MACROECONOMIC OUTLOOK

US Total Industrial Production transitioned to the back side of the business cycle. The pace of rise is slowing as the Manufacturing and the Electric and Gas Utilities segments grow at a slowing pace. Meanwhile, Mining is in an accelerating growth trend, but our analysis indicates that the pace of growth for this segment will also slow in the near term. If your business trends with the industrial economy, implement your strategies for handling business cycle decline if you have not already done so.

Depending on your market, you may need to push different products to outperform the business cycle. As consumers and businesses become increasingly price-conscious, lower-cost offerings will likely become more attractive options. Market accordingly. Newer-to-market products can help your business stand out and draw in new customers. If your new products are more efficient than previous offerings, use this as a selling point as the industrial economy contracts later this year and buyers seek ways to reduce their costs.

US Industrial Production will contract during the latter half of this year. To prepare for this, reexamine your budgets to identify areas to reduce costs. While cutting labor expenses is a typical way to reduce costs during a recession, 2019 and 2020 will present complications for this strategy. The upcoming recession will likely be mild, and many firms are already operating at a shortage of labor, so demand for labor is unlikely to fall substantially during this time. Labor market conditions will remain tight for at least the next few years, which will make finding qualified new employees increasingly challenging. You will need skilled employees to handle growth expected through much of 2020 and 2021. Focus on employee retention even as the business cycle turns downward.

MAKE YOUR MOVE™

Labor market conditions will remain tight even as the business cycle turns downward; focus on keeping your existing employees. Evaluate your compensation packages to ensure that they are competitive in your industry.

INVESTOR UPDATE

The stock market rose further in March. Although signs of further rise are encouraging, it is too early to conclude that this trend will persist.

ITR ECONOMICS' LONG-TERM VIEW

**INDUSTRY ANALYSIS**

**Retail Sales**
- Retail Sales during the 12 months through February were up 4.6% from one year ago.
- Retail Sales will rise at a slowing pace into mid-2020.
- The consumer sector will avoid recession during this business cycle.

**Wholesale Trade**
- Wholesale Trade was up 6.4% year over year.
- Both the Durable Goods segment, up 6.8%, and Nondurable Goods segment, up 6.0%, are rising at slowing rates.
- However, Wholesale Trade of Nondurable Goods will likely mildly contract late this year.

**Auto Production**
- North America Light Vehicle Production was down 0.4% from a year ago.
- Production will be relatively flat in the near term before declining in the latter half of this year.
- US Heavy-Duty Truck Production was up 17.1% but is rising at a slowing pace.

**Manufacturing**
- Total Manufacturing Production was up 2.7% from one year ago.
- Production tentatively transitioned to a slowing growth trend.
- The manufacturing sector will contract mildly in the latter half of this year and in early 2020.

**Rotary Rig**
- The Rotary Rig Count was up 12.9% on a year-over-year basis.
- The Rig Count is in a slowing growth trend.
- The Oil Rotary Rig Count, up 14.7%, and the Natural Gas Rotary Rig Count, up 7.9%, are slowing in their pace of rise.

**Capital Goods New Orders**
- Nondefense Capital Goods New Orders were up 5.3% from one year ago.
- New Orders will rise at a slowing pace into the middle of this year before declining into 2020.
- Defense Capital Goods New Orders were up 17.3%.
- Defense spending will peak imminently before declining.

**Total Nonresidential Construction**
- Nonresidential Construction was up 5.1% from one year ago.
- The Nonresidential Construction sector is expanding at an accelerating rate.
- The Warehouse Construction segment is an area of opportunity, benefiting from rapid growth in e-commerce.

**Total Residential Construction**
- Residential Construction was up 1.1% from a year ago.
- Single-Unit Housing Starts and Multi-Unit Housing Starts are both in declining trends.
- The Single-Unit segment will enter a recovery trend later this year.

**LEADING INDICATOR SNAPSHOT**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>3Q18</th>
<th>4Q18</th>
<th>1Q19</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITR Leading Indicator™</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>ITR Consumer Activity Leading Indicator™</td>
<td>✓</td>
<td>✓</td>
<td>N/A</td>
</tr>
<tr>
<td>US Leading Indicator</td>
<td>-</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Purchasing Managers Index</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>US Total Capacity Utilization Rate</td>
<td>-</td>
<td>✓</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Green denotes that the indicator signals cyclical rise for the economy in the given quarter. Red denotes the opposite.

- Following a recent data revision by the Federal Reserve Board, US Industrial Production is in Phase C, Slowing Growth.
- The majority of key leading indicators suggest that Production will be on the back side of the business cycle through at least the end of this year.
- The ITR Consumer Activity Leading Indicator suggests that the retail sector may not see as steep a decline as the industrial sector in 2019.
A CLOSER LOOK: US Economy

US Joins the Rest of the World in a Slowing Growth Trend
By: Lauren Saidel-Baker

What you need to know: The US industrial economy transitioned to a slowing growth trend, in line with most other developed nations.

The US Industrial Production Index, our barometer of activity for the domestic industrial economy, is expanding, up 3.8% from the year-ago level for the 12 months ending in March. However, Industrial Production is no longer rising at an accelerating pace, as it had been for 18 months. An annual data revision by the Federal Reserve Board now shows Industrial Production expanding at a slowing rate. We expect Production will rise at a slowing pace into mid-2019 before contracting mildly later this year and into early 2020.

This shift to a slowing growth trend brings the US in line with many of the world’s other major economies. The World Industrial Production Index has been rising at a slowing pace since May 2018, and most developed nations are now moving along the back side of the business cycle. Europe Industrial Production has declined in recent months, and leading indicators suggest further contraction in the region is likely. China Industrial Production through February was up 5.9% from the prior year, nowhere near the double-digit growth rates reached earlier this decade. Southeast Asia as a whole has been in a slowing growth trend since late 2017. Elsewhere in the world, both Canada and South America have been growing at a slowing pace since the first half of 2018. While some economies will contract mildly in late 2019 and early 2020, we do not expect a contraction in the overall World Industrial Production Index, which suggests that, on the whole, there will continue to be growth opportunities during this time.

As the US joins other nations on the back side of the business cycle, business leaders must be more cautious in their planning. Reconsider any major capital expenditure plans and ensure that they remain prudent. Global slowing growth is already reducing demand for exports of US goods. If your firm sells to foreign customers, consider your exposure, market by market, and do not be caught off guard by waning demand from key regions. Above all, know where your business is in the business cycle and the degree to which decline in the global markets could impact you.
We have seen oil prices rise over the last few months. Is this trend going to continue or will there be some relief?

*James Giles, Economist at ITR Economics™, answers:*

US sanctions on Iran and Venezuela, as well as supply cuts organized by OPEC, have lifted oil prices in recent months. Rising production in the US is mitigating this impact somewhat, but not enough to keep prices from increasing. We do not forecast politics and therefore are not forecasting how long these political supply restraints will be in place. On the demand side, slowing growth for the global economy will provide some downward pressure and will likely keep prices from rising much above their current level. However, as long as the supply restraints remain in place, we do not expect prices this year to fall much below their current level. With prices unlikely to provide much relief for consumers in the near term, look for ways to reduce consumption or increase efficiency to save on energy costs.

Please send questions to questions@itreconomics.com
Executive Overview

Leading indicators support the transition to slowing growth in US Industrial Production.

The trucking sector indicators are in Phase C, Slowing Growth, trends at this time.

The multi-family housing market has transitioned to a recessionary trend which will persist through at least this year.

Growth rates for regional Permits are slowing or recessionary. However, there are opportunities in individual states.

Commodity prices have generally stabilized during the past month, but further decline is likely to occur.

<table>
<thead>
<tr>
<th>2005-present</th>
<th>Phase</th>
<th>Current Growth Rate</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freight Industry</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US Truck Tonnage Index</td>
<td>C</td>
<td>▲ 6.4</td>
<td>Tonnage is rising at a slowing rate.</td>
</tr>
<tr>
<td>US Trucking Conditions Index</td>
<td>C</td>
<td>▼ N/A</td>
<td>Despite recent rise, the Index is generally declining.</td>
</tr>
<tr>
<td>US Transportation Services Freight Index</td>
<td>C</td>
<td>▲ 6.5</td>
<td>The volume of freight being transported is rising at a slowing rate.</td>
</tr>
<tr>
<td>Phase</td>
<td>Growth Rate</td>
<td>Comment</td>
<td></td>
</tr>
<tr>
<td>-------</td>
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<td>---------</td>
<td></td>
</tr>
<tr>
<td>National Housing Industry</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US Single Family Housing</td>
<td>C ▼ 1.6</td>
<td>Declining Starts will persist through the first half of 2019.</td>
<td></td>
</tr>
<tr>
<td>US Multi Family Housing</td>
<td>C ▼ 2.1</td>
<td>Starts will decline through the remainder of the year.</td>
<td></td>
</tr>
<tr>
<td>National Remodeling Index</td>
<td>D ▼ -7.5</td>
<td>Remodeling activity is below last year’s level.</td>
<td></td>
</tr>
<tr>
<td>Regional Housing Industry</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pacific Housing Permits</td>
<td>C ▼ 0.8</td>
<td>Permits for the region as a whole are contracting.</td>
<td></td>
</tr>
<tr>
<td>Midwest Housing Permits</td>
<td>D ▼ -2.8</td>
<td>Permits in Missouri, Nebraska, and North Dakota are in recovery trends.</td>
<td></td>
</tr>
<tr>
<td>North Central Housing Permits</td>
<td>D = -3.5</td>
<td>Indiana Permits and West Virginia Permits are growing at accelerating rates and could be areas of opportunity.</td>
<td></td>
</tr>
<tr>
<td>Northeast Housing Permits</td>
<td>D ▼ -3.8</td>
<td>Permits for the region as a whole are contracting, and further decline is likely.</td>
<td></td>
</tr>
<tr>
<td>Southeast Housing Permits</td>
<td>C = 9.0</td>
<td>As a whole, this region is growing at the fastest rate.</td>
<td></td>
</tr>
<tr>
<td>South Central Housing Permits</td>
<td>C = 6.2</td>
<td>Permits have transitioned to the back side of the business cycle for this region as a whole.</td>
<td></td>
</tr>
<tr>
<td>Commodities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steel Prices</td>
<td>D ▼ -7.3</td>
<td>Prices will fall throughout this year.</td>
<td></td>
</tr>
<tr>
<td>Aluminum Prices</td>
<td>D = -11.1</td>
<td>Prices have stabilized in recent months, but decline will likely resume in the near term.</td>
<td></td>
</tr>
<tr>
<td>Plastics Pipe, Pipe Fitting, and Unlaminated Profile Shape Prices</td>
<td>C = 2.8</td>
<td>Prices have plateaued near a record high level.</td>
<td></td>
</tr>
<tr>
<td>Wood Prices</td>
<td>D ▼ -8.8</td>
<td>Wood Prices have ticked up in recent months, but overall decline will likely resume.</td>
<td></td>
</tr>
<tr>
<td>Leading Indicator Signals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ITR Leading Indicator</td>
<td>C ▼ 0.0</td>
<td>This indicator suggests downward pressure on Industrial Production through the majority of this year.</td>
<td></td>
</tr>
<tr>
<td>US Leading Indicator</td>
<td>C = 2.8</td>
<td>The US Leading Indicator suggests the Industrial Production rate of growth will fall into at least late this year.</td>
<td></td>
</tr>
<tr>
<td>Purchasing Managers Index</td>
<td>D ▼ -6.7</td>
<td>The PMI suggests that slowing growth in Industrial Production will last through at least this year.</td>
<td></td>
</tr>
<tr>
<td>Nondefense Capital Goods New Orders</td>
<td>C ▲ 5.3</td>
<td>New Orders activity will peak in the near term before transitioning to the back side of the business cycle.</td>
<td></td>
</tr>
</tbody>
</table>
I TR Terminology & Methodology

Moving Total/Moving Average

Monthly Moving Total (MMT) vs Monthly Moving Average (MMA):

Averages are used when the data cannot be compounded, such as an index, percent, price level, or interest rates. Totals are used for things where it makes sense to add the data together. For example, units sold or total dollars spent.

3MMT/A and 12MMT/A:

A 3-month or 12-month moving total/average is the total/average of the monthly data for the most recent 3 and 12 months, respectively. The 3MMT/A illustrates the seasonal changes inherent to the data series. The 12MMT/A removes seasonal variation in order to derive the underlying cyclical trend. It is also referred to as the annual total or annual average.

Rate-of-Change:

A rate-of-change figure is the ratio comparing a data series during a specified time period to the same period one year ago. Rates-of-Change are expressed in terms of the annual percent change in an MMT or MMA, 3MMT/A, and actual monthly data.

Rates-of-change reveal whether activity levels are rising or falling compared to last year. A rate-of-change trend illustrates and measures cyclical change and trends in the data.

ITR Economics’ three commonly used rates-of-change are the 1/12, 3/12, and 12/12, which represent the year-over-year percent change of a single month, 3MMT/A, and 12MMT/A (respectively).

A rate-of-change above 0 indicates the data is higher than one year prior, while a rate-of-change below 0 indicates the data is below one year earlier.

Business Cycle:

The data trends and rates-of-change identify positions in the business cycle. Those positions are:

A. Recovery

12/12 is rising below 0 and the data trend is either heading toward a low or is in the early stages of recovery. This is the first positive phase of the business cycle.

B. Accelerating Growth

12/12 is rising above 0, data trend is accelerating in its ascent, and growth is occurring above year-ago levels. This is the second positive phase of the business cycle.

C. Slowing Growth

12/12 is declining but remains above 0 and the data trend is decelerating in its ascent or has stopped its rise, but it is still above last year. This is the first negative phase of the business cycle.

D. Recession

12/12 is below 0 and the data trend is at levels below the year-earlier level. This is the final phase and second negative phase of the business cycle.
Phase A Management Objectives™

1. Model positive leadership (culture turns to behavior)
2. Establish tactical goals that lead to strategic achievement
3. Develop a system for measurement and accountability
4. Align compensation plans with objectives 2 and 3
5. Be keenly aware of the Break Even point and check it regularly
6. Judiciously expand credit
7. Check distributions systems for readiness to accommodate increased activity
8. Review and uncover competitive advantages
9. Invest in customer market research
10. Improve efficiencies with investment in technology and software
11. Start to phase out marginal opportunities
12. Add sales staff
13. Build inventories (consider lead time and turn rate)
14. Introduce new product lines
15. Determine capital equipment needs and place orders
16. Begin advertising and sales promotions
17. Hire "top" people
18. Implement plans for facilities expansion
19. Implement training programs

Phase B Management Objectives™

1. Accelerate training
2. Check the process flow for possible future bottlenecks
3. Continue to build inventory
4. Increase prices
5. Consider outside manufacturing sources if internal pressures are becoming tight
6. Find the answer to “What is next?”
7. Open distribution centers
8. Use improved cash flow to improve corporate governance
9. Use cash to create new competitive advantages
10. Watch your debt-to-equity ratio and ROI
11. Maintain/pursue quality; don’t let complacency set in
12. Stay in stock on A items, and be careful with C items
13. Consider selling the business in a climate of maximum “goodwill”
14. Penetrate new selected accounts
15. Develop plan for lower activity in traditional, mature markets
16. Freeze all expansion plans (unless related to “what is next”)
17. Spin off undesirable operations
18. Consider taking on subcontract work if the backside of the cycle looks recessionary
19. Stay realistic—beware of linear budgets
20. Begin missionary efforts into new markets
21. Communicate competitive advantages to maintain margins
Phase C Management Objectives™

1. Begin workforce reductions
2. Set budget reduction goals by department
3. Avoid long-term purchase commitments late in the price cycle
4. Concentrate on cash and balance sheet
5. Reduce advertising and inventories
6. De-emphasize commodity/services in anticipation of diminishing margins
7. Weed out inferior products (lose the losers)
8. Encourage distributors to decrease inventory
9. Identify and overcome any competitive disadvantages
10. Make sure you and the management team are not in denial
11. Cross train key people
12. Watch Accounts Receivable aging
13. Increase the requirements for justifying capital expenditures
14. Evaluate vendors for strength (don't get caught honoring their warranties with no one to accept returned goods)
15. Manage the backlog through pricing and delivery; try to fill the funnel

Phase D Management Objectives™

1. Continue force reduction
2. Reduce advertising – be very selective
3. Continue to avoid long-term purchase commitments
4. Review all lease agreements
5. Increase the requirements for justifying capital equipment
6. Eliminate all overtime
7. Reduce overhead labor
8. Combine departments with like capabilities and reduce management
9. Select targets of opportunity where price will get the business
10. Tighten credit policies – increase scrutiny
11. Look for opportunistic purchases
12. Grab market share as your competitor dies
13. Prepare training programs
14. Negotiate union contracts, if possible
15. Develop advertising and marketing programs
16. Enter or renegotiate long-term leases
17. Look for additional vendors
18. Consider capital expenditures and acquisitions in light of market-by-market potential
19. Make acquisitions – use pessimism to your advantage
20. Lead with optimism and "can do" attitude to mitigate employee anxiety
Appendix - Market Definitions

**US ATA Truck Tonnage Index** - Index of freight tonnage hauled by trucks, published by the American Trucking Association. Index, 2015 = 100, NSA. The index represents the change in tonnage actually hauled by fleets.

**US Trucking Conditions Index** - FTR's Trucking Conditions Index, in which a number greater than zero equals a positive environment for trucking and a number less than 0 equals a negative environment (NSA).

**US Transportation Services Freight Index** - The Transportation Services Index Freight Index, created by the U.S. Department of Transportation (DOT), Bureau of Transportation Statistics (BTS), measures the movement of freight. The index, which is seasonally adjusted, combines available data on freight traffic. The Transportation Services Index, or TSI, is a monthly measure of the volume of services performed by the for-hire transportation sector. The index covers the activities of for-hire freight carriers. The TSI tells us how the output of transportation services has increased or decreased from month to month. The movement of the index over time can be compared with other economic measures to understand the relationship of transportation to long-term changes in the economy. The Index consists of for-hire trucking (parcel services are not included); freight railroad services (including rail-based intermodal shipments such as containers on flat cars); inland waterway traffic; pipeline movements (including principally petroleum and petroleum products and natural gas); and air freight. The index does not include international or coastal steamship movements, private trucking, courier services, or the United States Postal Service. Index, 2000=100.

**US Single Family Housing** - Total number of privately owned single-family housing units started in the United States. Start of construction occurs when excavation begins for the footings or foundation of a building. Source: US Census Bureau. Measured in millions of units, not seasonally adjusted (NSA).

**US Multi Family Housing Starts** - Total number of privately-owned multi-family housing units started in the United States. Start of construction occurs when excavation begins for the footings or foundation of a building. Source: US Census Bureau. Measured in thousands of units, not seasonally adjusted (NSA).

**National Remodeling Market Index for Current Market Conditions** - Remodeling Market Index of Current Market Conditions in the United States. The Current Market Conditions Index is a weighted average of 3 components: .3 × Major Additions & Alterations +.4 × Minor Additions & Alterations + .3 × Maintenance & Repair. An index over 50 indicates higher activity than the previous quarter. (SA)


**Midwest Region Permits** - New privately owned housing units authorized by permit in the Midwest region of the United States, measured in thousands of units, NSA. The Midwest region includes Illinois, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, and Wisconsin.

**North Central Region Permits** - New privately owned housing units authorized by permit in the North Central region of the United States, measured in thousands of units, NSA. The North Central region includes Indiana, Michigan, Ohio, West Virginia, and Western Pennsylvania.

Appendix - Market Definitions

**Southeast Region Permits** - New privately owned housing units authorized by permit in the Southeast region of the United States, measured in thousands of units, NSA. The Southeast region includes Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia.

**South Central Region Permits** - New privately owned housing units authorized by permit in the South Central region of the United States, measured in thousands of units, NSA. The South Central region includes Texas, Oklahoma, New Mexico, Colorado, Arkansas, and Louisiana.


**US Plastics Pipe, Pipe Fitting, and Unlaminated Profile Shape Manufacturing Producer Price Index** - Producer price index for plastics pipe, pipe fitting, and unlaminated profile shape manufacturing in the US. This industry comprises establishments primarily engaged in manufacturing plastics pipes and pipe fittings, and plastics profile shapes such as rod, tube, and sausage casings. NAICS code: 32612. Source: US Bureau of Labor Statistics (BLS). Index, Dec 2003 = 100, (NSA).


**ITR Leading Indicator** - The ITR Leading Indicator is a proprietary index comprised of consumer, industrial, financial, and global components. Movements in the Leading Indicator suggest the possible course of business cycle movements in US Industrial Production, a measure of the overall economy’s activity, approximately three quarters in advance. A reading of zero or lower is indicative of recession.

**US Leading Indicator** - Comprised of 10 components: average weekly hours, manufacturing; average weekly initial claims for unemployment insurance; manufacturers’ new orders, consumer goods and materials; ISM® new orders index; manufacturers’ new orders, nondefense capital goods excluding aircraft orders; building permits, new private housing units; stock prices, 500 common stocks; Leading Credit Index™; interest rate spread, 10-year Treasury bonds less federal funds; and average consumer expectations for business conditions. Source: The Conference Board. Expectations index, seasonally adjusted.

**US Purchasing Managers Index** - The Institute for Supply Management’s US manufacturing index is based on: new orders (seasonally adjusted), production (seasonally adjusted), employment (seasonally adjusted), supplier deliveries (seasonally adjusted), and inventories. Source: Institute for Supply Management. Diffusion index: a reading above 50 percent indicates that the manufacturing economy is generally expanding; below 50 percent indicates that it is generally declining.

**US Nondefense Capital Goods New Orders (Excluding Aircraft)** - New orders for nondefense capital goods, excluding aircraft, in the United States. Includes farm machinery and equipment, construction machinery, mining machinery, nondefense small arms and ordnance, industrial machinery, commercial and service industry equipment, other general purpose machinery, photographic equipment, metalworking machinery, turbine and generator manufacturing, power transmission equipment, pumps and compressors, material handling equipment, electronic computers, computer storage devices and peripheral equipment, communications equipment, nondefense search and navigation equipment, electrometrical equipment, electrical equipment, heavy duty truck manufacturing, railroad rolling stock, nondefense ship and boat building, office and institutional furniture, and medical equipment and supplies. Source: US Census Bureau. Measured in billions of dollars, not seasonally adjusted (NSA).