



THE

LIVINGSTON SURVEY

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JUNE 2016

Forecasters Predict Slightly Lower Growth and Slightly Higher Unemployment for Second Half of 2016

The participants in the June *Livingston Survey* predict lower output growth for the second half of 2016 than they did in the December survey. The forecasters, who are surveyed by the Federal Reserve Bank of Philadelphia twice a year, project that the economy's output (real GDP) will rise at an annual rate of 1.4 percent during the first half of 2016, weaker than the prediction of 2.5 percent in the December 2015 survey. Growth in the second half of 2016 is expected to rise to 2.4 percent, only a bit lower than the prediction of 2.6 percent in the previous survey. Real GDP is predicted to grow at a rate of 2.1 percent in the first half of 2017.

The forecasters see the unemployment rate falling in the second half of this year, and the projections have been revised upward. The forecasters predict that the unemployment rate will be 4.9 percent in June 2016 and 4.7 percent in December 2016. The unemployment rate is expected to hold at 4.7 percent in June 2017. On an annual-average basis, the unemployment rate is expected to be 4.9 percent for 2016 and settle down to 4.7 percent in 2017.

	<i>Growth Rate of Real GDP (%)</i>			<i>Unemployment Rate (%)</i>	
	<i>Previous</i>	<i>New</i>		<i>Previous</i>	<i>New</i>
<i>Half-year data:</i>					
2015 Q4 to 2016 Q2	2.5	1.4	June 2016	4.8	4.9
2016 Q2 to 2016 Q4	2.6	2.4	December 2016	4.6	4.7
2016 Q4 to 2017 Q2	N.A.	2.1	June 2017	N.A.	4.7

Forecasters Predict Lower Inflation in 2016 and 2017

On an annual-average over annual-average basis, CPI inflation is expected to be 1.3 percent in 2016 and 2.1 percent in 2017. PPI inflation for finished goods is expected to be -1.4 percent this year and 2.3 percent next year. As the table below shows, the inflation projections for 2016 are noticeably lower than they were in the December survey. However, the 2017 projections are only a little lower than they were before.

	<i>CPI Inflation (%)</i>		<i>PPI Inflation (%)</i>	
	<i>Previous</i>	<i>New</i>	<i>Previous</i>	<i>New</i>
<i>Annual-average data:</i>				
2015 to 2016	1.8	1.3	0.7	-1.4
2016 to 2017	2.2	2.1	2.4	2.3

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Short- and Long-Term Interest Rates Are Revised Downward yet Predicted to Rise Over Time

The panelists softened their forecasts for the interest rates on three-month Treasury bills and 10-year Treasury bonds from of six months ago. At the end of June 2016, the interest rate on three-month Treasury bills is predicted to be 0.35 percent, a downward revision from 0.68 in the survey six months ago. The forecasters predict that the three-month rate will be 0.75 percent at the end of December 2016 and continue to rise to 1.12 at the end of June 2017. The three-month Treasury bill interest rate is expected to reach 1.55 at the end of December 2017. Similarly, the interest rate on 10-year Treasury bonds is predicted to reach 1.90 at the end of June 2016, a downward revision from 2.55 in the survey six months ago. The forecasters also predict the 10-year rate will rise to 2.25 at the end of December 2016 and continue to rise to 2.45 at the end of June 2017. The 10-year Treasury bond interest rate is expected to reach 2.60 at the end of December 2017.

	<i>3-Month Treasury Bill Interest Rate</i>		<i>10-Year Treasury Bond Interest Rate</i>	
	<i>Previous</i>	<i>New</i>	<i>Previous</i>	<i>New</i>
June 30, 2016	0.68	0.35	2.55	1.90
Dec. 30, 2016	1.12	0.75	2.75	2.25
June 30, 2017	N.A.	1.12	N.A.	2.45
Dec. 29, 2017	2.03	1.55	3.09	2.60

Little Change in Long-Term Inflation and Output Growth

The forecasters continue to predict that inflation (measured by the CPI) will grow 2.25 percent annually over the next 10 years, as they did in the survey of six months ago. Real GDP is expected to grow on average 2.20 percent over the next 10 years, a weakened prediction of 2.25 in the survey six months ago.

Forecasters Soften Their Predictions for Rising Stock Prices This Year and Next

The panelists predict the S&P 500 index will finish the first half of 2016 at a level of 2100.0, a downward revision from the estimate of 2120.0 in the December 2015 survey. Stock prices are expected to rise to 2140 at the end of 2016 and continue to rise to 2167.8 at the end of June 2017. The index is forecast to reach to 2200.6 by the end of 2017, also lower than the previous estimate of 2298.0.

	<i>Stock Prices S&P 500 Index</i>	
	<i>Previous</i>	<i>New</i>
June 30, 2016	2120.0	2100.0
Dec. 30, 2016	2184.9	2140.0
June 30, 2017	N.A.	2167.8
Dec. 29, 2017	2298.0	2200.6

The Philadelphia Fed's *Livingston Survey* is the oldest survey of economists' expectations. The survey was started in 1946 by the late columnist Joseph A. Livingston. It summarizes the forecast of economists from industry, government, banking and academia. It is published twice a year, in June and December.

To subscribe to the survey, go to <https://www.philadelphiafed.org/notifications>.

2015 and 2016 Livingston Survey Participants

S. Anderson	Bank of the West	J. Lonski	Moody's Capital Markets Group
B. Bovino/S. Panday	Standard & Poor's	D. Manaenkov	RSQE (University of Michigan)
J. Butkiewicz	University of Delaware	A. Markowska	Societe Generale
R. Chase	Economic & Policy Resources, Inc.	G. Mokrzan	Huntington National Bank
C. Chrappa	Independent Equipment Company	M. Moran	Daiwa Capital Markets America
R. Dietz	National Association of Home Builders	F. Nothaft	CoreLogic
R. Dhawan	Georgia State University	M. Regalia	U.S. Chamber of Commerce
D. Dinas	Regional Market Research Strategies LLC	C. Rupkey	MUFG Union Bank, N.A.
M. Englund	Action Economics, LLC	J. Silvia	Wells Fargo Securities, LLC
P. Hooper	Deutsche Bank Securities Inc.	J. Smith	Parsec Financial Management, Inc.
K. Goldstein/B. Ark	Conference Board	S. Snaith	University of Central Florida
B. Horrigan	Loomis, Sayles & Co.	S. Stanley	Amherst Pierpont Securities
S. Kahan	Kahan Consulting Ltd.	D. Torgerson	Economic Consultant
D. Knop	Independent Economist	B. Wesbury/R. Stein	First Trust Advisors, L.P.
T. Lam	RHB Securities Singapore Pte. Ltd.	R. Yamarone	Bloomberg LP
E. Leamer/D. Shulman	University of California, Los Angeles	L. Yun/D. Hale	National Association of Realtors

LIVINGSTON SURVEY
MAJOR MACROECONOMIC INDICATORS, 2016-2017

QUARTERLY INDICATORS (percentage changes at annual rates)	Q4 2015 TO Q2 2016	Q2 2016 TO Q4 2016	Q4 2016 TO Q2 2017	2015 TO 2016	2016 TO 2017
Real Gross Domestic Product	1.4	2.4	2.1	1.8	2.3
Nominal Gross Domestic Product	2.5	4.3	4.4	3.1	4.3
Nonresidential Fixed Investment	-2.0	3.2	3.7	-0.4	3.5
Corporate Profits After Taxes	2.5	3.3	7.8	-4.7	4.2
MONTHLY INDICATORS (percentage changes at annual rates)	DEC 2015 TO JUN 2016	JUN 2016 TO DEC 2016	DEC 2016 TO JUN 2017	2015 TO 2016	2016 TO 2017
Industrial Production	0.4	2.1	2.4	-0.7	2.3
Producer Prices - Finished Goods	-0.8	2.3	2.3	-1.4	2.3
Consumer Price Index (CPI-U)	1.4	2.0	2.1	1.3	2.1
Average Weekly Earnings in Mfg.	-0.3	2.2	1.3	2.6	2.0
Retail Trade	2.8	3.9	3.1	3.0	4.1
(levels of variables)	JUN 2016	DEC 2016	JUN 2017	2016	2017
Total Private Housing Starts (annual rate, millions)	1.193	1.243	1.296	1.196	1.303
Unemployment Rate (percent)	4.9	4.7	4.7	4.9	4.7
Automobile Sales (incl. foreign) (annual rate, millions)	7.0	7.1	7.1	7.1	7.1
FINANCIAL INDICATORS (levels of variables at end of month)	JUN 2016	DEC 2016	JUN 2017	DEC 2017	
Prime Interest Rate	3.50	4.00	4.25	4.75	
10-Year Treasury Note Yield	1.90	2.25	2.45	2.60	
3-Month Treasury Bill Rate	0.35	0.75	1.12	1.55	
Stock Prices (S&P500)	2100.0	2140.0	2167.8	2200.6	
LONG-TERM OUTLOOK					
Average Annual Growth Rate for the Next Ten Years					
Real GDP	2.20				
Consumer Price Index	2.25				

Source: Research Department, Federal Reserve Bank of Philadelphia, Livingston Survey, June 2016

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June 2016

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 May 18; the tables do not reflect subsequent revisions to the data. All forecasts were received on or before June 3.

TABLE ONE
MAJOR MACROECONOMIC INDICATORS, 2016-2017
MEDIAN OF FORECASTER PREDICTIONS

QUARTERLY INDICATORS	NUMBER OF FORE- CASTERS	ACTUAL	FORECASTS				ACTUAL	FORECASTS	
		2015 Q4	2016 Q2	2016 Q4	2017 Q2	2015	2016	2017	
1. Real Gross Domestic Product (billions, chain weighted)	29	16470.6	16587.0	16784.1	16961.5	16348.9	16635.6	17015.1	
2. Nominal Gross Domestic Product (\$ billions)	29	18164.8	18391.8	18783.6	19192.6	17947.0	18501.3	19299.2	
3. Nonresidential Fixed Investment (billions, chain weighted)	28	2213.0	2190.5	2225.3	2266.0	2209.3	2201.2	2278.5	
4. Corporate Profits After Taxes (\$ billions)	18	1380.4	1397.8	1420.8	1475.0	1479.2	1409.3	1468.3	
MONTHLY INDICATORS		ACTUAL DEC 2015	FORECASTS		ACTUAL	FORECASTS			
			JUN 2016	DEC 2016	JUN 2017	2015	2016	2017	
5. Industrial Production (2012=100)	26	104.0	104.2	105.3	106.6	105.2	104.5	106.9	
6. Total Private Housing Starts (annual rate, millions)	26	1.160	1.193	1.243	1.296	1.108	1.196	1.303	
7. Producer Prices - Finished Goods (index level)	19	191.5	190.7	192.9	195.1	193.8	191.0	195.5	
8. Consumer Price Index (CPI-U) (index level)	28	238.0	239.7	242.1	244.6	237.0	240.0	245.1	
9. Unemployment Rate (percent)	28	5.0	4.9	4.7	4.7	5.3	4.9	4.7	
10. Average Weekly Earnings in Mfg. (\$)	11	856.5	855.0	864.4	870.0	832.4	854.1	871.4	
11. Retail Trade (\$ billions)	15	450.4	456.6	465.4	472.6	443.9	457.1	475.9	
12. Automobile Sales (incl. foreign) (annual rate, millions)	19	7.1	7.0	7.1	7.1	7.5	7.1	7.1	

TABLE ONE (CONTINUED)

INTEREST RATES & STOCK PRICES (end of period)		FORECASTS				
		ACTUAL DEC 2015	JUN 2016	DEC 2016	JUN 2017	DEC 2017
13. Prime Interest Rate (percent)	26	3.50	3.50	4.00	4.25	4.75
14. 10-Year Treasury Note Yield (percent)	29	2.27	1.90	2.25	2.45	2.60
15. 3-Month Treasury Bill Rate (percent)	28	0.16	0.35	0.75	1.12	1.55
16. Stock Prices (S&P500) (index level)	19	2043.9	2100.0	2140.0	2167.8	2200.6

Source: Research Department, Federal Reserve Bank of Philadelphia, Livingston Survey, June 2016

TABLE TWO
 MAJOR MACROECONOMIC INDICATORS, 2016-2017
 PERCENTAGE CHANGES AT ANNUAL RATES

QUARTERLY INDICATORS	NUMBER OF FORE- CASTERS	Q4 2015	Q2 2016	Q4 2016	2015	2016
		TO Q2 2016	TO Q4 2016	TO Q2 2017	TO 2016	TO 2017
1. Real Gross Domestic Product	29	1.4	2.4	2.1	1.8	2.3
2. Nominal Gross Domestic Product	29	2.5	4.3	4.4	3.1	4.3
3. Nonresidential Fixed Investment	28	-2.0	3.2	3.7	-0.4	3.5
4. Corporate Profits After Taxes	18	2.5	3.3	7.8	-4.7	4.2
MONTHLY INDICATORS		DEC 2015	JUN 2016	DEC 2016	2015	2016
		TO JUN 2016	TO DEC 2016	TO JUN 2017	TO 2016	TO 2017
5. Industrial Production	26	0.4	2.1	2.4	-0.7	2.3
6. Total Private Housing Starts	26	0.033	0.051	0.053	0.088	0.107
7. Producer Prices - Finished Goods	19	-0.8	2.3	2.3	-1.4	2.3
8. Consumer Price Index (CPI-U)	28	1.4	2.0	2.1	1.3	2.1
9. Unemployment Rate	28	-0.1	-0.2	0.0	-0.4	-0.2
10. Average Weekly Earnings in Mfg.	11	-0.3	2.2	1.3	2.6	2.0
11. Retail Trade	15	2.8	3.9	3.1	3.0	4.1
12. Automobile Sales (incl. foreign)	19	-0.1	0.1	0.0	-0.4	0.0

INTEREST RATES & STOCK PRICES		DEC 2015 TO JUN 2016	JUN 2016 TO DEC 2016	DEC 2016 TO JUN 2017	JUN 2017 TO DEC 2017
13. Prime Interest Rate	26	0.00	0.50	0.25	0.50
14. 10-Year Treasury Note Yield	29	-0.37	0.35	0.20	0.15
15. 3-Month Treasury Bill Rate	28	0.19	0.40	0.37	0.43
16. Stock Prices (S&P500)	19	5.6	3.8	2.6	3.1

Note: Figures for housing starts, unemployment rate, auto sales, prime interest rate, 10-year Treasury bond, and 90-day Treasury bill are changes in levels. All others are percentage changes at annual rates.

Source: Research Department, Federal Reserve Bank of Philadelphia, Livingston Survey, June 2016

TABLE THREE
LONG-TERM (10 YEAR) FORECASTS

SERIES: CPI Inflation Rate

STATISTIC	
Minimum	1.60
Lower Quartile	2.00
Median	2.25
Upper Quartile	2.50
Maximum	2.80
Mean	2.27
Std. Deviation	0.29
N	28
Missing	1

SERIES: Real GDP

STATISTIC	
Minimum	1.40
Lower Quartile	1.92
Median	2.20
Upper Quartile	2.42
Maximum	2.75
Mean	2.17
Std. Deviation	0.33
N	28
Missing	1
