SURVEY OF PROFESSIONAL FORECASTERS

Release Date: February 10, 2017

FIRST QUARTER 2017

Brighter Outlook for Growth and Labor Markets over the Next Three Years

The U.S. economy looks stronger now than it did three months ago, according to 42 forecasters surveyed by the Federal Reserve Bank of Philadelphia. The forecasters predict real GDP will grow at an annual rate of 2.2 percent this quarter and 2.3 percent next quarter. On an annual-average over annual-average basis, the forecasters predict real GDP growing 2.3 percent in 2017, 2.4 percent in 2018, and 2.6 percent in 2019. The forecasts for 2017, 2018, and 2019 are higher than the estimates of three months ago. For 2020, real GDP is estimated to grow 2.1 percent.

A brighter outlook for the labor market accompanies the outlook for stronger output growth. The forecasters predict that the unemployment rate will average 4.6 percent in 2017, 4.5 percent in 2018 and 2019, and 4.6 percent in 2020. The projections for 2017, 2018, and 2019 are below those of the last survey, indicating a brighter outlook for unemployment.

The panelists also predict an improvement in the employment outlook for 2017. The forecasters' projections for the annual-average level of nonfarm payroll employment suggest job gains at a monthly rate of 180,300 in 2017, up from the previous estimate of 173,600. (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.)

### 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:						
2017:Q1	2.2	2.2	4.8	4.7	161.0	184.3
2017:Q2	2.2	2.3	4.7	4.6	179.2	167.0
2017:Q3	2.2	2.4	4.7	4.6	166.2	168.9
2017:Q4	2.2	2.4	4.7	4.5	166.0	160.3
2018:Q1	N.A.	2.2	N.A.	4.5	N.A.	157.6
Annual data (projections are based on annual-average levels):						
2017	2.2	2.3	4.7	4.6	173.6	180.3
2018	2.1	2.4	4.6	4.5	N.A.	164.5
2019	2.1	2.6	4.7	4.5	N.A.	N.A.
2020	N.A.	2.1	N.A.	4.6	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 (except the one for 2020) presents the forecasters' previous and current estimates of the probability that growth will fall into each of 11 ranges. The charts show the forecasters have revised upward their estimates of the probability that real GDP growth will be above 3.0 percent in 2017, 2018, and 2019.
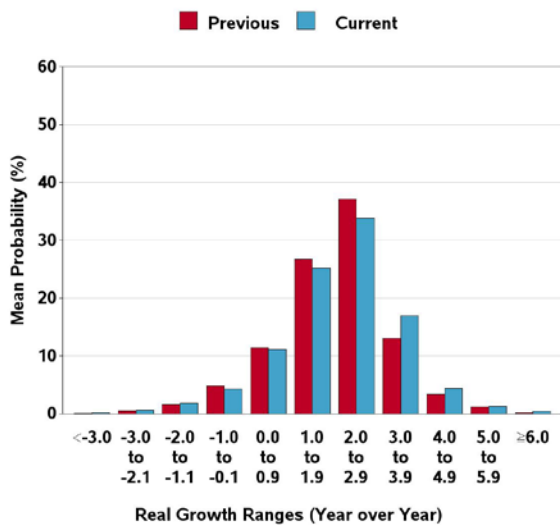
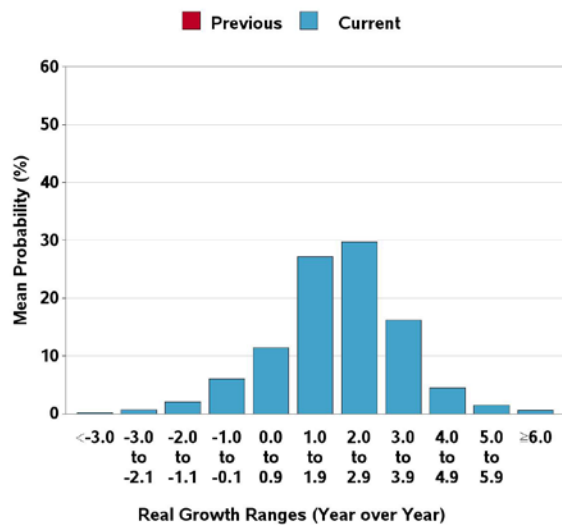Mean Probabilities for Real GDP Growth in 2017
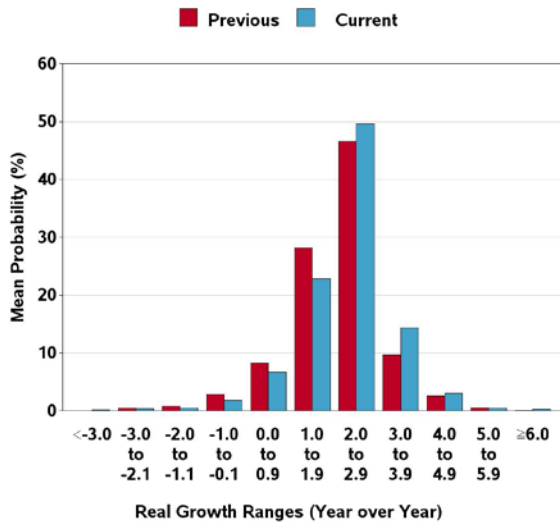
Mean Probabilities for Real GDP Growth in 2018
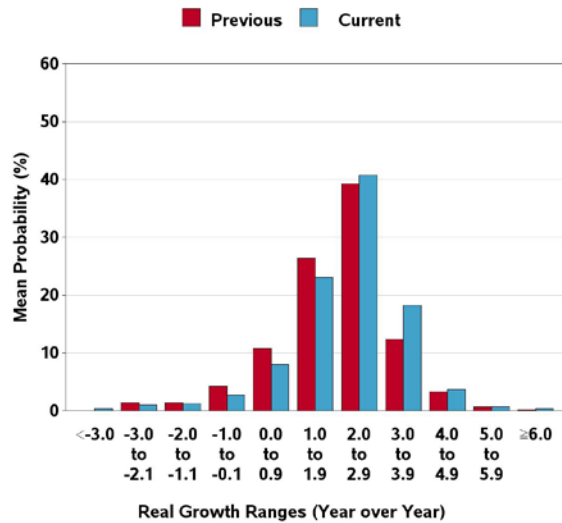
Mean Probabilities for Real GDP Growth in 2019

Mean Probabilities for Real GDP Growth in 2020

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 estimates of the probability that unemployment will fall into each of 10 ranges. The charts show the panelists are raising their density estimates over the next three years at the range of 4.0 percent to 4.9 percent of unemployment outcomes.

Mean Probabilities for Unemployment Rate in 2017
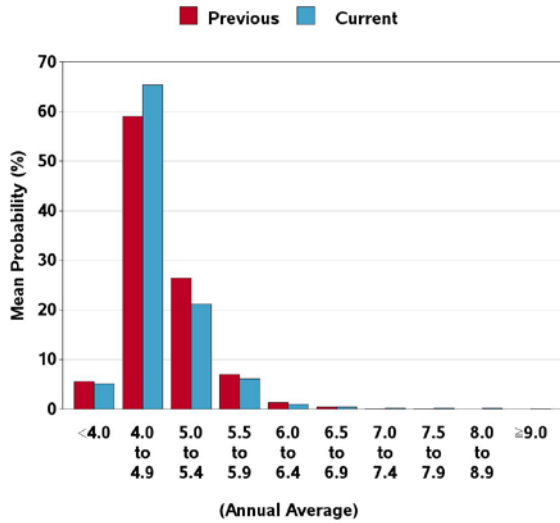
Mean Probabilities for Unemployment Rate in 2018
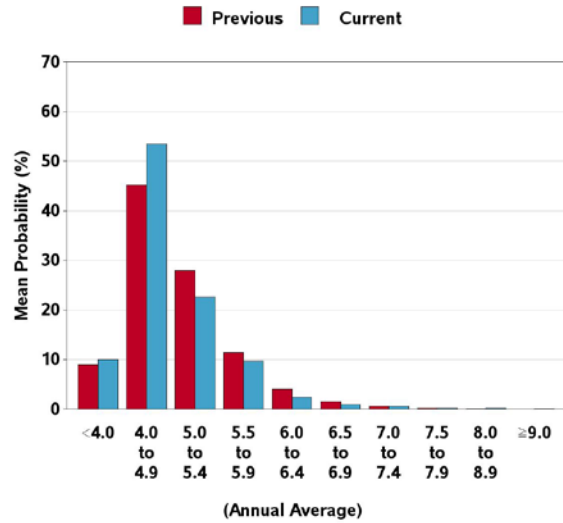
Mean Probabilities for Unemployment Rate in 2019
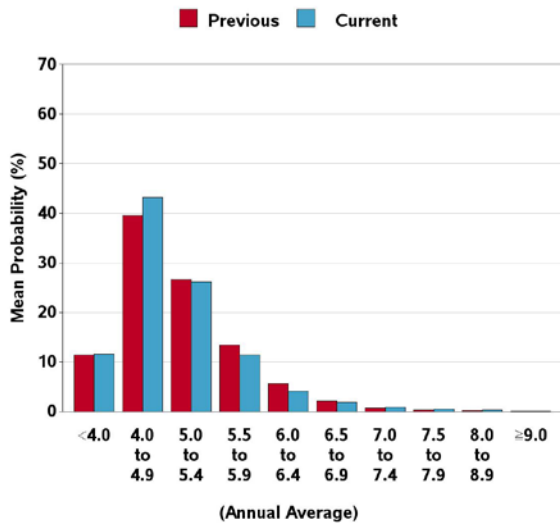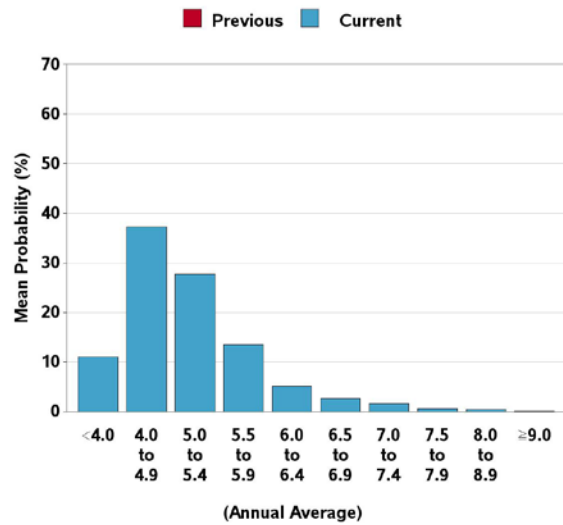
Mean Probabilities for Unemployment Rate in 2020

Forecasters See Higher Inflation
The forecasters expect higher headline CPI inflation in 2017 and 2018 than they predicted three months ago. Measured on a fourth-quarter over fourth-quarter basis, headline CPI inflation is expected to average 2.4 percent in 2017 and 2.3 percent in 2018, up from 2.2 percent in both 2017 and 2018 in the last survey. The forecasters have also revised upward slightly their projections for headline PCE inflation in 2017 to 2.0 percent, up from 1.9 percent in the survey of three months ago.

Over the next 10 years, 2017 to 2026, the forecasters expect headline CPI inflation to average 2.30 percent at an annual rate. The corresponding estimate for 10-year annual-average PCE inflation is 2.10 percent.

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

	Headline CPI		Core CPI		Headline PCE		Core PCE	
	Previous	Current	Previous	Current	Previous	Current	Previous	Current
Quarterly								
2017:Q1	2.2	2.5	2.2	2.4	1.8	2.0	1.8	1.8
2017:Q2	2.2	2.3	2.2	2.2	1.9	2.0	1.8	1.9
2017:Q3	2.2	2.3	2.2	2.1	1.9	2.0	1.9	1.9
2017:Q4	2.2	2.5	2.2	2.2	2.0	2.1	1.9	1.9
2018:Q1	N.A.	2.4	N.A.	2.3	N.A.	2.1	N.A.	2.0
Q4/Q4 Annual Averages								
2017	2.2	2.4	2.2	2.2	1.9	2.0	1.9	1.9
2018	2.2	2.3	2.2	2.3	2.0	2.0	1.9	2.0
2019	N.A.	2.3	N.A.	2.2	N.A.	2.0	N.A.	2.0
Long-Term Annual Averages								
2016-2020	2.13	N.A.	N.A.	N.A.	1.90	N.A.	N.A.	N.A.
2017-2021	N.A.	2.30	N.A.	N.A.	N.A.	2.03	N.A.	N.A.
2016-2025	2.22	N.A.	N.A.	N.A.	2.00	N.A.	N.A.	N.A.
2017-2026	N.A.	2.30	N.A.	N.A.	N.A.	2.10	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 the projections for 10-year annual-average CPI and PCE inflation. The top panel shows a higher level of the long-term projection for CPI inflation, at 2.3 percent. The bottom panel depicts the higher 10-year forecast for PCE inflation, at 2.1 percent.

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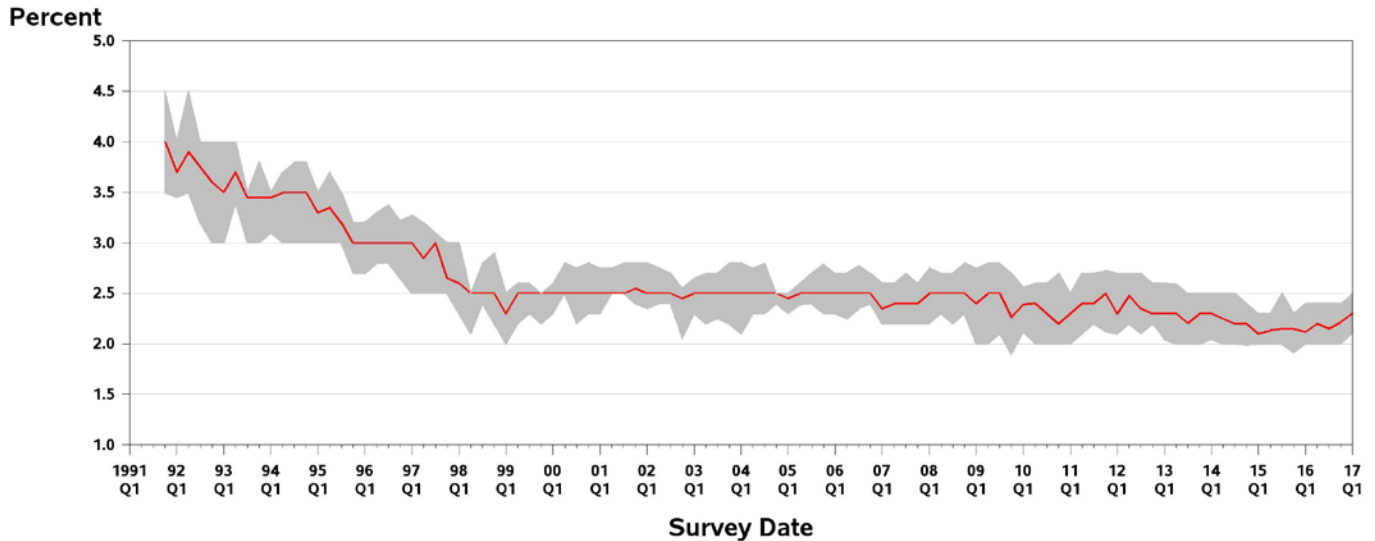
Projections for the 10-Year Annual-Average Rate of PCE Inflation
(Median and Interquartile Range)

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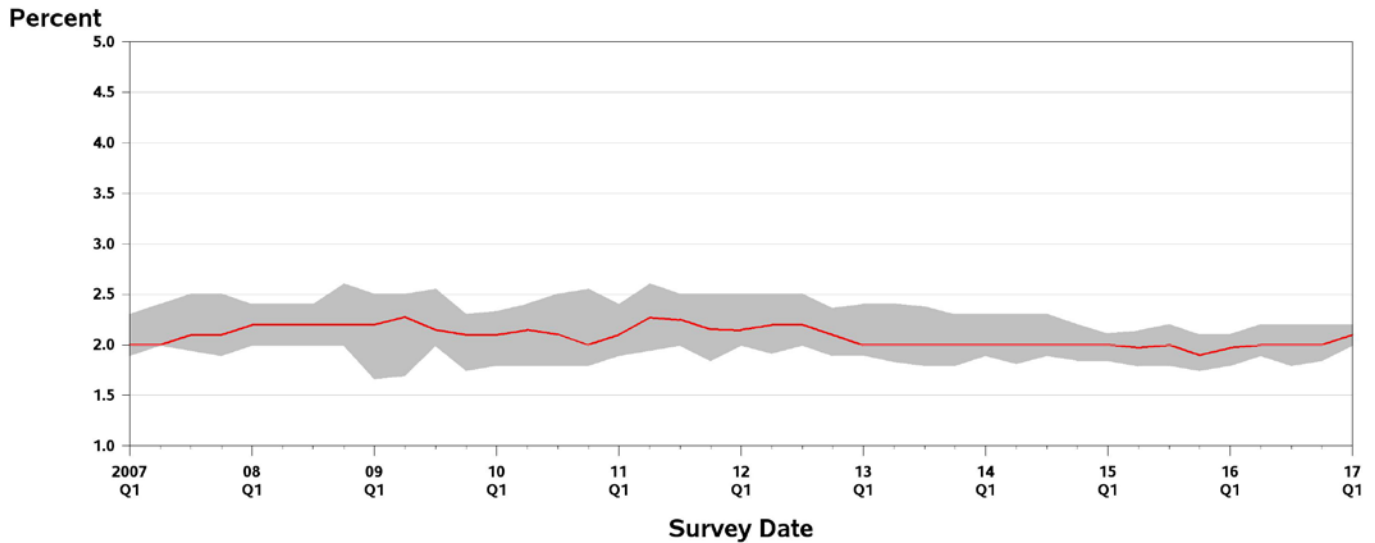
The figures below show the probabilities that the forecasters are assigning to the possibility that fourth-quarter over fourth-quarter core PCE inflation in 2017 and 2018 will fall into each of 10 ranges. For 2017, the forecasters have increased the probability that core PCE inflation will be above 2.0 percent, compared with their estimates in the survey of three months ago.

Mean Probabilities for Core PCE Inflation in 2017
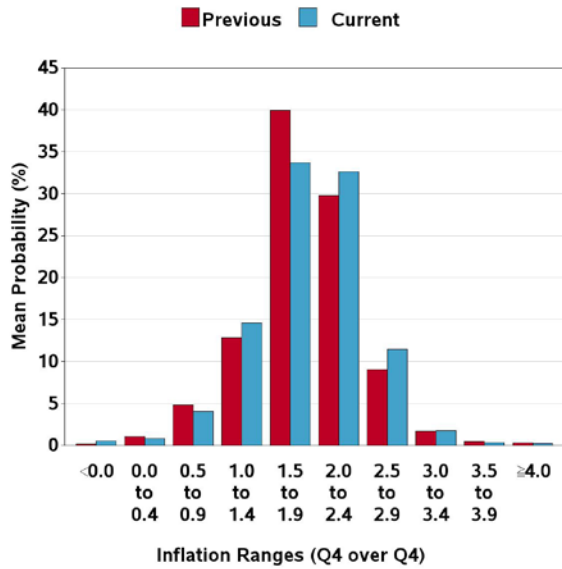
Mean Probabilities for Core PCE Inflation in 2018
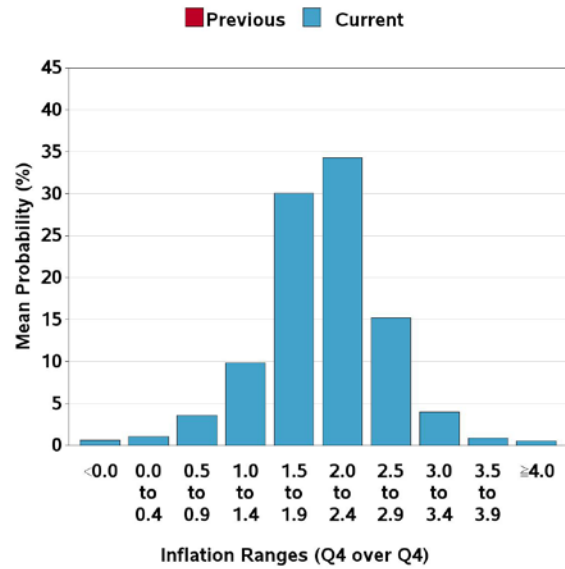
Lower Risk of a Negative Quarter
The forecasters have revised downward the chance of a contraction in real GDP in any of the next four quarters. For the current quarter, the forecasters predict a 7.7 percent chance of negative growth, down from 14.0 percent in the survey of three months ago. The panelists have also made downward revisions to their forecasts for the next three quarters in 2017.

Risk of a Negative Quarter (%)
Survey Means

Quarterly data:	Previous	New
2017:Q1	14.0	7.7
2017:Q2	15.0	11.2
2017:Q3	16.5	14.6
2017:Q4	18.9	16.2
2018:Q1	N.A.	17.7

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Forecasters State Their Views on Home Price Growth over the Next Two Years
In this survey, a special question asked panelists to provide their forecasts for fourth-quarter over fourth-quarter growth in house prices, as measured by a number of alternative indices. The panelists were allowed to choose their measure from a list of indices or to write in their own index. For each index of their choosing, the panelists provided forecasts for growth in 2017 and 2018.

Eighteen panelists answered the special question. Some panelists provided projections for more than one index. The table below provides a summary of the forecasters' responses. The number of responses (N) is low for each index. The median estimates for the seven house-price indices listed in the table below range from 3.9 percent to 5.4 percent in 2017 and from 3.8 percent to 4.7 percent in 2018.

Projections for Growth in Various Indices of House Prices
Q4/Q4, Percentage Points

	2017 (Q4/Q4 Percent Change)			2018 (Q4/Q4 Percent Change)		
Index	N	Mean	Median	N	Mean	Median
S&P CoreLogic Case-Shiller: U.S. National	7	3.8	5.0	7	3.6	4.3
S&P CoreLogic Case-Shiller: Composite 10	3	3.9	4.0	3	4.0	3.8
S&P CoreLogic Case-Shiller: Composite 20	4	4.0	3.9	4	3.8	4.0
FHFA: U.S. Total	7	5.4	5.4	7	4.4	4.5
FHFA: Purchase Only	6	4.5	4.9	6	4.0	4.4
CoreLogic: National HPI, incl. Distressed Sales (Single Family Combined)	3	4.4	4.5	3	4.1	4.0
NAR Median: Total Existing	1	5.4	5.4	1	4.7	4.7

Forecasters See Higher Long-Run Growth in Output and Productivity and in Returns to Financial Assets
In our first-quarter surveys, the forecasters provide their long-run projections for an expanded set of variables, including growth in output and productivity, as well as returns on financial assets.

As the table below shows, the forecasters have increased their estimates for the annual-average rate of growth in real GDP over the next 10 years. Currently, the forecasters expect real GDP to grow at an annual-average rate of 2.45 percent over the next 10 years, up from their projection of 2.28 percent in the first-quarter survey of 2016. Ten-year annual average productivity growth is now expected to average 1.60 percent, up from 1.40 percent.

Upward revisions to the return on the financial assets accompany the current outlook. The forecasters see the S&P 500 returning an annual-average 6.00 percent per year over the next 10 years, up from 5.37 percent in last year's first-quarter survey. The forecasters expect the rate on 10-year Treasuries to average 3.86 percent over the next 10 years, up from 3.39 percent in last year's first-quarter survey. Three-month Treasury bills will return an annual-average 2.50 percent per year over the next 10 years, unchanged from last year's survey.

Median Long-Term (10-Year) Forecasts (%)

	First Quarter 2016	_Current Survey_
Real GDP Growth	2.28	2.45
Productivity Growth	1.40	1.60
Stock Returns (S&P 500)	5.37	6.00
Rate on 10-Year Treasury Bonds	3.39	3.86
Bill Returns (3-Month)	2.50	2.50

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

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                              SUMMARY TABLE
                   SURVEY OF PROFESSIONAL FORECASTERS
                    MAJOR MACROECONOMIC INDICATORS
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	2017 Q1	2017 Q2	2017 Q3	2017 Q4	2018 Q1	2017	2018	2019	2020
						(YEAR-OVER-YEAR)			
PERCENT GROWTH AT ANNUAL RATES									
1. REAL GDP (BILLIONS, CHAIN WEIGHTED)	2.2	2.3	2.4	2.4	2.2	2.3	2.4	2.6	2.1
2. GDP PRICE INDEX (PERCENT CHANGE)	2.1	2.1	2.0	2.3	2.0	2.0	2.2	N.A.	N.A.
3. NOMINAL GDP ($ BILLIONS)	4.2	4.3	4.5	4.7	4.7	4.4	4.6	N.A.	N.A.
4. NONFARM PAYROLL EMPLOYMENT (PERCENT CHANGE)	1.5	1.4	1.4	1.3	1.3	1.5	1.3	N.A.	N.A.
(AVG MONTHLY CHANGE)	184.3	167.0	168.9	160.3	157.6	180.3	164.5	N.A.	N.A.
VARIABLES IN LEVELS									
5. UNEMPLOYMENT RATE (PERCENT)	4.7	4.6	4.6	4.5	4.5	4.6	4.5	4.5	4.6
6. 3-MONTH TREASURY BILL (PERCENT)	0.6	0.8	1.0	1.1	1.3	0.9	1.6	2.2	2.6
7. 10-YEAR TREASURY BOND (PERCENT)	2.5	2.6	2.7	2.8	2.9	2.6	3.0	3.4	3.6

	2017 Q1	2017 Q2	2017 Q3	2017 Q4	2018 Q1	2017	2018	2019
						(Q4-OVER-Q4)		
INFLATION INDICATORS								
8. CPI (ANNUAL RATE)	2.5	2.3	2.3	2.5	2.4	2.4	2.3	2.3
9. CORE CPI (ANNUAL RATE)	2.4	2.2	2.1	2.2	2.3	2.2	2.3	2.2
10. PCE (ANNUAL RATE)	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0
11. CORE PCE (ANNUAL RATE)	1.8	1.9	1.9	1.9	2.0	1.9	2.0	2.0

THE FIGURES ON EACH LINE ARE MEDIANS OF 42 INDIVIDUAL FORECASTERS.

SOURCE: RESEARCH DEPARTMENT, FEDERAL RESERVE BANK OF PHILADELPHIA.
        SURVEY OF PROFESSIONAL FORECASTERS, FIRST QUARTER 2017.

SURVEY OF PROFESSIONAL FORECASTERS

First Quarter 2017

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 January 27, 2017; the tables do not reflect subsequent revisions to the data. All forecasts were received on or before February 7, 2017.

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                              TABLE ONE
                   MAJOR MACROECONOMIC INDICATORS
                   MEDIANS OF FORECASTER PREDICTIONS
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	NUMBER OF FORECASTERS	ACTUAL 2016 Q4	FORECAST 2017 Q1	2017 Q2	2017 Q3	2017 Q4	2018 Q1	ACTUAL 2016 ANNUAL	FORECAST 2017 ANNUAL	2018 ANNUAL	2019 ANNUAL	2020 ANNUAL
1. GROSS DOMESTIC PRODUCT (GDP) ($ BILLIONS)	40	18861	19057	19261	19476	19700	19928	18567	19378	20265	N.A.	N.A.
2. GDP PRICE INDEX (2009=100)	40	112.24	112.82	113.40	113.97	114.61	115.19	111.45	113.69	116.18	N.A.	N.A.
3. CORPORATE PROFITS AFTER TAXES ($ BILLIONS)	20	N.A.	1598.9	1622.5	1649.6	1678.0	1698.0	N.A.	1631.2	1727.7	N.A.	N.A.
4. UNEMPLOYMENT RATE (PERCENT)	39	4.7	4.7	4.6	4.6	4.5	4.5	4.9	4.6	4.5	4.5	4.6
5. NONFARM PAYROLL EMPLOYMENT (THOUSANDS)	35	145131	145684	146185	146692	147172	147645	144314	146477	148451	N.A.	N.A.
6. INDUSTRIAL PRODUCTION (2012=100)	38	104.2	104.6	105.2	105.8	106.3	106.9	104.2	105.5	107.8	N.A.	N.A.
7. NEW PRIVATE HOUSING STARTS (ANNUAL RATE, MILLIONS)	36	1.22	1.22	1.25	1.27	1.28	1.30	1.17	1.26	1.33	N.A.	N.A.
8. 3-MONTH TREASURY BILL RATE (PERCENT)	36	0.43	0.58	0.75	0.96	1.13	1.32	0.32	0.86	1.56	2.22	2.64
9. MOODY'S AAA CORP BOND YIELD * (PERCENT)	23	N.A.	4.00	4.10	4.18	4.40	4.55	N.A.	4.17	4.63	N.A.	N.A.
10. MOODY'S BAA CORP BOND YIELD * (PERCENT)	24	N.A.	4.81	4.96	5.10	5.33	5.38	N.A.	5.04	5.55	N.A.	N.A.
11. 10-YEAR TREASURY BOND YIELD (PERCENT)	39	2.13	2.47	2.60	2.66	2.80	2.87	1.84	2.63	3.00	3.40	3.60
12. REAL GDP (BILLIONS, CHAIN WEIGHTED)	40	16805	16896	16994	17093	17194	17290	16660	17043	17450	17902	18282
13. TOTAL CONSUMPTION EXPENDITURE (BILLIONS, CHAIN WEIGHTED)	38	11640.4	11712.5	11785.0	11858.6	11931.3	12009.1	11514.9	11823.1	12120.1	N.A.	N.A.
14. NONRESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	36	2205.5	2226.3	2246.1	2266.0	2290.9	2313.9	2190.7	2256.5	2343.5	N.A.	N.A.
15. RESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	36	596.8	604.4	611.5	619.2	626.2	634.3	592.2	614.9	647.9	N.A.	N.A.
16. FEDERAL GOVERNMENT C & I (BILLIONS, CHAIN WEIGHTED)	36	1121.1	1123.8	1126.2	1129.2	1132.7	1138.7	1120.5	1128.2	1145.8	N.A.	N.A.
17. STATE AND LOCAL GOVT C & I (BILLIONS, CHAIN WEIGHTED)	35	1792.0	1796.5	1802.6	1808.5	1814.4	1821.2	1786.6	1804.8	1831.5	N.A.	N.A.
18. CHANGE IN PRIVATE INVENTORIES (BILLIONS, CHAIN WEIGHTED)	35	48.7	40.0	42.0	47.0	47.8	47.9	21.8	45.0	46.6	N.A.	N.A.
19. NET EXPORTS (BILLIONS, CHAIN WEIGHTED)	37	-599.6	-606.6	-620.1	-628.9	-641.9	-660.9	-561.7	-623.3	-668.8	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, FIRST QUARTER 2017.

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                                    TABLE TWO
                        MAJOR MACROECONOMIC INDICATORS
                        PERCENTAGE CHANGES AT ANNUAL RATES
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	NUMBER OF FORECASTERS	Q4 2016 TO Q1 2017	Q1 2017 TO Q2 2017	Q2 2017 TO Q3 2017	Q3 2017 TO Q4 2017	Q4 2017 TO Q1 2018	2016 TO 2017	2017 TO 2018	2018 TO 2019	2019 TO 2020
1. GROSS DOMESTIC PRODUCT (GDP) ($ BILLIONS)	40	4.2	4.3	4.5	4.7	4.7	4.4	4.6	N.A.	N.A.
2. GDP PRICE INDEX (2009=100)	40	2.1	2.1	2.0	2.3	2.0	2.0	2.2	N.A.	N.A.
3. CORPORATE PROFITS AFTER TAXES ($ BILLIONS)	20	2.7	6.0	6.9	7.1	4.9	6.1	5.9	N.A.	N.A.
4. UNEMPLOYMENT RATE (PERCENT)	39	0.0	-0.1	-0.0	-0.1	-0.0	-0.2	-0.1	0.0	0.1
5. NONFARM PAYROLL EMPLOYMENT (PERCENT CHANGE)	35	1.5	1.4	1.4	1.3	1.3	1.5	1.3	N.A.	N.A.
(AVG MONTHLY CHANGE)	35	184.3	167.0	168.9	160.3	157.6	180.3	164.5	N.A.	N.A.
6. INDUSTRIAL PRODUCTION (2012=100)	38	1.7	2.1	2.2	2.0	2.2	1.3	2.2	N.A.	N.A.
7. NEW PRIVATE HOUSING STARTS (ANNUAL RATE, MILLIONS)	36	1.1	10.2	6.4	5.0	5.0	7.6	5.6	N.A.	N.A.
8. 3-MONTH TREASURY BILL RATE (PERCENT)	36	0.14	0.18	0.20	0.17	0.19	0.54	0.70	0.66	0.43
9. MOODY'S AAA CORP BOND YIELD * (PERCENT)	23	N.A.	0.10	0.08	0.22	0.15	N.A.	0.46	N.A.	N.A.
10. MOODY'S BAA CORP BOND YIELD * (PERCENT)	24	N.A.	0.16	0.14	0.22	0.05	N.A.	0.51	N.A.	N.A.
11. 10-YEAR TREASURY BOND YIELD (PERCENT)	39	0.34	0.13	0.06	0.14	0.07	0.79	0.37	0.40	0.20
12. REAL GDP (BILLIONS, CHAIN WEIGHTED)	40	2.2	2.3	2.4	2.4	2.2	2.3	2.4	2.6	2.1
13. TOTAL CONSUMPTION EXPENDITURE (BILLIONS, CHAIN WEIGHTED)	38	2.5	2.5	2.5	2.5	2.6	2.7	2.5	N.A.	N.A.
14. NONRESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	36	3.8	3.6	3.6	4.5	4.1	3.0	3.9	N.A.	N.A.
15. RESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	36	5.2	4.8	5.1	4.6	5.3	3.8	5.4	N.A.	N.A.
16. FEDERAL GOVERNMENT C & I (BILLIONS, CHAIN WEIGHTED)	36	0.9	0.9	1.1	1.2	2.2	0.7	1.6	N.A.	N.A.
17. STATE AND LOCAL GOVT C & I (BILLIONS, CHAIN WEIGHTED)	35	1.0	1.4	1.3	1.3	1.5	1.0	1.5	N.A.	N.A.
18. CHANGE IN PRIVATE INVENTORIES (BILLIONS, CHAIN WEIGHTED)	35	-8.7	2.0	5.0	0.8	0.1	23.2	1.6	N.A.	N.A.
19. NET EXPORTS (BILLIONS, CHAIN WEIGHTED)	37	-7.0	-13.5	-8.8	-13.0	-19.0	-61.7	-45.5	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, FIRST QUARTER 2017.

TABLE THREE
MAJOR PRICE INDICATORS
MEDIANS OF FORECASTER PREDICTIONS

	NUMBER OF FORECASTERS	ACTUAL 2016 Q4	FORECAST(Q/Q)					ACTUAL 2016 ANNUAL	FORECAST(Q4/Q4)		
			2017 Q1	2017 Q2	2017 Q3	2017 Q4	2018 Q1		2017 ANNUAL	2018 ANNUAL	2019 ANNUAL
1. CONSUMER PRICE INDEX (ANNUAL RATE)	40	3.4	2.5	2.3	2.3	2.5	2.4	1.8	2.4	2.3	2.3
2. CORE CONSUMER PRICE INDEX (ANNUAL RATE)	37	2.0	2.4	2.2	2.1	2.2	2.3	2.2	2.2	2.3	2.2
3. PCE PRICE INDEX (ANNUAL RATE)	37	2.2	2.0	2.0	2.0	2.1	2.1	1.5	2.0	2.0	2.0
4. CORE PCE PRICE INDEX (ANNUAL RATE)	37	1.3	1.8	1.9	1.9	1.9	2.0	1.7	1.9	2.0	2.0

SOURCE: RESEARCH DEPARTMENT, FEDERAL RESERVE BANK OF PHILADELPHIA. SURVEY OF PROFESSIONAL FORECASTERS, FIRST QUARTER 2017.

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                              TABLE FOUR
             ESTIMATED PROBABILITY OF DECLINE IN REAL GDP


ESTIMATED          Q4 2016   Q1 2017   Q2 2017   Q3 2017   Q4 2017
PROBABILITY           TO        TO        TO        TO        TO
(CHANCES IN 100)   Q1 2017   Q2 2017   Q3 2017   Q4 2017   Q1 2018


                          NUMBER OF FORECASTERS

10 OR LESS            32        19        14        11        10
11 TO 20               4        15        19        18        15
21 TO 30               1         3         4         7        11
31 TO 40               0         0         0         1         1
41 TO 50               0         0         0         0         0
51 TO 60               0         0         0         0         0
61 TO 70               0         0         0         0         0
71 TO 80               0         0         0         0         0
81 TO 90               0         0         0         0         0
91 AND OVER            0         0         0         0         0
NOT REPORTING          5         5         5         5         5


MEAN AND MEDIAN

MEDIAN PROBABILITY    6.73     10.00     15.00     15.00     15.00
MEAN PROBABILITY      7.68     11.21     14.61     16.15     17.73



     NOTE:    TOTAL NUMBER OF FORECASTERS REPORTING IS 37.
     SOURCE:  RESEARCH DEPARTMENT, FEDERAL RESERVE BANK OF PHILADELPHIA.
              SURVEY OF PROFESSIONAL FORECASTERS, FIRST QUARTER 2017.
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TABLE FIVE
MEAN PROBABILITIES

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

	2017	2018	2019	2020
9.0 PERCENT OR MORE	0.07	0.09	0.10	0.13
8.0 TO 8.9 PERCENT	0.15	0.18	0.32	0.44
7.5 TO 7.9 PERCENT	0.18	0.24	0.46	0.55
7.0 TO 7.4 PERCENT	0.24	0.58	0.86	1.64
6.5 TO 6.9 PERCENT	0.45	0.85	1.87	2.65
6.0 TO 6.4 PERCENT	1.04	2.41	4.15	5.14
5.5 TO 5.9 PERCENT	6.19	9.66	11.35	13.48
5.0 TO 5.4 PERCENT	21.15	22.56	26.11	27.74
4.0 TO 4.9 PERCENT	65.40	53.50	43.22	37.21
LESS THAN 4.0 PERCENT	5.13	9.94	11.57	11.01

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

	2016-2017	2017-2018	2018-2019	2019-2020
6.0 OR MORE	0.23	0.31	0.41	0.64
5.0 TO 5.9	0.46	0.68	1.27	1.45
4.0 TO 4.9	2.98	3.71	4.38	4.52
3.0 TO 3.9	14.38	18.26	16.93	16.16
2.0 TO 2.9	49.66	40.75	33.85	29.75
1.0 TO 1.9	22.87	23.05	25.18	27.12
0.0 TO 0.9	6.67	8.04	11.12	11.38
-1.0 TO -0.1	1.82	2.64	4.32	6.02
-2.0 TO -1.1	0.46	1.21	1.83	2.04
-3.0 TO -2.1	0.33	1.03	0.56	0.71
LESS THAN -3.0	0.13	0.32	0.13	0.20

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

	2016-2017	2017-2018
4.0 OR MORE	0.46	0.42
3.5 TO 3.9	1.21	1.00
3.0 TO 3.4	3.48	3.97
2.5 TO 2.9	12.30	15.77
2.0 TO 2.4	41.90	38.29
1.5 TO 1.9	26.69	23.98
1.0 TO 1.4	8.66	10.27
0.5 TO 0.9	2.78	3.52
0.0 TO 0.4	1.59	1.65
WILL DECLINE	0.93	1.13

SOURCE: RESEARCH DEPARTMENT, FEDERAL RESERVE BANK OF PHILADELPHIA.
SURVEY OF PROFESSIONAL FORECASTERS, FIRST QUARTER 2017.

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

MEAN PROBABILITY ATTACHED TO CORE CPI INFLATION:

	16Q4 TO 17Q4	17Q4 TO 18Q4
4 PERCENT OR MORE	0.42	0.87
3.5 TO 3.9 PERCENT	0.58	1.51
3.0 TO 3.4 PERCENT	3.47	6.12
2.5 TO 2.9 PERCENT	19.73	18.67
2.0 TO 2.4 PERCENT	44.65	41.15
1.5 TO 1.9 PERCENT	23.08	21.74
1.0 TO 1.4 PERCENT	5.51	6.61
0.5 TO 0.9 PERCENT	1.75	2.16
0.0 TO 0.4 PERCENT	0.42	0.65
WILL DECLINE	0.37	0.52

MEAN PROBABILITY ATTACHED TO CORE PCE INFLATION:

	16Q4 TO 17Q4	17Q4 TO 18Q4
4 PERCENT OR MORE	0.23	0.54
3.5 TO 3.9 PERCENT	0.37	0.86
3.0 TO 3.4 PERCENT	1.76	3.99
2.5 TO 2.9 PERCENT	11.42	15.20
2.0 TO 2.4 PERCENT	32.60	34.28
1.5 TO 1.9 PERCENT	33.67	30.04
1.0 TO 1.4 PERCENT	14.58	9.82
0.5 TO 0.9 PERCENT	4.02	3.56
0.0 TO 0.4 PERCENT	0.81	1.05
WILL DECLINE	0.54	0.66

SOURCE: RESEARCH DEPARTMENT, FEDERAL RESERVE BANK OF PHILADELPHIA.
SURVEY OF PROFESSIONAL FORECASTERS, FIRST QUARTER 2017.

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


ANNUAL AVERAGE OVER THE NEXT 5 YEARS: 2017-2021
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CPI INFLATION RATE                PCE INFLATION RATE
-------------------------         -------------------------
MINIMUM              2.00         MINIMUM              1.70
LOWER QUARTILE       2.20         LOWER QUARTILE       1.93
MEDIAN               2.30         MEDIAN               2.03
UPPER QUARTILE       2.50         UPPER QUARTILE       2.25
MAXIMUM              3.70         MAXIMUM              3.30
MEAN                 2.42         MEAN                 2.14
STD. DEVIATION       0.38         STD. DEVIATION       0.33
N                      32         N                      29
MISSING                10         MISSING                13


ANNUAL AVERAGE OVER THE NEXT 10 YEARS: 2017-2026
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CPI INFLATION RATE                PCE INFLATION RATE
-------------------------         -------------------------
MINIMUM              2.00         MINIMUM              1.70
LOWER QUARTILE       2.11         LOWER QUARTILE       2.00
MEDIAN               2.30         MEDIAN               2.10
UPPER QUARTILE       2.50         UPPER QUARTILE       2.20
MAXIMUM              4.00         MAXIMUM              4.30
MEAN                 2.42         MEAN                 2.19
STD. DEVIATION       0.44         STD. DEVIATION       0.48
N                      31         N                      28
MISSING                11         MISSING                14

REAL GDP GROWTH RATE              PRODUCTIVITY GROWTH RATE
-------------------------         -------------------------
MINIMUM              1.60         MINIMUM              0.50
LOWER QUARTILE       2.13         LOWER QUARTILE       1.10
MEDIAN               2.45         MEDIAN               1.60
UPPER QUARTILE       2.59         UPPER QUARTILE       1.97
MAXIMUM              2.80         MAXIMUM              2.75
MEAN                 2.33         MEAN                 1.61
STD. DEVIATION       0.34         STD. DEVIATION       0.61
N                      28         N                      23
MISSING                14         MISSING                19

STOCK RETURNS (S&P 500)           BOND RATE (10-YEAR)               BILL RETURNS (3-MONTH)
-------------------------         -------------------------         -------------------------
MINIMUM              0.50         MINIMUM              2.00         MINIMUM              1.00
LOWER QUARTILE       4.10         LOWER QUARTILE       3.34         LOWER QUARTILE       2.00
MEDIAN               6.00         MEDIAN               3.86         MEDIAN               2.50
UPPER QUARTILE       6.20         UPPER QUARTILE       4.00         UPPER QUARTILE       2.85
MAXIMUM             10.00         MAXIMUM              5.10         MAXIMUM              3.50
MEAN                 5.60         MEAN                 3.68         MEAN                 2.47
STD. DEVIATION       1.98         STD. DEVIATION       0.68         STD. DEVIATION       0.60
N                      19         N                      26         N                      25
MISSING                23         MISSING                16         MISSING                17
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SOURCE: RESEARCH DEPARTMENT, FEDERAL RESERVE BANK OF PHILADELPHIA.
SURVEY OF PROFESSIONAL FORECASTERS, FIRST QUARTER 2017.