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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COVID Omicron Variant Confuses Outlook, Especially Accompanied by High Inflation

Over the Thanksgiving holiday, a new variant of the COVID virus was reported, especially in South Africa and Botswana. South African doctors indicate that it has very mild symptoms, so that people can generally be treated at home. The World Health Organization has designated this as the "Omicron" variant and describes it as a "variant of concern." So far, at this writing, no cases have been reported in the United States, although there are some nearby in Canada.

Holiday Period Generates Erratic Financial Market Moves, then Fed Chair Powel Testifies. The first reports of this variant set off strong movements in financial markets on Friday, November 26, the day after Thanksgiving. Because of the post-holiday atmosphere, trading volume was light, which meant that price movements may have been exaggerated. Erratic movements in Treasury rates and other fixed-income sectors continued. Then on November 30th, Federal Reserve Chairman Powell testified before a Congressional committee and suggested that the current high inflation might prompt the Fed to quicken the pace of its bond-purchase "tapering."

The Blue Chip Financial Forecasts survey for December was taken on November 22 and 23, that is, the Monday and Tuesday before Thanksgiving. During the subsequent market whipsaws, no participants have asked to alter their forecasts. This likely stands to reason in light of the absence of comprehensive and definitive information about the Omicron variant and the fact that, as of November 29, it has not spread within the United States.

The forecasts as submitted continue to reflect the current strong inflationary environment, exacerbated by the continuing supply-chain issues. Some of the latter are starting to ease, for instance, as container ships are now being charged fees if they leave containers on docks in California.

Growth Expected to Improve, Inflation to Moderate. The Blue Chip panel's projections for GDP growth envision a rebound this quarter to a 5.1% seasonally adjusted annual rate from the meager 2.1% in Q3. In early 2022, Q1 would see 4.4% and Q2 3.8% with the following three quarters averaging 2.8%. While inflation is expected to remain undesirably strong this quarter and next, the panel believes that it would moderate later in 2022, staying just slightly higher than in last month's forecast. The personal consumption expenditure price index rose at a 5.3% annualized pace in Q3 and the Blue Chip panel estimates it at 4.5% this quarter. In 2022, it would moderate from 2.9% in Q1 to 2.3% in Q4; the result for the year would be 2.5%, compared to 2.4% in the November forecast.

The panel's interest rate forecasts indicate that the higher-than-expected inflation might, as Fed Chair Powell hinted in his testimony, encourage the Fed to raise the federal funds rate somewhat earlier than they have been expecting. So the December forecast expects that the rate would start to climb in Q3 2022 rather than Q4. By Q1 2023, the rate would be 0.6%, compared with 0.4% in the November forecast. The 10-year Treasury rate would be 2.2% by that early 2023 period, the same as projected in the November forecast. The Blue Chip panel thus see the earlier Fed actions as perhaps reducing market concerns sufficiently to keep investors comfortable.

Long-term Federal Funds Rate Just Above 2%. This month's survey also includes the semi-annual long-term projections. GDP growth in 2023 is projected at 2.6% and then easing to 2.0% by 2026. This is just 0.1% below the projections for 2028-2032 made at the end of May. Inflation, measured by the personal consumption expenditure price index, would be 2.5% in 2023 and then ease to 2.1% across the rest of the forecast horizon. The 2% long-term growth rate would be associated with a federal funds rate edging up to 2.2% by 2026 and hovering near there after that. The 10-year Treasury yield would be 3.2% by mid-decade.

\+ + + + +

SOFR Forecast Preview

Here are the Consensus forecasts for 3-month LIBOR and for the Secured Overnight Financing Rate, i.e., SOFR. As we have explained in the last couple of months, the LIBOR rates will be discontinued starting in January and for representations of short-term private sector borrowing rates, markets will focus on SOFR. Thus, beginning in the January edition of the Blue Chip Financial Forecasts, we will include SOFR in the regular forecast tables and show the forecasts of individual survey participants, not just the consensus average.

We clearly invite questions from forecast participants and subscribers to the publication. Meantime, readers can refer to this link from the New York Federal Reserve Bank, which is the official source of the daily SOFR rates.

	LIBOR 3-Month	**Secured Overnight Financing Rate (SOFR)**
Q1 2021	0.20	0.04
Q2 2021	0.16	0.02
Q3 2021	0.13	0.05
Q4 2021	0.18	0.06
Q1 2022	0.21	0.07
Q2 2022	0.26	0.09
Q3 2022	0.37	0.18
Q4 2022	0.57	0.36
Q1 2023	0.73	0.48

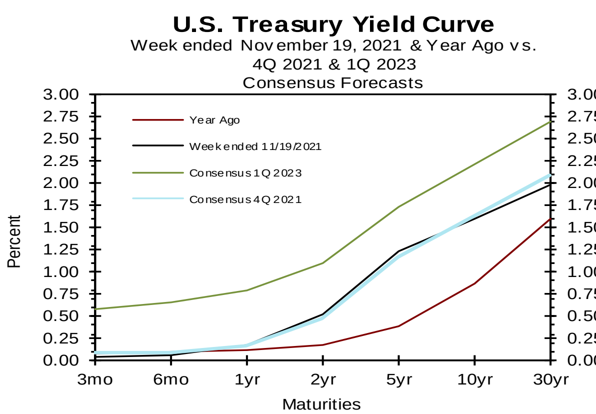
Carol Stone, CBE (Haver Analytics, New York, NY)

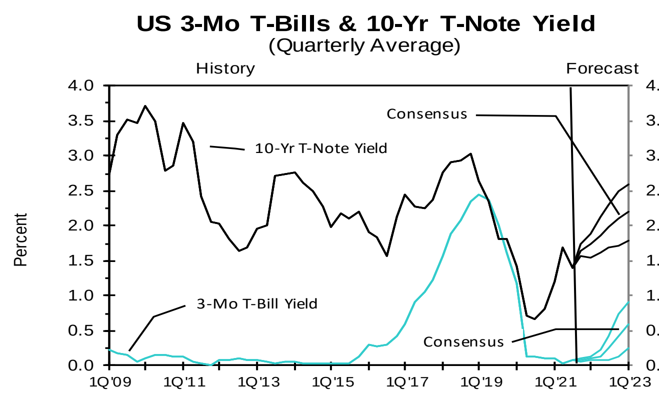
Consensus Forecasts of U.S. Interest Rates and Key Assumptions

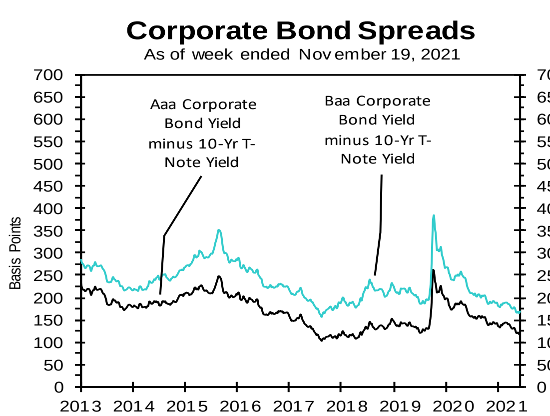
	History								Consensus Forecasts-Quarterly Avg.					
	Average For Week Ending				Average For Month			*Latest Qtr*	4Q	1Q	2Q	3Q	4Q	1Q
Interest Rates	Nov 19	Nov 12	Nov 5	Oct 29	Oct	Sep	Aug	3Q 2021	**2021**	**2022**	**2022**	**2022**	**2022**	**2023**
Federal Funds Rate	0.08	0.08	0.08	0.08	0.08	0.08	0.09	0.09	**0.1**	**0.1**	**0.1**	**0.3**	**0.4**	**0.6**
Prime Rate	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	**3.3**	**3.3**	**3.3**	**3.4**	**3.5**	**3.7**
LIBOR, 3-mo.	0.16	0.15	0.14	0.13	0.13	0.12	0.12	0.13	**0.2**	**0.2**	**0.3**	**0.4**	**0.6**	**0.7**
Commercial Paper, 1-mo.	0.06	0.05	0.07	0.06	0.05	0.05	0.05	0.05	**0.1**	**0.1**	**0.2**	**0.3**	**0.5**	**0.6**
Treasury bill, 3-mo.	0.05	0.05	0.05	0.06	0.05	0.04	0.05	0.05	**0.1**	**0.1**	**0.1**	**0.2**	**0.4**	**0.6**
Treasury bill, 6-mo.	0.06	0.07	0.07	0.06	0.06	0.05	0.06	0.05	**0.1**	**0.1**	**0.2**	**0.3**	**0.5**	**0.7**
Treasury bill, 1 yr.	0.18	0.16	0.15	0.14	0.11	0.08	0.07	0.08	**0.2**	**0.2**	**0.3**	**0.4**	**0.6**	**0.8**
Treasury note, 2 yr.	0.53	0.48	0.45	0.48	0.39	0.24	0.22	0.23	**0.5**	**0.6**	**0.7**	**0.8**	**1.0**	**1.1**
Treasury note, 5 yr.	1.24	1.17	1.14	1.18	1.11	0.86	0.77	0.80	**1.2**	**1.3**	**1.4**	**1.5**	**1.6**	**1.7**
Treasury note, 10 yr.	1.60	1.53	1.54	1.59	1.58	1.37	1.28	1.32	**1.6**	**1.7**	**1.9**	**2.0**	**2.1**	**2.2**
Treasury note, 30 yr.	1.98	1.90	1.95	2.00	2.06	1.94	1.92	1.93	**2.1**	**2.2**	**2.3**	**2.5**	**2.6**	**2.7**
Corporate Aaa bond	2.82	2.72	2.77	2.80	2.85	2.72	2.72	2.72	**2.7**	**2.9**	**3.1**	**3.2**	**3.4**	**3.6**
Corporate Baa bond	3.29	3.18	3.22	3.25	3.31	3.16	3.16	3.16	**3.4**	**3.6**	**3.8**	**4.0**	**4.2**	**4.4**
State & Local bonds	2.56	2.56	2.60	2.61	2.59	2.67	2.64	2.64	**2.4**	**2.6**	**2.7**	**2.9**	**3.0**	**3.1**
Home mortgage rate	3.10	2.98	3.09	3.14	3.07	2.90	2.84	2.87	**3.1**	**3.2**	**3.4**	**3.5**	**3.7**	**3.8**

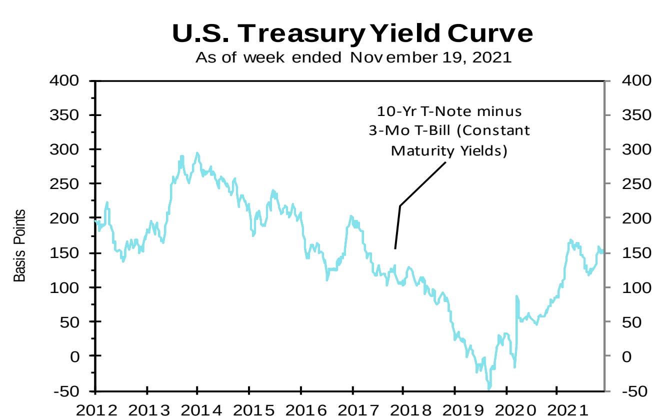
	History								Consensus Forecasts-Quarterly					
	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	**4Q**	**1Q**	**2Q**	**3Q**	**4Q**	**1Q**
Key Assumptions	2019	2020	2020	2020	2020	2021	2021	2021	**2021**	**2022**	**2022**	**2022**	**2022**	**2023**
Fed's AFE $ Index	110.5	111.4	112.4	107.3	105.2	103.4	102.9	105.0	**106.5**	**106.9**	**106.8**	**106.6**	**106.3**	**106.1**
Real GDP	1.9	-5.1	-31.2	33.8	4.5	6.3	6.7	2.1	**5.1**	**4.4**	**3.8**	**3.3**	**2.6**	**2.4**
GDP Price Index	1.5	1.6	-1.5	3.6	2.2	4.3	6.1	5.9	**4.6**	**3.4**	**2.8**	**2.7**	**2.5**	**2.5**
Consumer Price Index	2.6	1.0	-3.1	4.7	2.4	3.7	8.4	6.6	**5.6**	**3.3**	**2.9**	**2.6**	**2.5**	**2.4**
PCE Price Index	1.7	1.3	-1.6	3.7	1.5	3.8	6.5	5.3	**4.5**	**2.9**	**2.5**	**2.5**	**2.3**	**2.3**

Forecasts for interest rates and the Federal Reserve's Major Currency Index represent averages for the quarter. Forecasts for Real GDP, GDP Price Index, PCE Price Index and Consumer 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; LIBOR quotes from Intercontinental Exchange. 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).









Policy Rates[1]

	History: Latest:	History: Month Ago:	History: Year Ago:	Consensus Forecasts Months From Now: 3	6	12
U.S.	0.13	0.13	0.13	**0.13**	**0.13**	**0.35**
Japan	-0.10	-0.10	-0.10	**-0.08**	**-0.08**	**-0.10**
U.K.	0.10	0.10	0.10	**0.23**	**0.31**	**0.54**
Switzerland	-0.75	-0.75	-0.75	**-0.75**	**-0.75**	**-0.67**
Canada	0.25	0.25	0.25	**0.25**	**0.35**	**0.80**
Australia	0.10	0.10	0.10	**0.10**	**0.10**	**0.07**
Euro area	0.00	0.00	0.00	**-0.05**	**-0.05**	**-0.05**

10-Yr. Government Bond Yields[2]

	History: Latest:	History: Month Ago:	History: Year Ago:	Consensus Forecasts Months From Now: 3	6	12
U.S.	1.54	1.66	0.83	**1.77**	**1.93**	**2.17**
Germany	-0.34	-0.11	-0.59	**-0.13**	**-0.03**	**0.19**
Japan	0.08	0.10	0.02	**0.08**	**0.09**	**0.10**
U.K.	0.89	1.15	0.43	**1.10**	**1.23**	**1.49**
France	0.00	0.24	-0.35	**0.11**	**0.27**	**0.45**
Italy	0.86	0.95	0.60	**0.95**	**1.17**	**1.35**
Switzerland	-0.15	-0.04	-0.47	**-0.12**	**0.00**	**0.19**
Canada	1.66	1.65	0.65	**1.81**	**2.01**	**2.30**
Australia	1.81	1.80	0.86	**1.93**	**2.05**	**2.22**
Spain	0.46	0.51	0.07	**0.55**	**0.65**	**0.86**

Foreign Exchange Rates[3]

	History: Latest:	History: Month Ago:	History: Year Ago:	Consensus Forecasts Months From Now: 3	6	12
U.S.	107.66	105.48	105.40	**107.3**	**107.4**	**107.4**
Japan	113.81	113.54	103.81	**113.9**	**114.2**	**114.4**
U.K.	1.35	1.37	1.33	**1.36**	**1.37**	**1.38**
Switzerland	0.93	0.92	0.91	**0.94**	**0.94**	**0.94**
Canada	1.26	1.24	1.31	**1.25**	**1.25**	**1.24**
Australia	0.73	0.75	0.73	**0.74**	**0.74**	**0.74**
Euro	1.13	1.16	1.19	**1.14**	**1.15**	**1.15**

Consensus Policy Rates vs. US Rate

	Now	In 12 Mo.
Japan	-0.23	**-0.45**
U.K.	-0.03	**0.18**
Switzerland	-0.88	**-1.02**
Canada	0.13	**0.45**
Australia	-0.03	**-0.28**
Euro area	-0.13	**-0.40**

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

	Now	In 12 Mo.
Germany	-1.88	**-1.98**
Japan	-1.46	**-2.06**
U.K.	-0.65	**-0.68**
France	-1.54	**-1.71**
Italy	-0.68	**-0.81**
Switzerland	-1.69	**-1.98**
Canada	0.12	**0.13**
Australia	0.27	**0.05**
Spain	-1.08	**-1.31**

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. It's never over till it's over. On November 26, the World Health Organization classified a new variant of COVID and named it Omicron. At present the Omicron strain appears to be even more easily transmitted than the Delta variant. However, not much is yet known about whether it increases morbidity, risk of death or hospitalization or whether it meaningfully reduces the efficacy of existing vaccines. Nonetheless, the advent of another, potentially more potent COVID strain has roiled global financial markets with the major concern being that the new strain will reduce mobility and deliver a blow to economic activity. Some governments have already restricted travel. Even before Omicron, European economies were reeling from a sharp rise in Delta variant cases with some governments having reimposed some restrictions. Within the past couple of weeks, authorities in Austria, Belgium, Germany, the Netherlands and Ireland have tightened restrictions with Austria reimposing an economy-wide lockdown on November 22 (intended to last 20 days for those vaccinated).

The advent of a new COVID strain adds another concern to the one that has been dominating global financial markets—persistent and broadening inflation. Higher-than-expected inflation rates in the US, UK, Euro area, Canada, Australia and all across emerging market (EM) economies have led markets and policymakers to question their earlier view that the recent acceleration would be temporary. Rising global energy and food prices have been key sources of the increase but rebounding demand as economies reopen and lingering supply-chain bottlenecks are also playing major roles. Add to this still-accommodative monetary policy and you have the recipe for inflation that could be more than temporary. However, reopening-related supply-chain bottlenecks should eventually recede and there is already evidence of some reduction in monetary accommodation. EM central banks have been actively increasing policy interest rates over the past several months in the face of rising inflation. So far in November there have been 16 EM rate hikes, including a larger-than-expected 125bp hike by the central bank of the Czech Republic in early November and a 150bp hike in Pakistan.

Major developed market economy central banks have been less aggressive than their EM counterparts but nonetheless are beginning the journey toward less accommodation. Credit impulses have turned negative in much of DM, indicating that at the margin, financial conditions are tightening. Several central banks, including the US Fed, have recently announced either the end of their asset purchase programs or that they would end their programs in coming months. Moreover, a couple have already raised their policy interest rates. The Reserve Bank of New Zealand has raised its policy interest rate by 25bps at each of its last two meetings with more likely still to come. The Bank of England surprised markets at its November 4 meeting by not raising its policy rate. Comments by BoE officials prior to that meeting had been interpreted by financial markets as indicating that a rate hike was in the cards. Since then, indications of further labor-market tightening and another larger-than-expected inflation report have intensified market expectations that a rate hike could materialize as early as at the December 16 meeting.

In addition to expectations concerning BoE rate actions, financial markets have priced in policy interest rate increases from the US Federal Reserve, the European Central Bank (ECB), the Bank of Canada and the Reserve Bank of Australia, among others, before the end of 2022. While DM central banks have generally embraced the need for less monetary accommodation in the current environment, the ECB has not. President Lagarde has several times berated markets for expecting a policy rate hike next year, saying that the ECB's requirements for a policy rate increase are not likely to be met during 2022. Furthermore, the ECB continues to argue that the higher-than-expected rate of inflation currently being experienced is due mostly to temporary factors and will soon recede.

Fourth Quarter 2021

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	1 Federal Funds Rate	2 Prime Bank Rate	3 LIBOR Rate 3-Mo.	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
	Percent Per Annum -- Average For Quarter: Short-Term							Intermediate-Term			Long-Term					Avg. For Qtr.	(Q-Q % Change) (SAAR)			
J.P. Morgan Chase	0.3 H	na	0.2	na	na	na	na	0.3 L	1.0	1.8 H	2.5 H	na	na	na	na	na	5.0	4.5	7.8	4.2
ACIMA Private Wealth	0.1 L	3.3 H	0.2	0.1 L	0.0 L	0.0 L	0.2	0.6	1.3 H	1.5 L	2.0	2.7	3.4	1.5 L	3.1	107.0	3.0	1.5 L	2.4	2.2
Action Economics	0.1 L	3.3 H	0.2	0.1 L	0.1	0.1	0.1 L	0.5	1.2	1.6	2.0	2.7	3.4	2.8 H	3.2	105.0	4.5	5.5	7.3	6.0
Amherst Pierpont Securities	0.1 L	3.3 H	0.2	0.1 L	0.1	0.1	0.2	0.5	1.2	1.6	2.1	2.7	3.4	2.2	3.2	107.1	8.5 H	4.9	7.8	6.0
Bank of America	0.1 L	na	0.2	na	0.1	na	na	0.5	1.3 H	1.7	2.1	na	na	na	na	na	6.0	5.4	7.4	5.3
Bank of the West	0.1 L	3.3 H	0.1 L	0.1 L	0.1	0.1	0.1 L	0.4	1.0	1.6	2.2	2.8	3.5	2.8 H	3.1	106.1	4.7	4.1	8.5 H	5.8
Barclays	0.1 L	3.3 H	na	na	na	na	na	na	na	na	na	na	na	na	na	na	5.0	5.2	7.1	5.5
BMO Capital Markets	0.1 L	3.3 H	0.1 L	na	0.1	0.1	0.2	0.5	1.2	1.6	2.0	na	na	na	3.1	106.8	4.5	5.2	7.5	7.2 H
BNP Paribas Americas	0.1 L	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	5.3	na	8.0	na
Chan Economics	0.1 L	3.3 H	0.2	0.1 L	0.1	0.1	0.1 L	0.4	1.1	1.6	2.2	2.9	3.6	2.5	3.1	106.0	4.8	3.5	3.9	3.5
Chmura Economics & Analytics	0.1 L	3.3 H	0.1 L	0.1 L	0.1	0.1	0.1 L	0.4	1.1	1.6	2.0	2.6	na	na	3.0	na	3.9	4.8	5.3	na
Daiwa Capital Markets America	0.1 L	3.3 H	0.2	0.1 L	0.1	0.1	0.2	0.5	1.3 H	1.6	2.0	2.7	3.3	na	3.1	106.0	5.0	5.0	6.7	5.0
DePrince & Assoc.	0.1 L	3.2 L	0.2	0.1 L	0.1	0.1	0.2	0.5	1.2	1.6	2.0	2.7	3.4	2.2	3.1	106.7	4.8	3.3	3.5	3.2
Economist Intelligence Unit	0.1 L	3.3 H	na	0.1 L	0.1	0.1	0.2	0.5	1.2	1.6	2.0	na	na	na	2.9 L	na	4.6	na	3.1	na
Fannie Mae	0.1 L	3.3 H	na	na	0.1	0.1	0.2	0.5	1.2	1.6	2.0	na	na	na	3.1	na	4.3	5.8	6.7	4.8
Georgia State University	0.1 L	3.3 H	na	na	0.0 L	0.0 L	0.1 L	0.4	1.2	1.7	2.1	2.7	3.6	na	3.2	na	2.7 L	3.6	6.1	3.6
GLC Financial Economics	0.1 L	3.3 H	0.2	0.1 L	0.0 L	0.1	0.1 L	0.5	1.2	1.6	2.1	2.9	3.4	2.7	3.0	104.7 L	4.0	4.3	3.7	3.2
Goldman Sachs & Co.	0.1 L	na	0.2	na	0.2 H	na	na	0.5	1.3 H	1.7	2.1	na	na	na	na	na	5.0	5.6	7.6	5.2
Grant Thornton/Diane Swonk	0.1 L	3.3 H	0.2	0.1 L	0.1	0.1	0.1 L	0.4	1.0	1.5 L	2.0	2.8	3.4	na	2.9 L	na	4.5	5.0	5.4	4.2
IHS Markit	0.1 L	3.3 H	0.1 L	na	0.1	0.1	0.1 L	0.5	1.2	1.6	2.1	na	na	na	3.1	na	4.4	3.6	4.6	3.7
ING	0.1 L	na	0.2	na	na	na	na	0.5	1.1	1.8 H	2.1	na	na	na	na	na	6.8	na	na	na
Loomis, Sayles & Company	0.1 L	3.3 H	0.2	0.1 L	0.1	0.1	0.2	0.4	1.2	1.6	2.0	2.7	3.3	2.6	3.0	105.7	4.2	5.6	7.7	5.3
MacroFin Analytics & Rutgers Bus School	0.1 L	3.3 H	0.2	0.1 L	0.1	0.1	0.2	0.6	1.3 H	1.6	2.0	2.8	3.3	2.6	3.1	106.8	4.8	4.0	4.9	3.4
Mizuho Research Institute	0.1 L	na	na	na	na	na	na	na	na	1.7	na	na	na	na	na	na	na	na	na	na
Moody's Analytics	0.1 L	3.2 L	0.2	0.1 L	0.1	0.1	0.2	0.5	1.2	1.6	2.4	2.9	3.6	2.3	3.2	na	6.6	2.8	4.4	3.9
Naroff Economic Advisors	0.1 L	3.3 H	na	0.1 L	0.1	0.1	0.2	0.6	1.3 H	1.6	2.0	2.7	3.4	1.8	3.0	105.7	3.6	3.9	4.6	4.2
NatWest Markets	0.1 L	3.3 H	0.2	0.2 H	0.1	0.2 H	0.3	0.5	1.3 H	1.7	2.2	na	na	na	na	na	4.0	6.2	7.4	5.2
Nomura Securities, Inc.	0.1 L	3.3 H	na	na	na	na	na	0.4	1.1	1.7	na	na	na	na	na	na	5.0	4.1	8.3	6.1
Oxford Economics	0.1 L	3.3 H	0.1 L	na	0.1	0.1	0.2	0.5	1.2	1.6	2.3	1.9 L	na	na	3.0	106.4	5.6	3.4	4.5	3.8
PNC Financial Services Corp.	0.1 L	3.3 H	0.2	na	0.1	0.1	0.1 L	0.5	1.2	1.6	2.0	na	3.3	2.2	3.1	105.1	4.9	2.4	2.2	2.2
RDQ Economics	0.1 L	3.3 H	0.2	0.2 H	0.1	0.1	0.3	0.5	0.9 L	1.6	2.0	2.7	3.4	2.6	3.1	106.8	7.5	6.0	7.0	6.0
Regions Financial Corporation	0.1 L	3.3 H	0.2	0.1 L	0.1	0.1	0.1 L	0.5	1.2	1.6	2.0	3.0 H	3.8 H	2.5	3.2	106.0	4.9	4.8	6.1	5.5
S&P Global	0.1 L	3.3 H	0.1 L	na	0.1	0.1	0.2	0.5	1.2	1.7	2.4	na	na	na	3.1	na	5.1	3.6	4.8	4.1
Scotiabank Group	0.1 L	3.3 H	na	na	0.1	na	na	0.5	1.2	1.8 H	2.1	na	na	na	na	na	6.3	3.9	1.9 L	2.1 L
Swiss Re	0.1 L	3.3 H	0.2	0.1 L	0.1	0.1	0.2	0.4	1.1	1.5 L	2.0	2.7	3.3	na	3.2	107.9	5.3	10.4 H	4.2	3.2
The Northern Trust Company	0.1 L	3.3 H	0.2	0.1 L	0.1	0.1	0.1 L	0.4	1.1	1.6	2.1	2.7	3.3	2.6	3.1	108.5 H	4.7	5.9	7.4	7.1
Thru the Cycle	0.1 L	3.3 H	0.2	0.1 L	0.1	0.1	0.2	0.5	1.2	1.6	2.0	2.8	3.3	2.8 H	3.1	107.2	5.3	3.9	6.6	5.5
TS Lombard	0.1 L	3.2 L	0.4 H	0.2 H	0.1	0.1	0.4 H	0.7 H	1.3 H	1.7	1.9 L	2.7	3.5	1.8	3.5 H	108.0	8.0	2.9	2.9	2.9
Via Nova Investment Mgt.	0.1 L	3.3 H	0.1 L	0.1 L	0.0 L	0.1	0.1 L	0.3 L	1.0	1.5 L	2.0	2.8	3.2 L	2.5	3.0	106.6	7.5	3.5	3.7	3.2
Wells Fargo	0.1 L	3.3 H	0.1 L	0.1 L	0.1	0.1	0.2	0.3 L	1.1	1.7	2.1	3.0 H	3.8 H	2.8 H	3.1	na	5.6	5.7	5.3	5.7
December Consensus	**0.1**	**3.3**	**0.2**	**0.1**	**0.1**	**0.1**	**0.2**	**0.5**	**1.2**	**1.6**	**2.1**	**2.7**	**3.4**	**2.4**	**3.1**	**106.5**	**5.1**	**4.6**	**5.6**	**4.5**
Top 10 Avg.	0.1	3.3	0.2	0.1	0.1	0.1	0.2	0.6	1.3	1.7	2.3	2.9	3.6	2.7	3.2	107.3	6.8	6.2	7.8	6.1
Bottom 10 Avg.	0.1	3.3	0.1	0.1	0.1	0.1	0.1	0.4	1.0	1.6	2.0	2.6	3.3	2.2	3.0	105.7	3.9	3.1	3.2	2.9
November Consensus	0.1	3.3	0.2	0.1	0.1	0.1	0.1	0.4	1.1	1.6	2.2	2.9	3.6	2.5	3.1	105.8	4.6	3.4	3.9	3.4
Number of Forecasts Changed From A Month Ago:																				
Down	0	0	5	0	2	1	2	5	3	12	22	12	12	8	12	3	12	4	3	3
Same	39	33	22	24	28	30	14	12	18	18	12	8	9	7	12	6	10	2	4	2
Up	1	1	4	0	4	0	15	20	16	8	2	2	1	3	6	12	17	30	30	30
Diffusion Index	51%	51%	48%	50%	53%	48%	71%	70%	68%	45%	22%	27%	25%	36%	40%	71%	56%	86%	86%	89%

First Quarter 2022

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	1 Federal Funds Rate	2 Prime Bank Rate	3 LIBOR Rate 3-Mo.	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
	Percent Per Annum -- Average For Quarter															Avg. For ---Qtr.---	(Q-Q % Change) (SAAR)			
	Short-Term							Intermediate-Term			Long-Term									
J.P. Morgan Chase	0.3 H	na	0.2	na	na	na	na	0.4	1.1	1.8	2.5	na	na	na	na	na	2.5 L	3.0	3.7	3.4
ACIMA Private Wealth	0.1 L	3.3 H	0.2	0.1 L	0.0 L	0.0 L	0.1 L	0.6	1.3	1.3 L	1.9 L	2.8	3.6	1.4 L	2.9 L	105.0	3.0	1.2 L	2.0	2.2
Action Economics	0.1 L	3.3 H	0.2	0.1 L	0.1	0.1	0.3	0.6	1.2	1.7	2.2	2.9	3.6	2.8	3.4	106.3	5.2	3.1	3.2	2.9
Amherst Pierpont Securities	0.1 L	3.3 H	0.3	0.1 L	0.1	0.2 H	0.3	0.7	1.5 H	2.0	2.5	3.2	3.8	2.7	3.5	107.8	5.1	4.1	4.6	4.0
Bank of America	0.1 L	na	0.4 H	na	na	na	na	0.9 H	1.5 H	1.8	2.2	na	na	na	na	na	4.0	3.7	3.3	2.6
Bank of the West	0.1 L	3.3 H	0.1 L	0.1 L	0.1	0.1	0.1 L	0.4	1.1	1.7	2.4	3.0	3.7	3.0 H	3.3	105.6	3.7	3.0	3.2	3.0
Barclays	0.1 L	3.3 H	na	na	na	na	na	0.6	1.3	1.6	2.0	na	na	na	na	na	4.5	1.3	1.7	0.8 L
BMO Capital Markets	0.1 L	3.3 H	0.2	na	0.1	0.1	0.2	0.6	1.3	1.7	2.1	na	na	na	3.3	108.0	3.5	3.0	3.7	3.5
BNP Paribas Americas	0.1 L	na	na	na	na	na	na	0.8	na	1.7	2.1	na	na	na	na	na	5.7	na	4.1	na
Chan Economics	0.1 L	3.3 H	0.2	0.1 L	0.1	0.1	0.1 L	0.4	1.1	1.7	2.3	3.0	3.7	2.6	3.2	105.5	3.5	2.6	2.8	2.6
Chmura Economics & Analytics	0.1 L	3.3 H	0.2	0.1 L	0.1	0.1	0.2	0.5	1.1	1.6	2.0	2.6	na	na	3.1	na	4.1	4.2	5.4 H	na
Daiwa Capital Markets America	0.1 L	3.3 H	0.2	0.1 L	0.1	0.1	0.2	0.6	1.4	1.7	2.0	2.8	3.4	na	3.2	107.0	4.5	4.5	4.5	4.3 H
DePrince & Assoc.	0.1 L	3.2 L	0.2	0.1 L	0.1	0.1	0.2	0.6	1.4	1.8	2.1	3.0	4.1	2.6	3.3	106.5	3.9	2.9	3.1	2.8
Economist Intelligence Unit	0.1 L	3.3 H	na	0.1 L	0.1	0.1	0.2	0.7	1.4	1.6	2.1	na	na	na	3.0	na	3.9	na	2.4	na
Fannie Mae	0.1 L	3.3 H	na	na	0.1	0.2 H	0.4	0.8	1.4	1.7	2.0	na	na	na	3.2	na	4.8	4.2	2.4	2.8
Georgia State University	0.1 L	3.3 H	na	na	0.0 L	0.0 L	0.1 L	0.5	1.3	1.8	2.2	2.9	3.8	na	3.4	na	2.8	3.2	3.6	1.7
GLC Financial Economics	0.1 L	3.3 H	0.1 L	0.1 L	0.1	0.1	0.2	0.5	1.2	1.7	2.1	2.9	3.4	2.8	3.1	104.9 L	2.9	2.9	2.8	3.0
Goldman Sachs & Co.	0.1 L	na	0.2	na	0.2 H	na	na	0.7	1.5 H	1.8	2.2	na	na	na	na	na	4.5	2.8	4.1	2.6
Grant Thornton/Diane Swonk	0.1 L	3.3 H	0.1 L	0.1 L	0.1	0.1	0.1 L	0.4	1.1	1.5	2.0	2.8	3.4	na	3.0	na	5.0	4.9	5.0	4.0
IHS Markit	0.1 L	3.3 H	0.2	na	0.1	0.1	0.2	0.5	1.3	1.7	2.1	na	na	na	3.2	na	5.0	3.0	1.4 L	1.8
ING	0.1 L	na	0.2	na	na	na	na	0.6	1.3	2.0	2.2	na	na	na	na	na	5.1	na	na	na
Loomis, Sayles & Company	0.1 L	3.3 H	0.2	0.1 L	0.1	0.1	0.2	0.5	1.2	1.7	2.2	2.8	3.4	2.7	3.1	106.6	3.9	3.2	2.5	2.1
MacroFin Analytics & Rutgers Bus School	0.1 L	3.3 H	0.2	0.1 L	0.1	0.1	0.2	0.6	1.3	1.6	2.0	2.9	3.3	2.6	3.1	107.2	4.0	2.9	1.9	1.8
Mizuho Research Institute	0.1 L	na	na	na	na	na	na	na	na	1.7	na	na	na	na	na	na	na	na	na	na
Moody's Analytics	0.1 L	3.2 L	0.3	0.1 L	0.2 H	0.2 H	0.4	0.7	1.4	1.9	2.9 H	3.4 H	4.2 H	2.7	3.4	na	6.1	3.0	2.9	2.8
Naroff Economic Advisors	0.1 L	3.3 H	na	0.1 L	0.1	0.1	0.2	0.6	1.3	1.7	2.1	2.9	3.6	1.9	3.2	106.3	4.7	3.3	3.3	3.2
NatWest Markets	0.1 L	3.3 H	0.2	0.2 H	0.1	0.2 H	0.3	0.9 H	1.5 H	1.8	2.1	na	na	na	na	na	4.0	6.0	2.8	3.5
Nomura Securities, Inc.	0.1 L	3.3 H	na	na	na	na	na	0.4	1.1	1.8	na	na	na	na	na	na	5.6	2.8	5.4 H	3.5
Oxford Economics	0.1 L	3.3 H	0.2	na	0.1	0.1	0.2	0.6	1.3	1.8	2.5	2.0 L	na	na	3.2	106.2	6.2 H	1.8	2.6	2.1
PNC Financial Services Corp.	0.1 L	3.3 H	0.2	na	0.1	0.1	0.3	0.7	1.3	1.7	2.1	na	3.5	2.3	3.3	105.5	4.6	2.4	1.5	1.8
RDQ Economics	0.1 L	3.3 H	0.2	0.2 H	0.1	0.1	0.4	0.6	1.1	1.9	2.4	3.1	3.7	2.9	3.4	106.3	6.1	4.0	4.7	3.3
Regions Financial Corporation	0.1 L	3.3 H	0.2	0.1 L	0.1	0.1	0.2	0.6	1.3	1.7	2.1	3.2	3.9	2.6	3.3	107.1	5.4	4.0	4.2	4.3 H
S&P Global	0.1 L	3.3 H	0.2	na	0.1	0.1	0.2	0.5	1.2	1.8	2.6	na	na	na	3.2	na	5.1	2.3	2.7	2.3
Scotiabank Group	0.1 L	3.3 H	na	na	0.1	na	na	0.7	1.4	2.1 H	2.3	na	na	na	na	na	4.8	4.6	2.0	3.3
Swiss Re	0.1 L	3.3 H	0.4 H	0.1 L	0.1	0.2 H	0.3	0.5	1.0 L	1.5	1.9 L	2.7	3.2 L	na	3.2	108.8	4.1	7.3 H	3.7	3.6
The Northern Trust Company	0.1 L	3.3 H	0.3	0.1 L	0.1	0.2 H	0.2	0.5	1.3	1.8	2.4	3.0	3.7	2.9	3.3	108.0	4.6	3.4	3.5	3.7
Thru the Cycle	0.1 L	3.3 H	0.2	0.1 L	0.1	0.1	0.4	0.6	1.5 H	1.8	2.1	2.9	3.4	2.9	3.4	109.1	4.3	3.1	3.9	3.6
TS Lombard	0.1 L	3.2 L	0.4 H	0.2 H	0.2 H	0.2 H	0.5 H	0.8	1.5 H	1.8	2.4	3.2	4.0	2.3	3.6 H	110.0 H	4.4	3.0	3.0	3.0
Via Nova Investment Mgt.	0.1 L	3.3 H	0.1 L	0.1 L	0.1	0.1	0.1 L	0.2 L	1.0 L	1.4	2.0	2.9	3.3	2.6	2.9 L	107.5	4.0	2.5	2.7	2.7
Wells Fargo	0.1 L	3.3 H	0.1 L	0.1 L	0.1	0.2 H	0.3	0.5	1.2	1.8	2.2	3.0	3.8	2.8	3.2	na	4.4	3.8	3.8	3.8
December Consensus	**0.1**	**3.3**	**0.2**	**0.1**	**0.1**	**0.1**	**0.2**	**0.6**	**1.3**	**1.7**	**2.2**	**2.9**	**3.6**	**2.6**	**3.2**	**106.9**	**4.4**	**3.4**	**3.3**	**2.9**
Top 10 Avg.	0.1	3.3	0.3	0.1	0.1	0.2	0.4	0.8	1.5	1.9	2.5	3.1	3.9	2.8	3.4	108.1	5.6	4.8	4.6	3.8
Bottom 10 Avg.	0.1	3.3	0.2	0.1	0.1	0.1	0.1	0.4	1.1	1.6	2.0	2.7	3.4	2.4	3.1	105.8	3.4	2.3	2.0	1.9
November Consensus	0.1	3.3	0.2	0.1	0.1	0.1	0.2	0.5	1.2	1.8	2.3	3.0	3.7	2.7	3.2	105.6	4.2	2.7	2.9	2.6
Number of Forecasts Changed From A Month Ago:																				
Down	0	0	2	2	1	3	2	1	4	11	27	9	13	8	8	2	5	4	8	9
Same	39	33	28	22	31	26	15	14	14	27	9	10	7	9	18	2	9	6	6	4
Up	1	1	1	0	1	2	14	23	19	2	1	3	2	1	4	17	25	26	23	22
Diffusion Index	51%	51%	48%	46%	50%	48%	69%	79%	70%	39%	15%	36%	25%	31%	43%	86%	76%	81%	70%	69%

Second Quarter 2022

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	1 Federal Funds Rate	2 Prime Bank Rate	3 LIBOR Rate 3-Mo.	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
	Percent Per Annum -- Average For Quarter: Short-Term							Intermediate-Term			Long-Term					Avg. For Qtr.	(Q-Q % Change) (SAAR)			
Bank of America	0.4 H	na	0.6 H	na	na	na	na	1.0	1.6	1.9	2.2	na	na	na	na	na	4.0	3.7	3.2	2.4
TS Lombard	0.4 H	3.5 H	0.6 H	0.4 H	0.3 H	0.3	0.5	0.8	1.6	2.0	2.7	3.5	4.3	2.6	3.8	112.0 H	4.0	3.1	3.1	3.1
J.P. Morgan Chase	0.3	na	0.2	na	na	na	na	0.4	1.2	1.9	2.6	na	na	na	na	na	3.5	2.2	2.5	2.2
Amherst Pierpont Securities	0.2	3.3	0.5	0.2	0.3 H	0.5 H	0.6 H	0.9	1.7	2.3 H	2.9	3.6	4.3	3.0	3.9 H	108.5	4.5	3.6	3.7	3.3
Chmura Economics & Analytics	0.2	3.3	0.3	0.2	0.2	0.2	0.3	0.6	1.2	1.7	2.1	2.7	na	na	3.2	na	2.8	3.6	5.2	na
Regions Financial Corporation	0.2	3.3	0.3	0.2	0.1	0.2	0.3	0.7	1.4	1.9	2.2	3.3	4.1	2.7	3.5	107.8	4.8	3.6	2.9	2.9
Thru the Cycle	0.2	3.3	0.3	0.2	0.2	0.3	0.5	0.7	1.6	1.9	2.2	2.9	3.5	2.9	3.4	109.6	3.3	2.7	3.8	2.9
ACIMA Private Wealth	0.1 L	3.3	0.2	0.1 L	0.0 L	0.0 L	0.1 L	0.5	1.1	1.3 L	1.8 L	2.9	3.8	1.4 L	2.6 L	103.0 L	2.0 L	1.1	2.0	2.0
Action Economics	0.1 L	3.3	0.2	0.1 L	0.1	0.2	0.4	0.7	1.2	1.8	2.2	3.0	3.7	2.8	3.5	107.0	4.7	2.3	2.9	2.7
Bank of the West	0.1 L	3.3	0.2	0.1 L	0.1	0.1	0.2	0.4	1.1	1.8	2.4	3.0	3.8	3.1	3.3	105.0	2.8	2.6	2.5	2.4
Barclays	0.1 L	3.3	na	na	na	na	na	0.7	1.4	1.7	2.0	na	na	na	na	na	4.0	0.9 L	1.1 L	0.4 L
BMO Capital Markets	0.1 L	3.3	0.2	na	0.1	0.1	0.3	0.7	1.3	1.8	2.2	na	na	na	3.5	107.6	3.3	2.3	2.7	2.4
BNP Paribas Americas	0.1 L	na	na	na	na	na	na	1.0	na	1.8	2.2	na	na	na	na	na	5.5 H	na	2.2	na
Chan Economics	0.1 L	3.3	0.2	0.1 L	0.2	0.2	0.2	0.5	1.2	1.8	2.4	3.1	3.8	2.7	3.3	105.0	3.3	2.5	2.7	2.5
Daiwa Capital Markets America	0.1 L	3.3	0.2	0.1 L	0.1	0.1	0.2	0.7	1.4	1.7	2.1	2.9	3.5	na	3.3	108.0	3.7	3.7	4.0	3.7
DePrince & Assoc.	0.1 L	3.2 L	0.2	0.2	0.1	0.1	0.2	0.7	1.5	1.9	2.3	3.2	4.2	2.8	3.6	106.1	3.5	2.7	2.9	2.6
Economist Intelligence Unit	0.1 L	3.3	na	0.2	0.1	0.1	0.3	0.7	1.4	1.7	2.1	na	na	na	3.0	na	3.9	na	2.4	na
Fannie Mae	0.1 L	3.3	na	na	0.2	0.3	0.6 H	1.0	1.5	1.7	2.0	na	na	na	3.3	na	3.9	3.4	3.0	2.9
Georgia State University	0.1 L	3.3	na	na	0.1	0.1	0.2	0.6	1.5	2.0	2.4	3.1	4.2	na	3.6	na	4.2	2.2	2.5	1.9
GLC Financial Economics	0.1 L	3.3	0.2	0.1 L	0.1	0.1	0.2	0.5	1.2	1.7	2.2	2.9	3.5	2.8	3.3	104.7	3.5	3.5	2.4	2.9
Goldman Sachs & Co.	0.1 L	na	0.3	na	0.2	na	na	0.9	1.6	1.9	2.2	na	na	na	na	na	4.0	3.1	4.0	2.6
Grant Thornton/Diane Swonk	0.1 L	3.3	0.2	0.1 L	0.1	0.1	0.3	0.6	1.3	1.8	2.2	3.0	3.7	na	3.3	na	4.7	1.9	2.7	1.9
IHS Markit	0.1 L	3.3	0.2	na	0.1	0.1	0.2	0.6	1.3	1.8	2.2	na	na	na	3.3	na	4.7	2.3	2.1	2.0
ING	0.1 L	na	0.2	na	na	na	na	0.7	1.6	2.3 H	2.4	na	na	na	na	na	4.3	na	na	na
Loomis, Sayles & Company	0.1 L	3.3	0.2	0.1 L	0.1	0.1	0.2	0.5	1.2	1.8	2.3	2.9	3.5	2.7	3.2	106.6	3.6	2.2	2.3	2.1
MacroFin Analytics & Rutgers Bus School	0.1 L	3.3	0.2	0.1 L	0.1	0.1	0.2	0.6	1.3	1.6	2.0	2.9	3.3 L	2.6	3.1	107.4	2.8	2.2	2.2	2.1
Mizuho Research Institute	0.1 L	na	na	na	na	na	na	na	na	1.8	na	na	na	na	na	na	na	na	na	na
Moody's Analytics	0.1 L	3.2 L	0.4	0.1 L	0.2	0.3	0.5	0.9	1.6	2.2	3.2 H	3.7 H	4.6 H	3.0	3.7	na	3.6	2.8	2.5	2.6
Naroff Economic Advisors	0.1 L	3.3	na	0.2	0.2	0.2	0.3	0.7	1.4	1.8	2.2	3.0	3.7	2.0	3.3	105.6	3.5	2.6	2.9	2.7
NatWest Markets	0.1 L	3.3	0.2	0.2	0.1	0.2	0.3	1.2 H	1.8 H	2.0	2.2	na	na	na	na	na	3.0	4.8	3.0	2.9
Nomura Securities, Inc.	0.1 L	3.3	na	na	na	na	na	0.5	1.3	1.8	na	na	na	na	na	na	4.6	1.9	1.2	1.6
Oxford Economics	0.1 L	3.3	0.2	na	0.1	0.1	0.3	0.7	1.4	2.0	2.7	2.3 L	na	na	3.4	106.0	4.5	2.0	2.5	2.2
PNC Financial Services Corp.	0.1 L	3.3	0.3	na	0.2	0.2	0.4	0.9	1.4	1.8	2.3	na	3.7	2.4	3.4	106.0	4.2	2.4	2.2	2.1
RDQ Economics	0.1 L	3.3	0.3	0.2	0.1	0.2	0.5	0.7	1.3	2.3 H	2.9	3.5	4.1	3.5 H	3.8	105.5	4.2	3.7	4.2	3.2
S&P Global	0.1 L	3.3	0.2	na	0.1	0.1	0.3	0.6	1.4	2.1	2.8	na	na	na	3.3	na	2.3	2.2	2.7	2.5
Scotiabank Group	0.1 L	3.3	na	na	0.1	na	na	0.9	1.5	2.2	2.6	na	na	na	na	na	4.1	4.8	5.4 H	3.9 H
Swiss Re	0.1 L	3.3	0.4	0.1 L	0.1	0.2	0.3	0.5	1.0 L	1.6	2.1	2.8	3.4	na	3.4	108.4	3.8	5.7 H	2.4	2.8
The Northern Trust Company	0.1 L	3.3	0.3	0.1 L	0.1	0.2	0.3	0.6	1.4	1.9	2.7	3.3	4.0	3.2	3.5	106.0	4.0	2.9	3.0	2.8
Via Nova Investment Mgt.	0.1 L	3.3	0.1 L	0.1 L	0.1	0.1	0.1 L	0.2 L	1.0 L	1.4	2.0	2.9	3.4	2.6	2.9	107.0	3.5	2.5	2.7	2.4
Wells Fargo	0.1 L	3.3	0.1 L	0.1 L	0.2	0.3	0.4	0.7	1.4	1.9	2.3	3.2	4.1	3.0	3.3	na	3.3	2.8	3.1	2.8
December Consensus	**0.1**	**3.3**	**0.3**	**0.2**	**0.1**	**0.2**	**0.3**	**0.7**	**1.4**	**1.9**	**2.3**	**3.1**	**3.8**	**2.7**	**3.4**	**106.8**	**3.8**	**2.8**	**2.9**	**2.5**
Top 10 Avg.	0.2	3.3	0.4	0.2	0.2	0.3	0.5	1.0	1.6	2.1	2.8	3.4	4.2	3.0	3.6	108.3	4.7	4.1	4.0	3.2
Bottom 10 Avg.	0.1	3.3	0.2	0.1	0.1	0.1	0.2	0.5	1.1	1.6	2.0	2.8	3.5	2.5	3.1	105.3	2.9	1.9	2.0	1.8
November Consensus	0.1	3.3	0.2	0.1	0.1	0.2	0.2	0.6	1.3	1.8	2.4	3.0	3.8	2.8	3.4	105.4	3.8	2.6	2.6	2.4
Number of Forecasts Changed From A Month Ago:																				
Down	1	0	2	1	1	2	1	0	5	10	23	7	13	5	7	2	11	6	5	8
Same	34	32	23	19	26	25	14	16	15	21	11	12	6	10	17	3	8	7	11	9
Up	5	2	6	4	6	4	16	22	17	9	3	3	3	3	6	16	20	23	21	18
Diffusion Index	55%	53%	56%	56%	58%	53%	74%	79%	66%	49%	23%	41%	27%	44%	48%	83%	62%	74%	72%	64%

FPUC-Rate - 0027448

Third Quarter 2022

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	LIBOR Rate 3-Mo.	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
Bank of America	0.6 H	na	0.8 H	na	na	na	na	1.2	1.7	1.9	2.2	na	na	na	na	na	3.0	3.6	2.5	2.1
BNP Paribas Americas	0.6 H	na	na	na	na	na	na	1.3	na	1.9	2.3	na	na	na	na	na	3.7	na	2.0	na
Daiwa Capital Markets America	0.6 H	3.7 H	0.5	0.4	0.4	0.4	0.5	1.2	1.7	2.0	2.4	3.2	3.8	na	3.6	108.0	3.0	3.0	3.5	3.3
Chmura Economics & Analytics	0.5	3.7 H	0.7	0.6 H	0.5	0.6	0.6	0.9	1.6	2.0	2.4	3.0	na	na	3.4	na	3.1	3.0	4.8 H	na
Amherst Pierpont Securities	0.4	3.6	0.8 H	0.5	0.6 H	0.7 H	0.9 H	1.1	1.9 H	2.6 H	3.3 H	4.0 H	4.8	3.3	4.2 H	109.0	3.7	3.4	3.4	3.1
Economist Intelligence Unit	0.4	3.5	na	0.4	0.4	0.4	0.6	1.0	1.7	2.0	2.4	na	na	na	3.3	na	3.5	na	1.6	na
Goldman Sachs & Co.	0.4	na	0.5	na	0.2	na	na	1.0	1.7	2.0	2.2	na	na	na	na	na	3.0	2.7	2.9	2.4
ING	0.4	na	0.5	na	na	na	na	0.8	1.6	2.3	2.3	na	na	na	na	na	3.8	na	na	na
J.P. Morgan Chase	0.4	na	0.2	na	na	na	na	0.5	1.4	2.1	2.7	na	na	na	na	na	3.5	2.1	2.4	2.1
Naroff Economic Advisors	0.4	3.5	na	0.5	0.4	0.5	0.5	0.9	1.6	2.0	2.4	3.2	4.0	2.3	3.5	105.0	3.0	2.5	2.6	2.5
Thru the Cycle	0.4	3.5	0.6	0.4	0.4	0.6	0.7	0.8	1.6	1.9	2.2	3.0	3.6	3.0	3.5	109.8	3.6	3.1	3.3	3.6 H
TS Lombard	0.4	3.5	0.6	0.4	0.3	0.3	0.5	0.8	1.6	2.3	3.0	3.8	4.6	2.9	4.1	114.0 H	3.4	3.1	3.1	3.1
Chan Economics	0.3	3.5	0.4	0.3	0.3	0.3	0.3	0.6	1.3	1.9	2.5	3.2	3.9	2.8	3.4	104.5	2.5	2.5	2.7	2.5
Grant Thornton/Diane Swonk	0.3	3.5	0.4	0.3	0.3	0.4	0.5	0.9	1.6	2.1	2.6	3.4	4.1	na	3.7	na	3.0	2.4	2.2	2.2
RDQ Economics	0.3	3.4	0.5	0.4	0.3	0.4	0.7	0.9	1.6	2.6 H	3.3 H	3.8	4.4	3.6 H	4.1	105.2	3.7	3.5	3.8	3.2
Action Economics	0.2	3.3	0.2	0.2	0.3	0.4	0.7	0.9	1.4	1.8	2.3	3.0	3.8	2.8	3.5	107.1	4.3	2.6	2.7	2.5
Bank of the West	0.2	3.3	0.2	0.2	0.2	0.2	0.2	0.5	1.2	1.9	2.6	3.2	4.0	3.2	3.5	104.7	2.7	2.4	2.3	2.2
BMO Capital Markets	0.2	3.3	0.2	na	0.1	0.1	0.3	0.8	1.4	1.9	2.3	na	na	na	3.6	107.3	3.0	2.4	2.9	2.6
DePrince & Assoc.	0.2	3.3	0.2	0.2	0.2	0.2	0.3	0.8	1.7	2.1	2.4	3.4	4.3	2.9	3.8	105.9	3.0	2.7	2.8	2.6
GLC Financial Economics	0.2	3.3	0.2	0.2	0.1	0.2	0.2	0.5	1.3	1.9	2.4	3.2	3.9	2.9	3.6	104.3	3.4	3.4	3.6	2.6
MacroFin Analytics & Rutgers Bus School	0.2	3.3	0.2	0.2	0.1	0.1	0.2	0.6	1.3	1.7	2.1	2.9	3.3 L	2.6	3.1	107.5	2.5	2.1	1.9	2.1
Oxford Economics	0.2	3.3	0.2	na	0.2	0.2	0.5	0.8	1.5	2.2	2.8	2.5 L	na	na	3.5	105.5	3.3	1.9	2.2	2.1
Regions Financial Corporation	0.2	3.3	0.4	0.3	0.2	0.3	0.4	0.8	1.6	2.0	2.4	3.4	4.2	2.8	3.6	108.4	4.6	2.5	2.5	2.5
S&P Global	0.2	3.3	0.2	na	0.2	0.2	0.5	0.7	1.5	2.2	2.9	na	na	na	3.4	na	3.1	2.1	2.4	2.3
Swiss Re	0.2	3.4	0.5	0.2	0.1	0.2	0.3	0.6	1.1	1.6	2.2	2.9	3.5	na	3.4	107.9	2.0 L	4.5	2.0	2.5
ACIMA Private Wealth	0.1 L	3.3	0.2	0.1 L	0.0 L	0.0 L	0.1 L	0.3	0.8 L	1.2 L	1.7 L	2.8	3.7	1.4 L	2.5 L	100.0 L	2.5	1.3 L	1.8	2.2
Barclays	0.1 L	3.3	na	na	na	na	na	0.8	1.4	1.7	2.0	na	na	na	na	na	3.0	2.4	2.1	2.2
Fannie Mae	0.1 L	3.3	na	na	0.4	0.6	0.8	1.2	1.6	1.8	2.0	na	na	na	3.4	na	3.0	3.3	3.1	3.1
Georgia State University	0.1 L	3.3	na	na	0.1	0.1	0.2	0.7	1.6	2.2	2.7	3.2	4.4	na	3.9	na	4.0	2.0	2.3	2.1
IHS Markit	0.1 L	3.3	0.3	na	0.1	0.1	0.3	0.7	1.4	1.9	2.4	na	na	na	3.5	na	4.0	2.2	2.2	2.1
Loomis, Sayles & Company	0.1 L	3.3	0.2	0.1 L	0.1	0.1	0.2	0.5	1.2	1.9	2.4	3.1	3.7	2.8	3.3	106.6	3.5	2.0	2.3	2.1
Mizuho Research Institute	0.1 L	na	na	na	na	na	na	na	na	1.8	na	na	na	na	na	na	na	na	na	na
Moody's Analytics	0.1 L	3.2 L	0.4	0.1 L	0.2	0.3	0.7	1.0	1.8	2.3	3.3 H	3.8	4.9 H	3.2	3.8	na	3.1	2.7	2.2	2.2
NatWest Markets	0.1 L	3.3	0.2	0.2	0.1	0.2	0.3	1.4 H	1.9 H	2.1	2.3	na	na	na	na	na	2.3	4.6 H	2.7	2.6
Nomura Securities, Inc.	0.1 L	3.3	na	na	na	na	na	0.6	1.4	1.8	na	na	na	na	na	na	2.7	1.9	1.3 L	1.7 L
PNC Financial Services Corp.	0.1 L	3.3	0.4	na	0.3	0.4	0.6	1.1	1.5	1.9	2.4	na	3.8	2.5	3.5	106.0	4.7 H	2.4	2.6	2.4
Scotiabank Group	0.1 L	3.3	na	na	0.1	na	na	1.1	1.6	2.3	2.6	na	na	na	na	na	3.3	4.3	3.5	3.2
The Northern Trust Company	0.1 L	3.3	0.3	0.1 L	0.2	0.3	0.4	0.6	1.5	2.0	2.7	3.5	4.4	3.4	3.7	104.5	2.9	2.7	2.7	2.4
Via Nova Investment Mgt.	0.1 L	3.3	0.1 L	0.1 L	0.1	0.1	0.1 L	0.2 L	1.0	1.5	2.0	3.0	3.5	2.7	3.0	106.5	3.5	2.5	2.6	2.2
Wells Fargo	0.5	3.5	0.5	0.4	0.4	0.5	0.5	0.9	1.6	2.0	2.4	3.3	4.2	3.1	3.5	na	3.6	2.4	2.1	2.4
December Consensus	**0.3**	**3.4**	**0.4**	**0.3**	**0.2**	**0.3**	**0.4**	**0.8**	**1.5**	**2.0**	**2.5**	**3.2**	**4.0**	**2.9**	**3.5**	**106.6**	**3.3**	**2.7**	**2.6**	**2.5**
Top 10 Avg.	0.5	3.6	0.6	0.4	0.4	0.5	0.7	1.2	1.7	2.3	2.9	3.6	4.4	3.2	3.9	108.6	4.0	3.7	3.5	3.0
Bottom 10 Avg.	0.1	3.3	0.2	0.2	0.1	0.1	0.2	0.5	1.2	1.7	2.1	2.9	3.7	2.6	3.2	104.6	2.6	2.0	1.9	2.1
November Consensus	0.1	3.3	0.3	0.2	0.2	0.2	0.3	0.6	1.4	1.9	2.5	3.2	4.0	2.9	3.5	105.1	3.3	2.5	2.5	2.3
Number of Forecasts Changed From A Month Ago:																				
Down	0	1	2	1	1	2	2	1	3	5	18	4	8	6	7	3	13	4	6	4
Same	22	23	16	10	20	17	13	11	11	28	14	11	10	10	17	4	11	9	15	12
Up	18	10	13	13	12	12	16	26	23	7	5	7	4	2	6	14	15	23	16	19
Diffusion Index	73%	63%	68%	75%	67%	66%	73%	83%	77%	53%	32%	57%	41%	39%	48%	76%	53%	76%	64%	71%

Fourth Quarter 2022

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	1 Federal Funds Rate	2 Prime Bank Rate	3 LIBOR Rate 3-Mo.	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
	Percent Per Annum -- Average For Quarter: Short-Term							Intermediate-Term			Long-Term					Avg. For ---Qtr.---	(Q-Q % Change) (SAAR)			
Chmura Economics & Analytics	1.0 H	4.1 H	1.1 H	1.0 H	1.0 H	1.0 H	1.0	1.2	2.0	2.4	2.8	3.4	na	na	3.8	na	3.6	2.7	3.7	na
Bank of America	0.9	na	1.0	na	na	na	na	1.3	1.8	2.0	2.2	na	na	na	na	na	2.0	3.6	2.4	2.1
BNP Paribas Americas	0.9	na	na	na	na	na	na	1.5	na	2.0	2.3	na	na	na	na	na	2.7	na	2.3	na
Daiwa Capital Markets America	0.8	3.9	0.9	0.8	0.8	0.8	0.9	1.6 H	2.1	2.4	2.7	3.6	4.2	na	4.0	109.0	2.7	2.7	3.3	3.0
Amherst Pierpont Securities	0.7	3.8	1.0	0.8	0.9	1.0 H	1.2 H	1.3	2.2 H	2.8 H	3.6 H	4.3 H	5.0 H	3.6	4.5 H	109.5	3.4	3.2	3.3	3.0
Grant Thornton/Diane Swonk	0.7	3.8	0.7	0.6	0.6	0.6	0.7	1.0	1.8	2.5	2.9	3.8	4.5	na	4.1	na	2.0	1.9	1.7	1.6
ING	0.7	na	0.8	na	na	na	na	1.0	1.7	2.3	2.4	na	na	na	na	na	2.9	na	na	na
RDQ Economics	0.7	3.8	0.9	0.8	0.7	0.8	1.0	1.2	1.8	2.8 H	3.5	4.0	4.6	3.9 H	4.3	105.2	3.7 H	3.5	3.5	3.0
Thru the Cycle	0.7	3.8	0.9	0.7	0.7	0.9	0.9	1.0	1.7	2.0	2.3	3.1	3.7	3.0	3.2	109.8	3.0	2.5	4.1 H	3.0
Goldman Sachs & Co.	0.6	na	0.8	na	0.3	na	na	1.2	1.8	2.0	2.3	na	na	na	na	na	1.8	2.3	2.3	2.0
J.P. Morgan Chase	0.6	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	2.5	2.1	2.4	2.1
Naroff Economic Advisors	0.6	3.8	na	0.9	0.7	0.8	0.8	1.2	1.9	2.2	2.7	3.4	4.1	3.0	3.6	104.6	2.3	2.2	2.3	2.2
Wells Fargo	0.6	3.6	0.6	0.5	0.8	0.9	0.9	1.1	1.8	2.1	2.5	3.4	4.3	3.1	3.7	na	3.5	2.1	1.5	2.1
Action Economics	0.5	3.6	0.4	0.4	0.6	0.7	0.9	1.1	1.5	1.9	2.3	3.1	3.9	2.9	3.6	107.1	3.2	2.6	2.6	2.3
BMO Capital Markets	0.5	3.6	0.5	na	0.4	0.4	0.5	0.9	1.4	2.0	2.4	na	na	na	3.7	107.0	2.5	2.3	2.7	2.5
Chan Economics	0.5	3.8	0.6	0.5	0.5	0.5	0.5	0.8	1.5	2.1	2.7	3.4	4.1	3.0	3.6	104.0	2.3	2.4	2.6	2.3
Economist Intelligence Unit	0.5	3.6	na	0.5	0.5	0.5	0.7	1.1	1.8	2.1	2.5	na	na	na	3.4	na	2.9	na	1.2 L	na
Scotiabank Group	0.5	3.5	na	na	0.1	na	na	1.3	1.8	2.3	2.6	na	na	na	na	na	2.9	1.6	1.3	0.7 L
NatWest Markets	0.4	3.5	0.4	0.4	0.6	0.7	0.8	1.5	2.0	2.2	2.3	na	na	na	na	na	2.0	4.1 H	2.8	2.9
Nomura Securities, Inc.	0.4	3.5	na	na	na	na	na	0.8	1.5	1.9	na	na	na	na	na	na	1.4	2.2	2.3	2.2
Oxford Economics	0.4	3.5	0.6	na	0.4	0.4	0.8	0.9	1.5	2.3	2.8	2.7 L	na	na	3.5	104.8	1.6	2.0	2.0	2.0
PNC Financial Services Corp.	0.4	3.5	0.7	na	0.6	0.6	0.8	1.2	1.5	1.9	2.5	na	3.9	2.6	3.6	106.5	2.8	2.7	2.9	2.7
S&P Global	0.4	3.5	0.4	na	0.4	0.5	0.8	0.9	1.6	2.4	2.9	na	na	na	3.5	na	2.4	2.0	2.4	2.4
Swiss Re	0.4	3.6	0.6	0.4	0.3	0.4	0.5	0.7	1.2	1.6	2.2	3.0	3.7	na	3.5	107.5	1.2 L	3.9	1.7	2.1
TS Lombard	0.4	3.5	0.6	0.4	0.5	0.5	0.6	0.8	1.6	2.5	3.2	4.0	4.8	3.1	4.3	114.0 H	3.0	3.1	3.1	3.1 H
Bank of the West	0.3	3.5	0.4	0.4	0.3	0.4	0.4	0.6	1.4	2.2	2.8	3.5	4.3	3.5	3.7	104.5	2.6	2.3	2.2	2.1
DePrince & Assoc.	0.3	3.4	0.4	0.4	0.3	0.3	0.4	0.9	1.8	2.3	2.6	3.6	4.4	3.0	4.0	105.8	2.4	2.6	2.8	2.5
Regions Financial Corporation	0.3	3.3 L	0.5	0.4	0.3	0.4	0.5	1.0	1.7	2.1	2.5	3.5	4.4	3.0	3.7	108.2	3.4	2.4	2.3	2.4
Fannie Mae	0.2	3.4	na	na	0.7	0.8	1.1	1.3	1.7	1.8	2.0	na	na	na	3.5	na	2.4	3.2	3.0	2.8
GLC Financial Economics	0.2	3.4	0.3	0.2	0.2	0.3	0.3	0.6	1.5	2.0	2.7	4.0	4.6	3.0	3.8	104.0	3.3	3.3	3.6	2.3
MacroFin Analytics & Rutgers Bus School	0.2	3.3 L	0.2	0.2	0.1	0.1	0.2	0.6	1.3	1.7	2.1	2.9	3.4 L	2.6	3.2	107.7	2.1	2.0	2.0	2.0
Moody's Analytics	0.2	3.3 L	0.5	0.2	0.3	0.4	0.8	1.1	1.8	2.3	3.3	3.9	5.0 H	3.2	3.9	na	2.5	2.4	2.1	2.2
The Northern Trust Company	0.2	3.4	0.4	0.2	0.3	0.4	0.6	0.7	1.6	2.1	2.7	3.6	4.5	3.6	3.9	103.0	2.5	2.6	2.5	2.3
ACIMA Private Wealth	0.1 L	3.3 L	0.2	0.1 L	0.0 L	0.0 L	0.1 L	0.2 L	0.6 L	1.2 L	1.7 L	2.8	3.7	1.4 L	2.5 L	97.0 L	1.5	0.9 L	1.9	1.9
Barclays	0.1 L	3.3 L	na	na	na	na	na	0.9	1.5	1.8	2.0	na	na	na	na	na	2.5	2.8	2.3	2.6
Georgia State University	0.1 L	3.3 L	na	na	0.1	0.1	0.4	0.9	1.8	2.5	2.9	3.4	4.7	na	4.1	na	2.8	2.1	2.3	2.0
IHS Markit	0.1 L	3.3 L	0.3	na	0.1	0.1	0.4	0.7	1.5	2.0	2.5	na	na	na	3.6	na	2.8	2.1	2.1	1.9
Loomis, Sayles & Company	0.1 L	3.3 L	0.2	0.1 L	0.1	0.1	0.2	0.5	1.2	2.0	2.5	3.2	3.8	2.9	3.4	106.6	3.3	2.0	2.3	2.0
Mizuho Research Institute	0.1 L	na	na	na	na	na	na	na	na	1.8	na	na	na	na	na	na	na	na	na	na
Via Nova Investment Mgt.	0.1 L	3.3 L	0.1 L	0.1 L	0.1	0.1	0.1 L	0.3	1.1	1.6	2.1	3.1	3.6	2.8	3.1	106.0	3.0	2.5	2.6	2.0
December Consensus	**0.4**	**3.5**	**0.6**	**0.5**	**0.4**	**0.5**	**0.6**	**1.0**	**1.6**	**2.1**	**2.6**	**3.4**	**4.2**	**3.0**	**3.7**	**106.3**	**2.6**	**2.5**	**2.5**	**2.3**
Top 10 Avg.	0.8	3.8	0.9	0.7	0.8	0.8	1.0	1.3	1.9	2.5	3.1	3.8	4.7	3.3	4.1	108.6	3.3	3.3	3.3	2.9
Bottom 10 Avg.	0.1	3.3	0.3	0.2	0.1	0.2	0.3	0.6	1.3	1.7	2.1	3.1	3.8	2.7	3.3	103.9	1.8	1.9	1.8	1.8
November Consensus	0.3	3.4	0.4	0.3	0.3	0.3	0.5	0.8	1.5	2.0	2.6	3.3	4.1	3.0	3.6	104.9	2.6	2.4	2.5	2.2
Number of Forecasts Changed From A Month Ago:																				
Down	2	0	0	2	1	3	2	1	4	4	17	3	4	6	4	2	15	7	9	8
Same	20	21	15	9	14	12	10	12	12	25	15	11	14	9	17	6	12	10	12	11
Up	18	13	15	13	18	16	19	23	19	9	3	8	4	3	9	13	11	18	15	15
Diffusion Index	70%	69%	75%	73%	76%	71%	77%	81%	71%	57%	30%	61%	50%	42%	58%	76%	45%	66%	58%	60%

First Quarter 2023

Interest Rate Forecasts

Key Assumptions

Blue Chip Financial Forecasts Panel Members	1 Federal Funds Rate	2 Prime Bank Rate	3 LIBOR Rate 3-Mo.	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
	-----Percent Per Annum -- Average For Quarter-----															Avg. For ---Qtr.---	------(Q-Q % Change)------ ------(SAAR)------			
	------Short-Term------							---Intermediate-Term---			------Long-Term------									
Chmura Economics & Analytics	1.3 H	4.4 H	1.5 H	1.3 H	1.3 H	1.3 H	1.4 H	1.5	2.2	2.7	3.1	3.6	na	na	4.0	na	2.8	2.4	3.2 H	na
BNP Paribas Americas	1.1	na	na	na	na	na	na	1.6	na	2.1	2.4	na	na	na	na	na	2.6	na	1.4 L	na
Daiwa Capital Markets America	1.0	4.1	1.2	1.1	1.0	1.1	1.1	1.8 H	2.4 H	2.6	2.9	3.8	4.4	na	4.2	109.0	2.7	2.7	3.1	2.8
Amherst Pierpont Securities	0.9	4.0	1.3	1.0	1.1	1.3 H	1.4 H	1.5	2.4 H	3.0 H	3.8 H	4.5 H	5.3 H	3.7	4.7 H	109.5	3.2 H	3.3	3.1	2.8
Grant Thornton/Diane Swonk	0.9	4.0	0.9	0.8	0.7	0.8	0.8	1.1	1.9	2.6	3.0	3.9	4.5	na	4.2	na	1.7	2.9	2.9	2.4
ING	0.9	na	1.1	na	na	na	na	1.3	1.8	2.3	2.6	na	na	na	na	na	2.7	na	na	na
J.P. Morgan Chase	0.9	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	2.5	2.2	2.4	2.1
Thru the Cycle	0.9	4.0	1.1	0.9	0.8	0.9	0.9	0.9	1.7	2.0	2.2	3.0	3.8	3.0	3.6	108.2	2.4	2.3	3.0	2.6
Scotiabank Group	0.8	3.8	na	na	0.4	na	na	1.5	1.9	2.4	2.7	na	na	na	na	na	2.9	2.4	1.4 L	2.2
Action Economics	0.7	3.8	0.7	0.7	0.8	0.9	1.1	1.2	1.6	1.9	2.4	3.1	3.9	3.0	3.6	107.1	na	na	na	na
BMO Capital Markets	0.7	3.8	0.8	na	0.6	0.6	0.8	1.1	1.6	2.1	2.4	na	na	na	3.8	106.9	2.3	2.2	2.5	2.3
Chan Economics	0.7	4.0	0.8	0.7	0.7	0.8	0.7	1.0	1.7	2.3	2.9	3.6	4.3	3.2	3.8	104.0	2.3	2.4	2.6	2.3
Economist Intelligence Unit	0.7	3.8	na	0.8	0.7	0.7	0.9	1.3	2.0	2.3	2.7	na	na	na	3.6	na	1.7	na	2.7	na
PNC Financial Services Corp.	0.7	3.8	0.9	na	0.8	0.8	1.0	1.3	1.6	2.0	2.5	na	4.0	2.6	3.7	106.7	2.1	2.6	3.2 H	2.9
Goldman Sachs & Co.	0.6	na	0.8	na	0.3	na	na	1.3	1.9	2.1	2.3	na	na	na	na	na	1.8	2.3	2.3	2.0
Naroff Economic Advisors	0.6	3.8	na	1.0	0.7	0.8	0.9	1.3	2.0	2.5	2.9	3.8	4.5	3.2	3.8	103.9	1.8	2.3	2.2	1.9
NatWest Markets	0.6	3.8	0.6	0.7	0.9	1.0	1.1	1.7	2.1	2.2	2.4	na	na	na	na	na	2.0	4.0 H	2.5	2.8
S&P Global	0.6	3.7	0.6	na	0.6	0.6	0.8	1.0	1.7	2.4	3.0	na	na	na	3.5	na	2.9	2.2	2.7	2.7
TS Lombard	0.6	3.7	0.9	0.7	0.9	0.9	0.9	1.0	1.8	2.7	3.4	4.2	5.0	3.3	4.5	112.0 H	2.9	3.1	3.1	3.1 H
DePrince & Assoc.	0.5	3.6	0.7	0.7	0.6	0.5	0.7	1.2	2.1	2.5	2.8	3.9	4.6	3.2	4.2	105.9	2.3	2.6	2.8	2.5
Oxford Economics	0.5	3.7	0.7	na	0.6	0.6	0.8	1.0	1.6	2.4	2.9	2.8	na	na	3.6	104.2	2.1	2.3	2.4	2.4
Swiss Re	0.5	3.6	0.7	0.5	0.4	0.5	0.5	0.7	1.2	1.6	2.3	3.0	3.8	na	3.5	107.0	1.5 L	3.6	1.8	2.0
Fannie Mae	0.4	3.5	na	na	0.9	1.1	1.3	1.5	1.8	1.8	2.1	na	na	na	3.5	na	2.2	3.2	2.9	2.6
Georgia State University	0.4	3.5	na	na	0.3	0.3	0.7	1.1	2.0	2.6	3.0	3.4	4.8	na	4.2	na	2.5	2.3	2.1	1.8 L
MacroFin Analytics & Rutgers Bus School	0.4	3.5	0.5	0.4	0.3	0.3	0.5	0.8	1.5	1.9	2.3	3.1	3.6 L	2.9	3.4	107.9	2.0	2.0	2.0	1.9
Moody's Analytics	0.4	3.5	0.8	0.4	0.6	0.7	1.1	1.3	1.9	2.4	3.4	4.0	5.1	3.4	3.9	na	2.8	2.2	2.1	2.2
Nomura Securities, Inc.	0.4	3.5	na	na	na	na	na	0.9	1.6	1.9	na	na	na	na	na	na	1.5 L	2.2	2.6	2.2
Regions Financial Corporation	0.4	3.6	0.6	0.5	0.4	0.5	0.6	1.1	1.8	2.2	2.6	3.6	4.5	3.1	3.8	108.0	2.9	2.2	2.1	2.2
Bank of the West	0.3	3.5	0.5	0.4	0.4	0.4	0.4	0.6	1.4	2.2	2.8	3.5	4.4	3.5	3.8	104.6	2.5	2.1	2.0	2.0
GLC Financial Economics	0.3	3.4	0.4	0.3	0.3	0.3	0.4	0.6	1.7	2.3	3.2	4.2	4.9	3.5	4.4	104.5	2.3	2.3	2.4	2.9
The Northern Trust Company	0.3	3.5	0.6	0.3	0.4	0.6	0.8	0.9	1.7	2.3	2.7	3.8	4.7	3.9 H	4.1	102.5	2.5	2.5	2.3	2.3
Via Nova Investment Mgt.	0.3	3.3 L	0.4	0.3	0.3	0.4	0.5	0.6	1.3	2.0	2.5	3.5	4.0	3.2	3.6	106.0	3.0	2.5	2.5	2.0
ACIMA Private Wealth	0.1 L	3.3 L	0.2 L	0.1 L	0.0 L	0.0 L	0.0 L	0.1 L	0.4 L	1.0 L	1.6 L	2.7 L	3.7	1.3 L	2.4 L	97.0 L	2.0	1.1 L	2.0	2.0
Barclays	0.1 L	3.3 L	na	na	na	na	na	na	na	na	na	na	na	na	na	na	2.0	2.9	2.0	2.8
IHS Markit	0.1 L	3.3 L	0.3	na	0.1	0.2	0.5	0.9	1.6	2.2	2.6	na	na	na	3.8	na	2.4	2.2	2.0	1.8 L
Loomis, Sayles & Company	0.1 L	3.3 L	0.2 L	0.1 L	0.1	0.1	0.2	0.5	1.3	2.1	2.6	3.3	3.9	3.0	3.5	106.6	2.9	2.0	2.3	2.1
Mizuho Research Institute	0.1 L	na	na	na	na	na	na	na	na	1.8	na	na	na	na	na	na	na	na	na	na
Wells Fargo	0.1 L	3.3 L	0.2 L	0.1 L	0.1	0.2	0.3	1.1	1.8	2.2	2.6	3.5	4.4	3.2	3.8	na	2.8	1.6	1.4 L	1.6
December Consensus	**0.6**	**3.7**	**0.7**	**0.6**	**0.6**	**0.7**	**0.8**	**1.1**	**1.7**	**2.2**	**2.7**	**3.6**	**4.4**	**3.1**	**3.8**	**106.1**	**2.4**	**2.5**	**2.4**	**2.3**
Top 10 Avg.	0.9	4.0	1.1	0.9	0.9	1.0	1.1	1.5	2.1	2.6	3.2	4.0	4.8	3.4	4.2	108.2	2.9	3.2	3.0	2.8
Bottom 10 Avg.	0.2	3.4	0.4	0.3	0.3	0.3	0.4	0.7	1.4	1.8	2.2	3.1	3.9	2.9	3.4	103.9	1.8	2.0	1.9	2.0
November Consensus	0.4	3.6	0.6	0.5	0.4	0.5	0.6	0.9	1.6	2.2	2.7	3.6	4.4	3.1	3.8	104.9	2.3	2.3	2.4	2.3
Number of Forecasts Changed From A Month Ago:																				
Down	1	0	1	1	1	3	2	1	2	4	12	3	2	4	4	2	7	6	5	6
Same	18	19	10	9	12	9	10	15	16	22	14	10	15	10	16	6	16	11	14	10
Up	18	13	16	12	17	16	16	16	13	8	5	7	3	2	8	12	12	15	14	15
Diffusion Index	73%	70%	78%	75%	77%	73%	75%	73%	68%	56%	39%	60%	53%	44%	57%	75%	57%	64%	64%	65%

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	0.13	0.13	--	1.69	1.65	--	--	--	--
BMO Capital Markets	0.13	0.13	0.38	1.65	1.75	1.95	108.1	107.7	107.0
IHSMarkit	--	--	--	1.77	1.83	2.09	--	--	--
ING Financial Markets	0.13	0.13	0.38	1.75	2.00	2.25	104.2	105.2	108.1
Mizuho Research Institute	0.13	0.13	0.13	1.70	1.75	1.75	--	--	--
Moody's Analytics	0.13	0.13	0.13	1.65	1.89	2.30	--	--	--
Northern Trust	0.13	0.13	0.25	1.75	1.90	2.10	108.0	106.0	103.0
Oxford Economics	0.13	0.13	0.38	1.81	2.08	2.32	106.2	106.0	104.8
S&P Global	0.12	0.12	0.38	1.84	2.07	2.37	--	--	--
Scotiabank	0.13	0.13	0.50	2.05	2.20	2.30	--	--	--
TS Lombard	0.13	0.13	0.63	1.80	2.00	2.30	110.0	112.0	114.0
Wells Fargo	0.13	0.13	0.38	1.80	2.00	2.10	--	--	--
December Consensus	**0.13**	**0.13**	**0.35**	**1.77**	**1.93**	**2.17**	**107.3**	**107.4**	**107.4**
High	0.13	0.13	0.63	2.05	2.20	2.37	110.0	112.0	114.0
Low	0.12	0.12	0.13	1.65	1.65	1.75	104.2	105.2	103.0
Last Months Avg.	0.13	0.13	0.23	1.69	1.85	2.16	105.0	104.2	103.5

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	0.10	--	0.05	0.05	--	111.0	112.0	--
BMO Capital Markets	-0.10	-0.10	-0.10	0.10	0.10	0.10	114.0	114.0	113.0
IHSMarkit	--	--	--	--	--	--	114.4	113.6	111.6
ING Financial Markets	-0.10	-0.10	-0.10	0.00	0.00	0.00	114.0	114.0	118.0
Mizuho Research Institute	-0.10	-0.10	-0.10	0.10	0.11	0.11	113.0	113.0	113.0
Moody's Analytics	-0.10	-0.10	-0.10	0.03	0.02	0.01	111.0	110.0	108.7
Nomura Securities	--	--	--	--	--	--	116.0	117.0	115.0
Northern Trust	-0.10	-0.10	-0.10	0.10	0.10	0.10	114.0	112.0	110.0
Oxford Economics	-0.05	-0.05	-0.05	0.09	0.08	0.05	113.5	113.0	111.8
S&P Global	-0.10	-0.10	-0.10	0.08	0.08	0.06	114.5	114.5	115.0
Scotiabank	-0.10	-0.10	-0.10	--	--	--	113.0	115.0	116.0
TS Lombard	-0.10	-0.10	-0.10	0.10	0.20	0.30	115.0	118.0	120.0
Wells Fargo	-0.10	-0.10	-0.10	0.10	0.15	0.20	117.0	119.0	121.0
December Consensus	**-0.08**	**-0.08**	**-0.10**	**0.08**	**0.09**	**0.10**	**113.9**	**114.2**	**114.4**
High	0.10	0.10	-0.05	0.10	0.20	0.30	117.0	119.0	121.0
Low	-0.10	-0.10	-0.10	0.00	0.00	0.00	111.0	110.0	108.7
Last Months Avg.	-0.08	-0.08	-0.10	0.07	0.09	0.15	111.9	111.9	112.2

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	0.10	0.10	--	1.00	1.10	--	1.40	1.39	--
BMO Capital Markets	0.25	0.25	0.50	1.10	1.15	1.30	1.35	1.35	1.35
IHSMarkit	--	--	--	--	--	--	1.35	1.35	1.35
ING Financial Markets	0.25	0.25	0.50	1.10	1.10	1.10	1.38	1.37	1.34
Moody's Analytics	0.10	0.20	0.35	1.02	1.21	1.43	1.41	1.44	1.49
Nomura Securities	--	--	--	--	--	--	1.32	1.38	1.46
Northern Trust	0.25	0.25	0.50	1.20	1.30	1.55	1.34	1.37	1.39
Oxford Economics	0.25	0.25	0.50	1.10	1.23	1.53	1.37	1.38	1.41
S&P Global	0.23	0.43	0.50	1.11	1.21	1.50	1.36	1.36	1.36
Scotiabank	0.50	0.75	1.00	--	--	--	1.40	1.40	1.42
TS Lombard	0.10	0.10	0.25	1.00	1.40	1.90	1.35	1.31	1.29
Wells Fargo	0.25	0.50	0.75	1.25	1.40	1.60	1.31	1.29	1.28
December Consensus	**0.23**	**0.31**	**0.54**	**1.10**	**1.23**	**1.49**	**1.36**	**1.37**	**1.38**
High	0.50	0.75	1.00	1.25	1.40	1.90	1.41	1.44	1.49
Low	0.10	0.10	0.25	1.00	1.10	1.10	1.31	1.29	1.28
Last Months Avg.	0.20	0.28	0.48	1.02	1.18	1.52	1.38	1.39	1.41

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	-0.75	-0.75	--	--	--	--	0.92	0.91	--
IHSMarkit	--	--	--	--	--	--	0.92	0.92	0.93
ING Financial Markets	-0.75	-0.75	-0.75	-0.15	-0.10	0.00	0.91	0.96	1.01
Moody's Analytics	-0.75	-0.75	-0.75	-0.20	-0.23	-0.10	0.91	0.88	0.82
Nomura Securities	--	--	--	--	--	--	1.00	0.97	0.96
Northern Trust	-0.75	-0.75	-0.75	-0.15	-0.05	0.10	0.93	0.92	0.91
Oxford Economics	-0.75	-0.75	-0.75	0.02	0.08	0.20	0.95	0.95	0.93
S&P Global	-0.75	-0.75	-0.75	-0.11	0.03	0.17	0.96	0.97	0.98
Scotiabank	--	--	--	--	--	--	0.94	0.95	0.97
TS Lombard	-0.75	-0.75	-0.25	-0.15	0.25	0.75	0.92	0.92	0.92
December Consensus	**-0.75**	**-0.75**	**-0.67**	**-0.12**	**0.00**	**0.19**	**0.94**	**0.94**	**0.94**
High	-0.75	-0.75	-0.25	0.02	0.25	0.75	1.00	0.97	1.01
Low	-0.75	-0.75	-0.75	-0.20	-0.23	-0.10	0.91	0.88	0.82
Last Months Avg.	-0.75	-0.75	-0.75	-0.12	-0.05	0.12	0.93	0.93	0.93

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	0.25	0.25	--	--	--	--	1.24	1.23	--
BMO Capital Markets	0.20	0.20	0.70	1.75	1.85	2.00	1.26	1.25	1.23
IHSMarkit	--	--	--	--	--	--	1.27	1.27	1.25
ING Financial Markets	0.25	0.50	1.00	1.90	2.10	2.40	1.23	1.22	1.23
Moody's Analytics	0.25	0.25	0.50	1.72	1.89	2.32	1.24	1.23	1.22
Nomura Securities	--	--	--	--	--	--	1.23	1.22	1.21
Northern Trust	0.25	0.50	0.75	1.70	1.95	2.20	1.26	1.24	1.23
Oxford Economics	0.25	0.25	0.50	1.87	2.09	2.40	1.25	1.27	1.27
S&P Global	0.25	0.50	0.75	1.84	2.17	2.66	1.24	1.26	1.27
Scotiabank	0.25	0.25	1.25	1.75	1.85	2.05	1.22	1.22	1.20
TS Lombard	0.25	0.25	0.75	1.92	2.12	2.42	1.26	1.26	1.26
Wells Fargo	0.25	0.50	1.00	1.85	2.05	2.25	1.28	1.29	1.27
December Consensus	**0.25**	**0.35**	**0.80**	**1.81**	**2.01**	**2.30**	**1.25**	**1.25**	**1.24**
High	0.25	0.50	1.25	1.92	2.17	2.66	1.28	1.29	1.27
Low	0.20	0.20	0.50	1.70	1.85	2.00	1.22	1.22	1.20
Last Months Avg.	0.25	0.25	0.47	1.66	1.82	2.14	1.25	1.24	1.23

International Interest Rate And Foreign Exchange Rate Forecasts

Australia

Blue Chip Forecasters	Official Cash Rate In 3 Mo.	Official Cash Rate In 6 Mo.	Official Cash Rate In 12 Mo.	10 Yr. Gov't Bond Yield % In 3 Mo.	10 Yr. Gov't Bond Yield % In 6 Mo.	10 Yr. Gov't Bond Yield % In 12 Mo.	US$ per A$ In 3 Mo.	US$ per A$ In 6 Mo.	US$ per A$ In 12 Mo.
Barclays	0.10	0.10	--	--	--	--	0.74	0.75	--
IHSMarkit	--	--	--	--	--	--	0.74	0.74	0.72
ING Financial Markets	0.10	0.10	0.10	1.75	1.80	1.85	0.73	0.75	0.75
Moody's Analytics	0.10	0.10	0.10	1.60	1.67	1.80	0.75	0.75	0.76
Nomura Securities	--	--	--	--	--	--	0.74	0.76	0.78
Northern Trust	0.10	0.10	0.10	1.90	2.00	2.20	0.72	0.74	0.75
Oxford Economics	0.08	0.10	0.10	2.15	2.30	2.48	0.74	0.74	0.75
S&P Global	0.10	0.10	0.10	2.11	2.28	2.44	0.74	0.74	0.74
Scotiabank	0.10	0.10	0.10	--	--	--	0.74	0.74	0.72
TS Lombard	0.10	0.10	-0.10	2.05	2.25	2.55	0.75	0.70	0.65
December Consensus	**0.10**	**0.10**	**0.07**	**1.93**	**2.05**	**2.22**	**0.74**	**0.74**	**0.74**
High	0.10	0.10	0.10	2.15	2.30	2.55	0.75	0.76	0.78
Low	0.08	0.10	-0.10	1.60	1.67	1.80	0.72	0.70	0.65
Last Months Avg.	0.10	0.10	0.12	1.69	1.85	2.15	0.73	0.75	0.76

Euro area

Blue Chip Forecasters	Main Refinancing Rate In 3 Mo.	Main Refinancing Rate In 6 Mo.	Main Refinancing Rate In 12 Mo.	US$ per Euro In 3 Mo.	US$ per Euro In 6 Mo.	US$ per Euro In 12 Mo.
Barclays	0.00	0.00	--	1.18	1.18	--
BMO Capital Markets	0.00	0.00	0.00	1.11	1.12	1.12
IHSMarkit	--	--	--	1.16	1.15	1.15
ING Financial Markets	0.00	0.00	0.00	1.17	1.15	1.11
Mizuho Research Institute	0.00	0.00	0.00	1.16	1.16	1.16
Moody's Analytics	0.00	0.00	0.00	1.17	1.20	1.27
Nomura Securities	--	--	--	1.10	1.14	1.18
Northern Trust	0.00	0.00	0.00	1.14	1.16	1.19
Oxford Economics	0.00	0.00	0.00	1.16	1.18	1.20
S&P Global	0.00	0.00	0.00	1.15	1.15	1.15
Scotiabank	0.00	0.00	0.00	1.15	1.14	1.12
TS Lombard	0.00	0.00	0.00	1.13	1.10	1.08
Wells Fargo	-0.50	-0.50	-0.50	1.09	1.08	1.07
December Consensus	**-0.05**	**-0.05**	**-0.05**	**1.14**	**1.15**	**1.15**
High	0.00	0.00	0.00	1.18	1.20	1.27
Low	-0.50	-0.50	-0.50	1.09	1.08	1.07
Last Months Avg.	-0.05	-0.05	-0.05	1.16	1.17	1.19

10 Yr. Gov't Bond Yields %

Blue Chip Forecasters	Germany In 3 Mo.	Germany In 6 Mo.	Germany In 12 Mo.	France In 3 Mo.	France In 6 Mo.	France In 12 Mo.	Italy In 3 Mo.	Italy In 6 Mo.	Italy In 12 Mo.	Spain In 3 Mo.	Spain In 6 Mo.	Spain In 12 Mo.
Barclays	-0.20	-0.15	--	--	--	--	--	--	--	--	--	--
BMO Capital Markets	-0.10	-0.05	0.15	--	--	--	--	--	--	--	--	--
ING Financial Markets	-0.15	-0.10	0.10	0.25	0.40	0.35	1.05	1.40	1.20	0.60	0.70	0.70
Mizuho Research Institute	0.15	0.15	0.15	--	--	--	--	--	--	--	--	--
Moody's Analytics	-0.25	-0.20	-0.03	0.09	0.11	0.24	0.89	0.92	1.06	0.37	0.36	0.54
Northern Trust	-0.25	-0.10	0.10	0.10	0.25	0.45	0.90	1.10	1.30	0.50	0.65	0.85
Oxford Economics	0.00	0.08	0.23	0.35	0.42	0.56	1.28	1.42	1.70	0.73	0.88	1.18
S&P Global	-0.16	-0.02	0.15	0.12	0.28	0.47	1.00	1.21	1.39	0.53	0.68	0.89
TS Lombard	-0.20	0.20	0.70	-0.25	0.15	0.65	0.57	0.97	1.47	0.55	0.65	1.00
Wells Fargo	-0.15	-0.10	0.15	--	--	--	--	--	--	--	--	--
December Consensus	**-0.13**	**-0.03**	**0.19**	**0.11**	**0.27**	**0.45**	**0.95**	**1.17**	**1.35**	**0.55**	**0.65**	**0.86**
High	0.15	0.20	0.70	0.35	0.42	0.65	1.28	1.42	1.70	0.73	0.88	1.18
Low	-0.25	-0.20	-0.03	-0.25	0.11	0.24	0.57	0.92	1.06	0.37	0.36	0.54
Last Months Avg.	-0.17	-0.08	0.13	0.12	0.28	0.49	0.91	1.09	1.32	0.47	0.63	0.86

Consensus Forecasts

10-year Bond Yields vs U.S. Yield

	Current	In 3 Mo.	In 6 Mo.	In 12 Mo.
Japan	-1.46	-1.70	-1.84	-2.06
United Kingdom	-0.65	-0.67	-0.69	-0.68
Switzerland	-1.69	-1.90	-1.93	-1.98
Canada	0.12	0.04	0.08	0.13
Australia	0.27	0.16	0.12	0.05
Germany	-1.88	-1.90	-1.96	-1.98
France	-1.54	-1.66	-1.66	-1.71
Italy	-0.68	-0.82	-0.76	-0.81
Spain	-1.08	-1.23	-1.27	-1.31

Consensus Forecasts

Policy Rates vs U.S. Target Rate

	Current	In 3 Mo.	In 6 Mo.	In 12 Mo.
Japan	-0.23	-0.21	-0.05	-0.45
United Kingdom	-0.03	0.10	0.18	0.18
Switzerland	-0.88	-0.88	-0.88	-1.02
Canada	0.13	0.12	0.22	0.45
Australia	-0.03	-0.03	-0.03	-0.28
Euro area	-0.13	-0.17	-0.17	-0.40

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

ECB to Slow But Not End Its Quantitative Easing Programs in 2022; Euro Interest Rates to Stay Negative for Many Years

The Eurozone's recovery finally hit its stride in mid-2021. Real GDP plunged 15% in the first half of 2020 (not annualized), rebounded in the summer and fall, and then fell for two straight quarters during the pandemic's winter wave. Real GDP finally rebounded a strong 8.9% annualized in the second and third quarters of 2021 as vaccinations accelerated and restrictions on activity lifted. Real GDP was just 0.6% lower in the third quarter than its pre-crisis level of the fourth quarter of 2019.

The recovery looks even stronger viewed through the labor market—employment in September was just 14,000 short of the pre-crisis peak (less than 0.1%). The Eurozone's statistics do not record furloughs as unemployment, and understated labor market slack at the bottom of the downturn. But firms are bringing back furloughed workers in 2021 as economic activity and demand recover. The Eurozone's labor protections maintained ties between employers and workers, preventing most of the dislocation experienced in the U.S. job market. Eurozone employment's quick bounce back from the Viral Recession stands in sharp contrast to the recovery after the 2009 recession, when eight and a half years passed before employment returned to its pre-crisis level.

Fiscal policy will provide much less support in 2022 as temporary aid programs and "automatic stabilizers" (unemployment insurance, furlough subsidies, and so forth) expire. Fiscal stimulus was a big tailwind in 2021; the EU estimates the Eurozone fiscal deficit was 8% of GDP in 2021, up from 7.2% in 2020 and 0.6% in 2019. But they forecast the deficit to fall to 4% of GDP in 2022. The deficit's shrinking share of GDP will be a net headwind to growth next year.

Against this backdrop, the Governing Council of the European Central Bank (ECB) has begun to rein in their crisis-era stimulus programs. They announced a taper of the main crisis-era quantitative easing program on September 9: Net purchases by the Pandemic Emergency Purchase Programme (PEPP) will slow to a "moderately lower pace" in the fourth quarter of 2021 than in the second and third quarters. "Moderately lower" means €65bn to €70bn per month—the ECB does not announce explicit quantitative targets for PEPP purchases. Monthly purchases averaged about €60 billion in the first quarter of 2021 and rose to about €80bn in the second and third quarters (called "a significantly higher" pace). The ambiguity leaves the ECB wiggle room to buy more if financial conditions worsen or buy less if the pandemic's drag on the economy ends faster than expected.

If the recovery goes well, the ECB will wind down its stimulus programs along several different timelines. They will probably slow PEPP purchases again in early 2022 and end them in March; the ECB also is likely to shorten the tenor of negative interest rate loans they make available to Eurozone commercial banks, called Pandemic Emergency Longer-Term Refinancing Operations, a.k.a. PELTROs.

Other unconventional stimulus programs will probably continue for much longer. The ECB's interest rate guidance commits to holding the negative deposit rate at -0.5% or lower until their three-year economic projections show inflation of 2% or more in the second and third years of the forecast, and also requires that "underlying" (core) inflation rise to be "consistent with inflation stabilizing at two per cent over the medium term." The ECB's projections do not expect these conditions in the next few years: Their staff economists' projections, published in September 2021, foresee inflation of 2.2% in 2021, 1.7% in 2022, and 1.5% in 2023.

Financial markets likewise price in inflation over 2% through the second half of 2022, then expect it to average below 2% for a decade. The ECB's guidance for the Asset Purchase Programme (APP) foresees purchases continuing until "shortly before" the ECB begins raising interest rates, so it too will likely stay active for many years. The APP has bought €20 billion assets per month on an open-ended basis since November 2019 and will likely continue at this rate in 2022, and could increase it if the end of PEPP starts to send sovereign bond yields higher. Over the next few years, the ECB will change its inflation basket to incorporate owner-occupied housing costs; Eurozone house price increases have risen rapidly since the pandemic began, so this change might add a few tenths of a percentage point to Eurozone inflation if the housing market stays hot. Even so, there is no end in sight for the ECB's quantitative easing and negative rate policies. PNC forecasts for the euro to be modestly weaker in coming years as the Federal Reserve normalizes U.S. policy more than the ECB, with targets of $1.15 per euro for year-end 2022 and $1.14 for year-end 2023.

There are three key downside risks to the Eurozone. The first is the risk of an energy price shock if Russia throttles back natural gas deliveries during the winter. The second is from the pandemic as European weather turns colder. The third is from the sovereign bond market: spreads between the yields of bonds issued by the Eurozone's weaker governments and its stronger ones could widen and fiscal vulnerabilities could return as a problem for the currency union after PEPP ends.

Gus Faucher (The PNC Financial Services Group)

A Faster Taper and a Slightly Earlier Liftoff

• Several FOMC participants have signaled over the last couple of weeks that they are open to accelerating the pace of tapering, including Vice Chair Clarida and most recently San Francisco Fed President Daly. The increased openness to accelerating the taper pace likely reflects both somewhat higher-than-expected inflation over the last two months and greater comfort among

Fed officials that a faster pace would not shock financial markets.

• We now expect the Fed to announce at its December meeting that it is doubling the pace of tapering to $30bn per month starting in January. In that scenario, the FOMC would announce the final two tapers at its January meeting and implement the final taper in mid-March, several days before the March FOMC meeting.

• While this faster pace of tapering would allow the FOMC to consider a rate hike as early as March, our best guess is that it will wait until June, when a few additional employment reports will be available. We now expect hikes in June, September, and December, for a total of three in 2022 (vs. two in July and November previously), followed by two hikes per year starting in 2023. We see an alternative path of hikes at the May, July, and November meetings as a realistic possibility too. The largest risk to our expectation of an early liftoff is that some participants might find it hard to square a still-large employment gap relative to the pre-pandemic level with the guidance that the FOMC will not hike until the labor market reaches maximum employment.

Over the last couple of weeks, several FOMC participants have indicated that they prefer a faster pace of tapering or are at least open to discussing it at the December meeting. Last week, Vice Chair Clarida said that it "may well be appropriate at [the December FOMC] meeting to have a discussion about increasing the pace at which we're reducing our balance sheet," the first such signal from the leadership. And yesterday, San Francisco Fed President Mary Daly—who has leaned dovish in the past—said that if labor market conditions continue to improve and inflation remains strong, she "would completely support an accelerated pace of tapering." Other participants including Atlanta Fed President Bostic, St. Louis Fed President Bullard, and Governor Waller have also argued for accelerating the pace of tapering.

The increased openness to accelerating the taper pace likely reflects both somewhat higher-than-expected inflation over the last two months and greater comfort among Fed officials that a faster pace would not shock financial markets. Some Fed officials might be persuaded to accelerate the taper by the upside inflation surprises over the last two months, especially on the shelter component. Other Fed officials, especially in the leadership, might have already expected inflation prints to remain high through the winter, but—with market pricing of rate hikes in the first half of 2022 rising—might now feel more confident that accelerating the pace, which is already more than twice as fast as the pace last cycle, will not produce the sort of unexpected market turmoil that reductions in balance sheet accommodation have sometimes caused in the past.

We now expect the Fed to announce at its December meeting that it is doubling the pace of tapering to $30bn per month starting in January. In that scenario, the FOMC would announce the final two tapers at its January meeting and implement the final taper in mid-March, several days before the March FOMC meeting. This timeline would be consistent with comments from Waller, Bullard, and Bostic advocating ending the taper by the first quarter of 2022.

While this faster pace of tapering would allow the FOMC to consider a rate hike as early as its March 15-16 meeting, our best guess is that it will wait until the June meeting. By that point, a few additional employment reports will be available and will hopefully show a labor market that Fed officials feel more comfortable characterizing as having reached maximum employment. The FOMC might say at its March meeting that it is evaluating the impact of tapering and will begin the discussion of rate hikes soon, then hint at its May meeting that a hike is coming soon, before ultimately hiking in June.

We expect the FOMC to follow a June hike with hikes in September and December for a total of three in 2022, vs. our previous forecast of two hikes in July and November. While we expect inflation to gradually decline next year, at the time of the December meeting the latest available inflation prints would still be 2.6% year-on-year for core PCE and 3.6% for core CPI under our forecast. We continue to expect a pace of two hikes per year starting in 2023 and we have not made any change to our terminal rate forecast of 2.5-2.75%, so we are effectively pulling one future hike forward into 2022.

We see an alternative path of hikes in May, July, and November next year as a realistic possibility too.

The largest risk to our expectation of an early liftoff is that some participants might find it hard to square a still-large employment gap relative to the pre-pandemic level—1.8mn at the time of the June meeting—with the guidance in the FOMC statement that the committee will not raise interest rates until the labor market reaches maximum employment. But we expect the unemployment rate to have fallen to 3.7% by June 2022, and we think that most participants, even many of the doves, will conclude that after a prolonged period in which job opportunities have been plentiful, any decline in the participation rate that remains by the middle of next year is likely to be mostly voluntary or structural.

David Mericle, Jan Hatzius, Ronnie Walker (Goldman Sachs)

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Special Questions:

1. Will the Fed accelerate tapering of its asset purchases?

Yes	52%
No	48%

2. How long do you expect supply-chain bottlenecks to provide a significant boost to inflation?

0-6 months	33%
7-9 months	33%
10-12 months	30%
13-24 months	3%
More than 24 months	0%

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 2023 through 2027 and averages for the five-year periods 2023-2027 and 2028-2032. 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	
		2023	2024	2025	2026	2027	2023-2027	2028-2032
1. Federal Funds Rate	CONSENSUS	**0.8**	**1.6**	**2.0**	**2.2**	**2.3**	**1.8**	**2.2**
	Top 10 Average	1.2	2.2	2.7	2.7	2.8	2.3	2.9
	Bottom 10 Average	0.4	1.0	1.4	1.7	1.8	1.2	1.5
2. Prime Rate	CONSENSUS	**4.0**	**4.7**	**5.1**	**5.3**	**5.4**	**4.9**	**5.3**
	Top 10 Average	4.3	5.3	5.8	5.8	5.9	5.4	6.0
	Bottom 10 Average	3.6	4.1	4.5	4.9	5.0	4.4	4.6
3. LIBOR, 3-Mo.	CONSENSUS	**1.0**	**1.7**	**2.2**	**2.4**	**2.5**	**1.9**	**2.4**
	Top 10 Average	1.3	2.1	2.7	2.9	3.0	2.4	3.1
	Bottom 10 Average	0.7	1.2	1.6	1.9	2.0	1.5	1.8
4. Commercial Paper, 1-Mo	CONSENSUS	**0.9**	**1.6**	**2.1**	**2.3**	**2.4**	**1.9**	**2.4**
	Top 10 Average	1.2	2.0	2.6	2.8	2.9	2.3	2.9
	Bottom 10 Average	0.6	1.2	1.6	1.9	2.0	1.5	1.8
5. Treasury Bill Yield, 3-Mo	CONSENSUS	**0.8**	**1.4**	**1.8**	**2.0**	**2.3**	**1.7**	**2.2**
	Top 10 Average	1.2	1.9	2.5	2.6	2.8	2.2	2.9
	Bottom 10 Average	0.4	0.8	1.2	1.5	1.8	1.1	1.6
6. Treasury Bill Yield, 6-Mo	CONSENSUS	**0.8**	**1.4**	**1.9**	**2.1**	**2.4**	**1.7**	**2.3**
	Top 10 Average	1.2	2.0	2.6	2.7	2.9	2.3	3.0
	Bottom 10 Average	0.4	0.9	1.2	1.6	1.9	1.2	1.7
7. Treasury Bill Yield, 1-Yr	CONSENSUS	**1.0**	**1.6**	**2.1**	**2.4**	**2.5**	**1.9**	**2.4**
	Top 10 Average	1.4	2.1	2.7	2.8	3.0	2.4	3.1
	Bottom 10 Average	0.6	1.2	1.5	1.9	2.0	1.4	1.8
8. Treasury Note Yield, 2-Yr	CONSENSUS	**1.3**	**1.9**	**2.4**	**2.6**	**2.6**	**2.2**	**2.6**
	Top 10 Average	1.7	2.5	3.0	3.1	3.2	2.7	3.4
	Bottom 10 Average	0.8	1.4	1.8	2.0	2.1	1.6	1.9
9. Treasury Note Yield, 5-Yr	CONSENSUS	**1.9**	**2.4**	**2.8**	**2.9**	**2.9**	**2.6**	**3.0**
	Top 10 Average	2.3	3.0	3.4	3.5	3.6	3.1	3.8
	Bottom 10 Average	1.5	1.9	2.1	2.3	2.3	2.0	2.2
10. Treasury Note Yield, 10-Yr	CONSENSUS	**2.4**	**2.8**	**3.1**	**3.2**	**3.2**	**2.9**	**3.3**
	Top 10 Average	2.8	3.3	3.7	3.8	3.9	3.5	4.2
	Bottom 10 Average	2.0	2.3	2.4	2.5	2.5	2.3	2.4
11. Treasury Bond Yield, 30-Yr	CONSENSUS	**2.9**	**3.3**	**3.6**	**3.7**	**3.7**	**3.4**	**3.8**
	Top 10 Average	3.4	3.9	4.3	4.4	4.4	4.1	4.6
	Bottom 10 Average	2.4	2.8	2.9	3.0	3.0	2.8	3.0
12. Corporate Aaa Bond Yield	CONSENSUS	**3.7**	**4.2**	**4.5**	**4.6**	**4.8**	**4.4**	**4.9**
	Top 10 Average	4.3	4.7	5.1	5.2	5.4	4.9	5.6
	Bottom 10 Average	3.2	3.7	3.9	4.1	4.2	3.8	4.2
13. Corporate Baa Bond Yield	CONSENSUS	**4.6**	**5.0**	**5.3**	**5.5**	**5.6**	**5.2**	**5.7**
	Top 10 Average	5.1	5.5	5.9	6.1	6.2	5.7	6.5
	Bottom 10 Average	4.0	4.5	4.8	4.9	5.0	4.7	5.0
14. State & Local Bonds Yield	CONSENSUS	**3.2**	**3.7**	**3.9**	**4.1**	**4.2**	**3.8**	**4.3**
	Top 10 Average	3.8	4.3	4.5	4.7	4.8	4.4	5.0
	Bottom 10 Average	2.7	3.2	3.4	3.5	3.6	3.3	3.6
15. Home Mortgage Rate	CONSENSUS	**4.0**	**4.4**	**4.7**	**4.8**	**4.8**	**4.5**	**4.9**
	Top 10 Average	4.5	5.0	5.3	5.4	5.4	5.1	5.7
	Bottom 10 Average	3.6	3.9	4.1	4.1	4.2	4.0	4.1
A. Fed's AFE Nominal $ Index	CONSENSUS	**106.2**	**106.0**	**106.1**	**106.2**	**106.4**	**106.2**	**106.5**
	Top 10 Average	108.1	108.4	108.9	109.0	109.2	108.7	110.1
	Bottom 10 Average	104.4	104.0	103.7	103.7	103.9	103.9	103.1
		Year-Over-Year, % Change					Five-Year Averages	
		2023	2024	2025	2026	2027	2023-2027	2028-2032
B. Real GDP	CONSENSUS	**2.6**	**2.2**	**2.1**	**2.0**	**2.0**	**2.2**	**2.0**
	Top 10 Average	3.1	2.6	2.5	2.4	2.3	2.6	2.4
	Bottom 10 Average	2.2	1.7	1.7	1.7	1.7	1.8	1.7
C. GDP Chained Price Index	CONSENSUS	**2.5**	**2.2**	**2.2**	**2.1**	**2.1**	**2.2**	**2.1**
	Top 10 Average	3.0	2.7	2.5	2.4	2.4	2.6	2.4
	Bottom 10 Average	2.0	1.9	1.9	1.9	1.9	1.9	1.8
D. Consumer Price Index	CONSENSUS	**2.6**	**2.3**	**2.3**	**2.2**	**2.2**	**2.3**	**2.2**
	Top 10 Average	3.2	2.8	2.6	2.5	2.5	2.7	2.5
	Bottom 10 Average	2.1	2.0	2.0	2.0	2.0	2.0	1.9
E. PCE Price Index	CONSENSUS	**2.5**	**2.2**	**2.1**	**2.1**	**2.1**	**2.2**	**2.1**
	Top 10 Average	3.0	2.6	2.4	2.4	2.3	2.6	2.4
	Bottom 10 Average	2.0	1.9	1.9	1.9	1.9	1.9	1.9

Databank:

2021 Historical Data

Monthly Indicator	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Retail and Food Service Sales (a)	7.6	-2.9	11.3	0.9	-1.4	0.9	-1.6	1.2	0.8	1.7	····	····
Auto & Light Truck Sales (b)	16.78	15.93	17.64	18.30	16.89	15.47	14.67	13.09	12.22	12.99	····	····
Personal Income (a, current $)	9.9	-7.2	21.0	-13.3	-2.0	0.3	1.2	0.3	-1.0	0.5	····	····
Personal Consumption (a, current $)	3.3	-1.1	5.2	1.0	0.0	1.1	0.0	1.1	0.6	1.3	····	····
Consumer Credit (e)	-0.5	5.8	5.5	4.6	9.3	10.0	4.6	3.8	8.3	····	····	····
Consumer Sentiment (U. of Mich.)	79.0	76.8	84.9	88.3	82.9	85.5	81.2	70.3	72.8	71.7	67.4	····
Household Employment (c)	201	208	609	328	444	-18	1043	509	526	359	····	····
Nonfarm Payroll Employment (c)	233	536	785	269	614	962	1091	483	312	531	····	····
Unemployment Rate (%)	6.3	6.2	6.0	6.1	5.8	5.9	5.4	5.2	4.8	4.6	····	····
Average Hourly Earnings (All, cur. $)	29.92	30.00	29.97	30.17	30.31	30.44	30.55	30.67	30.85	30.96	····	····
Average Workweek (All, hrs.)	35.0	34.6	34.9	34.9	34.8	34.7	34.7	34.6	34.8	34.7	····	····
Industrial Production (d)	-1.7	-4.9	1.8	17.9	16.4	10.2	6.7	5.6	4.6	5.1	····	····
Capacity Utilization (%)	75.0	72.7	74.8	74.8	75.3	75.6	76.2	76.2	75.2	76.4	····	····
ISM Manufacturing Index (g)	58.7	60.8	64.7	60.7	61.2	60.6	59.5	59.9	61.1	60.8	····	····
ISM Nonmanufacturing Index (g)	58.7	55.3	63.7	62.7	64.0	60.1	64.1	61.7	61.9	66.7	····	····
Housing Starts (b)	1.625	1.447	1.725	1.514	1.594	1.657	1.562	1.573	1.530	1.520	····	····
Housing Permits (b)	1.883	1.726	1.755	1.733	1.683	1.594	1.630	1.721	1.586	1.653	····	····
New Home Sales (1-family, c)	993	823	873	796	733	683	704	693	742	745	····	····
Construction Expenditures (a)	3.0	-1.1	1.0	0.3	0.7	1.0	0.1	0.1	-0.5	····	····	····
Consumer Price Index (nsa, d)	1.4	1.7	2.6	4.2	5.0	5.4	5.4	5.3	5.4	6.2	····	····
CPI ex. Food and Energy (nsa, d)	1.4	1.3	1.6	3.0	3.8	4.5	4.3	4.0	4.0	4.6	····	····
PCE Chain Price Index (d)	1.4	1.6	2.5	3.6	4.0	4.0	4.1	4.2	4.4	5.0	····	····
Core PCE Chain Price Index (d)	1.5	1.5	2.0	3.1	3.5	3.6	3.6	3.6	3.7	4.1	····	····
Producer Price Index (nsa, d)	1.6	3.0	4.1	6.5	7.0	7.6	7.8	8.3	8.6	8.6	····	····
Durable Goods Orders (a)	2.4	1.3	1.3	-0.7	3.2	0.8	0.5	1.3	-0.4	-0.5	····	····
Leading Economic Indicators (a)	0.5	0.0	1.3	1.4	1.3	0.7	0.9	0.7	0.1	0.9	····	····
Balance of Trade & Services (f)	-65.7	-68.2	-72.2	-66.7	-68.5	-73.2	-70.3	-72.8	-80.9	····	····	····
Federal Funds Rate (%)	0.09	0.08	0.07	0.07	0.06	0.08	0.10	0.09	0.08	0.08	····	····
3-Mo. Treasury Bill Rate (%)	0.08	0.04	0.03	0.02	0.02	0.04	0.05	0.05	0.04	0.05	····	····
10-Year Treasury Note Yield (%)	1.08	1.26	1.61	1.64	1.62	1.52	1.32	1.28	1.37	1.58	····	····

2020 Historical Data

Monthly Indicator	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Retail and Food Service Sales (a)	0.6	-0.2	-8.6	-14.7	18.2	8.7	1.4	0.8	2.1	-0.1	-1.1	-1.2
Auto & Light Truck Sales (b)	16.87	16.88	11.25	8.61	12.13	13.10	14.71	15.25	16.28	16.40	15.87	16.31
Personal Income (a, current $)	1.1	0.7	-1.9	12.5	-4.0	-0.9	0.9	-2.9	0.7	-0.2	-1.0	0.7
Personal Consumption (a, current $)	0.6	0.1	-6.9	-12.6	8.6	6.4	1.7	1.0	1.5	0.4	-0.5	-0.5
Consumer Credit (e)	2.5	4.6	-5.2	-18.2	-4.3	5.8	3.8	-3.2	4.9	-0.1	3.1	3.2
Consumer Sentiment (U. of Mich.)	99.8	101.0	89.1	71.8	72.3	78.1	72.5	74.1	80.4	81.8	76.9	80.7
Household Employment (c)	-76	73	-3196	-22166	3854	4876	1677	3499	267	2126	140	21
Nonfarm Payroll Employment (c)	315	289	-1683	-20679	2833	4846	1726	1583	716	680	264	-306
Unemployment Rate (%)	3.5	3.5	4.4	14.8	13.3	11.1	10.2	8.4	7.8	6.9	6.7	6.7
Average Hourly Earnings (All, cur. $)	28.43	28.51	28.74	30.07	29.74	29.35	29.37	29.47	29.50	29.52	29.61	29.91
Average Workweek (All, hrs.)	34.3	34.4	34.1	34.2	34.7	34.6	34.6	34.7	34.8	34.8	34.8	34.7
Industrial Production (d)	-2.1	-1.4	-5.3	-17.7	-16.2	-11.0	-7.0	-6.6	-6.6	-4.7	-4.7	-3.3
Capacity Utilization (%)	76.1	76.3	73.4	63.4	64.7	68.7	71.5	72.3	72.1	72.9	73.3	74.1
ISM Manufacturing Index (g)	51.1	50.3	49.7	41.7	43.1	52.2	53.7	55.6	55.7	58.8	57.7	60.5
ISM Nonmanufacturing Index (g)	55.9	56.7	53.6	41.6	45.4	56.5	56.6	57.2	57.2	56.2	56.8	57.7
Housing Starts (b)	1.589	1.589	1.277	0.938	1.046	1.273	1.497	1.376	1.448	1.514	1.551	1.661
Housing Permits (b)	1.550	1.478	1.382	1.094	1.246	1.296	1.542	1.522	1.589	1.595	1.696	1.758
New Home Sales (1-family, c)	756	730	623	582	704	839	972	977	971	969	865	943
Construction Expenditures (a)	1.9	1.0	0.4	-3.6	-1.0	-0.2	0.3	1.1	0.3	0.9	1.0	1.1
Consumer Price Index (nsa, d)	2.5	2.3	1.5	0.3	0.1	0.6	1.0	1.3	1.4	1.2	1.2	1.4
CPI ex. Food and Energy (nsa, d)	2.3	2.4	2.1	1.4	1.2	1.2	1.6	1.7	1.7	1.6	1.6	1.6
PCE Chain Price Index (d)	1.9	1.9	1.3	0.4	0.5	0.9	1.0	1.3	1.4	1.2	1.1	1.3
Core PCE Chain Price Index (d)	1.8	1.9	1.7	0.9	1.0	1.1	1.3	1.5	1.6	1.4	1.4	1.5
Producer Price Index (nsa, d)	2.0	1.1	0.3	-1.5	-1.1	-0.7	-0.3	-0.3	0.3	0.6	0.8	0.8
Durable Goods Orders (a)	-4.8	0.9	-20.7	-11.6	10.6	11.3	9.8	2.0	1.6	1.0	2.2	1.5
Leading Economic Indicators (a)	0.5	-0.1	-7.6	-6.4	3.1	3.0	2.0	1.5	0.9	0.7	0.9	0.4
Balance of Trade & Services (f)	-45.5	-41.6	-47.2	-53.0	-54.9	-50.7	-60.7	-63.7	-62.6	-63.7	-67.3	-65.8
Federal Funds Rate (%)	1.55	1.58	0.65	0.05	0.05	0.08	0.09	0.10	0.09	0.09	0.09	0.09
3-Mo. Treasury Bill Rate (%)	1.55	1.54	0.30	0.14	0.13	0.16	0.13	0.10	0.11	0.10	0.09	0.09
10-Year Treasury Note Yield (%)	1.76	1.50	0.87	0.66	0.67	0.73	0.62	0.65	0.68	0.79	0.87	0.93

(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
November 29 Texas Manufacturing Outlook Survey (Nov) Pending Home Sales (Oct)	**30** Case-Shiller HPI (Sep) FHFA HPI (Sep & Q3) Agricultural Prices (Oct) Chicago PMI (Nov) Texas Service Sector (Nov) Consumer Confidence (Nov)	**December 1** ADP Employment Report (Nov) Construction (Oct) ISM Manufacturing (Nov) IHS Markit Mfg PMI (Nov) EIA Crude Oil Stocks Mortgage Applications	**2** BEA Auto Sales (Nov) BEA Truck Sales (Nov) Challenger Employment Report (Nov) Weekly Jobless Claims	**3** Employment Situation (Nov) ISM Services PMI (Nov) IHS Markit Services PMI (Nov) Manufacturers' Shipments, Inventories & Orders (Oct)
6 Public Debt (Nov) NABE Outlook (Q4)	**7** International Trade (Oct) Productivity & Costs (Q3) QFR (Q3) Treasury Auction Allotments (Nov) Consumer Credit (Oct)	**8** JOLTS (Oct) Transportation Services Index (Oct) EIA Crude Oil Stocks Mortgage Applications	**9** Wholesale Trade (Oct) Financial Accounts (Q3) Kansas City Fed Labor Market Conditions Indicators (Nov) Kansas City Financial Stress Index (Nov) Weekly Jobless Claims	**10** CPI & Real Earnings (Nov) QSS (Q3) Consumer Sentiment (Dec, Preliminary) Cleveland Fed Median CPI (Nov) Monthly Treasury (Nov)
13	**14** Producer Prices (Nov) Manpower Survey (Q1) NFIB (Nov) FOMC Meeting	**15** Import & Export Prices (Nov) Advance Retail Sales (Nov) MTIS (Oct) Empire State Mfg Survey (Dec) Home Builders (Dec) TIC Data (Oct) FOMC Meeting EIA Crude Oil Stocks Mortgage Applications	**16** New Res Construction (Nov) IP & Capacity Utilization (Nov) ECEC (Q3) Philadelphia Fed Mfg Business Outlook Survey (Dec) Business Leaders Survey (Dec) Kansas City Fed Mfg (Dec) IHS Markit Flash Mfg & Services PMI (Dec) Weekly Jobless Claims	**17** Livingston Survey (Dec)
20 Composite Indexes (Nov)	**21** International Transactions (Q3) Philadelphia Fed Nonmanufacturing Business Outlook Survey (Dec)	**22** GDP & Corp Profits (Q3,3rd Est) GDP by Industry (Q3) Existing Home Sales (Nov) Treasury Auction (Dec) Chicago Fed National Activity Index (Nov) FRB Philadelphia Coincident Economic Activity Index(Nov) EIA Crude Oil Stocks Mortgage Applications	**23** Advance Durable Goods (Nov) Personal Income (Nov) Consumer Sentiment(Dec, Final) New Residential Sales (Nov) Dallas Fed Trimmed-Mean PCE (Nov) Final Building Permits (Nov) Weekly Jobless Claims	**24** **CHRISTMAS DAY OBSERVED ALL MARKETS CLOSED**
27 Texas Manufacturing Outlook Survey (Dec)	**28** Case-Shiller HPI (Oct) FHFA HPI (Oct) Consumer Confidence (Dec) H.6 Money Stock (Nov) Richmond Fed Mfg & Service Sector Surveys (Dec) Texas Service Sector Outlook Survey (Dec) Steel Imports (Nov)	**29** Advance Trade & Inventories (Nov) Pending Home Sales (Nov) EIA Crude Oil Stocks Mortgage Applications	**30** Strike Report (Dec) International Investment Position (Q3) Agricultural Prices (Nov) Chicago PMI (Dec) Weekly Jobless Claims	**31** **NEW YEAR'S DAY OBSERVED**
January 3 Construction (Nov)	**4** ISM Manufacturing (Dec) IHS Markit Mfg PMI (Dec)	**5** BEA Auto Sales (Dec) BEA Truck Sales (Dec) EIA Crude Oil Stocks Mortgage Applications	**6** Manufacturers' Shipments, Inventories & Orders (Nov) Challenger Employment Report (Dec) ISM Services PMI (Dec) IHS Markit Services PMI (Dec) Weekly Jobless Claims	**7** Employment Situation (Dec) Public Debt (Dec)

BLUE CHIP FORECASTERS

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