Prosperity in the Age of Decline
US Construction Employment

+4.2% in Nov
+4.4% C annual average
### 2014 Forecast Results

<table>
<thead>
<tr>
<th></th>
<th>Duration</th>
<th>Forecast</th>
<th>Result</th>
<th>Accuracy</th>
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<tbody>
<tr>
<td>US GDP</td>
<td>15</td>
<td>$16.098 Trillion</td>
<td>$16.317 Trillion</td>
<td>98.7%</td>
</tr>
<tr>
<td>US Ind. Prod.</td>
<td>13</td>
<td>101.5 (12MMA)</td>
<td>104.1</td>
<td>97.4%</td>
</tr>
<tr>
<td>EU Ind. Prod.</td>
<td>14</td>
<td>100.6 (12MMA)</td>
<td>101.5</td>
<td>99.1%</td>
</tr>
<tr>
<td>Canada Ind Prod</td>
<td>9</td>
<td>350.1 (12MMA)</td>
<td>C$357.1</td>
<td>98.0%</td>
</tr>
<tr>
<td>China Ind Prod</td>
<td>21</td>
<td>564.9 (12MMA)</td>
<td>563.6</td>
<td>99.8%</td>
</tr>
<tr>
<td>US Housing</td>
<td>12</td>
<td>955 Ths. Units</td>
<td>1.0 mils. Units</td>
<td>94.7%</td>
</tr>
<tr>
<td>US Retail Sales</td>
<td>16</td>
<td>$2.751 Trillion</td>
<td>$2.808 Trillion</td>
<td>98.0%</td>
</tr>
<tr>
<td>US Employment</td>
<td>13</td>
<td>144.9 Million</td>
<td>146.3 Million</td>
<td>99.0%</td>
</tr>
</tbody>
</table>

*ITR Economics provides the best economic intelligence to reduce risk and drive practical and profitable business decisions.*
World GDP, Trillions of US $, Current Prices

Percent of 2014 World GDP

- United States: 22.5%
- China: 13.4%
- *IMF Estimated Figures* 77.302 Trillion US$

Data Source: IMF, *IMF Estimated Figures*
China accounts for approximately 13.4% of the world’s economy. **Europe** account for approximately 25.2% of the world’s economy.

Based on 2014 IMF GDP statistics.
Interest Rates for Long-Term Government Bonds

Data Source: Trading Economics
## Data Preparation

<table>
<thead>
<tr>
<th></th>
<th>Raw</th>
<th>3MMT</th>
<th>3/12</th>
<th>12MMT</th>
<th>12/12</th>
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<tbody>
<tr>
<td>Jan-14</td>
<td>1.4</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Feb-14</td>
<td>1.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mar-14</td>
<td>1.5</td>
<td>4.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apr-14</td>
<td>1.4</td>
<td>4.4</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>May-14</td>
<td>1.5</td>
<td>4.4</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Jun-14</td>
<td>1.3</td>
<td>4.2</td>
<td></td>
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<tr>
<td>Jul-14</td>
<td>1.3</td>
<td>4.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aug-14</td>
<td>1.6</td>
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<tr>
<td>Sep-14</td>
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<tr>
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<tr>
<td>Nov-14</td>
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<tr>
<td>Dec-14</td>
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<td>18.2</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Mar-15</td>
<td>1.7</td>
<td>5.1</td>
<td>15.9%</td>
<td>18.6</td>
<td></td>
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<tr>
<td>Apr-15</td>
<td>1.6</td>
<td>5.0</td>
<td>13.6%</td>
<td>18.8</td>
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<tr>
<td>May-15</td>
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<td>25.5%</td>
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<tr>
<td>Jul-15</td>
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<td>19.8</td>
<td>20.0%</td>
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<td>Oct-15</td>
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<td>5.3</td>
<td>12.8%</td>
<td>20.0</td>
<td>18.3%</td>
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<tr>
<td>Nov-15</td>
<td>1.9</td>
<td>5.3</td>
<td>10.4%</td>
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<td>15.4%</td>
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<tr>
<td>Dec-15</td>
<td>1.7</td>
<td>5.0</td>
<td>19.4%</td>
<td>20.3</td>
<td>12.7%</td>
</tr>
</tbody>
</table>

### 3/12 Rate-of-Change

\[
\frac{December 2015 \ 3MMT}{December 2014 \ 3MMT} \times 100 - 100
\]

\[
= \frac{5.3}{4.8} \times 100 - 100 = 10.4\%
\]

### 12/12 Rate-of-Change

\[
\frac{December 2015 \ 12MMT}{December 2014 \ 12MMT} \times 100 - 100
\]

\[
= \frac{20.3}{18.0} \times 100 - 100 = 12.7\%
\]
Trends 10

- Nonresidential Construction
- Retail
- Medical
- Financial Production
- Consumer Prices
- Housing
- Wholesale Trade
- New Orders
- Soft Landing
- Foreign
- Hard Landing

ITR ECONOMICS
Concerns

China: Debt, Devaluation, Doubtful growth

Concern re: instability from low oil prices

Non-defense capital goods new orders are weak

South America

US Debt

World Demographics
S&P500 Stock Prices Index

Data Trends

Data Source: Wall Street Journal
Housing Starts

As seen in the ITR Trends Report

Millions of Units
Public Educational Buildings Construction to State & Local Government Expenditures

Rates-of-Change

Construction - 12/12
Expenditures - 3/12
US Industrial Production to Non-Residential Construction

Private Chemical: +96.3%
Private Manufacturing: +46.7%
Warehouse: +27.9%
US Plumbing and HVAC Contractor Employment

+5.0% in October
+5.6% annual average
US Private Lodging Construction

Billions of Dollars

21

34.7%
29.6%
20.2

0
40
80
120
160
200

-200
-160
-120
-80
-40
0
40
80
120
160

'96 '98 '00 '02 '04 '06 '08 '10 '12 '14 '16 '18 '20

MMT

Billions of Dollars
Total Public Safety Construction

Billions of Dollars

-4.6%
-5.6%
9.002

US Census Bureau
US Installation, Maintenance & Repair Employment

+3.3% for Oct
+2.3% annual average
The Good News for 2016

- Some improvement in Global Leading Indicators
- Europe is on the rise
- US Disposable Personal Income - rising
- Oil Prices – Good for consumers, mildly rising in 2016
- National Defense Expenditures – (A)
- Existing Home Sales – cyclical rise underway
- Housing Starts
- General Consumer Activity – healthy
- Money Supply (M2, deflated) – 5.3% and rising
Crude Oil Futures Prices to Natural Gas Future Prices
US Consumption of Crude Oil & Petroleum Products to Real Gross Domestic Product

Data Trends

Data Sources: EIA, BEA

Oil
Bils Barrels

GDP Trils C2009$


Oil Consumption - Raw Data
GDP - 3MMA
Business Cycle Drivers

- Inflation
- Interest Rates
- Employment
- Consumer
- Construction
Consumer Price Index

Rates-of-Change

0.2%

1/12

12/12

'82 '84 '86 '88 '90 '92 '94 '96 '98 '00 '02 '04 '06 '08 '10 '12 '14 '16 '18 '20

1/12

12/12

0.2%

itr economics
Employment – Private Sector

Private Sector Employment Growth  2.5%  C
Job Openings  19.7%  B
Involuntary Part Time Employment  -11.8%  A
Quit Rate – Rising
US Total Construction Job Openings

Highest since 1Q08
+13.2% y-o-y

0.143
US Overall Wage Growth

[Graph showing US overall wage growth from 2006 to 2020]
US Average Hourly Earnings of Construction Workers

+2.6% in Oct
+2.5% annual average basis

$27.2
Mortgage Rates to Federal Funds

Data Sources: Federal Reserve Board WSJ
FOMC Member Interest Rate Projections

Fed Open Market Committee

September 2015

Data Source: Federal Reserve
Yield on 10 Year Treasury Note
Real Personal Income Less Transfer Receipts
Average per Person Age 18 to 65

Data Sources: Federal Reserve Bank of St. Louis, U.S. Bureau of Labor Statistics
Better-than-average seasonal rise based on the last 10 years
US/Global Recovery – Good Days Ahead

- US Consumers are in great shape
- World is relatively calm
- Employment rising
- Banks are lending
- Retail Sales are rising
- Non-residential construction is rising
- Deficit spending continues – no fear of austerity in the near term
It’s About YOU!
YOUR FUTURE,
YOUR FINANCIAL WELL-BEING

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603.796.2500