THE U.S. AND MICHIGAN OUTLOOK FOR 2017-2019

PREPARED FOR PRESENTATION AT THE CONSENSUS REVENUE ESTIMATING CONFERENCE

LANSING, MICHIGAN MAY 17, 2017

BY

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"The Michigan Model"
Latest Data

• 2017q1 real GDP growth at only 0.7 percent pace
  – 0.9 percentage point drag due to inventories
  – Weakest consumption growth since 2009q4

• Rebound likely, fundamentals are solid

• Four-quarter final sales growth stable
  – At 2.1 percent in 2017q1
  – Averaged 2.0 percent during 2016

• Basic GDP forecast story:
  near-term rebound followed by near 2% trend growth

RSQE: May 2017

Labor Market

• April unemployment rate at 4.4 percent
  – The lowest since May 2007, matches prior cyclical minimum

• Payroll job gains 185,000 per month so far in 2017
  – On par with 2016, slightly behind the 2011–15 average of 204,000 jobs/month.

• Labor force participation rate flat despite demographics

• Job openings rate far exceeds prior business cycle peak

• Bucking the trend, hourly compensation is growing slower

• Broader measures of labor underutilization improving faster in 2017, after a slowdown in 2016

RSQE: May 2017
Latest Data

- Light vehicle sales set a new record in 2016, but have lost a gear in 2017 so far
- Onshore oil production growing fast again
- Long-term interest rates shot up after November election, have backed off a little lately
- The value of the dollar jumped late in 2016, has slowly declined during 2017 so far
- Key sentiment indexes rose sharply late in 2016, and seem to be holding up
  - No noticeable effect on economic growth so far

Active U.S. Oil and Gas Drilling Rig Count
Monetary Policy

- June rate hike odds over 70%
  - Fed funds rate range will be 100-125 basis points
- Motivation:
  - Labor market near full employment
- Cause for concern:
  - Core inflation fell in March (and in April in CPI data)
- Path most consistent with our outlook:
  - June & December 2017 25 basis points rate range hikes
  - Two and three hikes in 2018 and 2019, respectively

RSQE: May 2017

Market Interest Rates

<table>
<thead>
<tr>
<th>Percent</th>
<th>Actual</th>
<th>Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Conv. Mortgage</td>
<td>10 Year T-Note</td>
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<tr>
<td>4.0</td>
<td>4.1</td>
<td>4.8</td>
</tr>
<tr>
<td>3.8</td>
<td>4.3</td>
<td>3.2</td>
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<tr>
<td>3.4</td>
<td>4.1</td>
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<tr>
<td>2.7</td>
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<tr>
<td>2.3</td>
<td>1.3</td>
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<tr>
<td>2.0</td>
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</tbody>
</table>

RSQE: May 2017
Fiscal Policy

- President and Congress still learning to work together
  - Fiscal 2017 omnibus – no large deviations from prior path
- AHCA – Obamacare repeal and replace legislation passed the House
  - Fate in the Senate uncertain
  - Little spending impact within our forecast horizon
- Administration tax reform blueprint:
  - Larger corporate tax cuts
  - Smaller personal tax cuts
- Federal deficit widens by about 1% of GDP by 2019

Federal Budget, NIPA Basis

(Billions of Dollars)

<table>
<thead>
<tr>
<th></th>
<th>FY '16</th>
<th>FY '17</th>
<th>FY '18</th>
<th>FY '19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current receipts</td>
<td>3494.9</td>
<td>3635.0</td>
<td>3697.2</td>
<td>3773.0</td>
</tr>
<tr>
<td>% change</td>
<td>2.8</td>
<td>4.0</td>
<td>1.7</td>
<td>2.1</td>
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<tr>
<td>Current expenditures</td>
<td>4124.0</td>
<td>4296.8</td>
<td>4501.5</td>
<td>4719.5</td>
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<tr>
<td>% change</td>
<td>3.4</td>
<td>4.2</td>
<td>4.8</td>
<td>4.8</td>
</tr>
<tr>
<td>Consumption</td>
<td>974.2</td>
<td>993.9</td>
<td>1029.3</td>
<td>1064.8</td>
</tr>
<tr>
<td>% change</td>
<td>1.6</td>
<td>2.0</td>
<td>3.6</td>
<td>3.4</td>
</tr>
<tr>
<td>Transfer payments</td>
<td>2630.9</td>
<td>2727.8</td>
<td>2831.8</td>
<td>2942.9</td>
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<tr>
<td>% change</td>
<td>3.6</td>
<td>3.7</td>
<td>3.8</td>
<td>3.9</td>
</tr>
<tr>
<td>Surplus (+) or deficit (-)</td>
<td>-629.1</td>
<td>-661.8</td>
<td>-804.4</td>
<td>-946.5</td>
</tr>
<tr>
<td>Percent of GDP</td>
<td>-3.4</td>
<td>-3.5</td>
<td>-4.0</td>
<td>-4.5</td>
</tr>
</tbody>
</table>

RSQE: May 2017
Real GDP Growth

Growth Rate of Real GDP

RSQE: May 2017
Risks to the Outlook

- Fiscal path quite uncertain
  - Tax reform, infrastructure, ACA, AHCA
- Monetary policy
  - Janet Yellen’s term up in January 2018
- Trade policy
- World economic growth
- Commodity prices
- Abnormal weather

RSOE: May 2017
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