	4.7	4.7	4.5	4.4	4.2	4.0	4.1 L	5.1	6.0	4.2	6.9	118.5	0.0	2.3	2.2	2.3
Georgia State University	4.5	7.6	na	na	4.5	4.2	4.1	3.9	4.0	4.3	4.4	5.2	6.3	na	7.2	na	-0.5	2.8	2.7	2.6
NatWest Markets	4.3	na	na	4.4	4.6	4.7	4.8	3.6	3.8	4.3	4.7	5.2	6.1	4.9	6.7	na	-1.5	1.8	1.1	1.8
TS Lombard	3.5 L	6.6 L	3.5 L	3.5 L	3.4 L	3.5 L	3.6 L	3.8	3.9	4.0	4.1 L	4.9 L	5.7 L	4.0	5.8 L	108.0 L	0.4	3.2 H	3.2	3.2 H
December Consensus	**5.2**	**8.3**	**5.2**	**5.1**	**5.1**	**5.1**	**4.9**	**4.5**	**4.3**	**4.3**	**4.5**	**5.3**	**6.4**	**4.6**	**7.1**	**115.9**	**0.3**	**2.3**	**2.3**	**2.2**
Top 10 Avg.	5.4	8.5	5.4	5.4	5.5	5.4	5.2	4.9	4.6	4.6	4.8	5.6	6.7	4.9	7.4	117.4	1.4	2.9	2.9	2.8
Bottom 10 Avg.	4.8	8.0	4.9	4.9	4.7	4.6	4.4	3.9	3.9	4.0	4.3	5.1	6.1	4.3	6.7	114.5	-1.1	1.7	1.7	1.7
November Consensus	5.2	8.4	5.3	5.2	5.2	5.1	4.9	4.5	4.3	4.3	4.5	5.4	6.4	4.6	7.1	117.2	0.3	2.3	2.4	2.2
Number of Forecasts Changed From A Month Ago:																				
Down	12	7	8	8	13	11	12	14	14	11	12	10	10	9	12	11	13	5	10	6
Same	21	17	14	9	14	9	10	14	13	13	11	7	6	7	6	3	12	14	13	18
Up	4	5	3	3	5	7	5	8	9	13	11	5	5	2	10	3	12	16	13	11
Diffusion Index	39%	47%	40%	38%	38%	43%	37%	42%	43%	53%	49%	39%	38%	31%	46%	26%	49%	66%	54%	57%

Third Quarter 2024

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	Percent Per Annum -- Average For Quarter: Short-Term							Intermediate-Term			Long-Term					Avg. For --Qtr.--	(Q-Q % Change) (SAAR)			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	A.	B.	C.	D.	E.
	Federal Funds Rate	Prime Bank Rate	SOFR Rate	Com. Paper 1-Mo.	Treas. Bills 3-Mo.	Treas. Bills 6-Mo.	Treas. Bills 1-Yr.	Treas. Notes 2-Yr.	Treas. Notes 5-Yr.	Treas. Notes 10-Yr.	Treas. Bond 30-Yr.	Aaa Corp. Bond	Baa Corp. Bond	State & Local Bonds	Home Mtg. Rate	Fed's Adv Fgn Econ $ Index	Real GDP	GDP Price Index	Cons. Price Index	PCE Price Index
Chan Economics	5.4 H	8.4	5.3	5.3	5.4	5.5 H	5.3 H	4.8	4.3	4.4	4.6	5.6	6.6	5.0	7.2	114.5	0.3	2.4	2.6	2.2
Goldman Sachs & Co.	5.4 H	na	na	na	5.0	na	na	4.8	4.6	4.6	4.6	na	na	na	na	na	1.7	2.3	2.4	2.3
J.P. Morgan Chase	5.4 H	na	na	na	na	na	na	4.3	4.1	4.2	4.6	na	na	na	na	na	0.5	2.5	2.7	2.3
Oxford Economics	5.4 H	8.5 H	5.4	na	5.5 H	5.4	5.2	4.8	4.0	4.3	4.6	4.6 L	na	na	7.1	117.7	0.5	2.3	2.2	2.2
Action Economics	5.3	8.4	5.8 H	5.3	5.3	5.1	4.9	4.7	4.5	4.5	4.7	5.4	6.4	4.3	7.6	118.8	1.3	1.4 L	2.4	1.7
Barclays	5.3	na	na	na	5.3	na	na	4.6	4.4	4.5	4.7	na	na	na	na	na	-0.5	2.8	2.6	2.6
BMO Capital Markets	5.3	8.4	5.3	5.3	5.5 H	5.4	4.9	4.1	4.1	4.2	4.4	5.4	6.5	5.0	7.2	117.4	1.3	2.2	2.4	2.2
Loomis, Sayles & Company	5.3	8.5 H	5.3	5.3	5.5 H	5.5 H	5.3 H	5.0	4.6	4.5	4.7	5.3	6.3	4.6	7.1	116.7	-1.5	1.9	1.2 L	1.2 L
Regions Financial Corporation	5.3	8.5 H	5.3	5.2	5.2	5.1	4.9	4.3	4.2	4.1	4.4	5.2	6.2	4.5	6.8	115.7	1.2	2.4	2.4	2.6
S&P Global Market Intelligence	5.3	8.4	5.3	na	5.1	4.8	4.8	4.4	4.1	4.2	4.4	na	na	na	6.8	na	1.1	2.5	3.3	2.7
Santander Capital Markets	5.3	8.5 H	5.3	5.3	5.2	5.1	4.9	4.7	4.4	4.3	4.7	5.5	6.6	3.8 L	6.9	115.0	0.8	2.7	2.7	2.3
PNC Financial Services Corp.	5.2	8.3	5.2	na	5.0	5.0	4.9	4.7	4.7	4.7	4.8	na	7.1	5.9 H	7.3	119.7 H	-1.4	2.0	1.6	1.6
RDQ Economics	5.2	8.3	5.2	5.7 H	5.1	5.0	4.6	4.3	4.4	4.4	4.4	6.0	7.2 H	4.6	6.9	116.2	-1.8 L	3.0	3.2	3.1
Comerica Bank	5.1	8.3	5.1	na	5.1	4.9	4.5	3.9	3.9	4.0	4.3	5.0	5.9	na	6.5	na	1.3	2.0	2.1	2.2
Economist Intelligence Unit	5.1	8.3	na	5.1	5.0	4.8	4.6	4.6	4.4	4.4	4.5	na	na	na	7.1	na	1.1	na	2.2	na
Fannie Mae	5.1	8.3	na	na	4.9	4.8	4.6	4.4	4.2	4.3	4.5	na	na	na	6.7	na	-0.5	2.2	2.1	2.0
Nomura Securities, Inc.	5.1	8.3	na	na	na	na	na	3.7	3.7	3.9	na	na	na	na	na	na	-1.1	2.0	2.8	2.5
The Northern Trust Company	5.1	8.3	5.1	5.2	5.1	4.9	4.7	4.3	4.4	4.5	4.8	5.6	6.7	4.8	7.0	114.0	1.3	2.2	2.3	2.3
Chmura Economics & Analytics	5.0	8.1	4.9	5.0	5.0	5.1	5.2	4.8	4.5	4.7	4.8	5.4	na	na	7.4	na	0.8	2.8	2.8	2.5
DePrince & Assoc.	5.0	8.1	5.0	5.0	5.0	5.0	4.9	4.7	4.6	4.6	4.7	5.7	6.6	4.8	7.0	117.3	1.8	2.5	2.7	2.5
EY-Parthenon	5.0	na	na	na	4.6	na	na	na	na	3.9	na	na	na	na	na	na	1.5	2.2	2.5	2.2
Moody's Analytics	5.0	8.2	5.0	4.9	4.7	4.7	4.6	4.5	4.3	4.1	4.6	5.6	6.6	4.3	6.7	na	1.5	1.8	2.3	2.3
Bank of America	4.9	na	na	na	na	na	na	4.3	4.3	4.3	4.7	na	na	na	na	na	0.5	2.7	2.5	2.4
KPMG	4.9	8.0	4.9	4.6	4.9	4.8	4.7	4.3	3.9	3.9	4.1	4.8	6.0	na	6.5	na	1.0	2.6	3.4 H	2.8
Scotiabank Group	4.8	na	4.6	na	4.2	na	na	3.7	3.8	4.0	4.2	na	na	na	na	na	0.8	1.5	3.2	1.9
Via Nova Investment Mgt.	4.8	8.0	4.8	4.9	4.8	4.8	4.8	5.1 H	5.1 H	5.1 H	5.1 H	6.2 H	6.8	5.1	7.9 H	112.0	2.5 H	2.1	2.1	2.1
GLC Financial Economics	4.7	7.8	4.6	4.7	4.6	4.6	4.4	4.0	4.2	4.2	4.5	5.1	6.0	4.3	6.2	116.1	2.1	1.4 L	2.2	2.3
MacroPolicy Perspectives	4.7	7.8	4.6	na	na	na	na	4.0	4.2	4.3	na	na	na	na	6.8	na	2.0	2.4	2.5	2.0
Daiwa Capital Markets America	4.6	7.8	na	na	4.4	na	na	3.7	3.5 L	3.6	4.3	na	na	na	6.3	115.0	1.0	2.4	2.5	2.4
MacroFin Analytics & Rutgers Bus School	4.6	7.8	4.5	4.7	4.5	4.7	4.8	4.7	4.0	4.2	4.4	5.1	5.7 L	4.1	6.9	115.3	1.3	2.2	2.3	2.4
Societe Generale	4.6	7.8	4.6	na	4.4	4.1	3.7	3.3	3.5 L	3.6	3.9 L	na	na	na	na	na	-0.5	1.8	2.2	1.9
ING	4.4	na	na	na	na	na	na	3.5	3.5 L	3.5 L	3.9 L	na	na	na	na	na	-1.7	na	na	na
The Lonski Group	4.4	7.6	4.4	4.4	4.2	4.2	4.1	4.0	4.0	3.9	4.1	5.0	5.8	4.1	6.7	118.7	0.8	2.1	2.1	2.2
Wells Fargo	4.4	7.5	4.4	4.4	4.0	3.6	3.4 L	3.4	3.5 L	3.7	4.0	4.9	5.9	4.3	6.4	na	-1.5	1.4 L	1.3	1.4
Georgia State University	4.0	7.2	na	na	3.9	3.7	3.5	3.5	3.7	4.0	4.3	5.0	6.1	na	6.8	na	0.4	2.4	3.3	2.6
TS Lombard	3.5	6.6 L	3.5 L	3.5	3.4 L	3.5 L	3.6	3.8	3.9	4.0	4.1	4.9	5.7 L	4.0	5.8 L	110.0 L	1.5	3.4 H	3.4 H	3.4 H
NatWest Markets	3.3 L	na	na	3.4 L	3.6	3.7	3.8	3.2 L	3.5 L	4.1	4.6	4.9	5.8	4.6	6.4	na	-0.5	1.6	1.7	2.0
December Consensus	**4.9**	**8.1**	**4.9**	**4.9**	**4.8**	**4.7**	**4.6**	**4.2**	**4.1**	**4.2**	**4.5**	**5.3**	**6.3**	**4.6**	**6.9**	**115.9**	**0.6**	**2.2**	**2.5**	**2.3**
Top 10 Avg.	5.3	8.4	5.3	5.3	5.3	5.2	5.0	4.8	4.6	4.6	4.8	5.6	6.7	4.9	7.3	117.4	1.7	2.8	3.1	2.7
Bottom 10 Avg.	4.3	7.6	4.5	4.5	4.1	4.2	4.0	3.6	3.7	3.8	4.1	4.9	5.9	4.2	6.4	114.4	-1.1	1.7	1.9	1.8
November Consensus	4.9	8.0	4.9	4.8	4.8	4.7	4.6	4.2	4.1	4.2	4.5	5.2	6.3	4.5	6.8	116.6	1.0	2.2	2.5	2.3
Number of Forecasts Changed From A Month Ago:																				
Down	11	7	7	7	14	14	12	12	11	10	12	8	8	10	13	8	17	10	8	8
Same	22	16	15	9	12	8	7	13	16	15	10	7	7	4	6	5	12	16	16	15
Up	4	6	3	4	6	5	8	11	9	12	12	7	6	4	9	4	8	9	12	12
Diffusion Index	41%	48%	42%	43%	38%	33%	43%	49%	47%	53%	50%	48%	45%	33%	43%	38%	38%	49%	56%	56%

Fourth Quarter 2024

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	Percent Per Annum -- Average For Quarter: Short-Term							Intermediate-Term			Long-Term					Avg. For Qtr.	(Q-Q % Change) (SAAR)			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	A.	B.	C.	D.	E.
	Federal Funds Rate	Prime Bank Rate	SOFR Rate	Com. Paper 1-Mo.	Treas. Bills 3-Mo.	Treas. Bills 6-Mo.	Treas. Bills 1-Yr.	Treas. Notes 2-Yr.	Treas. Notes 5-Yr.	Treas. Notes 10-Yr.	Treas. Bond 30-Yr.	Aaa Corp. Bond	Baa Corp. Bond	State & Local Bonds	Home Mtg. Rate	Fed's Adv Fgn Econ $ Index	Real GDP	GDP Price Index	Cons. Price Index	PCE Price Index
Barclays	5.3 H	na	na	na	5.1	na	na	4.4	4.3	4.3	4.5	na	na	na	na	na	1.0	2.7	2.6	2.6
Chan Economics	5.2	8.2	5.1	5.1	5.2	5.3 H	5.1 H	4.6	4.1	4.2	4.4	5.4	6.4	4.8	7.0	114.3	0.8	2.3	2.5	2.1
Goldman Sachs & Co.	5.1	na	na	na	4.8	na	na	4.6	4.5	4.6	4.5	na	na	na	na	na	1.9	2.1	2.4	2.1
Loomis, Sayles & Company	5.1	8.3 H	5.1	5.1	5.2	5.1	4.9	4.6	4.6	4.5	4.7	5.3	6.3	4.6	6.9	116.6	-2.2 L	1.9	1.5 L	1.5 L
Regions Financial Corporation	5.1	8.3 H	5.1	5.2 H	4.8	4.8	4.8	4.1	4.1	4.1	4.3	5.1	6.2	4.4	6.7	115.5	1.6	2.4	2.4	2.5
S&P Global Market Intelligence	5.1	8.2	5.0	na	4.8	4.5	4.5	4.1	3.9	4.0	4.3	na	na	na	6.5	na	1.3	2.3	2.0	2.1
Santander Capital Markets	5.1	8.3 H	5.1	5.1	4.7	4.6	4.5	4.4	4.2	4.1	4.4	5.2	6.3	3.6 L	6.6	114.0	1.1	2.5	2.5	2.1
Action Economics	5.0	8.2	5.7 H	5.0	5.1	4.9	4.6	4.6	4.5	4.5	4.6	5.3	6.3	4.3	7.6 H	119.0	1.6	1.5	2.4	1.8
BMO Capital Markets	5.0	8.2	5.0	5.1	5.2	5.1	4.6	3.9	4.0	4.1	4.3	5.3	6.4	4.8	7.1	117.6	1.5	2.0	2.2	2.0
Fannie Mae	5.0	8.1	na	na	4.6	4.6	4.4	4.3	4.2	4.3	4.4	na	na	na	6.6	na	0.5	2.2	2.6	2.3
J.P. Morgan Chase	5.0	na	na	na	na	na	na	3.9	3.9	4.0	4.5	na	na	na	na	na	0.8	2.3	2.4	2.0
Oxford Economics	5.0	8.2	5.0	na	5.3 H	5.2	4.9	4.5	3.7	4.1	4.4	4.2 L	na	na	6.9	116.1	0.7	2.3	1.8	2.2
PNC Financial Services Corp.	5.0	8.1	5.0	na	4.7	4.6	4.6	4.6	4.7	4.8 H	5.0	na	7.1 H	5.9 H	7.2	122.0 H	-1.2	1.9	1.8	1.6
Comerica Bank	4.8	8.0	4.8	na	4.7	4.5	4.0	3.5	3.5	3.7	4.0	4.7	5.6 L	na	6.0	na	1.5	2.0	2.1	2.2
Economist Intelligence Unit	4.8	8.0	na	4.8	4.8	4.6	4.5	4.4	4.2	4.3	4.5	na	na	na	7.0	na	1.5	na	2.1	na
EY-Parthenon	4.8	na	na	na	4.4	na	na	na	na	3.8	na	na	na	na	na	na	1.8	2.1	2.2	2.1
Moody's Analytics	4.8	7.9	4.7	4.7	4.5	4.4	4.4	4.3	4.2	4.1	4.5	5.5	6.5	4.2	6.5	na	1.5	1.9	2.2	2.3
DePrince & Assoc.	4.7	7.8	4.7	4.7	4.7	4.7	4.6	4.5	4.5	4.5	4.6	5.7	6.6	4.9	6.8	117.1	2.1	2.4	2.6	2.4
RDQ Economics	4.7	7.8	4.7	5.1	4.6	4.6	4.4	4.2	4.3	4.3	5.3 H	5.9 H	7.0	5.6	6.8	115.1	0.9	2.9	3.0	3.0
Bank of America	4.6	na	na	na	na	na	na	4.0	4.2	4.3	4.8	na	na	na	na	na	1.0	2.5	1.9	2.2
Nomura Securities, Inc.	4.6	7.8	na	na	na	na	na	3.2	3.3 L	3.7	na	na	na	na	na	na	-1.9	1.6	2.7	2.3
The Northern Trust Company	4.6	7.8	4.6	4.7	4.5	4.3	4.2	3.9	4.2	4.3	4.6	5.6	6.7	4.7	6.8	112.0	1.5	2.1	2.2	2.2
Chmura Economics & Analytics	4.5	7.7	4.5	4.6	4.6	4.8	4.8	4.6	4.4	4.6	4.8	5.4	na	na	7.0	na	1.9	2.5	2.6	2.4
KPMG	4.5	7.6	4.5	4.1	4.4	4.4	4.2	3.9	3.5	3.6	3.9	4.5	5.7	na	6.0	na	2.0	2.4	2.1	2.2
Via Nova Investment Mgt.	4.5	7.8	4.6	4.6	4.5	4.5	4.5	4.8 H	4.8 H	4.8 H	4.8	5.9 H	6.6	4.8	7.6 H	110.0 L	2.5	2.1	2.0	2.1
GLC Financial Economics	4.3	7.4	4.3	4.3	4.3	4.2	4.1	3.7	4.1	4.1	4.4	4.9	5.9	4.3	6.0	115.9	1.6	1.6	2.0	2.2
MacroPolicy Perspectives	4.2	7.4	4.2	na	na	na	na	3.5	4.0	4.3	na	na	na	na	6.5	na	2.3	2.5	2.7	2.1
Societe Generale	4.2	7.3	4.2	na	3.9	3.6	3.3	3.1 L	3.5	3.6	3.9	na	na	na	na	na	3.7 H	1.8	2.2	1.8
Daiwa Capital Markets America	4.1	7.3	na	na	4.0	na	na	3.4	3.3 L	3.5 L	4.2	na	na	na	6.1	115.0	2.0	2.3	2.4	2.3
MacroFin Analytics & Rutgers Bus School	4.1	7.3	4.0	4.3	3.9	4.2	4.4	4.5	3.8	4.0	4.4	5.0	5.6 L	3.9	6.7	115.1	1.6	2.2	2.1	2.2
Scotiabank Group	4.0	na	3.8	na	3.7	na	na	3.5	3.6	4.0	4.2	na	na	na	na	na	1.2	1.1 L	2.9	2.9
ING	3.9	na	na	na	na	na	na	3.3	3.4	3.5 L	3.9	na	na	na	na	na	1.0	na	na	na
The Lonski Group	3.9	7.1	3.9	4.0	3.7	3.8	3.7	3.7	3.8	3.9	4.0	5.0	5.8	4.1	6.6	119.3	1.5	2.2	2.1	2.0
Georgia State University	3.6	6.8	na	na	3.5	3.2 L	3.1 L	3.4	3.4	3.7	4.0	4.7	5.9	na	6.6	na	0.8	2.2	2.0	2.0
Wells Fargo	3.6	6.8	3.6	3.6	3.4 L	3.3	3.2	3.2	3.3 L	3.5 L	3.8 L	4.7	5.7	4.1	6.1	na	0.3	2.6	3.1	2.6
TS Lombard	3.5	6.6 L	3.5 L	3.5	3.4 L	3.5	3.6	3.8	3.9	4.0	4.1	4.9	5.7	4.0	5.8 L	112.0	2.0	3.2 H	3.2 H	3.2 H
NatWest Markets	3.1 L	na	na	3.2 L	3.4 L	3.5	3.6	3.1 L	3.4	4.0	4.6	4.8	5.7	4.5	6.3	na	1.5	1.4	2.7	2.4
December Consensus	**4.6**	**7.7**	**4.6**	**4.5**	**4.5**	**4.4**	**4.3**	**4.0**	**4.0**	**4.1**	**4.4**	**5.1**	**6.2**	**4.5**	**6.7**	**115.7**	**1.2**	**2.2**	**2.3**	**2.2**
Top 10 Avg.	5.1	8.2	5.1	5.0	5.0	4.9	4.7	4.6	4.5	4.5	4.8	5.5	6.6	4.9	7.1	117.4	2.2	2.6	2.8	2.6
Bottom 10 Avg.	3.8	7.2	4.1	4.1	3.7	3.8	3.7	3.3	3.4	3.7	4.0	4.7	5.8	4.1	6.2	113.9	-0.1	1.7	1.9	1.9
November Consensus	4.5	7.6	4.5	4.4	4.5	4.4	4.3	3.9	3.9	4.0	4.3	5.1	6.2	4.4	6.6	116.4	1.5	2.2	2.5	2.3
Number of Forecasts Changed From A Month Ago:																				
Down	9	5	5	4	15	15	12	9	8	6	9	8	8	8	10	8	14	10	11	8
Same	20	17	14	11	12	8	11	14	15	16	11	8	7	5	8	4	17	16	18	16
Up	8	7	6	5	5	4	4	11	11	13	12	6	6	5	10	5	6	9	7	11
Diffusion Index	49%	53%	52%	53%	34%	30%	35%	53%	54%	60%	55%	45%	45%	42%	50%	41%	39%	49%	44%	54%

First Quarter 2025

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	Percent Per Annum – Average For Quarter: Short-Term: 1 Federal Funds Rate	2 Prime Bank Rate	3 SOFR Rate	4 Com. Paper 1-Mo.	5 Treas. Bills 3-Mo.	6 Treas. Bills 6-Mo.	7 Treas. Bills 1-Yr.	Intermediate-Term: 8 Treas. Notes 2-Yr.	9 Treas. Notes 5-Yr.	10 Treas. Notes 10-Yr.	Long-Term: 11 Treas. Bond 30-Yr.	12 Aaa Corp. Bond	13 Baa Corp. Bond	14 State & Local Bonds	15 Home Mtg. Rate	Avg. For –Qtr.– A. Fed's Adv Fgn Econ $ Index	(Q-Q % Change) (SAAR) B. Real GDP	C. GDP Price Index	D. Cons. Price Index	E. PCE Price Index
Barclays	5.1 H	na	na	na	4.9	na	na	na	na	na	na	na	na	na	na	na	1.0	3.0 H	3.1 H	2.8 H
Chan Economics	4.9	7.9	4.8	4.8 H	4.9	5.0 H	4.8 H	4.3	3.8	3.9	4.1	5.1	6.1	4.5	6.7	114.0	1.5	2.2	2.4	2.0
Goldman Sachs & Co.	4.9	na	na	na	4.6	na	na	4.5	4.4	4.5	4.5	na	na	na	na	na	1.9	2.2	2.5	2.2
Action Economics	4.8	7.9	5.4 H	4.8 H	4.8	4.6	4.4	4.4	4.4	4.4	4.6	5.3	6.3	4.2	7.5	119.2	1.6	1.8	2.4	1.8
BMO Capital Markets	4.8	7.9	4.8	4.8 H	5.0 H	4.9	4.4	3.8	3.9	4.1	4.2	5.2	6.3	4.8	7.1	117.8	1.7	2.1	2.3	2.1
Oxford Economics	4.8	8.0 H	4.8	na	5.0 H	4.9	4.7	4.4	3.4	3.9	3.8	4.0 L	na	na	6.7	114.3	1.2	2.3	2.1	2.1
Fannie Mae	4.7	7.8	na	na	4.4	4.4	4.3	4.2	4.2	4.3	4.4	na	na	na	6.4	na	1.2	2.1	2.8	2.3
PNC Financial Services Corp.	4.7	7.8	4.7	na	4.4	4.2	4.3	4.5	4.7	4.9 H	5.2 H	na	7.1 H	6.0 H	7.2	123.4 H	0.4 L	2.1	2.0	1.8
S&P Global Market Intelligence	4.7	7.8	4.6	na	4.4	4.1	4.1	3.8	3.6	3.8	4.1	na	na	na	6.1	na	1.5	2.1	0.8 L	1.5
Economist Intelligence Unit	4.6	7.8	na	4.6	4.6	4.4	4.3	4.3	4.1	4.0	4.4	na	na	na	6.7	na	1.9	na	2.2	na
Loomis, Sayles & Company	4.6	7.8	4.6	4.6	4.7	4.6	4.4	4.0	4.4	4.5	4.7	5.3	6.3	4.6	6.8	116.5	1.0	2.1	2.0	2.0
Regions Financial Corporation	4.6	7.8	4.5	4.7	4.5	4.6	4.7	3.8	3.9	4.0	4.3	5.1	6.1	4.3	6.5	115.1	1.7	2.2	2.2	2.3
Santander Capital Markets	4.6	7.8	4.6	4.6	4.2	4.1	4.0	4.0	3.8	3.8	4.1	4.9	6.0	3.4 L	6.2	113.0	1.3	2.8	2.4	2.1
Moody's Analytics	4.5	7.7	4.5	4.4	4.3	4.2	4.3	4.2	4.1	4.0	4.5	5.5	6.5	4.2	6.4	na	1.6	2.2	2.2	2.3
Bank of America	4.4	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	1.5	2.6	2.4	2.5
Comerica Bank	4.4	7.6	4.4	na	4.2	4.1	3.6	3.1	3.3	3.5	3.9	4.7	5.5 L	na	5.8 L	na	1.5	1.9	2.0	2.0
J.P. Morgan Chase	4.4	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	2.0	2.3	2.5	2.1
DePrince & Assoc.	4.3	7.5	4.4	4.4	4.4	4.4	4.3	4.3	4.4	4.5	4.6	5.7	6.6	4.8	6.7	116.9	2.4	2.3	2.6	2.4
EY-Parthenon	4.3	na	na	na	3.9	na	na	na	na	3.7	na	na	na	na	na	na	2.3	2.2	2.1	2.1
Via Nova Investment Mgt.	4.3	7.5	4.3	4.4	4.2	4.3	4.4	4.7 H	4.9 H	4.9 H	5.0	6.0 H	6.6	4.9	7.7 H	110.0 L	2.5	2.2	2.0	2.1
Chmura Economics & Analytics	4.2	7.3	4.2	4.2	4.3	4.4	4.4	4.6	4.4	4.6	4.8	5.3	na	na	6.7	na	2.5	2.4	2.5	2.4
GLC Financial Economics	4.2	7.3	4.3	4.2	4.2	4.2	4.0	3.8	3.7	3.8	4.1	4.8	6.0	4.3	5.8 L	115.2	2.0	1.6	2.0	2.2
KPMG	4.2	7.3	4.1	3.8	4.0	3.9	3.8	3.5	3.3	3.5	3.8	4.4	5.6	na	5.8 L	na	1.9	2.1	0.9	1.6
Nomura Securities, Inc.	4.1	7.3	na	na	na	na	na	3.0	3.2	3.6	na	na	na	na	na	na	0.4 L	1.6	2.8	2.3
The Northern Trust Company	4.1	7.3	4.1	4.2	4.0	3.8	3.8	3.8	3.9	4.1	4.4	5.4	6.5	4.5	6.6	111.0	1.6	2.1	2.1	2.1
Daiwa Capital Markets America	3.9	7.0	na	na	3.8	na	na	3.1	3.1	3.3	4.1	na	na	na	5.9	115.0	1.6	2.4	2.5	2.2
MacroPolicy Perspectives	3.9	7.0	3.8	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Georgia State University	3.6	6.7	na	na	3.4	3.1 L	3.1	3.3	3.3	3.7	4.0	4.7	5.8	na	6.2	na	1.8	1.9	1.5	1.4 L
MacroFin Analytics & Rutgers Bus School	3.6	6.9	3.5	3.8	3.4	3.7	4.0	4.3	3.7	3.9	4.3	4.8	5.6	3.8	6.6	114.9	1.8	2.0	2.1	2.1
Societe Generale	3.6	6.8	3.6	na	3.4	3.2	3.0 L	2.9 L	2.7 L	3.2 L	3.5 L	na	na	na	na	na	3.6 H	2.0	2.2	1.8
Scotiabank Group	3.5	na	3.3	na	3.3	na	na	3.4	3.5	4.0	4.2	na	na	na	na	na	1.3	2.1	2.0	2.5
The Lonski Group	3.5	6.7	3.5	3.5	3.6	3.7	3.6	3.6	3.7	3.8	4.0	4.9	5.7	4.0	6.4	119.4	1.8	2.2	2.1	2.0
ING	3.4	na	na	na	na	na	na	3.2	3.4	3.5	3.9	na	na	na	na	na	1.5	na	na	na
NatWest Markets	3.1 L	na	na	3.2	3.4	3.5	3.6	na	na	na	na	na	na	na	na	na	2.0	1.4 L	2.5	2.0
Wells Fargo	3.1 L	6.3 L	3.1 L	3.1 L	3.1 L	3.1 L	3.1	3.1	3.2	3.4	3.8	4.6	5.6	4.0	5.9	na	1.8	2.7	3.1 H	2.7
December Consensus	**4.2**	**7.4**	**4.3**	**4.2**	**4.2**	**4.1**	**4.1**	**3.9**	**3.8**	**4.0**	**4.3**	**5.0**	**6.1**	**4.4**	**6.5**	**115.7**	**1.7**	**2.2**	**2.2**	**2.1**
Top 10 Avg.	4.8	7.9	4.7	4.6	4.7	4.6	4.5	4.4	4.4	4.5	4.7	5.4	6.4	4.7	7.0	117.3	2.3	2.5	2.7	2.5
Bottom 10 Avg.	3.5	6.9	3.8	3.9	3.5	3.6	3.6	3.2	3.2	3.5	3.9	4.7	5.8	4.1	6.1	113.9	1.1	1.8	1.7	1.8
November Consensus	4.1	7.2	4.1	4.1	4.1	4.1	4.0	3.8	3.8	3.9	4.2	5.0	6.1	4.4	6.4	116.7	1.9	2.3	2.3	2.2
Number of Forecasts Changed From A Month Ago:																				
Down	6	4	4	2	8	9	7	6	6	7	4	7	6	7	8	7	11	7	8	8
Same	19	16	13	11	14	9	9	14	14	12	14	5	6	6	5	5	12	14	13	11
Up	10	7	6	5	8	7	9	8	8	10	10	7	6	2	11	3	9	9	10	11
Diffusion Index	56%	56%	54%	58%	50%	46%	54%	54%	54%	55%	61%	50%	50%	33%	56%	37%	47%	53%	53%	55%

International Interest Rate And Foreign Exchange Rate Forecasts

United States

	Fed Fund Target Rate			10 Yr. Gov't Bond Yield %			Fed's AFE $ Index		
Blue Chip Forecasters	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	5.13	5.13	5.13	5.00	4.85	4.35	--	--	--
BMO Capital Markets	5.38	5.38	4.88	4.37	4.26	4.13	117.2	117.2	117.0
ING Financial Markets	5.38	4.88	3.88	4.25	4.00	3.50	116.2	114.0	109.1
Moody's Analytics	5.37	5.38	5.09	4.66	4.33	4.13	--	--	--
Northern Trust	5.38	5.38	4.63	4.70	4.70	4.30	117.5	116.0	112.0
Oxford Economics	5.38	5.38	5.35	4.72	4.65	4.27	118.8	119.4	117.7
S&P Global Market Intelligence	--	--	--	4.64	4.43	4.01	--	--	--
Scotiabank	5.38	5.13	3.88	4.50	4.20	4.00	--	--	--
TS Lombard	4.75	3.50	3.50	4.25	4.00	4.00	110.0	108.0	112.0
Wells Fargo	5.38	5.38	4.38	4.30	3.85	3.65	--	--	--
December Consensus	**5.28**	**5.06**	**4.52**	**4.54**	**4.33**	**4.03**	**115.9**	**114.9**	**113.6**
High	5.38	5.38	5.35	5.00	4.85	4.35	118.8	119.4	117.7
Low	4.75	3.50	3.50	4.25	3.85	3.50	110.0	108.0	109.1
Last Months Avg.	5.49	5.36	4.52	4.64	4.39	3.92	119.3	116.4	112.7

Japan

	Policy-Rate Balance Rate			10 Yr. Gov't Bond Yield %			Yen per US$		
Blue Chip Forecasters	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	-0.10	0.00	0.20	0.90	0.95	1.00	153.0	152.0	145.0
BMO Capital Markets	-0.10	-0.10	-0.10	0.96	0.98	1.00	148.0	146.0	141.0
ING Financial Markets	-0.10	0.00	0.00	1.00	1.00	1.20	140.0	135.0	130.0
Moody's Analytics	-0.10	-0.10	0.00	0.90	0.90	0.90	148.2	144.0	133.6
Nomura Securities	--	--	--	--	--	--	148.0	140.0	135.0
Northern Trust	-0.10	-0.10	0.10	0.80	0.80	1.00	149.0	146.0	140.0
Oxford Economics	-0.04	-0.04	0.00	0.88	0.91	0.87	150.4	152.5	145.0
S&P Global Market Intelligence	--	--	--	--	--	--	148.9	146.4	141.0
Scotiabank	--	--	--	--	--	--	150.0	150.0	140.0
TS Lombard	0.00	0.00	-0.10	0.65	0.40	0.40	145.0	142.4	147.6
Wells Fargo	-0.10	-0.10	0.00	0.95	0.95	0.85	--	--	--
December Consensus	**-0.08**	**-0.06**	**0.01**	**0.88**	**0.86**	**0.90**	**148.1**	**145.4**	**139.8**
High	0.00	0.00	0.20	1.00	1.00	1.20	153.0	152.5	147.6
Low	-0.10	-0.10	-0.10	0.65	0.40	0.40	140.0	135.0	130.0
Last Months Avg.	-0.08	-0.06	-0.05	0.85	0.80	0.66	147.2	142.6	135.3

United Kingdom

	Official Bank Rate			10 Yr. Gilt Yields %			US$ per Pound Sterling		
Blue Chip Forecasters	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	5.25	5.25	4.25	4.10	4.10	4.00	1.21	1.23	1.30
BMO Capital Markets	5.25	5.08	4.58	4.39	4.30	4.13	1.26	1.26	1.27
ING Financial Markets	5.25	5.25	4.25	4.25	4.25	3.50	1.23	1.24	1.28
Moody's Analytics	5.25	5.25	5.06	4.26	3.93	3.73	1.25	1.26	1.26
Nomura Securities	--	--	--	--	--	--	1.27	1.28	1.30
Northern Trust	5.25	5.25	4.75	4.30	4.25	3.85	1.24	1.26	1.30
Oxford Economics	5.25	5.25	5.09	4.42	4.39	4.35	1.21	1.21	1.22
S&P Global Market Intelligence	--	--	--	--	--	--	1.22	1.23	1.25
Scotiabank	5.25	4.75	4.25	--	--	--	1.25	1.25	1.30
TS Lombard	5.25	4.25	2.25	4.10	3.85	3.85	1.27	1.20	1.15
Wells Fargo	5.25	4.75	3.75	4.20	3.90	3.55	--	--	--
December Consensus	**5.25**	**5.01**	**4.25**	**4.25**	**4.12**	**3.87**	**1.24**	**1.24**	**1.26**
High	5.25	5.25	5.09	4.42	4.39	4.35	1.27	1.28	1.30
Low	5.25	4.25	2.25	4.10	3.85	3.50	1.21	1.20	1.15
Last Months Avg.	5.28	5.09	4.43	4.52	4.28	3.88	1.22	1.23	1.24

Switzerland

	SNB Policy Rate			10 Yr. Gov't Bond Yield %			CHF per US$		
Blue Chip Forecasters	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	1.75	1.75	1.25	--	--	--	0.91	0.92	0.91
BMO Capital Markets	1.75	1.75	1.75	--	--	--	0.87	0.86	0.85
ING Financial Markets	1.75	1.75	1.75	1.10	1.10	1.10	0.91	0.90	0.87
Moody's Analytics	2.00	2.00	2.00	1.46	1.96	2.05	0.89	0.88	0.84
Nomura Securities	--	--	--	--	--	--	0.88	0.87	0.86
Northern Trust	1.75	1.75	1.50	1.00	1.00	0.90	0.89	0.87	0.85
Oxford Economics	1.75	1.75	1.63	1.15	1.25	1.34	0.91	0.93	0.92
S&P Global Market Intelligence	--	--	--	--	--	--	0.92	0.91	0.89
Scotiabank	--	--	--	--	--	--	0.89	0.89	0.89
TS Lombard	1.75	1.50	1.25	0.80	0.55	0.55	0.90	0.90	0.90
Wells Fargo	1.75	1.50	1.25	--	--	--	--	--	--
December Consensus	**1.78**	**1.72**	**1.55**	**1.10**	**1.17**	**1.19**	**0.90**	**0.89**	**0.88**
High	2.00	2.00	2.00	1.46	1.96	2.05	0.92	0.93	0.92
Low	1.75	1.50	1.25	0.80	0.55	0.55	0.87	0.86	0.84
Last Months Avg.	1.79	1.75	1.59	1.29	1.31	1.29	0.91	0.90	0.89

Canada

	O/N MMkt Financing Rate			10 Yr. Gov't Bond Yield %			C$ per US$		
Blue Chip Forecasters	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	5.25	5.25	5.00	--	--	--	1.39	1.38	1.36
BMO Capital Markets	5.00	5.00	4.50	3.64	3.58	3.54	1.33	1.31	1.28
ING Financial Markets	5.00	4.50	3.50	3.50	3.25	3.00	1.35	1.33	1.27
Moody's Analytics	5.00	5.00	4.49	4.39	4.19	4.14	1.36	1.32	1.27
Nomura Securities	--	--	--	--	--	--	1.34	1.33	1.31
Northern Trust	5.00	5.00	4.25	3.75	3.70	3.20	1.38	1.34	1.30
Oxford Economics	5.00	5.00	4.63	4.01	3.97	3.91	1.37	1.38	1.37
S&P Global Market Intelligence	--	--	--	--	--	--	1.35	1.33	1.30
Scotiabank	5.00	4.75	4.00	3.85	3.75	3.65	1.33	1.33	1.28
TS Lombard	5.00	4.00	2.75	3.50	2.25	2.25	1.35	1.35	1.35
Wells Fargo	5.00	4.50	4.00	3.60	3.50	3.30	--	--	--
December Consensus	**5.03**	**4.78**	**4.12**	**3.78**	**3.52**	**3.37**	**1.36**	**1.34**	**1.31**
High	5.25	5.25	5.00	4.39	4.19	4.14	1.39	1.38	1.37
Low	5.00	4.00	2.75	3.50	2.25	2.25	1.33	1.31	1.27
Last Months Avg.	5.03	4.88	4.17	3.91	3.76	3.39	1.35	1.33	1.30

International Interest Rate And Foreign Exchange Rate Forecasts

Australia

	Official Cash Rate			10 Yr. Gov't Bond Yield %			US$ per A$		
Blue Chip Forecasters	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	4.35	4.35	3.85	--	--	--	0.63	0.64	0.66
BMO Capital Markets	4.35	4.10	3.60	--	--	--	0.66	0.66	0.67
ING Financial Markets	4.35	4.10	3.60	4.80	4.30	3.70	0.63	0.66	0.72
Moody's Analytics	4.27	4.35	4.10	5.12	4.90	4.36	0.64	0.66	0.72
Nomura Securities	--	--	--	--	--	--	0.68	0.69	0.71
Northern Trust	4.35	4.35	3.85	4.60	4.50	4.10	0.64	0.66	0.68
Oxford Economics	4.40	4.60	4.60	4.60	4.76	4.41	0.64	0.64	0.67
S&P Global Market Intelligence	--	--	--	--	--	--	0.64	0.66	0.69
Scotiabank	--	--	--	--	--	--	0.66	0.66	0.68
TS Lombard	4.10	3.75	2.75	4.40	3.20	3.20	0.65	0.65	0.65
Wells Fargo	4.35	4.35	4.10	--	--	--	--	--	--
December Consensus	**4.32**	**4.24**	**3.81**	**4.70**	**4.33**	**3.95**	**0.65**	**0.66**	**0.69**
High	4.40	4.60	4.60	5.12	4.90	4.41	0.68	0.69	0.72
Low	4.10	3.75	2.75	4.40	3.20	3.20	0.63	0.64	0.65
Last Months Avg.	4.24	4.12	3.76	4.59	4.27	3.69	0.65	0.66	0.68

Euro area

	Main Refinancing Rate			US$ per Euro		
Blue Chip Forecasters	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	4.50	4.50	3.50	1.05	1.06	1.09
BMO Capital Markets	4.50	4.25	3.75	1.10	1.11	1.12
ING Financial Markets	4.50	4.25	3.75	1.08	1.10	1.15
Moody's Analytics	4.50	4.50	4.22	1.04	1.06	1.09
Nomura Securities	--	--	--	1.11	1.12	1.14
Northern Trust	4.50	4.25	3.75	1.07	1.10	1.14
Oxford Economics	4.50	4.50	3.75	1.05	1.05	1.06
S&P Global Market Intelligence	--	--	--	1.07	1.09	1.12
Scotiabank	4.50	4.25	3.75	1.10	1.10	1.12
TS Lombard	4.00	2.75	2.75	1.10	1.10	1.10
Wells Fargo	4.00	3.75	3.25	--	--	--
December Consensus	**4.39**	**4.11**	**3.61**	**1.08**	**1.09**	**1.11**
High	4.50	4.50	4.22	1.11	1.12	1.15
Low	4.00	2.75	2.75	1.04	1.05	1.06
Last Months Avg.	4.38	4.22	3.56	1.05	1.06	1.09

10 Yr. Gov't Bond Yields %

	Germany			France			Italy			Spain		
Blue Chip Forecasters	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.	In 3 Mo.	In 6 Mo.	In 12 Mo.
Barclays	2.70	2.65	2.25	--	--	--	--	--	--	--	--	--
BMO Capital Markets	2.60	2.49	2.28	--	--	--	--	--	--	--	--	--
ING Financial Markets	2.40	2.30	2.30	3.30	3.20	3.30	4.70	4.40	4.50	3.85	3.60	3.70
Moody's Analytics	2.73	2.67	2.60	3.28	3.15	3.02	4.60	4.60	4.53	3.84	3.77	3.75
Northern Trust	2.65	2.50	2.10	3.15	3.00	2.60	4.35	4.25	3.85	3.60	3.50	3.10
Oxford Economics	2.80	2.73	2.44	3.37	3.29	2.91	4.82	4.72	4.43	3.89	3.80	3.55
TS Lombard	2.40	2.15	2.15	2.75	2.50	2.50	3.70	3.45	3.45	3.15	2.90	2.90
Wells Fargo	2.55	2.50	2.45	--	--	--	--	--	--	--	--	--
December Consensus	**2.60**	**2.50**	**2.32**	**3.17**	**3.03**	**2.87**	**4.43**	**4.28**	**4.15**	**3.67**	**3.51**	**3.40**
High	2.80	2.73	2.60	3.37	3.29	3.30	4.82	4.72	4.53	3.89	3.80	3.75
Low	2.40	2.15	2.10	2.75	2.50	2.50	3.70	3.45	3.45	3.15	2.90	2.90
Last Months Avg.	2.76	2.63	2.44	3.27	3.09	2.88	4.49	4.31	4.10	3.76	3.60	3.42

	Consensus Forecasts 10-year Bond Yields vs U.S. Yield			
	Current	In 3 Mo.	In 6 Mo.	In 12 Mo.
Japan	-3.68	-3.66	-3.47	-3.13
United Kingdom	-0.13	-0.29	-0.21	-0.16
Switzerland	-3.49	-3.44	-3.16	-2.85
Canada	-0.75	-0.76	-0.80	-0.66
Australia	0.08	0.16	0.00	-0.08
Germany	-1.83	-1.94	-1.83	-1.71
France	-1.27	-1.37	-1.30	-1.17
Italy	-0.08	-0.11	-0.04	0.12
Spain	-0.89	-0.87	-0.81	-0.63

	Consensus Forecasts Policy Rates vs U.S. Target Rate			
	Current	In 3 Mo.	In 6 Mo.	In 12 Mo.
Japan	-5.48	-5.36	-5.01	-4.51
United Kingdom	-0.13	-0.03	-0.05	-0.28
Switzerland	-3.63	-3.50	-3.34	-2.98
Canada	-0.38	-0.25	-0.28	-0.40
Australia	-1.03	-0.97	-0.82	-0.72
Euro area	-0.88	-0.89	-0.95	-0.92

Special Questions:

1. What is your estimate of the long-term neutral fed funds rate?

Consensus	2.90%
Top 10	3.72%
Bottom 10	2.29%

2. Have financial conditions tightened sufficiently to delay/prevent further policy rate increases? Yes 97% No 3%

3. What probability do you attach to a recession beginning over the next 12 months in the:

	US	euro area	UK
Consensus	**44%**	**55%**	**58%**
Top 10	59%	66%	67%
Bot 10	29%	44%	48%

4 a. Does your outlook for China's economy pose meaningful risks to the outlook for global growth? Yes 74% No 26%

b. Do you think recent policy measures in China will boost its growth rate? Yes 37% No 63%

5 a. Has the Federal Reserve completed its tightening cycle? Yes 100% No 0%

b. Has the European Central Bank completed its tightening cycle? Yes 91% No 9%

c. Has the Bank of England completed its tightening cycle? Yes 91% No 9%

6. When will the first hike in the BoJ's short-term policy rate occur?

Q4 2023	0%
Q1 2024	5%
Q2 2024	53%
Q3 2024	21%
Later	21%

Viewpoints:

A Sampling of Views on the Economy, Financial Markets and Government Policy Excerpted from Recent Reports Issued by our Blue Chip Panel Members and Others

FOMC: On Hold in Restrictive Territory

(Lawrence Werther, Daiwa Capital Markets America)

Since the Fed embarked on its aggressive rate hike campaign in March 2022, we have held the view that a restrictive stance of monetary policy would be required to tame rapid inflation and prevent erosion in inflation expectations of businesses and households. For much of the past year, we had anticipated that the current campaign would culminate in a final increase of 25 basis points in the target range for the federal funds rate to 5.50 to 5.75 percent, with the last change occurring in late 2023, before maintaining the policy rate in restrictive territory for several months. In light of more recent developments, we have become less confident in anticipating any further increase. The FOMC last hiked the federal funds rate in July, and comments by various officials since then, in our view, have turned decidedly more cautious. Moreover, while inflation is still well above target and various indicators suggest that supply and demand imbalances persist in the labor market, we see increasing evidence on both fronts that give officials more leeway to wait for restrictive policy to work.

As of now, and despite the constant reminders from Fed officials that more hikes are possible, we suspect that the FOMC is done tightening monetary policy (i.e., a terminal target range of 5.25 to 5.50 percent). However, while this represents a shift in our Fed call, it is not a material one. We still project policymakers holding the federal funds rate at the terminal rate well into 2024-Q2 to ensure that inflation is convincingly on a path back toward 2%. As inflation decelerates further and the economy struggles amid still-tight financial conditions, we expect the FOMC to begin its slow transition to easier policy. That said, rather than projecting a first cut of 25 basis points to come at the April 30/May 1 FOMC meeting, we now look for the change to occur at the June 11-12 gathering. We then look for the Committee to continue easing by 25-basis-point increments at each of the final four meetings of 2024, leading to a year-end target range of 4.00 to 4.25 percent (consistent with our previous forecast).

Messaging is likely to present a key challenge for officials in coming months despite what we view as a sufficiently restrictive monetary policy. Financial conditions are the primary transmission mechanism of monetary policy to the real economy, and while the economy has responded to tight financial conditions, maintenance of the current constraints on economic activity is essential to achieve desired policy outcomes, i.e., stable prices and maximum sustainable employment. Evidence of the challenge awaiting officials emerged as markets repriced to incorporate evolving expectations for monetary policy. The S&P 500 has rallied more than nine percent since its recent low on October 27, erasing much of the easing in the August-to-October period. Moreover, softening data and the perception that the Fed is done hiking interest rates contributed to a 16-basis-point drop in the 2-year yield from last Friday's close to 4.90 percent and a plunge of 21 basis points in the 10-year yield to 4.44 percent. Consequently, additional easing in financial conditions, despite the maintenance of restrictive policy, could jeopardize further progress toward policy objectives.

A near-term catalyst for movements in financial markets, and key contributory factor in the revision of our Fed call, was data this week that pointed more decidedly toward progress in inflation and easing in tight labor market conditions. On the inflation front, the CPI for October printed below expectations. The headline was flat while the core increased 0.2%. Moreover, risks tilted to the upside as many analysts were concerned that changes to the calculation of health insurance costs in the October report could lead to an upswing in a previously subdued area.

Headline CPI inflation has fallen from a peak of 9.1% in June 2022 to 3.2% in Oct, including a slowing of five ticks in the past month. Energy costs have dropped and increases in food prices have decelerated sharply. Improvement in the core component has been measurable, but less dramatic, as prices rose 4.0% in Oct vs 4.2% in Sep. Additionally, Fed officials rightly view core inflation as still well above the two percent target. Core goods inflation has returned to the pre-2020 trend after the unwinding of pandemic-related supply-demand imbalances (year-over-year growth of 0.1 percent as of October), but more improvement is required in core services where year-over-year growth has slowed from a peak of 7.3 percent in February 2023 but is still elevated at 5.5 percent. Housing costs (illustrated by owners' equivalent rent in the chart) is still a key contributor to core service costs and is widely expected to moderate only over time.

A helpful illustration of near-term progress on inflation is the recent month-to-month performance of the trimmed-mean CPI. (We view this measure as offering a better perspective of underlying inflation as it eliminates price changes at the tails of the monthly distribution.) On a year-over-year basis, this measure has remained elevated (growth of 4.1 percent versus 4.3 percent in September), but the far better near-term performance indicates a more forceful easing in underlying inflation (increases of 0.2 percent in five of the past eight months).

Data on unemployment claims also suggest a slowdown in the real economy that should further dull the underlying inflation impulse, while also emphasizing that risks to the outlook have become more two-sided. That is, the risks of doing too little to combat entrenched inflation must now be weighed against the risks of overtightening and doing unnecessary damage to the economy. While initial claims increased by 13,000 to 231,000 in the week of Nov 11, a reading above the pre-pandemic average of 218,000, which suggested a labor market on firm footing, they were still relatively low from a longer-term perspective. More important, and perhaps somewhat concerning, was the jump of 32,000 in continuing unemployment claims to 1.865 million in the week of Nov 4. Over the past eight weeks, continuing claims have risen by a cumulative 207,000 to the highest level in almost two years. On one hand, this development speaks to an ongoing rebalancing in a tight labor market; on the other hand, it may be the beginning of an uptrend that usually presents prior to the onset of a recession. Again, this development speaks to postponing further hikes, both because policy goals appear more attainable with the current level of monetary restraint and because caution is warranted as the economy possibly nears an inflection point.

Long-Range Survey:

The table below contains the results of our twice-annual long-range CONSENSUS survey. There are also Top 10 and Bottom 10 averages for each variable. Shown are consensus estimates for the years 2025 through 2029 and averages for the five-year periods 2025-2029 and 2030-2034. Apply these projections cautiously. Few if any economic, demographic and political forces can be evaluated accurately over such long time spans.

		Average For The Year					Five-Year Averages	
		2025	2026	2027	2028	2029	2025-2029	2030-2034
1. Federal Funds Rate	**CONSENSUS**	**3.8**	**3.2**	**3.1**	**3.0**	**3.0**	**3.2**	**3.0**
	Top 10 Average	4.3	3.6	3.6	3.5	3.5	3.7	3.5
	Bottom 10 Average	3.3	2.7	2.6	2.6	2.5	2.7	2.5
2. Prime Rate	**CONSENSUS**	**6.9**	**6.3**	**6.2**	**6.2**	**6.2**	**6.3**	**6.1**
	Top 10 Average	7.3	6.7	6.7	6.6	6.6	6.8	6.6
	Bottom 10 Average	6.5	5.9	5.7	5.7	5.7	5.9	5.6
3. SOFR	**CONSENSUS**	**3.8**	**3.2**	**3.1**	**3.1**	**3.1**	**3.3**	**3.0**
	Top 10 Average	4.1	3.6	3.5	3.5	3.4	3.6	3.4
	Bottom 10 Average	3.4	2.9	2.7	2.7	2.6	2.9	2.6
4. Commercial Paper, 1-Mo	**CONSENSUS**	**3.7**	**3.2**	**3.2**	**3.2**	**3.1**	**3.3**	**3.1**
	Top 10 Average	3.9	3.5	3.4	3.4	3.4	3.5	3.4
	Bottom 10 Average	3.5	2.9	2.8	2.8	2.8	3.0	2.7
5. Treasury Bill Yield, 3-Mo	**CONSENSUS**	**3.7**	**3.2**	**3.1**	**3.0**	**3.0**	**3.2**	**3.0**
	Top 10 Average	4.1	3.6	3.6	3.5	3.5	3.7	3.5
	Bottom 10 Average	3.2	2.7	2.6	2.5	2.5	2.7	2.4
6. Treasury Bill Yield, 6-Mo	**CONSENSUS**	**3.7**	**3.3**	**3.2**	**3.2**	**3.1**	**3.3**	**3.1**
	Top 10 Average	4.1	3.7	3.6	3.6	3.6	3.7	3.6
	Bottom 10 Average	3.4	2.9	2.8	2.7	2.7	2.9	2.7
7. Treasury Bill Yield, 1-Yr	**CONSENSUS**	**3.7**	**3.4**	**3.3**	**3.3**	**3.2**	**3.4**	**3.2**
	Top 10 Average	4.1	3.8	3.7	3.7	3.7	3.8	3.7
	Bottom 10 Average	3.3	3.0	2.9	2.8	2.8	3.0	2.8
8. Treasury Note Yield, 2-Yr	**CONSENSUS**	**3.7**	**3.5**	**3.4**	**3.4**	**3.4**	**3.5**	**3.4**
	Top 10 Average	4.1	3.9	3.9	3.9	3.9	3.9	3.9
	Bottom 10 Average	3.3	3.1	3.0	2.9	2.9	3.0	2.9
9. Treasury Note Yield, 5-Yr	**CONSENSUS**	**3.7**	**3.7**	**3.7**	**3.7**	**3.7**	**3.7**	**3.7**
	Top 10 Average	4.1	4.1	4.2	4.2	4.3	4.2	4.3
	Bottom 10 Average	3.3	3.2	3.2	3.1	3.1	3.2	3.1
10. Treasury Note Yield, 10-Yr	**CONSENSUS**	**3.9**	**3.9**	**3.9**	**3.9**	**3.9**	**3.9**	**3.9**
	Top 10 Average	4.3	4.4	4.5	4.5	4.5	4.4	4.5
	Bottom 10 Average	3.5	3.3	3.3	3.3	3.3	3.3	3.3
11. Treasury Bond Yield, 30-Yr	**CONSENSUS**	**4.1**	**4.1**	**4.1**	**4.2**	**4.2**	**4.1**	**4.2**
	Top 10 Average	4.5	4.6	4.7	4.7	4.7	4.6	4.8
	Bottom 10 Average	3.8	3.6	3.6	3.6	3.6	3.7	3.6
12. Corporate Aaa Bond Yield	**CONSENSUS**	**5.0**	**4.9**	**4.9**	**5.0**	**5.0**	**4.9**	**5.0**
	Top 10 Average	5.3	5.3	5.4	5.5	5.5	5.4	5.5
	Bottom 10 Average	4.6	4.5	4.5	4.5	4.5	4.5	4.4
13. Corporate Baa Bond Yield	**CONSENSUS**	**6.0**	**6.0**	**6.0**	**6.0**	**6.0**	**6.0**	**6.0**
	Top 10 Average	6.4	6.4	6.5	6.6	6.6	6.5	6.6
	Bottom 10 Average	5.7	5.5	5.5	5.6	5.6	5.6	5.6
14. State & Local Bonds Yield	**CONSENSUS**	**4.3**	**4.3**	**4.3**	**4.3**	**4.3**	**4.3**	**4.3**
	Top 10 Average	4.6	4.7	4.7	4.8	4.8	4.7	4.9
	Bottom 10 Average	4.0	3.8	3.9	3.9	3.8	3.9	3.8
15. Home Mortgage Rate	**CONSENSUS**	**6.2**	**5.9**	**5.9**	**5.9**	**5.9**	**5.9**	**5.8**
	Top 10 Average	6.6	6.4	6.4	6.5	6.5	6.5	6.5
	Bottom 10 Average	5.7	5.5	5.4	5.3	5.2	5.4	5.2
A. Fed's AFE Nominal $ Index	**CONSENSUS**	**114.1**	**113.0**	**113.1**	**113.2**	**112.8**	**113.2**	**112.3**
	Top 10 Average	116.0	115.5	115.9	116.5	116.2	116.0	115.7
	Bottom 10 Average	111.8	110.4	110.1	109.6	109.1	110.2	108.5
		Year-Over-Year, % Change					**Five-Year Averages**	
		2025	**2026**	**2027**	**2028**	**2029**	**2025-2029**	**2030-2034**
B. Real GDP	**CONSENSUS**	**1.6**	**2.1**	**2.1**	**2.0**	**2.0**	**1.9**	**2.0**
	Top 10 Average	2.1	2.4	2.4	2.3	2.3	2.3	2.3
	Bottom 10 Average	1.1	1.8	1.8	1.7	1.7	1.6	1.7
C. GDP Chained Price Index	**CONSENSUS**	**2.2**	**2.2**	**2.1**	**2.1**	**2.2**	**2.2**	**2.2**
	Top 10 Average	2.5	2.3	2.3	2.3	2.3	2.3	2.3
	Bottom 10 Average	2.0	2.0	2.0	2.0	2.0	2.0	2.0
D. Consumer Price Index	**CONSENSUS**	**2.3**	**2.2**	**2.2**	**2.2**	**2.2**	**2.2**	**2.2**
	Top 10 Average	2.5	2.4	2.4	2.4	2.4	2.4	2.4
	Bottom 10 Average	2.1	2.1	2.0	2.0	2.0	2.0	2.0
E. PCE Price Index	**CONSENSUS**	**2.2**	**2.1**	**2.1**	**2.1**	**2.1**	**2.1**	**2.1**
	Top 10 Average	2.3	2.3	2.2	2.2	2.2	2.2	2.3
	Bottom 10 Average	2.0	2.0	1.9	1.9	2.0	1.9	2.0

Databank:

2023 Historical Data

Monthly Indicator	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Retail and Food Service Sales (a)	2.8	-0.7	-0.9	0.4	0.7	0.2	0.6	0.7	0.9	-0.1	....	....
Auto & Light Truck Sales (b)	15.10	14.88	14.93	15.68	15.51	16.06	15.94	15.27	15.68	15.50	....	....
Personal Income (a, current $)	1.0	0.5	0.5	0.2	0.3	0.2	0.3	0.5	0.4	0.2	....	....
Personal Consumption (a, current $)	1.6	0.4	-0.1	0.4	0.2	0.4	0.7	0.4	0.7	0.2	....	....
Consumer Credit (e)	5.1	2.8	4.8	3.3	-0.2	3.1	2.7	-3.8	2.2	....	....	....
Consumer Sentiment (U. of Mich.)	64.9	66.9	62.0	63.7	59.0	64.2	71.5	69.4	67.9	63.8	61.3	....
Household Employment (c)	894	177	577	139	-310	273	268	222	86	-348	....	....
Nonfarm Payroll Employment (c)	472	248	217	217	281	105	236	165	297	150	....	....
Unemployment Rate (%)	3.4	3.6	3.5	3.4	3.7	3.6	3.5	3.8	3.8	3.9	....	....
Average Hourly Earnings (All, cur. $)	33.02	33.11	33.20	33.34	33.45	33.60	33.73	33.82	33.93	34.00	....	....
Average Workweek (All, hrs.)	34.6	34.5	34.4	34.4	34.3	34.4	34.3	34.4	34.4	34.3	....	....
Industrial Production (d)	1.5	0.9	0.2	0.3	0.1	-0.4	0.1	0.1	-0.2	-0.7	....	....
Capacity Utilization (%)	79.6	79.5	79.5	79.8	79.5	78.9	79.6	79.5	79.5	78.9	....	....
ISM Manufacturing Index (g)	47.4	47.7	46.3	47.1	46.9	46.0	46.4	47.6	49.0	46.7	....	....
ISM Nonmanufacturing Index (g)	55.2	55.1	51.2	51.9	50.3	53.9	52.7	54.5	53.6	51.8	....	....
Housing Starts (b)	1.340	1.436	1.380	1.348	1.583	1.418	1.451	1.305	1.346	1.372	....	....
Housing Permits (b)	1.354	1.482	1.437	1.417	1.496	1.441	1.443	1.541	1.471	1.498	....	....
New Home Sales (1-family, c)	649	625	640	679	710	683	728	662	719	679	....	....
Construction Expenditures (a)	2.2	0.4	0.6	0.3	2.0	0.5	0.7	1.0	0.4	....	....	....
Consumer Price Index (nsa, d)	6.4	6.0	5.0	4.9	4.0	3.0	3.2	3.7	3.7	3.2	....	....
CPI ex. Food and Energy (nsa, d)	5.6	5.5	5.6	5.5	5.3	4.8	4.7	4.3	4.1	4.0	....	....
PCE Chain Price Index (d)	5.5	5.2	4.4	4.4	4.0	3.2	3.4	3.4	3.4	3.0	....	....
Core PCE Chain Price Index (d)	4.9	4.8	4.8	4.8	4.7	4.3	4.3	3.8	3.7	3.5	....	....
Producer Price Index (nsa, d)	5.7	4.7	2.7	2.3	1.1	0.3	1.2	2.1	2.2	1.3	....	....
Durable Goods Orders (a)	-1.3	-2.7	3.3	1.2	2.0	4.3	-5.6	-0.1	4.0	-5.4	....	....
Leading Economic Indicators (a)	-0.5	-0.5	-1.2	-0.8	-0.7	-0.7	-0.2	-0.4	-0.7	-0.8	....	....
Balance of Trade & Services (f)	-70.8	-70.6	-60.4	-73.0	-66.8	-63.7	-64.7	-58.7	-61.5	....	....	....
Federal Funds Rate (%)	4.33	4.57	4.65	4.83	5.06	5.08	5.12	5.33	5.33	5.33	....	....
3-Mo. Treasury Bill Rate (%)	4.69	4.79	4.86	5.07	5.31	5.42	5.49	5.56	5.56	5.60	....	....
10-Year Treasury Note Yield (%)	3.53	3.75	3.66	3.46	3.57	3.75	3.90	4.17	4.38	4.80	....	....

2022 Historical Data

Monthly Indicator	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Retail and Food Service Sales (a)	1.4	1.4	2.1	1.3	-0.1	0.8	-0.7	0.7	-0.3	1.4	-1.4	-0.7
Auto & Light Truck Sales (b)	14.38	13.67	13.58	14.04	12.94	13.27	13.49	13.50	13.70	14.68	14.27	13.55
Personal Income (a, current $)	-0.3	0.6	0.4	0.3	0.4	0.4	0.8	0.5	0.4	0.5	0.1	0.2
Personal Consumption (a, current $)	0.5	0.7	1.2	0.6	0.4	1.0	0.0	0.8	0.6	0.6	-0.1	0.3
Consumer Credit (e)	4.6	8.3	10.1	7.3	6.9	8.6	6.8	7.0	6.9	8.8	8.1	4.8
Consumer Sentiment (U. of Mich.)	67.2	62.8	59.4	65.2	58.4	50.0	51.5	58.2	58.6	59.9	56.7	59.8
Household Employment (c)	1041	468	738	-346	317	-242	215	422	156	-257	-66	717
Nonfarm Payroll Employment (c)	364	904	414	254	364	370	568	352	350	324	290	239
Unemployment Rate (%)	4.0	3.8	3.6	3.6	3.6	3.6	3.5	3.7	3.5	3.7	3.6	3.5
Average Hourly Earnings (All, cur. $)	31.63	31.63	31.83	31.94	32.06	32.18	32.33	32.43	32.53	32.66	32.80	32.92
Average Workweek (All, hrs.)	34.6	34.7	34.7	34.6	34.6	34.6	34.6	34.5	34.6	34.6	34.5	34.4
Industrial Production (d)	2.3	6.6	4.4	4.6	3.7	3.2	3.0	3.1	4.5	3.1	1.9	0.6
Capacity Utilization (%)	79.4	79.9	80.5	80.7	80.6	80.5	80.7	80.7	80.8	80.6	80.3	78.9
ISM Manufacturing Index (g)	57.6	58.4	57.0	55.9	56.1	53.1	52.7	52.9	51.0	50.0	49.0	48.4
ISM Nonmanufacturing Index (g)	60.4	57.2	58.4	57.5	56.4	56.0	56.4	56.1	55.9	54.5	55.5	49.2
Housing Starts (b)	1.669	1.771	1.713	1.803	1.543	1.561	1.371	1.505	1.463	1.432	1.427	1.357
Housing Permits (b)	1.898	1.817	1.877	1.795	1.708	1.701	1.658	1.586	1.588	1.555	1.402	1.409
New Home Sales (1-family, c)	810	773	707	611	636	563	543	638	567	577	582	636
Construction Expenditures (a)	2.4	1.5	1.4	1.8	-0.1	-0.4	-0.2	-1.2	-0.6	-0.4	0.6	-0.1
Consumer Price Index (nsa, d)	7.5	7.9	8.5	8.3	8.6	9.1	8.5	8.3	8.2	7.7	7.1	6.5
CPI ex. Food and Energy (nsa, d)	6.0	6.4	6.5	6.2	6.0	5.9	5.9	6.3	6.6	6.3	6.0	5.7
PCE Chain Price Index (d)	6.3	6.5	6.9	6.6	6.7	7.1	6.6	6.5	6.6	6.3	5.9	5.4
Core PCE Chain Price Index (d)	5.4	5.6	5.5	5.3	5.1	5.2	5.0	5.2	5.5	5.3	5.1	4.9
Producer Price Index (nsa, d)	10.1	10.4	11.7	11.2	11.1	11.2	9.7	8.7	8.5	8.2	7.4	6.4
Durable Goods Orders (a)	2.0	-1.4	-0.1	1.0	0.7	1.6	-0.8	-0.1	0.3	1.0	-3.1	4.5
Leading Economic Indicators (a)	-0.5	0.3	0.0	-0.6	-0.9	-0.7	-0.6	-0.3	-0.5	-0.9	-0.9	-0.7
Balance of Trade & Services (f)	-86.5	-87.0	-102.5	-86.0	-84.1	-80.9	-71.7	-67.3	-71.7	-78.3	-63.8	-71.4
Federal Funds Rate (%)	0.08	0.08	0.20	0.33	0.77	1.21	1.68	2.33	2.56	3.08	3.78	4.10
3-Mo. Treasury Bill Rate (%)	0.15	0.31	0.45	0.76	0.99	1.54	2.30	2.72	3.22	3.87	4.32	4.36
10-Year Treasury Note Yield (%)	1.76	1.93	2.13	2.75	2.90	3.14	2.90	2.90	3.52	3.98	3.89	3.62

(a) month-over-month % change; (b) millions, saar; (c) month-over-month change, thousands; (d) year-over-year % change; (e) annualized % change; (f) $ billions; (g) level. Most series are subject to frequent government revisions. Use with care.

Calendar of Upcoming Economic Data Releases

Monday	Tuesday	Wednesday	Thursday	Friday
December 4 Manufacturers' Shipments, Inventories & Orders (Oct) BEA Auto Sales (Nov) BEA Truck Sales (Nov) NABE Outlook (Q4)	**5** JOLTS (Oct) ISM Services PMI (Nov) S&P Global Services PMI (Nov)	**6** ADP Employment Report (Nov) Productivity & Costs (Q3) Intl Trade (Oct) Transportation Services Index (Oct) QFR (Q3) Public Debt (Nov) Interest on Public Debt (Nov) EIA Crude Oil Stocks Mortgage Applications	**7** Wholesale Trade (Oct) Treasury Auction Allotments (Nov) Consumer Credit (Oct) Financial Accounts (Q3) Challenger Employment Report (Nov) Weekly Jobless Claims	**8** Employment Situation (Nov) Consumer Sentiment (Dec, Preliminary)
11 Kansas City Financial Stress Index (Nov)	**12** CPI & Real Earnings (Nov) QSS (Q3) Cleveland Fed Median CPI(Nov) Monthly Treasury Statement (Nov) Manpower Survey (Q1) NFIB (Nov) Kansas City Fed Labor Market Conditions Indicators (Nov) FOMC Meeting	**13** Producer Prices (Nov) FOMC Meeting OPEC Crude Oil Spot Prices (Nov) EIA Crude Oil Stocks Mortgage Applications	**14** Advance Retail Sales (Nov) Import & Export Prices (Nov) MTIS (Oct) Weekly Jobless Claims	**15** IP & Capacity Utilization (Nov) ECEC (Q3) Empire State Mfg Survey (Dec) Livingston Survey (Apr) Housing Affordability (Oct)
18 Business Leaders Survey (Dec) Home Builders (Dec)	**19** New Residential Construction (Nov) TIC Data (Oct)	**20** International Transactions (Q3) Existing Home Sales (Nov) Consumer Confidence (Dec) EIA Crude Oil Stocks Mortgage Applications	**21** GDP & Corp Profits (Q3, 3rd Estimate) Philadelphia Fed Mfg Business Outlook Survey (Dec) Kansas City Fed Manufacturing Survey (Dec) Composite Indexes (Nov) Weekly Jobless Claims	**22** Personal Income (Nov) Underlying NIPA Tables (Q3, 3rd Estimate) Advance Durable Goods (Nov) New Residential Sales (Nov) Building Permits (Nov) Consumer Sentiment(Dec, Final) Dallas Fed Trim-Mean PCE (Nov) Treas Auction Allotments (Dec) S&P Global Flash PMIs (Dec)
25 CHRISTMAS DAY ALL MARKETS CLOSED	**26** FHFA HPI (Oct) Case-Shiller HPI (Oct) H.6 Money Stock (Nov) Philadelphia Fed Nonmfg Business Outlook (Dec) Chicago Fed National Activity Index (Nov) Texas Mfg Outlook (Dec)	**27** Richmond Fed Mfg & Service Sector Surveys (Dec) Texas Service Sector Outlook Survey (Dec) Mortgage Applications	**28** Adv Trade & Inventories (Nov) Intl Investment Position (Q3) Steel Imports for Consumption (Nov, Preliminary) Pending Home Sales (Nov) EIA Crude Oil Stocks Weekly Jobless Claims	**29** Agricultural Prices (Nov) Strike Report (Dec) Chicago PMI (Dec) FRB Philadelphia Coincident Economic Activity Index (Nov)
January 1 NEW YEAR'S DAY ALL MARKETS CLOSED	**2** Construction (Nov) Dallas Fed Banking Conditions Survey (Nov) S&P Global Mfg PMI (Dec)	**3** ISM Manufacturing (Dec) JOLTS (Nov) Mortgage Applications	**4** ADP Employment Report (Dec) Challenger Employment Report (Dec) S&P Global Services PMI (Dec) BEA Auto & Truck Sales (Dec) EIA Crude Oil Stocks Weekly Jobless Claims	**5** Employment Situation (Dec) MSIO (Nov) Public Debt (Dec) Interest Expense on Public Debt (Dec) ISM Services PMI (Dec)
8 Consumer Credit (Nov)	**9** International Trade (Nov) NFIB (Dec) Kansas City Financial Stress Index (Dec)	**10** Wholesale Trade (Nov) EIA Crude Oil Stocks Mortgage Applications	**11** CPI & Real Earnings (Dec) Cleveland Fed Median CPI(Dec) Monthly Treasury Statement (Dec) Weekly Jobless Claims	**12** Producer Prices (Dec)

BLUE CHIP FORECASTERS

CONTRIBUTORS TO DOMESTIC SURVEY

Action Economics, LLC, Boulder, CO
Michael Englund
Amherst Pierpont Securities, Stamford, CT
Stephen Stanley
Bank of America, New York, NY
Ethan Harris
Barclays, New York, NY
Marc Giannoni
BMO Capital Markets Economics, Toronto, Canada
Scott Anderson
BNP Paribas North America, New York, NY
Andrew Schneider
Chan Economics, New York, NY
Anthony Chan
Chmura Economics & Analytics, Richmond, VA
Christine Chmura and Xiaobing Shuai
Comerica, Dallas, TX
Bill Adams
Daiwa Capital Markets America, New York, NY
Michael Moran
DePrince & Associates, Murfreesburo, TN
Albert E. DePrince Jr.
Economist Intelligence Unit, New York, NY
Leo Abruzzese and Jan Friederich
EY- Parthenon, New York, NY
Gregory Daco
Fannie Mae, Washington, DC
Douglas Duncan
Georgia State University, Atlanta, GA
Rajeev Dhawan
GLC Financial Economics, Providence, RI
Gary L. Ciminero
Goldman, Sachs & Co., New York, NY
Jan Hatzius
KPMG, New York, NY
Diane Swonk
ING Financial Markets, London, England
James Knightley
J.P. Morgan Chase, New York, NY
Bruce Kasman
Loomis, Sayles & Company, L.P., Boston, MA
Brian Horrigan
MacroFin Analytics & Rutgers Business School, Wayne, NJ
Parul Jain
MacroPolicy Perspectives, New York, NY
Julia Coronado and Laura Rosner
Moody's Analytics, West Chester, PA
Mark M. Zandi
Naroff Economic Advisors, Philadelphia, PA
Joel L. Naroff
Nationwide, New York, NY
Kathy Bostjancic
NatWest Markets, Greenwich, CT
Kevin Cummins and Deepika Dayal
Nomura Securities International, Inc., New York, NY
U.S. Economics
Northern Trust Company, Chicago, IL
Carl Tannenbaum
Oxford Economics, New York, NY
Oren Klachkin
PNC Financial Services Group, Pittsburgh, PA
Gus Faucher
RDQ Economics, New York, NY
John Ryding and Conrad de Quadros
Regions Financial Corporation, Birmingham, AL
Richard F. Moody
Scotiabank Group, Toronto, Canada
Jean-Francois Perrault
Societe Generale, New York, NY
Stephen W. Gallagher
S&P Global Market Intelligence, St. Louis, MO
Joel Prakken & Chris Varvares
Swiss Re, New York, NY
Jerome Haegeli
The Lonski Group, White Plains, NY
John Lonski
TS Lombard, London, UK
Steven Blitz
Via Nova Investment Management, Crozet, VA
Alan Gayle
Wells Fargo, Charlotte, NC
Jay Bryson

CONTRIBUTORS TO INTERNATIONAL SURVEY

Barclays Capital, New York, NY
BMO Capital Markets Economics, Toronto, Canada
ING Financial Markets, London, England
Moody's Analytics, West Chester, PA
Nomura Securities International, Inc., New York, NY
Northern Trust Company, Chicago, IL
Oxford Economics, Wayne, PA
Scotiabank Group, Toronto, Canada
S&P Global Market Intelligence, St. Louis, MO
TS Lombard, London, UK
Wells Fargo, Charlotte, NC

NEW REGULATORY FINANCE

Roger A. Morin, PhD

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The model is analogous to the standard CAPM, but with the return on a minimum risk portfolio that is unrelated to market returns, R_Z, replacing the risk-free rate, R_F. The model has been empirically tested by Black, Jensen, and Scholes (1972), who find a flatter than predicted SML, consistent with the model and other researchers' findings. An updated version of the Black-Jensen-Scholes study is available in Brealey, Myers, and Allen (2006) and reaches similar conclusions.

The zero-beta CAPM cannot be literally employed to estimate the cost of capital, since the zero-beta portfolio is a statistical construct difficult to replicate. Attempts to estimate the model are formally equivalent to estimating the constants, a and b, in Equation 6-2. A practical alternative is to employ the Empirical CAPM, to which we now turn.

6.3 Empirical CAPM

As discussed in the previous section, several finance scholars have developed refined and expanded versions of the standard CAPM by relaxing the constraints imposed on the CAPM, such as dividend yield, size, and skewness effects. These enhanced CAPMs typically produce a risk-return relationship that is flatter than the CAPM prediction in keeping with the actual observed risk-return relationship. The ECAPM makes use of these empirical findings. The ECAPM estimates the cost of capital with the equation:

$$K = R_F + \acute{\alpha} + \beta \times (MRP - \acute{\alpha}) \qquad (6\text{-}5)$$

where $\acute{\alpha}$ is the "alpha" of the risk-return line, a constant, and the other symbols are defined as before. All the potential vagaries of the CAPM are telescoped into the constant $\acute{\alpha}$, which must be estimated econometrically from market data. Table 6-2 summarizes[10] the empirical evidence on the magnitude of alpha.[11]

[10] The technique is formally applied by Litzenberger, Ramaswamy, and Sosin (1980) to public utilities in order to rectify the CAPM's basic shortcomings. Not only do they summarize the criticisms of the CAPM insofar as they affect public utilities, but they also describe the econometric intricacies involved and the methods of circumventing the statistical problems. Essentially, the average monthly returns over a lengthy time period on a large cross-section of securities grouped into portfolios are related to their corresponding betas by statistical regression techniques; that is, Equation 6-5 is estimated from market data. The utility's beta value is substituted into the equation to produce the cost of equity figure. Their own results demonstrate how the standard CAPM underestimates the cost of equity capital of public utilities because of utilities' high dividend yield and return skewness.

[11] Adapted from Vilbert (2004).

TABLE 6-2
EMPIRICAL EVIDENCE ON THE ALPHA FACTOR

Author	Range of alpha
Fischer (1993)	−3.6% to 3.6%
Fischer, Jensen and Scholes (1972)	−9.61% to 12.24%
Fama and McBeth (1972)	4.08% to 9.36%
Fama and French (1992)	10.08% to 13.56%
Litzenberger and Ramaswamy (1979)	5.32% to 8.17%
Litzenberger, Ramaswamy and Sosin (1980)	1.63% to 5.04%
Pettengill, Sundaram and Mathur (1995)	4.6%
Morin (1989)	2.0%

For an alpha in the range of 1%–2% and for reasonable values of the market risk premium and the risk-free rate, Equation 6-5 reduces to the following more pragmatic form:

$$K = R_F + 0.25\ (R_M - R_F) + 0.75\ \beta(R_M - R_F) \qquad (6\text{-}6)$$

Over reasonable values of the risk-free rate and the market risk premium, Equation 6-6 produces results that are indistinguishable from the ECAPM of Equation 6-5.[12]

An alpha range of 1%–2% is somewhat lower than that estimated empirically. The use of a lower value for alpha leads to a lower estimate of the cost of capital for low-beta stocks such as regulated utilities. This is because the use of a long-term risk-free rate rather than a short-term risk-free rate already incorporates some of the desired effect of using the ECAPM. That is, the

[12] Typical of the empirical evidence on the validity of the CAPM is a study by Morin (1989) who found that the relationship between the expected return on a security and beta over the period 1926–1984 was given by:

$$\text{Return} = 0.0829 + 0.0520\ \beta$$

Given that the risk-free rate over the estimation period was approximately 6% and that the market risk premium was 8% during the period of study, the intercept of the observed relationship between return and beta exceeds the risk-free rate by about 2%, or 1/4 of 8%, and that the slope of the relationship is close to 3/4 of 8%. Therefore, the empirical evidence suggests that the expected return on a security is related to its risk by the following approximation:

$$K = R_F + x(R_M - R_F) + (1 - x)\beta(R_M - R_F)$$

where x is a fraction to be determined empirically. The value of x that best explains the observed relationship Return = 0.0829 + 0.0520 β is between 0.25 and 0.30. If x = 0.25, the equation becomes:

$$K = R_F + 0.25(R_M - R_F) + 0.75\beta(R_M - R_F)$$

long-term risk-free rate version of the CAPM has a higher intercept and a flatter slope than the short-term risk-free version which has been tested. Thus, it is reasonable to apply a conservative alpha adjustment. Moreover, the lowering of the tax burden on capital gains and dividend income enacted in 2002 may have decreased the required return for taxable investors, steepening the slope of the ECAPM risk-return trade-off and bring it closer to the CAPM predicted returns.[13]

To illustrate the application of the ECAPM, assume a risk-free rate of 5%, a market risk premium of 7%, and a beta of 0.80. The Empirical CAPM equation (6-6) above yields a cost of equity estimate of 11.0% as follows:

$$\begin{aligned} K &= 5\% + 0.25\ (12\% - 5\%) + 0.75 \times 0.80\ (12\% - 5\%) \\ &= 5.0\% + 1.8\% + 4.2\% \\ &= 11.0\% \end{aligned}$$

As an alternative to specifying alpha, see Example 6-1.

Some have argued that the use of the ECAPM is inconsistent with the use of adjusted betas, such as those supplied by Value Line and Bloomberg. This is because the reason for using the ECAPM is to allow for the tendency of betas to regress toward the mean value of 1.00 over time, and, since Value Line betas are already adjusted for such trend, an ECAPM analysis results in double-counting. This argument is erroneous. Fundamentally, the ECAPM is not an adjustment, increase or decrease, in beta. This is obvious from the fact that the expected return on high beta securities is actually lower than that produced by the CAPM estimate. The ECAPM is a formal recognition that the observed risk-return tradeoff is flatter than predicted by the CAPM based on myriad empirical evidence. The ECAPM and the use of adjusted betas comprised two separate features of asset pricing. Even if a company's beta is estimated accurately, the CAPM still understates the return for low-beta stocks. Even if the ECAPM is used, the return for low-beta securities is understated if the betas are understated. Referring back to Figure 6-1, the ECAPM is a return (vertical axis) adjustment and not a beta (horizontal axis) adjustment. Both adjustments are necessary. Moreover, recall from Chapter 3 that the use of adjusted betas compensates for interest rate sensitivity of utility stocks not captured by unadjusted betas.

[13] The lowering of the tax burden on capital gains and dividend income has no impact as far as non-taxable institutional investors (pension funds, 401K, and mutual funds) are concerned, and such investors engage in very large amounts of trading on security markets. It is quite plausible that taxable retail investors are relatively inactive traders and that large non-taxable investors have a substantial influence on capital markets.

CERTIFICATE OF SERVICE

I certify that on April 10, 2024, this document was filed with the Public Utility Commission of Texas in Docket No. 56211, and a true and correct copy of it was served by electronic mail on all parties of record in this proceeding in accordance with the Second Order Suspending Rules issued in Project No. 50664.