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National and Regional Economic Overview

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Federal Reserve Bank of St. Louis
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The views I will express are my own and do not necessarily reflect the positions of the Federal Reserve Bank of St. Louis or the Federal Reserve System.
GDP growth was stronger than expected in 2018, slightly weaker than expected in early 2019
Inflation has been slower than expected, and below 2% target

Source: Federal Reserve Board
Recession probabilities were elevated in 2019 but have recently come down.

Source: Federal Reserve Bank of St. Louis, Federal Reserve Board, Federal Reserve Bank of New York

US Recession Probabilities from Selected Models
Percent

[Diagram showing US recession probabilities from selected models, including NBER Recession, Hard Data, Treasury Spread, and Credit Spread, with data points for years from 1970 to 2018.]
<2% inflation + weaker than expected growth + elevated recession risk = lower rate path

Federal Funds Target Rate, Actual and Projected
Percent

Source: Federal Reserve Board
2020 Outlook: US Economy is settling into a “good place.”

- Fourth Quarter (2019) GDP growth forecasts have been moving upward, from under 1% in mid-November to around 2.5% as of last week.
- Scant evidence of labor market weakness, but job growth should slow further for demographic reasons.
- Still expect growth to slow in 2020 and inflation to remain below 2%.
  - Trade uncertainty has been bad for business: slower business fixed investment, weaker manufacturing activity.
  - Services sector still posting solid growth and consumption is strengthening.
- Recession risks have moderated, but threats to the downside persist, particularly slower global growth and policy uncertainty.
- However, easier monetary policy should keep growth positive in 2020.
Memphis economy has underperformed relative to US average and regional peers.

Source: Bureau of Economic Analysis
Two narratives explaining the region’s slow growth

- **Industry Narrative**
  - The industrial mix of the region may naturally generate slower growth
  - Specific industries may be underperforming
  - Approach: $\Delta GDP = \Delta GDP_{Manu.} + \Delta GDP_{Services} + \Delta GDP_{Govt} + \ldots$

- **Economic Geography Narrative**
  - Households relocate to areas with desirable amenities relative to cost of living
  - Firms relocate to areas where they can be most productive relative to cost of doing business
  - Approach: $\Delta GDP = \Delta Workers \times \Delta Productivity$

- I’ll tell these stories independently, but they intersect on multiple dimensions.
Memphis is has a large concentration of slow-growth sectors

<table>
<thead>
<tr>
<th>Sector</th>
<th>US</th>
<th>Memphis</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>1.2</td>
<td>0.5</td>
<td>0.38</td>
</tr>
<tr>
<td>Mining</td>
<td>2.3</td>
<td>0.0</td>
<td>0.01</td>
</tr>
<tr>
<td>Utilities</td>
<td>1.9</td>
<td>0.6</td>
<td>0.30</td>
</tr>
<tr>
<td>Construction</td>
<td>3.4</td>
<td>2.4</td>
<td>0.72</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>12.0</td>
<td>14.1</td>
<td>1.18</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>6.0</td>
<td>9.6</td>
<td>1.59</td>
</tr>
<tr>
<td>Retail Trade</td>
<td>5.6</td>
<td>7.6</td>
<td>1.35</td>
</tr>
<tr>
<td>Transport and Warehousing</td>
<td>2.9</td>
<td>9.4</td>
<td>3.25</td>
</tr>
<tr>
<td>Information</td>
<td>4.9</td>
<td>1.9</td>
<td>0.38</td>
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<tr>
<td>Finance and Real Estate</td>
<td>19.6</td>
<td>14.9</td>
<td>0.76</td>
</tr>
<tr>
<td>Professional Services</td>
<td>12.0</td>
<td>9.7</td>
<td>0.81</td>
</tr>
<tr>
<td>Education</td>
<td>1.3</td>
<td>0.8</td>
<td>0.65</td>
</tr>
<tr>
<td>Healthcare</td>
<td>7.4</td>
<td>8.6</td>
<td>1.16</td>
</tr>
<tr>
<td>Arts, Entertainment and Recreation</td>
<td>3.7</td>
<td>4.8</td>
<td>1.28</td>
</tr>
</tbody>
</table>
Slow growth is 1/3 due to industry mix and 2/3 due to industry performance

<table>
<thead>
<tr>
<th></th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>US GDP Avg. Growth (2011-18)</td>
<td>2.2</td>
</tr>
<tr>
<td>Memphis Avg. GDP Growth (2011-18)</td>
<td>1.2</td>
</tr>
<tr>
<td>US Avg. Growth with Memphis Industry Mix</td>
<td>1.9</td>
</tr>
<tr>
<td><strong>Difference explained by Industry Mix</strong></td>
<td><strong>-0.3</strong></td>
</tr>
</tbody>
</table>

**Contributions to Memphis Avg. Growth by Sector**

<table>
<thead>
<tr>
<th></th>
<th>At US Rate</th>
<th>At Memphis Rate</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport and Warehousing</td>
<td>0.23</td>
<td>0.02</td>
<td>-0.21</td>
</tr>
<tr>
<td>Professional Services</td>
<td>0.34</td>
<td>0.14</td>
<td>-0.21</td>
</tr>
<tr>
<td>Government</td>
<td>0.02</td>
<td>-0.13</td>
<td>-0.14</td>
</tr>
<tr>
<td>Agriculture</td>
<td>0.01</td>
<td>-0.06</td>
<td>-0.08</td>
</tr>
<tr>
<td>Healthcare</td>
<td>0.21</td>
<td>0.15</td>
<td>-0.07</td>
</tr>
<tr>
<td>Construction</td>
<td>0.06</td>
<td>0.12</td>
<td>0.06</td>
</tr>
<tr>
<td><strong>Difference explained by sector performance</strong></td>
<td><strong>0.88</strong></td>
<td><strong>0.23</strong></td>
<td><strong>-0.65</strong></td>
</tr>
</tbody>
</table>

Memphis economy grew 1% per year slower than the US Average

0.3% per year can be attributed to industry mix.

These five sectors in Memphis underperformed the national average.

Construction sector in Memphis has outperformed the national average.

0.65% per year, can be attributed the performance of these six sectors.
**Economic Geography Narrative**

**Decomposition of Real GDP Growth**
*Avg. Annual Growth (2011-18)*

- **United States**
  - Net Births, 0.3%
  - Migration (Dom.), 0.0%
  - Migration (Intl), 0.3%
  - LFPR, 0.1%
  - Hours Worked, 0.1%
  - UR, 0.8%
  - Productivity, 0.6%

- **Memphis**
  - Net Births, 0.5%
  - Migration (Dom.), -0.5%
  - Migration (Intl), 0.1%
  - LFPR, -0.2%
  - Hours Worked, 0.3%
  - UR, 0.8%
  - Productivity, 0.0%

*RGDP Growth*: 3%
Domestic migration key determinant of population growth for most MSAs

Population Growth 2011 to 2018

- Austin
- Orlando
- Raleigh
- Houston
- San Antonio
- Dallas
- Phoenix
- Charlotte
- Las Vegas
- Nashville
- Denver
- Seattle
- Tampa
- Atlanta
- Salt Lake City
- Portland
- Columbus
- Oklahoma City
- Miami
- Sacramento
- Washington DC
- Riverside
- San Francisco
- Indianapolis
- Richmond
- Minneapolis
- San Jose
- San Diego
- Kansas City
- United States
- New Orleans
- Louisville
- Cincinnati
- Los Angeles
- Virginia Beach
- Baltimore
- Riverside
- Philadelphia
- Memphis
- Providence
- Milwaukee
- Detroit
- Chicago
- New York
- Denver
- Buffalo
- Cleveland
- Hartford
- Pittsburgh

Key:
- Blue: Net Births
- Gray: Immigration
- Dark Blue: Migration
- Red: Pop Chg
US outlook provides a solid baseline forecast for Memphis

Source: Bureau of Economic Analysis, and authors calculations
Two sources for the outlook

**Economic Conditions Index**
Percent change from one year ago

**Beige Book Survey**
How do you expect local economic conditions to change over the next year relative to the current year?
Outlook for the Memphis Economy

- The US outlook provides a solid baseline forecast for Memphis, with growth likely slower in part due to industry mix.
- Memphis’ age demographics could produce stronger economic growth in long-term. Poor human capital metrics and strong outmigration put this at risk.
- Knowledge economy (share of population with college degree in 2011) is positively correlated with domestic migration rates and productivity growth, between 2011-18.
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