



THE

LIVINGSTON SURVEY

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DECEMBER 2020

Forecasters Revise Up Real GDP Growth for Second Half of 2020; Revise Down Growth for First Half of 2021

The 22 participants in the December *Livingston Survey* nearly doubled their forecasts for the second half of 2020 compared with their projections in the June 2020 survey. The forecasters, who are surveyed by the Federal Reserve Bank of Philadelphia twice a year, expect an increase of 18.0 percent (annualized) in real GDP during the second half of 2020. They project 2.9 percent growth (annualized) over the first half of 2021, marking a downward revision from 7.2 percent in the previous survey. The forecasters peg growth at an annual rate of 3.7 percent in the second half of 2021.

The forecasters predict a lower unemployment rate compared with their expectations in June. In the upcoming year, they see the unemployment rate steadily decreasing from 6.7 percent in December 2020 to 5.5 percent in December 2021.

	<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>					
2020 Q2 to 2020 Q4	9.6	18.0	December 2020	10.6	6.7
2020 Q4 to 2021 Q2	7.2	2.9	June 2021	8.3	6.1
2021 Q2 to 2021 Q4	N.A.	3.7	December 2021	N.A.	5.5

Projections Increase for Year-over-Year Inflation

On an annual-average over annual-average basis, the forecasters have revised upward their CPI inflation and PPI inflation projections for 2020 and 2021. CPI inflation is projected to be 1.2 percent in 2020 and then hold steady at 2.1 percent for 2021 and 2022. The PPI inflation projection remains negative for 2020, at -1.4 percent, but is higher than the previous survey's projection of -2.1 percent. The forecasters project PPI inflation will average 2.4 percent in 2021 and 2.7 percent in 2022.

	<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>				
2019 to 2020	0.8	1.2	-2.1	-1.4
2020 to 2021	1.6	2.1	2.2	2.4
2021 to 2022	N.A.	2.1	N.A.	2.7

RESEARCH DEPARTMENT FEDERAL RESERVE BANK OF PHILADELPHIA

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Short-Term and Long-Term Rates Remain Low

The forecasters slightly revised downward their expectations for the rate on three-month Treasury bills compared with their expectations six months ago. The forecasters predict that the three-month rate will hold steady at 0.10 percent through December 2021. In December 2022, the three-month Treasury bill interest rate is expected to increase slightly to 0.13 percent. Compared with six months ago, the forecasters revised upward their expectations for the rate on 10-year Treasury bonds for December 2020 (to 0.89 percent) and downward for June and December 2021 (to 1.00 and 1.20 percent, respectively).

	<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, 2020	0.14	0.10	0.81	0.89
Jun. 30, 2021	0.15	0.10	1.07	1.00
Dec. 31, 2021	0.20	0.10	1.26	1.20
Dec. 31, 2022	N.A.	0.13	N.A.	1.45

Long-Term Output Projections Remain Steady but Increase for Inflation

The forecasters expect real GDP to grow at an annual-average rate of 2.20 percent over the next 10 years. This expectation is unchanged from that of the previous survey of six months ago. Inflation over the next 10 years, measured by the CPI, is projected to be slightly higher than that projected six months ago, increasing from 2.00 percent in the previous survey to 2.23 percent in the current survey.

Forecasters Increase Their Expectations for Stock Prices

The panel projects that stock prices, as measured by the S&P 500 Index, will increase steadily from the end of 2020 to the end of 2022. The panel sees prices at 3600.0 at the end of December 2020, 3650.0 at the end of June 2021, and 3745.0 at the end of December 2021. These projections are higher than those of the previous survey of six months ago. In addition, the panel expects stock prices to reach 3899.2 by the end of 2022.

	<i>Stock Prices (end of period) S&P 500 Index</i>	
	<i>Previous</i>	<i>New</i>
Dec. 31, 2020	3117.5	3600.0
Jun. 30, 2021	3215.0	3650.0
Dec. 31, 2021	3280.0	3745.0
Dec. 31, 2022	N.A.	3899.2

Technical Notes

This news release reports the median value across the 22 forecasters on the survey’s panel. All forecasts were submitted before the December 4, 2020, 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	T. Lam	Sim Kee Boon Institute, Singapore
M. Brown/W.West	Visa	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.	F. Nothhaft	CoreLogic
C. Chrappa	Independent Equipment Company	D. Olson	USDA Economic Research Service
R. Dhawan	Georgia State University	C. Rupkey	MUFG Union Bank, N.A.
M. Englund	Action Economics, LLC	J. Smith	Parsec Financial Management, Inc.
P. Hooper/B. Ryan	Deutsche Bank Securities	S. Stanley	Amherst Pierpont Securities
B. Horrigan	Loomis, Sayles & Co.	D. Torgerson	USDA Retired Economist
S. Kahan	Kahan Consulting Ltd.	B. Wesbury/R. Stein	First Trust Advisors, L.P.
D. Knop	Independent Economist		

Livingston Survey Summary Table
MAJOR MACROECONOMIC INDICATORS, 2020-2022

QUARTERLY INDICATORS (percentage changes at annual rates)	Q2 2020	Q4 2020	Q2 2021	2019	2020	2021
	TO Q4 2020	TO Q2 2021	TO Q4 2021	TO 2020	TO 2021	TO 2022
Real Gross Domestic Product	18.0	2.9	3.7	-3.5	4.1	2.6
Nominal Gross Domestic Product	21.3	4.9	5.1	-2.3	5.9	4.6
Nonresidential Fixed Investment	13.5	3.3	5.2	-4.6	4.2	4.7
Corporate Profits After Taxes	59.4	2.0	3.3	-5.2	9.7	2.4
MONTHLY INDICATORS (percentage changes at annual rates)	JUN 2020	DEC 2020	JUN 2021	2019	2020	2021
	TO DEC 2020	TO JUN 2021	TO DEC 2021	TO 2020	TO 2021	TO 2022
Industrial Production	13.1	3.8	4.5	-7.1	5.0	3.4
Producer Prices - Finished Goods	3.3	2.7	2.7	-1.4	2.4	2.7
Consumer Price Index (CPI-U)	3.1	1.9	2.5	1.2	2.1	2.1
Average Weekly Earnings in Mfg.	11.9	3.0	4.4	0.4	4.8	2.2
Retail Trade	10.8	2.2	3.6	0.9	8.2	3.8
(levels of variables)	DEC 2020	JUN 2021	DEC 2021	2020	2021	2022
Total Private Housing Starts (annual rate, millions)	1.506	1.500	1.485	1.365	1.460	1.473
Unemployment Rate (percent)	6.7	6.1	5.5	8.1	6.0	4.9
Automobile Sales (incl. foreign) (annual rate, millions)	3.8	3.9	4.0	3.5	4.0	4.1
FINANCIAL INDICATORS (levels of variables at end of month)	DEC 2020	JUN 2021	DEC 2021	DEC 2022		
Prime Interest Rate	3.25	3.25	3.25	3.25		
10-Year Treasury Note Yield	0.89	1.00	1.20	1.45		
3-Month Treasury Bill Rate	0.10	0.10	0.10	0.13		
Stock Prices (S&P500)	3600.0	3650.0	3745.0	3899.2		

LONG-TERM OUTLOOK

Average Annual Growth Rate for the Next Ten Years

Real GDP 2.20
Consumer Price Index 2.23

Source: Research Department, Federal Reserve Bank of Philadelphia, Livingston Survey, December 2020.

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December 2020

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 1.

TABLE ONE
 MAJOR MACROECONOMIC INDICATORS, 2020-2022
 MEDIANS OF FORECASTER PREDICTIONS

QUARTERLY INDICATORS	NUMBER OF FORECASTERS	ACTUAL	FORECAST			ACTUAL	FORECAST		
		2020 Q2	2020 Q4	2021 Q2	2021 Q4	2019 ANNUAL	2020 ANNUAL	2021 ANNUAL	2022 ANNUAL
1. Real Gross Domestic Product (billions, chain weighted)	22	17302.5	18795.6	19065.8	19412.0	19091.7	18422.2	19184.3	19686.0
2. Nominal Gross Domestic Product (\$ billions)	22	19520.1	21502.3	22020.2	22575.1	21433.2	20930.6	22165.5	23182.8
3. Nonresidential Fixed Investment (billions, chain weighted)	21	2525.5	2690.0	2734.0	2803.8	2776.8	2650.0	2760.2	2890.0
4. Corporate Profits After Taxes (\$ billions)	17	1589.4	2006.7	2027.1	2060.0	1951.8	1850.7	2030.8	2080.3
MONTHLY INDICATORS		2020 Jun	2020 Dec	2021 Jun	2021 Dec	2019 ANNUAL	2020 ANNUAL	2021 ANNUAL	2022 ANNUAL
5. Industrial Production (2012=100)	19	97.6	103.8	105.8	108.1	109.5	101.7	106.8	110.4
6. Total Private Housing Starts (annual rate, millions)	18	1.265	1.506	1.500	1.485	1.295	1.365	1.460	1.473
7. Producer Prices - Finished Goods (index level)	13	201.1	204.4	207.2	210.0	205.7	202.9	207.7	213.3
8. Consumer Price Index (CPI-U) (index level)	20	257.2	261.2	263.7	266.9	255.7	258.8	264.2	269.8
9. Unemployment Rate (percent)	20	11.1	6.7	6.1	5.5	3.7	8.1	6.0	4.9
10. Average Weekly Earnings in Mfg. (\$)	8	901.6	953.8	968.0	989.0	921.7	925.2	969.5	991.3
11. Retail Trade (\$ billions)	11	530.0	557.8	563.9	574.0	517.8	522.3	565.2	586.8
12. Automobile Sales (incl. foreign) (annual rate, millions)	13	2.9	3.8	3.9	4.0	4.7	3.5	4.0	4.1
INTEREST RATES & STOCK PRICES (end of period)		2020 Jun	2020 Dec	2021 Jun	2021 Dec	2022 Dec			
13. Prime Interest Rate (percent)	21	3.25	3.25	3.25	3.25	3.25			
14. 10-Year Treasury Note Yield (percent)	21	0.66	0.89	1.00	1.20	1.45			
15. 3-Month Treasury Bill Rate (percent)	21	0.16	0.10	0.10	0.10	0.13			
16. Stock Prices (S&P500) (index level)	16	3100.3	3600.0	3650.0	3745.0	3899.2			

Source: Research Department, Federal Reserve Bank of Philadelphia, Livingston Survey, December 2020.

TABLE TWO
 MAJOR MACROECONOMIC INDICATORS, 2020-2021
 PERCENTAGE CHANGES AT ANNUAL RATES

QUARTERLY INDICATORS	NUMBER OF FORECASTERS	Q2 2020 TO Q4 2020	Q4 2020 TO Q2 2021	Q2 2021 TO Q4 2021	2019 TO 2020	2020 TO 2021	2021 TO 2022
1. Real Gross Domestic Product	22	18.0	2.9	3.7	-3.5	4.1	2.6
2. Nominal Gross Domestic Product	22	21.3	4.9	5.1	-2.3	5.9	4.6
3. Nonresidential Fixed Investment	21	13.5	3.3	5.2	-4.6	4.2	4.7
4. Corporate Profits After Taxes	17	59.4	2.0	3.3	-5.2	9.7	2.4
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MONTHLY INDICATORS		JUN 2020 TO DEC 2020	DEC 2020 TO JUN 2021	JUN 2021 TO DEC 2021	2019 TO 2020	2020 TO 2021	2021 TO 2022
5. Industrial Production	19	13.1	3.8	4.5	-7.1	5.0	3.4
6. Total Private Housing Starts	18	0.241	-0.006	-0.015	0.070	0.095	0.013
7. Producer Prices - Finished Goods	13	3.3	2.7	2.7	-1.4	2.4	2.7
8. Consumer Price Index (CPI-U)	20	3.1	1.9	2.5	1.2	2.1	2.1
9. Unemployment Rate	20	-4.4	-0.6	-0.6	4.4	-2.1	-1.1
10. Average Weekly Earnings in Mfg.	8	11.9	3.0	4.4	0.4	4.8	2.2
11. Retail Trade	11	10.8	2.2	3.6	0.9	8.2	3.8
12. Automobile Sales (incl. foreign)	13	0.9	0.1	0.1	-1.2	0.5	0.2
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INTEREST RATES & STOCK PRICES		JUN 2020 TO DEC 2020	DEC 2020 TO JUN 2021	JUN 2021 TO DEC 2021	DEC 2021 TO DEC 2022		
13. Prime Interest Rate	21	0.00	0.00	0.00	0.00		
14. 10-Year Treasury Note Yield	21	0.23	0.11	0.20	0.25		
15. 3-Month Treasury Bill Rate	21	-0.06	0.00	0.00	0.03		
16. Stock Prices (S&P500)	16	34.8	2.8	5.3	4.1		

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, December 2020.

TABLE THREE
LONG-TERM (10 YEAR) FORECASTS

SERIES: Real GDP

Statistic	
Minimum	1.50
Lower Quartile	1.99
Median	2.20
Upper Quartile	2.50
Maximum	3.00
Mean	2.21
Std. Deviation	0.42
N	20
Missing	2

SERIES: CPI Inflation Rate

Statistic	
Minimum	1.50
Lower Quartile	2.05
Median	2.23
Upper Quartile	2.40
Maximum	2.70
Mean	2.19
Std. Deviation	0.30
N	20
Missing	2

Source: Research Department, Federal Reserve Bank of Philadelphia, Livingston Survey, December 2020.