Lower Near-Term Output Growth
The U.S. economy looks weaker now in the next few quarters than it did four months ago, according to 38 forecasters surveyed by the Federal Reserve Bank of Philadelphia. The forecasters predict real GDP will grow at an annual rate of 1.5 percent this quarter and 2.4 percent next quarter, down from the previous estimates of 2.4 percent and 2.7 percent, respectively. On an annual-average over annual-average basis, the forecasters predict real GDP to grow 2.4 percent in 2019, 2.0 percent in 2020, and 1.8 percent in 2021. The projection for 2019 is 0.3 percentage point lower than the estimate of four months ago, while the projections for 2020 and 2021 are roughly unchanged.

A slightly weaker outlook for the unemployment rate for the next few quarters accompanies the weaker outlook for near-term output growth. The forecasters predict the unemployment rate will average 3.7 percent in 2019 and 2020, 4.0 percent in 2021, and 4.2 percent in 2022.

The panelists, however, see somewhat stronger growth in employment this year than they predicted previously. The projections for the annual-average level of nonfarm payroll employment suggest job gains at a monthly rate of 191,800 in 2019, up from the previous estimate of 181,900. (These annual-average estimates are computed as the year-to-year change in the annual-average level of nonfarm payroll employment, converted to a monthly rate.)

Median Forecasts for Selected Variables in the Current and Previous Surveys

<table>
<thead>
<tr>
<th>Quarterly data:</th>
<th>Real GDP (%)</th>
<th>Unemployment Rate (%)</th>
<th>Payrolls (000s/month)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Previous</td>
<td>New</td>
<td>Previous</td>
</tr>
<tr>
<td>2019:Q1</td>
<td>2.4</td>
<td>1.5</td>
<td>3.7</td>
</tr>
<tr>
<td>2019:Q2</td>
<td>2.7</td>
<td>2.4</td>
<td>3.6</td>
</tr>
<tr>
<td>2019:Q3</td>
<td>2.4</td>
<td>2.2</td>
<td>3.6</td>
</tr>
<tr>
<td>2019:Q4</td>
<td>2.2</td>
<td>2.2</td>
<td>3.6</td>
</tr>
<tr>
<td>2020:Q1</td>
<td>N.A.</td>
<td>2.1</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

Annual data (projections are based on annual-average levels):

<table>
<thead>
<tr>
<th></th>
<th>Real GDP (%)</th>
<th>Unemployment Rate (%)</th>
<th>Payrolls (000s/month)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>2.7</td>
<td>2.4</td>
<td>3.7</td>
</tr>
<tr>
<td>2020</td>
<td>2.1</td>
<td>2.0</td>
<td>3.8</td>
</tr>
<tr>
<td>2021</td>
<td>1.7</td>
<td>1.8</td>
<td>4.0</td>
</tr>
<tr>
<td>2022</td>
<td>N.A.</td>
<td>2.1</td>
<td>N.A.</td>
</tr>
</tbody>
</table>
The charts below provide some insight into the degree of uncertainty the forecasters have about their projections for the rate of growth in the annual-average level of real GDP. Each chart (except the one for 2022) presents the forecasters’ previous and current estimates of the probability that growth will fall into each of 11 ranges. The charts show the forecasters have revised downward their estimates of the probability that real GDP will grow above 3.0 percent in any of the next three years, especially in 2019.
The forecasters’ density projections for unemployment, shown below, shed light on uncertainty about the labor market over the next four years. Each chart presents the forecasters’ estimates of the probability that unemployment will fall into each of 10 ranges. The charts show that the estimates of uncertainty about the unemployment rate over the next three years have changed little from those in the previous survey.
Downward Revisions to 2019 Headline Inflation

The forecasters expect current-quarter headline CPI inflation to average 1.1 percent, down from 2.4 percent in the last survey, and 2.0 percent in 2019, down from 2.3 percent previously. Headline PCE inflation for the current quarter will be 1.4 percent, down 0.8 percentage point from the previous estimate. For 2019, the panelists see headline PCE inflation at 1.9 percent, marking a downward revision from 2.1 percent.

The projections for core CPI and PCE inflation at all horizons are little changed from those of the previous survey. Measured on a fourth-quarter over fourth-quarter basis, core CPI inflation is expected to average 2.3 percent in each of the next three years. The projections for core PCE inflation are 2.0 percent for 2019, 2.1 percent for 2020, and 2.0 percent for 2021.

Over the next 10 years, 2019 to 2028, the forecasters expect headline CPI inflation to average 2.20 percent at an annual rate. The corresponding estimate for 10-year annual-average PCE inflation is 2.00 percent.

Median Short-Run and Long-Run Projections for Inflation (Annualized Percentage Points)

<table>
<thead>
<tr>
<th>Quarterly</th>
<th>Headline CPI</th>
<th>Core CPI</th>
<th>Headline PCE</th>
<th>Core PCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Previous</td>
<td>Current</td>
<td>Previous</td>
<td>Current</td>
</tr>
<tr>
<td>2019:Q1</td>
<td>2.4</td>
<td>1.1</td>
<td>2.3</td>
<td>2.4</td>
</tr>
<tr>
<td>2019:Q2</td>
<td>2.3</td>
<td>2.3</td>
<td>2.3</td>
<td>2.2</td>
</tr>
<tr>
<td>2019:Q3</td>
<td>2.3</td>
<td>2.3</td>
<td>2.4</td>
<td>2.3</td>
</tr>
<tr>
<td>2019:Q4</td>
<td>2.4</td>
<td>2.2</td>
<td>2.4</td>
<td>2.3</td>
</tr>
<tr>
<td>2020:Q1</td>
<td>N.A.</td>
<td>2.3</td>
<td>N.A.</td>
<td>2.3</td>
</tr>
</tbody>
</table>

Q4/Q4 Annual Averages

<table>
<thead>
<tr>
<th></th>
<th>Headline CPI</th>
<th>Core CPI</th>
<th>Headline PCE</th>
<th>Core PCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>2.3</td>
<td>2.0</td>
<td>2.4</td>
<td>2.3</td>
</tr>
<tr>
<td>2020</td>
<td>2.3</td>
<td>2.2</td>
<td>2.4</td>
<td>2.3</td>
</tr>
<tr>
<td>2021</td>
<td>N.A.</td>
<td>2.2</td>
<td>N.A.</td>
<td>2.3</td>
</tr>
</tbody>
</table>

Long-Term Annual Averages

<table>
<thead>
<tr>
<th></th>
<th>Headline CPI</th>
<th>Core CPI</th>
<th>Headline PCE</th>
<th>Core PCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018-2022</td>
<td>2.25</td>
<td>N.A.</td>
<td>N.A.</td>
<td>2.10</td>
</tr>
<tr>
<td>2019-2023</td>
<td>N.A.</td>
<td>2.13</td>
<td>N.A.</td>
<td>2.00</td>
</tr>
<tr>
<td>2018-2027</td>
<td>2.21</td>
<td>N.A.</td>
<td>N.A.</td>
<td>2.01</td>
</tr>
<tr>
<td>2019-2028</td>
<td>N.A.</td>
<td>2.20</td>
<td>N.A.</td>
<td>2.00</td>
</tr>
</tbody>
</table>
The charts below show the median projections (the red line) and the associated interquartile ranges (gray areas around the red line) for the projections for 10-year annual-average CPI and PCE inflation. The charts highlight the nearly unchanged projections for the long-term CPI and PCE inflation, compared with those of the previous survey.
The figures below show the probabilities that the forecasters are assigning to the possibility that fourth-quarter over fourth-quarter core PCE inflation in 2019 and 2020 will fall into each of 10 ranges. For 2019, the forecasters have increased the probability that core PCE inflation will be below 2.0 percent, compared with their estimates in the survey of three months ago.

**Lower Risk of a Negative Quarter Beyond the Current Quarter**

The forecasters have revised downward the chance of a contraction in real GDP in any of the three quarters following the first quarter of 2019. For the current quarter, the forecasters predict a 16.7 percent chance of negative growth, up from 10.6 percent in the previous survey.

**Risk of a Negative Quarter (%)**

Survey Means

<table>
<thead>
<tr>
<th>Quarterly data:</th>
<th>Previous</th>
<th>New</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019:Q1</td>
<td>10.6</td>
<td>16.7</td>
</tr>
<tr>
<td>2019:Q2</td>
<td>13.6</td>
<td>11.2</td>
</tr>
<tr>
<td>2019:Q3</td>
<td>19.1</td>
<td>14.5</td>
</tr>
<tr>
<td>2019:Q4</td>
<td>22.8</td>
<td>17.9</td>
</tr>
<tr>
<td>2020:Q1</td>
<td>N.A.</td>
<td>21.9</td>
</tr>
</tbody>
</table>
Foresters State Their Views on House Price Growth over the Next Two Years

In a special question in this survey, panelists were asked to provide their forecasts for fourth-quarter over fourth-quarter growth in house prices, as measured by a number of alternative indices. The panelists were allowed to choose their measure from a list of indices or to write in their own index. For each index of their choosing, the panelists provided forecasts for growth in 2019 and 2020.

Twenty panelists answered the special question. Some panelists provided projections for more than one index. The table below provides a summary of the forecasters’ responses. The number of responses (N) is low for each index. The median estimates for the six house-price indices listed in the table below range from 3.9 percent to 4.7 percent in 2019 and from 2.6 percent to 4.0 percent in 2020.

Projections for Growth in Various Indices of House Prices

\[ Q4/Q4, \text{Percentage Points} \]

<table>
<thead>
<tr>
<th>Index</th>
<th>2019 (Q4/Q4 Percent Change)</th>
<th>2020 (Q4/Q4 Percent Change)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean</td>
</tr>
<tr>
<td>S&amp;P CoreLogic Case-Shiller: U.S. National</td>
<td>8</td>
<td>4.5</td>
</tr>
<tr>
<td>S&amp;P CoreLogic Case-Shiller: Composite 10</td>
<td>5</td>
<td>3.8</td>
</tr>
<tr>
<td>S&amp;P CoreLogic Case-Shiller: Composite 20</td>
<td>5</td>
<td>3.8</td>
</tr>
<tr>
<td>FHFA: Purchase Only (U.S. Total)</td>
<td>12</td>
<td>4.1</td>
</tr>
<tr>
<td>CoreLogic: National HPI, incl. Distressed Sales (Single Family Combined)</td>
<td>4</td>
<td>4.6</td>
</tr>
<tr>
<td>NAR Median: Total Existing</td>
<td>3</td>
<td>3.7</td>
</tr>
</tbody>
</table>

Foresters See Lower 10-Year Growth in Output and Productivity and in Returns to Financial Assets

In our first-quarter surveys, the forecasters provide their 10-year annual-average projections for an expanded set of variables, including growth in output and productivity, as well as returns on financial assets.

As the table below shows, the forecasters have cut their estimates for the annual-average rate of growth in real GDP over the next 10 years. Currently, the forecasters expect real GDP to grow at an annual-average rate of 1.99 percent over the next 10 years, down from their projection of 2.15 percent in the first-quarter survey of 2018. Ten-year annual-average productivity growth is now expected to be 1.35 percent, down from 1.50 percent previously.

Downward revisions to the return on the financial assets accompany the current outlook. The forecasters predict the S&P 500 returning an annual-average 5.35 percent over the next 10 years, down from 6.00 percent. The forecasters see the rate on 10-year Treasuries averaging 3.50 percent over the next 10 years, down from 3.70 percent in last year’s first-quarter survey. Three-month Treasury bills will return an annual-average 2.75 percent over the next 10 years, unchanged from last year’s first-quarter survey.

Median Long-Term (10-Year) Forecasts (%)

<table>
<thead>
<tr>
<th>First Quarter 2018</th>
<th>Current Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real GDP Growth</td>
<td>2.15</td>
</tr>
<tr>
<td>Productivity Growth</td>
<td>1.50</td>
</tr>
<tr>
<td>Stock Returns (S&amp;P 500)</td>
<td>6.00</td>
</tr>
<tr>
<td>Rate on 10-Year Treasury Bonds</td>
<td>3.70</td>
</tr>
<tr>
<td>Bill Returns (3-Month)</td>
<td>2.75</td>
</tr>
</tbody>
</table>
The Federal Reserve Bank of Philadelphia thanks the following forecasters for their participation in recent surveys:


This is a partial list of participants. We also thank those who wish to remain anonymous.
### SUMMARY TABLE
<table>
<thead>
<tr>
<th>SURVEY OF PROFESSIONAL FORECASTERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAJOR MACROECONOMIC INDICATORS</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>1.5</td>
<td>2.4</td>
<td>2.2</td>
<td>2.2</td>
<td>2.1</td>
<td>2.4</td>
<td>2.0</td>
<td>1.8</td>
<td>2.1</td>
</tr>
<tr>
<td>Q2</td>
<td>2.0</td>
<td>2.2</td>
<td>2.1</td>
<td>2.1</td>
<td>2.0</td>
<td>2.0</td>
<td>2.1</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>Q3</td>
<td>2.0</td>
<td>2.2</td>
<td>2.1</td>
<td>2.1</td>
<td>2.0</td>
<td>2.0</td>
<td>2.1</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>Q4</td>
<td>3.2</td>
<td>4.6</td>
<td>4.3</td>
<td>4.4</td>
<td>4.2</td>
<td>4.4</td>
<td>4.0</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>(YEAR-OVER-YEAR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

#### PERCENT GROWTH AT ANNUAL RATES
1. REAL GDP (BILLIONS, CHAIN WEIGHTED)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>1.6</td>
<td>1.3</td>
<td>1.3</td>
<td>1.1</td>
<td>1.1</td>
<td>1.5</td>
<td>1.0</td>
<td>N.A.</td>
<td>N.A.</td>
</tr>
<tr>
<td>Q2</td>
<td>198.9</td>
<td>156.8</td>
<td>168.5</td>
<td>142.1</td>
<td>143.6</td>
<td>191.8</td>
<td>123.2</td>
<td>N.A.</td>
<td>N.A.</td>
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<tr>
<td>Q3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Q4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### VARIABLES IN LEVELS
5. UNEMPLOYMENT RATE (PERCENT)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Q1</td>
<td>3.9</td>
<td>3.7</td>
<td>3.7</td>
<td>3.7</td>
<td>3.7</td>
<td>3.7</td>
<td>3.7</td>
<td>4.0</td>
<td>4.2</td>
</tr>
<tr>
<td>Q2</td>
<td>6.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q3</td>
<td>7.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Q4</td>
<td>8.</td>
<td></td>
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</tr>
</tbody>
</table>

#### INFLATION INDICATORS
8. CPI (ANNUAL RATE)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>1.1</td>
<td>2.3</td>
<td>2.3</td>
<td>2.2</td>
<td>2.3</td>
<td>2.0</td>
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<td>2.2</td>
<td></td>
</tr>
<tr>
<td>Q2</td>
<td>2.4</td>
<td>2.2</td>
<td>2.3</td>
<td>2.3</td>
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<tr>
<td>Q3</td>
<td>1.4</td>
<td>2.1</td>
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<td>2.2</td>
<td>1.9</td>
<td>2.0</td>
<td>2.1</td>
<td></td>
</tr>
<tr>
<td>Q4</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>2.1</td>
<td>2.0</td>
<td>2.1</td>
<td>2.0</td>
<td></td>
</tr>
</tbody>
</table>

Note: The figures on each line are medians of 38 forecasters.

Source: Research Department, Federal Reserve Bank of Philadelphia.
Survey of Professional Forecasters, First Quarter 2019.
SURVEY OF PROFESSIONAL FORECASTERS

First Quarter 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 February 28, 2019; the tables do not reflect subsequent revisions to the data. All forecasts were received on or before March 12, 2019.
## TABLE ONE
### MAJOR MACROECONOMIC INDICATORS
#### MEDIANS OF FORECASTER PREDICTIONS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. GROSS DOMESTIC PRODUCT (GDP) ($ BILLIONS)</td>
<td>36</td>
<td>20891</td>
<td>21055</td>
<td>21294</td>
<td>21520</td>
<td>21752</td>
<td>21976</td>
<td>20501</td>
<td>21405</td>
</tr>
<tr>
<td>2. GDP PRICE INDEX (2012=100)</td>
<td>37</td>
<td>111.16</td>
<td>111.70</td>
<td>112.32</td>
<td>112.91</td>
<td>113.49</td>
<td>114.05</td>
<td>110.34</td>
<td>112.60</td>
</tr>
<tr>
<td>3. CORPORATE PROFITS AFTER TAXES ($ BILLIONS)</td>
<td>22</td>
<td>N.A.</td>
<td>2101.6</td>
<td>2128.6</td>
<td>2151.2</td>
<td>2154.2</td>
<td>2172.3</td>
<td>N.A.</td>
<td>2134.2</td>
</tr>
<tr>
<td>4. UNEMPLOYMENT RATE (PERCENT)</td>
<td>36</td>
<td>3.8</td>
<td>3.9</td>
<td>3.7</td>
<td>3.7</td>
<td>3.7</td>
<td>3.7</td>
<td>3.9</td>
<td>3.7</td>
</tr>
<tr>
<td>5. NONFARM PAYROLL EMPLOYMENT (THOUSANDS)</td>
<td>33</td>
<td>150057</td>
<td>150654</td>
<td>151124</td>
<td>151630</td>
<td>152056</td>
<td>152487</td>
<td>149064</td>
<td>151366</td>
</tr>
<tr>
<td>6. INDUSTRIAL PRODUCTION (2012=100)</td>
<td>32</td>
<td>109.8</td>
<td>110.1</td>
<td>110.6</td>
<td>111.2</td>
<td>111.7</td>
<td>112.2</td>
<td>107.9</td>
<td>110.9</td>
</tr>
<tr>
<td>7. NEW PRIVATE HOUSING STARTS (ANNUAL RATE, MILLIONS)</td>
<td>32</td>
<td>1.17</td>
<td>1.23</td>
<td>1.25</td>
<td>1.27</td>
<td>1.27</td>
<td>1.27</td>
<td>1.24</td>
<td>1.26</td>
</tr>
<tr>
<td>8. 3-MONTH TREASURY BILL RATE (PERCENT)</td>
<td>33</td>
<td>2.32</td>
<td>2.44</td>
<td>2.50</td>
<td>2.57</td>
<td>2.65</td>
<td>2.70</td>
<td>1.94</td>
<td>2.54</td>
</tr>
<tr>
<td>10. MOODY'S BAA CORP BOND YIELD * (PERCENT)</td>
<td>25</td>
<td>N.A.</td>
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<td>11. 10-YEAR TREASURY BOND YIELD (PERCENT)</td>
<td>37</td>
<td>3.03</td>
<td>2.75</td>
<td>2.85</td>
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<td>2.97</td>
<td>3.08</td>
<td>2.91</td>
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<td>12. REAL GDP (BILLIONS, CHAIN WEIGHTED)</td>
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<td>18785</td>
<td>18853</td>
<td>18963</td>
<td>19067</td>
<td>19173</td>
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<td>19019</td>
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<td>13. TOTAL CONSUMPTION EXPENDITURE (BILLIONS, CHAIN WEIGHTED)</td>
<td>34</td>
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<td>13104.5</td>
<td>13193.1</td>
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<td>14. NONRESIDENTIAL FIXED INVESTMENT (BILLIONS, CHAIN WEIGHTED)</td>
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<td>2795.7</td>
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<td>18. CHANGE IN PRIVATE INVENTORIES (BILLIONS, CHAIN WEIGHTED)</td>
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<td>97.1</td>
<td>75.0</td>
<td>62.7</td>
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<td>59.1</td>
<td>45.1</td>
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<td>-963.2</td>
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<td>-977.7</td>
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* The historical values of Moody's Aaa and Baa rates are proprietary and therefore not available to the general public.

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<thead>
<tr>
<th>Major Macroeconomic Indicators</th>
<th>Percentage Changes at Annual Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>TABLE TWO</td>
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<tr>
<td>1. Gross Domestic Product (GDP) ($ Billions)</td>
<td>36 3.2 4.6 4.3 4.4 4.2 4.4 4.0 N.A. N.A.</td>
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<tr>
<td>2. GDP Price Index (2012=100)</td>
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<tr>
<td>3. Corporate Profits After Taxes ($ Billions)</td>
<td>22 1.4 5.2 4.3 0.6 3.4 4.8 2.9 N.A. N.A.</td>
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<td>4. Unemployment Rate (Percent)</td>
<td>36 0.1 -0.2 -0.0 0.0 0.0 -0.2 0.0 0.3 0.2</td>
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<tr>
<td>5. Nonfarm Payroll Employment (Percent Change) (Average Monthly Change)</td>
<td>33 1.6 1.3 1.3 1.1 1.1 1.5 1.0 N.A. N.A.</td>
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<tr>
<td>6. Industrial Production (2012=100)</td>
<td>32 1.0 2.1 2.0 2.1 1.5 2.8 1.7 N.A. N.A.</td>
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<td>7. New Private Housing Starts (Annual Rate, Millions)</td>
<td>32 25.2 4.4 6.0 1.1 0.0 1.0 2.5 N.A. N.A.</td>
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<td>8. 3-Month Treasury Bill Rate (Percent)</td>
<td>33 0.12 0.06 0.07 0.08 0.05 0.60 0.19 -0.05 0.00</td>
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<td>9. Moody's AA Corporate Bond Yield * (Percent)</td>
<td>24 N.A. 0.12 0.11 0.07 0.11 N.A. 0.21 N.A. N.A.</td>
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<td>10. Moody's BAA Corporate Bond Yield * (Percent)</td>
<td>25 N.A. 0.13 0.13 0.05 0.14 N.A. 0.40 N.A. N.A.</td>
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<td>11. 10-Year Treasury Bond Yield (Percent)</td>
<td>37 -0.28 0.10 0.05 0.07 0.11 -0.04 0.23 0.14 0.15</td>
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<tr>
<td>12. Real GDP (Billions, Chain Weighted)</td>
<td>36 1.5 2.4 2.2 2.2 2.1 2.4 2.0 1.8 2.1</td>
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<tr>
<td>13. Total Consumption Expenditure (Billions, Chain Weighted)</td>
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<td>14. Nonresidential Fixed Investment (Billions, Chain Weighted)</td>
<td>33 4.1 4.3 3.4 3.9 3.8 4.4 3.0 N.A. N.A.</td>
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<td>15. Residential Fixed Investment (Billions, Chain Weighted)</td>
<td>33 -0.5 0.3 1.1 1.1 1.6 -1.2 1.2 N.A. N.A.</td>
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<td>16. Federal Government C &amp; I (Billions, Chain Weighted)</td>
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<td>17. State and Local Govt C &amp; I (Billions, Chain Weighted)</td>
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<tr>
<td>18. Change in Private Inventories (Billions, Chain Weighted)</td>
<td>31 -22.1 -12.3 4.0 -1.3 -6.3 21.1 -8.7 N.A. N.A.</td>
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<td>19. Net Exports (Billions, Chain Weighted)</td>
<td>33 -3.5 -10.9 -12.3 -13.2 -10.9 -69.1 -37.3 N.A. N.A.</td>
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</table>

* The historical values of Moody's Aaa and Baa rates are proprietary and therefore not available to the general public.

Note: Figures for unemployment rate, 3-month Treasury bill rate, Moody's Aaa corporate bond yield, Moody's Baa corporate bond yield, and 10-year Treasury bond yield are changes in these rates, in percentage points. Figures for change in private inventories and net exports are changes in billions of chain-weighted dollars. All others are percentage changes at annual rates.

## TABLE THREE
### MAJOR PRICE INDICATORS
#### MEDIANS OF FORECASTER PREDICTIONS

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<th>NUMBER OF FORECASTERS</th>
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<tr>
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<td>2019</td>
</tr>
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<td>Q4</td>
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<tr>
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<td>2020</td>
</tr>
<tr>
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<td>Q1</td>
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<tr>
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<table>
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<tr>
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</tr>
<tr>
<td>Q2</td>
<td>2.3</td>
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<tr>
<td>Q3</td>
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<table>
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<tr>
<td>Q2</td>
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<td>Q3</td>
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## TABLE FOUR
### YIELD SPREADS
#### MEDIANs OF FORECASTER PREDICTIONS

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<tr>
<td>1. TBOND MINUS TBILL</td>
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<tr>
<td>(PERCENTAGE POINTS)</td>
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<td>0.31</td>
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<td>3. BAA MINUS TBOND</td>
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<td>(PERCENTAGE POINTS)</td>
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<td>1.13</td>
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### Notes:
- **TBOND** is the rate on 10-year Treasury bonds.
- **TBILL** is the rate on 3-month Treasury bills.
- **AAA** is the rate on Moody's Aaa corporate bonds.
- **BAA** is the rate on Moody's Baa corporate bonds.
- The historical values for interest rate spreads for Moody's Aaa and Baa rates are proprietary and therefore not available to the general public.
- Each interest rate spread is computed as the median value of the forecasters' spreads. These median values may differ from those computed as the difference between the median values of each interest rate in the spread.

### Source:
### TABLE FIVE
ESTIMATED PROBABILITY OF DECLINE IN REAL GDP

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<th>Q1 2019</th>
<th>Q2 2019</th>
<th>Q3 2019</th>
<th>Q4 2019</th>
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<td>PROBABILITY (CHANCES IN 100)</td>
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<td>TO</td>
<td>TO</td>
<td>TO</td>
<td>TO</td>
</tr>
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<td>Q3 2019</td>
<td>Q4 2019</td>
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Note: Total number of forecasters reporting is 34.

## Table Six

Mean Probabilities

### Mean Probability Attached to Possible Civilian Unemployment Rates:
(Annual Average)

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<th>2020</th>
<th>2021</th>
<th>2022</th>
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<td>0.00</td>
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<td>7.0 to 7.4 Percent</td>
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### Mean Probability Attached to Possible Percent Changes in Real GDP:
(Annual-Average Over Annual-Average)

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<td>0.22</td>
<td>0.30</td>
<td>0.38</td>
</tr>
<tr>
<td>5.0 to 5.9 Percent</td>
<td>0.23</td>
<td>0.60</td>
<td>0.83</td>
<td>0.97</td>
</tr>
<tr>
<td>4.0 to 4.9 Percent</td>
<td>2.25</td>
<td>2.17</td>
<td>2.45</td>
<td>3.16</td>
</tr>
<tr>
<td>3.0 to 3.9 Percent</td>
<td>13.56</td>
<td>9.85</td>
<td>9.36</td>
<td>11.09</td>
</tr>
<tr>
<td>2.0 to 2.9 Percent</td>
<td>53.01</td>
<td>32.75</td>
<td>28.11</td>
<td>31.81</td>
</tr>
<tr>
<td>1.0 to 1.9 Percent</td>
<td>20.23</td>
<td>30.92</td>
<td>27.71</td>
<td>27.18</td>
</tr>
<tr>
<td>0.0 to 0.9 Percent</td>
<td>7.40</td>
<td>15.00</td>
<td>18.59</td>
<td>15.51</td>
</tr>
<tr>
<td>-1.0 to -0.1 Percent</td>
<td>2.77</td>
<td>6.79</td>
<td>8.42</td>
<td>6.52</td>
</tr>
<tr>
<td>-2.0 to -1.1 Percent</td>
<td>0.40</td>
<td>1.27</td>
<td>3.34</td>
<td>2.33</td>
</tr>
<tr>
<td>-3.0 to -2.1 Percent</td>
<td>0.06</td>
<td>0.20</td>
<td>0.71</td>
<td>0.60</td>
</tr>
<tr>
<td>Less Than -3.0 Percent</td>
<td>0.04</td>
<td>0.14</td>
<td>0.18</td>
<td>0.45</td>
</tr>
</tbody>
</table>

### Mean Probability Attached to Possible Percent Changes in GDP Price Index:
(Annual-Average Over Annual-Average)

<table>
<thead>
<tr>
<th></th>
<th>2018-2019</th>
<th>2019-2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0 Percent or More</td>
<td>0.00</td>
<td>0.48</td>
</tr>
<tr>
<td>3.5 to 3.9 Percent</td>
<td>0.33</td>
<td>0.95</td>
</tr>
<tr>
<td>3.0 to 3.4 Percent</td>
<td>3.08</td>
<td>4.33</td>
</tr>
<tr>
<td>2.5 to 2.9 Percent</td>
<td>15.48</td>
<td>17.52</td>
</tr>
<tr>
<td>2.0 to 2.4 Percent</td>
<td>44.19</td>
<td>38.48</td>
</tr>
<tr>
<td>1.5 to 1.9 Percent</td>
<td>27.44</td>
<td>25.78</td>
</tr>
<tr>
<td>1.0 to 1.4 Percent</td>
<td>7.21</td>
<td>8.11</td>
</tr>
<tr>
<td>0.5 to 0.9 Percent</td>
<td>1.80</td>
<td>2.93</td>
</tr>
<tr>
<td>0.0 to 0.4 Percent</td>
<td>0.42</td>
<td>1.07</td>
</tr>
<tr>
<td>Less Than 0.0 Percent</td>
<td>0.05</td>
<td>0.35</td>
</tr>
</tbody>
</table>

Source: Research Department, Federal Reserve Bank of Philadelphia.
Survey of Professional Forecasters, First Quarter 2019.
### Table Seven
**Mean Probability of Core CPI and Core PCE Inflation (Q4/Q4)**

#### Mean Probability Attached to Core CPI Inflation:

<table>
<thead>
<tr>
<th>Range</th>
<th>18Q4 TO 19Q4</th>
<th>19Q4 TO 20Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0 PERCENT OR MORE</td>
<td>0.38</td>
<td>1.13</td>
</tr>
<tr>
<td>3.5 TO 3.9 PERCENT</td>
<td>0.93</td>
<td>2.09</td>
</tr>
<tr>
<td>3.0 TO 3.4 PERCENT</td>
<td>4.38</td>
<td>7.69</td>
</tr>
<tr>
<td>2.5 TO 2.9 PERCENT</td>
<td>19.57</td>
<td>21.78</td>
</tr>
<tr>
<td>2.0 TO 2.4 PERCENT</td>
<td>45.89</td>
<td>38.34</td>
</tr>
<tr>
<td>1.5 TO 1.9 PERCENT</td>
<td>22.77</td>
<td>19.98</td>
</tr>
<tr>
<td>1.0 TO 1.4 PERCENT</td>
<td>4.79</td>
<td>6.39</td>
</tr>
<tr>
<td>0.5 TO 0.9 PERCENT</td>
<td>0.87</td>
<td>1.77</td>
</tr>
<tr>
<td>0.0 TO 0.4 PERCENT</td>
<td>0.29</td>
<td>0.51</td>
</tr>
<tr>
<td>LESS THAN 0.0 PERCENT</td>
<td>0.14</td>
<td>0.33</td>
</tr>
</tbody>
</table>

#### Mean Probability Attached to Core PCE Inflation:

<table>
<thead>
<tr>
<th>Range</th>
<th>18Q4 TO 19Q4</th>
<th>19Q4 TO 20Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0 PERCENT OR MORE</td>
<td>0.17</td>
<td>0.49</td>
</tr>
<tr>
<td>3.5 TO 3.9 PERCENT</td>
<td>0.53</td>
<td>1.30</td>
</tr>
<tr>
<td>3.0 TO 3.4 PERCENT</td>
<td>1.94</td>
<td>3.80</td>
</tr>
<tr>
<td>2.5 TO 2.9 PERCENT</td>
<td>12.19</td>
<td>16.27</td>
</tr>
<tr>
<td>2.0 TO 2.4 PERCENT</td>
<td>39.89</td>
<td>36.16</td>
</tr>
<tr>
<td>1.5 TO 1.9 PERCENT</td>
<td>33.03</td>
<td>28.09</td>
</tr>
<tr>
<td>1.0 TO 1.4 PERCENT</td>
<td>10.45</td>
<td>10.01</td>
</tr>
<tr>
<td>0.5 TO 0.9 PERCENT</td>
<td>1.50</td>
<td>2.82</td>
</tr>
<tr>
<td>0.0 TO 0.4 PERCENT</td>
<td>0.23</td>
<td>0.77</td>
</tr>
<tr>
<td>LESS THAN 0.0 PERCENT</td>
<td>0.07</td>
<td>0.29</td>
</tr>
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</table>

TABLE EIGHT  
LONG-TERM (5-YEAR AND 10-YEAR) INFLATION FORECASTS

ANNUAL AVERAGE OVER THE NEXT 5 YEARS: 2019-2023

<table>
<thead>
<tr>
<th>CPI INFLATION RATE</th>
<th>PCE INFLATION RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MINIMUM</td>
<td>1.83</td>
</tr>
<tr>
<td>LOWER QUARTILE</td>
<td>2.00</td>
</tr>
<tr>
<td>MEDIAN</td>
<td>2.13</td>
</tr>
<tr>
<td>UPPER QUARTILE</td>
<td>2.25</td>
</tr>
<tr>
<td>MAXIMUM</td>
<td>3.00</td>
</tr>
<tr>
<td>MEAN</td>
<td>2.18</td>
</tr>
<tr>
<td>STD. DEVIATION</td>
<td>0.26</td>
</tr>
<tr>
<td>N</td>
<td>32</td>
</tr>
<tr>
<td>MISSING</td>
<td>6</td>
</tr>
</tbody>
</table>

ANNUAL AVERAGE OVER THE FOLLOWING 5 YEARS: 2024-2028

<table>
<thead>
<tr>
<th>CPI INFLATION RATE</th>
<th>PCE INFLATION RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MINIMUM</td>
<td>1.80</td>
</tr>
<tr>
<td>LOWER QUARTILE</td>
<td>2.00</td>
</tr>
<tr>
<td>MEDIAN</td>
<td>2.25</td>
</tr>
<tr>
<td>UPPER QUARTILE</td>
<td>2.40</td>
</tr>
<tr>
<td>MAXIMUM</td>
<td>3.40</td>
</tr>
<tr>
<td>MEAN</td>
<td>2.26</td>
</tr>
<tr>
<td>STD. DEVIATION</td>
<td>0.30</td>
</tr>
<tr>
<td>N</td>
<td>31</td>
</tr>
<tr>
<td>MISSING</td>
<td>7</td>
</tr>
</tbody>
</table>

ANNUAL AVERAGE OVER THE NEXT 10 YEARS: 2019-2028

<table>
<thead>
<tr>
<th>CPI INFLATION RATE</th>
<th>PCE INFLATION RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MINIMUM</td>
<td>1.90</td>
</tr>
<tr>
<td>LOWER QUARTILE</td>
<td>2.00</td>
</tr>
<tr>
<td>MEDIAN</td>
<td>2.20</td>
</tr>
<tr>
<td>UPPER QUARTILE</td>
<td>2.30</td>
</tr>
<tr>
<td>MAXIMUM</td>
<td>3.20</td>
</tr>
<tr>
<td>MEAN</td>
<td>2.22</td>
</tr>
<tr>
<td>STD. DEVIATION</td>
<td>0.27</td>
</tr>
<tr>
<td>N</td>
<td>31</td>
</tr>
<tr>
<td>MISSING</td>
<td>7</td>
</tr>
</tbody>
</table>

Note: The summary statistics for each forecast horizon are computed on a sample of panelists that may differ from one horizon to the next. The usual identity linking the 10-year horizon to the two underlying five-year horizons may not hold in the results.

Source: Research Department, Federal Reserve Bank of Philadelphia.
Survey of Professional Forecasters, First Quarter 2019.
TABLE NINE
ADDITIONAL LONG-TERM (10-YEAR) FORECASTS

ANNUAL AVERAGE OVER THE NEXT 10 YEARS: 2019-2028
=================================================================

<table>
<thead>
<tr>
<th>REAL GDP GROWTH RATE</th>
<th>PRODUCTIVITY GROWTH RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MINIMUM</td>
<td>MINIMUM</td>
</tr>
<tr>
<td>1.50</td>
<td>0.90</td>
</tr>
<tr>
<td>LOWER QUARTILE</td>
<td>LOWER QUARTILE</td>
</tr>
<tr>
<td>1.80</td>
<td>1.20</td>
</tr>
<tr>
<td>MEDIAN</td>
<td>MEDIAN</td>
</tr>
<tr>
<td>1.99</td>
<td>1.35</td>
</tr>
<tr>
<td>UPPER QUARTILE</td>
<td>UPPER QUARTILE</td>
</tr>
<tr>
<td>2.30</td>
<td>1.60</td>
</tr>
<tr>
<td>MAXIMUM</td>
<td>MAXIMUM</td>
</tr>
<tr>
<td>2.75</td>
<td>2.85</td>
</tr>
<tr>
<td>MEAN</td>
<td>MEAN</td>
</tr>
<tr>
<td>2.05</td>
<td>1.49</td>
</tr>
<tr>
<td>STD. DEVIATION</td>
<td>STD. DEVIATION</td>
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<tr>
<td>0.34</td>
<td>0.49</td>
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<tr>
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<td>N</td>
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<tr>
<td>28</td>
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<td>MISSING</td>
</tr>
<tr>
<td>10</td>
<td>16</td>
</tr>
</tbody>
</table>

Source: Research Department, Federal Reserve Bank of Philadelphia.
Survey of Professional Forecasters, First Quarter 2019.