



THE

LIVINGSTON SURVEY

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DECEMBER 2017

Forecasters Strengthen Their Predictions for Output Growth and Predict Declining Unemployment for 2018

The 24 participants in the December *Livingston Survey* predict robust output growth over the second half of 2017. The forecasters, who are surveyed by the Federal Reserve Bank of Philadelphia twice a year, project that real GDP will grow at an annual rate of 2.9 percent in the second half of 2017. They see growth of 2.5 percent (annual rate) in the first half of 2018 and 2.4 percent (annual rate) in the second half of 2018. Compared with the June survey, these projections mark an upward revision for 2017, along with unchanged predictions for 2018.

The forecasters revised their predictions downward for the unemployment rate in December 2017 (note that the forecasts were submitted before the December 8, 2017, employment report). The unemployment rate is now predicted to be 4.1 percent in December 2017 and 4.0 percent in June 2018. The unemployment rate is expected to be 3.9 percent in December 2018.

	<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>					
2017 Q2 to 2017 Q4	2.5	2.9	December 2017	4.3	4.1
2017 Q4 to 2018 Q2	2.5	2.5	June 2018	4.2	4.0
2018 Q2 to 2018 Q4	N.A.	2.4	December 2018	N.A.	3.9

Forecasters See Slightly Lower Inflation in 2017 and 2018

On an annual-average over annual-average basis, CPI inflation is expected to be 2.1 percent in 2017 and 2.2 percent in 2018. The 2017 projection has been revised downward by 0.3 percentage point from that of the June survey, while the 2018 projection is down 0.1 percentage point. CPI inflation is expected to remain steady at 2.2 percent in 2019. PPI inflation is expected to be 3.0 percent in 2017 and 2.1 percent in 2018. The 2017 projection is 0.3 percentage point lower than the estimates from six months ago, while the 2018 projection for PPI inflation is up 0.1 percentage point from six months ago. PPI inflation is expected to be 2.0 percent in 2019.

	<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>				
2016 to 2017	2.4	2.1	3.3	3.0
2017 to 2018	2.3	2.2	2.0	2.1
2018 to 2019	N.A.	2.2	N.A.	2.0

RESEARCH DEPARTMENT FEDERAL RESERVE BANK OF PHILADELPHIA

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Outlook for Short-Term Rates Is Roughly Unchanged

At the end of December 2017, the interest rate on three-month Treasury bills is predicted to be 1.30 percent, unchanged from the June 2017 survey estimates. The forecasters predict that the three-month Treasury bill rate will be 1.60 percent at the end of June 2018 and 1.88 percent in December 2018. The rate is expected to rise to 2.41 percent in 2019. The interest rate on 10-year Treasury bonds is predicted to be 2.45 percent at the end of December 2017, down from the previous estimate of 2.75 percent. Additionally, forecasters predict the 10-year rate will be 2.75 percent at the end of June 2018 and 3.00 percent in December 2018. The forecasters expect the rate to be 3.35 percent in 2019.

	<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>
Dec. 30, 2017	1.30	1.30	2.75	2.45
Jun. 30, 2018	1.60	1.60	3.00	2.75
Dec. 29, 2018	2.02	1.88	3.30	3.00
Dec. 31, 2019	N.A.	2.41	N.A.	3.35

Nearly Unchanged Outlook for Long-Term Inflation and Output Growth

The forecasters now predict that inflation (measured by the CPI) will average 2.34 percent annually over the next 10 years, which is roughly unchanged from the forecast of 2.32 percent from the June 2017 survey. The forecasters peg annual average real GDP growth at 2.18 percent over the next 10 years, also roughly unchanged from June's survey of 2.20 percent.

Forecasters Strengthen Their Predictions for Stock Prices

The forecasters predict the S&P 500 index will finish 2017 at a level of 2644.8, an upward revision from the estimate of 2470.0 in the June 2017 survey. They also see stock prices increasing over the next two years, with the index rising to 2739.8 by the end of June 2018, to 2805.0 by the end of 2018, and then to 2980.0 by the end of 2019.

	<i>Stock Prices (end of period)</i>	
	<i>S&P 500 Index</i>	
	<i>Previous</i>	<i>New</i>
Dec. 30, 2017	2470.0	2644.8
Jun. 30, 2018	2550.0	2739.8
Dec. 29, 2018	2630.0	2805.0
Dec. 31, 2019	N.A.	2980.0

Technical Notes

This news release reports the median value across the 24 forecasters on the survey’s panel. All forecasts were submitted before the December 8, 2017, employment report.

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>.

Livingston Survey Participants			
S. Anderson	Bank of the West	G. Mokrzan	Huntington National Bank
B. Bovino	Standard & Poor's	M. Moran	Daiwa Capital Markets America
J. Butkiewicz	University of Delaware	M. Neal	National Association of Home Builders
R. Chase	Economic & Policy Resources, Inc.	F. Nothhaft	CoreLogic
C. Chrappa	Independent Equipment Company	C. Rupkey	MUFG Union Bank, N.A.
R. Dhawan	Georgia State University	B. Schaitkin	Conference Board
M. Englund	Action Economics, LLC	J. Silvia	Wells Fargo Securities, LLC
J. Foster	U.S. Chamber of Commerce	J. Smith	Parsec Financial Management, Inc.
B. Horrigan	Loomis, Sayles & Co.	S. Snaith	University of Central Florida
S. Kahan	Kahan Consulting Ltd.	S. Stanley	Amherst Pierpont Securities
D. Knop	Independent Economist	B. Wesbury/R. Stein	First Trust Advisors, L.P.
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D. Manaenkov	RSQE (University of Michigan)	M. Zandi	Moody's Analytics

LIVINGSTON SURVEY
MAJOR MACROECONOMIC INDICATORS, 2017-2019

QUARTERLY INDICATORS (percentage changes at annual rates)	Q2 2017 TO Q4 2017	Q4 2017 TO Q2 2018	Q2 2018 TO Q4 2018	2016 TO 2017	2017 TO 2018	2018 TO 2019
Real Gross Domestic Product	2.9	2.5	2.4	2.3	2.6	2.3
Nominal Gross Domestic Product	5.2	4.8	4.5	4.1	4.8	4.6
Nonresidential Fixed Investment	4.7	4.3	4.5	4.5	4.7	4.0
Corporate Profits After Taxes	13.0	6.1	4.6	5.5	7.2	6.0
MONTHLY INDICATORS (percentage changes at annual rates)	JUN 2017 TO DEC 2017	DEC 2017 TO JUN 2018	JUN 2018 TO DEC 2018	2016 TO 2017	2017 TO 2018	2018 TO 2019
Industrial Production	2.3	1.9	2.4	1.8	2.6	2.1
Producer Prices - Finished Goods	2.9	2.2	2.0	3.0	2.1	2.0
Consumer Price Index (CPI-U)	3.1	2.2	2.3	2.1	2.2	2.2
Average Weekly Earnings in Mfg.	4.4	2.6	2.9	2.4	3.3	3.2
Retail Trade	6.2	3.7	6.0	4.3	4.6	4.3
(levels of variables)	DEC 2017	JUN 2018	DEC 2018	2017	2018	2019
Total Private Housing Starts (annual rate, millions)	1.232	1.274	1.290	1.199	1.270	1.323
Unemployment Rate (percent)	4.1	4.0	3.9	4.4	4.0	3.9
Automobile Sales (incl. foreign) (annual rate, millions)	6.1	5.9	5.9	6.1	5.9	5.8
FINANCIAL INDICATORS (levels of variables at end of month)	DEC 2017	JUN 2018	DEC 2018	DEC 2019		
Prime Interest Rate	4.50	4.86	5.25	5.50		
10-Year Treasury Note Yield	2.45	2.75	3.00	3.35		
3-Month Treasury Bill Rate	1.30	1.60	1.88	2.41		
Stock Prices (S&P500)	2644.8	2739.8	2805.0	2980.0		
LONG-TERM OUTLOOK Average Annual Growth Rate for the Next Ten Years						
Real GDP	2.18					
Consumer Price Index	2.34					

Source: Research Department, Federal Reserve Bank of Philadelphia, Livingston Survey, December 2017

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December 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 November 20; the tables do not reflect subsequent revisions to the data. All forecasts were received on or before December 4.

TABLE ONE
 MAJOR MACROECONOMIC INDICATORS, 2017-2019
 MEDIANS OF FORECASTER PREDICTIONS

QUARTERLY INDICATORS	NUMBER OF FORE- CASTERS	ACTUAL		FORECASTS		ACTUAL		FORECASTS	
		2017 Q2	2017 Q4	2018 Q2	2018 Q4	2016	2017	2018	2019
1. Real Gross Domestic Product (billions, chain weighted)	24	17031.1	17278.5	17495.4	17701.9	16716.2	17094.0	17537.4	17946.0
2. Nominal Gross Domestic Product (\$ billions)	24	19250.0	19744.3	20217.3	20667.3	18624.4	19388.2	20323.4	21250.0
3. Nonresidential Fixed Investment (billions, chain weighted)	23	2300.6	2354.0	2404.6	2458.1	2210.4	2310.4	2417.9	2515.5
4. Corporate Profits After Taxes (\$ billions)	15	1643.8	1747.4	1799.5	1840.4	1602.4	1690.9	1812.4	1921.8
MONTHLY INDICATORS		ACTUAL JUN 2017	DEC 2017	FORECASTS JUN 2018	DEC 2018	ACTUAL 2016	2017	FORECASTS 2018	2019
5. Industrial Production (2012=100)	20	105.2	106.4	107.4	108.7	103.1	104.9	107.7	109.9
6. Total Private Housing Starts (annual rate, millions)	21	1.217	1.232	1.274	1.290	1.177	1.199	1.270	1.323
7. Producer Prices - Finished Goods (index level)	15	196.6	199.4	201.6	203.6	191.9	197.6	201.7	205.7
8. Consumer Price Index (CPI-U) (index level)	21	243.8	247.5	250.2	253.0	240.0	245.0	250.5	256.0
9. Unemployment Rate (percent)	22	4.4	4.1	4.0	3.9	4.8	4.4	4.0	3.9
10. Average Weekly Earnings in Mfg. (\$)	7	874.0	893.2	904.8	917.6	855.7	876.0	904.8	933.5
11. Retail Trade (\$ billions)	10	474.5	489.1	498.0	512.7	459.0	478.6	500.4	522.0
12. Automobile Sales (incl. foreign) (annual rate, millions)	15	5.8	6.1	5.9	5.9	6.9	6.1	5.9	5.8

TABLE ONE (CONTINUED)

INTEREST RATES & STOCK PRICES (end of period)		ACTUAL	FORECASTS			
		JUN 2017	DEC 2017	JUN 2018	DEC 2018	DEC 2019
13. Prime Interest Rate (percent)	21	4.25	4.50	4.86	5.25	5.50
14. 10-Year Treasury Note Yield (percent)	22	2.31	2.45	2.75	3.00	3.35
15. 3-Month Treasury Bill Rate (percent)	23	1.01	1.30	1.60	1.88	2.41
16. Stock Prices (S&P500) (index level)	12	2423.4	2644.8	2739.8	2805.0	2980.0

Source: Research Department, Federal Reserve Bank of Philadelphia, Livingston Survey, December 2017

TABLE TWO
 MAJOR MACROECONOMIC INDICATORS, 2017-2019
 PERCENTAGE CHANGES AT ANNUAL RATES

QUARTERLY INDICATORS	NUMBER OF FORE- CASTERS	Q2 2017	Q4 2017	Q2 2018	2016	2017	2018
		TO Q4 2017	TO Q2 2018	TO Q4 2018	TO 2017	TO 2018	TO 2019
1. Real Gross Domestic Product	24	2.9	2.5	2.4	2.3	2.6	2.3
2. Nominal Gross Domestic Product	24	5.2	4.8	4.5	4.1	4.8	4.6
3. Nonresidential Fixed Investment	23	4.7	4.3	4.5	4.5	4.7	4.0
4. Corporate Profits After Taxes	15	13.0	6.1	4.6	5.5	7.2	6.0
MONTHLY INDICATORS		JUN 2017	DEC 2017	JUN 2018	2016	2017	2018
		TO DEC 2017	TO JUN 2018	TO DEC 2018	TO 2017	TO 2018	TO 2019
5. Industrial Production	20	2.3	1.9	2.4	1.8	2.6	2.1
6. Total Private Housing Starts	21	0.015	0.042	0.016	0.022	0.071	0.053
7. Producer Prices - Finished Goods	15	2.9	2.2	2.0	3.0	2.1	2.0
8. Consumer Price Index (CPI-U)	21	3.1	2.2	2.3	2.1	2.2	2.2
9. Unemployment Rate	22	-0.3	-0.1	-0.1	-0.4	-0.4	-0.1
10. Average Weekly Earnings in Mfg.	7	4.4	2.6	2.9	2.4	3.3	3.2
11. Retail Trade	10	6.2	3.7	6.0	4.3	4.6	4.3
12. Automobile Sales (incl. foreign)	15	0.3	-0.2	0.0	-0.8	-0.2	-0.1

INTEREST RATES & STOCK PRICES		JUN 2017 TO DEC 2017	DEC 2017 TO JUN 2018	JUN 2018 TO DEC 2018	DEC 2018 TO DEC 2019
13. Prime Interest Rate	21	0.25	0.36	0.39	0.25
14. 10-Year Treasury Note Yield	22	0.14	0.30	0.25	0.35
15. 3-Month Treasury Bill Rate	23	0.29	0.30	0.28	0.53
16. Stock Prices (S&P500)	12	19.1	7.3	4.8	6.2

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, December 2017

TABLE THREE
LONG-TERM (10 YEAR) FORECASTS

SERIES: CPI Inflation Rate

STATISTIC	
Minimum	2.00
Lower Quartile	2.20
Median	2.34
Upper Quartile	2.51
Maximum	2.80
Mean	2.37
Std. Deviation	0.23
N	19
Missing	5

SERIES: Real GDP

STATISTIC	
Minimum	1.60
Lower Quartile	1.90
Median	2.18
Upper Quartile	2.40
Maximum	2.50
Mean	2.16
Std. Deviation	0.28
N	19
Missing	5
