The US Economic Outlook

FTA Revenue Estimation & Tax Research Conference
Tampa, Florida
September 28, 2015

Sara Johnson, Senior Research Director, Global Economics
+1 781 301 9115, sara.johnson@ihs.com
The US economy can weather the recent turbulence in global financial and commodity markets

• Final sales to domestic purchasers are growing at a robust pace.

• A slowdown in inventory accumulation will restrain near-term real GDP and industrial production growth.

• Consumer spending is supported by solid gains in employment, real disposable income, and housing asset values.

• Housing markets will steadily recover in response to rising employment, easing credit standards, and pent-up demand.

• Business investment in equipment, software, and commercial structures will post strong growth.

• Foreign trade will be a drag on US economic growth through 2017.
Employment growth has been steadier than real GDP growth during the current expansion
Forces driving state government revenues

Employment, income, and retail sales

<table>
<thead>
<tr>
<th>Percent change, calendar years</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonfarm employment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wages per worker</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wage income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retail sales</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: IHS

© 2015 IHS
Services recorded the largest employment increases during the 12 months ended August 2015

<table>
<thead>
<tr>
<th>Change in payroll employment, thousands</th>
<th>Prof. &amp; business services</th>
<th>Health &amp; social services</th>
<th>Leisure &amp; hospitality</th>
<th>Retail trade</th>
<th>Construction</th>
<th>Financial services</th>
<th>Transport &amp; warehousing</th>
<th>Manufacturing</th>
<th>Wholesale trade</th>
<th>Local government</th>
<th>Other services</th>
<th>Education</th>
<th>Information</th>
<th>State government</th>
<th>Utilities</th>
<th>Federal government</th>
<th>Mining &amp; logging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total change</td>
<td>2.9 million</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: IHS
Interest rates will rise from exceptionally low levels

Interest rates

Source: IHS
The gap between federal expenditures and revenues is unlikely to close

Federal revenues and expenditures*

* Fiscal years, unified budget
Source: IHS
Consumer price inflation reflects volatility in commodity prices; core inflation will stay near 2%
Industrial materials prices are at six-year lows

Industrial materials prices

IHS weekly indexes, 2002:1=1

Source: IHS

© 2015 IHS
US crude oil prices and natural gas prices

Crude oil and natural gas prices

Source: IHS Energy © 2015 IHS
Worker compensation will accelerate as labor markets tighten and the Affordable Care Act is implemented.

**Labor compensation**

- Total compensation
- Wages & salaries
- Benefits

Source: IHS © 2015 IHS
## US economic growth by sector

### Real GDP and its components

<table>
<thead>
<tr>
<th>Percent change</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real GDP</td>
<td>2.4</td>
<td>2.5</td>
<td>2.8</td>
<td>2.8</td>
</tr>
<tr>
<td>Consumption</td>
<td>2.7</td>
<td>3.1</td>
<td>3.2</td>
<td>3.1</td>
</tr>
<tr>
<td>Residential investment</td>
<td>1.8</td>
<td>8.7</td>
<td>9.4</td>
<td>8.9</td>
</tr>
<tr>
<td>Business fixed investment</td>
<td>6.2</td>
<td>3.9</td>
<td>6.3</td>
<td>4.7</td>
</tr>
<tr>
<td>Federal government</td>
<td>-2.4</td>
<td>-0.3</td>
<td>0.2</td>
<td>0.1</td>
</tr>
<tr>
<td>State &amp; local government</td>
<td>0.6</td>
<td>1.2</td>
<td>0.9</td>
<td>1.3</td>
</tr>
<tr>
<td>Exports</td>
<td>3.4</td>
<td>1.7</td>
<td>3.7</td>
<td>4.4</td>
</tr>
<tr>
<td>Imports</td>
<td>3.8</td>
<td>5.7</td>
<td>5.5</td>
<td>5.8</td>
</tr>
</tbody>
</table>
Forces affecting consumer spending

Positive forces
- Low energy prices
- Employment growth
- Rising disposable income
- High household net worth

Negative forces
- Weak wage growth
- Rising student debt
- Delayed homeownership
Consumer spending growth depends on disposable income growth, which is strengthening in 2015
Real household net worth reached a new high in the second quarter of 2015

Household assets and liabilities

Source: IHS
The recovery in light-vehicle sales nears completion; low gasoline prices boost demand for light trucks

Light-vehicle sales

Source: IHS
The consumer spending expansion is broadening

Nominal consumer spending

<table>
<thead>
<tr>
<th>Category</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicles &amp; parts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical care &amp; products</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home furnishings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recreation services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transportation services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computers &amp; software</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apparel</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: IHS
The recovery in housing markets will strengthen

• Sustained job growth will support increases in housing demand.
• Credit availability is improving for home buyers and builders.
• Multifamily units will account for about one-third of housing starts.
• Young adults have postponed homeownership, resulting in pent-up demand.
• Sales to first-time buyers are rising rapidly.
• Baby boomers are starting to downsize.
Housing affordability is deteriorating as home prices and mortgage rates rise

**Housing affordability index**

- A value of 1.00 indicates a household earning the median income can afford a median-priced single-family home.

Source: IHS
Housing starts will continue to recover in response to employment and income gains
Business fixed investment growth is held back by the plunge in spending on drilling structures

Real business fixed investment

Year-over-year percent change


Equipment  Structures  Intellectual products

Source: IHS © 2015 IHS
Shifting growth in real business equipment investment

Real business equipment investment

<table>
<thead>
<tr>
<th>Percent change</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information technology</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transportation equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: IHS © 2015 IHS
Real private investment in energy-related structures has plummeted in 2015

Investment in structures

Source: IHS  © 2015 IHS
A gradual acceleration in the global economy

- World real GDP growth will pick up from 2.6% in 2015 to 3.0% in 2016.
- The plunge in materials prices is restraining growth in the commodity-exporting countries of the Americas, Africa, and Asia-Pacific.
- Growth in the Eurozone and Japan will improve slightly, aided by monetary stimulus, currency depreciation, and pent-up demand.
- China’s economic growth is slowed by imbalances in credit, equity, housing, and industrial markets.
- Prospects for emerging markets depend on structural reforms that raise productivity and allocate capital more efficiently.
Real GDP growth of emerging markets has slowed in 2011–15, holding back global growth

Real GDP

Source: IHS  © 2015 IHS
Asia-Pacific (excluding Japan) will achieve the fastest growth in real GDP

Source: IHS
China’s economic slowdown

• China’s slowdown is most evident in mining, heavy manufacturing, and utilities; services and light manufacturing are proving more resilient.

• Economic growth should settle near 6.5% over the next few years, as fixed investment gains subside.

• China’s exchange-rate policy adjustment will lead to more volatility but is unlikely to be the start of a “weak renminbi” policy.

• The rise and fall of China’s stock market is having limited effects on consumer spending or business investment.

• Home sales are picking up, although high inventories will continue to dampen construction activity.

• Vast excess industrial capacity, financed by an explosion of debt, is the biggest threat to China’s growth prospects.
China’s economic growth will downshift in the long run

Real GDP and industrial production

Percent change

Source: IHS

© 2015 IHS
Destinations of US goods exports in 2015

Percent of total goods exports, January-July 2015

- Pacific Rim: 24.2%
- Canada: 18.8%
- Europe: 21.5%
- Mexico: 15.6%
- South & Central America: 10.4%
- All other: 9.5%
- China: 7.4%
- Japan: 4.2%
- ASEAN: 4.9%

Source: IHS © 2015 IHS
The dollar’s real exchange value is appreciating, reaching a 12-year high against major currencies.

**Real trade-weighted dollar index**

Source: IHS
Import growth will outpace export growth in 2015–17

US exports and imports

Source: IHS

© 2015 IHS
Potential real GDP growth has slowed since the early 2000s, reflecting weak productivity gains

Actual and potential real GDP

Source: IHS

© 2015 IHS
### Factors affecting potential real GDP

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential GDP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labor Stock</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital Stock</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R&amp;D Stock</td>
<td></td>
<td></td>
<td>4.5</td>
<td>3.5</td>
<td>3.0</td>
</tr>
<tr>
<td>Infrastructure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Factor Productivity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: IHS
Bottom line for the US economy

• Consumer spending will be supported by gains in employment, real disposable income, and household wealth.

• Homebuilding will rise as credit availability improves and demand from young adults strengthens.

• Net exports will be a drag on US economic growth through late 2017, largely due to the dollar’s appreciation.

• Real business fixed investment will post solid gains, led by information technology equipment and commercial structures.

• The Federal Reserve will likely begin to raise the federal funds rate in December; it will reach an equilibrium at 3.25% in late 2018.

• Core inflation will stay mild.