



SURVEY OF PROFESSIONAL FORECASTERS

Release Date: November 15, 2021

FOURTH QUARTER 2021

Forecasters Project Slower Growth with Lower Unemployment

The U.S. economy looks weaker now than it did in August, according to 37 forecasters surveyed by the Federal Reserve Bank of Philadelphia. The forecasters predict real GDP will grow at an annual rate of 4.6 percent this quarter and 3.9 percent next quarter, down 0.6 percentage point each from the prediction in the last survey. Using the annual-average over annual-average computation, the panel expects real GDP will grow at an annual rate of 5.5 percent this year and 3.9 percent in 2022, down 0.6 percentage point and 0.5 percentage point, respectively, from the prediction of three months ago.

The downward revision to growth is accompanied by a more positive outlook for the unemployment rate. The forecasters predict unemployment will decrease from a projected 4.5 percent this quarter to 3.9 percent in the fourth quarter of 2022. Using the annual-average computation, the panelists predict the unemployment rate will decline from 5.4 percent in 2021 to 3.7 percent in 2024. The annual-average projections from 2021 to 2023 are each 0.2 percentage point below those of the last survey.

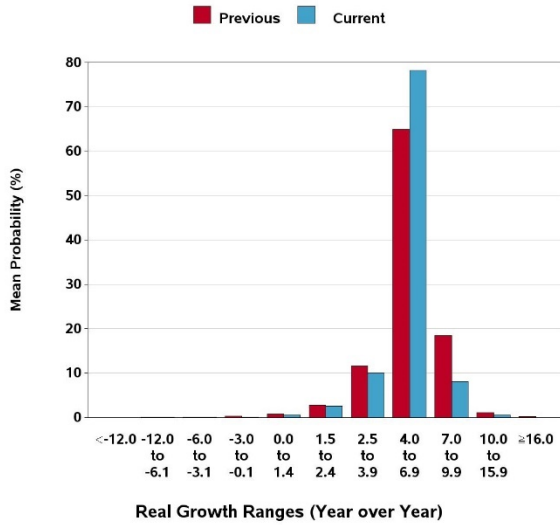
The forecasters are less optimistic about the near-term employment outlook. They have revised downward their estimates for job gains over the next three quarters. The projections for the annual-average level of nonfarm payroll employment suggest job gains at a monthly rate of 325,800 in 2021 and 439,700 in 2022. (These annual-average projections are computed as the year-to-year change in the annual-average level of nonfarm payroll employment, converted to a monthly rate.)

Median Forecasts for Selected Variables in the Current and Previous Surveys

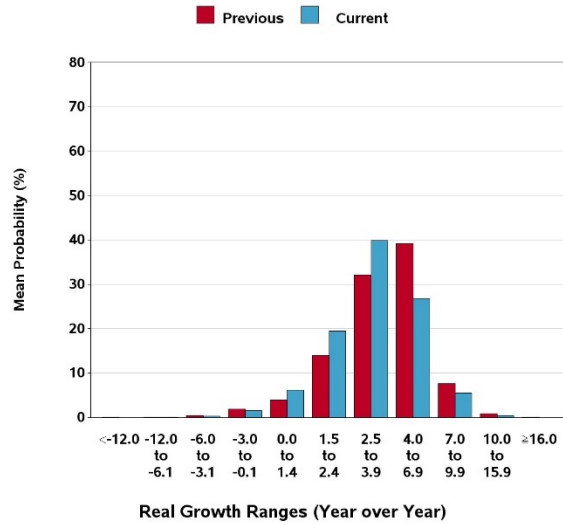
	Real GDP (%)		Unemployment Rate (%)		Payrolls (000s/month)	
	Previous	New	Previous	New	Previous	New
Quarterly data:						
2021:Q4	5.2	4.6	4.9	4.5	508.8	469.4
2022:Q1	4.5	3.9	4.6	4.3	468.9	407.8
2022:Q2	3.4	4.0	4.4	4.1	404.8	310.9
2022:Q3	2.7	3.1	4.2	3.9	265.0	321.5
2022:Q4	N.A.	3.1	N.A.	3.9	N.A.	306.2
Annual data (projections are based on annual-average levels):						
2021	6.1	5.5	5.6	5.4	309.4	325.8
2022	4.4	3.9	4.3	4.1	456.3	439.7
2023	2.5	2.6	3.8	3.6	N.A.	N.A.
2024	2.0	2.3	3.6	3.7	N.A.	N.A.

The charts below provide some insight into the degree of uncertainty the forecasters have about their projections for the rate of growth in the annual-average level of real GDP. Each chart presents the forecasters' previous and current estimates of the probability that growth will fall into each of 11 ranges. For 2022, the forecasters have revised upward their estimate of the probability that real GDP will grow below 4.0 percent. However, the current real GDP growth probability projections for the following two years are little changed, compared with the previous estimates.

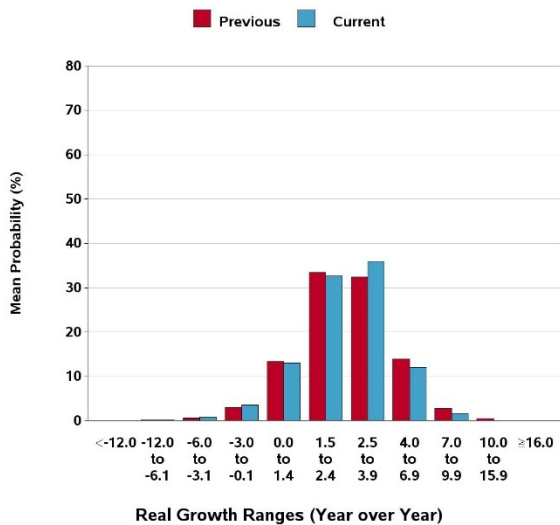
Mean Probabilities for Real GDP Growth in 2021



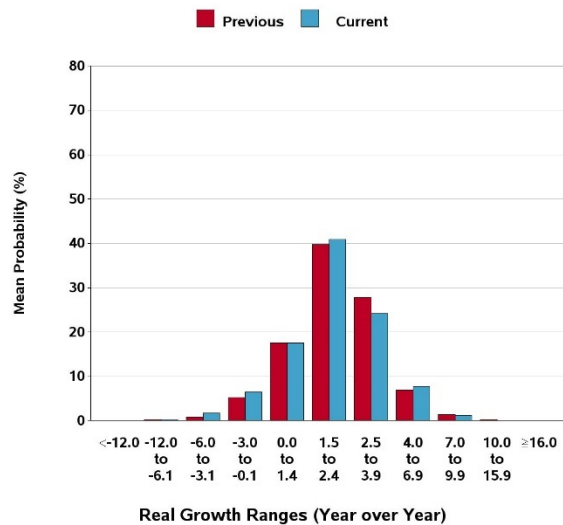
Mean Probabilities for Real GDP Growth in 2022



Mean Probabilities for Real GDP Growth in 2023

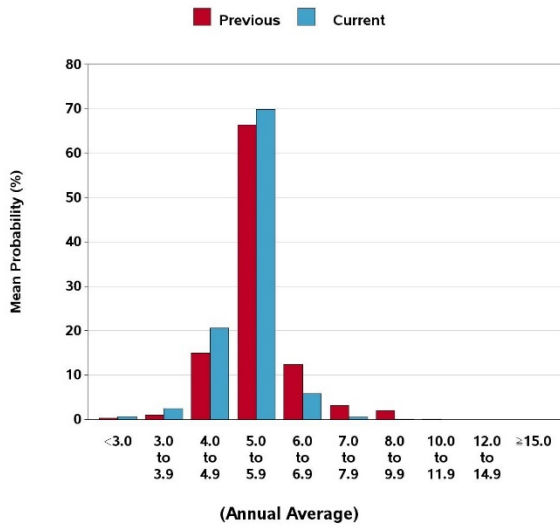


Mean Probabilities for Real GDP Growth in 2024

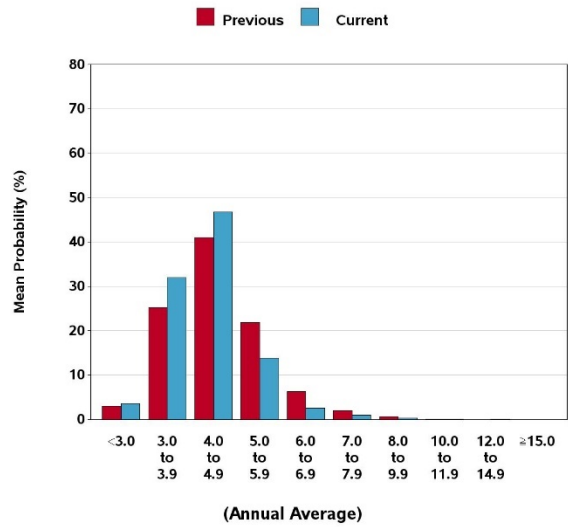


The forecasters' density projections for unemployment, shown below, shed light on uncertainty about the labor market over the next four years. Each chart presents the forecasters' current and previous estimates of the probability that unemployment will fall into each of 10 ranges. The charts show the panelists are raising their probability estimates for an unemployment rate below 4.0 percent over each of the next four years, compared with their previous estimates.

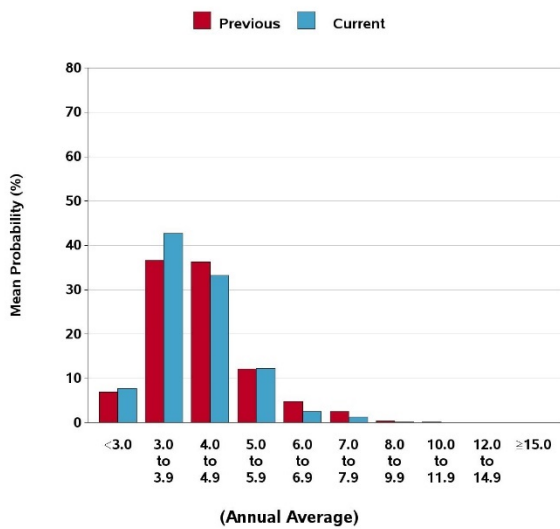
Mean Probabilities for Unemployment Rate in 2021



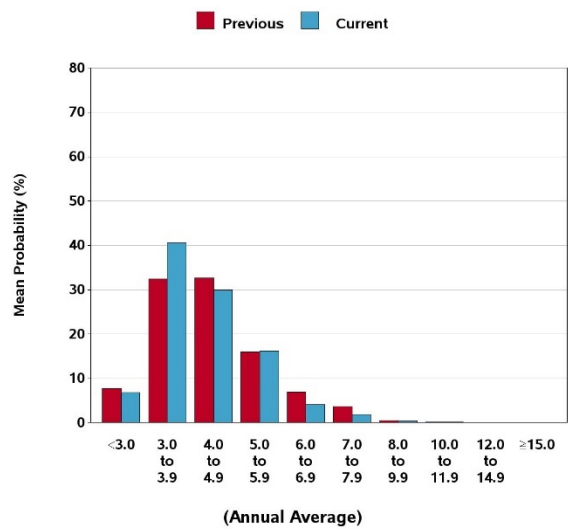
Mean Probabilities for Unemployment Rate in 2022



Mean Probabilities for Unemployment Rate in 2023



Mean Probabilities for Unemployment Rate in 2024



Forecasters Expect Higher Inflation

The forecasters predict current-quarter headline CPI inflation to average 4.6 percent, up from 2.6 percent in the last survey. Headline PCE inflation over the current quarter will be 4.0 percent, up 1.4 percentage points from the previous estimate.

Projections for headline and core CPI and PCE inflation at most other forecast horizons beyond the current quarter have been revised upward, compared with those from the survey of three months ago.

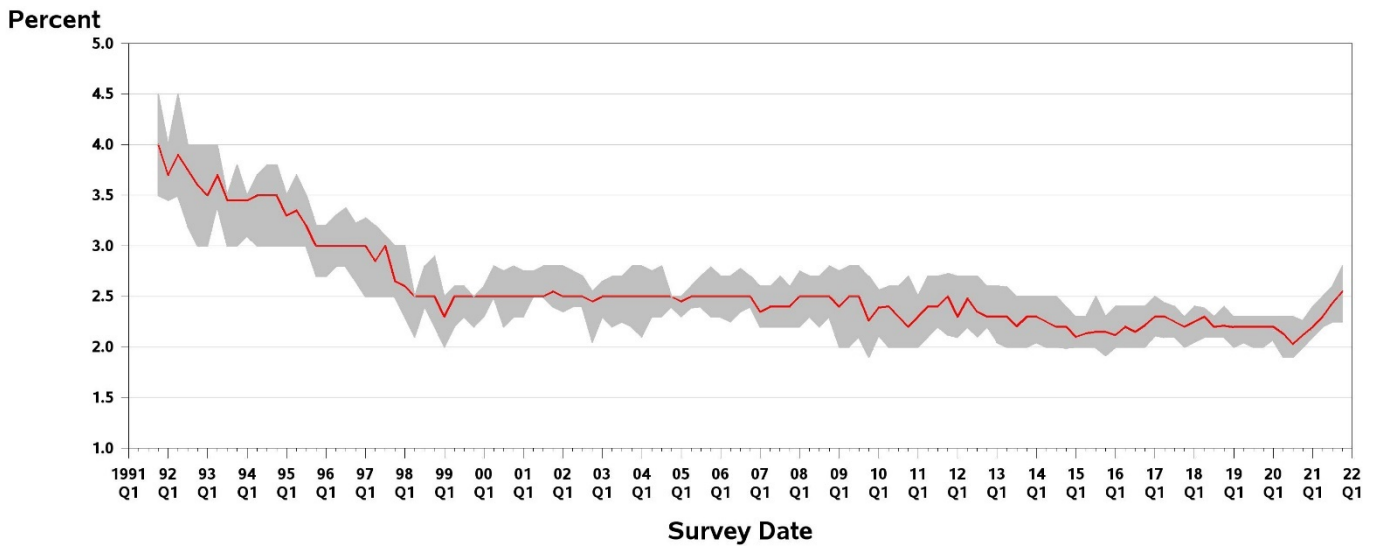
Over the next 10 years, 2021 to 2030, the forecasters predict headline CPI inflation will average 2.55 percent at an annual rate. The corresponding estimate for 10-year annual-average PCE inflation is 2.30 percent. These 10-year projections are higher than those of the previous survey.

Median Short-Run and Long-Run Projections for Inflation (Annualized Percentage Points)

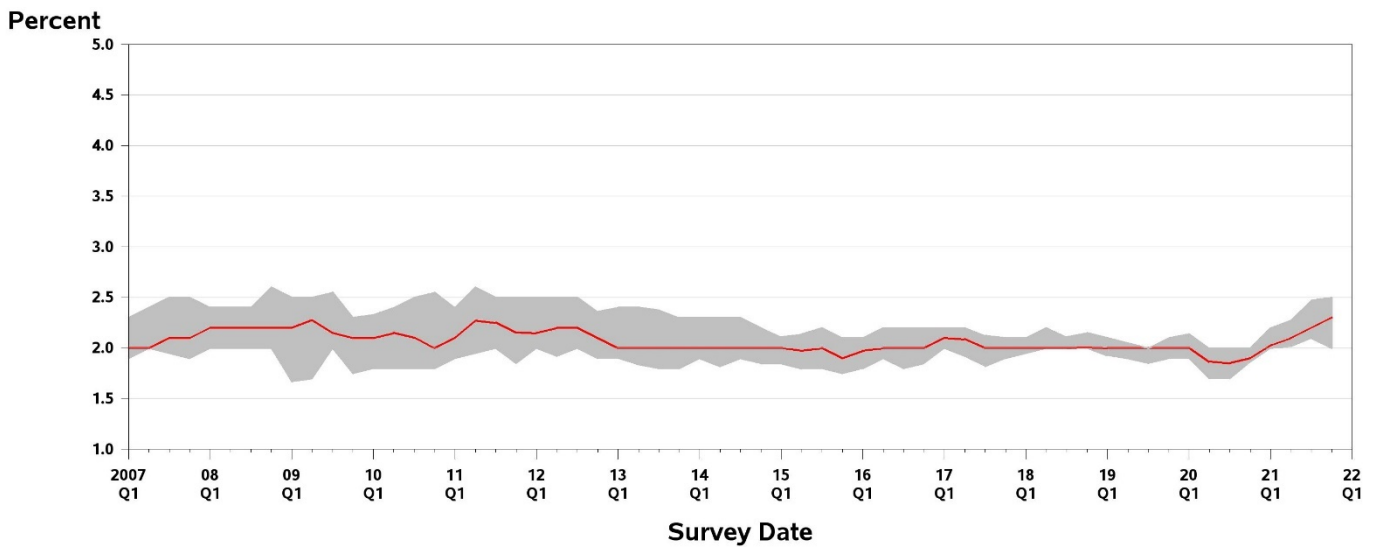
	Headline CPI		Core CPI		Headline PCE		Core PCE	
	Previous	Current	Previous	Current	Previous	Current	Previous	Current
Quarterly								
2021:Q4	2.6	4.6	2.5	3.5	2.6	4.0	2.2	3.0
2022:Q1	2.2	3.0	2.3	2.8	2.3	3.0	2.1	2.5
2022:Q2	2.3	2.6	2.3	2.6	2.2	2.5	2.1	2.4
2022:Q3	2.4	2.5	2.4	2.6	2.2	2.3	2.2	2.3
2022:Q4	N.A.	2.4	N.A.	2.4	N.A.	2.2	N.A.	2.1
Q4/Q4 Annual Averages								
2021	4.9	5.8	4.2	4.5	4.1	4.9	3.7	4.1
2022	2.4	2.7	2.4	2.6	2.2	2.4	2.2	2.3
2023	2.3	2.4	2.4	2.4	2.3	2.2	2.1	2.1
Long-Term Annual Averages								
2021-2025	2.75	2.90	N.A.	N.A.	2.40	2.59	N.A.	N.A.
2021-2030	2.44	2.55	N.A.	N.A.	2.20	2.30	N.A.	N.A.

The charts below show the median projections (the red line) and the associated interquartile ranges (gray areas around the red line) for 10-year annual-average CPI and PCE inflation. The charts show the rising projections for the long-term inflation rate in recent surveys.

**Projections for the 10-Year Annual-Average Rate of CPI Inflation
(Median and Interquartile Range)**

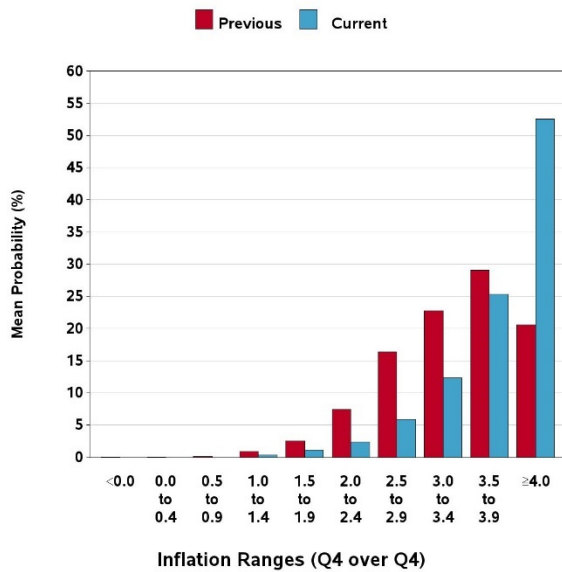


**Projections for the 10-Year Annual-Average Rate of PCE Inflation
(Median and Interquartile Range)**

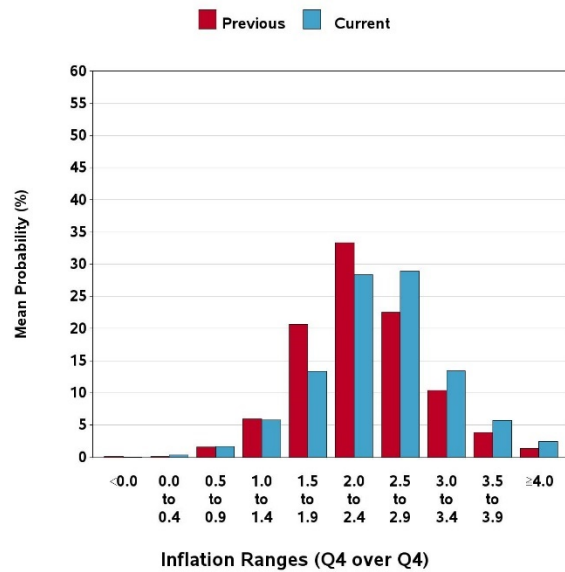


The figures below show the probabilities that the forecasters are assigning to each of 10 possible ranges for fourth-quarter over fourth-quarter core PCE inflation in 2021 and 2022. Notably, for 2021, the forecasters have significantly raised their estimates for the probability that core PCE inflation will be 4.0 percent or higher, compared with their estimates from three months ago. The forecasters have also raised their current probability projections for inflation higher than 2.4 percent in 2022, compared with their previous projections.

Mean Probabilities for Core PCE Inflation in 2021



Mean Probabilities for Core PCE Inflation in 2022



Higher (but Low) Risk of a Negative Quarter in 2022

The forecasters expect the likelihood of a contraction in real GDP in any of the next five quarters to remain low, even though their new estimates for the first three quarters in 2022 are above those of the previous survey. They have cut their probability estimates for the risk of a downturn this quarter to 9.1 percent, compared with 9.5 percent in the previous survey.

*Risk of a Negative Quarter (%)
Survey Means*

Quarterly data:	Previous	New
2021:Q4	9.5	9.1
2022:Q1	12.0	13.3
2022:Q2	12.3	15.0
2022:Q3	12.9	15.9
2022:Q4	N.A.	16.9

Technical Notes

Moody's Aaa and Baa Historical Rates

The historical values of Moody's Aaa and Baa rates are proprietary and, therefore, not available in the data files on the Bank's website or on the tables that accompany the survey's complete write-up in the PDF.

The Federal Reserve Bank of Philadelphia thanks the following forecasters for their participation in recent surveys:

Scott Anderson, Bank of the West (BNP Paribas Group); **Robert J. Barbera**, Johns Hopkins University Center for Financial Economics; **Peter Bernstein**, RCF Economic and Financial Consulting, Inc.; **Wayne Best** and **Michael Brown**, Visa, Inc.; **Jay Bryson**, Wells Fargo; **Christine Chmura, Ph.D.**, and **Xiaobing Shuai, Ph.D.**, Chmura Economics & Analytics; **Gary Ciminero, CFA**, GLC Financial Economics; **Gregory Daco**, Oxford Economics USA, Inc.; **Tina Dhariwal**, **Gabriel Ehrlich**, **Daniil Manaenkov**, and **Tereza Ranosova**, RSQE, University of Michigan; **Rajeev Dhawan**, Georgia State University; **Bill Diviney**, ABN AMRO Bank NV; **Michael R. Englund**, Action Economics, LLC; **Sacha Gelfer**, Bentley University; **James Glassman**, JPMorgan Chase & Co.; **Jan Hatzius**, Goldman Sachs; **Fred Joutz**, Benchmark Forecasts; **Sam Kahan**, Kahan Consulting Ltd. (ACT Research LLC); **N. Karp**, BBVA Research USA; **Jack Kleinhenz**, Kleinhenz & Associates, Inc.; **Yaniv Konchitchki**, University of California, Berkeley; **Rohan Kumar** and **Allen Sinai**, Decision Economics, Inc.; **Thomas Lam**, Sim Kee Boon Institute, Singapore Management University; **John Lonski**, Moody's Capital Markets Group; **Matthew Luzzetti**, Deutsche Bank Securities; **IHS Markit**; **Robert McNab**, Old Dominion University; **R. Anthony Metz**, Pareto Optimal Economics; **R. M. Monaco**, TitanRM; **Michael Moran**, Daiwa Capital Markets America; **Joel L. Naroff**, Naroff Economic Advisors; **Nomura Securities International**; **Brendon Ogmundson**, BC Real Estate Association; **Perc Pineda, Ph.D.**, Plastics Industry Association; **Jason Prole**, Capital Risk Management; **Philip Rothman**, East Carolina University; **Chris Rupkey**, MUFJ Union Bank; **Sean M. Snaith, Ph.D.**, University of Central Florida; **Constantine G. Soras, Ph.D.**, CGS Economic Consulting, Inc.; **Stephen Stanley**, Amherst Pierpont Securities; **Charles Steindel**, Editor, NABE *Business Economics*; **Susan M. Sterne**, Economic Analysis Associates, Inc.; **James Sweeney**, Credit Suisse; **Maira Trimble**, Eaton Corporation; **Gary Wagner**, University of Louisiana at Lafayette; **Mark Zandi**, Moody's Analytics; **Ellen Zentner**, Morgan Stanley.

This is a partial list of participants. We also thank those who wish to remain anonymous.

SUMMARY TABLE
SURVEY OF PROFESSIONAL FORECASTERS
MAJOR MACROECONOMIC INDICATORS

	2021 Q4	2022 Q1	2022 Q2	2022 Q3	2022 Q4	2021	2022 (YEAR-OVER-YEAR)	2023	2024
PERCENT GROWTH AT ANNUAL RATES									
1. REAL GDP (BILLIONS, CHAIN WEIGHTED)	4.6	3.9	4.0	3.1	3.1	5.5	3.9	2.6	2.3
2. GDP PRICE INDEX (PERCENT CHANGE)	3.4	2.8	2.7	2.4	2.4	3.9	3.4	N.A.	N.A.
3. NOMINAL GDP (\$ BILLIONS)	8.7	7.8	6.9	5.5	5.0	9.6	7.7	N.A.	N.A.
4. NONFARM PAYROLL EMPLOYMENT (PERCENT CHANGE)	3.9	3.3	2.5	2.6	2.4	2.7	3.6	N.A.	N.A.
(AVG MONTHLY CHANGE)	469.4	407.8	310.9	321.5	306.2	325.8	439.7	N.A.	N.A.
VARIABLES IN LEVELS									
5. UNEMPLOYMENT RATE (PERCENT)	4.5	4.3	4.1	3.9	3.9	5.4	4.1	3.6	3.7
6. 3-MONTH TREASURY BILL (PERCENT)	0.1	0.1	0.1	0.2	0.3	0.1	0.2	0.9	1.3
7. 10-YEAR TREASURY BOND (PERCENT)	1.6	1.7	1.8	1.9	2.1	1.5	1.9	2.4	2.7
	2021 Q4	2022 Q1	2022 Q2	2022 Q3	2022 Q4	2021	2022 (Q4-OVER-Q4)	2023	
INFLATION INDICATORS									
8. CPI (ANNUAL RATE)	4.6	3.0	2.6	2.5	2.4	5.8	2.7	2.4	
9. CORE CPI (ANNUAL RATE)	3.5	2.8	2.6	2.6	2.4	4.5	2.6	2.4	
10. PCE (ANNUAL RATE)	4.0	3.0	2.5	2.3	2.2	4.9	2.4	2.2	
11. CORE PCE (ANNUAL RATE)	3.0	2.5	2.4	2.3	2.1	4.1	2.3	2.1	

Note: The figures on each line are medians of 37 forecasters.

Source: Research Department, Federal Reserve Bank of Philadelphia.
Survey of Professional Forecasters, Fourth Quarter 2021.

SURVEY OF PROFESSIONAL FORECASTERS

Fourth Quarter 2021

Tables

Note: Data in these tables listed as "actual" are the data that were available to the forecasters when they were sent the survey questionnaire on October 28, 2021; the tables do not reflect subsequent revisions to the data. All forecasts were received on or before November 9, 2021.

TABLE ONE
MAJOR MACROECONOMIC INDICATORS
MEDIANS OF FORECASTER PREDICTIONS

	NUMBER OF FORECASTERS	ACTUAL		FORECAST				ACTUAL		FORECAST		
		2021 Q3	2021 Q4	2022 Q1	2022 Q2	2022 Q3	2022 Q4	2020 ANNUAL	2021 ANNUAL	2022 ANNUAL	2023 ANNUAL	2024 ANNUAL
1. GROSS DOMESTIC PRODUCT (GDP) (\$ BILLIONS)	36	23174	23660	24109	24514	24846	25150	20894	22902	24667	N.A.	N.A.
2. GDP PRICE INDEX (2012=100)	35	119.19	120.19	121.03	121.84	122.56	123.28	113.74	118.18	122.15	N.A.	N.A.
3. CORPORATE PROFITS AFTER TAXES (\$ BILLIONS)	19	N.A.	2426.9	2435.2	2477.0	2485.0	2511.4	1968.1	2372.4	2474.0	N.A.	N.A.
4. UNEMPLOYMENT RATE (PERCENT)	36	5.1	4.5	4.3	4.1	3.9	3.9	8.1	5.4	4.1	3.6	3.7
5. NONFARM PAYROLL EMPLOYMENT (THOUSANDS)	30	147302	148827	150051	150983	151948	152866	142252	146162	151438	N.A.	N.A.
6. INDUSTRIAL PRODUCTION (2017=100)	28	100.9	101.7	102.7	103.6	104.3	105.1	95.0	100.2	103.9	N.A.	N.A.
7. NEW PRIVATE HOUSING STARTS (ANNUAL RATE, MILLIONS)	30	1.57	1.59	1.60	1.60	1.59	1.58	1.40	1.58	1.59	N.A.	N.A.
8. 3-MONTH TREASURY BILL RATE (PERCENT)	34	0.05	0.06	0.09	0.10	0.17	0.29	0.37	0.05	0.16	0.87	1.27
9. MOODY'S AAA CORP BOND YIELD * (PERCENT)	21	N.A.	2.81	2.94	3.01	3.10	3.31	N.A.	2.74	3.09	N.A.	N.A.
10. MOODY'S BAA CORP BOND YIELD * (PERCENT)	20	N.A.	3.53	3.65	3.76	3.93	4.08	N.A.	3.45	3.83	N.A.	N.A.
11. 10-YEAR TREASURY BOND YIELD (PERCENT)	35	1.32	1.62	1.74	1.79	1.91	2.07	0.89	1.46	1.90	2.37	2.72
12. REAL GDP (BILLIONS, CHAIN WEIGHTED)	37	19465	19686	19874	20070	20222	20378	18385	19394	20142	20673	21158
13. TOTAL CONSUMPTION EXPENDITURE (BILLIONS, CHAIN WEIGHTED)	33	13719.3	13849.6	13967.3	14070.5	14161.7	14256.9	12629.9	13629.3	14111.6	N.A.	N.A.
14. NONRESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	32	2885.8	2938.5	2991.7	3034.9	3066.3	3091.5	2671.1	2876.9	3048.8	N.A.	N.A.
15. RESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	32	694.2	698.8	705.4	710.2	714.2	722.5	648.0	708.0	712.4	N.A.	N.A.
16. FEDERAL GOVERNMENT C & I (BILLIONS, CHAIN WEIGHTED)	29	1340.4	1347.0	1353.6	1355.8	1361.5	1373.8	1340.7	1354.8	1357.1	N.A.	N.A.
17. STATE AND LOCAL GOVT C & I (BILLIONS, CHAIN WEIGHTED)	31	2039.6	2049.8	2064.9	2075.7	2086.5	2095.7	2019.9	2031.1	2080.5	N.A.	N.A.
18. CHANGE IN PRIVATE INVENTORIES (BILLIONS, CHAIN WEIGHTED)	31	-77.7	-10.6	40.0	49.7	69.1	73.8	-42.3	-85.9	58.3	N.A.	N.A.
19. NET EXPORTS (BILLIONS, CHAIN WEIGHTED)	32	-1311.7	-1332.6	-1353.9	-1355.5	-1364.4	-1371.0	-942.7	-1278.7	-1355.7	N.A.	N.A.

* The historical values of Moody's Aaa and Baa rates are proprietary and therefore not available to the general public.

Source: Research Department, Federal Reserve Bank of Philadelphia. Survey of Professional Forecasters, Fourth Quarter 2021.

TABLE TWO
MAJOR MACROECONOMIC INDICATORS
PERCENTAGE CHANGES AT ANNUAL RATES

	NUMBER OF FORECASTERS	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	2020	2021	2022	2023
		TO Q4 2021	TO Q1 2022	TO Q2 2022	TO Q3 2022	TO Q4 2022	TO 2021	TO 2022	TO 2023	TO 2024
1. GROSS DOMESTIC PRODUCT (GDP) (\$ BILLIONS)	36	8.7	7.8	6.9	5.5	5.0	9.6	7.7	N.A.	N.A.
2. GDP PRICE INDEX (2012=100)	35	3.4	2.8	2.7	2.4	2.4	3.9	3.4	N.A.	N.A.
3. CORPORATE PROFITS AFTER TAXES (\$ BILLIONS)	19	5.1	1.4	7.1	1.3	4.3	20.5	4.3	N.A.	N.A.
4. UNEMPLOYMENT RATE (PERCENT)	36	-0.6	-0.2	-0.2	-0.2	-0.1	-2.7	-1.4	-0.4	0.1
5. NONFARM PAYROLL EMPLOYMENT (PERCENT CHANGE) (AVG MONTHLY CHANGE)	30 30	3.9 469.4	3.3 407.8	2.5 310.9	2.6 321.5	2.4 306.2	2.7 325.8	3.6 439.7	N.A. N.A.	N.A. N.A.
6. INDUSTRIAL PRODUCTION (2017=100)	28	3.3	4.1	3.3	2.9	3.1	5.5	3.7	N.A.	N.A.
7. NEW PRIVATE HOUSING STARTS (ANNUAL RATE, MILLIONS)	30	5.9	2.5	0.6	-1.8	-2.7	13.5	0.2	N.A.	N.A.
8. 3-MONTH TREASURY BILL RATE (PERCENT)	34	0.01	0.03	0.01	0.07	0.12	-0.32	0.11	0.71	0.40
9. MOODY'S AAA CORP BOND YIELD * (PERCENT)	21	N.A.	0.13	0.07	0.09	0.21	N.A.	0.35	N.A.	N.A.
10. MOODY'S BAA CORP BOND YIELD * (PERCENT)	20	N.A.	0.12	0.11	0.17	0.16	N.A.	0.39	N.A.	N.A.
11. 10-YEAR TREASURY BOND YIELD (PERCENT)	35	0.30	0.12	0.05	0.12	0.16	0.57	0.44	0.47	0.35
12. REAL GDP (BILLIONS, CHAIN WEIGHTED)	37	4.6	3.9	4.0	3.1	3.1	5.5	3.9	2.6	2.3
13. TOTAL CONSUMPTION EXPENDITURE (BILLIONS, CHAIN WEIGHTED)	33	3.9	3.4	3.0	2.6	2.7	7.9	3.5	N.A.	N.A.
14. NONRESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	32	7.5	7.4	5.9	4.2	3.3	7.7	6.0	N.A.	N.A.
15. RESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	32	2.7	3.8	2.8	2.2	4.7	9.3	0.6	N.A.	N.A.
16. FEDERAL GOVERNMENT C & I (BILLIONS, CHAIN WEIGHTED)	29	2.0	2.0	0.7	1.7	3.6	1.1	0.2	N.A.	N.A.
17. STATE AND LOCAL GOVT C & I (BILLIONS, CHAIN WEIGHTED)	31	2.0	3.0	2.1	2.1	1.8	0.6	2.4	N.A.	N.A.
18. CHANGE IN PRIVATE INVENTORIES (BILLIONS, CHAIN WEIGHTED)	31	67.1	50.6	9.7	19.4	4.8	-43.6	144.3	N.A.	N.A.
19. NET EXPORTS (BILLIONS, CHAIN WEIGHTED)	32	-20.9	-21.3	-1.5	-8.9	-6.7	-336.0	-77.0	N.A.	N.A.

* The historical values of Moody's Aaa and Baa rates are proprietary and therefore not available to the general public.

Note: Figures for unemployment rate, 3-month Treasury bill rate, Moody's Aaa corporate bond yield, Moody's Baa corporate bond yield, and 10-year Treasury bond yield are changes in these rates, in percentage points. Figures for change in private inventories and net exports are changes in billions of chain-weighted dollars. All others are percentage changes at annual rates.

Source: Research Department, Federal Reserve Bank of Philadelphia. Survey of Professional Forecasters, Fourth Quarter 2021.

TABLE THREE
MAJOR PRICE INDICATORS
MEDIANS OF FORECASTER PREDICTIONS

	NUMBER OF FORECASTERS	ACTUAL		FORECAST (Q/Q)				ACTUAL	FORECAST (Q4/Q4)		
		2021 Q3	2021 Q4	2022 Q1	2022 Q2	2022 Q3	2022 Q4	2020 ANNUAL	2021 ANNUAL	2022 ANNUAL	2023 ANNUAL
1. CONSUMER PRICE INDEX (ANNUAL RATE)	36	6.6	4.6	3.0	2.6	2.5	2.4	1.2	5.8	2.7	2.4
2. CORE CONSUMER PRICE INDEX (ANNUAL RATE)	32	5.3	3.5	2.8	2.6	2.6	2.4	1.6	4.5	2.6	2.4
3. PCE PRICE INDEX (ANNUAL RATE)	34	5.3	4.0	3.0	2.5	2.3	2.2	1.2	4.9	2.4	2.2
4. CORE PCE PRICE INDEX (ANNUAL RATE)	32	4.5	3.0	2.5	2.4	2.3	2.1	1.4	4.1	2.3	2.1

Source: Research Department, Federal Reserve Bank of Philadelphia. Survey of Professional Forecasters, Fourth Quarter 2021.

TABLE FOUR
YIELD SPREADS
MEDIAN OF FORECASTER PREDICTIONS

	NUMBER OF FORECASTERS	ACTUAL		FORECAST				ACTUAL		FORECAST		
		2021 Q3	2021 Q4	2022 Q1	2022 Q2	2022 Q3	2022 Q4	2020 ANNUAL	2021 ANNUAL	2022 ANNUAL	2023 ANNUAL	2024 ANNUAL
1. TBOND MINUS TBILL (PERCENTAGE POINTS)	33	1.28	1.55	1.64	1.64	1.69	1.70	0.53	1.41	1.64	1.54	1.38
2. AAA MINUS TBOND (PERCENTAGE POINTS)	21	N.A.	1.18	1.19	1.18	1.23	1.25	N.A.	1.28	1.25	N.A.	N.A.
3. BAA MINUS TBOND (PERCENTAGE POINTS)	20	N.A.	1.90	1.91	1.98	1.97	1.98	N.A.	1.98	1.99	N.A.	N.A.
4. BAA MINUS AAA (PERCENTAGE POINTS)	20	N.A.	0.70	0.72	0.76	0.78	0.79	N.A.	0.70	0.76	N.A.	N.A.

Notes:

TBOND is the rate on 10-year Treasury bonds.
TBILL is the rate on 3-month Treasury bills.
AAA is the rate on Moody's Aaa corporate bonds.
BAA is the rate on Moody's Baa corporate bonds.

The historical values for interest rate spreads for Moody's Aaa and Baa rates are proprietary and therefore not available to the general public.

Each interest rate spread is computed as the median value of the forecasters' spreads. These median values may differ from those computed as the difference between the median values of each interest rate in the spread.

Source: Research Department, Federal Reserve Bank of Philadelphia. Survey of Professional Forecasters, Fourth Quarter 2021.

TABLE FIVE
ESTIMATED PROBABILITY OF DECLINE IN REAL GDP

ESTIMATED PROBABILITY (CHANCES IN 100)	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022
	TO Q4 2021	TO Q1 2022	TO Q2 2022	TO Q3 2022	TO Q4 2022
NUMBER OF FORECASTERS					
10 OR LESS	21	15	15	14	11
11 TO 20	6	11	9	10	13
21 TO 30	0	2	4	3	3
31 TO 40	2	0	0	1	1
41 TO 50	0	0	0	0	0
51 TO 60	0	0	0	0	0
61 TO 70	0	1	1	1	1
71 TO 80	0	0	0	0	0
81 TO 90	0	0	0	0	0
91 AND OVER	0	0	0	0	0
NOT REPORTING	8	8	8	8	8
MEAN AND MEDIAN					
MEDIAN PROBABILITY	5.00	10.00	10.00	13.00	15.00
MEAN PROBABILITY	9.09	13.33	14.99	15.86	16.93

Note: Total number of forecasters reporting is 29.

Source: Research Department, Federal Reserve Bank of Philadelphia.
Survey of Professional Forecasters, Fourth Quarter 2021.

TABLE SIX
MEAN PROBABILITIES

MEAN PROBABILITY ATTACHED TO POSSIBLE
CIVILIAN UNEMPLOYMENT RATES:
(ANNUAL AVERAGE)

	2021	2022	2023	2024
15.0 PERCENT OR MORE	0.00	0.00	0.00	0.00
12.0 TO 14.9 PERCENT	0.00	0.03	0.04	0.05
10.0 TO 11.9 PERCENT	0.00	0.10	0.11	0.15
8.0 TO 9.9 PERCENT	0.10	0.24	0.19	0.35
7.0 TO 7.9 PERCENT	0.48	0.93	1.24	1.84
6.0 TO 6.9 PERCENT	5.84	2.56	2.59	4.16
5.0 TO 5.9 PERCENT	69.90	13.83	12.24	16.18
4.0 TO 4.9 PERCENT	20.57	46.75	33.20	29.94
3.0 TO 3.9 PERCENT	2.48	31.96	42.69	40.50
LESS THAN 3.0 PERCENT	0.62	3.59	7.70	6.85

MEAN PROBABILITY ATTACHED TO POSSIBLE
PERCENT CHANGES IN REAL GDP:
(ANNUAL-AVERAGE OVER ANNUAL-AVERAGE)

	2020-2021	2021-2022	2022-2023	2023-2024
16.0 PERCENT OR MORE	0.00	0.00	0.00	0.00
10.0 TO 15.9 PERCENT	0.50	0.41	0.04	0.05
7.0 TO 9.9 PERCENT	8.11	5.42	1.68	1.17
4.0 TO 6.9 PERCENT	78.25	26.83	11.97	7.68
2.5 TO 3.9 PERCENT	9.96	39.84	35.93	24.17
1.5 TO 2.4 PERCENT	2.54	19.44	32.70	40.86
0.0 TO 1.4 PERCENT	0.50	6.18	13.04	17.55
-3.0 TO -0.1 PERCENT	0.07	1.52	3.57	6.48
-6.0 TO -3.1 PERCENT	0.04	0.24	0.86	1.71
-12.0 TO -6.1 PERCENT	0.04	0.10	0.19	0.30
LESS THAN -12.0 PERCENT	0.00	0.00	0.04	0.05

MEAN PROBABILITY ATTACHED TO POSSIBLE
PERCENT CHANGES IN GDP PRICE INDEX:
(ANNUAL-AVERAGE OVER ANNUAL-AVERAGE)

	2020-2021	2021-2022
4.0 PERCENT OR MORE	36.79	14.35
3.5 TO 3.9 PERCENT	39.82	22.10
3.0 TO 3.4 PERCENT	13.04	27.78
2.5 TO 2.9 PERCENT	5.18	19.19
2.0 TO 2.4 PERCENT	3.21	9.23
1.5 TO 1.9 PERCENT	1.75	4.99
1.0 TO 1.4 PERCENT	0.21	1.54
0.5 TO 0.9 PERCENT	0.00	0.62
0.0 TO 0.4 PERCENT	0.00	0.14
LESS THAN 0.0 PERCENT	0.00	0.08

Source: Research Department, Federal Reserve Bank of Philadelphia.
Survey of Professional Forecasters, Fourth Quarter 2021.

TABLE SEVEN
 MEAN PROBABILITY OF CORE CPI AND CORE PCE INFLATION (Q4/Q4)

MEAN PROBABILITY ATTACHED TO CORE CPI INFLATION:

	20Q4 TO 21Q4	21Q4 TO 22Q4
4.0 PERCENT OR MORE	71.59	8.11
3.5 TO 3.9 PERCENT	17.44	16.16
3.0 TO 3.4 PERCENT	5.81	21.84
2.5 TO 2.9 PERCENT	1.22	24.65
2.0 TO 2.4 PERCENT	1.89	17.92
1.5 TO 1.9 PERCENT	1.11	6.16
1.0 TO 1.4 PERCENT	0.74	3.66
0.5 TO 0.9 PERCENT	0.19	1.21
0.0 TO 0.4 PERCENT	0.00	0.26
LESS THAN 0.0 PERCENT	0.00	0.03

MEAN PROBABILITY ATTACHED TO CORE PCE INFLATION:

	20Q4 TO 21Q4	21Q4 TO 22Q4
4.0 PERCENT OR MORE	52.54	2.43
3.5 TO 3.9 PERCENT	25.34	5.71
3.0 TO 3.4 PERCENT	12.34	13.44
2.5 TO 2.9 PERCENT	5.89	28.92
2.0 TO 2.4 PERCENT	2.41	28.34
1.5 TO 1.9 PERCENT	1.11	13.36
1.0 TO 1.4 PERCENT	0.37	5.77
0.5 TO 0.9 PERCENT	0.00	1.67
0.0 TO 0.4 PERCENT	0.00	0.31
LESS THAN 0.0 PERCENT	0.00	0.05

Source: Research Department, Federal Reserve Bank of Philadelphia.
 Survey of Professional Forecasters, Fourth Quarter 2021.

TABLE EIGHT
LONG-TERM (5-YEAR AND 10-YEAR) INFLATION FORECASTS

ANNUAL AVERAGE OVER THE NEXT 5 YEARS: 2021-2025
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CPI INFLATION RATE	PCE INFLATION RATE		
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MINIMUM	2.20	MINIMUM	1.90
LOWER QUARTILE	2.60	LOWER QUARTILE	2.20
MEDIAN	2.90	MEDIAN	2.59
UPPER QUARTILE	3.40	UPPER QUARTILE	3.00
MAXIMUM	3.80	MAXIMUM	3.60
MEAN	2.98	MEAN	2.60
STD. DEVIATION	0.48	STD. DEVIATION	0.46
N	28	N	27
MISSING	9	MISSING	10

ANNUAL AVERAGE OVER THE FOLLOWING 5 YEARS: 2026-2030
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CPI INFLATION RATE	PCE INFLATION RATE		
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MINIMUM	1.70	MINIMUM	1.60
LOWER QUARTILE	1.95	LOWER QUARTILE	1.90
MEDIAN	2.10	MEDIAN	2.00
UPPER QUARTILE	2.28	UPPER QUARTILE	2.18
MAXIMUM	3.60	MAXIMUM	2.60
MEAN	2.18	MEAN	2.02
STD. DEVIATION	0.40	STD. DEVIATION	0.25
N	28	N	27
MISSING	9	MISSING	10

ANNUAL AVERAGE OVER THE NEXT 10 YEARS: 2021-2030
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CPI INFLATION RATE	PCE INFLATION RATE		
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MINIMUM	2.00	MINIMUM	1.80
LOWER QUARTILE	2.25	LOWER QUARTILE	2.00
MEDIAN	2.55	MEDIAN	2.30
UPPER QUARTILE	2.80	UPPER QUARTILE	2.50
MAXIMUM	3.50	MAXIMUM	3.10
MEAN	2.58	MEAN	2.31
STD. DEVIATION	0.38	STD. DEVIATION	0.32
N	28	N	27
MISSING	9	MISSING	10

Note: The summary statistics for each forecast horizon are computed on a sample of panelists that may differ from one horizon to the next. The usual identity linking the 10-year horizon to the two underlying five-year horizons may not hold in the results.

Source: Research Department, Federal Reserve Bank of Philadelphia.
Survey of Professional Forecasters, Fourth Quarter 2021.