



# SURVEY OF PROFESSIONAL FORECASTERS

Release Date: May 12, 2023

## SECOND QUARTER 2023

### *Forecasters Maintain Their Expectations for Growth in 2023*

The forecasters see the U.S. economy in 2023 expanding at the same pace as they predicted three months ago, according to 38 panelists surveyed by the Federal Reserve Bank of Philadelphia. The forecasters predict annual-average over annual-average growth in real GDP of 1.3 percent in 2023, unrevised from their estimate of three months ago. The panelists are also maintaining their forecast for growth in the second quarter at an annual rate of 1.0 percent, unchanged compared with their previous projection. However, while their predictions for the second quarter and for 2023 remain the same, the forecasters revised upward their predictions for the third quarter of 2023. They also revised downward their fourth-quarter estimates.

A downward revision of 0.1 percentage point in the quarterly projections for the unemployment rate over the next four quarters accompanies the outlook for growth. On an annual-average over annual-average basis, the forecasters have lowered their 2023 unemployment rate forecast from 3.8 percent in the previous survey to 3.7 percent in the current survey.

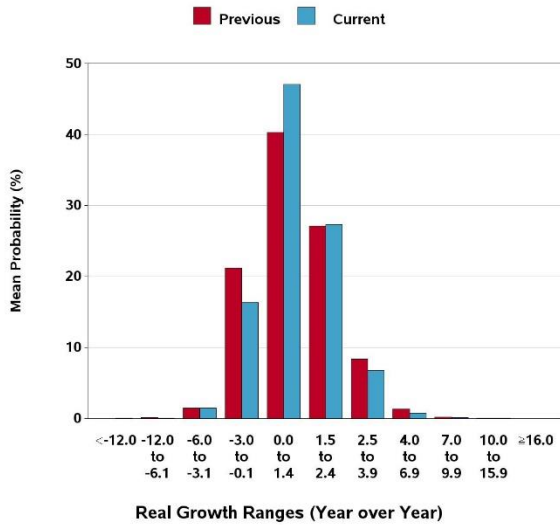
The forecasters see stronger payroll employment growth in 2023 than they did three months ago. The current estimate calls for job gains at a monthly rate of 257,500 in 2023, marking an increase from 217,800 in the previous survey.

### *Median Forecasts for Selected Variables in the Current and Previous Surveys*

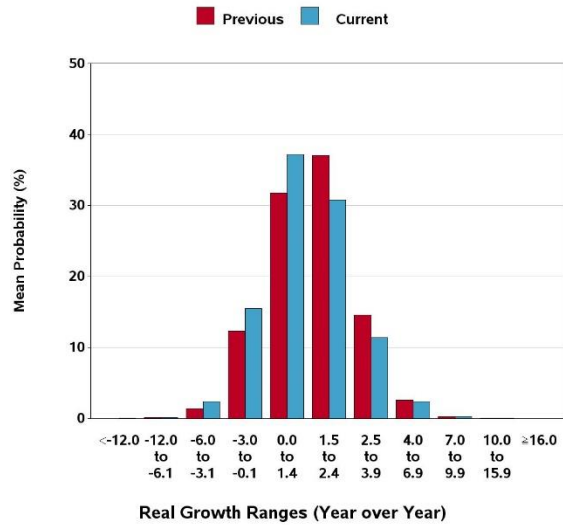
	Real GDP (%)		Unemployment Rate (%)		Payrolls (000s/month)	
	Previous	New	Previous	New	Previous	New
Quarterly data:						
2023:Q2	1.0	1.0	3.7	3.6	0.5	156.1
2023:Q3	-0.1	0.6	3.9	3.8	47.5	43.8
2023:Q4	1.2	-0.0	4.1	4.0	62.7	25.6
2024:Q1	1.3	1.0	4.2	4.1	60.8	37.2
2024:Q2	N.A.	2.5	N.A.	4.2	N.A.	22.7
Annual data (projections are based on annual-average levels):						
2023	1.3	1.3	3.8	3.7	217.8	257.5
2024	1.4	1.0	4.2	4.3	43.3	56.1
2025	2.2	2.4	4.2	4.4	N.A.	N.A.
2026	1.5	2.3	4.1	4.3	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 current estimates indicate the forecasters are slightly more confident that real GDP growth will fall into the range of 0.0 percent to 1.4 percent in each of the next four years than they were in the previous survey.

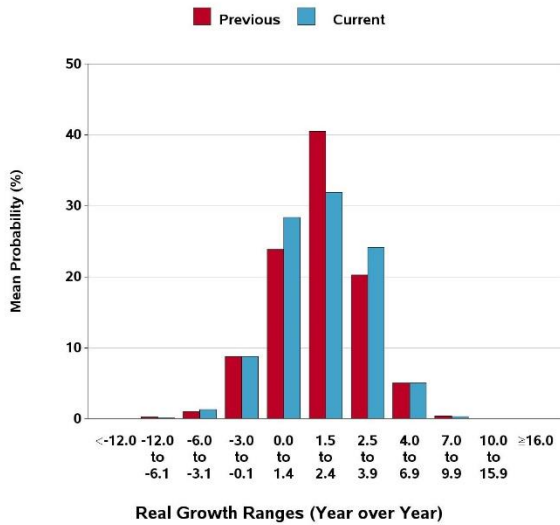
**Mean Probabilities for Real GDP Growth in 2023**



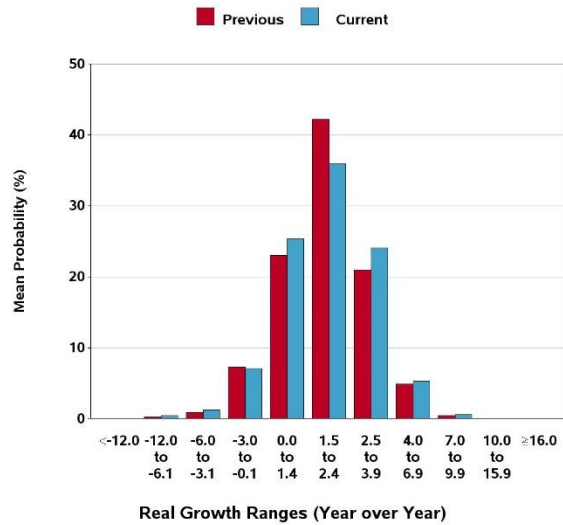
**Mean Probabilities for Real GDP Growth in 2024**



**Mean Probabilities for Real GDP Growth in 2025**

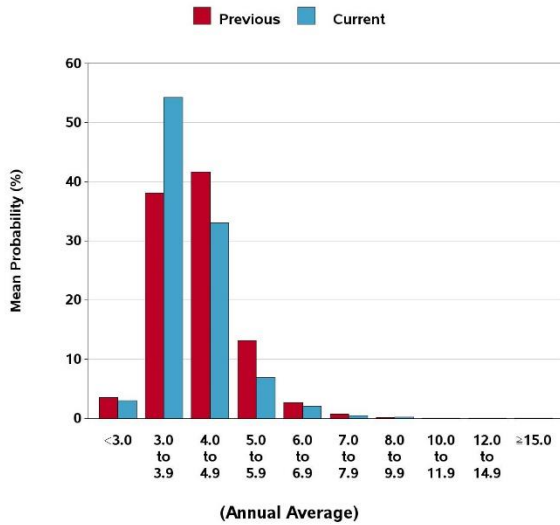


**Mean Probabilities for Real GDP Growth in 2026**

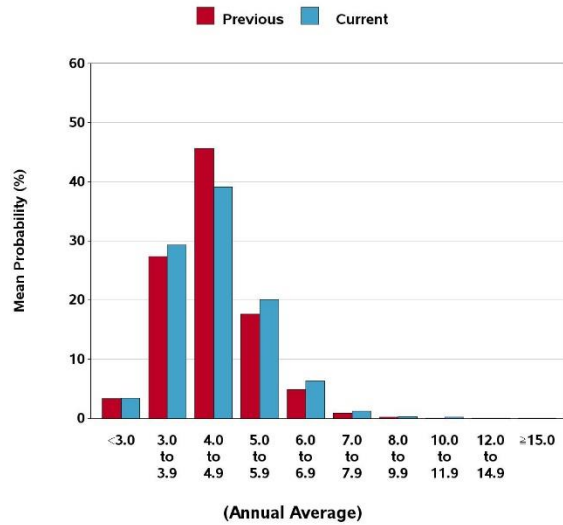


The forecasters' density projections for unemployment, shown below, shed light on uncertainty about the labor market over the next four years. Each chart presents the forecasters' current and previous estimates of the probability that unemployment will fall into each of 10 ranges. The current estimates for 2023 show the forecasters are more confident that annual-average unemployment will be between 3.0 percent and 3.9 percent than they were in the previous survey.

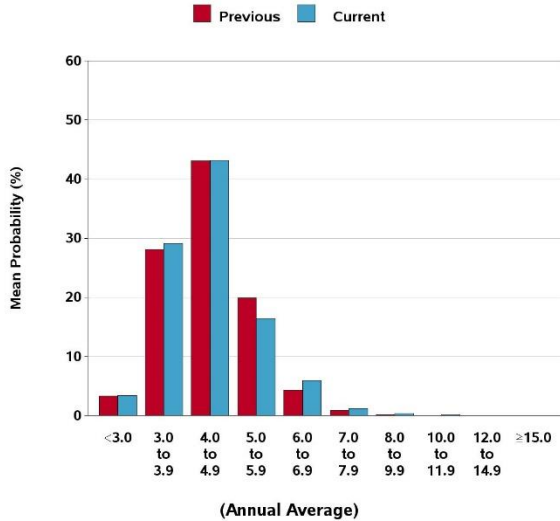
**Mean Probabilities for Unemployment Rate in 2023**



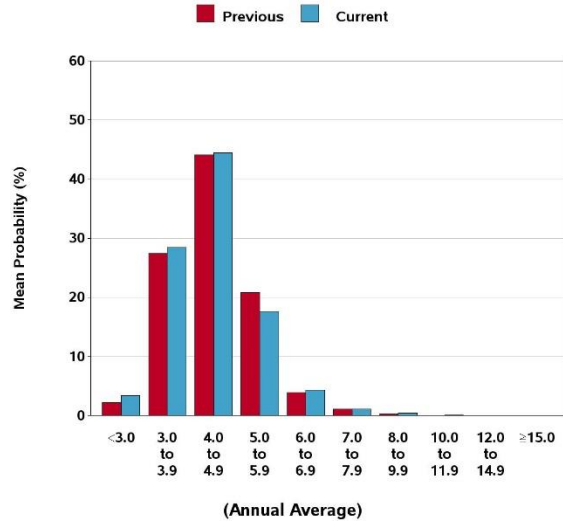
**Mean Probabilities for Unemployment Rate in 2024**



**Mean Probabilities for Unemployment Rate in 2025**



**Mean Probabilities for Unemployment Rate in 2026**



### ***Forecasters Revise Upward Their Near-Term Expectations for Inflation***

The forecasters have revised upward their near-term projections for headline and core CPI and PCE inflation, compared with their projections of three months ago. These upward revisions characterize the projections for every inflation measure over nearly all of the next four quarters as well as the whole of 2023.

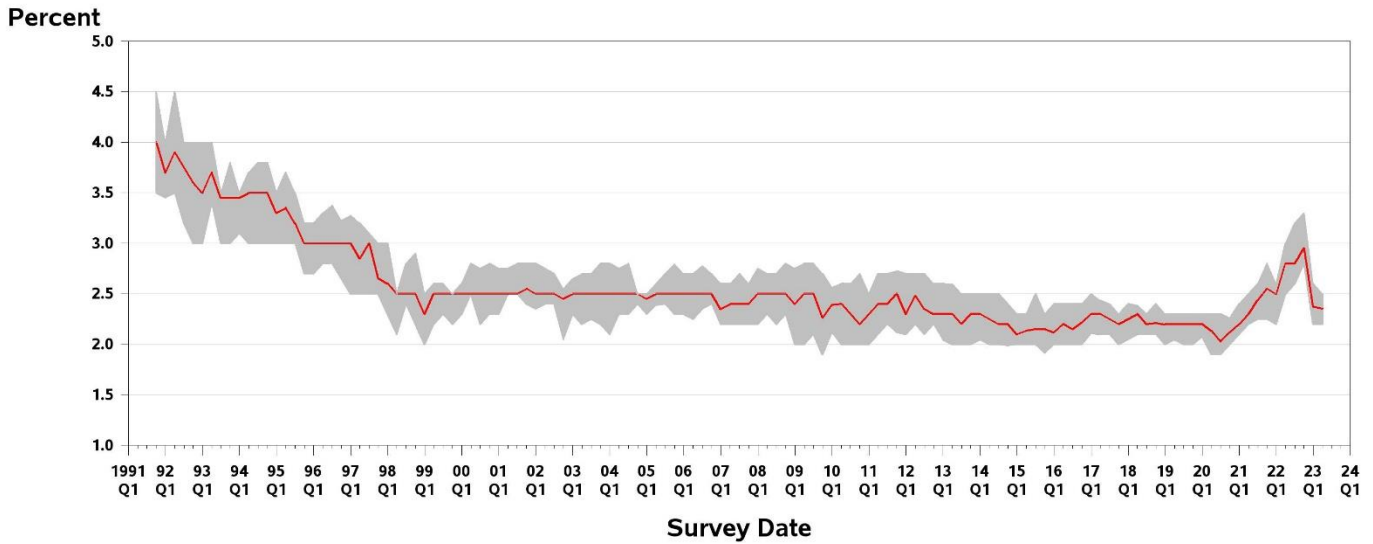
Over the next 10 years, 2023 to 2032, the forecasters predict headline CPI inflation will be an annual-average rate of 2.36 percent, slightly lower than the previous estimate of 2.37 percent. The corresponding estimate for the 10-year annual-average PCE inflation rate is 2.20 percent, slightly higher than the previous estimate of 2.15 percent.

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

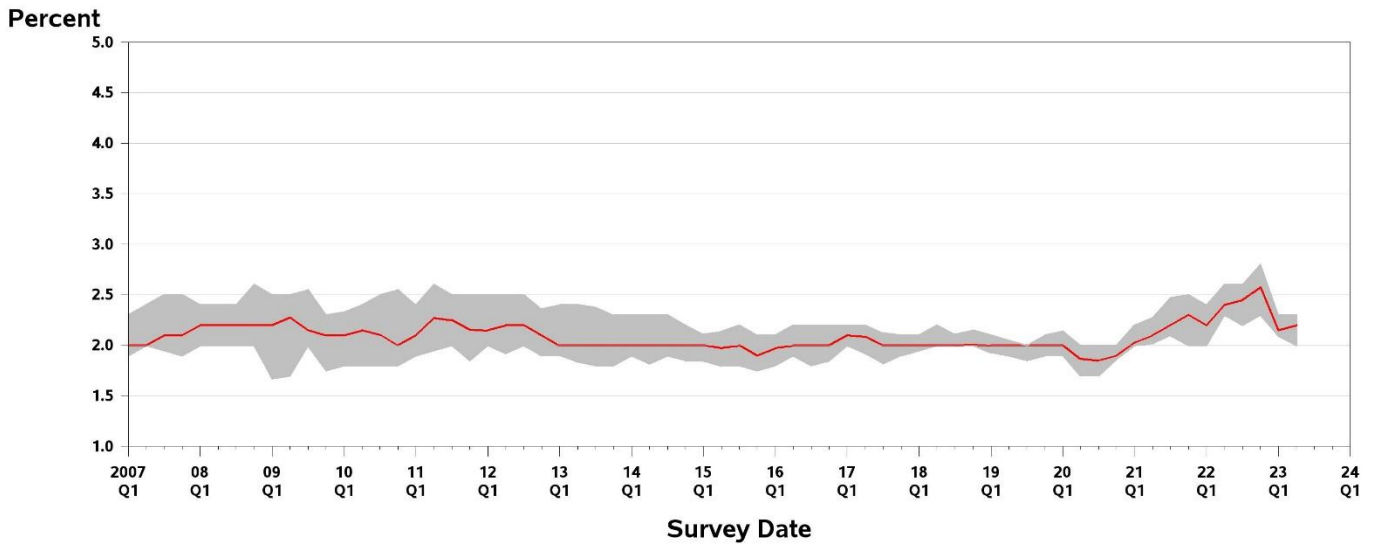
	Headline CPI		Core CPI		Headline PCE		Core PCE	
	Previous	Current	Previous	Current	Previous	Current	Previous	Current
<b>Quarterly</b>								
2023:Q2	3.4	3.5	3.6	4.5	3.0	3.2	3.1	3.8
2023:Q3	3.1	3.2	3.1	3.6	2.6	3.2	2.7	3.3
2023:Q4	2.8	2.9	2.9	3.1	2.6	2.9	2.5	2.9
2024:Q1	2.6	2.7	2.8	3.0	2.3	2.5	2.5	2.5
2024:Q2	N.A.	2.4	N.A.	2.7	N.A.	2.4	N.A.	2.4
<b>Q4/Q4 Annual Averages</b>								
2023	3.1	3.4	3.4	4.1	2.8	3.4	3.0	3.7
2024	2.5	2.5	2.6	2.7	2.2	2.4	2.3	2.3
2025	2.4	2.3	2.4	2.3	2.2	2.1	2.1	2.0
<b>Long-Term Annual Averages</b>								
2023-2027	2.50	2.50	N.A.	N.A.	2.30	2.42	N.A.	N.A.
2023-2032	2.37	2.36	N.A.	N.A.	2.15	2.20	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 current survey's slightly lower 10-year annual-average CPI inflation projection and the slightly higher 10-year annual-average PCE inflation projection.

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

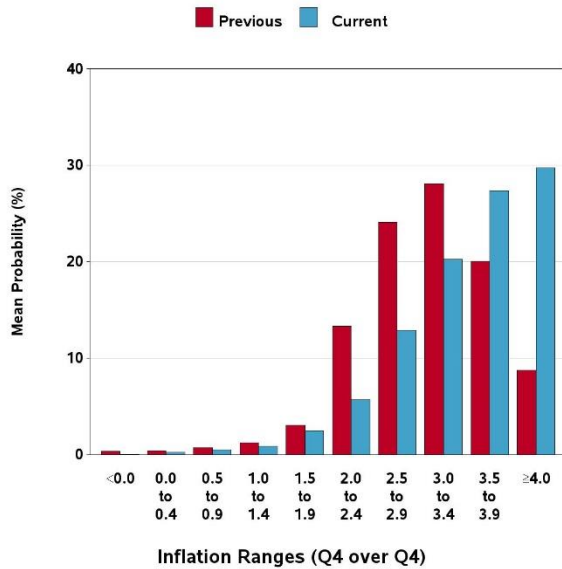


### Projections for the 10-Year Annual-Average Rate of PCE Inflation (Median and Interquartile Range)

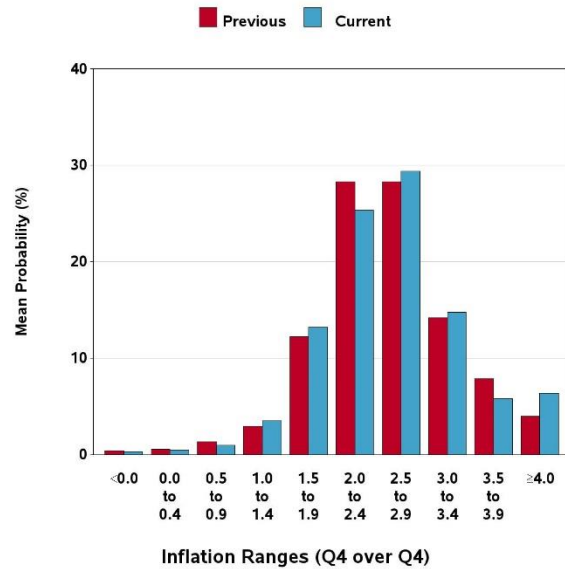


The figures below show the probabilities that the forecasters are assigning to each of 10 possible ranges for fourth-quarter over fourth-quarter core PCE inflation in 2023 and 2024. The forecasters have increased their estimates for the probability that core PCE inflation in 2023 will be 3.5 percent or higher compared with their prediction in the last survey. For 2024, forecasters' probabilities for core PCE inflation remain largely unchanged between the current and previous surveys.

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



**Mean Probabilities for Core PCE Inflation in 2024**



**Higher Risk of Negative Real GDP Growth in Second Half of 2023 and Early 2024**

The forecasters reduced their estimate for the risk of negative growth this quarter but raised their estimates over subsequent quarters. The estimate for the current quarter stands at 38.8 percent, down from the previous estimate of 42.4 percent. The first quarter 2024 estimate saw the largest revision in the risk of a contraction in real GDP. The forecasters now peg that risk at 39.3 percent, marking an upward revision from 31.8 percent in the previous survey of three months ago.

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

Quarterly data:	Previous	New
2023:Q2	42.4	38.8
2023:Q3	44.9	45.2
2023:Q4	40.6	41.9
2024:Q1	31.8	39.3
2024:Q2	N.A.	31.8

### *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); **Anwiti Bahuguna** and **Ed Al-Hussainy**, Columbia Threadneedle Investments; **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; **Grant Collins**, AIM Research, LLC; **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; **Steve Kihm**, Citizens Utility Board of Wisconsin; **Oren Klachkin** and **Ryan Sweet**, Oxford Economics USA, Inc.; **Jack Kleinhenz**, Kleinhenz & Associates, Inc.; **Yaniv Konchitchki**, University of California, Berkeley; **Thomas Lam**, Sim Kee Boon Institute, Singapore Management University; **Brian Martin**, Australia New Zealand Bank (ANZ); **Robert McNab**, Old Dominion University; **R. Anthony Metz**, Pareto Optimal Economics; **R. M. Monaco**, TitanRM; **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; **Michael Roberts**, Roberts Capital Advisors, LLC; **Alfredo A. Romero**, North Carolina A&T State University; **Philip Rothman**, East Carolina University; **Allen Sinai** and **Lu Yu**, Decision Economics, Inc.; **Sean Snaith**, University of Central Florida; **Stephen Stanley**, Santander Capital Markets; **Charles Steindel**, Editor, NABE *Business Economics*; **Susan M. Sterne**, Economic Analysis Associates, Inc.; **Edward Sullivan**, Portland Cement Association; **James Sweeney**, Credit Suisse; **Jordan Vickers** and **Marie Dempsey**, Eaton Corporation; **Lawrence Werther**, Daiwa Capital Markets America; **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

	2023 Q2	2023 Q3	2023 Q4	2024 Q1	2024 Q2	2023	2024	2025	2026
						(YEAR-OVER-YEAR)			
PERCENT GROWTH AT ANNUAL RATES									
1. REAL GDP (BILLIONS, CHAIN WEIGHTED)	1.0	0.6	-0.0	1.0	2.5	1.3	1.0	2.4	2.3
2. GDP PRICE INDEX (PERCENT CHANGE)	3.3	3.0	2.6	2.2	2.3	4.0	2.5	N.A.	N.A.
3. NOMINAL GDP (\$ BILLIONS)	4.0	3.3	3.2	4.0	3.8	5.4	3.7	N.A.	N.A.
4. NONFARM PAYROLL EMPLOYMENT (PERCENT CHANGE)	1.2	0.3	0.2	0.3	0.2	2.0	0.4	N.A.	N.A.
(AVG MONTHLY CHANGE)	156.1	43.8	25.6	37.2	22.7	257.5	56.1	N.A.	N.A.
VARIABLES IN LEVELS									
5. UNEMPLOYMENT RATE (PERCENT)	3.6	3.8	4.0	4.1	4.2	3.7	4.3	4.4	4.3
6. 3-MONTH TREASURY BILL (PERCENT)	5.0	5.1	5.0	4.7	4.3	4.9	4.2	3.3	2.8
7. 10-YEAR TREASURY BOND (PERCENT)	3.6	3.6	3.6	3.5	3.5	3.6	3.4	3.3	3.4
	2023 Q2	2023 Q3	2023 Q4	2024 Q1	2024 Q2	2023	2024	2025	
						(Q4-OVER-Q4)			
INFLATION INDICATORS									
8. CPI (ANNUAL RATE)	3.5	3.2	2.9	2.7	2.4	3.4	2.5	2.3	
9. CORE CPI (ANNUAL RATE)	4.5	3.6	3.1	3.0	2.7	4.1	2.7	2.3	
10. PCE (ANNUAL RATE)	3.2	3.2	2.9	2.5	2.4	3.4	2.4	2.1	
11. CORE PCE (ANNUAL RATE)	3.8	3.3	2.9	2.5	2.4	3.7	2.3	2.0	

Note: The figures on each line are medians of 38 forecasters.

Source: Research Department, Federal Reserve Bank of Philadelphia.  
Survey of Professional Forecasters, Second Quarter 2023.



# **SURVEY OF PROFESSIONAL FORECASTERS**

**Second Quarter 2023**

**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 April 27, 2023; the tables do not reflect subsequent revisions to the data. All forecasts were received on or before May 9, 2023.

TABLE ONE  
MAJOR MACROECONOMIC INDICATORS  
MEDIAN OF FORECASTER PREDICTIONS

	NUMBER OF FORECASTERS	ACTUAL		FORECAST				ACTUAL		FORECAST			
		2023 Q1	2023 Q2	2023 Q3	2023 Q4	2024 Q1	2024 Q2	2022 ANNUAL	2023 ANNUAL	2024 ANNUAL	2025 ANNUAL	2026 ANNUAL	
1. GROSS DOMESTIC PRODUCT (GDP) (\$ BILLIONS)	36	26466	26729	26945	27158	27427	27686	25463	26830	27824	N.A.	N.A.	
2. GDP PRICE INDEX (2012=100)	35	130.79	131.84	132.83	133.69	134.42	135.18	127.23	132.33	135.60	N.A.	N.A.	
3. CORPORATE PROFITS AFTER TAXES (\$ BILLIONS)	22	N.A.	2490.7	2481.2	2489.5	2516.4	2523.7	2478.9	2490.9	2532.2	N.A.	N.A.	
4. UNEMPLOYMENT RATE (PERCENT)	37	3.5	3.6	3.8	4.0	4.1	4.2	3.6	3.7	4.3	4.4	4.3	
5. NONFARM PAYROLL EMPLOYMENT (THOUSANDS)	32	155303	155771	155903	155979	156091	156159	152625	155715	156388	N.A.	N.A.	
6. INDUSTRIAL PRODUCTION (2017=100)	28	102.7	102.5	102.2	102.2	102.4	102.8	102.6	102.4	103.1	N.A.	N.A.	
7. NEW PRIVATE HOUSING STARTS (ANNUAL RATE, MILLIONS)	31	1.40	1.36	1.33	1.32	1.33	1.38	1.55	1.35	1.40	N.A.	N.A.	
8. 3-MONTH TREASURY BILL RATE (PERCENT)	36	4.63	5.05	5.06	4.95	4.70	4.34	2.02	4.94	4.18	3.30	2.83	
9. MOODY'S AAA CORP BOND YIELD * (PERCENT)	20	N.A.	4.60	4.64	4.63	4.61	4.58	N.A.	4.60	4.59	N.A.	N.A.	
10. MOODY'S BAA CORP BOND YIELD * (PERCENT)	18	N.A.	5.62	5.83	5.83	5.65	5.62	N.A.	5.72	5.63	N.A.	N.A.	
11. 10-YEAR TREASURY BOND YIELD (PERCENT)	34	3.65	3.58	3.62	3.57	3.50	3.50	2.95	3.61	3.45	3.34	3.36	
12. REAL GDP (BILLIONS, CHAIN WEIGHTED)	38	20236	20286	20314	20312	20362	20486	20014	20284	20478	20960	21432	
13. TOTAL CONSUMPTION EXPENDITURE (BILLIONS, CHAIN WEIGHTED)	33	14344.5	14366.0	14373.9	14378.6	14417.9	14490.5	14130.4	14361.0	14532.8	N.A.	N.A.	
14. NONRESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	32	2994.1	2996.3	2991.1	2992.6	3006.9	3026.5	2944.8	2991.4	3033.9	N.A.	N.A.	
15. RESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	31	570.6	563.3	557.1	555.8	558.2	567.3	643.1	561.4	572.3	N.A.	N.A.	
16. FEDERAL GOVERNMENT C & I (BILLIONS, CHAIN WEIGHTED)	31	1399.1	1404.3	1406.8	1411.2	1418.3	1417.9	1355.3	1406.9	1423.6	N.A.	N.A.	
17. STATE AND LOCAL GOVT C & I (BILLIONS, CHAIN WEIGHTED)	31	2084.6	2092.2	2097.6	2103.5	2110.0	2112.8	2051.2	2094.0	2114.3	N.A.	N.A.	
18. CHANGE IN PRIVATE INVENTORIES (BILLIONS, CHAIN WEIGHTED)	31	-1.6	26.4	20.6	18.4	27.2	30.3	125.0	11.5	28.4	N.A.	N.A.	
19. NET EXPORTS (BILLIONS, CHAIN WEIGHTED)	32	-1235.8	-1228.9	-1229.0	-1229.6	-1239.0	-1231.2	-1356.7	-1232.5	-1231.7	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, Second Quarter 2023.

TABLE TWO  
MAJOR MACROECONOMIC INDICATORS  
PERCENTAGE CHANGES AT ANNUAL RATES

	NUMBER OF FORECASTERS	Q1 2023	Q2 2023	Q3 2023	Q4 2023	Q1 2024	2022	2023	2024	2025
		TO Q2 2023	TO Q3 2023	TO Q4 2023	TO Q1 2024	TO Q2 2024	TO 2023	TO 2024	TO 2025	TO 2026
1. GROSS DOMESTIC PRODUCT (GDP) (\$ BILLIONS)	36	4.0	3.3	3.2	4.0	3.8	5.4	3.7	N.A.	N.A.
2. GDP PRICE INDEX (2012=100)	35	3.3	3.0	2.6	2.2	2.3	4.0	2.5	N.A.	N.A.
3. CORPORATE PROFITS AFTER TAXES (\$ BILLIONS)	22	-2.3	-1.5	1.3	4.4	1.2	0.5	1.7	N.A.	N.A.
4. UNEMPLOYMENT RATE (PERCENT)	37	0.1	0.2	0.2	0.1	0.1	0.1	0.6	0.1	-0.1
5. NONFARM PAYROLL EMPLOYMENT (PERCENT CHANGE)	32	1.2	0.3	0.2	0.3	0.2	2.0	0.4	N.A.	N.A.
(AVG MONTHLY CHANGE)	32	156.1	43.8	25.6	37.2	22.7	257.5	56.1	N.A.	N.A.
6. INDUSTRIAL PRODUCTION (2017=100)	28	-0.8	-1.0	-0.3	0.9	1.6	-0.2	0.6	N.A.	N.A.
7. NEW PRIVATE HOUSING STARTS (ANNUAL RATE, MILLIONS)	31	-9.7	-9.9	-2.7	4.9	14.5	-13.2	3.8	N.A.	N.A.
8. 3-MONTH TREASURY BILL RATE (PERCENT)	36	0.42	0.02	-0.11	-0.25	-0.35	2.92	-0.76	-0.88	-0.47
9. MOODY'S AAA CORP BOND YIELD * (PERCENT)	20	N.A.	0.04	-0.01	-0.02	-0.03	N.A.	-0.01	N.A.	N.A.
10. MOODY'S BAA CORP BOND YIELD * (PERCENT)	18	N.A.	0.21	-0.00	-0.18	-0.03	N.A.	-0.09	N.A.	N.A.
11. 10-YEAR TREASURY BOND YIELD (PERCENT)	34	-0.07	0.05	-0.05	-0.07	0.00	0.66	-0.16	-0.11	0.03
12. REAL GDP (BILLIONS, CHAIN WEIGHTED)	38	1.0	0.6	-0.0	1.0	2.5	1.3	1.0	2.4	2.3
13. TOTAL CONSUMPTION EXPENDITURE (BILLIONS, CHAIN WEIGHTED)	33	0.6	0.2	0.1	1.1	2.0	1.6	1.2	N.A.	N.A.
14. NONRESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	32	0.3	-0.7	0.2	1.9	2.6	1.6	1.4	N.A.	N.A.
15. RESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	31	-5.0	-4.4	-0.9	1.7	6.6	-12.7	1.9	N.A.	N.A.
16. FEDERAL GOVERNMENT C & I (BILLIONS, CHAIN WEIGHTED)	31	1.5	0.7	1.3	2.0	-0.1	3.8	1.2	N.A.	N.A.
17. STATE AND LOCAL GOVT C & I (BILLIONS, CHAIN WEIGHTED)	31	1.5	1.0	1.1	1.2	0.5	2.1	1.0	N.A.	N.A.
18. CHANGE IN PRIVATE INVENTORIES (BILLIONS, CHAIN WEIGHTED)	31	28.0	-5.8	-2.2	8.8	3.1	-113.5	16.9	N.A.	N.A.
19. NET EXPORTS (BILLIONS, CHAIN WEIGHTED)	32	6.9	-0.1	-0.6	-9.4	7.8	124.2	0.9	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, Second Quarter 2023.

TABLE THREE  
 MAJOR PRICE INDICATORS  
 MEDIANS OF FORECASTER PREDICTIONS

	NUMBER OF FORECASTERS	ACTUAL	FORECAST (Q/Q)				ACTUAL	FORECAST (Q4/Q4)			
		2023 Q1	2023 Q2	2023 Q3	2023 Q4	2024 Q1	2024 Q2	2022 ANNUAL	2023 ANNUAL	2024 ANNUAL	2025 ANNUAL
1. CONSUMER PRICE INDEX (ANNUAL RATE)	35	3.8	3.5	3.2	2.9	2.7	2.4	7.1	3.4	2.5	2.3
2. CORE CONSUMER PRICE INDEX (ANNUAL RATE)	33	5.0	4.5	3.6	3.1	3.0	2.7	6.0	4.1	2.7	2.3
3. PCE PRICE INDEX (ANNUAL RATE)	34	4.2	3.2	3.2	2.9	2.5	2.4	5.7	3.4	2.4	2.1
4. CORE PCE PRICE INDEX (ANNUAL RATE)	33	4.9	3.8	3.3	2.9	2.5	2.4	4.8	3.7	2.3	2.0

Source: Research Department, Federal Reserve Bank of Philadelphia. Survey of Professional Forecasters, Second Quarter 2023.

TABLE FOUR  
YIELD SPREADS  
MEDIAN OF FORECASTER PREDICTIONS

	NUMBER OF FORECASTERS	ACTUAL	FORECAST					ACTUAL	FORECAST				
		2023 Q1	2023 Q2	2023 Q3	2023 Q4	2024 Q1	2024 Q2	2022 ANNUAL	2023 ANNUAL	2024 ANNUAL	2025 ANNUAL	2026 ANNUAL	
1. TBOND MINUS TBILL (PERCENTAGE POINTS)	33	-0.98	-1.50	-1.41	-1.30	-1.13	-0.86	0.93	-1.30	-0.81	0.15	0.73	
2. AAA MINUS TBOND (PERCENTAGE POINTS)	20	N.A.	1.02	1.00	1.03	1.07	1.07	N.A.	0.98	1.03	N.A.	N.A.	
3. BAA MINUS TBOND (PERCENTAGE POINTS)	18	N.A.	2.12	2.16	2.16	2.19	2.21	N.A.	2.12	2.21	N.A.	N.A.	
4. BAA MINUS AAA (PERCENTAGE POINTS)	18	N.A.	1.08	1.07	1.07	1.05	1.05	N.A.	1.07	1.07	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, Second Quarter 2023.

TABLE FIVE  
ESTIMATED PROBABILITY OF DECLINE IN REAL GDP

ESTIMATED PROBABILITY (CHANCES IN 100)	Q1 2023	Q2 2023	Q3 2023	Q4 2023	Q1 2024
	TO Q2 2023	TO Q3 2023	TO Q4 2023	TO Q1 2024	TO Q2 2024
NUMBER OF FORECASTERS					
10 OR LESS	5	2	2	3	4
11 TO 20	5	4	3	3	4
21 TO 30	3	4	7	5	9
31 TO 40	4	4	5	7	6
41 TO 50	4	3	2	3	2
51 TO 60	2	6	4	4	2
61 TO 70	1	1	4	1	0
71 TO 80	4	3	1	3	2
81 TO 90	1	2	1	0	0
91 AND OVER	0	0	0	0	0
NOT REPORTING	9	9	9	9	9
MEAN AND MEDIAN					
MEDIAN PROBABILITY	40.00	50.00	35.00	35.00	30.00
MEAN PROBABILITY	38.80	45.16	41.88	39.29	31.79

Note: Total number of forecasters reporting is 29.

Source: Research Department, Federal Reserve Bank of Philadelphia.  
Survey of Professional Forecasters, Second Quarter 2023.

TABLE SIX  
MEAN PROBABILITIES

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

	2023	2024	2025	2026
15.0 PERCENT OR MORE	0.02	0.02	0.00	0.00
12.0 TO 14.9 PERCENT	0.02	0.02	0.00	0.00
10.0 TO 11.9 PERCENT	0.02	0.18	0.22	0.15
8.0 TO 9.9 PERCENT	0.25	0.31	0.35	0.43
7.0 TO 7.9 PERCENT	0.50	1.23	1.20	1.15
6.0 TO 6.9 PERCENT	2.07	6.31	5.97	4.32
5.0 TO 5.9 PERCENT	6.87	20.08	16.48	17.66
4.0 TO 4.9 PERCENT	33.02	39.10	43.21	44.42
3.0 TO 3.9 PERCENT	54.26	29.30	29.17	28.43
LESS THAN 3.0 PERCENT	2.98	3.46	3.40	3.46

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

	2022-2023	2023-2024	2024-2025	2025-2026
16.0 PERCENT OR MORE	0.00	0.00	0.00	0.00
10.0 TO 15.9 PERCENT	0.03	0.04	0.00	0.00
7.0 TO 9.9 PERCENT	0.14	0.26	0.32	0.59
4.0 TO 6.9 PERCENT	0.75	2.36	5.03	5.36
2.5 TO 3.9 PERCENT	6.77	11.40	24.13	24.06
1.5 TO 2.4 PERCENT	27.34	30.78	31.89	35.89
0.0 TO 1.4 PERCENT	47.03	37.16	28.38	25.35
-3.0 TO -0.1 PERCENT	16.36	15.49	8.78	7.07
-6.0 TO -3.1 PERCENT	1.48	2.37	1.31	1.26
-12.0 TO -6.1 PERCENT	0.07	0.12	0.17	0.43
LESS THAN -12.0 PERCENT	0.03	0.03	0.00	0.00

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

	2022-2023	2023-2024
4.0 PERCENT OR MORE	31.69	7.48
3.5 TO 3.9 PERCENT	31.69	7.42
3.0 TO 3.4 PERCENT	17.34	15.12
2.5 TO 2.9 PERCENT	9.77	27.61
2.0 TO 2.4 PERCENT	3.12	22.81
1.5 TO 1.9 PERCENT	1.76	10.56
1.0 TO 1.4 PERCENT	1.90	4.99
0.5 TO 0.9 PERCENT	1.45	2.48
0.0 TO 0.4 PERCENT	0.97	1.05
LESS THAN 0.0 PERCENT	0.31	0.48

Source: Research Department, Federal Reserve Bank of Philadelphia.  
Survey of Professional Forecasters, Second Quarter 2023.

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

MEAN PROBABILITY ATTACHED TO CORE CPI INFLATION:

	22Q4 TO 23Q4	23Q4 TO 24Q4
	-----	-----
4.0 PERCENT OR MORE	39.26	7.92
3.5 TO 3.9 PERCENT	30.03	7.11
3.0 TO 3.4 PERCENT	17.30	17.29
2.5 TO 2.9 PERCENT	7.14	32.40
2.0 TO 2.4 PERCENT	3.70	22.36
1.5 TO 1.9 PERCENT	1.34	8.86
1.0 TO 1.4 PERCENT	0.65	2.65
0.5 TO 0.9 PERCENT	0.31	0.68
0.0 TO 0.4 PERCENT	0.24	0.39
LESS THAN 0.0 PERCENT	0.02	0.33

MEAN PROBABILITY ATTACHED TO CORE PCE INFLATION:

	22Q4 TO 23Q4	23Q4 TO 24Q4
	-----	-----
4.0 PERCENT OR MORE	29.75	6.36
3.5 TO 3.9 PERCENT	27.36	5.79
3.0 TO 3.4 PERCENT	20.25	14.74
2.5 TO 2.9 PERCENT	12.91	29.36
2.0 TO 2.4 PERCENT	5.68	25.34
1.5 TO 1.9 PERCENT	2.46	13.21
1.0 TO 1.4 PERCENT	0.83	3.49
0.5 TO 0.9 PERCENT	0.50	0.97
0.0 TO 0.4 PERCENT	0.24	0.47
LESS THAN 0.0 PERCENT	0.02	0.27

Source: Research Department, Federal Reserve Bank of Philadelphia.  
 Survey of Professional Forecasters, Second Quarter 2023.



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

ANNUAL AVERAGE OVER THE NEXT 5 YEARS: 2023-2027

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=====
CPI INFLATION RATE                PCE INFLATION RATE
-----
MINIMUM                2.10          MINIMUM                1.70
LOWER QUARTILE        2.40          LOWER QUARTILE        2.15
MEDIAN                 2.50          MEDIAN                 2.42
UPPER QUARTILE        2.84          UPPER QUARTILE        2.62
MAXIMUM                3.50          MAXIMUM                3.20
MEAN                   2.61          MEAN                   2.41
STD. DEVIATION        0.29          STD. DEVIATION        0.34
N                       29           N                       28
MISSING                9           MISSING                10
  
```

ANNUAL AVERAGE OVER THE FOLLOWING 5 YEARS: 2028-2032

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=====
CPI INFLATION RATE                PCE INFLATION RATE
-----
MINIMUM                1.50          MINIMUM                0.81
LOWER QUARTILE        2.01          LOWER QUARTILE        1.90
MEDIAN                 2.20          MEDIAN                 2.00
UPPER QUARTILE        2.36          UPPER QUARTILE        2.10
MAXIMUM                2.76          MAXIMUM                2.53
MEAN                   2.20          MEAN                   1.95
STD. DEVIATION        0.27          STD. DEVIATION        0.31
N                       28           N                       27
MISSING                10          MISSING                11
  
```

ANNUAL AVERAGE OVER THE NEXT 10 YEARS: 2023-2032

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=====
CPI INFLATION RATE                PCE INFLATION RATE
-----
MINIMUM                1.96          MINIMUM                1.78
LOWER QUARTILE        2.20          LOWER QUARTILE        2.00
MEDIAN                 2.36          MEDIAN                 2.20
UPPER QUARTILE        2.50          UPPER QUARTILE        2.30
MAXIMUM                3.00          MAXIMUM                2.70
MEAN                   2.41          MEAN                   2.19
STD. DEVIATION        0.23          STD. DEVIATION        0.23
N                       28           N                       27
MISSING                10          MISSING                11
  
```

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, Second Quarter 2023.