



# SURVEY OF PROFESSIONAL FORECASTERS

Release Date: May 13, 2022

## SECOND QUARTER 2022

### *Forecasters Predict Slower Growth*

The outlook for the U.S. economy looks weaker now than it did three months ago, according to 34 forecasters surveyed by the Federal Reserve Bank of Philadelphia. The forecasters predict real GDP will grow at an annual rate of 2.3 percent in the current quarter, down 1.9 percentage points from the prediction of 4.2 percent in the last survey. Using the annual-average over annual-average computation, the panel expects real GDP will grow at an annual rate of 2.5 percent this year, 2.3 percent in 2023, and 2.0 percent in 2024. These annual projections are lower than the estimates of three months ago.

Some upward revisions starting in 2023 to the projections for the unemployment rate accompany the outlook for growth. The forecasters expect the unemployment rate to be 3.6 percent this quarter and 3.5 percent for the following four quarters. Using the annual-average computation, the panelists predict the unemployment rate will be 3.6 percent in 2022 and 2023 and move slightly higher to 3.8 percent over the next two years. The annual-average projections beyond 2022 are higher now than they were previously.

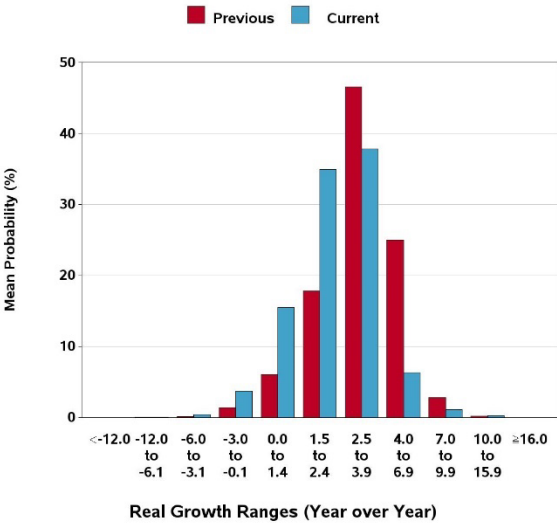
The forecasters have revised upward their estimates for job gains for the current quarter and in 2022. On an annual basis, the projections for the annual-average level of nonfarm payroll employment suggest job gains at a monthly rate of 479,700 in 2022, nearly 50,000 more jobs than in the previous estimate. (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*

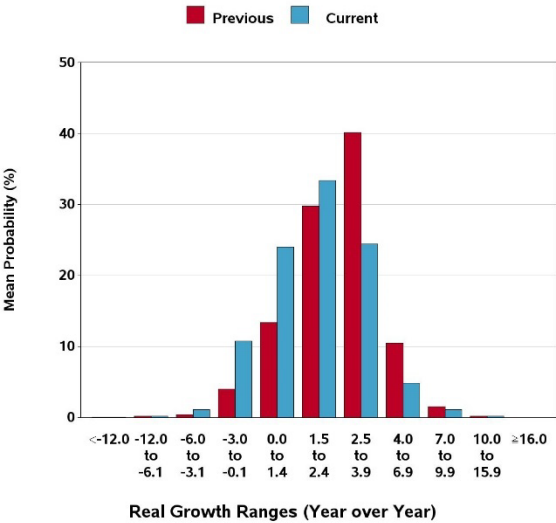
|                                                               | Real GDP (%) |     | Unemployment Rate (%) |     | Payrolls (000s/month) |       |
|---------------------------------------------------------------|--------------|-----|-----------------------|-----|-----------------------|-------|
|                                                               | Previous     | New | Previous              | New | Previous              | New   |
| Quarterly data:                                               |              |     |                       |     |                       |       |
| 2022:Q2                                                       | 4.2          | 2.3 | 3.7                   | 3.6 | 357.0                 | 381.3 |
| 2022:Q3                                                       | 3.0          | 2.5 | 3.6                   | 3.5 | 257.0                 | 293.7 |
| 2022:Q4                                                       | 2.9          | 2.3 | 3.5                   | 3.5 | 225.4                 | 193.2 |
| 2023:Q1                                                       | 2.8          | 2.1 | 3.4                   | 3.5 | 144.8                 | 158.8 |
| 2023:Q2                                                       | N.A.         | 2.3 | N.A.                  | 3.5 | N.A.                  | 61.3  |
| Annual data (projections are based on annual-average levels): |              |     |                       |     |                       |       |
| 2022                                                          | 3.7          | 2.5 | 3.7                   | 3.6 | 430.9                 | 479.7 |
| 2023                                                          | 2.7          | 2.3 | 3.4                   | 3.6 | 197.2                 | 172.7 |
| 2024                                                          | 2.3          | 2.0 | 3.6                   | 3.8 | N.A.                  | N.A.  |
| 2025                                                          | 2.3          | 2.3 | 3.7                   | 3.8 | 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 see a lower probability than they predicted in the previous survey that growth will be 2.5 percent or higher over each of the next four years.

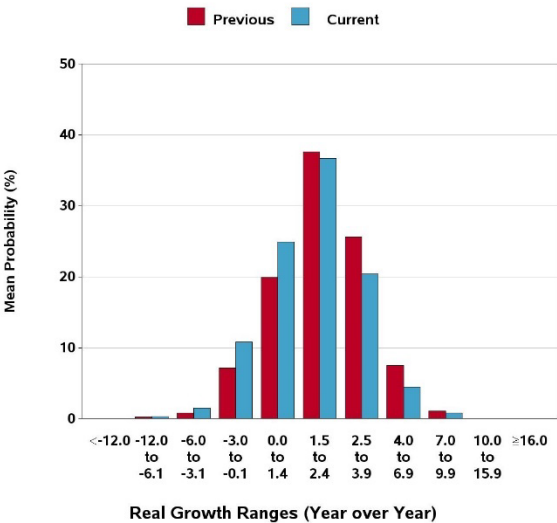
Mean Probabilities for Real GDP Growth in 2022



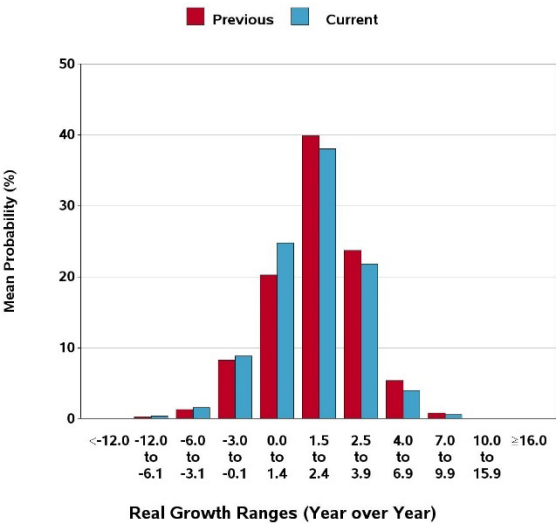
Mean Probabilities for Real GDP Growth in 2023



Mean Probabilities for Real GDP Growth in 2024

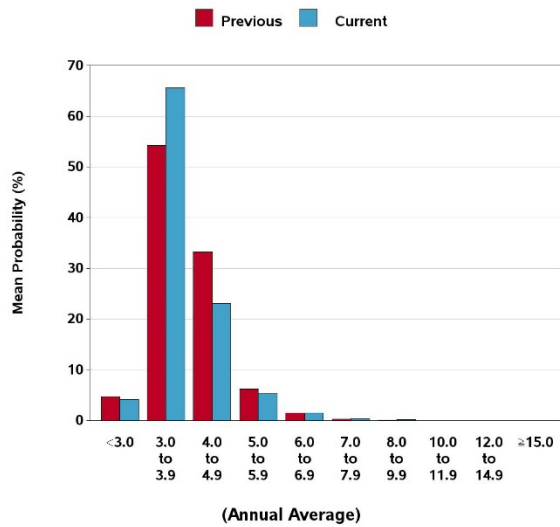


Mean Probabilities for Real GDP Growth in 2025

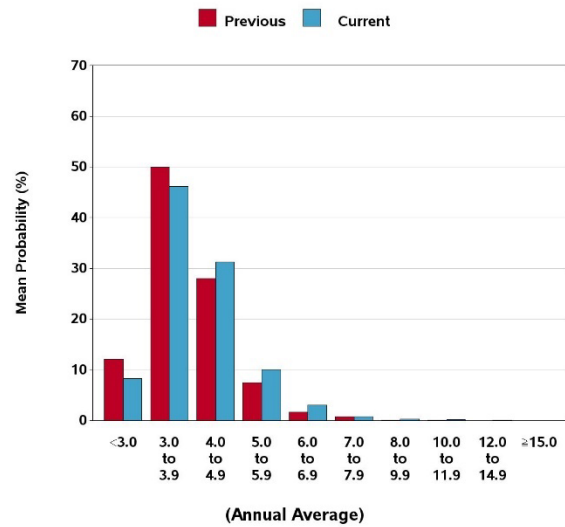


The forecasters' density projections for unemployment, shown below, shed light on uncertainty about the labor market over the next four years. Each chart presents the forecasters' current and previous estimates of the probability that unemployment will fall into each of 10 ranges. The projections for 2022 show the panelists are raising their probability estimates 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 in the previous survey that unemployment will fall into the ranges of 4.0 percent or higher.

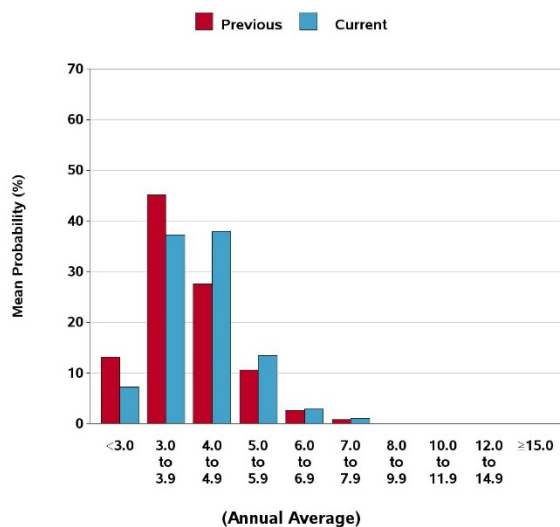
Mean Probabilities for Unemployment Rate in 2022



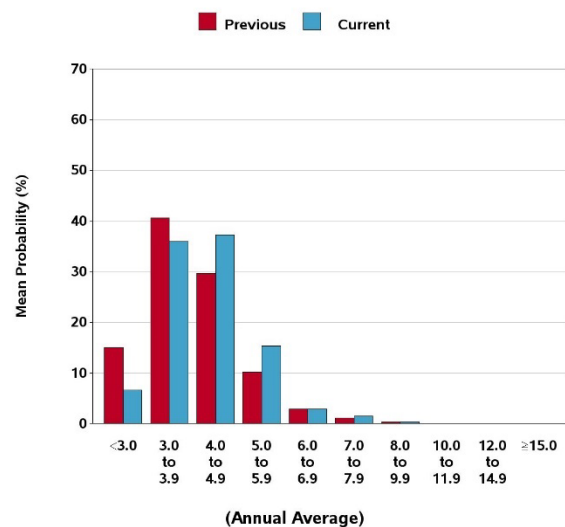
Mean Probabilities for Unemployment Rate in 2023



Mean Probabilities for Unemployment Rate in 2024



Mean Probabilities for Unemployment Rate in 2025



### ***Forecasters See Higher Inflation***

The forecasters predict current-quarter headline CPI inflation will average 7.1 percent at an annual rate, up from the forecast of 3.8 percent in the last survey. Headline PCE inflation over the current quarter will be 5.7 percent at an annual rate, up from the previous forecast of 3.1 percent.

Projections for headline and core CPI and PCE inflation in 2022 and 2023 have been revised upward, compared with the projections in the survey of three months ago.

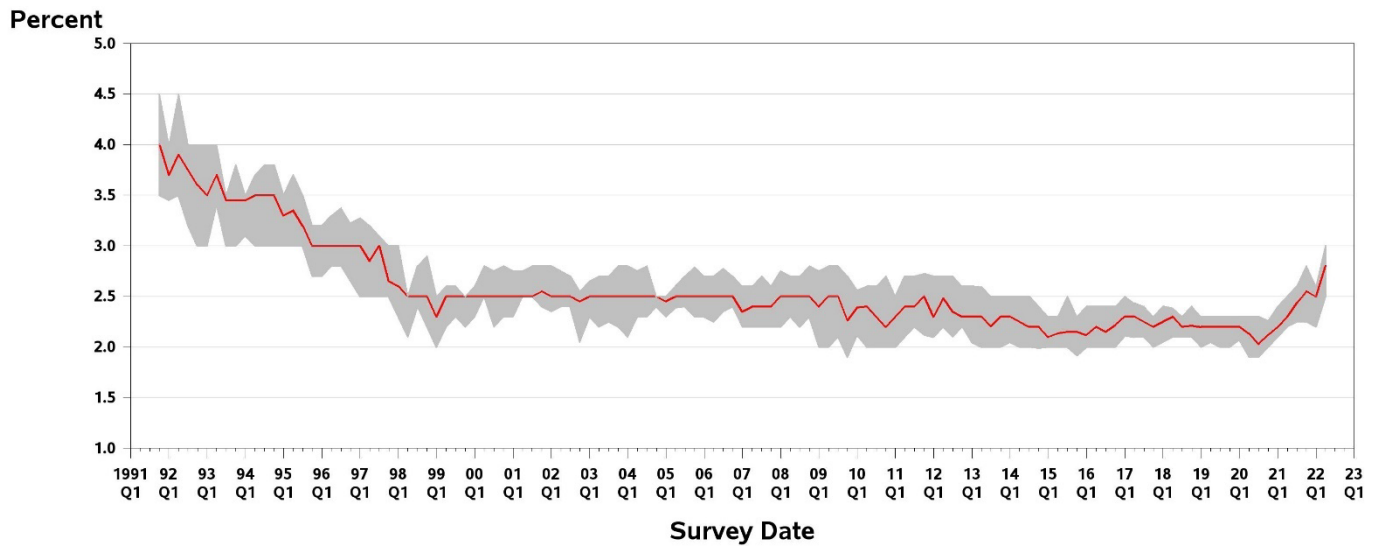
Over the next 10 years, 2022 to 2031, the forecasters predict headline CPI inflation will average 2.80 percent at an annual rate. The corresponding estimate for 10-year annual-average PCE inflation is 2.40 percent. These 10-year projections are 0.3 percentage point and 0.2 percentage point, respectively, higher than those of the previous survey.

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

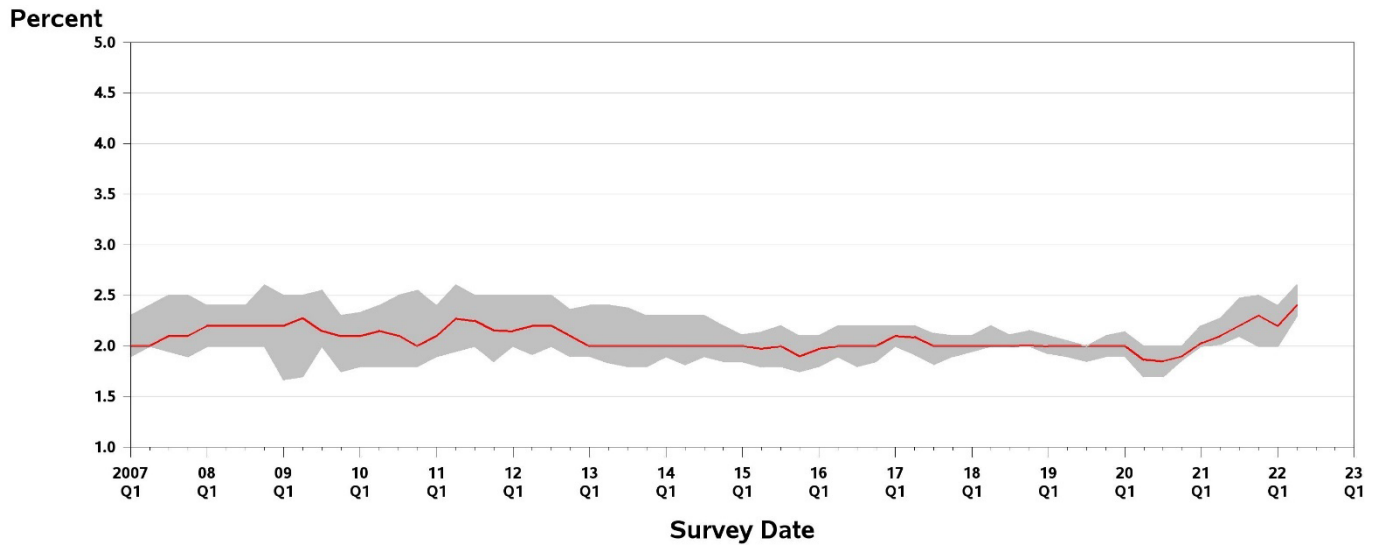
|                           | Headline CPI |         | Core CPI |         | Headline PCE |         | Core PCE |         |
|---------------------------|--------------|---------|----------|---------|--------------|---------|----------|---------|
|                           | Previous     | Current | Previous | Current | Previous     | Current | Previous | Current |
| Quarterly                 |              |         |          |         |              |         |          |         |
| 2022:Q2                   | 3.8          | 7.1     | 3.6      | 5.1     | 3.1          | 5.7     | 3.1      | 4.3     |
| 2022:Q3                   | 2.7          | 4.5     | 3.1      | 4.1     | 2.6          | 4.1     | 2.5      | 3.8     |
| 2022:Q4                   | 2.7          | 3.7     | 2.6      | 3.5     | 2.4          | 3.0     | 2.3      | 3.2     |
| 2023:Q1                   | 2.5          | 3.1     | 2.5      | 3.1     | 2.3          | 2.7     | 2.3      | 2.8     |
| 2023:Q2                   | N.A.         | 3.0     | N.A.     | 2.9     | N.A.         | 2.6     | N.A.     | 2.7     |
| Q4/Q4 Annual Averages     |              |         |          |         |              |         |          |         |
| 2022                      | 3.8          | 6.1     | 3.6      | 4.8     | 3.1          | 5.0     | 3.1      | 4.1     |
| 2023                      | 2.4          | 2.9     | 2.5      | 2.9     | 2.2          | 2.5     | 2.2      | 2.5     |
| 2024                      | 2.3          | 2.3     | 2.4      | 2.5     | 2.2          | 2.2     | 2.2      | 2.2     |
| Long-Term Annual Averages |              |         |          |         |              |         |          |         |
| 2022-2026                 | 2.70         | 3.40    | N.A.     | N.A.    | 2.40         | 2.90    | N.A.     | N.A.    |
| 2022-2031                 | 2.50         | 2.80    | N.A.     | N.A.    | 2.20         | 2.40    | 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 highlight the upward trend for 10-year inflation in recent surveys.

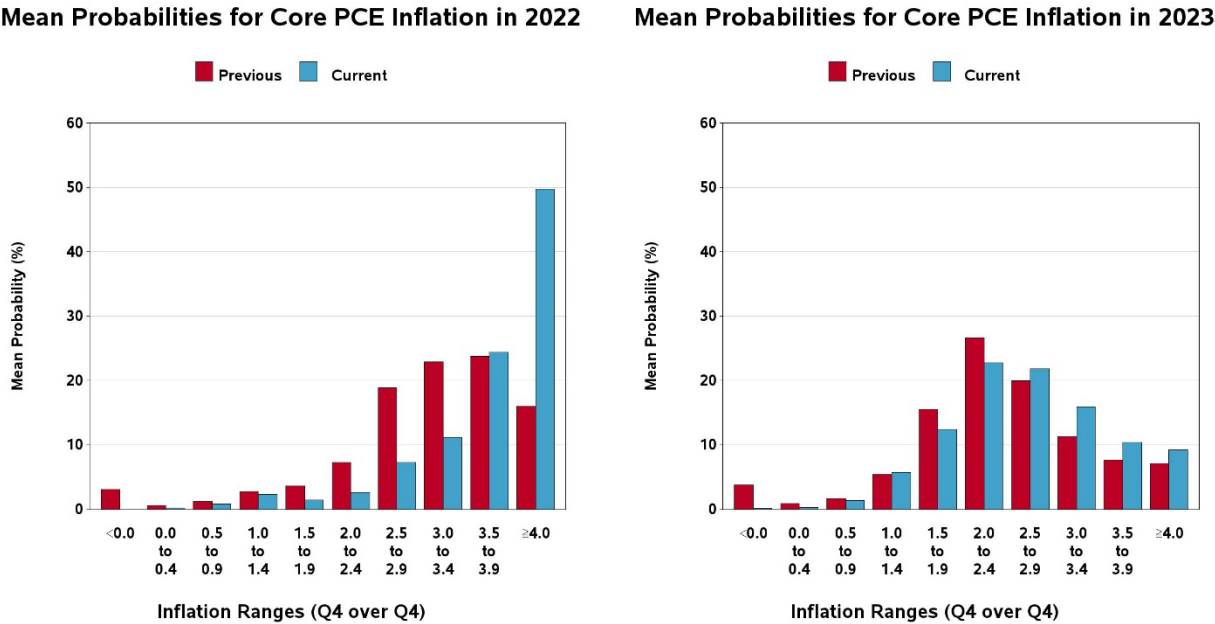
**Projections for the 10-Year Annual-Average Rate of CPI Inflation**  
(Median and Interquartile Range)



**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. The forecasters have significantly raised their estimates for the probability that core PCE inflation in 2022 will be 4.0 percent or higher, compared with their estimates of three months ago.



## ***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; **John Lonski**, Moody's Capital Markets Group; **Matthew Luzzetti**, Deutsche Bank Securities; **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.**, American Financial Services Association (AFSA); **Jason Prole**, Capital Risk Management; **Philip Rothman**, East Carolina University; **S&P Global Market Intelligence**; **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**, 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<br>Q2 | 2022<br>Q3 | 2022<br>Q4 | 2023<br>Q1 | 2023<br>Q2 | 2022  | 2023<br>(YEAR-OVER-YEAR) | 2024 | 2025 |
|---------------------------------------------------|------------|------------|------------|------------|------------|-------|--------------------------|------|------|
| PERCENT GROWTH AT ANNUAL RATES                    |            |            |            |            |            |       |                          |      |      |
| 1. REAL GDP<br>(BILLIONS, CHAIN WEIGHTED)         | 2.3        | 2.5        | 2.3        | 2.1        | 2.3        | 2.5   | 2.3                      | 2.0  | 2.3  |
| 2. GDP PRICE INDEX<br>(PERCENT CHANGE)            | 5.3        | 3.9        | 2.8        | 3.0        | 2.5        | 6.1   | 3.0                      | N.A. | N.A. |
| 3. NOMINAL GDP<br>(\$ BILLIONS)                   | 7.3        | 6.4        | 5.3        | 5.6        | 4.9        | 8.5   | 5.6                      | N.A. | N.A. |
| 4. NONFARM PAYROLL EMPLOYMENT<br>(PERCENT CHANGE) | 3.1        | 2.3        | 1.5        | 1.3        | 0.5        | 3.9   | 1.4                      | N.A. | N.A. |
| (AVG MONTHLY CHANGE)                              | 381.3      | 293.7      | 193.2      | 158.8      | 61.3       | 479.7 | 172.7                    | N.A. | N.A. |
| VARIABLES IN LEVELS                               |            |            |            |            |            |       |                          |      |      |
| 5. UNEMPLOYMENT RATE<br>(PERCENT)                 | 3.6        | 3.5        | 3.5        | 3.5        | 3.5        | 3.6   | 3.6                      | 3.8  | 3.8  |
| 6. 3-MONTH TREASURY BILL<br>(PERCENT)             | 1.0        | 1.6        | 2.1        | 2.4        | 2.6        | 1.2   | 2.5                      | 2.7  | 2.5  |
| 7. 10-YEAR TREASURY BOND<br>(PERCENT)             | 2.9        | 3.1        | 3.1        | 3.2        | 3.2        | 2.8   | 3.2                      | 3.4  | 3.2  |
|                                                   | 2022<br>Q2 | 2022<br>Q3 | 2022<br>Q4 | 2023<br>Q1 | 2023<br>Q2 | 2022  | 2023<br>(Q4-OVER-Q4)     | 2024 |      |
| INFLATION INDICATORS                              |            |            |            |            |            |       |                          |      |      |
| 8. CPI<br>(ANNUAL RATE)                           | 7.1        | 4.5        | 3.7        | 3.1        | 3.0        | 6.1   | 2.9                      | 2.3  |      |
| 9. CORE CPI<br>(ANNUAL RATE)                      | 5.1        | 4.1        | 3.5        | 3.1        | 2.9        | 4.8   | 2.9                      | 2.5  |      |
| 10. PCE<br>(ANNUAL RATE)                          | 5.7        | 4.1        | 3.0        | 2.7        | 2.6        | 5.0   | 2.5                      | 2.2  |      |
| 11. CORE PCE<br>(ANNUAL RATE)                     | 4.3        | 3.8        | 3.2        | 2.8        | 2.7        | 4.1   | 2.5                      | 2.2  |      |

Note: The figures on each line are medians of 34 forecasters.

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



## **SURVEY OF PROFESSIONAL FORECASTERS**

**Second 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 April 28, 2022; the tables do not reflect subsequent revisions to the data. All forecasts were received on or before May 10, 2022.

TABLE ONE  
MAJOR MACROECONOMIC INDICATORS  
MEDIAN OF FORECASTER PREDICTIONS

|                                                                   | NUMBER<br>OF<br>FORECASTERS | ACTUAL     | FORECAST   |            |            |            |            | ACTUAL         | FORECAST       |                |                |                |
|-------------------------------------------------------------------|-----------------------------|------------|------------|------------|------------|------------|------------|----------------|----------------|----------------|----------------|----------------|
|                                                                   |                             | 2022<br>Q1 | 2022<br>Q2 | 2022<br>Q3 | 2022<br>Q4 | 2023<br>Q1 | 2023<br>Q2 | 2021<br>ANNUAL | 2022<br>ANNUAL | 2023<br>ANNUAL | 2024<br>ANNUAL | 2025<br>ANNUAL |
| 1. GROSS DOMESTIC PRODUCT (GDP)<br>(\$ BILLIONS)                  | 34                          | 24383      | 24816      | 25203      | 25530      | 25881      | 26195      | 22996          | 24961          | 26366          | N.A.           | N.A.           |
| 2. GDP PRICE INDEX<br>(2012=100)                                  | 33                          | 123.68     | 125.30     | 126.51     | 127.37     | 128.31     | 129.11     | 118.49         | 125.71         | 129.46         | N.A.           | N.A.           |
| 3. CORPORATE PROFITS AFTER TAXES<br>(\$ BILLIONS)                 | 20                          | N.A.       | 2563.7     | 2534.0     | 2527.7     | 2520.8     | 2525.8     | 2424.6         | 2551.4         | 2549.6         | N.A.           | N.A.           |
| 4. UNEMPLOYMENT RATE<br>(PERCENT)                                 | 33                          | 3.8        | 3.6        | 3.5        | 3.5        | 3.5        | 3.5        | 5.4            | 3.6            | 3.6            | 3.8            | 3.8            |
| 5. NONFARM PAYROLL EMPLOYMENT<br>(THOUSANDS)                      | 28                          | 150388     | 151532     | 152413     | 152993     | 153469     | 153653     | 146102         | 151859         | 153931         | N.A.           | N.A.           |
| 6. INDUSTRIAL PRODUCTION<br>(2017=100)                            | 27                          | 103.6      | 104.9      | 105.8      | 106.2      | 106.3      | 106.8      | 100.1          | 105.1          | 106.9          | N.A.           | N.A.           |
| 7. NEW PRIVATE HOUSING STARTS<br>(ANNUAL RATE, MILLIONS)          | 28                          | 1.75       | 1.72       | 1.67       | 1.65       | 1.64       | 1.60       | 1.60           | 1.70           | 1.58           | N.A.           | N.A.           |
| 8. 3-MONTH TREASURY BILL RATE<br>(PERCENT)                        | 31                          | 0.31       | 1.00       | 1.64       | 2.06       | 2.37       | 2.58       | 0.04           | 1.23           | 2.54           | 2.66           | 2.50           |
| 9. MOODY'S AAA CORP BOND YIELD *<br>(PERCENT)                     | 19                          | N.A.       | 4.15       | 4.30       | 4.40       | 4.69       | 4.85       | N.A.           | 4.00           | 4.78           | N.A.           | N.A.           |
| 10. MOODY'S BAA CORP BOND YIELD *<br>(PERCENT)                    | 18                          | N.A.       | 4.98       | 5.30       | 5.48       | 5.67       | 5.78       | N.A.           | 4.92           | 5.77           | N.A.           | N.A.           |
| 11. 10-YEAR TREASURY BOND YIELD<br>(PERCENT)                      | 31                          | 1.94       | 2.88       | 3.05       | 3.06       | 3.19       | 3.20       | 1.44           | 2.77           | 3.21           | 3.40           | 3.22           |
| 12. REAL GDP<br>(BILLIONS, CHAIN WEIGHTED)                        | 34                          | 19736      | 19850      | 19972      | 20088      | 20193      | 20307      | 19427          | 19907          | 20356          | 20765          | 21244          |
| 13. TOTAL CONSUMPTION EXPENDITURE<br>(BILLIONS, CHAIN WEIGHTED)   | 30                          | 13911.5    | 14007.3    | 14089.5    | 14178.4    | 14255.5    | 14330.0    | 13624.8        | 14047.2        | 14361.2        | N.A.           | N.A.           |
| 14. NONRESIDENTIAL FIXED INVESTMENT<br>(BILLIONS, CHAIN WEIGHTED) | 28                          | 2970.4     | 3021.2     | 3057.4     | 3088.9     | 3112.7     | 3143.4     | 2868.5         | 3035.4         | 3158.8         | N.A.           | N.A.           |
| 15. RESIDENTIAL FIXED INVESTMENT<br>(BILLIONS, CHAIN WEIGHTED)    | 29                          | 701.5      | 705.8      | 708.8      | 711.7      | 710.3      | 710.3      | 707.7          | 706.3          | 710.2          | N.A.           | N.A.           |
| 16. FEDERAL GOVERNMENT C & I<br>(BILLIONS, CHAIN WEIGHTED)        | 29                          | 1304.3     | 1309.5     | 1313.3     | 1317.3     | 1319.0     | 1324.5     | 1348.8         | 1312.4         | 1325.1         | N.A.           | N.A.           |
| 17. STATE AND LOCAL GOVT C & I<br>(BILLIONS, CHAIN WEIGHTED)      | 30                          | 2030.1     | 2039.4     | 2049.5     | 2056.9     | 2065.9     | 2072.9     | 2027.8         | 2044.0         | 2076.0         | N.A.           | N.A.           |
| 18. CHANGE IN PRIVATE INVENTORIES<br>(BILLIONS, CHAIN WEIGHTED)   | 29                          | 158.7      | 120.0      | 98.5       | 94.7       | 86.0       | 73.6       | -32.6          | 116.9          | 80.8           | N.A.           | N.A.           |
| 19. NET EXPORTS<br>(BILLIONS, CHAIN WEIGHTED)                     | 29                          | -1541.7    | -1545.6    | -1534.4    | -1526.1    | -1523.7    | -1512.5    | -1284.3        | -1537.2        | -1515.0        | N.A.           | N.A.           |

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

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

TABLE TWO  
MAJOR MACROECONOMIC INDICATORS  
PERCENTAGE CHANGES AT ANNUAL RATES

|                                                                   | NUMBER<br>OF<br>FORECASTERS | Q1 2022<br>TO<br>Q2 2022 | Q2 2022<br>TO<br>Q3 2022 | Q3 2022<br>TO<br>Q4 2022 | Q4 2022<br>TO<br>Q1 2023 | Q1 2023<br>TO<br>Q2 2023 | 2021<br>TO<br>2022 | 2022<br>TO<br>2023 | 2023<br>TO<br>2024 | 2024<br>TO<br>2025 |
|-------------------------------------------------------------------|-----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------|--------------------|--------------------|--------------------|
| 1. GROSS DOMESTIC PRODUCT (GDP)<br>(\$ BILLIONS)                  | 34                          | 7.3                      | 6.4                      | 5.3                      | 5.6                      | 4.9                      | 8.5                | 5.6                | N.A.               | N.A.               |
| 2. GDP PRICE INDEX<br>(2012=100)                                  | 33                          | 5.3                      | 3.9                      | 2.8                      | 3.0                      | 2.5                      | 6.1                | 3.0                | N.A.               | N.A.               |
| 3. CORPORATE PROFITS AFTER TAXES<br>(\$ BILLIONS)                 | 20                          | 4.7                      | -4.6                     | -1.0                     | -1.1                     | 0.8                      | 5.2                | -0.1               | N.A.               | N.A.               |
| 4. UNEMPLOYMENT RATE<br>(PERCENT)                                 | 33                          | -0.2                     | -0.1                     | 0.0                      | 0.0                      | 0.0                      | -1.8               | 0.0                | 0.2                | 0.0                |
| 5. NONFARM PAYROLL EMPLOYMENT<br>(PERCENT CHANGE)                 | 28                          | 3.1                      | 2.3                      | 1.5                      | 1.3                      | 0.5                      | 3.9                | 1.4                | N.A.               | N.A.               |
| (AVG MONTHLY CHANGE)                                              | 28                          | 381.3                    | 293.7                    | 193.2                    | 158.8                    | 61.3                     | 479.7              | 172.7              | N.A.               | N.A.               |
| 6. INDUSTRIAL PRODUCTION<br>(2017=100)                            | 27                          | 5.1                      | 3.6                      | 1.7                      | 0.3                      | 1.6                      | 5.0                | 1.6                | N.A.               | N.A.               |
| 7. NEW PRIVATE HOUSING STARTS<br>(ANNUAL RATE, MILLIONS)          | 28                          | -7.3                     | -11.6                    | -4.2                     | -3.6                     | -8.1                     | 5.7                | -7.2               | N.A.               | N.A.               |
| 8. 3-MONTH TREASURY BILL RATE<br>(PERCENT)                        | 31                          | 0.69                     | 0.64                     | 0.42                     | 0.31                     | 0.21                     | 1.19               | 1.32               | 0.12               | -0.16              |
| 9. MOODY'S AAA CORP BOND YIELD *<br>(PERCENT)                     | 19                          | N.A.                     | 0.15                     | 0.10                     | 0.29                     | 0.15                     | N.A.               | 0.78               | N.A.               | N.A.               |
| 10. MOODY'S BAA CORP BOND YIELD *<br>(PERCENT)                    | 18                          | N.A.                     | 0.33                     | 0.18                     | 0.19                     | 0.11                     | N.A.               | 0.85               | N.A.               | N.A.               |
| 11. 10-YEAR TREASURY BOND YIELD<br>(PERCENT)                      | 31                          | 0.94                     | 0.17                     | 0.01                     | 0.13                     | 0.01                     | 1.33               | 0.44               | 0.19               | -0.19              |
| 12. REAL GDP<br>(BILLIONS, CHAIN WEIGHTED)                        | 34                          | 2.3                      | 2.5                      | 2.3                      | 2.1                      | 2.3                      | 2.5                | 2.3                | 2.0                | 2.3                |
| 13. TOTAL CONSUMPTION EXPENDITURE<br>(BILLIONS, CHAIN WEIGHTED)   | 30                          | 2.8                      | 2.4                      | 2.5                      | 2.2                      | 2.1                      | 3.1                | 2.2                | N.A.               | N.A.               |
| 14. NONRESIDENTIAL FIXED INVESTMENT<br>(BILLIONS, CHAIN WEIGHTED) | 28                          | 7.0                      | 4.9                      | 4.2                      | 3.1                      | 4.0                      | 5.8                | 4.1                | N.A.               | N.A.               |
| 15. RESIDENTIAL FIXED INVESTMENT<br>(BILLIONS, CHAIN WEIGHTED)    | 29                          | 2.5                      | 1.7                      | 1.6                      | -0.8                     | 0.0                      | -0.2               | 0.5                | N.A.               | N.A.               |
| 16. FEDERAL GOVERNMENT C & I<br>(BILLIONS, CHAIN WEIGHTED)        | 29                          | 1.6                      | 1.2                      | 1.2                      | 0.5                      | 1.7                      | -2.7               | 1.0                | N.A.               | N.A.               |
| 17. STATE AND LOCAL GOVT C & I<br>(BILLIONS, CHAIN WEIGHTED)      | 30                          | 1.8                      | 2.0                      | 1.4                      | 1.8                      | 1.3                      | 0.8                | 1.6                | N.A.               | N.A.               |
| 18. CHANGE IN PRIVATE INVENTORIES<br>(BILLIONS, CHAIN WEIGHTED)   | 29                          | -38.7                    | -21.5                    | -3.8                     | -8.7                     | -12.4                    | 149.5              | -36.2              | N.A.               | N.A.               |
| 19. NET EXPORTS<br>(BILLIONS, CHAIN WEIGHTED)                     | 29                          | -3.9                     | 11.2                     | 8.3                      | 2.4                      | 11.1                     | -252.9             | 22.2               | 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 2022.

TABLE THREE  
MAJOR PRICE INDICATORS  
MEDIAN OF FORECASTER PREDICTIONS

|                                               | NUMBER<br>OF<br>FORECASTERS | ACTUAL     | FORECAST (Q/Q) |            |            |            |            |                | ACTUAL         | FORECAST (Q4/Q4) |                |  |
|-----------------------------------------------|-----------------------------|------------|----------------|------------|------------|------------|------------|----------------|----------------|------------------|----------------|--|
|                                               |                             | 2022<br>Q1 | 2022<br>Q2     | 2022<br>Q3 | 2022<br>Q4 | 2023<br>Q1 | 2023<br>Q2 | 2021<br>ANNUAL | 2022<br>ANNUAL | 2023<br>ANNUAL   | 2024<br>ANNUAL |  |
| 1. CONSUMER PRICE INDEX<br>(ANNUAL RATE)      | 32                          | 9.2        | 7.1            | 4.5        | 3.7        | 3.1        | 3.0        | 6.7            | 6.1            | 2.9              | 2.3            |  |
| 2. CORE CONSUMER PRICE INDEX<br>(ANNUAL RATE) | 31                          | 6.5        | 5.1            | 4.1        | 3.5        | 3.1        | 2.9        | 5.0            | 4.8            | 2.9              | 2.5            |  |
| 3. PCE PRICE INDEX<br>(ANNUAL RATE)           | 31                          | 7.0        | 5.7            | 4.1        | 3.0        | 2.7        | 2.6        | 5.5            | 5.0            | 2.5              | 2.2            |  |
| 4. CORE PCE PRICE INDEX<br>(ANNUAL RATE)      | 31                          | 5.2        | 4.3            | 3.8        | 3.2        | 2.8        | 2.7        | 4.6            | 4.1            | 2.5              | 2.2            |  |

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

TABLE FOUR  
YIELD SPREADS  
MEDIAN OF FORECASTER PREDICTIONS

|                                             | NUMBER<br>OF<br>FORECASTERS | ACTUAL     | FORECAST   |            |            |            |            | ACTUAL         | FORECAST       |                |                |                |
|---------------------------------------------|-----------------------------|------------|------------|------------|------------|------------|------------|----------------|----------------|----------------|----------------|----------------|
|                                             |                             | 2022<br>Q1 | 2022<br>Q2 | 2022<br>Q3 | 2022<br>Q4 | 2023<br>Q1 | 2023<br>Q2 | 2021<br>ANNUAL | 2022<br>ANNUAL | 2023<br>ANNUAL | 2024<br>ANNUAL | 2025<br>ANNUAL |
| 1. TBOND MINUS TBILL<br>(PERCENTAGE POINTS) | 30                          | 1.63       | 1.87       | 1.46       | 1.19       | 0.94       | 0.67       | 1.40           | 1.53           | 0.66           | 0.50           | 0.67           |
| 2. AAA MINUS TBOND<br>(PERCENTAGE POINTS)   | 19                          | N.A.       | 1.20       | 1.31       | 1.32       | 1.35       | 1.21       | N.A.           | 1.27           | 1.22           | N.A.           | N.A.           |
| 3. BAA MINUS TBOND<br>(PERCENTAGE POINTS)   | 18                          | N.A.       | 2.05       | 2.12       | 2.20       | 2.23       | 2.23       | N.A.           | 2.10           | 2.24           | N.A.           | N.A.           |
| 4. BAA MINUS AAA<br>(PERCENTAGE POINTS)     | 18                          | N.A.       | 0.85       | 0.90       | 0.93       | 0.95       | 0.99       | N.A.           | 0.85           | 0.97           | 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 2022.

TABLE FIVE  
ESTIMATED PROBABILITY OF DECLINE IN REAL GDP

| ESTIMATED<br>PROBABILITY<br>(CHANCES IN 100) | Q1 2022<br>TO<br>Q2 2022 | Q2 2022<br>TO<br>Q3 2022 | Q3 2022<br>TO<br>Q4 2022 | Q4 2022<br>TO<br>Q1 2023 | Q1 2023<br>TO<br>Q2 2023 |
|----------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| NUMBER OF FORECASTERS                        |                          |                          |                          |                          |                          |
| 10 OR LESS                                   | 11                       | 8                        | 5                        | 1                        | 2                        |
| 11 TO 20                                     | 6                        | 7                        | 9                        | 12                       | 10                       |
| 21 TO 30                                     | 6                        | 9                        | 6                        | 4                        | 7                        |
| 31 TO 40                                     | 2                        | 2                        | 5                        | 7                        | 6                        |
| 41 TO 50                                     | 0                        | 0                        | 1                        | 0                        | 1                        |
| 51 TO 60                                     | 0                        | 0                        | 0                        | 1                        | 0                        |
| 61 TO 70                                     | 0                        | 0                        | 0                        | 0                        | 0                        |
| 71 TO 80                                     | 0                        | 0                        | 0                        | 0                        | 0                        |
| 81 TO 90                                     | 1                        | 0                        | 0                        | 1                        | 0                        |
| 91 AND OVER                                  | 0                        | 0                        | 0                        | 0                        | 0                        |
| NOT REPORTING                                | 8                        | 8                        | 8                        | 8                        | 8                        |
| MEAN AND MEDIAN                              |                          |                          |                          |                          |                          |
| MEDIAN PROBABILITY                           | 15.20                    | 20.00                    | 20.00                    | 22.50                    | 23.50                    |
| MEAN PROBABILITY                             | 19.55                    | 19.74                    | 22.23                    | 28.23                    | 25.46                    |

Note: Total number of forecasters reporting is 26.

Source: Research Department, Federal Reserve Bank of Philadelphia.  
Survey of Professional Forecasters, Second 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  | 0.08  | 0.00  | 0.00  |
| 10.0 TO 11.9 PERCENT  | 0.00  | 0.15  | 0.00  | 0.01  |
| 8.0 TO 9.9 PERCENT    | 0.12  | 0.30  | 0.09  | 0.36  |
| 7.0 TO 7.9 PERCENT    | 0.35  | 0.75  | 1.02  | 1.51  |
| 6.0 TO 6.9 PERCENT    | 1.43  | 3.01  | 2.91  | 2.92  |
| 5.0 TO 5.9 PERCENT    | 5.36  | 10.05 | 13.50 | 15.34 |
| 4.0 TO 4.9 PERCENT    | 23.02 | 31.24 | 37.92 | 37.26 |
| 3.0 TO 3.9 PERCENT    | 65.63 | 46.15 | 37.30 | 35.99 |
| LESS THAN 3.0 PERCENT | 4.10  | 8.27  | 7.25  | 6.61  |

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    | 0.23      | 0.15      | 0.05      | 0.00      |
| 7.0 TO 9.9 PERCENT      | 1.08      | 1.12      | 0.82      | 0.59      |
| 4.0 TO 6.9 PERCENT      | 6.34      | 4.84      | 4.46      | 3.95      |
| 2.5 TO 3.9 PERCENT      | 37.81     | 24.44     | 20.39     | 21.84     |
| 1.5 TO 2.4 PERCENT      | 34.92     | 33.38     | 36.69     | 38.00     |
| 0.0 TO 1.4 PERCENT      | 15.49     | 24.04     | 24.90     | 24.75     |
| -3.0 TO -0.1 PERCENT    | 3.71      | 10.72     | 10.83     | 8.87      |
| -6.0 TO -3.1 PERCENT    | 0.38      | 1.08      | 1.53      | 1.56      |
| -12.0 TO -6.1 PERCENT   | 0.04      | 0.19      | 0.29      | 0.38      |
| LESS THAN -12.0 PERCENT | 0.00      | 0.04      | 0.05      | 0.06      |

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   | 78.44     | 21.54     |
| 3.5 TO 3.9 PERCENT    | 12.96     | 16.50     |
| 3.0 TO 3.4 PERCENT    | 3.56      | 18.22     |
| 2.5 TO 2.9 PERCENT    | 1.24      | 19.01     |
| 2.0 TO 2.4 PERCENT    | 1.80      | 14.47     |
| 1.5 TO 1.9 PERCENT    | 1.80      | 8.05      |
| 1.0 TO 1.4 PERCENT    | 0.20      | 1.40      |
| 0.5 TO 0.9 PERCENT    | 0.00      | 0.50      |
| 0.0 TO 0.4 PERCENT    | 0.00      | 0.18      |
| LESS THAN 0.0 PERCENT | 0.00      | 0.13      |

Source: Research Department, Federal Reserve Bank of Philadelphia.  
Survey of Professional Forecasters, Second 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   | 64.12        | 12.70        |
| 3.5 TO 3.9 PERCENT    | 17.89        | 13.71        |
| 3.0 TO 3.4 PERCENT    | 7.06         | 18.23        |
| 2.5 TO 2.9 PERCENT    | 5.66         | 21.70        |
| 2.0 TO 2.4 PERCENT    | 2.35         | 19.22        |
| 1.5 TO 1.9 PERCENT    | 0.83         | 8.97         |
| 1.0 TO 1.4 PERCENT    | 1.46         | 4.53         |
| 0.5 TO 0.9 PERCENT    | 0.42         | 0.67         |
| 0.0 TO 0.4 PERCENT    | 0.21         | 0.20         |
| LESS THAN 0.0 PERCENT | 0.00         | 0.09         |

MEAN PROBABILITY ATTACHED TO CORE PCE INFLATION:

|                       | 21Q4 TO 22Q4 | 22Q4 TO 23Q4 |
|-----------------------|--------------|--------------|
|                       | <hr/>        | <hr/>        |
| 4.0 PERCENT OR MORE   | 49.75        | 9.22         |
| 3.5 TO 3.9 PERCENT    | 24.37        | 10.43        |
| 3.0 TO 3.4 PERCENT    | 11.16        | 15.89        |
| 2.5 TO 2.9 PERCENT    | 7.28         | 21.79        |
| 2.0 TO 2.4 PERCENT    | 2.63         | 22.73        |
| 1.5 TO 1.9 PERCENT    | 1.47         | 12.44        |
| 1.0 TO 1.4 PERCENT    | 2.29         | 5.70         |
| 0.5 TO 0.9 PERCENT    | 0.83         | 1.38         |
| 0.0 TO 0.4 PERCENT    | 0.21         | 0.28         |
| LESS THAN 0.0 PERCENT | 0.00         | 0.14         |

Source: Research Department, Federal Reserve Bank of Philadelphia.  
Survey of Professional Forecasters, Second 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     | 3.00 | LOWER QUARTILE     | 2.70 |
| MEDIAN             | 3.40 | MEDIAN             | 2.90 |
| UPPER QUARTILE     | 3.50 | UPPER QUARTILE     | 3.10 |
| MAXIMUM            | 6.80 | MAXIMUM            | 5.00 |
| MEAN               | 3.39 | MEAN               | 2.94 |
| STD. DEVIATION     | 0.90 | STD. DEVIATION     | 0.65 |
| N                  | 25   | N                  | 25   |
| MISSING            | 9    | MISSING            | 9    |

ANNUAL AVERAGE OVER THE FOLLOWING 5 YEARS: 2027-2031

| CPI INFLATION RATE |       | PCE INFLATION RATE |       |
|--------------------|-------|--------------------|-------|
| -----              |       | -----              |       |
| MINIMUM            | -0.21 | MINIMUM            | -0.22 |
| LOWER QUARTILE     | 2.05  | LOWER QUARTILE     | 1.90  |
| MEDIAN             | 2.20  | MEDIAN             | 2.00  |
| UPPER QUARTILE     | 2.49  | UPPER QUARTILE     | 2.20  |
| MAXIMUM            | 2.85  | MAXIMUM            | 2.83  |
| MEAN               | 2.16  | MEAN               | 1.98  |
| STD. DEVIATION     | 0.59  | STD. DEVIATION     | 0.54  |
| N                  | 23    | N                  | 23    |
| MISSING            | 11    | MISSING            | 11    |

ANNUAL AVERAGE OVER THE NEXT 10 YEARS: 2022-2031

| CPI INFLATION RATE |      | PCE INFLATION RATE |      |
|--------------------|------|--------------------|------|
| -----              |      | -----              |      |
| MINIMUM            | 1.74 | MINIMUM            | 1.55 |
| LOWER QUARTILE     | 2.50 | LOWER QUARTILE     | 2.30 |
| MEDIAN             | 2.80 | MEDIAN             | 2.40 |
| UPPER QUARTILE     | 3.00 | UPPER QUARTILE     | 2.60 |
| MAXIMUM            | 4.60 | MAXIMUM            | 3.60 |
| MEAN               | 2.78 | MEAN               | 2.46 |
| STD. DEVIATION     | 0.58 | STD. DEVIATION     | 0.45 |
| N                  | 23   | N                  | 23   |
| MISSING            | 11   | 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 2022.