



# SURVEY OF PROFESSIONAL FORECASTERS

Release Date: August 12, 2022

## THIRD QUARTER 2022

### Forecasters See Slower Growth

The U.S. economy looks weaker now than it did three months ago, according to 35 forecasters surveyed by the Federal Reserve Bank of Philadelphia. The panel predicts real GDP will grow at an annual rate of 1.4 percent this quarter, down from the prediction of 2.5 percent in the last survey. Over the next three quarters, the panelists also see slower output growth than they predicted previously. Using the annual-average over annual-average computation, the forecasters expect real GDP to grow at an annual rate of 1.6 percent in 2022 and 1.3 percent in 2023. These annual projections are lower than the estimates of three months ago.

Upward revisions beginning from the fourth quarter of this year to the projections for the unemployment rate accompany the outlook for growth. On an annual-average basis, the forecasters predict the unemployment rate will increase from 3.7 percent in 2022 to 3.9 percent in 2023 and remain at the same rate over the following two years.

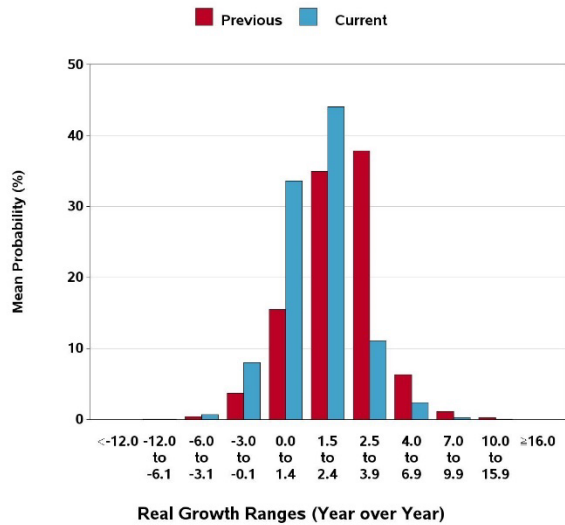
On the employment front, the forecasters revised upward their estimate for job growth for the current quarter but revised downward their estimates for the next two quarters. The projections for the annual-average level of nonfarm payroll employment suggest job gains at a monthly rate of 487,500 in 2022 and 167,600 in 2023. (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

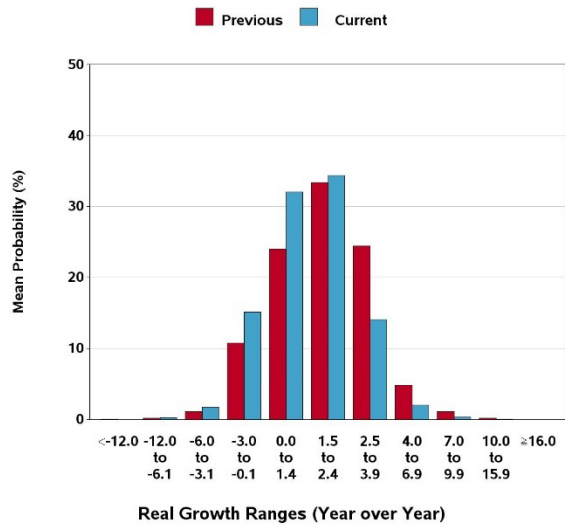
	Real GDP (%)		Unemployment Rate (%)		Payrolls (000s/month)	
	Previous	New	Previous	New	Previous	New
Quarterly data:						
2022:Q3	2.5	1.4	3.5	3.5	293.7	342.5
2022:Q4	2.3	1.2	3.5	3.7	193.2	167.9
2023:Q1	2.1	1.1	3.5	3.8	158.8	89.0
2023:Q2	2.3	1.5	3.5	3.9	61.3	96.6
2023:Q3	N.A.	1.5	N.A.	4.0	N.A.	80.7
Annual data (projections are based on annual-average levels):						
2022	2.5	1.6	3.6	3.7	479.7	487.5
2023	2.3	1.3	3.6	3.9	172.7	167.6
2024	2.0	2.3	3.8	3.9	N.A.	N.A.
2025	2.3	2.1	3.8	3.9	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. The forecasters expect a lower probability than they predicted in the last survey that growth will be 2.5 percent or higher in 2022 and 2023.

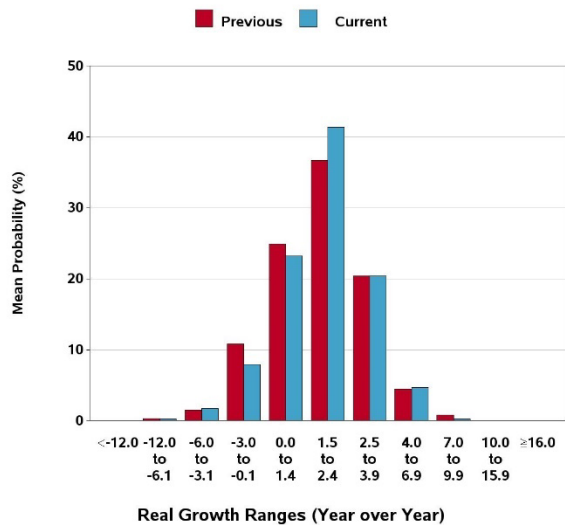
Mean Probabilities for Real GDP Growth in 2022



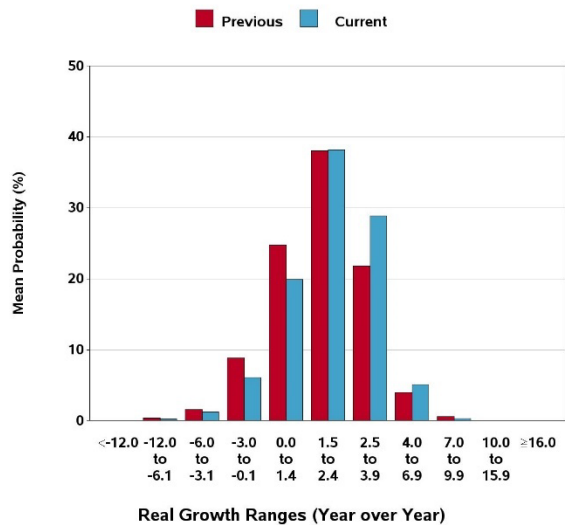
Mean Probabilities for Real GDP Growth in 2023



Mean Probabilities for Real GDP Growth in 2024

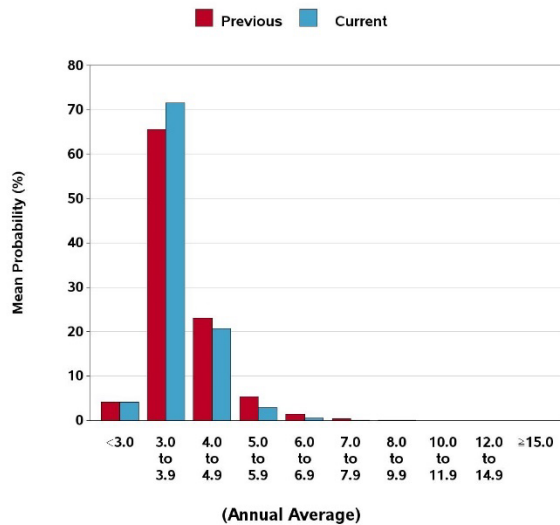


Mean Probabilities for Real GDP Growth in 2025

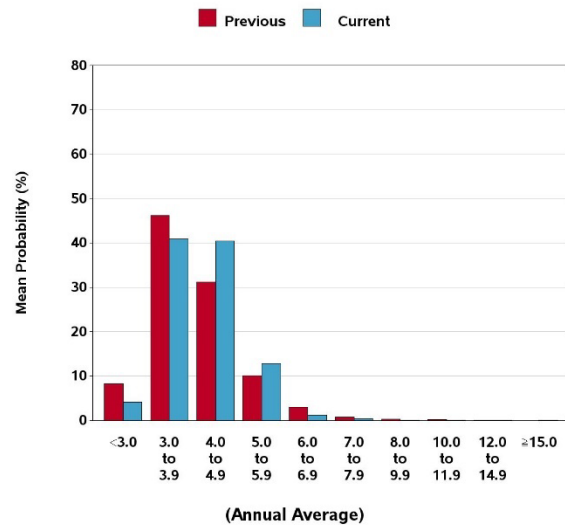


The forecasters' density projections for unemployment, shown below, shed light on uncertainty about the labor market over the next four years. Each chart presents the forecasters' current and previous estimates of the probability that unemployment will fall into each of 10 ranges. For 2022, the forecasters are increasing their probability estimates from the last survey for an unemployment rate in the range of 3.0 to 3.9 percent. Over each of the following three years, from 2023 to 2025, the forecasters see a higher probability than they predicted three months ago that unemployment will fall into the ranges of 4.0 percent or higher.

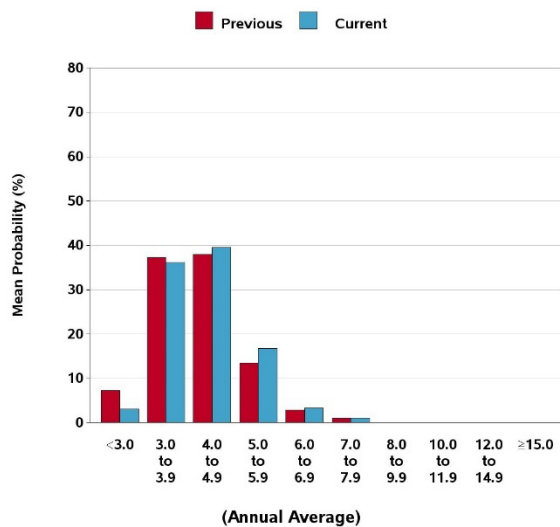
Mean Probabilities for Unemployment Rate in 2022



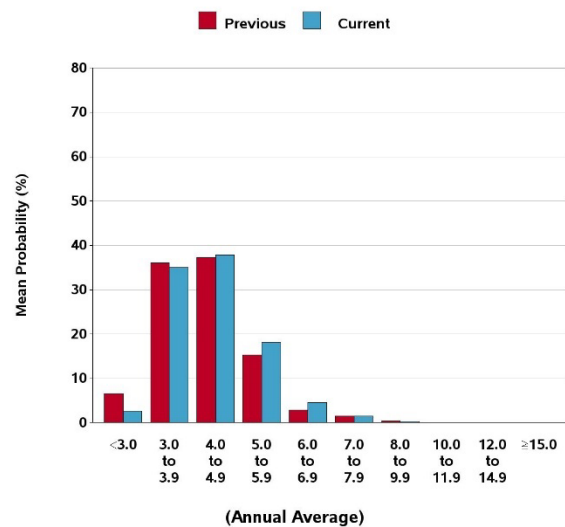
Mean Probabilities for Unemployment Rate in 2023



Mean Probabilities for Unemployment Rate in 2024



Mean Probabilities for Unemployment Rate in 2025



### ***Forecasters Raise Their Projections for Inflation***

The forecasters expect current-quarter headline CPI inflation will average 6.7 percent at an annual rate, up from the prediction of 4.5 percent in the previous survey. Headline PCE inflation over the current quarter will also be higher at an annual rate of 5.3 percent, up from the last estimate of 4.1 percent.

Projections for headline and core CPI and PCE inflation at most other forecast horizons have been revised upward, compared with those of the previous survey.

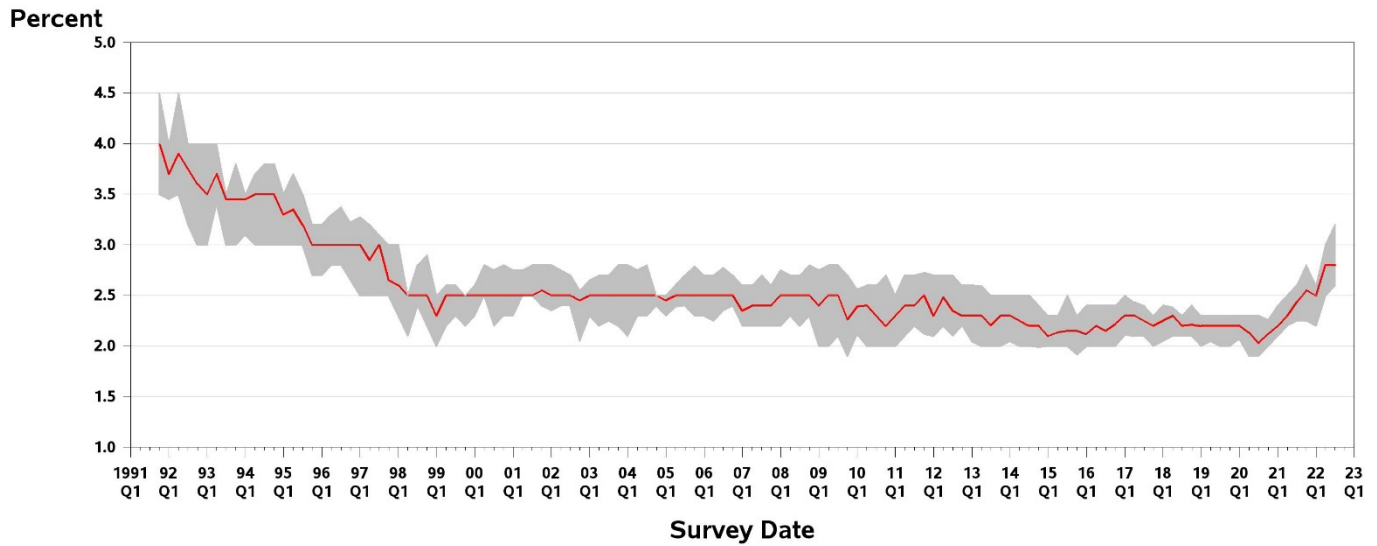
Over the next 10 years, 2022 to 2031, the forecasters predict headline CPI inflation will remain unchanged from their previous estimate, at an annual-average rate of 2.80 percent. The corresponding estimate for 10-year annual-average PCE inflation is 2.45 percent, slightly higher than the previous estimate.

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

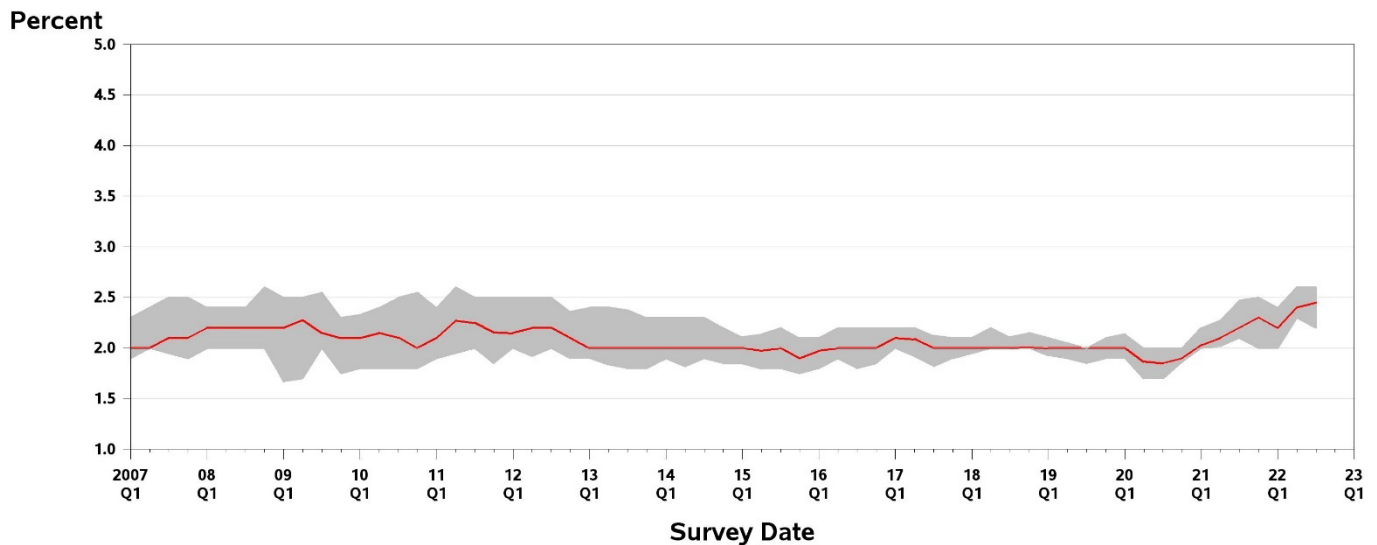
	Headline CPI		Core CPI		Headline PCE		Core PCE	
	Previous	Current	Previous	Current	Previous	Current	Previous	Current
Quarterly								
2022:Q3	4.5	6.7	4.1	5.8	4.1	5.3	3.8	4.6
2022:Q4	3.7	4.3	3.5	4.6	3.0	3.7	3.2	3.5
2023:Q1	3.1	3.6	3.1	3.7	2.7	2.9	2.8	3.1
2023:Q2	3.0	3.4	2.9	3.2	2.6	2.8	2.7	2.8
2023:Q3	N.A.	3.0	N.A.	2.8	N.A.	2.5	N.A.	2.6
Q4/Q4 Annual Averages								
2022	6.1	7.5	4.8	5.9	5.0	5.8	4.1	4.5
2023	2.9	3.2	2.9	3.1	2.5	2.8	2.5	2.8
2024	2.3	2.5	2.5	2.5	2.2	2.3	2.2	2.2
Long-Term Annual Averages								
2022-2026	3.40	3.50	N.A.	N.A.	2.90	3.00	N.A.	N.A.
2022-2031	2.80	2.80	N.A.	N.A.	2.40	2.45	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 provide perspective on the upward trend in 10-year inflation expectations in recent surveys.

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

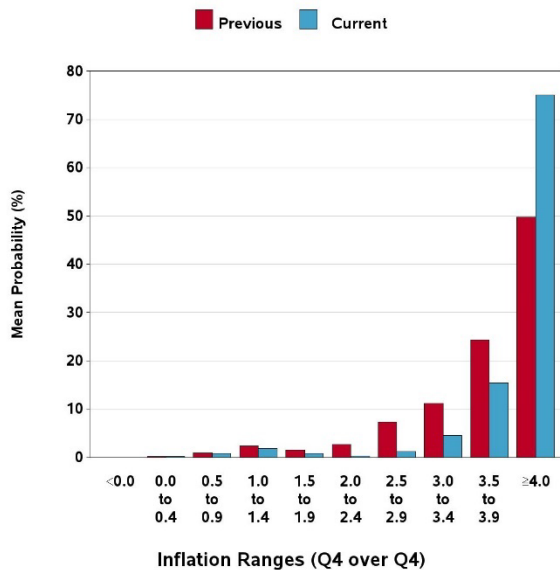


**Projections for the 10-Year Annual-Average Rate of PCE Inflation**  
(Median and Interquartile Range)

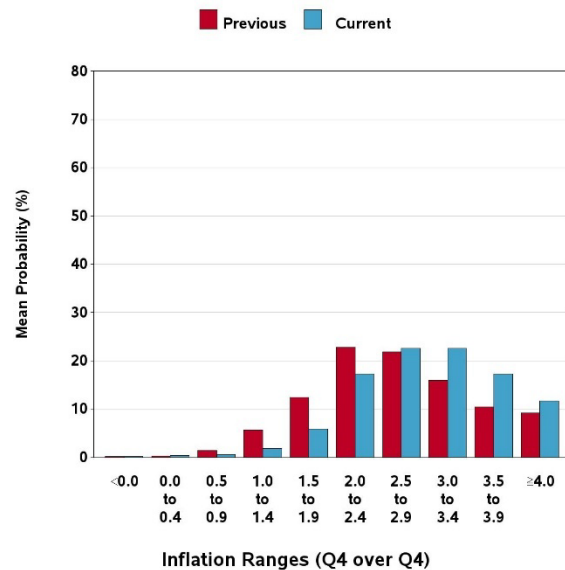


The figures below show the probabilities that the forecasters are assigning to each of 10 possible ranges for fourth-quarter over fourth-quarter core PCE inflation in 2022 and 2023. Notably, the forecasters have significantly increased their estimates for the probability that core PCE inflation in 2022 will be 4.0 percent or more, compared with their prediction in the previous survey.

**Mean Probabilities for Core PCE Inflation in 2022**



**Mean Probabilities for Core PCE Inflation in 2023**



### ***Higher Risk of a Decrease in Real GDP***

The forecasters see about a one-in-three chance of a contraction in real GDP in any of the next five quarters. The forecasters have increased their estimate of the risk of a downturn this quarter to 33.9 percent, compared with 19.7 percent in the survey of three months ago. The panelists have also raised their probability estimates for the following three quarters.

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

Quarterly data:	Previous	New
2022:Q3	19.7	33.9
2022:Q4	22.2	36.0
2023:Q1	28.2	38.0
2023:Q2	25.5	36.5
2023:Q3	N.A.	34.1

### ***Natural Rate of Unemployment Estimated at 4.10 Percent***

In third-quarter surveys, we ask the forecasters to provide their estimates of the natural rate of unemployment — the rate of unemployment that occurs when the economy reaches equilibrium. The forecasters peg this rate at 4.10 percent. The table below shows, for each third-quarter survey since 1996, the percentage of respondents who use the natural rate in their forecasts and, for those who use it, the median estimate and the lowest and highest estimates. Thirty percent of the 27 forecasters who answered the question report that they use the natural rate in their forecasts. The lowest estimate is 3.50 percent, and the highest estimate is 4.50 percent.

#### *Median Estimates of the Natural Rate of Unemployment*

Survey Date	Percentage Who Use the Natural Rate	Median Estimate (%)	Low (%)	High (%)
1996:Q3	62	5.65	5.00	6.00
1997:Q3	59	5.25	4.50	5.88
1998:Q3	45	5.30	4.50	5.80
1999:Q3	43	5.00	4.13	5.60
2000:Q3	48	4.50	4.00	5.00
2001:Q3	34	4.88	3.50	5.50
2002:Q3	50	5.10	3.80	5.50
2003:Q3	41	5.00	4.31	5.40
2004:Q3	46	5.00	4.00	5.50
2005:Q3	50	5.00	4.25	5.50
2006:Q3	53	4.95	4.00	5.50
2007:Q3	52	4.65	4.20	5.50
2008:Q3	48	5.00	4.00	5.50
2009:Q3	45	5.00	4.00	6.00
2010:Q3	50	5.78	4.50	6.80
2011:Q3	42	6.00	4.75	7.00
2012:Q3	49	6.00	4.75	7.00
2013:Q3	63	6.00	4.75	7.00
2014:Q3	65	5.50	4.50	6.70
2015:Q3	62	5.00	4.25	5.80
2016:Q3	56	4.80	4.50	5.50
2017:Q3	44	4.50	3.50	5.00
2018:Q3	34	4.30	3.80	4.60
2019:Q3	33	4.10	3.88	4.60
2020:Q3	48	4.10	3.50	6.00
2021:Q3	37	3.78	3.00	4.25
2022:Q3	30	4.10	3.50	4.50

## ***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:

**Ed Al-Hussainy** and **Anwiti Bahuguna**, Columbia Threadneedle Investments; **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.; **Kathy Bostjancic**, Oxford Economics USA, Inc.; **Jay Bryson**, Wells Fargo; **Christine Chmura, Ph.D.**, and **Xiaobing Shuai, Ph.D.**, Chmura Economics & Analytics; **Gary Ciminero, CFA**, GLC Financial Economics; **Rajeev Dhawan**, Georgia State University; **Bill Diviney**, ABN AMRO Bank NV; **Gabriel Ehrlich**, **Daniil Manaenkov**, and **Tereza Ranosova**, RSQE, University of Michigan; **Michael R. Englund**, Action Economics, LLC; **Sacha Gelfer**, Bentley University; **James Glassman**, JPMorgan Chase & Co.; **Jan Hatzius**, Goldman Sachs; **Sam Kahan**, Kahan Consulting Ltd. (ACT Research LLC); **N. Karp**, BBVA Research USA; **Steve Kihm**, Citizens Utility Board of Wisconsin; **Jack Kleinhenz**, Kleinhenz & Associates, Inc.; **Yaniv Konchitchki**, University of California, Berkeley; **Thomas Lam**, Sim Kee Boon Institute, Singapore Management University; **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; **Joel Prakken** and **Chris Varvares**, S&P Global Market Intelligence; **Jason Prole**, Capital Risk Management; **Philip Rothman**, East Carolina University; **Allen Sinai** and **Lu Yu**, Decision Economics, 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** and **Jordan Vickers**, Eaton Corporation; **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

	2022 Q3	2022 Q4	2023 Q1	2023 Q2	2023 Q3	2022	2023 (YEAR-OVER-YEAR)	2024	2025
PERCENT GROWTH AT ANNUAL RATES									
1. REAL GDP (BILLIONS, CHAIN WEIGHTED)	1.4	1.2	1.1	1.5	1.5	1.6	1.3	2.3	2.1
2. GDP PRICE INDEX (PERCENT CHANGE)	4.6	3.7	3.2	2.7	2.6	6.9	3.7	N.A.	N.A.
3. NOMINAL GDP (\$ BILLIONS)	6.7	5.0	5.3	3.9	4.4	8.7	5.2	N.A.	N.A.
4. NONFARM PAYROLL EMPLOYMENT (PERCENT CHANGE)	2.7	1.3	0.7	0.8	0.6	4.0	1.3	N.A.	N.A.
(AVG MONTHLY CHANGE)	342.5	167.9	89.0	96.6	80.7	487.5	167.6	N.A.	N.A.
VARIABLES IN LEVELS									
5. UNEMPLOYMENT RATE (PERCENT)	3.5	3.7	3.8	3.9	4.0	3.7	3.9	3.9	3.9
6. 3-MONTH TREASURY BILL (PERCENT)	2.5	3.1	3.4	3.4	3.3	1.7	3.3	3.0	2.8
7. 10-YEAR TREASURY BOND (PERCENT)	3.0	3.3	3.3	3.3	3.4	2.8	3.4	3.5	3.6
	2022 Q3	2022 Q4	2023 Q1	2023 Q2	2023 Q3	2022	2023 (Q4-OVER-Q4)	2024	
INFLATION INDICATORS									
8. CPI (ANNUAL RATE)	6.7	4.3	3.6	3.4	3.0	7.5	3.2	2.5	
9. CORE CPI (ANNUAL RATE)	5.8	4.6	3.7	3.2	2.8	5.9	3.1	2.5	
10. PCE (ANNUAL RATE)	5.3	3.7	2.9	2.8	2.5	5.8	2.8	2.3	
11. CORE PCE (ANNUAL RATE)	4.6	3.5	3.1	2.8	2.6	4.5	2.8	2.2	

Note: The figures on each line are medians of 35 forecasters.

Source: Research Department, Federal Reserve Bank of Philadelphia.  
Survey of Professional Forecasters, Third Quarter 2022.

## **SURVEY OF PROFESSIONAL FORECASTERS**

**Third Quarter 2022**

### **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 July 28, 2022; the tables do not reflect subsequent revisions to the data. All forecasts were received on or before August 9, 2022.

TABLE ONE  
MAJOR MACROECONOMIC INDICATORS  
MEDIAN OF FORECASTER PREDICTIONS

	NUMBER OF FORECASTERS	ACTUAL	FORECAST					ACTUAL	FORECAST			
		2022 Q2	2022 Q3	2022 Q4	2023 Q1	2023 Q2	2023 Q3	2021 ANNUAL	2022 ANNUAL	2023 ANNUAL	2024 ANNUAL	2025 ANNUAL
1. GROSS DOMESTIC PRODUCT (GDP) (\$ BILLIONS)	34	24852	25257	25568	25900	26148	26434	22996	25004	26299	N.A.	N.A.
2. GDP PRICE INDEX (2012=100)	34	126.37	127.79	128.96	129.99	130.86	131.69	118.49	126.70	131.36	N.A.	N.A.
3. CORPORATE PROFITS AFTER TAXES (\$ BILLIONS)	18	N.A.	2451.2	2464.7	2475.5	2477.0	2474.4	2424.6	2439.2	2479.0	N.A.	N.A.
4. UNEMPLOYMENT RATE (PERCENT)	33	3.6	3.5	3.7	3.8	3.9	4.0	5.4	3.7	3.9	3.9	3.9
5. NONFARM PAYROLL EMPLOYMENT (THOUSANDS)	27	151604	152641	153145	153412	153702	153944	146102	151952	153963	N.A.	N.A.
6. INDUSTRIAL PRODUCTION (2017=100)	27	104.5	105.0	105.5	105.9	106.2	106.5	100.0	104.5	106.2	N.A.	N.A.
7. NEW PRIVATE HOUSING STARTS (ANNUAL RATE, MILLIONS)	27	1.65	1.59	1.55	1.53	1.55	1.53	1.61	1.63	1.55	N.A.	N.A.
8. 3-MONTH TREASURY BILL RATE (PERCENT)	33	1.08	2.50	3.08	3.35	3.35	3.34	0.04	1.74	3.33	3.00	2.80
9. MOODY'S AAA CORP BOND YIELD * (PERCENT)	21	N.A.	4.10	4.44	4.60	4.70	4.75	N.A.	3.98	4.85	N.A.	N.A.
10. MOODY'S BAA CORP BOND YIELD * (PERCENT)	20	N.A.	5.23	5.62	5.71	5.82	5.84	N.A.	4.98	5.84	N.A.	N.A.
11. 10-YEAR TREASURY BOND YIELD (PERCENT)	33	2.93	3.01	3.26	3.32	3.33	3.36	1.44	2.79	3.42	3.50	3.56
12. REAL GDP (BILLIONS, CHAIN WEIGHTED)	34	19682	19750	19811	19866	19938	20012	19427	19740	19996	20452	20874
13. TOTAL CONSUMPTION EXPENDITURE (BILLIONS, CHAIN WEIGHTED)	31	13916.9	13976.7	14033.1	14097.4	14167.4	14224.0	13624.8	13948.2	14165.6	N.A.	N.A.
14. NONRESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	29	2974.9	3002.7	3027.7	3043.1	3052.1	3073.5	2868.5	2995.8	3070.7	N.A.	N.A.
15. RESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	30	672.9	659.0	646.3	640.2	641.3	646.2	707.7	669.1	645.7	N.A.	N.A.
16. FEDERAL GOVERNMENT C & I (BILLIONS, CHAIN WEIGHTED)	30	1290.7	1290.7	1292.7	1298.8	1300.4	1306.9	1348.8	1294.8	1306.0	N.A.	N.A.
17. STATE AND LOCAL GOVT C & I (BILLIONS, CHAIN WEIGHTED)	31	2025.7	2032.8	2038.3	2045.4	2051.7	2058.6	2027.8	2031.9	2055.6	N.A.	N.A.
18. CHANGE IN PRIVATE INVENTORIES (BILLIONS, CHAIN WEIGHTED)	30	81.6	81.4	79.5	75.5	63.2	59.3	-32.6	107.6	61.4	N.A.	N.A.
19. NET EXPORTS (BILLIONS, CHAIN WEIGHTED)	30	-1474.7	-1468.9	-1460.0	-1458.8	-1474.9	-1461.4	-1284.3	-1486.7	-1460.7	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, Third Quarter 2022.

TABLE TWO  
MAJOR MACROECONOMIC INDICATORS  
PERCENTAGE CHANGES AT ANNUAL RATES

	NUMBER OF FORECASTERS	Q2 2022 TO Q3 2022	Q3 2022 TO Q4 2022	Q4 2022 TO Q1 2023	Q1 2023 TO Q2 2023	Q2 2023 TO Q3 2023	2021 TO 2022	2022 TO 2023	2023 TO 2024	2024 TO 2025
1. GROSS DOMESTIC PRODUCT (GDP) (\$ BILLIONS)	34	6.7	5.0	5.3	3.9	4.4	8.7	5.2	N.A.	N.A.
2. GDP PRICE INDEX (2012=100)	34	4.6	3.7	3.2	2.7	2.6	6.9	3.7	N.A.	N.A.
3. CORPORATE PROFITS AFTER TAXES (\$ BILLIONS)	18	-0.9	2.2	1.8	0.2	-0.4	0.6	1.6	N.A.	N.A.
4. UNEMPLOYMENT RATE (PERCENT)	33	-0.1	0.2	0.1	0.1	0.1	-1.7	0.3	0.0	-0.1
5. NONFARM PAYROLL EMPLOYMENT (PERCENT CHANGE)	27	2.7	1.3	0.7	0.8	0.6	4.0	1.3	N.A.	N.A.
(AVG MONTHLY CHANGE)	27	342.5	167.9	89.0	96.6	80.7	487.5	167.6	N.A.	N.A.
6. INDUSTRIAL PRODUCTION (2017=100)	27	2.1	1.7	1.7	0.9	1.1	4.5	1.7	N.A.	N.A.
7. NEW PRIVATE HOUSING STARTS (ANNUAL RATE, MILLIONS)	27	-14.2	-9.7	-6.2	5.2	-4.3	1.6	-5.0	N.A.	N.A.
8. 3-MONTH TREASURY BILL RATE (PERCENT)	33	1.42	0.58	0.27	0.00	-0.01	1.70	1.59	-0.33	-0.20
9. MOODY'S AAA CORP BOND YIELD * (PERCENT)	21	N.A.	0.34	0.16	0.10	0.05	N.A.	0.87	N.A.	N.A.
10. MOODY'S BAA CORP BOND YIELD * (PERCENT)	20	N.A.	0.39	0.09	0.10	0.02	N.A.	0.87	N.A.	N.A.
11. 10-YEAR TREASURY BOND YIELD (PERCENT)	33	0.08	0.25	0.05	0.01	0.02	1.35	0.63	0.08	0.06
12. REAL GDP (BILLIONS, CHAIN WEIGHTED)	34	1.4	1.2	1.1	1.5	1.5	1.6	1.3	2.3	2.1
13. TOTAL CONSUMPTION EXPENDITURE (BILLIONS, CHAIN WEIGHTED)	31	1.7	1.6	1.8	2.0	1.6	2.4	1.6	N.A.	N.A.
14. NONRESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	29	3.8	3.4	2.1	1.2	2.8	4.4	2.5	N.A.	N.A.
15. RESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	30	-8.0	-7.5	-3.7	0.7	3.1	-5.5	-3.5	N.A.	N.A.
16. FEDERAL GOVERNMENT C & I (BILLIONS, CHAIN WEIGHTED)	30	0.0	0.6	1.9	0.5	2.0	-4.0	0.9	N.A.	N.A.
17. STATE AND LOCAL GOVT C & I (BILLIONS, CHAIN WEIGHTED)	31	1.4	1.1	1.4	1.2	1.4	0.2	1.2	N.A.	N.A.
18. CHANGE IN PRIVATE INVENTORIES (BILLIONS, CHAIN WEIGHTED)	30	-0.2	-1.9	-4.0	-12.4	-3.9	140.2	-46.2	N.A.	N.A.
19. NET EXPORTS (BILLIONS, CHAIN WEIGHTED)	30	5.8	8.9	1.2	-16.1	13.5	-202.4	25.9	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, Third Quarter 2022.

TABLE THREE  
MAJOR PRICE INDICATORS  
MEDIAN OF FORECASTER PREDICTIONS

	NUMBER OF FORECASTERS	ACTUAL	FORECAST (Q/Q)					ACTUAL	FORECAST (Q4/Q4)		
		2022 Q2	2022 Q3	2022 Q4	2023 Q1	2023 Q2	2023 Q3	2021 ANNUAL	2022 ANNUAL	2023 ANNUAL	2024 ANNUAL
1. CONSUMER PRICE INDEX (ANNUAL RATE)	34	10.5	6.7	4.3	3.6	3.4	3.0	6.7	7.5	3.2	2.5
2. CORE CONSUMER PRICE INDEX (ANNUAL RATE)	33	6.6	5.8	4.6	3.7	3.2	2.8	5.0	5.9	3.1	2.5
3. PCE PRICE INDEX (ANNUAL RATE)	33	7.1	5.3	3.7	2.9	2.8	2.5	5.5	5.8	2.8	2.3
4. CORE PCE PRICE INDEX (ANNUAL RATE)	33	4.4	4.6	3.5	3.1	2.8	2.6	4.6	4.5	2.8	2.2

Source: Research Department, Federal Reserve Bank of Philadelphia. Survey of Professional Forecasters, Third Quarter 2022.

TABLE FOUR  
YIELD SPREADS  
MEDIAN OF FORECASTER PREDICTIONS

	NUMBER OF FORECASTERS	ACTUAL	FORECAST					ACTUAL	FORECAST			
		2022 Q2	2022 Q3	2022 Q4	2023 Q1	2023 Q2	2023 Q3	2021 ANNUAL	2022 ANNUAL	2023 ANNUAL	2024 ANNUAL	2025 ANNUAL
1. TBOND MINUS TBILL (PERCENTAGE POINTS)	32	1.85	0.42	0.19	0.02	0.05	0.10	1.40	1.02	0.10	0.36	0.60
2. AAA MINUS TBOND (PERCENTAGE POINTS)	21	N.A.	1.20	1.20	1.22	1.22	1.20	N.A.	1.20	1.21	N.A.	N.A.
3. BAA MINUS TBOND (PERCENTAGE POINTS)	20	N.A.	2.30	2.30	2.39	2.34	2.31	N.A.	2.18	2.31	N.A.	N.A.
4. BAA MINUS AAA (PERCENTAGE POINTS)	20	N.A.	1.10	1.10	1.09	1.06	1.08	N.A.	0.98	1.09	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, Third Quarter 2022.

TABLE FIVE  
ESTIMATED PROBABILITY OF DECLINE IN REAL GDP

ESTIMATED PROBABILITY (CHANCES IN 100)	Q2 2022 TO Q3 2022	Q3 2022 TO Q4 2022	Q4 2022 TO Q1 2023	Q1 2023 TO Q2 2023	Q2 2023 TO Q3 2023
NUMBER OF FORECASTERS					
10 OR LESS	3	2	1	2	3
11 TO 20	6	5	6	3	2
21 TO 30	7	7	4	9	11
31 TO 40	6	7	9	7	5
41 TO 50	3	3	2	2	3
51 TO 60	1	0	4	3	3
61 TO 70	0	1	0	0	0
71 TO 80	1	3	1	1	0
81 TO 90	0	0	1	1	1
91 AND OVER	1	0	0	0	0
NOT REPORTING	7	7	7	7	7
MEAN AND MEDIAN					
MEDIAN PROBABILITY	30.00	31.50	38.00	34.00	30.00
MEAN PROBABILITY	33.90	36.03	38.00	36.51	34.13

Note: Total number of forecasters reporting is 28.

Source: Research Department, Federal Reserve Bank of Philadelphia.  
Survey of Professional Forecasters, Third Quarter 2022.

TABLE SIX  
MEAN PROBABILITIES

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

	2022	2023	2024	2025
15.0 PERCENT OR MORE	0.00	0.00	0.00	0.00
12.0 TO 14.9 PERCENT	0.00	0.01	0.00	0.00
10.0 TO 11.9 PERCENT	0.00	0.02	0.00	0.05
8.0 TO 9.9 PERCENT	0.04	0.11	0.06	0.29
7.0 TO 7.9 PERCENT	0.11	0.36	1.11	1.50
6.0 TO 6.9 PERCENT	0.52	1.24	3.33	4.59
5.0 TO 5.9 PERCENT	2.85	12.76	16.73	18.14
4.0 TO 4.9 PERCENT	20.75	40.39	39.54	37.83
3.0 TO 3.9 PERCENT	71.58	40.93	36.10	35.02
LESS THAN 3.0 PERCENT	4.15	4.18	3.13	2.61

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

	2021-2022	2022-2023	2023-2024	2024-2025
16.0 PERCENT OR MORE	0.00	0.00	0.00	0.00
10.0 TO 15.9 PERCENT	0.04	0.04	0.05	0.00
7.0 TO 9.9 PERCENT	0.21	0.32	0.27	0.29
4.0 TO 6.9 PERCENT	2.36	2.04	4.72	5.14
2.5 TO 3.9 PERCENT	11.01	14.07	20.42	28.85
1.5 TO 2.4 PERCENT	44.05	34.39	41.33	38.19
0.0 TO 1.4 PERCENT	33.58	32.02	23.23	19.94
-3.0 TO -0.1 PERCENT	8.00	15.12	7.93	6.12
-6.0 TO -3.1 PERCENT	0.68	1.75	1.73	1.21
-12.0 TO -6.1 PERCENT	0.07	0.25	0.27	0.26
LESS THAN -12.0 PERCENT	0.00	0.00	0.05	0.00

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

	2021-2022	2022-2023
4.0 PERCENT OR MORE	82.42	23.23
3.5 TO 3.9 PERCENT	10.65	22.67
3.0 TO 3.4 PERCENT	2.46	20.33
2.5 TO 2.9 PERCENT	0.96	16.96
2.0 TO 2.4 PERCENT	1.58	9.23
1.5 TO 1.9 PERCENT	1.73	5.84
1.0 TO 1.4 PERCENT	0.19	0.97
0.5 TO 0.9 PERCENT	0.00	0.46
0.0 TO 0.4 PERCENT	0.00	0.14
LESS THAN 0.0 PERCENT	0.00	0.14

Source: Research Department, Federal Reserve Bank of Philadelphia.  
Survey of Professional Forecasters, Third Quarter 2022.



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

MEAN PROBABILITY ATTACHED TO CORE CPI INFLATION:

	21Q4 TO 22Q4	22Q4 TO 23Q4
	<hr/>	<hr/>
4.0 PERCENT OR MORE	83.22	13.66
3.5 TO 3.9 PERCENT	10.14	22.91
3.0 TO 3.4 PERCENT	2.64	25.19
2.5 TO 2.9 PERCENT	0.25	22.79
2.0 TO 2.4 PERCENT	1.25	9.45
1.5 TO 1.9 PERCENT	0.71	3.75
1.0 TO 1.4 PERCENT	1.25	1.63
0.5 TO 0.9 PERCENT	0.36	0.36
0.0 TO 0.4 PERCENT	0.18	0.22
LESS THAN 0.0 PERCENT	0.00	0.05

MEAN PROBABILITY ATTACHED TO CORE PCE INFLATION:

	21Q4 TO 22Q4	22Q4 TO 23Q4
	<hr/>	<hr/>
4.0 PERCENT OR MORE	75.05	11.62
3.5 TO 3.9 PERCENT	15.44	17.33
3.0 TO 3.4 PERCENT	4.49	22.54
2.5 TO 2.9 PERCENT	1.20	22.62
2.0 TO 2.4 PERCENT	0.30	17.26
1.5 TO 1.9 PERCENT	0.74	5.84
1.0 TO 1.4 PERCENT	1.85	1.78
0.5 TO 0.9 PERCENT	0.74	0.53
0.0 TO 0.4 PERCENT	0.19	0.32
LESS THAN 0.0 PERCENT	0.00	0.17

Source: Research Department, Federal Reserve Bank of Philadelphia.  
Survey of Professional Forecasters, Third Quarter 2022.

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

ANNUAL AVERAGE OVER THE NEXT 5 YEARS: 2022-2026

CPI INFLATION RATE		PCE INFLATION RATE	
-----		-----	
MINIMUM	2.00	MINIMUM	1.50
LOWER QUARTILE	3.30	LOWER QUARTILE	2.70
MEDIAN	3.50	MEDIAN	3.00
UPPER QUARTILE	3.89	UPPER QUARTILE	3.21
MAXIMUM	6.80	MAXIMUM	4.90
MEAN	3.62	MEAN	2.97
STD. DEVIATION	0.84	STD. DEVIATION	0.64
N	28	N	28
MISSING	7	MISSING	7

ANNUAL AVERAGE OVER THE FOLLOWING 5 YEARS: 2027-2031

CPI INFLATION RATE		PCE INFLATION RATE	
-----		-----	
MINIMUM	1.27	MINIMUM	0.96
LOWER QUARTILE	1.96	LOWER QUARTILE	1.70
MEDIAN	2.12	MEDIAN	2.04
UPPER QUARTILE	2.50	UPPER QUARTILE	2.11
MAXIMUM	2.93	MAXIMUM	3.00
MEAN	2.12	MEAN	1.96
STD. DEVIATION	0.40	STD. DEVIATION	0.38
N	27	N	27
MISSING	8	MISSING	8

ANNUAL AVERAGE OVER THE NEXT 10 YEARS: 2022-2031

CPI INFLATION RATE		PCE INFLATION RATE	
-----		-----	
MINIMUM	2.10	MINIMUM	1.80
LOWER QUARTILE	2.60	LOWER QUARTILE	2.20
MEDIAN	2.80	MEDIAN	2.45
UPPER QUARTILE	3.20	UPPER QUARTILE	2.60
MAXIMUM	4.50	MAXIMUM	3.60
MEAN	2.89	MEAN	2.48
STD. DEVIATION	0.49	STD. DEVIATION	0.42
N	27	N	27
MISSING	8	MISSING	8

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, Third Quarter 2022.