



SURVEY OF PROFESSIONAL FORECASTERS

Release Date: November 13, 2017

FOURTH QUARTER 2017

Forecasters See Stronger Outlook for Growth over the Next Two Quarters

The outlook for growth in the U.S. economy over the next two quarters looks slightly stronger overall than that of three months ago, according to 41 forecasters surveyed by the Federal Reserve Bank of Philadelphia. The panel expects real GDP to grow at an annual rate of 2.6 percent this quarter and 2.4 percent next quarter, marking upward revisions from the previous survey. On an annual-average over annual-average basis, the forecasters see real GDP growing 2.2 percent in 2017, compared with 2.1 percent from the previous survey. The forecasters predict real GDP will grow 2.5 percent in 2018, 2.1 percent in 2019, and 1.9 percent in 2020.

The projections for annual unemployment rates were either unchanged or revised slightly downward in comparison with the third quarter 2017 survey. The forecasters predict the unemployment rate will be an annual average of 4.4 percent in 2017, before falling to 4.1 percent in 2018, and then decreasing to 4.0 percent in 2019 and 4.1 percent in 2020.

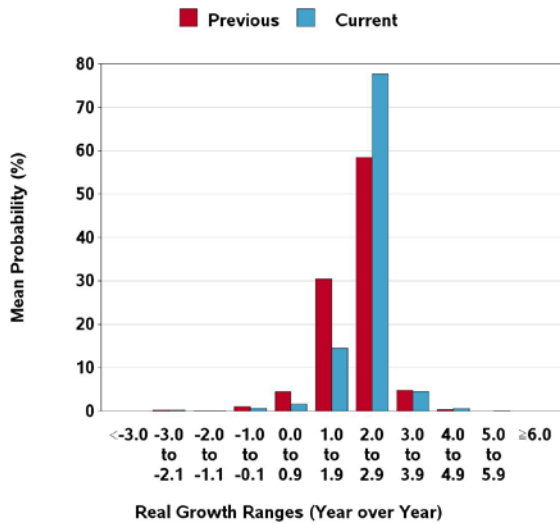
On the employment front, the forecasters have revised downward their estimates for job gains in 2017 and in 2018. The forecasters' projections for the annual-average level of nonfarm payroll employment suggest job gains at a monthly rate of 178,000 in 2017, down from the previous estimate of 180,400, and 163,400 in 2018, down from the previous estimate of 165,800. (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

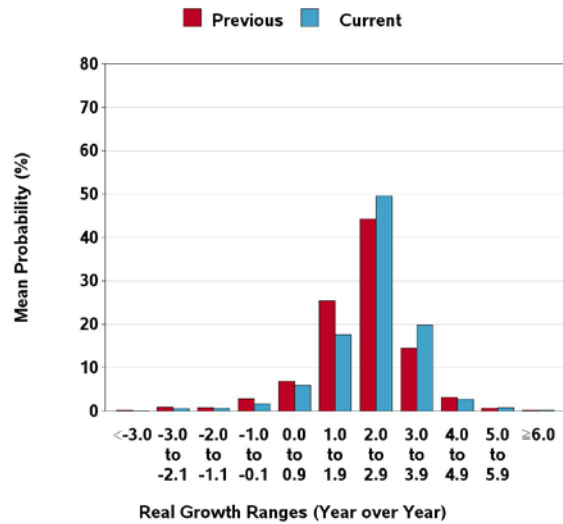
	Real GDP (%)		Unemployment Rate (%)		Payrolls (000s/month)	
	Previous	New	Previous	New	Previous	New
Quarterly data:						
2017:Q4	2.3	2.6	4.2	4.2	161.0	183.0
2018:Q1	2.2	2.4	4.2	4.1	155.6	164.9
2018:Q2	2.4	2.4	4.1	4.1	162.5	167.0
2018:Q3	2.4	2.1	4.1	4.1	165.4	157.1
2018:Q4	N.A.	2.3	N.A.	4.0	N.A.	155.6
Annual data (projections are based on annual-average levels):						
2017	2.1	2.2	4.4	4.4	180.4	178.0
2018	2.4	2.5	4.2	4.1	165.8	163.4
2019	2.2	2.1	4.3	4.0	N.A.	N.A.
2020	2.0	1.9	4.3	4.1	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. For 2017, the panelists are more certain now than they were in the previous survey that real GDP growth would fall between 2.0 percent and 2.9 percent. For 2018 and 2019, the probabilities are also slightly higher now than they were in the survey of three months ago for real GDP growth between 2.0 percent and 2.9 percent. The probabilities for growth in 2020 are about the same now as they were in the previous survey.

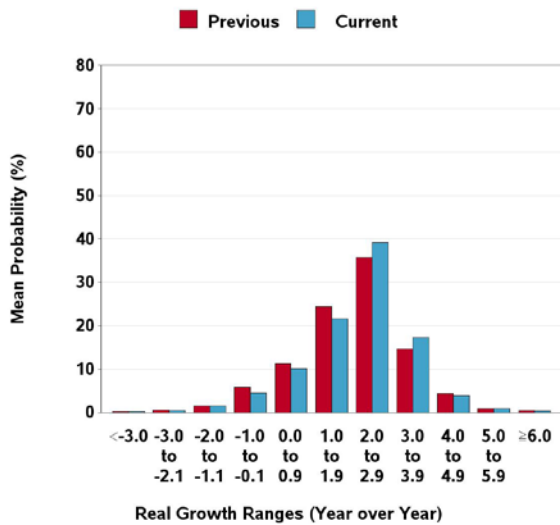
Mean Probabilities for Real GDP Growth in 2017



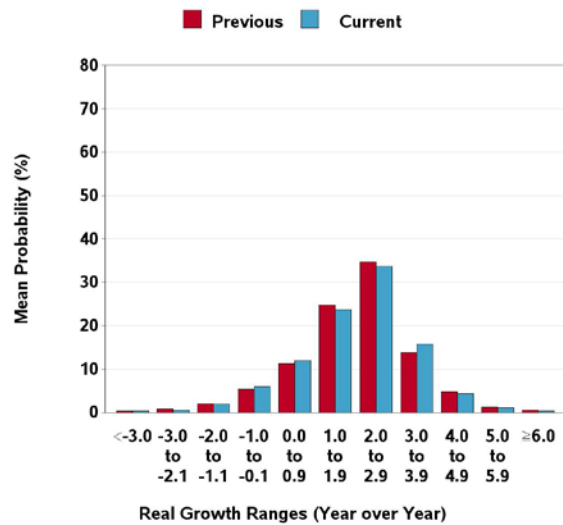
Mean Probabilities for Real GDP Growth in 2018



Mean Probabilities for Real GDP Growth in 2019

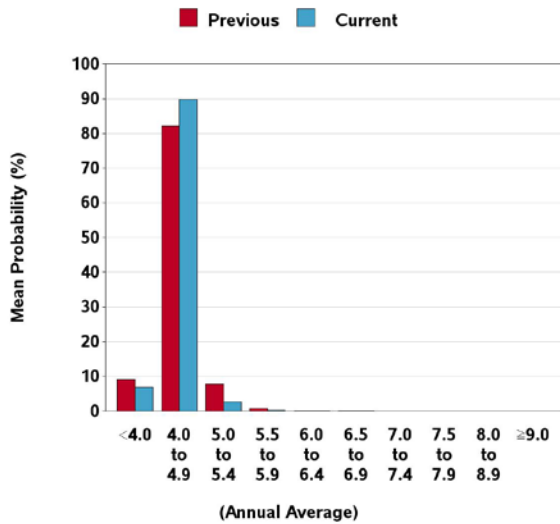


Mean Probabilities for Real GDP Growth in 2020

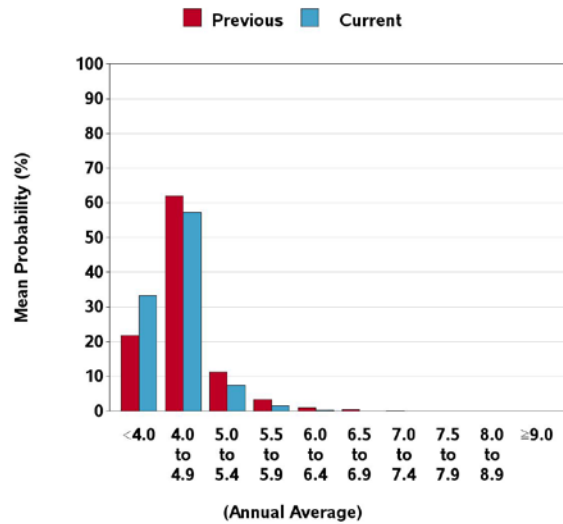


The forecasters' density projections for unemployment, shown below, shed light on uncertainty about the labor market over the next four years. Each chart presents the forecasters' current estimates of the probability that unemployment will fall into each of 10 ranges. The forecasters are more certain now than they were three months ago that unemployment over 2017 will average between 4.0 percent and 4.9 percent. The forecasters are less certain now than they were three months ago that unemployment will average between 4.0 percent and 4.9 percent over 2018, 2019, and 2020. In addition, forecasters notably raised their probability estimates for an unemployment rate below 4.0 percent over 2018, 2019, and 2020.

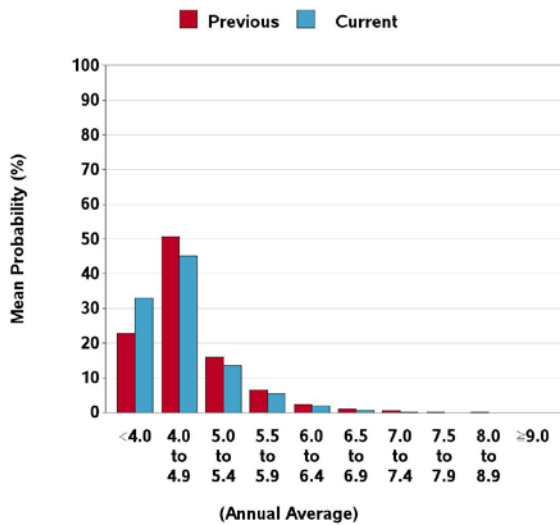
Mean Probabilities for Unemployment Rate in 2017



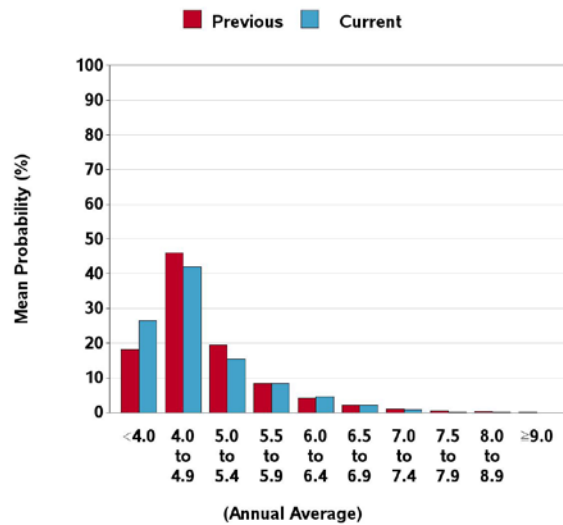
Mean Probabilities for Unemployment Rate in 2018



Mean Probabilities for Unemployment Rate in 2019



Mean Probabilities for Unemployment Rate in 2020



Short-Term CPI and PCE Inflation Projections Are Holding Steady

Measured on a fourth-quarter over fourth-quarter basis, the CPI and PCE inflation forecasts are about the same now as they were three months ago, particularly for core inflation measures. Core CPI inflation is expected to average 1.7 percent in 2017, 2.1 percent in 2018, and 2.2 percent in 2019. The projections for core PCE inflation are 1.4 percent for the current year, 1.8 percent for 2018, and 2.0 percent for 2019.

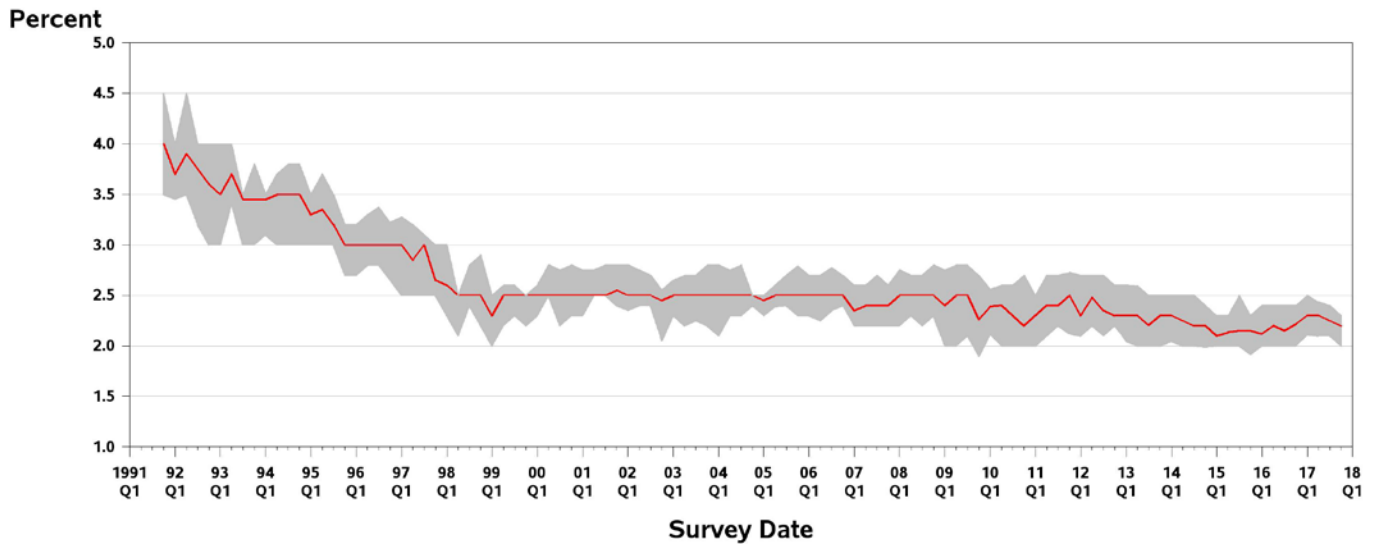
Over the next 10 years, 2017 to 2026, the forecasters expect headline CPI inflation to average 2.20 percent at an annual rate, down slightly from their previous estimate of 2.25 percent. The corresponding estimate for 10-year annual-average PCE inflation is 2.00 percent, unchanged from the previous estimate three months ago.

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

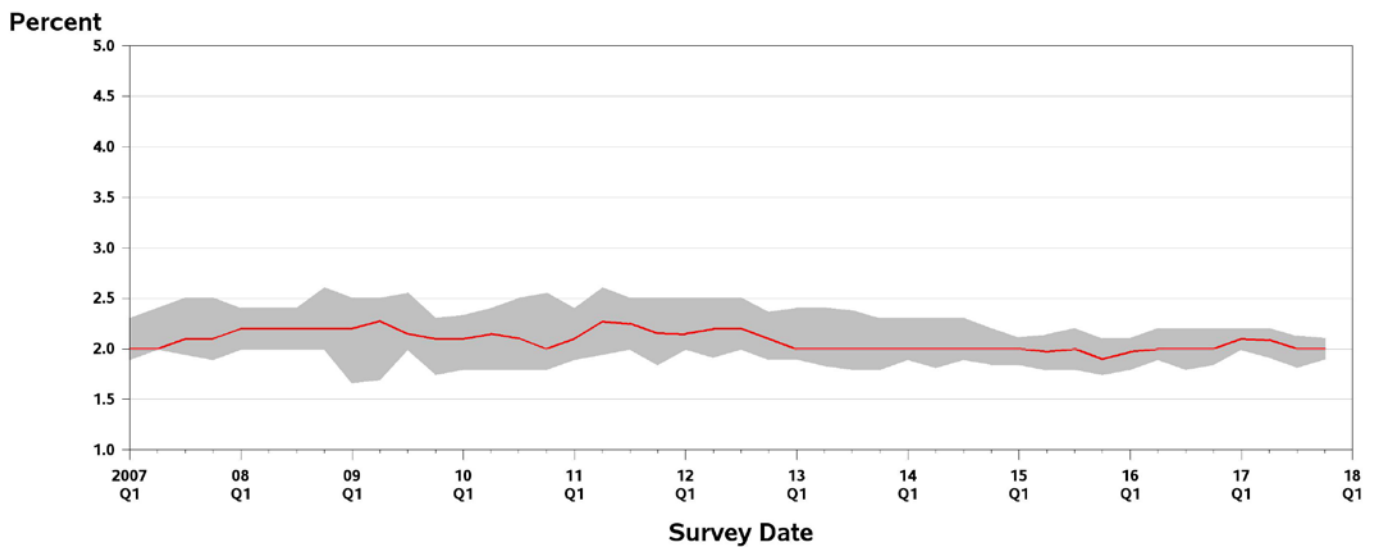
	Headline CPI		Core CPI		Headline PCE		Core PCE	
	Previous	Current	Previous	Current	Previous	Current	Previous	Current
Quarterly								
2017:Q4	2.3	2.3	2.1	1.9	2.0	1.9	1.8	1.6
2018:Q1	2.2	2.1	2.2	2.0	1.9	1.7	1.8	1.7
2018:Q2	2.1	2.0	2.1	2.1	1.9	1.8	1.8	1.8
2018:Q3	2.2	2.2	2.2	2.1	1.9	1.9	1.9	1.8
2018:Q4	N.A.	2.1	N.A.	2.2	N.A.	1.9	N.A.	1.9
Q4/Q4 Annual Averages								
2017	1.7	1.8	1.7	1.7	1.5	1.5	1.5	1.4
2018	2.2	2.1	2.1	2.1	1.9	1.8	1.8	1.8
2019	2.3	2.3	2.2	2.2	2.0	2.0	2.0	2.0
Long-Term Annual Averages								
2017-2021	2.20	2.20	N.A.	N.A.	1.94	1.90	N.A.	N.A.
2017-2026	2.25	2.20	N.A.	N.A.	2.00	2.00	N.A.	N.A.

The charts below show the median projections (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 charts highlight a marginally lower level of the long-term projection for CPI inflation and an unchanged long-term projection for PCE inflation.

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

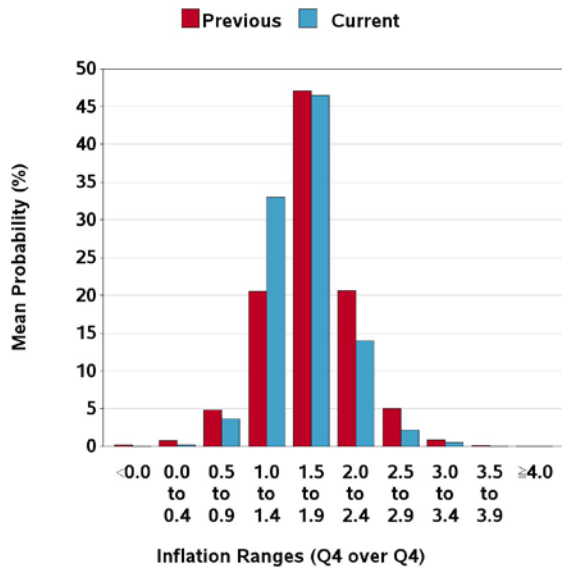


Projections for the 10-Year Annual-Average Rate of PCE Inflation (Median and Interquartile Range)

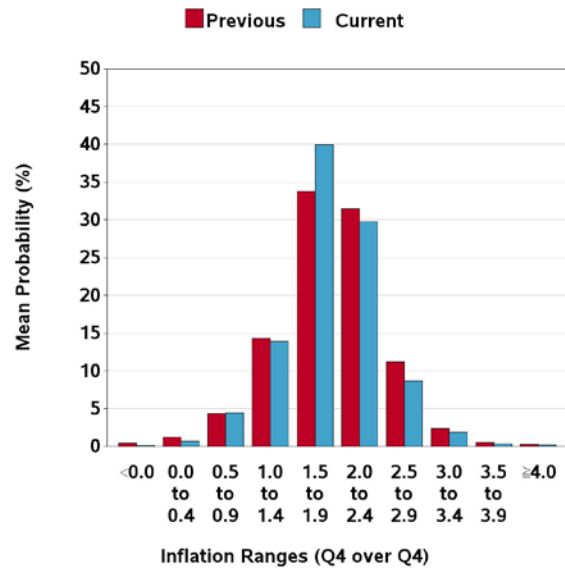


The charts below show the probabilities that the forecasters are assigning to the possibility that fourth-quarter over fourth-quarter core PCE inflation in 2017 and 2018 will fall into each of 10 ranges. For 2017, the forecasters assign a higher chance than they previously predicted that core PCE inflation will be between 1.0 percent to 1.4 percent. For 2018, the forecasters assign a higher chance that core PCE inflation will be between 1.5 percent and 1.9 percent than they previously predicted.

Mean Probabilities for Core PCE Inflation in 2017



Mean Probabilities for Core PCE Inflation in 2018



Reduced Risk of Decline in Real GDP in 2017 and 2018

The forecasters see only a small chance of a contraction in real GDP in any of the next five quarters. For the current quarter, they predict a 6.3 percent chance of negative growth, down from 10.5 percent in the survey of three months ago. Notably, the forecasters see a lower probability of a negative quarter in 2017 and 2018 than they estimated three months ago.

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

Quarterly data:	Previous	New
2017: Q4	10.5	6.3
2018: Q1	14.2	10.4
2018: Q2	15.9	12.6
2018: Q3	18.1	14.7
2018: Q4	N.A.	17.0

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.

New File Format

On May 12, 2017, the survey's data files on the Bank's website were changed to a .xlsx extension instead of .xls.

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

Lewis Alexander, Nomura Securities; **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.; **Christine Chmura, Ph.D.**, and **Xiaobing Shuai, Ph.D.**, Chmura Economics & Analytics; **Gary Ciminero, CFA**, GLC Financial Economics; **Nathaniel Curtis**, Navigant Consulting; **Gregory Daco**, Oxford Economics USA, Inc.; **Rajeev Dhawan**, Georgia State University; **Gabriel Ehrlich**, **Daniil Manaenkov**, **Ben Meiselman**, **Owen Nie**, and **Aditi Thapar**, RSQE, University of Michigan; **Michael R. Englund**, Action Economics, LLC; **J.D. Foster**, U.S. Chamber of Commerce; **Michael Gapen**, Barclays Capital; **Sacha Gelfer**, Bentley University; **James Glassman**, JPMorgan Chase & Co.; **Jan Hatzius**, Goldman Sachs; **Keith Hembre**, Nuveen Asset Management; **Peter Hooper**, Deutsche Bank Securities, Inc.; **Sam Kahan**, Kahan Consulting Ltd. (ACT Research LLC); **N. Karp**, BBVA Research USA; **Walter Kemmsies**, Jones Lang LaSalle; **Jack Kleinhenz**, Kleinhenz & Associates, Inc.; **Thomas Lam**, Independent Economist; **L. Douglas Lee**, Economics from Washington; **John Lonski**, Moody's Capital Markets Group; **Macroeconomic Advisers, LLC**; **R. Anthony Metz**, Pareto Optimal Economics; **Michael Moran**, Daiwa Capital Markets America; **Joel L. Naroff**, Naroff Economic Advisors; **Michael Neal**, National Association of Home Builders; **Mark Nielson, Ph.D.**, MacroEcon Global Advisors; **Luca Noto**, Anima Sgr; **Brendon Ogmundson**, BC Real Estate Association; **Arun Raha** and **Maira Trimble**, Eaton Corporation; **Philip Rothman**, East Carolina University; **Chris Rupkey**, MUFG Union Bank; **John Silvia**, Wells Fargo; **Sean M. Snaith, Ph.D.**, University of Central Florida; **Constantine G. Soras, Ph.D.**, CGS Economic Consulting; **Stephen Stanley**, Amherst Pierpont Securities; **Charles Steindel**, Ramapo College of New Jersey; **Susan M. Sterne**, Economic Analysis Associates, Inc.; **James Sweeney**, Credit Suisse; **Thomas Kevin Swift**, American Chemistry Council; **Richard Yamarone**, Bloomberg, LP; **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

	2017 Q4	2018 Q1	2018 Q2	2018 Q3	2018 Q4	2017	2018 (YEAR-OVER-YEAR)	2019	2020
PERCENT GROWTH AT ANNUAL RATES									
1. REAL GDP (BILLIONS, CHAIN WEIGHTED)	2.6	2.4	2.4	2.1	2.3	2.2	2.5	2.1	1.9
2. GDP PRICE INDEX (PERCENT CHANGE)	1.8	1.9	1.9	2.1	2.1	1.8	1.9	N.A.	N.A.
3. NOMINAL GDP (\$ BILLIONS)	4.5	4.5	4.3	4.3	4.3	4.0	4.5	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)	183.0	164.9	167.0	157.1	155.6	178.0	163.4	N.A.	N.A.
VARIABLES IN LEVELS									
5. UNEMPLOYMENT RATE (PERCENT)	4.2	4.1	4.1	4.1	4.0	4.4	4.1	4.0	4.1
6. 3-MONTH TREASURY BILL (PERCENT)	1.2	1.3	1.5	1.7	1.8	0.9	1.6	2.2	2.5
7. 10-YEAR TREASURY BOND (PERCENT)	2.4	2.6	2.7	2.8	3.0	2.3	2.8	3.3	3.4
	2017 Q4	2018 Q1	2018 Q2	2018 Q3	2018 Q4	2017	2018 (Q4-OVER-Q4)	2019	
INFLATION INDICATORS									
8. CPI (ANNUAL RATE)	2.3	2.1	2.0	2.2	2.1	1.8	2.1	2.3	
9. CORE CPI (ANNUAL RATE)	1.9	2.0	2.1	2.1	2.2	1.7	2.1	2.2	
10. PCE (ANNUAL RATE)	1.9	1.7	1.8	1.9	1.9	1.5	1.8	2.0	
11. CORE PCE (ANNUAL RATE)	1.6	1.7	1.8	1.8	1.9	1.4	1.8	2.0	

THE FIGURES ON EACH LINE ARE MEDIANS OF 41 INDIVIDUAL FORECASTERS.

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

SURVEY OF PROFESSIONAL FORECASTERS

Fourth 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 October 30, 2017; the tables do not reflect subsequent revisions to the data. All forecasts were received on or before November 7, 2017.

TABLE ONE
MAJOR MACROECONOMIC INDICATORS
MEDIAN OF FORECASTER PREDICTIONS

	NUMBER OF FORECASTERS	ACTUAL		FORECAST				ACTUAL		FORECAST		
		2017 Q3	2017 Q4	2018 Q1	2018 Q2	2018 Q3	2018 Q4	2016 ANNUAL	2017 ANNUAL	2018 ANNUAL	2019 ANNUAL	2020 ANNUAL
1. GROSS DOMESTIC PRODUCT (GDP) (\$ BILLIONS)	39	19496	19711	19927	20139	20349	20564	18624	19379	20244	N.A.	N.A.
2. GDP PRICE INDEX (2009=100)	39	113.65	114.16	114.70	115.24	115.84	116.44	111.42	113.40	115.55	N.A.	N.A.
3. CORPORATE PROFITS AFTER TAXES (\$ BILLIONS)	17	N.A.	1697.0	1718.7	1721.5	1727.7	1744.9	1602.4	1663.6	1733.1	N.A.	N.A.
4. UNEMPLOYMENT RATE (PERCENT)	39	4.3	4.2	4.1	4.1	4.1	4.0	4.9	4.4	4.1	4.0	4.1
5. NONFARM PAYROLL EMPLOYMENT (THOUSANDS)	35	146625	147174	147669	148170	148641	149108	144306	146442	148403	N.A.	N.A.
6. INDUSTRIAL PRODUCTION (2012=100)	34	104.7	105.4	106.1	106.6	107.2	107.8	103.1	104.7	107.0	N.A.	N.A.
7. NEW PRIVATE HOUSING STARTS (ANNUAL RATE, MILLIONS)	36	1.17	1.21	1.25	1.26	1.27	1.28	1.18	1.19	1.27	N.A.	N.A.
8. 3-MONTH TREASURY BILL RATE (PERCENT)	37	1.04	1.15	1.30	1.49	1.67	1.81	0.32	0.92	1.59	2.20	2.50
9. MOODY'S AAA CORP BOND YIELD * (PERCENT)	22	N.A.	3.75	4.00	4.15	4.30	4.34	N.A.	3.79	4.22	N.A.	N.A.
10. MOODY'S BAA CORP BOND YIELD * (PERCENT)	24	N.A.	4.40	4.60	4.76	4.93	5.03	N.A.	4.49	4.84	N.A.	N.A.
11. 10-YEAR TREASURY BOND YIELD (PERCENT)	38	2.24	2.42	2.56	2.69	2.79	2.95	1.84	2.34	2.75	3.28	3.38
12. REAL GDP (BILLIONS, CHAIN WEIGHTED)	40	17157	17267	17370	17472	17564	17667	16716	17089	17517	17886	18224
13. TOTAL CONSUMPTION EXPENDITURE (BILLIONS, CHAIN WEIGHTED)	39	11922.1	11998.8	12070.2	12144.1	12220.1	12287.2	11572.1	11884.3	12180.7	N.A.	N.A.
14. NONRESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	38	2322.7	2348.0	2370.8	2394.7	2419.2	2441.8	2210.4	2308.6	2406.9	N.A.	N.A.
15. RESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	38	585.0	589.3	596.2	602.1	608.7	613.1	587.5	593.4	605.8	N.A.	N.A.
16. FEDERAL GOVERNMENT C & I (BILLIONS, CHAIN WEIGHTED)	38	1116.9	1119.1	1121.3	1123.8	1126.2	1130.3	1114.6	1114.5	1124.6	N.A.	N.A.
17. STATE AND LOCAL GOVT C & I (BILLIONS, CHAIN WEIGHTED)	38	1775.7	1779.7	1785.0	1790.4	1795.9	1800.7	1783.7	1780.2	1793.6	N.A.	N.A.
18. CHANGE IN PRIVATE INVENTORIES (BILLIONS, CHAIN WEIGHTED)	37	35.8	34.1	34.1	35.0	36.5	43.2	33.4	19.1	36.4	N.A.	N.A.
19. NET EXPORTS (BILLIONS, CHAIN WEIGHTED)	38	-595.5	-600.9	-611.0	-619.2	-624.4	-629.3	-586.3	-608.1	-621.6	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, FOURTH QUARTER 2017.

TABLE TWO
MAJOR MACROECONOMIC INDICATORS
PERCENTAGE CHANGES AT ANNUAL RATES

	NUMBER OF FORECASTERS	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	2016	2017	2018	2019
		TO Q4 2017	TO Q1 2018	TO Q2 2018	TO Q3 2018	TO Q4 2018	TO 2017	TO 2018	TO 2019	TO 2020
1. GROSS DOMESTIC PRODUCT (GDP) (\$ BILLIONS)	39	4.5	4.5	4.3	4.3	4.3	4.0	4.5	N.A.	N.A.
2. GDP PRICE INDEX (2009=100)	39	1.8	1.9	1.9	2.1	2.1	1.8	1.9	N.A.	N.A.
3. CORPORATE PROFITS AFTER TAXES (\$ BILLIONS)	17	5.5	5.2	0.6	1.5	4.0	3.8	4.2	N.A.	N.A.
4. UNEMPLOYMENT RATE (PERCENT)	39	-0.1	-0.1	-0.0	-0.0	-0.0	-0.5	-0.3	-0.1	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	183.0	164.9	167.0	157.1	155.6	178.0	163.4	N.A.	N.A.
6. INDUSTRIAL PRODUCTION (2012=100)	34	2.9	2.4	2.1	2.2	2.1	1.6	2.1	N.A.	N.A.
7. NEW PRIVATE HOUSING STARTS (ANNUAL RATE, MILLIONS)	36	15.4	13.6	3.8	3.8	4.7	1.5	6.3	N.A.	N.A.
8. 3-MONTH TREASURY BILL RATE (PERCENT)	37	0.11	0.15	0.19	0.18	0.14	0.60	0.67	0.62	0.30
9. MOODY'S AAA CORP BOND YIELD * (PERCENT)	22	N.A.	0.25	0.15	0.15	0.04	N.A.	0.43	N.A.	N.A.
10. MOODY'S BAA CORP BOND YIELD * (PERCENT)	24	N.A.	0.20	0.16	0.16	0.10	N.A.	0.35	N.A.	N.A.
11. 10-YEAR TREASURY BOND YIELD (PERCENT)	38	0.18	0.14	0.13	0.11	0.16	0.50	0.41	0.53	0.11
12. REAL GDP (BILLIONS, CHAIN WEIGHTED)	40	2.6	2.4	2.4	2.1	2.3	2.2	2.5	2.1	1.9
13. TOTAL CONSUMPTION EXPENDITURE (BILLIONS, CHAIN WEIGHTED)	39	2.6	2.4	2.5	2.5	2.2	2.7	2.5	N.A.	N.A.
14. NONRESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	38	4.4	3.9	4.1	4.2	3.8	4.4	4.3	N.A.	N.A.
15. RESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	38	3.0	4.7	4.0	4.5	2.9	1.0	2.1	N.A.	N.A.
16. FEDERAL GOVERNMENT C & I (BILLIONS, CHAIN WEIGHTED)	38	0.8	0.8	0.9	0.9	1.5	-0.0	0.9	N.A.	N.A.
17. STATE AND LOCAL GOVT C & I (BILLIONS, CHAIN WEIGHTED)	38	0.9	1.2	1.2	1.2	1.1	-0.2	0.8	N.A.	N.A.
18. CHANGE IN PRIVATE INVENTORIES (BILLIONS, CHAIN WEIGHTED)	37	-1.7	-0.1	1.0	1.4	6.7	-14.3	17.3	N.A.	N.A.
19. NET EXPORTS (BILLIONS, CHAIN WEIGHTED)	38	-5.4	-10.1	-8.2	-5.2	-4.9	-21.8	-13.5	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, FOURTH QUARTER 2017.

TABLE THREE
 MAJOR PRICE INDICATORS
 MEDIANS OF FORECASTER PREDICTIONS

	NUMBER OF FORECASTERS	ACTUAL	FORECAST(Q/Q)					ACTUAL	FORECAST(Q4/Q4)		
		2017 Q3	2017 Q4	2018 Q1	2018 Q2	2018 Q3	2018 Q4	2016 ANNUAL	2017 ANNUAL	2018 ANNUAL	2019 ANNUAL
1. CONSUMER PRICE INDEX (ANNUAL RATE)	40	2.0	2.3	2.1	2.0	2.2	2.1	1.8	1.8	2.1	2.3
2. CORE CONSUMER PRICE INDEX (ANNUAL RATE)	38	1.7	1.9	2.0	2.1	2.1	2.2	2.2	1.7	2.1	2.2
3. PCE PRICE INDEX (ANNUAL RATE)	37	1.5	1.9	1.7	1.8	1.9	1.9	1.6	1.5	1.8	2.0
4. CORE PCE PRICE INDEX (ANNUAL RATE)	36	1.3	1.6	1.7	1.8	1.8	1.9	1.9	1.4	1.8	2.0

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

TABLE FOUR
ESTIMATED PROBABILITY OF DECLINE IN REAL GDP

ESTIMATED PROBABILITY (CHANCES IN 100)	Q3 2017 TO Q4 2017	Q4 2017 TO Q1 2018	Q1 2018 TO Q2 2018	Q2 2018 TO Q3 2018	Q3 2018 TO Q4 2018
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NUMBER OF FORECASTERS

10 OR LESS	29	19	15	11	7
11 TO 20	2	13	16	17	20
21 TO 30	1	0	2	5	4
31 TO 40	0	0	0	0	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	9	9	8	8	9

MEAN AND MEDIAN

MEDIAN PROBABILITY	5.00	10.00	12.00	15.00	15.00
MEAN PROBABILITY	6.29	10.44	12.64	14.69	17.05

NOTE: TOTAL NUMBER OF FORECASTERS REPORTING IS 32.
SOURCE: RESEARCH DEPARTMENT, FEDERAL RESERVE BANK OF PHILADELPHIA.
SURVEY OF PROFESSIONAL FORECASTERS, FOURTH QUARTER 2017.

TABLE FIVE
MEAN PROBABILITIES

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

	2017	2018	2019	2020
9.0 PERCENT OR MORE	0.03	0.03	0.00	0.01
8.0 TO 8.9 PERCENT	0.03	0.03	0.00	0.06
7.5 TO 7.9 PERCENT	0.03	0.03	0.01	0.14
7.0 TO 7.4 PERCENT	0.03	0.03	0.09	0.85
6.5 TO 6.9 PERCENT	0.07	0.03	0.75	2.09
6.0 TO 6.4 PERCENT	0.13	0.26	1.85	4.60
5.5 TO 5.9 PERCENT	0.28	1.61	5.53	8.28
5.0 TO 5.4 PERCENT	2.69	7.45	13.56	15.45
4.0 TO 4.9 PERCENT	89.76	57.20	45.17	41.94
LESS THAN 4.0 PERCENT	6.94	33.30	33.03	26.57

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	0.03	0.26	0.34	0.32
5.0 TO 5.9	0.06	0.75	0.87	1.14
4.0 TO 4.9	0.52	2.79	3.94	4.38
3.0 TO 3.9	4.50	19.84	17.25	15.79
2.0 TO 2.9	77.71	49.62	39.17	33.69
1.0 TO 1.9	14.55	17.60	21.55	23.74
0.0 TO 0.9	1.59	6.03	10.11	11.99
-1.0 TO -0.1	0.65	1.77	4.47	6.03
-2.0 TO -1.1	0.12	0.69	1.54	1.97
-3.0 TO -2.1	0.24	0.58	0.48	0.61
LESS THAN -3.0	0.03	0.06	0.26	0.35

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

	2016-2017	2017-2018
4.0 OR MORE	0.03	0.26
3.5 TO 3.9	0.18	0.90
3.0 TO 3.4	1.43	3.33
2.5 TO 2.9	4.61	11.42
2.0 TO 2.4	16.60	32.69
1.5 TO 1.9	66.12	36.61
1.0 TO 1.4	10.12	10.69
0.5 TO 0.9	0.70	2.94
0.0 TO 0.4	0.15	0.74
WILL DECLINE	0.06	0.43

SOURCE: RESEARCH DEPARTMENT, FEDERAL RESERVE BANK OF PHILADELPHIA.
SURVEY OF PROFESSIONAL FORECASTERS, FOURTH 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	0.03	0.10
3.5 TO 3.9 PERCENT	0.03	0.48
3.0 TO 3.4 PERCENT	0.91	2.79
2.5 TO 2.9 PERCENT	4.58	16.25
2.0 TO 2.4 PERCENT	22.95	37.99
1.5 TO 1.9 PERCENT	60.76	29.92
1.0 TO 1.4 PERCENT	9.33	8.73
0.5 TO 0.9 PERCENT	1.21	2.92
0.0 TO 0.4 PERCENT	0.16	0.63
WILL DECLINE	0.03	0.18

MEAN PROBABILITY ATTACHED TO CORE PCE INFLATION:

	16Q4 TO 17Q4	17Q4 TO 18Q4
4 PERCENT OR MORE	0.04	0.15
3.5 TO 3.9 PERCENT	0.04	0.34
3.0 TO 3.4 PERCENT	0.49	1.93
2.5 TO 2.9 PERCENT	2.16	8.70
2.0 TO 2.4 PERCENT	13.97	29.75
1.5 TO 1.9 PERCENT	46.48	39.97
1.0 TO 1.4 PERCENT	33.00	13.89
0.5 TO 0.9 PERCENT	3.63	4.44
0.0 TO 0.4 PERCENT	0.16	0.71
WILL DECLINE	0.04	0.11

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

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	
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MINIMUM	1.95	MINIMUM	1.73
LOWER QUARTILE	2.00	LOWER QUARTILE	1.82
MEDIAN	2.20	MEDIAN	1.90
UPPER QUARTILE	2.25	UPPER QUARTILE	2.00
MAXIMUM	2.80	MAXIMUM	2.50
MEAN	2.17	MEAN	1.94
STD. DEVIATION	0.20	STD. DEVIATION	0.15
N	35	N	34
MISSING	6	MISSING	7

ANNUAL AVERAGE OVER THE NEXT 10 YEARS: 2017-2026

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CPI INFLATION RATE		PCE INFLATION RATE	
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MINIMUM	1.87	MINIMUM	1.75
LOWER QUARTILE	2.00	LOWER QUARTILE	1.90
MEDIAN	2.20	MEDIAN	2.00
UPPER QUARTILE	2.30	UPPER QUARTILE	2.10
MAXIMUM	2.70	MAXIMUM	2.30
MEAN	2.20	MEAN	2.00
STD. DEVIATION	0.19	STD. DEVIATION	0.14
N	34	N	33
MISSING	7	MISSING	8

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