



THE

LIVINGSTON SURVEY

Release Date: December 21, 2018

DECEMBER 2018

Forecasters Predict Slightly Lower Output Growth and Steady Unemployment for 2019

The 23 participants in the December *Livingston Survey* predict robust output growth over the second half of 2018. 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 3.0 percent in the second half of 2018. They see growth of 2.4 percent (annual rate) in the first half of 2019 and 2.3 percent (annual rate) in the second half of 2019. Compared with the June survey, these projections mark downward revisions for the second half of 2018 and first half of 2019.

The forecasters peg the unemployment rate in December 2018 at 3.7 percent (note that the forecasts were submitted before the December 7, 2018, employment report). The unemployment rate is predicted to be 3.5 percent in June 2019 and to remain steady at 3.5 percent in December 2019.

	<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>					
2018 Q2 to 2018 Q4	3.1	3.0	December 2018	3.7	3.7
2018 Q4 to 2019 Q2	2.7	2.4	June 2019	3.6	3.5
2019 Q2 to 2019 Q4	N.A.	2.3	December 2019	N.A.	3.5

CPI Inflation Projections Hold Steady, While PPI Projections Strengthen

On an annual-average over annual-average basis, CPI inflation is expected to be 2.5 percent in 2018 and 2.3 percent in 2019. The 2018 projection has been revised downward by 0.1 percentage point from that of the June survey, while the 2019 prediction remains unchanged. CPI inflation is expected to decrease slightly to 2.2 percent in 2020. PPI inflation is expected to be 3.2 percent in 2018 and 2.5 percent in 2019. The 2018 projection is 0.2 percentage point higher than the estimate from six months ago, while the 2019 projection is up 0.5 percentage point from six months ago. PPI inflation is expected to be 2.1 percent in 2020.

	<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>				
2017 to 2018	2.6	2.5	3.0	3.2
2018 to 2019	2.3	2.3	2.0	2.5
2019 to 2020	N.A.	2.2	N.A.	2.1

RESEARCH DEPARTMENT FEDERAL RESERVE BANK OF PHILADELPHIA

Ten Independence Mall, Philadelphia, PA 19106-1574 • www.philadelphiafed.org

Stronger Outlook for Short-Term Rates but Weaker Outlook for Long-Term Rates

At the end of December 2018, the interest rate on three-month Treasury bills is predicted to be 2.45 percent. The forecasters predict that the three-month Treasury bill rate will be 2.80 percent at the end of June 2019 and 3.01 percent in December 2019. The rate is expected to be 3.00 percent in 2020. The interest rate on 10-year Treasury bonds is predicted to be 3.20 percent at the end of December 2018, down from the previous estimate of 3.25 percent. Additionally, the forecasters predict the 10-year rate will be 3.42 percent at the end of June 2019 and 3.51 percent in December 2019. The forecasters expect the rate to be 3.55 percent in 2020.

	<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. 31, 2018	2.35	2.45	3.25	3.20
Jun. 28, 2019	2.69	2.80	3.50	3.42
Dec. 31, 2019	2.93	3.01	3.60	3.51
Dec. 31, 2020	N.A.	3.00	N.A.	3.55

Weaker Outlook for Long-Term Inflation and Output Growth

The forecasters now predict that inflation (measured by the CPI) will average 2.23 percent annually over the next 10 years, 0.05 percentage point less than the June 2018 survey. The forecasters peg annual average real GDP growth at 2.07 percent over the next 10 years, 0.13 percentage point less than six months ago.

Forecasters Weaken Their Predictions for Stock Prices

The forecasters predict the S&P 500 index will finish 2018 at a level of 2754.4, a downward revision from the estimate of 2824.0 in the June 2018 survey. Downward revisions also characterize the first half of 2019. The forecasters see stock prices increasing over the next two years, with the index rising to 2829.9 by the end of June 2019, to 2900.0 by the end of 2019, and to 3000.0 by the end of 2020.

	<i>Stock Prices (end of period) S&P 500 Index</i>	
	<i>Previous</i>	<i>New</i>
Dec. 31, 2018	2824.0	2754.4
Jun. 28, 2019	2850.0	2829.9
Dec. 31, 2019	2880.3	2900.0
Dec. 31, 2020	N.A.	3000.0

Technical Notes

This news release reports the median value across the 23 forecasters on the survey's panel. All forecasts were submitted before the December 7, 2018, 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	J. Nickelsburg/D. Shuln	University of California, Los Angeles
B. Bovino/S. Panday	Standard & Poor's	D. Manaenkov	RSQE (University of Michigan)
J. Bryson	Wells Fargo Securities, LLC	G. Mokrzan	Huntington National Bank
J. Butkiewicz	University of Delaware	M. Moran	Daiwa Capital Markets America
R. Chase	Economic & Policy Resources, Inc.	M. Neal	National Association of Home Builders
C. Chrappa	Independent Equipment Company	F. Nothaft	CoreLogic
R. Dhawan	Georgia State University	C. Rupkey	MUFG Union Bank, N.A.
D. Dinas	Regional Market Research Strategies LLC	B. Schaitkin	Conference Board
M. Englund	Action Economics, LLC	J. Bryson	Wells Fargo Securities, LLC
J. Foster	U.S. Chamber of Commerce	J. Smith	Parsec Financial Management, Inc.
P. Hooper	Deutsche Bank Securities	S. Snaith	University of Central Florida
B. Horrigan	Loomis, Sayles & Co.	S. Stanley	Amherst Pierpont Securities
S. Kahan	Kahan Consulting Ltd.	B. Wesbury/R. Stein	First Trust Advisors, L.P.
D. Knop	Independent Economist	M. Zandi	Moody's Analytics
T. Lam	Sim Kee Boon Institute, Singapore Management University		

LIVINGSTON SURVEY
MAJOR MACROECONOMIC INDICATORS, 2018-2020

QUARTERLY INDICATORS (percentage changes at annual rates)	Q2 2018 TO Q4 2018	Q4 2018 TO Q2 2019	Q2 2019 TO Q4 2019	2017 TO 2018	2018 TO 2019	2019 TO 2020
Real Gross Domestic Product	3.0	2.4	2.3	2.9	2.7	1.9
Nominal Gross Domestic Product	4.9	4.9	4.5	5.2	5.1	4.2
Nonresidential Fixed Investment	3.7	5.0	4.6	6.8	4.8	3.1
Corporate Profits After Taxes	9.1	4.1	1.7	16.4	5.2	1.8
MONTHLY INDICATORS (percentage changes at annual rates)	JUN 2018 TO DEC 2018	DEC 2018 TO JUN 2019	JUN 2019 TO DEC 2019	2017 TO 2018	2018 TO 2019	2019 TO 2020
Industrial Production	3.6	2.2	2.4	3.8	2.9	2.0
Producer Prices - Finished Goods	1.5	2.7	2.8	3.2	2.5	2.1
Consumer Price Index (CPI-U)	2.0	2.4	2.3	2.5	2.3	2.2
Average Weekly Earnings in Mfg.	3.6	3.0	3.4	3.6	3.1	2.8
Retail Trade	3.9	4.6	4.7	5.2	4.7	4.4
(levels of variables)	DEC 2018	JUN 2019	DEC 2019	2018	2019	2020
Total Private Housing Starts (annual rate, millions)	1.251	1.301	1.322	1.263	1.306	1.329
Unemployment Rate (percent)	3.7	3.5	3.5	3.9	3.5	3.4
Automobile Sales (incl. foreign) (annual rate, millions)	5.2	5.1	5.1	5.3	5.1	5.0
FINANCIAL INDICATORS (levels of variables at end of month)	DEC 2018	JUN 2019	DEC 2019	DEC 2020		
Prime Interest Rate	5.50	6.00	6.25	6.25		
10-Year Treasury Note Yield	3.20	3.42	3.51	3.55		
3-Month Treasury Bill Rate	2.45	2.80	3.01	3.00		
Stock Prices (S&P500)	2754.4	2829.9	2900.0	3000.0		
LONG-TERM OUTLOOK						
Average Annual Growth Rate for the Next Ten Years						
Real GDP	2.07					
Consumer Price Index	2.23					

Source: Research Department, Federal Reserve Bank of Philadelphia, Livingston Survey, December 2018

LIVINGSTON SURVEY

December 2018

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 6.

TABLE ONE
MAJOR MACROECONOMIC INDICATORS, 2018-2020
MEDIAN OF FORECASTER PREDICTIONS

QUARTERLY INDICATORS	NUMBER OF FORE- CASTERS	ACTUAL				FORECASTS			
		2018 Q2	2018 Q4	2019 Q2	2019 Q4	2017	2018	2019	2020
1. Real Gross Domestic Product (billions, chain weighted)	23	18511.6	18790.0	19010.6	19229.8	18050.7	18574.3	19073.9	19442.7
2. Nominal Gross Domestic Product (\$ billions)	23	20411.9	20905.0	21406.8	21880.2	19485.4	20505.0	21548.8	22451.8
3. Nonresidential Fixed Investment (billions, chain weighted)	22	2710.1	2759.7	2827.3	2891.0	2538.1	2710.5	2840.2	2927.5
4. Corporate Profits After Taxes (\$ billions)	18	2007.5	2102.8	2142.8	2164.6	1748.6	2035.7	2146.5	2196.0
MONTHLY INDICATORS		ACTUAL		FORECASTS		ACTUAL		FORECASTS	
		JUN 2018	DEC 2018	JUN 2019	DEC 2019	2017	2018	2019	2020
5. Industrial Production (2012=100)	21	107.5	109.4	110.6	111.9	103.7	107.7	110.8	113.0
6. Total Private Housing Starts (annual rate, millions)	20	1.177	1.251	1.301	1.322	1.208	1.263	1.306	1.329
7. Producer Prices - Finished Goods (index level)	15	204.7	206.2	209.0	211.9	198.0	204.3	209.5	213.9
8. Consumer Price Index (CPI-U) (index level)	22	250.9	253.3	256.3	259.2	245.1	251.2	256.9	262.5
9. Unemployment Rate (percent)	22	4.0	3.7	3.5	3.5	4.3	3.9	3.5	3.4
10. Average Weekly Earnings in Mfg. (\$)	7	901.8	918.0	931.5	947.0	875.6	907.0	934.8	961.4
11. Retail Trade (\$ billions)	9	505.2	514.9	526.6	538.8	479.8	504.5	528.1	551.5
12. Automobile Sales (incl. foreign) (annual rate, millions)	14	5.2	5.2	5.1	5.1	6.1	5.3	5.1	5.0

TABLE ONE (CONTINUED)

INTEREST RATES & STOCK PRICES (end of period)		ACTUAL	FORECASTS			
		JUN 2018	DEC 2018	JUN 2019	DEC 2019	DEC 2020
13. Prime Interest Rate (percent)	21	5.00	5.50	6.00	6.25	6.25
14. 10-Year Treasury Note Yield (percent)	22	2.85	3.20	3.42	3.51	3.55
15. 3-Month Treasury Bill Rate (percent)	22	1.89	2.45	2.80	3.01	3.00
16. Stock Prices (S&P500) (index level)	13	2718.4	2754.4	2829.9	2900.0	3000.0

Source: Research Department, Federal Reserve Bank of Philadelphia, Livingston Survey, December 2018

TABLE TWO
MAJOR MACROECONOMIC INDICATORS, 2018-2020
PERCENTAGE CHANGES AT ANNUAL RATES

QUARTERLY INDICATORS	NUMBER OF FORE- CASTERS	Q2 2018	Q4 2018	Q2 2019	2017	2018	2019
		TO Q4 2018	TO Q2 2019	TO Q4 2019	TO 2018	TO 2019	TO 2020
1. Real Gross Domestic Product	23	3.0	2.4	2.3	2.9	2.7	1.9
2. Nominal Gross Domestic Product	23	4.9	4.9	4.5	5.2	5.1	4.2
3. Nonresidential Fixed Investment	22	3.7	5.0	4.6	6.8	4.8	3.1
4. Corporate Profits After Taxes	18	9.7	3.8	2.1	16.4	5.4	2.3
MONTHLY INDICATORS		JUN 2018	DEC 2018	JUN 2019	2017	2018	2019
		TO DEC 2018	TO JUN 2019	TO DEC 2019	TO 2018	TO 2019	TO 2020
5. Industrial Production	21	3.6	2.2	2.4	3.8	2.9	2.0
6. Total Private Housing Starts	20	0.074	0.050	0.021	0.055	0.042	0.024
7. Producer Prices - Finished Goods	15	1.5	2.7	2.8	3.2	2.5	2.1
8. Consumer Price Index (CPI-U)	22	2.0	2.4	2.3	2.5	2.3	2.2
9. Unemployment Rate	22	-0.3	-0.2	0.0	-0.4	-0.4	-0.1
10. Average Weekly Earnings in Mfg.	7	3.6	3.0	3.4	3.6	3.1	2.8
11. Retail Trade	9	3.9	4.6	4.7	5.2	4.7	4.4
12. Automobile Sales (incl. foreign)	14	0.0	-0.1	-0.1	-0.8	-0.2	-0.1

INTEREST RATES & STOCK PRICES		JUN 2018 TO DEC 2018	DEC 2018 TO JUN 2019	JUN 2019 TO DEC 2019	DEC 2019 TO DEC 2020
13. Prime Interest Rate	21	0.50	0.50	0.25	0.00
14. 10-Year Treasury Note Yield	22	0.35	0.22	0.09	0.04
15. 3-Month Treasury Bill Rate	22	0.56	0.35	0.22	-0.01
16. Stock Prices (S&P500)	13	2.7	5.6	5.0	3.4

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 2018

TABLE THREE
LONG-TERM (10 YEAR) FORECASTS

SERIES: CPI Inflation Rate

STATISTIC	
Minimum	1.90
Lower Quartile	2.03
Median	2.23
Upper Quartile	2.50
Maximum	2.60
Mean	2.25
Std. Deviation	0.23
N	20
Missing	3

SERIES: Real GDP

STATISTIC	
Minimum	1.70
Lower Quartile	1.80
Median	2.07
Upper Quartile	2.38
Maximum	2.80
Mean	2.13
Std. Deviation	0.34
N	20
Missing	3
