



THE

LIVINGSTON SURVEY

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DECEMBER 2019

Forecasters Predict Lower Output Growth for the Second Half of 2019

The 24 participants in the December *Livingston Survey* predict lower output growth over the second half of 2019. 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 1.9 percent in the second half of 2019. Projections hold steady at 1.9 percent (annual rate) in the first half of 2020 and reach 1.8 percent (annual rate) in the second half of 2020. Compared with the June survey, the projection marks a downward revision for the second half of 2019 but no revision for the first half of 2020.

The forecasters peg the unemployment rate in December 2019 at 3.5 percent (note that the forecasts were submitted before the December 6, 2019, employment report). The unemployment rate is predicted to remain steady at 3.5 percent in June 2020 through December 2020.

	<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>					
2019 Q2 to 2019 Q4	2.3	1.9	December 2019	3.6	3.5
2019 Q4 to 2020 Q2	1.9	1.9	June 2020	3.5	3.5
2020 Q2 to 2020 Q4	N.A.	1.8	December 2020	N.A.	3.5

Lower Projections for CPI Inflation and PPI Inflation in 2019

On an annual-average over annual-average basis, CPI inflation is expected to be 1.8 percent in 2019 and 2.1 percent in 2020. The 2019 projection has been revised downward 0.1 percentage point from that of the June survey, while the 2020 prediction has been revised upward 0.1 percentage point. CPI inflation is expected to increase slightly to 2.3 percent in 2021. PPI inflation is expected to be 0.8 percent in 2019 and 1.7 percent in 2020. The 2019 and 2020 projections are 0.5 percentage point lower than the estimates from six months ago. PPI inflation is expected to be 1.8 percent in 2021.

	<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>				
2018 to 2019	1.9	1.8	1.3	0.8
2019 to 2020	2.0	2.1	2.2	1.7
2020 to 2021	N.A.	2.3	N.A.	1.8

RESEARCH DEPARTMENT FEDERAL RESERVE BANK OF PHILADELPHIA

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Weaker Outlook for Short-Term and Long-Term Rates

The forecasters reduced their predictions for the rate on three-month Treasury bills and 10-year Treasury bonds, compared with their previous predictions. At the end of December 2019, the interest rate on three-month Treasury bills is predicted to be 1.58 percent. The forecasters predict that the three-month Treasury bill rate will be 1.59 percent at the end of June 2020 and 1.60 percent in December 2020. The rate is expected to be 1.72 percent in 2021. The interest rate on 10-year Treasury bonds is predicted to be 1.75 percent at the end of December 2019. Additionally, the forecasters predict the 10-year rate will be 1.88 percent at the end of June 2020 and 2.05 percent in December 2020. The forecasters expect the rate to be 2.41 percent in 2021. These predictions mark downward revisions from the previous survey in June 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. 31, 2019	2.40	1.58	2.69	1.75
Jun. 30, 2020	2.40	1.59	2.74	1.88
Dec. 31, 2020	2.40	1.60	2.75	2.05
Dec. 31, 2021	N.A.	1.72	N.A.	2.41

Somewhat Weaker Outlook for Long-Term Inflation and Output Growth

The forecasters now predict that inflation (measured by the CPI) will average 2.22 percent annually over the next 10 years, 0.04 percentage point less than the forecast in the June 2019 survey. The forecasters peg annual average real GDP growth at 2.00 percent over the next 10 years, 0.07 percentage point less than their prediction of six months ago.

Forecasters Raise Their Predictions for Stock Prices

The forecasters predict the S&P 500 index will finish 2019 at a level of 3130.0, an upward revision from the estimate of 2900.0 in the June 2019 survey. The forecasters see stock prices increasing over the next two years, with the index rising to 3202.0 by the end of June 2020, to 3257.6 by the end of 2020, and to 3400.0 by the end of 2021. All predictions have been revised upward.

	<i>Stock Prices (end of period) S&P 500 Index</i>	
	<i>Previous</i>	<i>New</i>
Dec. 31, 2019	2900.0	3130.0
Jun. 30, 2020	2950.0	3202.0
Dec. 31, 2020	3042.7	3257.6
Dec. 31, 2021	N.A.	3400.0

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 6, 2019, 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	S. Kahan	Kahan Consulting Ltd.
B. Bovino/S. Panday	Standard & Poor's	D. Knop	Independent Economist
M. Brown/W. West	Visa	T. Lam	Sim Kee Boon Institute, Singapore
J. Bryson	Wells Fargo Securities, LLC	D. Manaenkov	RSQE (University of Michigan)
J. Butkiewicz	University of Delaware	G. Mokrzan	Huntington National Bank
R. Chase	Economic & Policy Resources, Inc.	M. Moran	Daiwa Capital Markets America
C. Chrappa	Independent Equipment Company	F. Nothaft	CoreLogic
R. Dhawan	Georgia State University	C. Rupkey	MUFG Union Bank, N.A.
R. Dietz	National Association of Home Builders	J. Smith	Parsec Financial Management, Inc.
M. Englund	Action Economics, LLC	S. Snaith	University of Central Florida
J. Foster/B. Higginbotham	U.S. Chamber of Commerce	S. Stanley	Amherst Pierpont Securities
P. Hooper	Deutsche Bank Securities	B. Wesbury/R. Stein	First Trust Advisors, L.P.
B. Horrigan	Loomis, Sayles & Co.	M. Zandi	Moody's Analytics

LIVINGSTON SURVEY
MAJOR MACROECONOMIC INDICATORS, 2019-2021

QUARTERLY INDICATORS (percentage changes at annual rates)	Q2 2019 TO Q4 2019	Q4 2019 TO Q2 2020	Q2 2020 TO Q4 2020	2018 TO 2019	2019 TO 2020	2020 TO 2021
Real Gross Domestic Product	1.9	1.9	1.8	2.3	1.9	1.9
Nominal Gross Domestic Product	3.7	3.9	4.0	4.1	3.9	4.0
Nonresidential Fixed Investment	-0.6	2.9	2.6	2.3	1.7	2.3
Corporate Profits After Taxes	4.1	1.6	2.1	-0.4	3.1	3.9
MONTHLY INDICATORS (percentage changes at annual rates)	JUN 2019 TO DEC 2019	DEC 2019 TO JUN 2020	JUN 2020 TO DEC 2020	2018 TO 2019	2019 TO 2020	2020 TO 2021
Industrial Production	0.4	1.4	1.4	0.9	0.8	1.0
Producer Prices - Finished Goods	1.0	2.1	1.6	0.8	1.7	1.8
Consumer Price Index (CPI-U)	2.1	2.1	2.0	1.8	2.1	2.3
Average Weekly Earnings in Mfg.	1.5	2.8	2.8	1.5	2.6	2.9
Retail Trade	4.1	3.6	3.7	3.7	4.0	3.8
(levels of variables)	DEC 2019	JUN 2020	DEC 2020	2019	2020	2021
Total Private Housing Starts (annual rate, millions)	1.292	1.300	1.295	1.261	1.299	1.326
Unemployment Rate (percent)	3.5	3.5	3.5	3.7	3.5	3.6
Automobile Sales (incl. foreign) (annual rate, millions)	4.5	4.5	4.5	4.7	4.5	4.4
FINANCIAL INDICATORS (levels of variables at end of month)	DEC 2019	JUN 2020	DEC 2020	DEC 2021		
Prime Interest Rate	4.75	4.75	4.75	4.75		
10-Year Treasury Note Yield	1.75	1.88	2.05	2.41		
3-Month Treasury Bill Rate	1.58	1.59	1.60	1.72		
Stock Prices (S&P500)	3130.0	3202.0	3257.6	3400.0		
LONG-TERM OUTLOOK Average Annual Growth Rate for the Next Ten Years						
Real GDP	2.00					
Consumer Price Index	2.22					

Source: Research Department, Federal Reserve Bank of Philadelphia, Livingston Survey, December 2019

LIVINGSTON SURVEY

December 2019

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 19; the tables do not reflect subsequent revisions to the data. All forecasts were received on or before December 5.

TABLE ONE
 MAJOR MACROECONOMIC INDICATORS, 2019-2021
 MEDIANS OF FORECASTER PREDICTIONS

QUARTERLY INDICATORS	NUMBER OF FORE- CASTERS	ACTUAL				FORECASTS			
		2019 Q2	2019 Q4	2020 Q2	2020 Q4	2018	2019	2020	2021
1. Real Gross Domestic Product (billions, chain weighted)	24	19021.9	19200.0	19382.6	19553.8	18638.2	19065.8	19421.2	19780.6
2. Nominal Gross Domestic Product (\$ billions)	24	21340.3	21729.3	22154.1	22593.0	20580.3	21424.7	22257.8	23151.1
3. Nonresidential Fixed Investment (billions, chain weighted)	23	2758.5	2750.0	2790.0	2825.9	2692.3	2753.4	2801.0	2865.6
4. Corporate Profits After Taxes (\$ billions)	19	1857.5	1895.0	1910.3	1929.8	1854.9	1846.7	1903.7	1977.8
MONTHLY INDICATORS		ACTUAL		FORECASTS		ACTUAL	2019	FORECASTS	2021
		JUN 2019	DEC 2019	JUN 2020	DEC 2020	2018		2020	
5. Industrial Production (2012=100)	21	109.3	109.5	110.3	111.1	108.6	109.5	110.4	111.5
6. Total Private Housing Starts (annual rate, millions)	21	1.233	1.292	1.300	1.295	1.250	1.261	1.299	1.326
7. Producer Prices - Finished Goods (index level)	16	205.7	206.7	208.8	210.4	204.1	205.7	209.2	212.9
8. Consumer Price Index (CPI-U) (index level)	22	255.3	258.0	260.7	263.3	251.1	255.6	261.0	266.9
9. Unemployment Rate (percent)	23	3.7	3.5	3.5	3.5	3.9	3.7	3.5	3.6
10. Average Weekly Earnings in Mfg. (\$)	10	923.8	930.5	943.5	956.8	908.0	921.2	945.2	973.0
11. Retail Trade (\$ billions)	15	520.1	530.6	540.0	549.9	501.9	520.3	541.3	562.0
12. Automobile Sales (incl. foreign) (annual rate, millions)	17	4.9	4.5	4.5	4.5	5.3	4.7	4.5	4.4

TABLE ONE (CONTINUED)

INTEREST RATES & STOCK PRICES (end of period)		ACTUAL	FORECASTS			
		JUN 2019	DEC 2019	JUN 2020	DEC 2020	DEC 2021
13. Prime Interest Rate (percent)	22	5.50	4.75	4.75	4.75	4.75
14. 10-Year Treasury Note Yield (percent)	23	2.00	1.75	1.88	2.05	2.41
15. 3-Month Treasury Bill Rate (percent)	24	2.08	1.58	1.59	1.60	1.72
16. Stock Prices (S&P500) (index level)	15	2941.8	3130.0	3202.0	3257.6	3400.0

Source: Research Department, Federal Reserve Bank of Philadelphia, Livingston Survey, December 2019

TABLE TWO
 MAJOR MACROECONOMIC INDICATORS, 2019-2021
 PERCENTAGE CHANGES AT ANNUAL RATES

QUARTERLY INDICATORS	NUMBER OF FORE- CASTERS	Q2 2019	Q4 2019	Q2 2020	2018	2019	2020
		TO Q4 2019	TO Q2 2020	TO Q4 2020	TO 2019	TO 2020	TO 2021
1. Real Gross Domestic Product	24	1.9	1.9	1.8	2.3	1.9	1.9
2. Nominal Gross Domestic Product	24	3.7	3.9	4.0	4.1	3.9	4.0
3. Nonresidential Fixed Investment	23	-0.6	2.9	2.6	2.3	1.7	2.3
4. Corporate Profits After Taxes	19	4.1	1.6	2.1	-0.4	3.1	3.9
MONTHLY INDICATORS		JUN 2019	DEC 2019	JUN 2020	2018	2019	2020
		TO DEC 2019	TO JUN 2020	TO DEC 2020	TO 2019	TO 2020	TO 2021
5. Industrial Production	21	0.4	1.4	1.4	0.9	0.8	1.0
6. Total Private Housing Starts	21	0.059	0.008	-0.005	0.011	0.038	0.027
7. Producer Prices - Finished Goods	16	1.0	2.1	1.6	0.8	1.7	1.8
8. Consumer Price Index (CPI-U)	22	2.1	2.1	2.0	1.8	2.1	2.3
9. Unemployment Rate	23	-0.2	0.0	0.0	-0.2	-0.2	0.1
10. Average Weekly Earnings in Mfg.	10	1.5	2.8	2.8	1.5	2.6	2.9
11. Retail Trade	15	4.1	3.6	3.7	3.7	4.0	3.8
12. Automobile Sales (incl. foreign)	17	-0.3	0.0	0.0	-0.6	-0.2	-0.1

		JUN 2019	DEC 2019	JUN 2020	DEC 2020
		TO	TO	TO	TO
INTEREST RATES & STOCK PRICES		DEC 2019	JUN 2020	DEC 2020	DEC 2021
13. Prime Interest Rate	22	-0.75	0.00	0.00	0.00
14. 10-Year Treasury Note Yield	23	-0.25	0.13	0.17	0.36
15. 3-Month Treasury Bill Rate	24	-0.50	0.01	0.01	0.12
16. Stock Prices (S&P500)	15	13.2	4.7	3.5	4.4

Note: Figures for housing starts, unemployment rate, auto sales, prime interest rate, 30-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 2019

TABLE THREE
LONG-TERM (10 YEAR) FORECASTS

SERIES: CPI Inflation Rate

STATISTIC	
Minimum	1.80
Lower Quartile	2.00
Median	2.22
Upper Quartile	2.33
Maximum	2.60
Mean	2.19
Std. Deviation	0.22
N	22
Missing	2

SERIES: Real GDP

STATISTIC	
Minimum	1.70
Lower Quartile	1.95
Median	2.00
Upper Quartile	2.13
Maximum	4.10
Mean	2.14
Std. Deviation	0.49
N	22
Missing	2
