It appears that growth in the last three months of 2015 will look very weak.

<table>
<thead>
<tr>
<th>Change in GDP (annualized % change)</th>
<th>Q3 BEA Estimate, Dec. 22</th>
<th>Q4 GDPNow, Jan. 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annualized GDP Growth</td>
<td>2.0</td>
<td>0.8</td>
</tr>
</tbody>
</table>

*Note: Most Q4 growth forecasts are tracking between 1.75 and 2.25 percent (annualized).*

Sources: Bureau of Economic Analysis, FRBA
Inventories continue to weigh on near term growth.

Source: Census Bureau

data through November 2015
The divergence between topline GDP growth and final sales continues – but Q4 is tracking soft nonetheless.

<table>
<thead>
<tr>
<th>Real GDP Component Tracking Forecasts</th>
<th>Q3 BEA Estimate, Dec. 22</th>
<th>Q4 GDPNow, Jan. 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in GDP (annualized % change)</td>
<td>2.0</td>
<td>0.8</td>
</tr>
<tr>
<td>Annualized GDP Growth</td>
<td>2.0</td>
<td>0.8</td>
</tr>
<tr>
<td>Annualized Final Sales Growth</td>
<td>2.7</td>
<td>1.7</td>
</tr>
</tbody>
</table>

Sources: Bureau of Economic Analysis, FRBA
The manufacturing sector has struggled as the dollar has strengthened.

The Dollar and the Manufacturing Sector

- Nominal Broad Trade-Weighted Exchange Value of the US$
- ISM Manufacturing: PMI Composite Index (right axis)
- ISM Mfg: New Export Orders Index (SA, 50+ = Econ Expand)

Index, Jan-97=100

Source: Federal Reserve Board; Institute for Supply Management

Data through November 2015
We expect that the drag on structures investment is not done yet.
Recent data on consumer spending hasn’t been as strong as it was through the middle of 2015.

**Personal Consumption Expenditure Growth**

*four-quarter annualized percent*

Average: 2.3%
The future
Despite the limp finish to 2015, we anticipate above trend growth in 2016.

<table>
<thead>
<tr>
<th></th>
<th>2015:q4/q4</th>
<th>2016:q4/q4</th>
<th>Longer-run</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real GDP Growth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Current FRBA Staff Forecast</strong></td>
<td>1.8(^a)</td>
<td>2.5</td>
<td>2.1</td>
</tr>
<tr>
<td>Dec. FOMC SEP median</td>
<td>2.1</td>
<td>2.4</td>
<td>2.0</td>
</tr>
</tbody>
</table>

\(\text{a: assumes 0.8\% in QIV.}\)

Sources: FRBA forecasts; FOMC Summary of Economic Projections
Payroll growth has been exceptionally strong – and suggests more strength in the economy than GDP growth might suggest.

**Payroll Employment Changes**

Thousands of jobs, SA

<table>
<thead>
<tr>
<th>Year</th>
<th>3-month average</th>
<th>12-month average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>186,000 jobs/ month</td>
<td>201,000 jobs/ month</td>
</tr>
<tr>
<td>2012</td>
<td>279,000 jobs/ month</td>
<td>270,000 jobs/ month</td>
</tr>
<tr>
<td>2013</td>
<td>305,000 jobs/ month</td>
<td>291,000 jobs/ month</td>
</tr>
<tr>
<td>2014</td>
<td>309,000 jobs/ month</td>
<td>295,000 jobs/ month</td>
</tr>
<tr>
<td>2015</td>
<td>316,000 jobs/ month</td>
<td>303,000 jobs/ month</td>
</tr>
</tbody>
</table>

Source: Bureau of Labor Statistics through December 2015
Solid income (and increased savings) should provide a favorable environment for consumption growth in the future.

Source: Census Bureau through November 2015

- **Real Disposable Personal Income**
  - Year-over-year percent change, SA

- **Personal Savings Rate**
  - Percent

Source: Bureau of Economic Analysis through November 2015
Trend wage growth has been weak for some time, but may be picking up.
Over the balance of the recovery, productivity growth has been decidedly weak.

Productivity growth: Varying rates of “normal”

Growth in U.S. output per hour
Business sector, percent change, annual rate

Source: Fernald (2014). Quarterly; samples end in Q4 of years shown except 1973 (ends Q1) and 2015 (ends Q3)
A lack of investment seems to be the smoking gun.

**Accounting for U.S. growth: Varying rates of normal**

**Contributions to growth in U.S. output per hour**

Business sector, percent change, annual rate

Source: Fernald (2014). Quarterly; samples end in Q4 of years shown except 1973 (ends Q1) and 2015 (ends Q3). Total factor productivity measured as a residual.
Inflation continues at a pace that is well below the Fed’s target pace.

Sources: Bureau of Economic Analysis; through November 2015
VERY GRADUAL CHANGE
WE CAN BELIEVE IN
Even trend measures that “look through” temporary influence are running soft to the FOMC’s objective.
We are probably close to “full employment”, but not quite there.

ZPOP: The Share of the Population Fully Utilized
percent, seasonally-adjusted

Source: Bureau of Labor Statistics, authors’ calculations
The U.S. Economic Outlook: Slouching Towards 2016