

## Release Date: May 11, 2012

## SECOND QUARTER 2012

## Nearly Three-Quarters of Panelists Forecast Inflation According to FOMC's Longer-Run Goal

On January 25, 2012, the Board of Governors of the Federal Reserve System issued a press release stating that the Federal Open Market Committee (FOMC) had reached broad agreement on some principles regarding its longer-run goals and monetary policy strategy. Among other things, the press release noted: "The Committee judges that inflation at the rate of 2 percent, as measured by the annual change in the price index for personal consumption expenditures, is most consistent over the longer run with the Federal Reserve's statutory mandate."

In this survey, we asked the panelists whether their long-run forecasts for inflation in the price index for personal consumption expenditures (PCE) are consistent with the FOMC's longer run goal of 2 percent. Nearly three-quarters of the 31 panelists who answered the question indicated that their long forecasts for PCE inflation do not differ in an *economically meaningful way* from the FOMC's goal. Notably, eight of 31 panelists said they do not believe the FOMC will achieve its goal. These panelists, on average, think inflation in the long run will exceed 2 percent. (One panelist misinterpreted the question. Accordingly, we excluded his answers from our tabulations.)

The table below summarizes the survey's long-run PCE inflation forecasts of the 31 panelists (who answered the special questions), sorted according to those whose projections are consistent with the FOMC's inflation goal and those whose projections are not.\*

|        | All Resp                | ponses to the<br>Question | Special | Projection<br>the FOM | ses of Those<br>ns Are <i>Consi</i><br>[C's Longer-]<br>[nflation Goa | <i>stent</i> with<br>Run PCE | Responses of Those Whose<br>Projections Are <i>Inconsistent</i> with<br>the FOMC's Longer-Run PCE<br>Inflation Goal |         |      |  |
|--------|-------------------------|---------------------------|---------|-----------------------|-----------------------------------------------------------------------|------------------------------|---------------------------------------------------------------------------------------------------------------------|---------|------|--|
|        | 2012 to 2017 to 2012 to |                           | 2012 to | 2017 to               | 2012 to                                                               | 2012 to                      | 2017 to                                                                                                             | 2012 to |      |  |
|        | 2016                    | 2021                      | 2021    | 2016                  | 2021                                                                  | 2021                         | 2016                                                                                                                | 2021    | 2021 |  |
| 25th   | 1.96                    | 1.97                      | 1.92    | 1.80                  | 1.90                                                                  | 1.90                         | 2.18                                                                                                                | 2.40    | 2.48 |  |
| Median | 2.08                    | 2.15                      | 2.20    | 2.00                  | 2.00                                                                  | 2.00                         | 2.55                                                                                                                | 2.60    | 2.50 |  |
| Mean   | 2.12                    | 2.23                      | 2.17    | 1.97                  | 2.05                                                                  | 2.00                         | 2.55                                                                                                                | 2.75    | 2.65 |  |
| 75th   | 2.40                    | 2.50                      | 2.50    | 2.10                  | 2.25                                                                  | 2.20                         | 2.85                                                                                                                | 3.05    | 2.85 |  |
| Ν      | 31                      | 31                        | 31      | 23                    | 23                                                                    | 23                           | 8                                                                                                                   | 8       | 8    |  |

Responses to the Special Questions on the FOMC's Longer-Run Inflation Goal

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<sup>\*</sup> Note that the table shows the survey's projections for annual-average inflation (expressed in percentage points) over the years 2012-2016, 2017-2021, and 2012-2021. The survey's five- and 10-year annual average horizons do not necessarily correspond to the horizon that the FOMC had in mind when it issued its January 25 press release.

Among those 23 panelists (N) who say their long-run inflation projections do not differ in an economically meaningful way from the FOMC's goal of 2 percent, the mean and median estimates over the years 2012 to 2016 and 2017 to 2021 are near 2 percent. Moreover, the range of estimates (given by the 25th and 75th percentiles) is narrow, from 1.80 percent to 2.10 percent over the five-year period from 2012 to 2016 and 1.90 percent to 2.25 percent over 2017 to 2021.

In contrast, the eight panelists who say their projections diverge in an economically meaningful way from the FOMC's longer-run goal predict inflation in excess of 2 percent. The median estimates are nearly 0.5 percentage point higher than the FOMC's goal. These forecasters project five-year annual-average inflation of 2.55 percent over 2012 to 2016 and 2.60 percent over 2017 to 2021. The upper bound of the interquartile range (denoted 75th) is 2.85 percent over the next five years and 3.05 percent over 2017 to 2021.

The eight panelists whose long-run projections are in excess of the FOMC's goal gave several reasons for their views. Some thought the FOMC would be too slow to tighten monetary policy at the appropriate time. They worried about the political pressure the FOMC would face as the time approaches for tighter monetary policy. Others worried that some members of the FOMC have a bias toward higher inflation or asymmetric preferences for inflation above and below target and would thus be reluctant to vote for tighter monetary policy in the face of future adverse supply shocks. One panelist questioned the credibility of the FOMC's inflation target and pointed to the U.S. inflation experience of the 1970s as a source for concern.

## **Outlook for Growth Holds Steady**

The outlook for growth in the U.S. economy is little changed from that of three months ago, according to 39 forecasters surveyed by the Federal Reserve Bank of Philadelphia. The forecasters expect real GDP to grow at an annual rate of 2.4 percent this quarter, up slightly from the previous estimate of 2.3 percent. Over the next three quarters, they expect GDP growth to average 2.6 percent, down from the previous average of 2.8 percent. On an annual-average over annual-average basis, the forecasters see real GDP growth for 2012 and 2013, at 2.3 percent and 2.7 percent, respectively. These estimates are the same as those in the previous survey. The forecasters predict real GDP will grow 3.1 percent in 2014 and 3.4 percent in 2015.

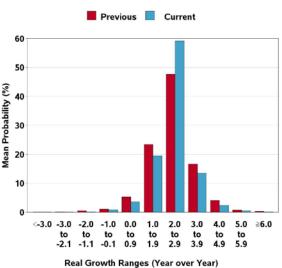
Projections for stronger conditions in the labor market accompany the outlook for real output. Unemployment is projected to be an annual average of 8.1 percent in 2012, before falling to 7.7 percent in 2013, 7.2 percent in 2014, and 6.6 percent in 2015. The estimates for 2012, 2013, and 2014 are 0.2 percentage point lower than the projections in the last survey.

On the employment front, the forecasters have revised upward their estimates of the growth in jobs in the next four quarters. The forecasters see nonfarm payroll employment growing at a rate of 164,900 jobs per month this quarter and 170,000 jobs per month next quarter. The forecasters' projections for the annual-average level of nonfarm payroll employment suggest job gains at a monthly rate of 171,900 in 2012 and 175,700 in 2013, as the table below shows. (These annual-average estimates are computed as the year-to-year change in the annual-average level of nonfarm payroll employment, converted to a monthly rate.)

|                  | Forecasts for Selected Variables in the Current and Previous Surveys |           |                 |             |                       |       |  |  |
|------------------|----------------------------------------------------------------------|-----------|-----------------|-------------|-----------------------|-------|--|--|
|                  | Real GDP (%)                                                         |           | Unemployme      | nt Rate (%) | Payrolls (000s/month) |       |  |  |
|                  | Previous                                                             | New       | Previous        | New         | Previous              | s New |  |  |
| Quarterly data:  |                                                                      |           |                 |             |                       |       |  |  |
| 2012:Q2          | 2.3                                                                  | 2.4       | 8.3             | 8.1         | 141.9                 | 164.9 |  |  |
| 2012:Q3          | 2.6                                                                  | 2.5       | 8.2             | 8.0         | 145.2                 | 170.0 |  |  |
| 2012:Q4          | 3.0                                                                  | 2.6       | 8.1             | 7.9         | 161.7                 | 172.6 |  |  |
| 2013:Q1          | 2.8                                                                  | 2.6       | 8.0             | 7.9         | 155.9                 | 170.3 |  |  |
| 2013:Q2          | N.A.                                                                 | 2.7       | N.A.            | 7.7         | N.A.                  | 185.8 |  |  |
| Annual data (pro | ojections are ba                                                     | sed on an | nual-average le | evels):     |                       |       |  |  |
| 2012             | 2.3                                                                  | 2.3       | 8.3             | 8.1         | 144.1                 | 171.9 |  |  |
| 2013             | 2.7                                                                  | 2.7       | 7.9             | 7.7         | 162.9                 | 175.7 |  |  |
| 2014             | 3.0                                                                  | 3.1       | 7.4             | 7.2         | N.A.                  | N.A.  |  |  |
| 2015             | 3.1                                                                  | 3.4       | 6.7             | 6.6         | N.A.                  | N.A.  |  |  |

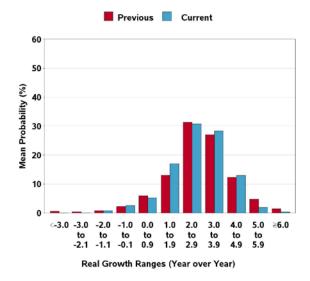
# Econogets for Selected Variables in the Current and Provide Survey

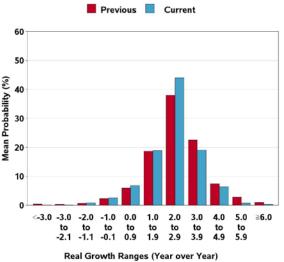
The charts below provide some insight into the degree of uncertainty the forecasters have about their projections for the rate of growth in the annual-average level of real GDP. Each chart presents the forecasters' previous and current estimates of the probability that growth will fall into each of 11 ranges. The forecasters have revised upward their estimate of the probability that growth will fall into the range of 2.0 to 2.9 percent in 2012 and 2013. The charts show that the estimates of uncertainty about growth in 2014 and 2015 are nearly the same as those in the previous survey.



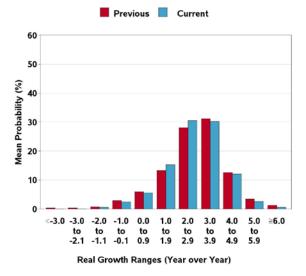
# Mean Probabilities for Real GDP Growth in 2012





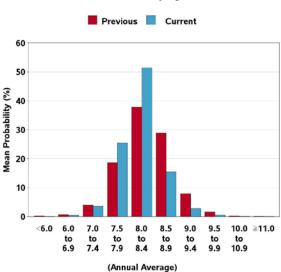


Mean Probabilities for Real GDP Growth in 2015

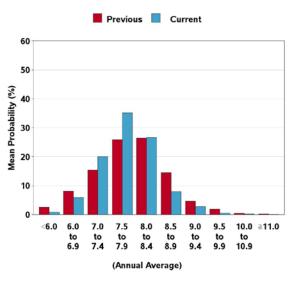


# Mean Probabilities for Real GDP Growth in 2013

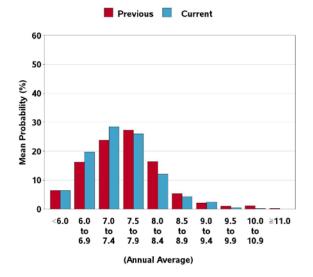
The forecasters' density projections, as shown in the charts below, shed light on the odds of a recovery in the labor market over the next four years. Each chart presents the forecasters' previous and current estimates of the probability that unemployment will fall into each of 10 ranges. The forecasters have shifted the distributions of density to the left for 2012, 2013, and 2014, indicating their expectations of lower unemployment rates compared with their previous estimates.



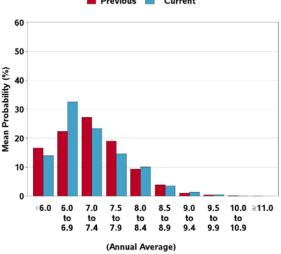
## Mean Probabilities for Unemployment Rate in 2012 Mean Probabilities for Unemployment Rate in 2013



Mean Probabilities for Unemployment Rate in 2014



Mean Probabilities for Unemployment Rate in 2015





## Forecasters See Small Increase in Near-Term Inflation

The forecasters expect current-quarter headline CPI inflation to average 2.1 percent, up slightly from the last survey's estimate. They predict current-quarter headline PCE inflation of 2.0 percent, 0.3 percentage point higher than their previous estimate.

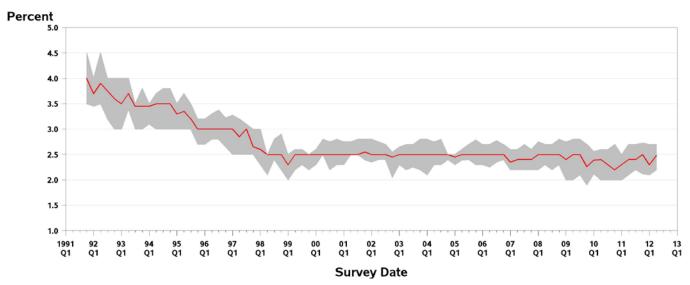
Measured on a fourth-quarter over fourth-quarter basis, headline CPI inflation is expected to average 2.3 percent in 2012, up from 2.0 percent in the last survey; 2.1 percent in 2013, down from 2.2 percent; and 2.5 percent in 2014, up from 2.3 percent. Forecasters expect fourth-quarter over fourth-quarter headline PCE inflation to average 2.1 percent in 2012, up from 1.9 percent in the last survey; 2.0 percent in 2013, unchanged from the previous estimate; and 2.2 percent in 2014, up from 2.1 percent.

Over the next 10 years, 2012 to 2021, the forecasters expect headline CPI inflation to average 2.48 percent at an annual rate, higher than the estimate of 2.30 percent from the survey of three months ago. There is also a small increase in the corresponding estimates for 10-year annual-average headline PCE inflation. Currently, that 10-year estimate stands at 2.20 percent.

|                           | Headline CPI |         | Core CPI |         | Headlin  | e PCE   | Core PCE |         |
|---------------------------|--------------|---------|----------|---------|----------|---------|----------|---------|
|                           | Previous     | Current | Previous | Current | Previous | Current | Previous | Current |
| Quarterly                 |              |         |          |         |          |         |          |         |
| 2012:Q2                   | 2.0          | 2.1     | 1.8      | 2.1     | 1.7      | 2.0     | 1.7      | 1.8     |
| 2012:Q3                   | 2.1          | 2.3     | 1.9      | 2.0     | 1.8      | 1.9     | 1.7      | 1.7     |
| 2012:Q4                   | 2.1          | 2.1     | 2.0      | 2.0     | 2.0      | 2.0     | 1.7      | 1.7     |
| 2013:Q1                   | 2.1          | 2.2     | 2.0      | 2.0     | 2.0      | 2.2     | 1.7      | 1.9     |
| 2013:Q2                   | N.A.         | 2.2     | N.A.     | 2.1     | N.A.     | 2.0     | N.A.     | 1.9     |
| Q4/Q4 Annual Averages     |              |         |          |         |          |         |          |         |
| 2012                      | 2.0          | 2.3     | 1.9      | 2.0     | 1.9      | 2.1     | 1.6      | 1.8     |
| 2013                      | 2.2          | 2.1     | 2.1      | 2.0     | 2.0      | 2.0     | 1.8      | 1.9     |
| 2014                      | 2.3          | 2.5     | 2.2      | 2.2     | 2.1      | 2.2     | 2.0      | 2.0     |
| Long-Term Annual Averages |              |         |          |         |          |         |          |         |
| 2012-2016                 | 2.30         | 2.35    | N.A.     | N.A.    | 2.10     | 2.04    | N.A.     | N.A.    |
| 2012-2021                 | 2.30         | 2.48    | N.A.     | N.A.    | 2.15     | 2.20    | N.A.     | N.A.    |

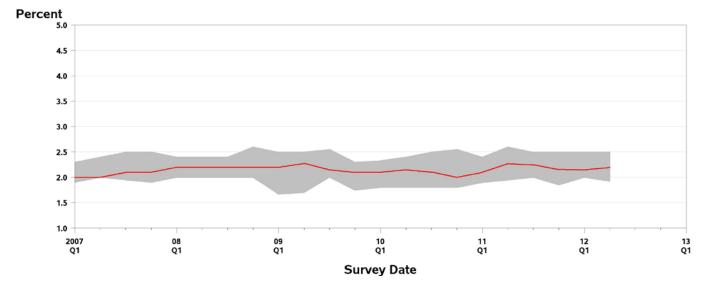
## Short-Run and Long-Run Projections for Inflation (Annualized Percentage Points)

The charts below show the median projections (the red line) and the associated interquartile ranges (the gray area around the red line) for 10-year annual-average CPI and PCE inflation. The top panel shows the upward revision for CPI inflation, from 2.30 percent to 2.48 percent. The bottom panel highlights a small increase in the 10-year forecast for PCE inflation.

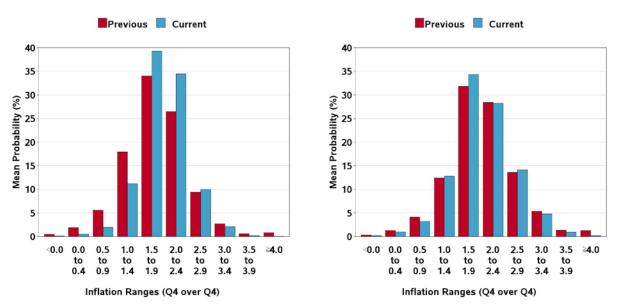


Projections for the 10-Year Annual-Average Rate of CPI Inflation (Median and Interquartile Range)





The figures below show the probabilities the forecasters are assigning to the possibility that fourth-quarter over fourthquarter core PCE inflation in 2012 and 2013 will fall into each of 10 ranges. The forecasters have shifted the distribution of density to the right for 2012, indicating their expectations of higher core PCE inflation in 2012 compared with their previous estimates.



## Mean Probabilities for Core PCE Inflation in 2012 Mean Probabilities for Core PCE Inflation in 2013

## Lower Risk of a Negative Quarter in 2012

The forecasters have revised downward the chance of a contraction in real GDP in any of the next quarters in 2012. For the current quarter, they predict a 9.8 percent chance of negative growth, down from 13.4 percent in the survey of three months ago. As the table below shows, the panelists have also made downward revisions to their forecasts for the following two quarters. For the first quarter in 2013, the forecasters predict a 17.3 percent chance of negative growth, up from 15.8 percent in the previous survey.

### Risk of a Negative Quarter (%)

| Quarterly data: | Previous | New  |
|-----------------|----------|------|
| 2012: Q2        | 13.4     | 9.8  |
| 2012: Q3        | 14.7     | 12.2 |
| 2012: Q4        | 14.8     | 14.5 |
| 2013: Q1        | 15.8     | 17.3 |
| 2013: Q2        | N.A.     | 17.8 |

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

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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

|                                                                                               | 2012<br>Q2   | 2012<br>Q3   | 2012<br>Q4   |              | 2013<br>Q2   | 2012         |                 | 2014<br>DVER-YEA | 2015<br>JR)  |
|-----------------------------------------------------------------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------------|------------------|--------------|
| PERCENT GROWTH AT ANNUAL RATES                                                                |              |              |              |              |              |              |                 |                  |              |
| <ol> <li>REAL GDP<br/>(BILLIONS, CHAIN WEIGHTED)</li> </ol>                                   | 2.4          | 2.5          | 2.6          | 2.6          | 2.7          | 2.3          | 2.7             | 3.1              | 3.4          |
| 2. GDP PRICE INDEX<br>(PERCENT CHANGE)                                                        | 1.8          | 2.0          | 1.7          | 2.1          | 1.9          | 1.7          | 2.0             | N.A.             | N.A.         |
| 3. NOMINAL GDP<br>(\$ BILLIONS)                                                               | 4.1          | 4.4          | 4.8          | 4.2          | 4.2          | 4.1          | 4.4             | N.A.             | N.A.         |
| <ul><li>4. NONFARM PAYROLL EMPLOYMENT<br/>(PERCENT CHANGE)<br/>(AVG MONTHLY CHANGE)</li></ul> | 1.5<br>164.9 | 1.5<br>170.0 | 1.6<br>172.6 | 1.5<br>170.3 | 1.7<br>185.8 | 1.6<br>171.9 | 1.6<br>175.7    | N.A.<br>N.A.     | N.A.<br>N.A. |
| VARIABLES IN LEVELS                                                                           |              |              |              |              |              |              |                 |                  |              |
| 5. UNEMPLOYMENT RATE (PERCENT)                                                                | 8.1          | 8.0          | 7.9          | 7.9          | 7.7          | 8.1          | 7.7             | 7.2              | 6.6          |
| <pre>6. 3-MONTH TREASURY BILL (PERCENT)</pre>                                                 | 0.1          | 0.1          | 0.1          | 0.1          | 0.1          | 0.1          | 0.2             | 0.8              | 1.6          |
| 7. 10-YEAR TREASURY BOND<br>(PERCENT)                                                         | 2.1          | 2.3          | 2.3          | 2.4          | 2.6          | 2.2          | 2.6             | 3.2              | 3.9          |
|                                                                                               | 2012<br>Q2   | 2012<br>Q3   | 2012<br>Q4   | 2013<br>Q1   | 2013<br>Q2   | 2012         | 2013<br>Q4-OVER |                  |              |
| INFLATION INDICATORS                                                                          |              |              |              |              |              |              |                 |                  |              |
| 8. CPI<br>(ANNUAL RATE)                                                                       | 2.1          | 2.3          | 2.1          | 2.2          | 2.2          | 2.3          | 2.1             | 2.5              |              |
| 9. CORE CPI<br>(ANNUAL RATE)                                                                  | 2.1          | 2.0          | 2.0          | 2.0          | 2.1          | 2.0          | 2.0             | 2.2              |              |
| 10. PCE<br>(ANNUAL RATE)                                                                      | 2.0          | 1.9          | 2.0          | 2.2          | 2.0          | 2.1          | 2.0             | 2.2              |              |
| 11. CORE PCE<br>(ANNUAL RATE)                                                                 | 1.8          | 1.7          | 1.7          | 1.9          | 1.9          | 1.8          | 1.9             | 2.0              |              |

THE FIGURES ON EACH LINE ARE MEDIANS OF 39 INDIVIDUAL FORECASTERS.

## SURVEY OF PROFESSIONAL FORECASTERS

Second Quarter 2012

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; the tables do not reflect subsequent revisions to the data. All forecasts were received on or before May 8, 2012.

### TABLE ONE MAJOR MACROECONOMIC INDICATORS MEDIANS OF FORECASTER PREDICTIONS

|     |                                                            | NUMBER            | ACTUAL     |            |            | FORECAS    | Т          |            | ACTUAL         |                | FORE           | CAST           |                |
|-----|------------------------------------------------------------|-------------------|------------|------------|------------|------------|------------|------------|----------------|----------------|----------------|----------------|----------------|
|     |                                                            | OF<br>FORECASTERS | 2012<br>Q1 | 2012<br>Q2 | 2012<br>Q3 | 2012<br>Q4 | 2013<br>Q1 | 2013<br>Q2 | 2011<br>ANNUAL | 2012<br>ANNUAL | 2013<br>ANNUAL | 2014<br>ANNUAL | 2015<br>ANNUAL |
| 1.  | GROSS DOMESTIC PRODUCT (GDP)<br>(\$ BILLIONS)              | 37                | 15462      | 15619      | 15787      | 15975      | 16139      | 16307      | 15094          | 15708          | 16398          | N.A.           | N.A.           |
| 2.  | GDP PRICE INDEX (2005=100)                                 | 37                | 114.49     | 115.00     | 115.59     | 116.06     | 116.68     | 117.23     | 113.34         | 115.30         | 117.60         | N.A.           | N.A.           |
| 3.  | CORPORATE PROFITS AFTER TAXE<br>(\$ BILLIONS)              | S 23              | N.A.       | 1608.1     | 1630.0     | 1638.1     | 1651.1     | 1677.6     | 1526.5         | 1612.0         | 1696.0         | N.A.           | N.A.           |
| 4.  | UNEMPLOYMENT RATE<br>(PERCENT)                             | 38                | 8.3        | 8.1        | 8.0        | 7.9        | 7.9        | 7.7        | 9.0            | 8.1            | 7.7            | 7.2            | 6.6            |
| 5.  | NONFARM PAYROLL EMPLOYMENT<br>(THOUSANDS)                  | 35                | 132661     | 133156     | 133666     | 134184     | 134694     | 135252     | 131359         | 133421         | 135529         | N.A.           | N.A.           |
| 6.  | INDUSTRIAL PRODUCTION (2007=100)                           | 35                | 96.6       | 97.3       | 98.2       | 99.0       | 99.7       | 100.4      | 93.7           | 97.7           | 100.7          | N.A.           | N.A.           |
| 7.  | NEW PRIVATE HOUSING STARTS<br>(ANNUAL RATE, MILLIONS)      | 35                | 0.69       | 0.70       | 0.72       | 0.74       | 0.77       | 0.80       | 0.61           | 0.71           | 0.82           | N.A.           | N.A.           |
| 8.  | 3-MONTH TREASURY BILL RATE (PERCENT)                       | 35                | 0.07       | 0.08       | 0.09       | 0.09       | 0.10       | 0.10       | 0.05           | 0.08           | 0.15           | 0.79           | 1.60           |
| 9.  | AAA CORPORATE BOND YIELD (PERCENT)                         | 29                | 3.90       | 3.95       | 4.02       | 4.10       | 4.20       | 4.33       | 4.64           | 4.00           | 4.39           | N.A.           | N.A.           |
| 10. | BAA CORPORATE BOND YIELD (PERCENT)                         | 27                | 5.20       | 5.20       | 5.28       | 5.35       | 5.44       | 5.53       | 5.66           | 5.23           | 5.52           | N.A.           | N.A.           |
| 11. | 10-YEAR TREASURY BOND YIELD<br>(PERCENT)                   | 37                | 2.04       | 2.10       | 2.25       | 2.35       | 2.45       | 2.58       | 2.79           | 2.18           | 2.62           | 3.15           | 3.89           |
| 12. | REAL GDP<br>(BILLIONS, CHAIN WEIGHTED)                     | 38                | 13502      | 13582      | 13666      | 13755      | 13843      | 13937      | 13315          | 13625          | 13989          | 14416          | 14902          |
| 13. | TOTAL CONSUMPTION EXPENDITUR<br>(BILLIONS, CHAIN WEIGHTED) |                   | 9550.2     | 9604.5     | 9659.9     | 9715.9     | 9771.0     | 9829.2     | 9421.3         | 9632.6         | 9856.3         | N.A.           | N.A.           |
| 14. | NONRESIDENTIAL FIXED INVESTM<br>(BILLIONS, CHAIN WEIGHTED) |                   | 1476.2     | 1503.7     | 1530.8     | 1551.1     | 1573.9     | 1601.0     | 1435.5         | 1514.5         | 1616.6         | N.A.           | N.A.           |
| 15. | RESIDENTIAL FIXED INVESTMENT<br>(BILLIONS, CHAIN WEIGHTED) |                   | 349.4      | 355.1      | 361.6      | 367.9      | 374.9      | 379.4      | 326.4          | 358.5          | 386.7          | N.A.           | N.A.           |
| 16. | FEDERAL GOVERNMENT C & I<br>(BILLIONS, CHAIN WEIGHTED)     |                   | 1029.7     | 1034.8     | 1036.9     | 1037.2     | 1036.1     | 1033.5     | 1055.0         | 1035.1         | 1031.1         | N.A.           | N.A.           |
| 17. | STATE AND LOCAL GOVT C & I<br>(BILLIONS, CHAIN WEIGHTED)   |                   | 1438.0     | 1435.1     | 1433.0     | 1432.7     | 1432.3     | 1433.5     | 1453.8         | 1434.8         | 1434.0         | N.A.           | N.A.           |
| 18. | CHANGE IN PRIVATE INVENTORIE<br>(BILLIONS, CHAIN WEIGHTED) |                   | 69.5       | 55.0       | 55.2       | 57.3       | 55.1       | 50.1       | 34.6           | 59.4           | 48.0           | N.A.           | N.A.           |
| 19. | NET EXPORTS (BILLIONS, CHAIN WEIGHTED)                     |                   | -410.1     | -409.3     | -410.7     | -412.9     | -410.1     | -414.4     | -413.6         | -410.3         | -418.4         | N.A.           | N.A.           |

#### TABLE TWO MAJOR MACROECONOMIC INDICATORS PERCENTAGE CHANGES AT ANNUAL RATES

|     |                                                                        | NUMBER<br>OF<br>ECASTERS | то           | Q2 2012<br>TO<br>Q3 2012 | TO           | TO           | TO           | 2011<br>TO<br>2012 | 2012<br>TO<br>2013 | 2013<br>TO<br>2014 | 2014<br>TO<br>2015 |
|-----|------------------------------------------------------------------------|--------------------------|--------------|--------------------------|--------------|--------------|--------------|--------------------|--------------------|--------------------|--------------------|
| 1.  | GROSS DOMESTIC PRODUCT (GDP)<br>(\$ BILLIONS)                          | 37                       | 4.1          | 4.4                      | 4.8          | 4.2          | 4.2          | 4.1                | 4.4                | N.A.               | N.A.               |
| 2.  | GDP PRICE INDEX (2005=100)                                             | 37                       | 1.8          | 2.0                      | 1.7          | 2.1          | 1.9          | 1.7                | 2.0                | N.A.               | N.A.               |
| 3.  | CORPORATE PROFITS AFTER TAXES (\$ BILLIONS)                            | 23                       | 7.8          | 5.6                      | 2.0          | 3.2          | 6.6          | 5.6                | 5.2                | N.A.               | N.A.               |
| 4.  | UNEMPLOYMENT RATE<br>(PERCENT)                                         | 38                       | -0.2         | -0.1                     | -0.1         | -0.1         | -0.1         | -0.9               | -0.4               | -0.5               | -0.6               |
| 5.  | NONFARM PAYROLL EMPLOYMENT<br>(PERCENT CHANGE)<br>(AVG MONTHLY CHANGE) | 35<br>35                 | 1.5<br>164.9 | 1.5<br>170.0             | 1.6<br>172.6 | 1.5<br>170.3 | 1.7<br>185.8 | 1.6<br>171.9       | 1.6<br>175.7       | N.A.<br>N.A.       | N.A.<br>N.A.       |
| 6.  | INDUSTRIAL PRODUCTION (2007=100)                                       | 35                       | 3.1          | 3.4                      | 3.3          | 3.0          | 2.7          | 4.3                | 3.1                | N.A.               | N.A.               |
| 7.  | NEW PRIVATE HOUSING STARTS<br>(ANNUAL RATE, MILLIONS)                  | 35                       | 5.3          | 11.4                     | 12.3         | 18.6         | 18.3         | 16.1               | 16.2               | N.A.               | N.A.               |
| 8.  | 3-MONTH TREASURY BILL RATE (PERCENT)                                   | 35                       | 0.01         | 0.01                     | 0.00         | 0.01         | 0.00         | 0.03               | 0.07               | 0.64               | 0.81               |
| 9.  | AAA CORPORATE BOND YIELD (PERCENT)                                     | 29                       | 0.05         | 0.07                     | 0.08         | 0.10         | 0.13         | -0.64              | 0.39               | N.A.               | N.A.               |
| 10. | BAA CORPORATE BOND YIELD (PERCENT)                                     | 27                       | 0.00         | 0.08                     | 0.07         | 0.09         | 0.08         | -0.43              | 0.29               | N.A.               | N.A.               |
| 11. | 10-YEAR TREASURY BOND YIELD<br>(PERCENT)                               | 37                       | 0.06         | 0.15                     | 0.10         | 0.10         | 0.14         | -0.62              | 0.45               | 0.53               | 0.74               |
| 12. | REAL GDP<br>(BILLIONS, CHAIN WEIGHTED)                                 | 38                       | 2.4          | 2.5                      | 2.6          | 2.6          | 2.7          | 2.3                | 2.7                | 3.1                | 3.4                |
| 13. | TOTAL CONSUMPTION EXPENDITURE (BILLIONS, CHAIN WEIGHTED)               | 37                       | 2.3          | 2.3                      | 2.3          | 2.3          | 2.4          | 2.2                | 2.3                | N.A.               | N.A.               |
| 14. | NONRESIDENTIAL FIXED INVESTMENT<br>(BILLIONS, CHAIN WEIGHTED)          | г 35                     | 7.7          | 7.4                      | 5.4          | 6.0          | 7.1          | 5.5                | 6.7                | N.A.               | N.A.               |
| 15. | RESIDENTIAL FIXED INVESTMENT<br>(BILLIONS, CHAIN WEIGHTED)             | 35                       | 6.7          | 7.6                      | 7.2          | 7.8          | 4.9          | 9.8                | 7.9                | N.A.               | N.A.               |
| 16. | FEDERAL GOVERNMENT C & I<br>(BILLIONS, CHAIN WEIGHTED)                 | 33                       | 2.0          | 0.8                      | 0.1          | -0.4         | -1.0         | -1.9               | -0.4               | N.A.               | N.A.               |
| 17. | STATE AND LOCAL GOVT C & I<br>(BILLIONS, CHAIN WEIGHTED)               | 34                       | -0.8         | -0.6                     | -0.1         | -0.1         | 0.3          | -1.3               | -0.1               | N.A.               | N.A.               |
| 18. | CHANGE IN PRIVATE INVENTORIES<br>(BILLIONS, CHAIN WEIGHTED)            | 35                       | -14.5        | 0.2                      | 2.1          | -2.2         | -5.0         | 24.8               | -11.4              | N.A.               | N.A.               |
| 19. | NET EXPORTS<br>(BILLIONS, CHAIN WEIGHTED)                              | 35                       | 0.8          | -1.4                     | -2.2         | 2.8          | -4.4         | 3.3                | -8.1               | N.A.               | N.A.               |

NOTE: FIGURES FOR UNEMPLOYMENT RATE, TREASURY BILL RATE, AAA CORPORATE BOND YIELD, 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.

### TABLE THREE MAJOR PRICE INDICATORS MEDIANS OF FORECASTER PREDICTIONS

|                                              | NUMBER            | ACTUAL     | ACTUAL FORECAST(Q/Q) |            |            | ACTUAL     | FORECAST(Q4/Q4) |                |                |                |                |
|----------------------------------------------|-------------------|------------|----------------------|------------|------------|------------|-----------------|----------------|----------------|----------------|----------------|
|                                              | OF<br>FORECASTERS | 2012<br>Q1 | 2012<br>Q2           | 2012<br>Q3 | 2012<br>Q4 | 2013<br>Q1 | 2013<br>Q2      | 2011<br>ANNUAL | 2012<br>ANNUAL | 2013<br>ANNUAL | 2014<br>ANNUAL |
| 1. CONSUMER PRICE INDEX<br>(ANNUAL RATE)     | 37                | 2.5        | 2.1                  | 2.3        | 2.1        | 2.2        | 2.2             | 3.3            | 2.3            | 2.1            | 2.5            |
| 2. CORE CONSUMER PRICE INDE<br>(ANNUAL RATE) | X 36              | 2.1        | 2.1                  | 2.0        | 2.0        | 2.0        | 2.1             | 2.2            | 2.0            | 2.0            | 2.2            |
| 3. PCE PRICE INDEX<br>(ANNUAL RATE)          | 33                | 2.4        | 2.0                  | 1.9        | 2.0        | 2.2        | 2.0             | 2.7            | 2.1            | 2.0            | 2.2            |
| 4. CORE PCE PRICE INDEX<br>(ANNUAL RATE)     | 33                | 2.1        | 1.8                  | 1.7        | 1.7        | 1.9        | 1.9             | 1.8            | 1.8            | 1.9            | 2.0            |

### TABLE FOUR ESTIMATED PROBABILITY OF DECLINE IN REAL GDP

| ESTIMATED<br>PROBABILITY<br>(CHANCES IN 100)                                                                                               | Q1 2012<br>TO<br>Q2 2012                        | Q2 2012<br>TO<br>Q3 2012                              | Q3 2012<br>TO<br>Q4 2012                              | Q4 2012<br>TO<br>Q1 2013                              | Q1 2013<br>TO<br>Q2 2013                              |
|--------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------|
|                                                                                                                                            |                                                 | NUMBER                                                | OF FORECAS                                            | STERS                                                 |                                                       |
| 10 OR LESS<br>11 TO 20<br>21 TO 30<br>31 TO 40<br>41 TO 50<br>51 TO 60<br>61 TO 70<br>71 TO 80<br>81 TO 90<br>91 AND OVER<br>NOT REPORTING | 28<br>4<br>2<br>0<br>1<br>0<br>0<br>0<br>0<br>4 | 21<br>11<br>2<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>4 | 18<br>12<br>3<br>2<br>0<br>0<br>0<br>0<br>0<br>0<br>4 | 14<br>12<br>6<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>4 | 11<br>14<br>6<br>2<br>0<br>1<br>0<br>0<br>0<br>0<br>5 |
| MEAN AND MEDIAN                                                                                                                            |                                                 |                                                       |                                                       |                                                       |                                                       |
| MEDIAN PROBABILITY<br>MEAN PROBABILITY                                                                                                     | 10.00<br>9.80                                   | 10.00<br>12.16                                        | 10.00<br>14.45                                        | 15.00<br>17.30                                        | 15.00<br>17.77                                        |

NOTE: TOTAL NUMBER OF FORECASTERS REPORTING IS 35. SOURCE: RESEARCH DEPARTMENT, FEDERAL RESERVE BANK OF PHILADELPHIA. SURVEY OF PROFESSIONAL FORECASTERS, SECOND QUARTER 2012.

### TABLE FIVE MEAN PROBABILITIES

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

|            |             | 2012  | 2013  | 2014  | 2015  |
|------------|-------------|-------|-------|-------|-------|
|            |             |       |       |       |       |
| 11.0 PERCI | ENT OR MORE | 0.09  | 0.07  | 0.01  | 0.01  |
| 10.0 TO 1  | 0.9 PERCENT | 0.15  | 0.22  | 0.26  | 0.05  |
| 9.5 TO 9   | 9.9 PERCENT | 0.59  | 0.48  | 0.48  | 0.53  |
| 9.0 TO 9   | 9.4 PERCENT | 2.85  | 2.71  | 2.37  | 1.32  |
| 8.5 TO 8   | 8.9 PERCENT | 15.55 | 8.00  | 4.25  | 3.50  |
| 8.0 TO 8   | 8.4 PERCENT | 51.35 | 26.66 | 12.09 | 10.05 |
| 7.5 TO '   | 7.9 PERCENT | 25.44 | 35.11 | 25.93 | 14.64 |
| 7.0 TO '   | 7.4 PERCENT | 3.53  | 19.99 | 28.51 | 23.38 |
| 6.0 TO (   | 6.9 PERCENT | 0.41  | 5.89  | 19.68 | 32.56 |
| LESS THAN  | 6.0 PERCENT | 0.04  | 0.88  | 6.42  | 13.97 |

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

|                | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 |
|----------------|-----------|-----------|-----------|-----------|
|                |           |           |           |           |
| 6.0 OR MORE    | 0.18      | 0.35      | 0.32      | 0.56      |
| 5.0 TO 5.9     | 0.46      | 0.76      | 1.90      | 2.55      |
| 4.0 TO 4.9     | 2.40      | 6.43      | 12.91     | 12.09     |
| 3.0 TO 3.9     | 13.50     | 19.08     | 28.30     | 30.19     |
| 2.0 TO 2.9     | 59.17     | 44.06     | 30.70     | 30.55     |
| 1.0 TO 1.9     | 19.52     | 18.90     | 17.00     | 15.24     |
| 0.0 TO 0.9     | 3.64      | 6.78      | 5.28      | 5.56      |
| -1.0 TO -0.1   | 0.82      | 2.60      | 2.60      | 2.51      |
| -2.0 TO -1.1   | 0.16      | 0.84      | 0.84      | 0.59      |
| -3.0 TO -2.1   | 0.09      | 0.15      | 0.10      | 0.10      |
| LESS THAN -3.0 | 0.06      | 0.06      | 0.05      | 0.06      |

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

|              | 2011-2012 | 2012-2013 |
|--------------|-----------|-----------|
|              |           |           |
| 8.0 OR MORE  | 0.00      | 0.00      |
| 7.0 TO 7.9   | 0.03      | 0.03      |
| 6.0 TO 6.9   | 0.03      | 0.13      |
| 5.0 TO 5.9   | 0.13      | 0.42      |
| 4.0 TO 4.9   | 0.86      | 1.65      |
| 3.0 TO 3.9   | 5.97      | 10.36     |
| 2.0 TO 2.9   | 34.94     | 40.77     |
| 1.0 TO 1.9   | 51.23     | 36.69     |
| 0.0 TO 0.9   | 5.74      | 8.10      |
| WILL DECLINE | 1.06      | 1.84      |

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

MEAN PROBABILITY ATTACHED TO CORE CPI INFLATION:

|                    | 11Q4 TO 12Q4 | 12Q4 TO 13Q4 |
|--------------------|--------------|--------------|
|                    |              |              |
| 4 PERCENT OR MORE  | 0.10         | 1.49         |
| 3.5 TO 3.9 PERCENT | 0.38         | 1.16         |
| 3.0 TO 3.4 PERCENT | 3.22         | 6.30         |
| 2.5 TO 2.9 PERCENT | 13.59        | 17.18        |
| 2.0 TO 2.4 PERCENT | 41.25        | 31.10        |
| 1.5 TO 1.9 PERCENT | 28.72        | 27.22        |
| 1.0 TO 1.4 PERCENT | 8.29         | 9.97         |
| 0.5 TO 0.9 PERCENT | 3.80         | 2.61         |
| 0.0 TO 0.4 PERCENT | 0.48         | 2.11         |
| WILL DECLINE       | 0.18         | 0.87         |

MEAN PROBABILITY ATTACHED TO CORE PCE INFLATION:

|                                          | 11Q4 TO 12Q4  | 12Q4 TO 13Q4  |
|------------------------------------------|---------------|---------------|
| 4 PERCENT OR MORE                        | 0.05          | 0.21          |
| 3.5 TO 3.9 PERCENT                       | 0.19          | 0.94          |
| 3.0 TO 3.4 PERCENT<br>2.5 TO 2.9 PERCENT | 2.09<br>10.01 | 4.80<br>14.17 |
| 2.0 TO 2.4 PERCENT                       | 34.47         | 28.27         |
| 1.5 TO 1.9 PERCENT                       | 39.29         | 34.36         |
| 1.0 TO 1.4 PERCENT                       | 11.22         | 12.82         |
| 0.5 TO 0.9 PERCENT                       | 1.96          | 3.21          |
| 0.0 TO 0.4 PERCENT                       | 0.55          | 1.01          |
| WILL DECLINE                             | 0.16          | 0.20          |

### TABLE SEVEN LONG-TERM (5-YEAR AND 10-YEAR) FORECASTS

ANNUAL AVERAGE OVER THE NEXT 5 YEARS: 2012-2016

| CPI INFLATION RATE |      | PCE INFLATION RATE |      |
|--------------------|------|--------------------|------|
|                    |      |                    |      |
| MINIMUM            | 0.95 | MINIMUM            | 0.74 |
| LOWER QUARTILE     | 2.10 | LOWER QUARTILE     | 1.80 |
| MEDIAN             | 2.35 | MEDIAN             | 2.04 |
| UPPER QUARTILE     | 2.60 | UPPER QUARTILE     | 2.50 |
| MAXIMUM            | 3.40 | MAXIMUM            | 3.20 |
| MEAN               | 2.32 | MEAN               | 2.09 |
| STD. DEVIATION     | 0.55 | STD. DEVIATION     | 0.51 |
| N                  | 35   | N                  | 34   |
| MISSING            | 4    | MISSING            | 5    |

ANNUAL AVERAGE OVER THE NEXT 10 YEARS: 2012-2021

| CPI INFLATION RATE |      | PCE INFLATION RATE |      |
|--------------------|------|--------------------|------|
|                    |      |                    |      |
| MINIMUM            | 1.05 | MINIMUM            | 0.99 |
| LOWER QUARTILE     | 2.20 | LOWER QUARTILE     | 1.92 |
| MEDIAN             | 2.48 | MEDIAN             | 2.20 |
| UPPER QUARTILE     | 2.70 | UPPER QUARTILE     | 2.50 |
| MAXIMUM            | 3.60 | MAXIMUM            | 3.20 |
| MEAN               | 2.44 | MEAN               | 2.20 |
| STD. DEVIATION     | 0.53 | STD. DEVIATION     | 0.47 |
| N                  | 33   | N                  | 32   |
| MISSING            | 6    | MISSING            | 7    |