# Preliminary 2017 Forecast Results

*If you heard ITR a year ago...*

<table>
<thead>
<tr>
<th>Metric</th>
<th>Duration</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>US GDP (data through Sep)</td>
<td>24</td>
<td>98.5%</td>
</tr>
<tr>
<td>US Ind. Prod. (Dec)</td>
<td>24</td>
<td>96.8%</td>
</tr>
<tr>
<td>Eur Ind. Prod. (data through Nov)</td>
<td>11</td>
<td>99.2%</td>
</tr>
<tr>
<td>Canada Ind Prod (data through Oct)</td>
<td>12</td>
<td>98.1%</td>
</tr>
<tr>
<td>China Ind Prod (data through Nov)</td>
<td>17</td>
<td>99.1%</td>
</tr>
<tr>
<td>Retail Sales (data through Dec)</td>
<td>16</td>
<td>99.4%</td>
</tr>
<tr>
<td>Housing (data through Nov)</td>
<td>15</td>
<td>97.5%</td>
</tr>
<tr>
<td>Employment (data through Dec)</td>
<td>23</td>
<td>99.3%</td>
</tr>
</tbody>
</table>

*ITR Economics provides the best economic intelligence to reduce risk and drive practical and profitable business decisions.*
### Revenue Data Trends, All Divisions

#### Yearly Revenue Growth

<table>
<thead>
<tr>
<th>Product</th>
<th>3/12</th>
<th>12/12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lenses</td>
<td>-1.2%</td>
<td>-2.1%</td>
</tr>
<tr>
<td>Frames</td>
<td>0.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Sunglasses</td>
<td>-2.2%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Readers</td>
<td>0.9%</td>
<td>0.8%</td>
</tr>
</tbody>
</table>

#### Revenue Graph

- **RX Lenses**
- **Ophthalmic Frames**
- **Plano (Non-Rx) Sunglasses**
- **OTC Magnifying Readers**

- Source: Vision Council

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*Billions of Dollars*

*First in Forecasts Since 1948*
US Industrial Production to Gross Domestic Product

Year-over-Year, Quarter-to-Quarter (3/12)

Sources: FRB, BEA
Percent of 2016 World GDP by Country

*Total 2016 World GDP: $75.278 Trillion, US$

Data Source: IMF, *67% of R-O-W figures are IMF estimates
World Industrial Production Index to G7 Leading Indicator

Sources: CPB Netherlands Bureau For Economic Policy Analysis, OECD
Net Migration Between States, July 2015-July 2016

Does not include immigration into the US

Source: Census Bureau
State Population Growth Rates

Percent Change from Population Estimates 2010 to 2016

Source: Census Bureau
### Data Preparation

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

\[
\text{3/12 Rate-of-Change} = \frac{\text{January 2018 3MMT}}{\text{January 2017 3MMT}} \times 100 - 100
\]

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

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

\[
\text{12/12 Rate-of-Change} = \frac{\text{January 2018 12MMT}}{\text{January 2017 12MMT}} \times 100 - 100
\]

\[
= \frac{20.3}{18.0} \times 100 - 100 = 12.7\%
\]
Rx Lenses Revenue

Source: Vision Council

Billions of Dollars

First in Forecasts Since 1948
Rx Lenses Revenue

Source: Vision Council

Rates-of-Change

-1.2%
-2.1%
Rx Lenses Revenue to US Total Retail Sales

Sources: Vision Council, Census Bureau

Retail Sales

Sales

12/12 Rates-of-Change

First in Forecasts Since 1948

Sources: Vision Council, Census Bureau
RX Lenses Revenue to Units of Rx Lenses Sold

Source: Vision Council

12/12 Rates-of-Change

-0.2%
-2.1%
Ophthalmic Frames Revenue

Billions of Dollars

Source: Vision Council
Ophthalmic Frames Revenue

Source: Vision Council

Rates-of-Change

0.1%
0.0%
Ophthalmic Frames Revenue to US Industrial Production Index

Sales

US IP

'05 '06 '07 '08 '09 '10 '11 '12 '13 '14 '15 '16 '17 '18 '19

12/12 Rates-of-Change
Sources: Vision Council, FRB
Ophthalmic Frames Revenue to US Disposable Personal Income

Sources: Vision Council, BEA

12/12 Rates-of-Change

First in Forecasts Since 1948

Sales

Income
Ophthalmic Frames Revenue to Units of Ophthalmic Frames Sold

Source: Vision Council

12/12 Rates-of-Change
Plano (Non-Rx) Sunglasses Revenue

Source: Vision Council
Plano (Non-Rx) Sunglasses Revenue

Source: Vision Council

Rates-of-Change

0.4%
-2.2%
Plano (Non-Rx) Sunglasses Revenue to Units of Plano (Non-Rx) Sunglasses Sold

Source: Vision Council

12/12 Rates-of-Change

-1.0%
0.4%

Sales
Units
Plano (Non-Rx) Sunglasses Revenue to US Total Retail Sales (nominal $)

Sources: Vision Council, Census Bureau

12/12 Rates-of-Change

'06 '07 '08 '09 '10 '11 '12 '13 '14 '15 '16 '17 '18

Sales

Retail Sales

12/12 Rates-of-Change

Sources: Vision Council, Census Bureau

12/12 Rates-of-Change

Sources: Vision Council, Census Bureau
OTC Magnifying Readers Revenue

Source: Vision Council

Billions of Dollars

First in Forecasts Since 1948

ITR Economics

24
First in Forecasts Since 1948

OTC Magnifying Readers Revenue

Source: Vision Council

Rates-of-Change

0.9%

0.8%

3/12

12/12

First in Forecasts Since 1948

Source: Vision Council
US Industrial Production to ITR Leading Indicator™
Reported in ITR Trends Report – ITR Advisor

Sources: FRB, ITR Economics

USIP – 12/12 Indicator - Monthly

First in Forecasts Since 1948

USIP – 12/12 Indicator - Monthly

Sources: FRB, ITR Economics
US Purchasing Managers Index

Source: Institute for Supply Management
US Non-Manufacturing Purchasing Managers Index

Above 50 Indicates expansion

Source: Institute for Supply Management
US Treasury 10-Year Bond

Source: US Dept of the Treasury
10-Year Government Bond Yield

Yield on 10 Year Treasury Note

Source: FRB
US Nondefense Capital Goods New Orders w/o Aircraft

Source: Census Bureau

Billions of Dollars

3/12 12/12

9.7% 4.6%

$771.8

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Source: Census Bureau
US Consumer Credit Outstanding Per Capita

Annual Data Trend in Thousands of Dollars

Source: FRB
US Auto Loan Delinquency Rate to Percent of US Student Loans Over 90 Days Delinquent to Real Estate Residential Loan Delinquency Rate

Sources: FRBNY, FRB

2012 = 100
US Delinquency Rates for Commercial & Industrial Loans

Source: FRB

Legend:
- R-O-C: Real-Over-Chronology
- MMA: Moving Median Average

- 3/12
- 12/12
- 3MMA
- 12MMA

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

- Percent
- Percent Change
- MMAR-O-C

- 0.2%
- -20.3%
- 1.4
US Total Retail Sales to US Personal Savings as a Percentage of Disposable Income

Please Note: Savings inputs shifted forward 23 months.
US Private Sector Employment

Private Sector Employment Growth

Job Openings

Quit Rate – Rising

Source: BLS

Annual Data Trend

First in Forecasts Since 1948
US Overall Wage Growth

Source: FRB Atlanta

Raw Data
I Can’t Adult Today.

Please Don’t Make Me Adult.
United States Overview
Weekly Oil Price & Rig Count

Rigs: Weekly Count
WTI: Average Weekly Price

Sources: EIA, Baker Hughes
Depression Drivers

Demographics
Inflation
Health Care Costs
and Entitlements
US National Debt
First in Forecasts Since 1948

US Tax Rates and Real GDP Growth

Sources: Tax Foundation, BEA

- Real GDP Growth Rate - 3/12
- Top Marginal Tax Rate

Graph showing the relationship between US tax rates and real GDP growth from 1950 to 2020.
US Corporate Tax Rate and Gross Business Investment

Corporate Tax Rate %
Gross Business Investment (% of GDP)
Linear (Gross Business Investment (% of GDP))

Percent

Sources: Tax Policy Center, FRED
First in Forecasts Since 1948

Percent of Total US Tax Receipts by Source

Sources: Tax Policy Center

Percent

46

8.8%

48.8%

Individual Income Taxes
Corporation Income Taxes

0%
10%
20%
30%
40%
50%
60%

It is not enough to do your best; you must know what to do, and then do your best.

W. Edwards Deming
1. Is your revenue trend sensitive to Disposable Personal Income
2. Determine if your cycles line up with US Total Industrial Production
3. Make sure your training and retention programs are top notch
4. Drive efficiencies with technology
5. Are you positioned where there is a growing demographic
6. Take advantage of still-low interest rates
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