

# FIRST QUARTER 2015

## Release Date: February 13, 2015

## Unchanged Outlook for Growth, but Brighter Outlook for Labor Markets

The outlook for growth in the U.S. economy over the next three years has changed little from the survey of three months ago, according to 39 forecasters surveyed by the Federal Reserve Bank of Philadelphia. The forecasters predict real GDP will grow at an annual rate of 2.7 percent this quarter and 3.0 percent next quarter. On an annual-average over annual-average basis, real GDP will grow 3.2 percent in 2015, up 0.2 percentage point from the previous estimate. The forecasters predict real GDP will grow 2.9 percent in 2016, 2.7 percent in 2017, and 2.7 percent in 2018.

A brighter outlook for the labor market accompanies the nearly stable outlook for growth. The forecasters predict that the unemployment rate will be an annual average of 5.4 percent in 2015, before falling to 5.1 percent in 2016, 5.0 percent in 2017, and 4.9 percent in 2018. The projections for 2015, 2016, and 2017 are below those of the last survey.

The panelists also predict an improved outlook on the employment front. They have revised upward their estimates for job gains in the next four quarters. The forecasters see nonfarm payroll employment growing at a rate of 269,300 jobs per month this quarter, 233,800 jobs per month next quarter, 222,000 jobs per month in the third quarter of 2015, and 229,400 jobs per month in the fourth quarter of 2015. The forecasters' projections for the annual-average level of nonfarm payroll employment suggest job gains at a monthly rate of 252,500 in 2015 and 213,600 in 2016, 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.)

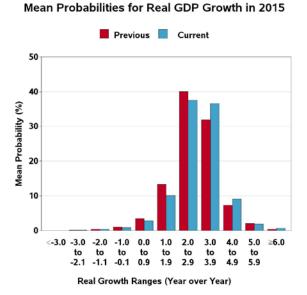
	Real GDP (%)		Unemploymer	nt Rate (%)	Payrolls (000s/month		
	Previous	New	Previous	New	Previous	New	
Quarterly data:							
2015:Q1	2.8	2.7	5.8	5.6	211.2	269.3	
2015:Q2	3.1	3.0	5.7	5.5	195.4	233.8	
2015:Q3	2.8	2.8	5.6	5.4	208.0	222.0	
2015:Q4	3.0	2.8	5.5	5.2	201.3	229.4	
2016:Q1	N.A.	2.9	N.A.	5.2	N.A.	213.8	
Annual data (proje	ections are back	ased on a	nnual-average le	vels):			
2015	3.0	3.2	5.6	5.4	212.3	252.5	
2016	2.9	2.9	5.4	5.1	N.A.	213.6	
2017	2.7	2.7	5.2	5.0	N.A.	N.A.	
2018	N.A.	2.7	N.A.	4.9	N.A.	N.A.	

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

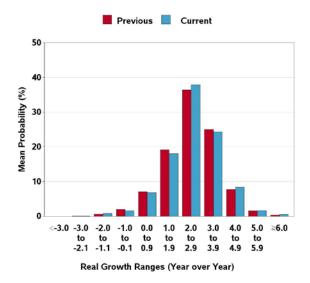
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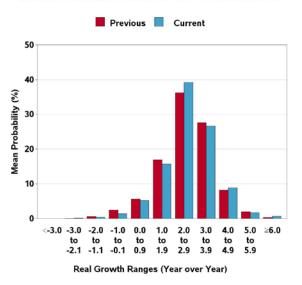
The charts below provide some insight into the degree of uncertainty the forecasters have about their projections for the rate of growth in the annual-average level of real GDP. Each chart (except the one for 2018) presents the forecasters' previous and current estimates of the probability that growth will fall into each of 11 ranges. The probability estimates for growth in 2015, 2016, and 2017 are about the same now as they were in the previous survey.



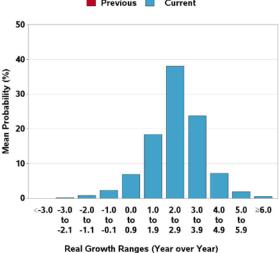
## Mean Probabilities for Real GDP Growth in 2017



#### Mean Probabilities for Real GDP Growth in 2016

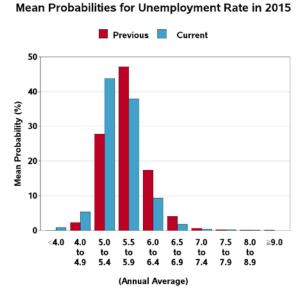


#### Mean Probabilities for Real GDP Growth in 2018

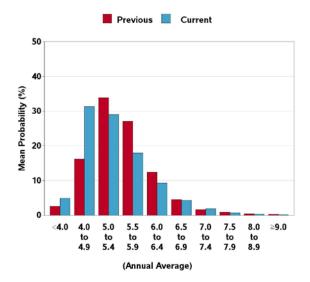


📕 Previous 📕 Current

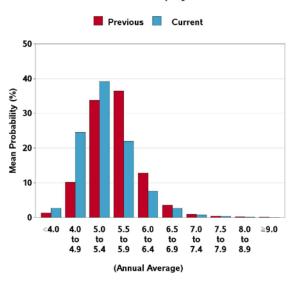
The forecasters' density projections for unemployment, shown below, shed light on uncertainty about the labor market over the next four years. Each chart for unemployment presents the forecasters' current estimates of the probability that unemployment will fall into each of 10 ranges. The charts show the forecasters are raising their density estimates over the next three years at the lower levels of unemployment outcomes, suggesting they are more confident about lower unemployment than they were in the last survey.



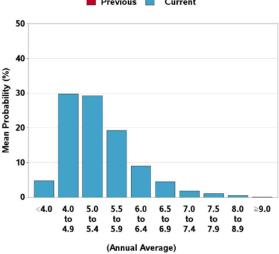
Mean Probabilities for Unemployment Rate in 2017



### Mean Probabilities for Unemployment Rate in 2016



Mean Probabilities for Unemployment Rate in 2018



📕 Previous 📕 Current

## Forecasters Predict Lower Inflation in 2015

The forecasters expect current-quarter headline CPI inflation to average -1.4 percent, lower than the last survey's estimate of 1.8 percent. The forecasters predict current-quarter headline PCE inflation of -0.6 percent, lower than the prediction of 1.7 percent from the survey of three months ago.

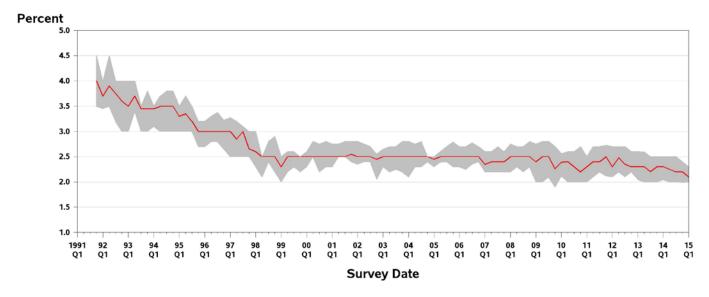
The forecasters also see lower headline and core measures of CPI and PCE inflation in 2015. Measured on a fourthquarter over fourth-quarter basis, headline CPI inflation is expected to average 1.1 percent in 2015, down from 1.9 percent in the last survey. Forecasters expect fourth-quarter over fourth-quarter headline PCE inflation to also average 1.1 percent in 2015, down from 1.8 percent in the last survey.

Over the next 10 years, 2015 to 2024, the forecasters expect headline CPI inflation to average 2.1 percent at an annual rate. The corresponding estimate for 10-year annual-average PCE inflation is 2.0 percent.

	Headlin	ne CPI	Core	CPI	Headlir	ne PCE	Core	PCE
	Previous	Current	Previous	Current	Previous	Current	Previous	Current
Quarterly								
2015:Q1	1.8	-1.4	1.9	1.3	1.7	-0.6	1.7	1.2
2015:Q2	1.9	1.6	1.9	1.7	1.8	1.4	1.7	1.4
2015:Q3	2.0	1.9	1.9	1.8	1.8	1.9	1.8	1.5
2015:Q4	2.0	2.0	2.0	1.8	1.9	1.8	1.8	1.7
2016:Q1	N.A.	2.1	N.A.	1.9	N.A.	1.8	N.A.	1.6
Q4/Q4 Annual	Averages							
2015	1.9	1.1	2.0	1.7	1.8	1.1	1.8	1.4
2016	2.1	2.1	2.0	1.9	1.9	1.9	1.8	1.7
2017	N.A.	2.3	N.A.	2.1	N.A.	2.1	N.A.	1.9
Long-Term An	nual Averag	ges						
2014-2018	2.09	N.A.	N.A.	N.A.	1.90	N.A.	N.A.	N.A.
2015-2019	N.A.	2.00	N.A.	N.A.	N.A.	1.80	N.A.	N.A.
2014-2023	2.20	N.A.	N.A.	N.A.	2.00	N.A.	N.A.	N.A.
2015-2024	N.A.	2.10	N.A.	N.A.	N.A.	2.00	N.A.	N.A.

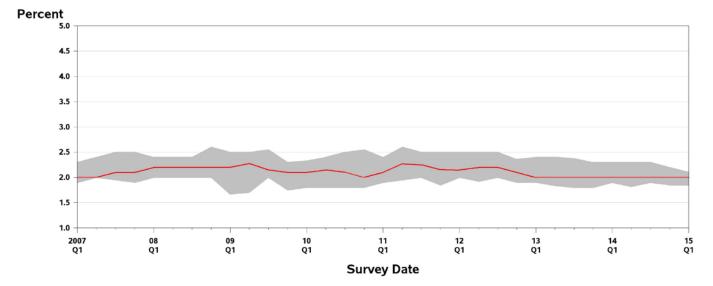
## Median Short-Run and Long-Run Projections for Inflation (Annualized Percentage Points)

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 a slightly lower level of the long-term projection for CPI inflation, at 2.1 percent. The bottom panel highlights the unchanged 10-year forecast for PCE inflation, at 2.0 percent.

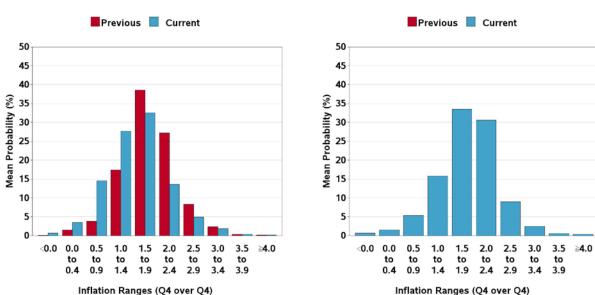


Projections for the 10-Year Annual-Average Rate of CPI Inflation (Median and Interquartile Range)

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



The figures below show the probabilities that the forecasters are assigning to the possibility that fourth-quarter over fourth-quarter core PCE inflation in 2015 and 2016 will fall into each of 10 ranges. For 2015, the forecasters assign a higher chance than previously predicted that core PCE inflation will be below 1.5 percent (and a lower probability that inflation will be above 1.5 percent).



## Mean Probabilities for Core PCE Inflation in 2016

## Lower Risk of a Negative Quarter

For the current quarter, the forecasters predict a 7.9 percent chance of negative growth. As the table below shows, the forecasters have also reduced their risk estimates for a downturn in the following quarters, compared with their previous estimates.

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

Mean Probabilities for Core PCE Inflation in 2015

Quarterly data:	Previous	New
2015:Q1	10.3	7.9
2015:Q2	11.4	9.3
2015:Q3	12.6	11.1
2015:Q4	13.5	11.9
2016:Q1	N.A.	13.2

## Forecasters State Their Views on House Prices

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 2015 and 2016.

Twenty-two 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 3.7 percent to 5.9 percent in 2015 and from 3.0 percent to 5.0 percent in 2016.

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

	(Q4/Q	2015 Q4 Percent C	Change)	2016 (Q4/Q4 Percent Change)		
Index	Ν	Mean	Median	Ν	Mean	Median
S&P/Case-Shiller: U.S. National	7	4.4	4.5	7	5.0	4.0
S&P/Case-Shiller: Composite 10	2	4.0	4.0	2	3.5	3.5
S&P/Case-Shiller: Composite 20	5	3.7	4.0	5	2.9	3.5
FHFA: U.S. Total	5	4.9	5.6	5	4.8	5.0
FHFA: Purchase Only	8	3.5	3.7	8	3.0	3.0
CoreLogic: National HPI, incl. Distressed Sales						
(Single Family Combined)	4	5.1	5.3	4	4.4	4.5
NAR Median: Total Existing	2	5.9	5.9	2	3.7	3.7

*Forecasters See Slightly Lower Long-Run Growth in Output and Productivity and in Returns to Financial Assets* In the 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 reduced 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 2.50 percent over the next 10 years, down from 2.60 percent in the first-quarter survey of 2014.

Similarly, productivity growth is now expected to average 1.70 percent, down from 1.80 percent. Downward revisions to the return on two of the financial assets accompany the current outlook. The forecasters see the S&P 500 returning an annual-average 5.45 percent per year over the next 10 years, down from 6.00 percent. The forecasters expect the rate on 10-year Treasuries to average 3.98 percent over the next 10 years, down from 4.35 percent in last year's first-quarter survey. Three-month Treasury bills will return 2.67 percent, up from 2.50 percent.

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

	First Quarter 2014	Current Survey
Real GDP Growth	2.60	2.50
Productivity Growth	1.80	1.70
Stock Returns (S&P 500)	6.00	5.45
Rate on 10-Year Treasury Bond	<i>s</i> 4.35	3.98
Bill Returns (3-Month)	2.50	2.67

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; David Crowe, National Association of Home Builders; Nathaniel Curtis, Navigant Consulting; Gregory Daco, Oxford Economics USA, Inc.; Rajeev Dhawan, Georgia State University; Michael R. Englund, Action Economics, LLC; Michael Gapen, Barclays Capital; James Glassman, JPMorgan Chase & Co.; Matthew Hall and Daniil Manaenkov, RSQE, University of Michigan; Jan Hatzius, Goldman Sachs; Keith Hembre, Nuveen Asset Management; Peter Hooper, Deutsche Bank Securities, Inc.; IHS Global Insight; Fred Joutz, Benchmark Forecasts and Research Program on Forecasting, George Washington University; Sam Kahan, Kahan Consulting Ltd. (ACT Research LLC); N. Karp, BBVA Compass; Jack Kleinhenz, Kleinhenz & Associates, Inc.; Thomas Lam, OSK-DMG/RHB; 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; Luca Noto, Anima Sgr; Brendon Ogmundson, BC Real Estate Association; Tom Porcelli, RBC Capital Markets; Arun Raha, Eaton Corporation; Martin A. Regalia, U.S. Chamber of Commerce; Vincent Reinhart, Morgan Stanley; Philip Rothman, East Carolina University; Chris Rupkey, Bank of Tokyo-Mitsubishi UFJ; John Silvia, Wells Fargo; Allen Sinai, Decision Economics, Inc.; Sean M. Snaith, Ph.D., University of Central Florida; Neal Soss, Credit Suisse; Stephen Stanley, Amherst Pierpont Securities; Charles Steindel, Ramapo College of New Jersey; Susan M. Sterne, Economic Analysis Associates, Inc.; Thomas Kevin Swift, American Chemistry Council; Richard Yamarone, Bloomberg, LP; Mark Zandi, Moody's Analytics.

This is a partial list of participants. We also thank those who wish to remain anonymous.

	2015 Q1	2015 Q2	2015 Q3	2015 Q4	2016 Q1	:	2015	2016 (YEAR-0	2017 DVER-YEA	2018 R)
PERCENT GROWTH AT ANNUAL RATES										
<pre>1. REAL GDP  (BILLIONS, CHAIN WEIGHTED)</pre>	2.7	3.0	2.8	2.8	2.9		3.2	2.9	2.7	2.7
2. GDP PRICE INDEX (PERCENT CHANGE)	0.6	1.6	1.9	1.6	2.0		1.1	1.8	N.A.	N.A.
3. NOMINAL GDP (\$ BILLIONS)	3.5	4.2	4.5	4.5	4.5		4.2	4.8	N.A.	N.A.
<pre>4. NONFARM PAYROLL EMPLOYMENT (PERCENT CHANGE) (AVG MONTHLY CHANGE)</pre>	2.3 269.3	2.0 233.8	1.9 222.0	1.9 229.4		2!	2.2 52.5	1.8 213.6	N.A. N.A.	N.A. N.A.
VARIABLES IN LEVELS										
5. UNEMPLOYMENT RATE (PERCENT)	5.6	5.5	5.4	5.2	5.2		5.4	5.1	5.0	4.9
<pre>6. 3-MONTH TREASURY BILL   (PERCENT)</pre>	0.0	0.1	0.3	0.6	0.8		0.3	1.2	2.7	3.0
<pre>7. 10-YEAR TREASURY BOND (PERCENT)</pre>	2.0	2.2	2.4	2.5	2.7		2.3	3.1	3.9	4.1
	2015 Q1	2015 Q2	2015 Q3	2015 Q4	2016 Q1	:	2015 (	2016 Q4-OVER-	2017 -Q4)	
INFLATION INDICATORS										
8. CPI (ANNUAL RATE)	-1.4	1.6	1.9	2.0	2.1		1.1	2.1	2.3	
9. CORE CPI (ANNUAL RATE)	1.3	1.7	1.8	1.8	1.9		1.7	1.9	2.1	
10. PCE (ANNUAL RATE)	-0.6	1.4	1.9	1.8	1.8		1.1	1.9	2.1	
11. CORE PCE (ANNUAL RATE)	1.2	1.4	1.5	1.7	1.6		1.4	1.7	1.9	

#### SUMMARY TABLE SURVEY OF PROFESSIONAL FORECASTERS MAJOR MACROECONOMIC INDICATORS

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

# SURVEY OF PROFESSIONAL FORECASTERS

First Quarter 2015

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 30; the tables do not reflect subsequent revisions to the data. All forecasts were received on or before February 10, 2015.

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

		ACTUAL		_	FORECAST					ACTUAL FORECAST			
	FO	OF RECASTERS	2014 Q4	2015 Q1	2015 Q2	2015 Q3	2015 Q4	2016 Q1	2014 ANNUAL	2015 ANNUAL	2016 ANNUAL	2017 ANNUAL	2018 ANNUAL
1.	GROSS DOMESTIC PRODUCT (GDP) (\$ BILLIONS)	38	17711	17864	18048	18249	18449	18652	17421	18156	19022	N.A.	N.A.
2.	GDP PRICE INDEX (2009=100)	38	108.64	108.81	109.25	109.76	110.19	110.74	108.31	109.53	111.47	N.A.	N.A.
3.	CORPORATE PROFITS AFTER TAXES (\$ BILLIONS)	17	N.A.	1629.2	1659.1	1682.9	1705.2	1717.2	N.A.	1652.6	1752.9	N.A.	N.A.
4.	UNEMPLOYMENT RATE (PERCENT)	39	5.7	5.6	5.5	5.4	5.2	5.2	6.1	5.4	5.1	5.0	4.9
5.	NONFARM PAYROLL EMPLOYMENT (THOUSANDS)	31	140061	140869	141570	142236	142925	143566	138890	141920	144484	N.A.	N.A.
б.	INDUSTRIAL PRODUCTION (2007=100)	33	106.1	107.1	108.0	108.8	109.7	110.4	104.2	108.4	111.5	N.A.	N.A.
7.	NEW PRIVATE HOUSING STARTS (ANNUAL RATE, MILLIONS)	36	1.07	1.09	1.13	1.18	1.22	1.25	1.00	1.15	1.30	N.A.	N.A.
8.	3-MONTH TREASURY BILL RATE (PERCENT)	36	0.02	0.05	0.10	0.30	0.56	0.84	0.03	0.26	1.21	2.66	3.00
9.	AAA CORPORATE BOND YIELD (PERCENT)	27	3.88	3.65	3.80	4.00	4.13	4.30	4.16	3.87	4.50	N.A.	N.A.
10.	BAA CORPORATE BOND YIELD (PERCENT)	26	4.74	4.53	4.70	4.83	4.96	5.09	4.85	4.78	5.28	N.A.	N.A.
11.	10-YEAR TREASURY BOND YIELD (PERCENT)	38	2.28	1.97	2.22	2.43	2.52	2.75	2.54	2.30	3.11	3.86	4.09
12.	REAL GDP (BILLIONS, CHAIN WEIGHTED)	37	16312	16419	16542	16657	16771	16893	16090	16598	17074	17536	18003
13.	TOTAL CONSUMPTION EXPENDITURE (BILLIONS, CHAIN WEIGHTED)	35 1	1114.9	11206.2	11293.2	11377.0	11467.0	11540.8	10967.8	11329.7	11662.5	N.A.	N.A.
14.	NONRESIDENTIAL FIXED INVESTMEN (BILLIONS, CHAIN WEIGHTED)	т 34	2154.8	2178.9	2206.5	2239.0	2266.9	2290.2	2112.7	2223.2	2331.3	N.A.	N.A.
15.	RESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	33	504.6	513.3	524.4	537.6	551.2	564.5	496.3	532.1	581.1	N.A.	N.A.
16.	FEDERAL GOVERNMENT C & I (BILLIONS, CHAIN WEIGHTED)	34	1119.7	1122.0	1123.9	1127.1	1128.6	1130.2	1123.4	1125.3	1132.0	N.A.	N.A.
17.	STATE AND LOCAL GOVT C & I (BILLIONS, CHAIN WEIGHTED)	33	1775.2	1780.8	1787.1	1794.2	1801.0	1806.0	1764.9	1791.0	1812.3	N.A.	N.A.
18.	CHANGE IN PRIVATE INVENTORIES (BILLIONS, CHAIN WEIGHTED)	33	113.1	84.0	75.0	73.0	68.0	62.4	78.8	75.2	61.4	N.A.	N.A.
19.	NET EXPORTS (BILLIONS, CHAIN WEIGHTED)	34	-471.5	-477.9	-489.7	-500.9	-509.8	-520.5	-452.6	-493.5	-532.6	N.A.	N.A.

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

_		IUMBER OF CASTERS	TO	Q1 2015 TO Q2 2015	TO	то	TO	2014 TO 2015	2015 TO 2016	2016 TO 2017	2017 TO 2018
1.	GROSS DOMESTIC PRODUCT (GDP) (\$ BILLIONS)	38	3.5	4.2	4.5	4.5	4.5	4.2	4.8	N.A.	N.A.
2.	GDP PRICE INDEX (2009=100)	38	0.6	1.6	1.9	1.6	2.0	1.1	1.8	N.A.	N.A.
3.	CORPORATE PROFITS AFTER TAXES (\$ BILLIONS)	17	7.5	7.5	5.9	5.4	2.8	9.3	6.1	N.A.	N.A.
4.	UNEMPLOYMENT RATE (PERCENT)	39	-0.1	-0.1	-0.1	-0.2	-0.0	-0.7	-0.3	-0.1	-0.0
5.	NONFARM PAYROLL EMPLOYMENT (PERCENT CHANGE) (AVG MONTHLY CHANGE)	31 31	2.3 269.3	2.0 233.8	1.9 222.0	1.9 229.4	1.8 213.8	2.2 252.5	1.8 213.6	N.A. N.A.	N.A. N.A.
6.	INDUSTRIAL PRODUCTION (2007=100)	33	3.8	3.4	3.1	3.2	2.7	4.0	2.8	N.A.	N.A.
7.	NEW PRIVATE HOUSING STARTS (ANNUAL RATE, MILLIONS)	36	6.6	14.1	19.4	12.8	9.8	14.7	12.8	N.A.	N.A.
8.	3-MONTH TREASURY BILL RATE (PERCENT)	36	0.03	0.05	0.20	0.26	0.28	0.23	0.94	1.46	0.34
9.	AAA CORPORATE BOND YIELD (PERCENT)	27	-0.23	0.15	0.20	0.13	0.17	-0.29	0.63	N.A.	N.A.
10.	BAA CORPORATE BOND YIELD (PERCENT)	26	-0.21	0.17	0.13	0.13	0.13	-0.07	0.50	N.A.	N.A.
11.	10-YEAR TREASURY BOND YIELD (PERCENT)	38	-0.31	0.25	0.21	0.08	0.23	-0.24	0.81	0.75	0.22
12.	REAL GDP (BILLIONS, CHAIN WEIGHTED)	37	2.7	3.0	2.8	2.8	2.9	3.2	2.9	2.7	2.7
13.	TOTAL CONSUMPTION EXPENDITURE (BILLIONS, CHAIN WEIGHTED)	35	3.3	3.1	3.0	3.2	2.6	3.3	2.9	N.A.	N.A.
14.	NONRESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	34	4.6	5.1	6.0	5.1	4.2	5.2	4.9	N.A.	N.A.
15.	RESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)	33	7.1	8.9	10.5	10.5	10.0	7.2	9.2	N.A.	N.A.
16.	FEDERAL GOVERNMENT C & I (BILLIONS, CHAIN WEIGHTED)	34	0.8	0.7	1.1	0.5	0.6	0.2	0.6	N.A.	N.A.
17.	STATE AND LOCAL GOVT C & I (BILLIONS, CHAIN WEIGHTED)	33	1.3	1.4	1.6	1.5	1.1	1.5	1.2	N.A.	N.A.
18.	CHANGE IN PRIVATE INVENTORIES (BILLIONS, CHAIN WEIGHTED)	33	-29.1	-9.0	-2.0	-5.0	-5.6	-3.6	-13.8	N.A.	N.A.
19.	NET EXPORTS (BILLIONS, CHAIN WEIGHTED)	34	-6.4	-11.8	-11.2	-8.8	-10.8	-40.9	-39.1	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		FORECAST(Q/Q)					FORECAST(Q4/Q4)		
	OF FORECASTERS	2014 Q4	2015 Q1	2015 Q2	2015 Q3	2015 Q4	2016 Q1	2014 ANNUAL	2015 ANNUAL	2016 ANNUAL	2017 ANNUAL
1. CONSUMER PRICE INDEX (ANNUAL RATE)	37	-1.2	-1.4	1.6	1.9	2.0	2.1	1.2	1.1	2.1	2.3
2. CORE CONSUMER PRICE INDE (ANNUAL RATE)	X 35	1.4	1.3	1.7	1.8	1.8	1.9	1.7	1.7	1.9	2.1
3. PCE PRICE INDEX (ANNUAL RATE)	32	-0.5	-0.6	1.4	1.9	1.8	1.8	1.1	1.1	1.9	2.1
4. CORE PCE PRICE INDEX (ANNUAL RATE)	34	1.1	1.2	1.4	1.5	1.7	1.6	1.4	1.4	1.7	1.9

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

ESTIMATED PROBABILITY (CHANCES IN 100)	Q4 2014 TO Q1 2015	TO	Q2 2015 TO Q3 2015	TO	TO
		NUMBER	OF FORECAS	STERS	
10 OR LESS 11 TO 20 21 TO 30 31 TO 40 41 TO 50 51 TO 60 61 TO 70 71 TO 80 81 TO 90 91 AND OVER NOT REPORTING	27 6 0 0 0 0 0 0 0 0 6	27 5 1 0 0 0 0 0 0 0 6	18 14 0 0 0 0 0 0 0 0 6	17 15 1 0 0 0 0 0 0 0 0 6	16 15 1 0 0 0 0 0 0 6
MEAN AND MEDIAN					
MEDIAN PROBABILITY MEAN PROBABILITY	6.00 7.90	10.00 9.30	10.00 11.14	10.00 11.85	12.00 13.20

NOTE: TOTAL NUMBER OF FORECASTERS REPORTING IS 33. SOURCE: RESEARCH DEPARTMENT, FEDERAL RESERVE BANK OF PHILADELPHIA. SURVEY OF PROFESSIONAL FORECASTERS, FIRST QUARTER 2015.

#### TABLE FIVE MEAN PROBABILITIES

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

	2015	2016	2017	2018
-				
9.0 PERCENT OR MORE	0.00	0.09	0.14	0.07
8.0 TO 8.9 PERCENT	0.12	0.14	0.37	0.52
7.5 TO 7.9 PERCENT	0.18	0.27	0.69	1.09
7.0 TO 7.4 PERCENT	0.45	0.80	1.88	1.81
6.5 TO 6.9 PERCENT	1.83	2.68	4.32	4.49
6.0 TO 6.4 PERCENT	9.36	7.63	9.27	8.98
5.5 TO 5.9 PERCENT	38.01	22.00	17.96	19.24
5.0 TO 5.4 PERCENT	43.82	39.18	29.07	29.29
4.0 TO 4.9 PERCENT	5.38	24.57	31.38	29.74
LESS THAN 4.0 PERCENT	0.85	2.64	4.90	4.77

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

	2014-2015	2015-2016	2016-2017	2017-2018
6.0 OR MORE	0.64	0.72	0.53	0.50
5.0 TO 5.9	1.84	1.70	1.69	1.86
4.0 TO 4.9	9.05	8.84	8.33	7.18
3.0 TO 3.9	36.63	26.63	24.38	23.80
2.0 TO 2.9	37.53	39.22	37.90	38.07
1.0 TO 1.9	10.09	15.69	18.02	18.39
0.0 TO 0.9	2.83	5.21	6.79	6.91
-1.0 TO -0.1	0.87	1.46	1.56	2.32
-2.0 TO -1.1	0.36	0.42	0.77	0.80
-3.0 TO -2.1	0.16	0.11	0.09	0.15
LESS THAN -3.0	0.00	0.00	0.02	0.02

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

	2014-2015	2015-2016	
4.0 OR MORE	0.08	0.12	
3.5 TO 3.9	0.08	0.68	
3.0 TO 3.4	0.78	2.34	
2.5 TO 2.9	4.63	9.62	
2.0 TO 2.4	11.78	26.27	
1.5 TO 1.9	22.48	32.78	
1.0 TO 1.4	33.64	17.99	
0.5 TO 0.9	20.21	7.00	
0.0 TO 0.4	5.57	2.52	
WILL DECLINE	0.75	0.69	

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

MEAN PROBABILITY ATTACHED TO CORE CPI INFLATION:

	14Q4 TO 15Q4	15Q4 TO 16Q4
4 PERCENT OR MORE	0.40	0.83
3.5 TO 3.9 PERCENT	0.65	0.90
3.0 TO 3.4 PERCENT	1.94	3.37
2.5 TO 2.9 PERCENT	6.56	11.60
2.0 TO 2.4 PERCENT	17.42	29.91
1.5 TO 1.9 PERCENT	36.34	33.83
1.0 TO 1.4 PERCENT	25.48	13.31
0.5 TO 0.9 PERCENT	8.18	3.86
0.0 TO 0.4 PERCENT	2.45	1.74
WILL DECLINE	0.76	0.66

#### MEAN PROBABILITY ATTACHED TO CORE PCE INFLATION:

	14Q4 TO 15Q4	15Q4 TO 16Q4
		<u> </u>
4 PERCENT OR MORE	0.16	0.40
3.5 TO 3.9 PERCENT	0.37	0.58
3.0 TO 3.4 PERCENT	1.88	2.49
2.5 TO 2.9 PERCENT	4.94	9.01
2.0 TO 2.4 PERCENT	13.60	30.64
1.5 TO 1.9 PERCENT	32.56	33.53
1.0 TO 1.4 PERCENT	27.72	15.82
0.5 TO 0.9 PERCENT	14.59	5.36
0.0 TO 0.4 PERCENT	3.47	1.49
WILL DECLINE	0.73	0.68

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

ANNUAL AVERAGE OVER THE NEXT 5 YEARS: 2015-2019

CPI INFLATION RATE		PCE INFLATION RATE	
MINIMUM	1.10	MINIMUM	0.90
LOWER QUARTILE	1.90	LOWER QUARTILE	1.70
MEDIAN	2.00	MEDIAN	1.80
UPPER QUARTILE	2.20	UPPER QUARTILE	2.00
MAXIMUM	2.60	MAXIMUM	2.40
MEAN	2.03	MEAN	1.83
STD. DEVIATION	0.33	STD. DEVIATION	0.30
N	35	N	33
MISSING	4	MISSING	6

# ANNUAL AVERAGE OVER THE NEXT 10 YEARS: 2015-2024

CPI INFLATION RATE		PCE INFLATION RAT			
		MINIMUM			
LOWER QUARTILE	2.00	LOWER QUARTILE	1.85		
MEDIAN	2.10	MEDIAN	2.00		
UPPER QUARTILE	2.30	UPPER QUARTILE	2.11		
MAXIMUM	3.10	MAXIMUM	2.50		
MEAN	2.14	MEAN	1.94		
STD. DEVIATION	0.31	STD. DEVIATION	0.26		
Ν	33	Ν	31		
MISSING	6	MEAN STD. DEVIATION N MISSING	8		
REAL GDP GROWTH RA	TE	PRODUCTIVITY GROW	TH RATE		
		MINIMUM			
		LOWER QUARTILE			
MEDIAN	2.50	MEDIAN	1.70		
		UPPER QUARTILE			
		MAXIMUM			
MEAN	2 51	MEAN	1 63		
STD. DEVIATION	0.28	STD. DEVIATION	0.55		
Ν	28	N	21		
MISSING	11	STD. DEVIATION N MISSING	18		
STOCK RETURNS (S&F	9 500)	BOND RETURNS (10-1	(EAR)	BILL RETURNS (3-MC	
				MINIMUM	
LOWER OUARTILE	5.00	LOWER OUARTILE	3.75	LOWER QUARTILE	2.21
				MEDIAN	
UPPER QUARTILE	7.00	UPPER QUARTILE	4.50	UPPER QUARTILE	3.00
MAXIMUM	8.10	MAXIMUM	5.00	MAXIMUM	3.90
MEAN	5.79	MEAN	3.91	MEAN	2.55
STD DEVIATION	1 38	STD DEVIATION	0 70	STD DEVIATION	0.74
Ν	20	Ν	25	N	24
MISSING	19	N MISSING	14	MISSING	15