Urban Land Institute
November 2013

Make Your Move: 2014-2017

Brian Beaulieu
ITR Economics™

www.itreconomics.com
## 2012 Forecast Results

<table>
<thead>
<tr>
<th></th>
<th>Duration</th>
<th>Forecast</th>
<th>Actuals</th>
<th>Percent Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GDP</strong></td>
<td>12</td>
<td>$13.593 Trillion</td>
<td>$13.648</td>
<td>0.4%</td>
</tr>
<tr>
<td><strong>US Ind. Prod.</strong></td>
<td>31</td>
<td>97.2 (12MMA)</td>
<td>97.2</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>EU Ind. Prod.</strong></td>
<td>12</td>
<td>100.4 (12MMA)</td>
<td>98.8</td>
<td>-1.6%</td>
</tr>
<tr>
<td><strong>CA Ind. Prod.</strong></td>
<td>8</td>
<td>96.7</td>
<td>96.7</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Retail Sales</strong></td>
<td>30</td>
<td>$2.186 Trillion</td>
<td>$2.131</td>
<td>-2.5%</td>
</tr>
<tr>
<td><strong>Housing</strong></td>
<td>6</td>
<td>743 Ths Units</td>
<td>780</td>
<td>5.0%</td>
</tr>
<tr>
<td><strong>Employment</strong></td>
<td>33</td>
<td>143.9 Million</td>
<td>142.5</td>
<td>-1.0%</td>
</tr>
<tr>
<td><strong>CPI</strong></td>
<td>9</td>
<td>2.8%</td>
<td>2.1%</td>
<td></td>
</tr>
</tbody>
</table>
World GDP, Bils of US $, Current Prices

25.2% All Others
21.9% United States
11.5% China
8.3% Japan
4.7%
3.6% France
3.4% United Kingdom
3.3% Russia
2.8% Brazil
2.8% Italy
2.5% India
2.5% Canada
1.9% Australia
1.6% Spain
1.6% Mexico
1.6% Korea

Percent of 2012 World GDP

Source: IMF

71.707 Trillion US$
Leading indicators pointing up
Liquidity is not an issue
Stimulative monetary policy
Employment rising (companies right-sized)
Banks are lending
Retail Sales are rising
Construction is improving
No near-term solution to fiscal debt
Real Gross Domestic Product

Trillions of $
US Industrial Production to ITR Leading Indicator

US IP

Indicator

'80  '82  '84  '86  '88  '90  '92  '94  '96  '98  '00  '02  '04  '06  '08  '10  '12  '14  '16

USIP – 12/12
Indicator - Monthly
US IP - 12/12
Leading indicator for company-Specific Application

Company A

Indicator - 1/12

'06 '07 '08 '09 '10 '11 '12 '13 '14 '15 '16

0 15 30 45

0 -15 -30 -45

Company A

Indicator - 1/12
### Data Preparation

<table>
<thead>
<tr>
<th></th>
<th>Raw</th>
<th>3MMT</th>
<th>3/12</th>
<th>12MMT</th>
<th>12/12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug-11</td>
<td>1.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sep-11</td>
<td>1.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oct-11</td>
<td>1.5</td>
<td>4.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nov-11</td>
<td>1.4</td>
<td>4.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dec-11</td>
<td>1.5</td>
<td>4.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jan-12</td>
<td>1.3</td>
<td>4.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feb-12</td>
<td>1.3</td>
<td>4.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mar-12</td>
<td>1.6</td>
<td>4.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apr-12</td>
<td>1.6</td>
<td>4.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>May-12</td>
<td>1.5</td>
<td>4.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jun-12</td>
<td>1.7</td>
<td>4.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jul-12</td>
<td>1.6</td>
<td>4.8</td>
<td>18.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aug-12</td>
<td>1.7</td>
<td>4.9</td>
<td>18.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sep-12</td>
<td>1.7</td>
<td>4.9</td>
<td>18.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oct-12</td>
<td>1.7</td>
<td>5.0</td>
<td>14.1%</td>
<td>18.6</td>
<td></td>
</tr>
<tr>
<td>Nov-12</td>
<td>1.6</td>
<td>5.0</td>
<td>13.6%</td>
<td>18.8</td>
<td></td>
</tr>
<tr>
<td>Dec-12</td>
<td>1.7</td>
<td>5.0</td>
<td>13.2%</td>
<td>19.0</td>
<td></td>
</tr>
<tr>
<td>Jan-13</td>
<td>1.5</td>
<td>4.9</td>
<td>15.1%</td>
<td>19.2</td>
<td></td>
</tr>
<tr>
<td>Feb-13</td>
<td>1.5</td>
<td>4.7</td>
<td>13.5%</td>
<td>19.4</td>
<td></td>
</tr>
<tr>
<td>Mar-13</td>
<td>1.9</td>
<td>4.9</td>
<td>14.1%</td>
<td>19.6</td>
<td></td>
</tr>
<tr>
<td>Apr-13</td>
<td>1.7</td>
<td>5.1</td>
<td>11.3%</td>
<td>19.8</td>
<td></td>
</tr>
<tr>
<td>May-13</td>
<td>1.7</td>
<td>5.3</td>
<td>11.5%</td>
<td>20.0</td>
<td></td>
</tr>
<tr>
<td>Jun-13</td>
<td>1.9</td>
<td>5.3</td>
<td>10.1%</td>
<td>20.1</td>
<td></td>
</tr>
<tr>
<td>Jul-13</td>
<td>1.7</td>
<td>5.3</td>
<td>10.5%</td>
<td>20.3</td>
<td>12.7%</td>
</tr>
</tbody>
</table>

#### 3/12 Rate-of-Change

\[
\text{3/12 Rate-of-Change} = \frac{\text{July 2013 3MMT}}{\text{July 2012 3MMT}} \times 100 - 100
\]

\[
= \frac{5.3}{4.8} \times 100 - 100 = 10.5\%
\]

#### 12/12 Rate-of-Change

\[
\text{12/12 Rate-of-Change} = \frac{\text{July 2013 12MMT}}{\text{July 2012 12MMT}} \times 100 - 100
\]

\[
= \frac{20.3}{18.0} \times 100 - 100 = 12.7\%
\]
Sample Annual Sales & Growth Rates

Millions of $

Data Trend

ROC

-3.5%
-3.7%

$86.854
Data Trend

Rates-of-Change
RISING – Momentum is positive
3/12: -11.7% (20 month high)
12/12: -26.8% (rise for 2\textsuperscript{nd} straight month)
12/12: 5.7% (13 month high)

FALLING – Momentum is negative
3/12: 9.4% (11 month low)
12/12: 16.5% (3 month low)

Example Series

January 2010
• Annual Production: $61.1 million
• 30\textsuperscript{th} consecutive month of rise
• Production at 21 year low

October 2006
• Annual Production: $403 million
• 7\textsuperscript{th} consecutive month of rise
• Production at 59 month high point

July 2007
• Annual Production: $103 million
• 16\textsuperscript{th} consecutive month of rise
• Production at 70 month high
Generating the Quantitative Forecast

Internal Trends

ITR Long Term Business Cycle Theory

Leading Economic Indicators

News and Market Observations
US, Minnesota & the Plains
Annual GSP Growth Rate
Unemployment Rates

- US
- Minnesota

Years: '00, '01, '02, '03, '04, '05, '06, '07, '08, '09, '10, '11, '12, '13, '14

Chart showing unemployment rates for the US and Minnesota from 2000 to 2014.
## Income Distribution

<table>
<thead>
<tr>
<th></th>
<th>MN</th>
<th>MSP</th>
<th>USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units</td>
<td>29.0%</td>
<td>38.5%</td>
<td>33.5%</td>
</tr>
<tr>
<td>Units</td>
<td>61.9%</td>
<td>52.9%</td>
<td>37.2%</td>
</tr>
<tr>
<td>Units</td>
<td>9.0%</td>
<td>8.6%</td>
<td>9.2%</td>
</tr>
</tbody>
</table>
## Growing – Well Educated – Well Off

<table>
<thead>
<tr>
<th></th>
<th>MN</th>
<th>MSP</th>
<th>USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth Rate</td>
<td>1.4%</td>
<td>2.7%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Education Rate</td>
<td>91.6%</td>
<td>88.0%</td>
<td>85.4%</td>
</tr>
<tr>
<td>Income Distribution</td>
<td>31.8%</td>
<td>44.7%</td>
<td>28.2%</td>
</tr>
<tr>
<td>Wealth Distribution</td>
<td>73.6%</td>
<td>50.4%</td>
<td>66.1%</td>
</tr>
</tbody>
</table>
US Industrial Production Index
Forecast Through December 2015 Annual Average Index

2007 = 100
Average Hourly Wages for Production & Nonsupervisory Employees

5.1% unemployment rate
Crude Oil Future Prices to Natural Gas Future Prices

Raw Data
M2 Money Supply

R-O-C

MMA

Trillions of 82$
Mortgage Rates to Federal Funds

Raw Data
US Industrial Production to Corporate Bond Prices

12/12 Rates-of-Change
Purchasing Managers Index

1/12
Chicago Fed National Activity Index

6 Month Moving Average

-0.2
Delinquency Rates on Consumer Loans

Percentage

Percentage

10 Year Average

10 Year Average

2020 Data Trends

Consumer Loan Delinquency Rate
Consumer Credit Card Delinquency Rate

3MMA Data Trends

www.itreconomics.com
University of Michigan Consumer Expectations Index

12/12 Rate-of-Change
Total Retail Sales (deflated)

Trillions of $82-84$

MMT

R-O-C

3/12

12/12

3MMT

12MMT

3.6

2.9

$2.179
Stock Prices Index

Data Trends

www.itreconomics.com
Corporate AAA Bond Prices to the S&P 500

Bond Prices

S&P 500

['96', '97', '98', '99', '00', '01', '02', '03', '04', '05', '06', '07', '08', '09', '10', '11', '12', '13', '14', '15']

- Bond Prices 3MMA
- S&P 500
US Architecture Billings Index

12/12 Rates of Change

www.itreconomics.com
Housing Starts

-90 -60 -30 0 30 60
R-O-C

'94 '96 '98 '00 '02 '04 '06 '08 '10 '12 '14 '16

Millions of Units

35
Building Permits

12/12 Rates-of-Change

U.S.  Minnesota
Minnesota Building Permits

Thousands of Units

www.itreconomics.com
US to Minneapolis/St. Paul Median Home Sale Prices

Annual Data Trends

US Median Price

Minneapolis Median Price

$185.8

$181.8
MSP vacancy rate 2.1% with rents rising
US Industrial Production to Non-Residential Construction

MSP Office market: 17.2% vacancy rate
Private Commercial Buildings Construction to Multi-Retail Buildings Construction

MSP Retail Market:
New 5-YR low on vacancy rate

12/12 Rates-of-Change
Warehouse Buildings Construction

MSP: 10-year low vacancy rate

Private, Billions of Dollars

www.itreconomics.com
Public Educational Buildings Construction to State & Local Government Expenditures

Rates-of-Change

Construction - 12/12

Expenditures - 3/12
## Construction Segments Annual Trend

<table>
<thead>
<tr>
<th>Sector</th>
<th>Phase</th>
<th>Year-over-year</th>
<th>Annual Data Trend In $$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Public Construction</td>
<td>A</td>
<td>-3.2</td>
<td>Declining</td>
</tr>
<tr>
<td>Total New Construction</td>
<td>C</td>
<td>7.8</td>
<td>Rising</td>
</tr>
<tr>
<td>Total Health Care Facilities</td>
<td>C</td>
<td>7.4</td>
<td>Declining</td>
</tr>
<tr>
<td>Private Medical Building Construction</td>
<td>D</td>
<td>-1.1</td>
<td>Declining</td>
</tr>
<tr>
<td>Primary &amp; Secondary Bldg Construction</td>
<td>C</td>
<td>4.7</td>
<td>Declining</td>
</tr>
<tr>
<td>Private Education Building</td>
<td>C</td>
<td>1.1</td>
<td>Declining</td>
</tr>
<tr>
<td>Total Office Building</td>
<td>C</td>
<td>4.5</td>
<td>Rising</td>
</tr>
<tr>
<td>Private Office Bldg Construction</td>
<td>C</td>
<td>18.1</td>
<td>Rising</td>
</tr>
<tr>
<td>Private Lodging</td>
<td>C</td>
<td>27.6</td>
<td>Rising</td>
</tr>
<tr>
<td>Total Commercial Building</td>
<td>C</td>
<td>2.4</td>
<td>Rising</td>
</tr>
<tr>
<td>Multi-Family Residential</td>
<td>B</td>
<td>52.6</td>
<td>Rising</td>
</tr>
<tr>
<td>Airport Passenger Terminals</td>
<td>B</td>
<td>12.8</td>
<td>Rising</td>
</tr>
</tbody>
</table>
Total U.S. Public Debt (% of GDP)

(2020: 123.8%)

www.itreconomics.com
Sequestration

Projected total federal spending

- With sequestration
- Without sequestration

Difference between the two (impact on spending)

Source: John Taylor, Bloomberg
Health Care Spending

Average spending on health per capita ($US PPP)

Total expenditures on health as percent of GDP

Source: OECD Health Data 2010 (Oct. 2010)
Copyright 2012 Kaufman, Hall & Associates, Inc. All rights reserved.
Average Annual Worker and Employer Contributions to Premiums and Total Premiums for Single Coverage, 1999-2012

<table>
<thead>
<tr>
<th>Year</th>
<th>Worker Contribution</th>
<th>Employer Contribution</th>
<th>Total Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>$318</td>
<td>$1,878</td>
<td>$2,196</td>
</tr>
<tr>
<td>2000</td>
<td>$334</td>
<td>$2,137*</td>
<td>$2,471*</td>
</tr>
<tr>
<td>2001</td>
<td>$355</td>
<td>$2,334*</td>
<td>$2,689*</td>
</tr>
<tr>
<td>2002</td>
<td>$466*</td>
<td>$2,617*</td>
<td>$3,083*</td>
</tr>
<tr>
<td>2003</td>
<td>$508</td>
<td>$2,875*</td>
<td>$3,383*</td>
</tr>
<tr>
<td>2004</td>
<td>$558</td>
<td>$3,136*</td>
<td>$3,695*</td>
</tr>
<tr>
<td>2005</td>
<td>$610</td>
<td>$3,413*</td>
<td>$4,024*</td>
</tr>
<tr>
<td>2006</td>
<td>$627</td>
<td>$3,615*</td>
<td>$4,242*</td>
</tr>
<tr>
<td>2007</td>
<td>$694*</td>
<td>$3,785</td>
<td>$4,479*</td>
</tr>
<tr>
<td>2008</td>
<td>$721</td>
<td>$3,983</td>
<td>$4,704*</td>
</tr>
<tr>
<td>2009</td>
<td>$779</td>
<td>$4,045</td>
<td>$4,824</td>
</tr>
<tr>
<td>2010</td>
<td>$899*</td>
<td>$4,150</td>
<td>$5,049*</td>
</tr>
<tr>
<td>2011</td>
<td>$921</td>
<td>$4,508*</td>
<td>$5,429*</td>
</tr>
<tr>
<td>2012</td>
<td>$951</td>
<td>$4,664</td>
<td>$5,615*</td>
</tr>
</tbody>
</table>

* Estimate is statistically different from estimate for the previous year shown (p<.05).

Costs by Age Categories

Healthcare Costs by Age

U.S. is spending much more for older ages


Copyright 2012 Kaufman, Hall & Associates, Inc. All rights reserved.
U.S. Dependence on Foreign Oil Declining
Net imports as a share of domestic consumption

Source: Energy Information Administration
US Manufacturing as a % of GDP (Value Added)

3MMA
## The Tip of the Iceberg for Manufacturing
Finding a Home in the USA

<table>
<thead>
<tr>
<th>Apple</th>
<th>Rolls Royce</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yamaha</td>
<td>Honda</td>
</tr>
<tr>
<td>Michelin</td>
<td>Lenovo</td>
</tr>
<tr>
<td>Wham-O</td>
<td>Airbus</td>
</tr>
<tr>
<td>Bayer Chemical</td>
<td>Toshiba</td>
</tr>
<tr>
<td>Caterpillar</td>
<td>Toyota</td>
</tr>
<tr>
<td>GE</td>
<td>Flextronics</td>
</tr>
<tr>
<td>NCR</td>
<td>Siemens</td>
</tr>
</tbody>
</table>
US Carbon Dioxide Emissions

Oct 1995: 5289.9 MMT

Dec 2012: 5289.9 MMT

Source: EIA.gov

Million Metric Tons
1. Positive leadership modeling (culture turns to behavior)
2. Invest in customer market research (know what they value)
3. Training programs (people, process, internal metrics)
4. Review and uncover competitive advantages
5. Spend $ on new products, marketing, advertising
6. Improve efficiencies with investment in technology and software
7. Check systems for readiness to accommodate increased activity
8. Add Sales Staff and Hire Top People
9. Lock in costs
10. Judiciously examine credit
11. Work on “what’s next”
Opportunities:

- Energy Distribution
- Water Distribution/Conservation
- Exports from U.S.
- Vocational Education
- Health Care
- Food
- Mexico
- Housing
- Funeral Services
- Logistics
- Security
- 3-D Printing
- Natural Resources (Harvesting/Conserving)
- Entertainment
Prosperity in the Age of Decline

How to Lead Your Business and Preserve Wealth Through the Coming Business Cycles

Brian Beaulieu | Alan Beaulieu

Coming Soon
July 2014
Published by Wiley Press

Visit
www.itreconomics.com
And complete the “contact us” form to learn more

www.itreconomics.com
8 Must Watch Items

- ITR Leading Indicator
- Housing Starts
- Bond Market
- US Leading Indicator
- Purchasing Managers Index
- Retail Sales
- Employment
- Nondefense Capital Goods New Orders

Available from ITR via ITR Trends Report, the ITR Advisor, or on the web
Complimentary Copy of the ITR Advisor

- Concise 4 Page Report
- Excellent Economic “Snap Shot"
- Consists of Current Events, Brief Industry Segments, Snap Shot Indicators, Readers' Questions, Fed Notes, ITR Opportunity Index, and more
- Delivered Monthly

Email:
Nikki at nbeaulieu@ITReconomics.com
Subject: “Brian is Cool”
With your contact information