The US Economic Outlook

17 December 2015

Patrick Newport, Director of Long Term Forecasting
+1 781 301 9125, patrick.newport@ihs.com
The US economy on a moderate growth path

- Real GDP growth will pick up from 2.5% in 2015 to 2.7% in 2016.
- Consumer spending is supported by solid gains in employment, real disposable income, and housing asset values.
- Housing construction will steadily recover in response to rising employment, easing credit, and a higher household formation rate.
- Business investment in equipment, software, and commercial structures will post robust growth.
- A two-year federal budget agreement and suspension of the debt ceiling boosts near-term spending and reduces policy uncertainty.
- Interest rates will gradually increase from late 2015 through 2018 as monetary accommodation is withdrawn.
Private employment at an all-time high

Private employment

Source: Bureau of Labor Statistics
Payroll employment growth

Source: Bureau of Labor Statistics
Solid gains in 2015

**US 12-month payroll gains**

-6 -4 -2 0 2 4 6


**Indiana 12-month payroll gains**

12-month payroll gains

-200 -150 -100 -50 0 50 100


Source: Bureau of Labor Statistics

© 2015 IHS
Close to full employment!!!

Unemployment rate

Source: Bureau of Labor Statistics

© 2015 IHS
Participation rate: at 1978 levels

Labor force participation rate

Source: Bureau of Labor Statistics
Little Wage inflation

Employment cost index, wages and salaries

Source: Bureau of Labor Statistics

© 2015 IHS
Stagnant productivity growth

Nonfarm business output per hour

Source: Bureau of Labor Statistics

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

Change in payroll employment, thousands

- Total change = 2.6 million

Source: IHS
The dollar’s real exchange value is appreciating, reaching a 12-year high against major currencies.
The Institute for Supply Management’s indexes signal a stall in manufacturing and moderate growth in services

ISM indexes

Over 50 indicates expansion

Source: Institute for Supply Management (ISM)
Industrial production growth has slowed sharply in 2015 in response to the dollar’s appreciation.

Real GDP and industrial production

Source: IHS

© 2015 IHS
Sources of growth in US real GDP

Contribution to real GDP growth

- Real GDP
- Residential investment
- Imports
- Consumer spending
- Inventories
- Nonresidential investment
- Exports
- Government
- Domestic demand

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>2.7</td>
<td>3.0</td>
</tr>
<tr>
<td>Consumption</td>
<td>2.7</td>
<td>3.1</td>
<td>3.1</td>
<td>3.2</td>
</tr>
<tr>
<td>Residential investment</td>
<td>1.8</td>
<td>8.4</td>
<td>9.0</td>
<td>10.3</td>
</tr>
<tr>
<td>Business fixed investment</td>
<td>6.2</td>
<td>3.3</td>
<td>5.3</td>
<td>5.1</td>
</tr>
<tr>
<td>Federal government</td>
<td>-2.4</td>
<td>-0.4</td>
<td>3.6</td>
<td>-0.8</td>
</tr>
<tr>
<td>State &amp; local government</td>
<td>0.6</td>
<td>1.5</td>
<td>1.4</td>
<td>1.2</td>
</tr>
<tr>
<td>Exports</td>
<td>3.4</td>
<td>1.0</td>
<td>2.5</td>
<td>5.4</td>
</tr>
<tr>
<td>Imports</td>
<td>3.8</td>
<td>4.8</td>
<td>4.8</td>
<td>7.5</td>
</tr>
</tbody>
</table>
The US economy is near full employment: Real GDP growth and the unemployment rate

Real GDP and unemployment

Source: IHS

© 2015 IHS
## Other key US indicators

<table>
<thead>
<tr>
<th>Key indicators</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial production</td>
<td>3.7</td>
<td>1.4</td>
<td>1.0</td>
<td>3.1</td>
</tr>
<tr>
<td>Payroll employment</td>
<td>1.9</td>
<td>2.1</td>
<td>1.6</td>
<td>1.3</td>
</tr>
<tr>
<td>Light-vehicle sales (Millions)</td>
<td>16.4</td>
<td>17.4</td>
<td>17.8</td>
<td>18.2</td>
</tr>
<tr>
<td>Housing starts (Millions)</td>
<td>1.00</td>
<td>1.10</td>
<td>1.23</td>
<td>1.42</td>
</tr>
<tr>
<td>Consumer Price Index</td>
<td>1.6</td>
<td>0.1</td>
<td>1.4</td>
<td>2.8</td>
</tr>
<tr>
<td>Core CPI</td>
<td>1.7</td>
<td>1.8</td>
<td>2.0</td>
<td>2.1</td>
</tr>
<tr>
<td>Brent crude oil price (USD/barrel)</td>
<td>100</td>
<td>54</td>
<td>54</td>
<td>65</td>
</tr>
<tr>
<td>Federal funds rate (%)</td>
<td>0.1</td>
<td>0.1</td>
<td>0.9</td>
<td>1.9</td>
</tr>
<tr>
<td>10-year Treasury yield (%)</td>
<td>2.5</td>
<td>2.1</td>
<td>2.7</td>
<td>2.9</td>
</tr>
</tbody>
</table>
Interest rates will rise from exceptionally low levels

Interest rates

Source: IHS

© 2015 IHS
Job growth will slow as the US economy approaches full employment

Payroll employment

Source: IHS
After an inventory correction in late 2015 and early 2016, manufacturing production growth will rebound.
## US industrial production growth

<table>
<thead>
<tr>
<th>Industrial production</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>All manufacturing</td>
<td>2.8</td>
<td>2.1</td>
<td>2.2</td>
<td>3.2</td>
</tr>
<tr>
<td>Motor vehicles &amp; parts</td>
<td>10.4</td>
<td>9.2</td>
<td>6.5</td>
<td>3.6</td>
</tr>
<tr>
<td>Computers &amp; electronics</td>
<td>2.9</td>
<td>1.4</td>
<td>3.8</td>
<td>6.6</td>
</tr>
<tr>
<td>Electrical equip. &amp; appliances</td>
<td>2.1</td>
<td>3.6</td>
<td>2.5</td>
<td>3.3</td>
</tr>
<tr>
<td>Machinery</td>
<td>4.7</td>
<td>-0.3</td>
<td>-1.7</td>
<td>4.7</td>
</tr>
<tr>
<td>Textiles</td>
<td>3.4</td>
<td>-0.6</td>
<td>0.0</td>
<td>-1.3</td>
</tr>
<tr>
<td>Furniture</td>
<td>6.5</td>
<td>3.6</td>
<td>2.1</td>
<td>3.7</td>
</tr>
<tr>
<td>Chemicals</td>
<td>1.8</td>
<td>3.4</td>
<td>2.1</td>
<td>4.2</td>
</tr>
</tbody>
</table>
Consumer price inflation will pick up as commodity prices recover

![Inflation rates](chart.png)

- All-urban CPI
- Core CPI (excluding food and energy)

Source: IHS

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

Labor compensation

Year-over-year percent change

- Total compensation
- Wages & salaries
- Benefits

Source: IHS
The consumer market environment is improving

<table>
<thead>
<tr>
<th>Consumer market indicators</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real consumption</td>
<td>2.7</td>
<td>3.1</td>
<td>3.1</td>
<td>3.2</td>
</tr>
<tr>
<td>Real disposable income</td>
<td>2.7</td>
<td>3.6</td>
<td>3.1</td>
<td>3.2</td>
</tr>
<tr>
<td>Real household net worth</td>
<td>3.9</td>
<td>4.1</td>
<td>3.1</td>
<td>3.1</td>
</tr>
<tr>
<td>Payroll employment</td>
<td>1.9</td>
<td>2.1</td>
<td>1.6</td>
<td>1.3</td>
</tr>
<tr>
<td>Real wage rate</td>
<td>0.6</td>
<td>1.9</td>
<td>1.0</td>
<td>0.5</td>
</tr>
<tr>
<td>Consumption price deflator</td>
<td>1.4</td>
<td>0.3</td>
<td>1.2</td>
<td>2.1</td>
</tr>
<tr>
<td>Light-vehicle sales (Millions)</td>
<td>16.4</td>
<td>17.4</td>
<td>17.8</td>
<td>18.2</td>
</tr>
<tr>
<td>Single-family home sales (Millions)</td>
<td>4.77</td>
<td>5.17</td>
<td>5.39</td>
<td>5.58</td>
</tr>
</tbody>
</table>
Crude oil prices will gradually recover

Price of Dated Brent crude oil

Source: IHS

© 2015 IHS
Consumer spending growth depends on disposable income growth, which has strengthened in 2015

Real consumer spending and disposable income

Source: IHS
Real household net worth has reached a new high
Light-vehicle sales will peak in 2017; low gasoline prices boost demand for light trucks

Light-vehicle sales

- Total
- Cars
- Light trucks

Source: IHS

© 2015 IHS
The recovery in housing markets is gaining momentum

• Sustained job growth will support increases in housing demand.
• Credit availability is improving for home buyers and builders.
• Supplies of new and existing homes are tight, driving up prices.
• 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.
A recovery in household formation will support further gains in housing starts

Housing starts and formation

Source: IHS
Single-family home sales and construction are not expected to regain 2005 peaks

Source: IHS
Nonresidential fixed investment has slowed

• Most companies are investing at steady rates

• However, companies exposed to foreign competition (manufacturing), low oil and gas prices, and falling agricultural prices have cut capital spending sharply
  • Agricultural machinery is down 48% year-over-year, due to falling agricultural prices
  • Mining and oilfield machinery equipment is down 48% year-over-year—blame low oil prices
  • Railroad equipment is down 56% year-over-year
  • Special industrial machinery is down 20% year-over-year, thanks to the strong dollar
  • Mine and well structures are down 44% year-over-year
Business equipment investment spending will pick up

Contributions to annualized real GDP growth

Source: IHS
Building structures: A small plus for growth

Contributions to annualized real GDP growth

- 2014
- 2015
- 2016
- 2017
- 2018

Source: IHS

© 2015 IHS
Drilling for oil will edge up as oil prices rise

Mining and wells’ contribution to annualized real GDP growth

Source: IHS
US real construction growth by sector

<table>
<thead>
<tr>
<th>Real investment in structures</th>
<th>Percent change</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total construction</td>
<td></td>
<td>4.7</td>
<td>3.8</td>
<td>6.6</td>
<td>7.6</td>
</tr>
<tr>
<td>Residential</td>
<td></td>
<td>1.7</td>
<td>8.5</td>
<td>9.1</td>
<td>10.4</td>
</tr>
<tr>
<td>Commercial</td>
<td></td>
<td>19.3</td>
<td>12.0</td>
<td>9.0</td>
<td>11.2</td>
</tr>
<tr>
<td>Manufacturing</td>
<td></td>
<td>11.2</td>
<td>50.1</td>
<td>12.7</td>
<td>-13.4</td>
</tr>
<tr>
<td>Mines &amp; wells</td>
<td></td>
<td>6.5</td>
<td>-34.7</td>
<td>-17.1</td>
<td>17.1</td>
</tr>
<tr>
<td>Healthcare</td>
<td></td>
<td>-7.6</td>
<td>15.7</td>
<td>6.9</td>
<td>12.4</td>
</tr>
<tr>
<td>Public utilities</td>
<td></td>
<td>6.2</td>
<td>-9.9</td>
<td>1.5</td>
<td>-3.8</td>
</tr>
<tr>
<td>Highways &amp; streets</td>
<td></td>
<td>2.4</td>
<td>6.3</td>
<td>3.6</td>
<td>-0.2</td>
</tr>
<tr>
<td>Public education</td>
<td></td>
<td>-1.7</td>
<td>5.9</td>
<td>5.3</td>
<td>2.1</td>
</tr>
</tbody>
</table>
The Bipartisan Budget Act of 2015 brings some clarity to federal fiscal policy

• The federal debt ceiling is suspended through March 2017.

• The federal government is funded through September 2017.
  • Budget authority is increased by $50 billion in fiscal 2016 and $30 billion in fiscal 2017 from previous budget caps.
  • These increments are divided equally between defense and nondefense discretionary spending.
  • An omnibus appropriations bill must still be enacted by 11 December.
  • Consistent with Congressional Budget Office estimates, we assume that outlays are increased by $30 billion in both 2016 and 2017, and the remainder is spread through 2021.

• The agreement is expected to raise the level of real GDP by 0.2% in 2016 and 0.1% in 2017.
The US federal budget will remain in deficit

US federal budget balance

Source: IHS

© 2015 IHS
The gap between federal expenditures and revenues will stay in the 2–3% range of GDP

Federal revenues and expenditures*

* Fiscal years, unified budget
Source: IHS
A gradual acceleration in the global economy

• The world economy remains in low gear; only a modest pickup in growth is expected in 2016.

• Eurozone growth will improve slightly, aided by monetary stimulus, currency depreciation, and pent-up demand.

• China’s economic growth will slow further in 2016 because of imbalances in credit, housing, and industrial markets.

• The plunge in materials prices is restraining growth in the commodity-exporting countries of the Americas, Africa, and Asia-Pacific.

• Prospects for emerging markets depend on structural reforms that raise productivity and allocate capital more efficiently.
Asia-Pacific (excluding Japan) will achieve the fastest growth in real GDP

Real GDP

Annual percent change

-1 0 1 2 3 4 5 6

NAFTA Other Americas Western Europe Emerging Europe Mideast-N. Africa Sub-Saharan Africa Japan Other Asia-Pacific


Source: IHS

© 2015 IHS
The US current account will remain in deficit

Current-account balance (Left scale, billion US dollars)
Balance as percent of GDP (Right scale)

Source: IHS © 2015 IHS
Bottom line for the US economy

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

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

• Foreign trade will be a drag on US economic growth through 2018, due to a strong dollar and sluggish growth in major export markets.

• 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 edge upward to the central bank’s 2% target.

• Forecast risks are weighted to the downside.
Regional and Indiana Economic Outlook
U.S. Regional Outlook

• States in the West and Sunbelt will continue to growth fastest.
  • These states saw the worst housing busts.
  • Population growth fastest in these regions.
  • People go where the jobs are, but jobs also go where the people are.
    • Weaker service-sector growth in states with low population growth.
• Manufacturing gains, especially from the auto sector supply chain, have been a key to the improving Midwestern economy.
• Drop in oil prices, combined with weakness in natural gas and coal, has slammed the brakes on natural resource and mining sector.
  • Demand for steel pipe, machinery, transportation, construction cut.
2015 jobs growth concentrated in West, Southeast
Resource-heavy states in a struggle; Indiana ranks 13th
Employment growth to slow in 2016 and beyond

Indiana employment

Source: IHS
Indiana wage growth lagged nation in early 2015
Weighted annual average wage, all sectors

Indiana wage growth vs. United States

Source: IHS
Indiana housing starts will increase in 2016 and beyond
Auto sales growth to slow as recovery matures

Indiana total housing starts and new car registrations

Pre-recession peak was 40,000 starts in 2003.

Source: IHS
Hoosier farm income varies along with the nation’s
Can be hard to know where we’ve been, let alone where we’re going

- Farm income is a small proportion of total personal income (0.5% to 2%), but volatile
  - Can be up to 20% of proprietor income, usually much less
  - Subject to large revisions of historic estimates
- Impact on household wealth can be greater than impact on income measures
Population continues to move south, west; Northeast getting left out in the cold

Compound annual average growth, 2015 to 2020
### Indiana Forecast Summary

#### Key indicators

<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 employment</td>
<td>1.5</td>
<td>2.2</td>
<td>1.5</td>
<td>1.2</td>
</tr>
<tr>
<td>Unemployment rate (%)</td>
<td>5.9</td>
<td>5.0</td>
<td>4.5</td>
<td>4.5</td>
</tr>
<tr>
<td>Real personal Income</td>
<td>2.3</td>
<td>3.6</td>
<td>2.9</td>
<td>2.8</td>
</tr>
<tr>
<td>Real gross state product</td>
<td>0.4</td>
<td>1.5</td>
<td>2.5</td>
<td>2.8</td>
</tr>
<tr>
<td>Personal consumption expenditures</td>
<td>3.1</td>
<td>2.9</td>
<td>4.1</td>
<td>5.4</td>
</tr>
<tr>
<td>Housing starts (Thousands)</td>
<td>17.5</td>
<td>15.9</td>
<td>19.8</td>
<td>23.8</td>
</tr>
<tr>
<td>Share of multi-family (%)</td>
<td>28.5</td>
<td>22.8</td>
<td>22.6</td>
<td>18.8</td>
</tr>
</tbody>
</table>
Income estimate for 2015 and beyond lowered slightly by lower expected wages

- Largely due to revisions in BLS data in early 2015
- Transportation, manufacturing, construction most affected

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec 2013</td>
<td>2.4</td>
<td>3.2</td>
<td>1.6</td>
<td>1.7</td>
<td>4.4</td>
<td>4.6</td>
</tr>
<tr>
<td>Dec 2014</td>
<td>2.2</td>
<td>2.7</td>
<td>1.8</td>
<td>1.7</td>
<td>2.1</td>
<td>4.0</td>
</tr>
<tr>
<td>Apr 2015</td>
<td>2.4</td>
<td>2.8</td>
<td>1.5</td>
<td>1.9</td>
<td>2.5</td>
<td>4.0</td>
</tr>
<tr>
<td>Dec 2015</td>
<td>2.4</td>
<td>2.5</td>
<td>1.5</td>
<td>2.2</td>
<td>3.8</td>
<td>3.8</td>
</tr>
</tbody>
</table>
Bottom line for the Indiana economy

• Near-term economic growth will continue to be favorable.

• Manufacturing, especially related to the transportation sector, has spurred Indiana’s economic recovery over the past five years.

  • Manufacturing provides 17% of state’s payroll jobs, first in the nation.
    • National average is 9%.

  • Sales of cars and light trucks a huge factor; demand from oil and gas industry for steel pipe, machinery, etc., has also helped.

  • Domestic demand maturing, strong dollar reduces competitiveness.

• Expanding service employment is key to long-run economic growth.

  • High-tech area is where value is being added.

  • Requires ongoing investment in education, R&D, infrastructure.

• Long-term slow population growth a potential drag on economy.
Thank you!