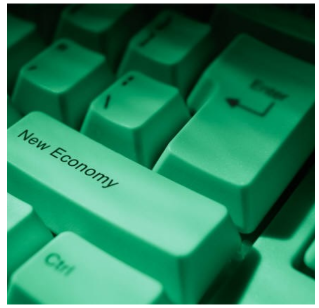
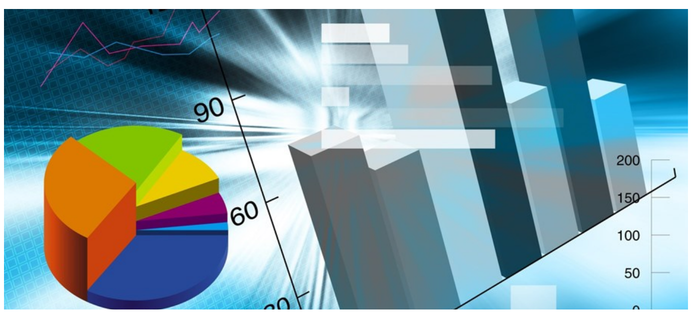




INDUSTRIAL SUPPLY ASSOCIATION

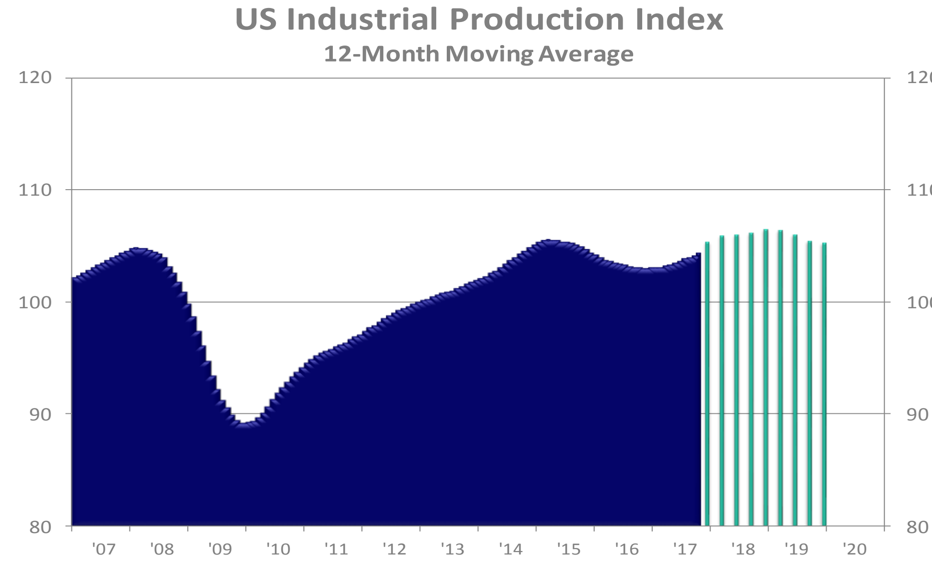
December 2017

Economic Report

ITR ECONOMICS

Table of Contents

overview



The US economy, as measured by US Real GDP, is in an accelerating growth trend. Third quarter Real GDP was up 2.3% from the year before as upward momentum in the consumer and B2B aspects of the economy spurred growth.

US Total Retail Sales, up 4.1% year over year, are growing at the fastest pace since early 2015. Consumers are favoring spending online and shopping at home improvement stores; E-commerce Retail Sales are up 15.1% year over year, while US Building Materials & Supplies Dealers Retail Sales are up 6.1%. However, the ITR US Consumer Activity Leading Indicator™ is declining. This decline suggests that US Total Retail Sales are likely to transition to a slowing growth trend by mid-2018, in line with our forecast. Plan for slowing growth in US Retail Sales in the second half of 2018 and throughout 2019.

US Nondefense Capital Goods New Orders (excluding aircraft), a measure of B2B activity, are in an accelerating growth trend. Rising corporate profits, industrial utilization rates, and business confidence are supporting the rise in B2B activity. US Industrial Production (pictured) is accelerating as its manufacturing and mining components grow. The preponderance of leading indicator evidence suggests that Production could rise at an accelerating pace deeper into 2018 than the first quarter 2018 peak that our forecast indicates. However, if this were to occur, it would create one of the longest business cycle rising trends in the data history. Three months of decline in the ISM's US Purchasing Managers Index rate-of-change signals slowing growth in Production in the second half of 2018. The 23 months of decline in the US Savings Rate annual average supports our expectation of a mild recession in 2019 Industrial Production, consistent with a slowdown in Retail Sales.

Flip to pages 8 and 9 and read the Phase C and Phase D Management Objectives™ to prepare for this. Think about which actions you will need to start today to be prepared for slowing US Industrial Production growth rates by mid-2018 and mild recession in 2019. For example, ITR knows that our clients' customers tend to become more cost conscious during recessions. Consider spending the next 12 months developing and beta-testing a new cost-leader product so it is ready to sell in late 2018 or 2019.

Terminology & Methodology

Data Trends:

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.

Rates-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).

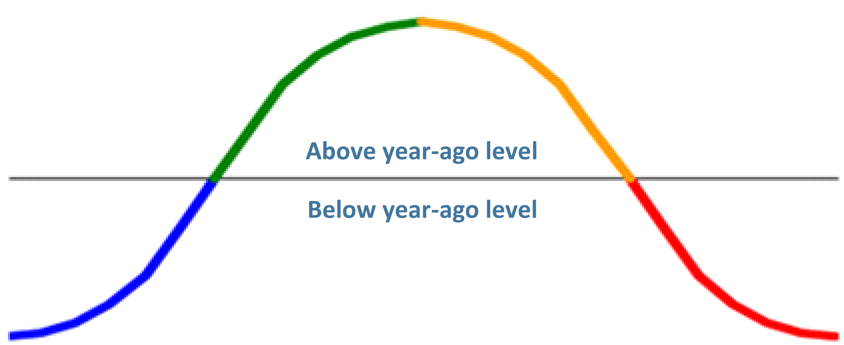
A rate-of-change above 0 indicates the data is higher than one year prior, while a rate-of-change below 0 indicates the data is below one year earlier.

Business Cycle:

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

Accelerating Growth (B): 12/12 is rising above 0, data trend is accelerating in its ascent and is above the year-ago level. This is the second positive phase of the business cycle.

Recovery (A): 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.



Slowing Growth (C): 12/12 is declining but remains above 0, data trend ascent is slowing or has stopped its rise, but it is still above last year. This is the first negative phase of the business cycle.

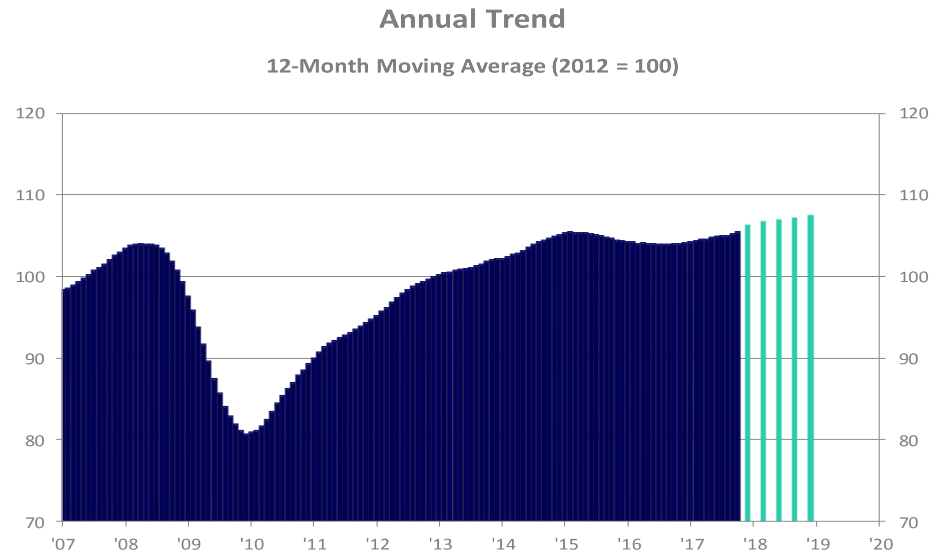
Recession (D): 12/12 is below 0, data trend is below the year-ago level and the rate of decline is intensifying. This is the second and final negative phase of the business cycle.

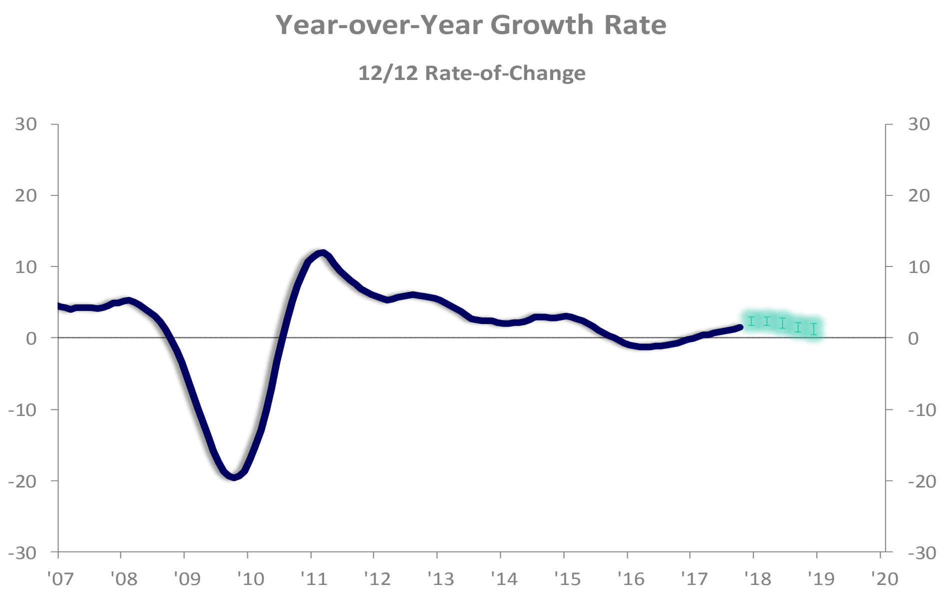
Business Cycle

Industry	Phase	Current	2017	2018
US Durable Manufacturing Production	B	1.4%	2.3%	1.2%
US Chemical Products Production	B	0.6%	0.4%	1.8%
US Civilian Aircraft Equipment Production	D	-3.3%	-3.7%	7.6%
US Electrical Equipment (without Appliances) Production	B	0.3%	0.5%	3.5%
US Industrial Machinery Production	C	9.8%	8.7%	1.4%
US Farm Machinery Shipments	B	7.3%	9.0%	-0.5%
North America Light Vehicle Production	D	-2.7%	-2.9%	4.3%
US Private Nonresidential Construction	C	3.4%	0.5%	1.1%

RECOVERY   ACCELERATING GROWTH   SLOWING GROWTH   RECESSION

US Durable Manufacturing Production





ACCELERATING GROWTH

Management Objective™

Ensure you have removed process bottlenecks so you can operate efficiently under increasing volumes.

Industry Outlook

2017: 2.3%

2018: 1.2%

Industry Summary

- US Durable Manufacturing Production during the 12 months through October was 1.4% above one year ago.
- US Corporate Profits for Domestic Durable Goods Industries are rising (9-month leading indicator). Rising Corporate Profits suggest that US Durable Manufacturing Production will expand into the first half of 2018.
- US Wholesale Trade of Durable Goods is accelerating. Wholesale Trade is expected to transition to a slowing growth trend in the first half of 2018. This corroborates our outlook for US Durable Manufacturing Production to decelerate in 2018.

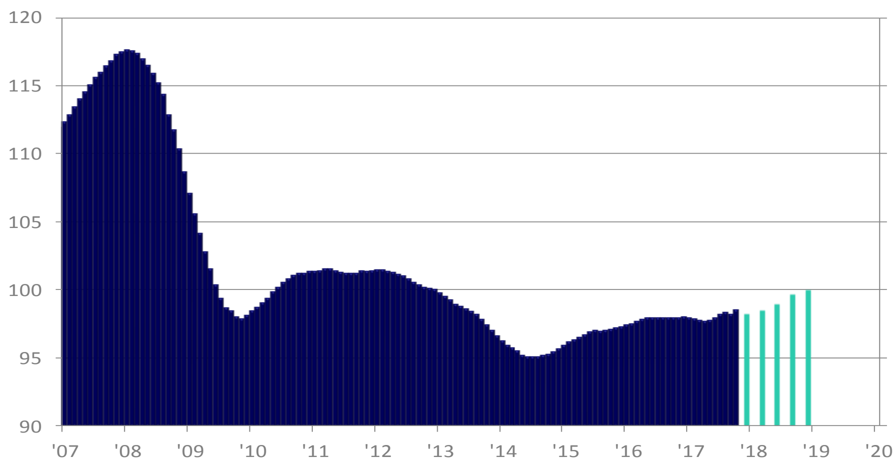
Forecast Summary

- Production is trending along the lower end of the forecast but is within the forecast range.
- Production will rise through year-end 2018, albeit at a slowing pace of growth in 2018.
- The forecast is unchanged since the previous report.

US Chemical Products Production

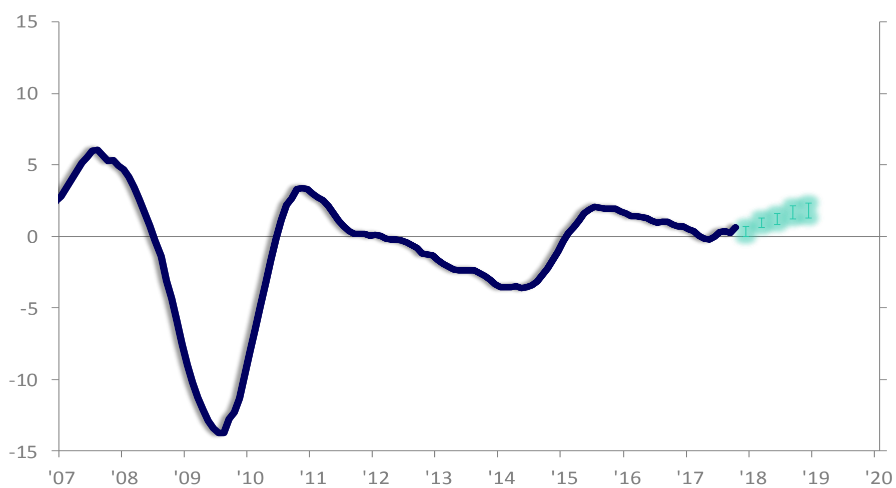
Annual Trend

12-Month Moving Average (2012 = 100)



Year-over-Year Growth Rate

12/12 Rate-of-Change



Management Objective™

Verify that you can handle moderate increase in activity while protecting your profit margins simultaneously.

Industry Outlook

2017: 0.4%

2018: 1.8%

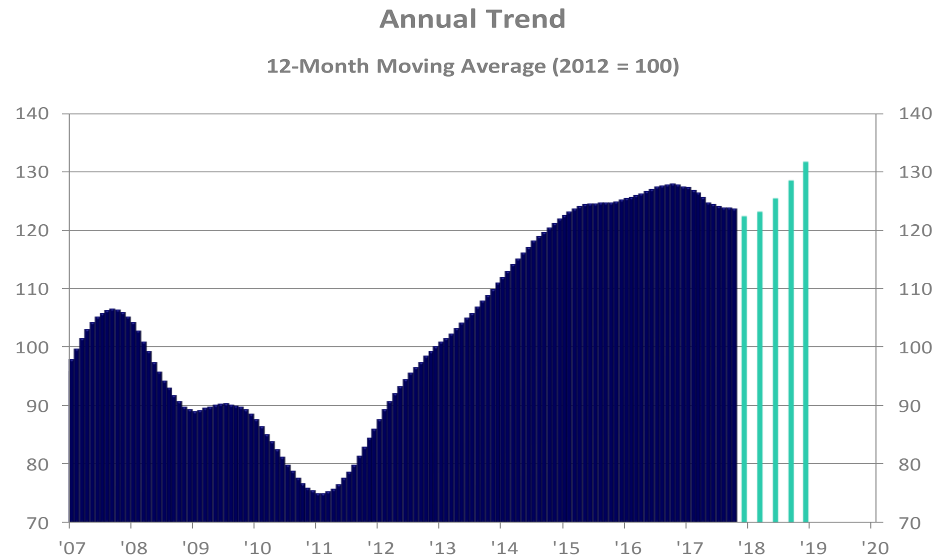
Industry Summary

- US Chemical Products Production during the 12 months ending in October was up 0.6% from the year-ago level.
- The Chemical Industry Capacity Utilization Rate is vacillating around the year-ago level, which is consistent with our outlook for moderate rise in the Production growth rate in the next one to two quarters.
- US Organic Chemicals Production is outpacing US Inorganic Chemicals Production (up 3.4% and down 3.0% year over year, respectively). However, US Inorganic Chemicals Production will transition to a rising trend in the first half of 2018. This will provide upward momentum for US Chemical Products Production during 2018.

Forecast Summary

- US Chemicals & Chemical Products Production was tracking below our previous forecast range through September, likely due in part to the effects of recent major hurricanes on this industry.
- We revised our forecast downward to account for slower-than-expected growth in Production. The forecast was revised downward by 1.6% for 2017 and 1.8% for 2018.
- Expect Production to rise through 2018.

US Civilian Aircraft Equipment Production

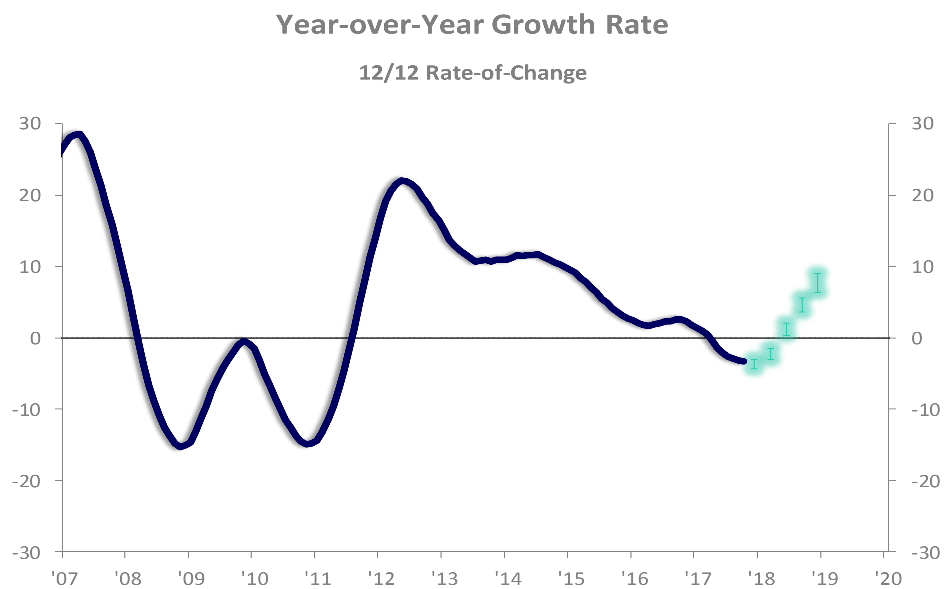


Management Objective™

Develop training programs to ensure your employees are prepared to handle record levels of activity in 2018.

Industry Summary

- US Civilian Aircraft Equipment Production during the 12 months through October was 3.3% below the year-ago level.
- US Nondefense Aircraft and Parts New Orders are rising (15-month leading indicator). Rising New Orders corroborate our outlook for US Civilian Aircraft Equipment Production to rise through 2018.
- Boeing Corporation Stock Prices are at the highest level in history. Stock Prices lead US Civilian Aircraft Equipment Production by 15 months, and further support the forecast for Production to rise through 2018.



Industry Outlook

2017: -3.7%

2018: 7.6%

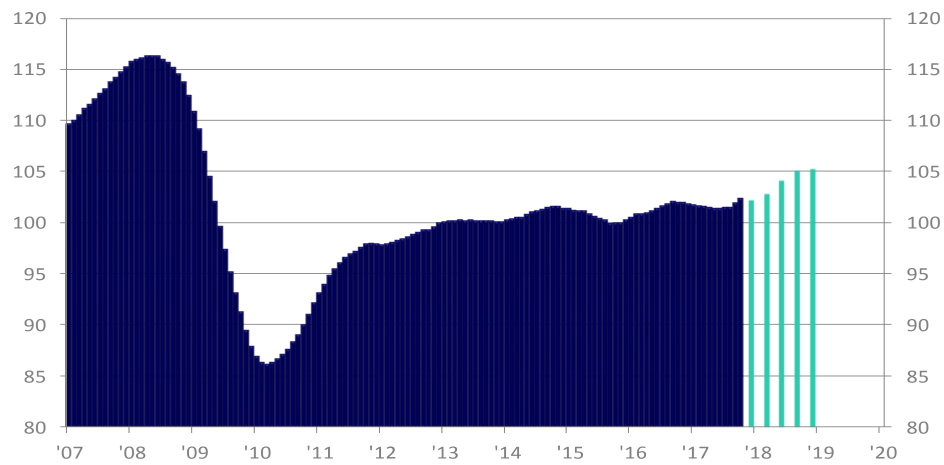
Forecast Summary

- Production is trending within the forecast range, which is unchanged since the previous report.
- Production will transition to a rising trend imminently. Rise will extend through year-end 2018.

US Electrical Equipment (without Appliances) Production

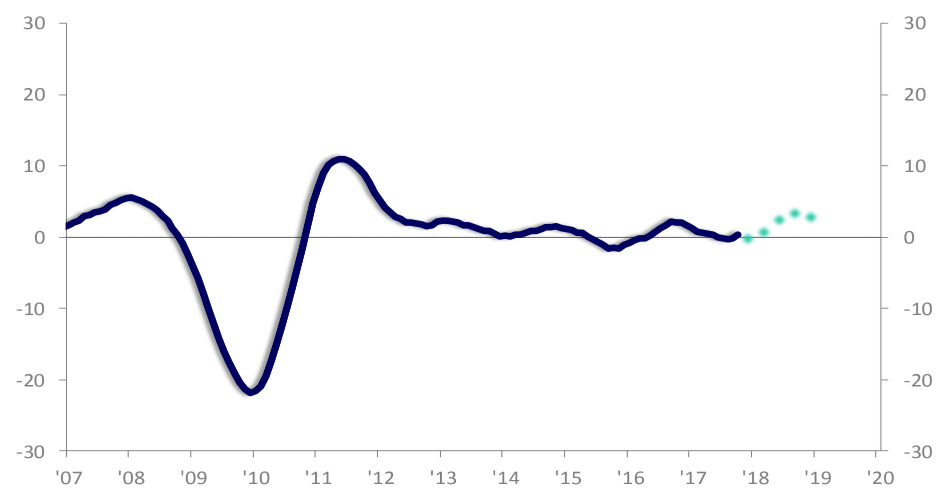
Annual Trend

12-Month Moving Average (2012 = 100)



Year-over-Year Growth Rate

12/12 Rate-of-Change



ACCELERATING GROWTH

Management Objective™

Ensure you have a sufficient capital investment strategy to meet increasing demand in 2018.

Industry Outlook

2017: 0.5%

2018: 3.5%

Industry Summary

- US Electrical Equipment Production transitioned to an accelerating growth trend in October, up 0.3% year over year.
- The Electrical Equipment, Appliance, and Component Capacity Utilization Rate is more than double the five-year average (seven-month leading indicator). Rise in the Utilization Rate supports the forecast for US Electrical Equipment Production to accelerate in its ascent through the first half of 2018.
- Single-Unit Housing Starts, a 10-month leading indicator, are expanding. Expansion in this market through the first half of 2018 will generate demand for electrical equipment used in construction and home furnishings, and further supports our outlook for US Electrical Equipment Production to rise through 2018.

Forecast Summary

- Production was trending 0.1% above the forecast range in September. Leading indicator evidence suggests that Production will trend along the upper end of the forecast range for the next one to two quarters, but will return within range by the second half of 2018. Therefore, the forecast is unchanged since the previous report, but the upper forecast range is represented.
- Production will rise through 2018.

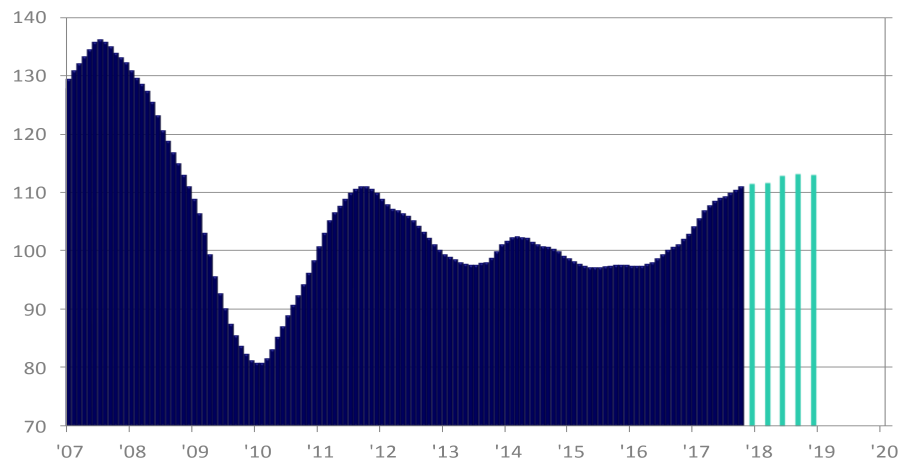
US Industrial Machinery Production

Industry Summary

- US Industrial Machinery Production during the 12 months through October was up 9.8% year over year.
- US Petroleum Refineries Production, a five-month leading indicator, is in Phase C, Slowing Growth. Slowing growth corroborates our outlook for Industrial Machinery Production to decelerate in its rate of growth through 2018.
- US Food Production, an industry which accounts for a significant portion of industrial machinery use, is accelerating upward (four-month leading indicator). Accelerating growth presents an upside risk to our forecast for Industrial Machinery Production during the next quarter. However, Food Production will transition to a slowing growth trend in 2018 and supports our outlook for decelerating growth in Industrial Machinery during 2018.

Annual Trend

12-Month Moving Average (2012 = 100)



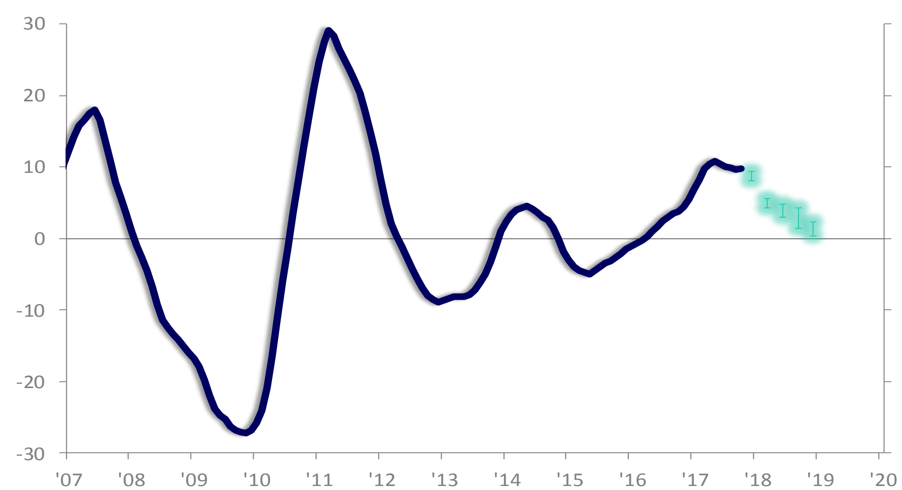
C
SLOWING GROWTH

Management Objective™

Advertise customer loyalty programs and focus on customer retention through 2018 while Production begins to decelerate.

Year-over-Year Growth Rate

12/12 Rate-of-Change



Industry Outlook

2017: 8.7%

2018: 1.4%

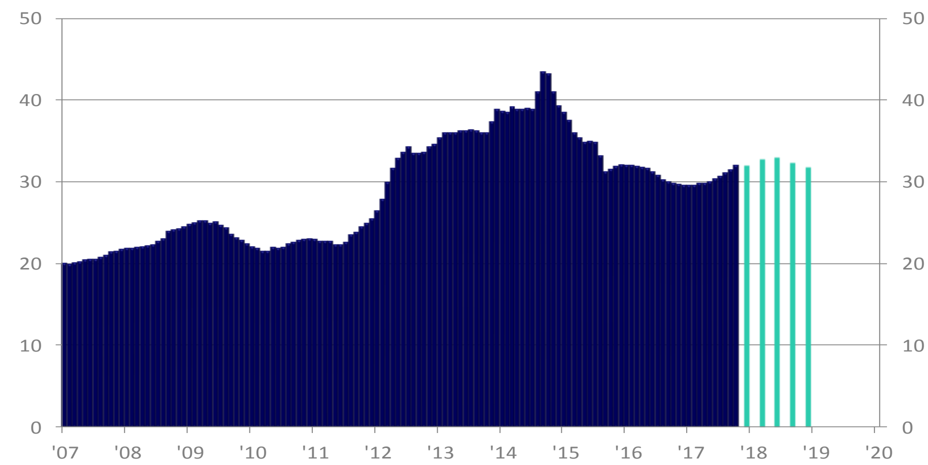
Forecast Summary

- The forecast was revised due to an unexpectedly-strong month-to-month percent change from September to October.
- The forecast was revised upward 2.3% for 2017 and 2.9% for 2018.
- Production will rise through late 2018.

US Farm Machinery Shipments

Annual Trend

12-Month Moving Total, Billions of $



Year-over-Year Growth Rate

12/12 Rate-of-Change

B

ACCELERATING GROWTH

Management Objective™

Avoid linear budgeting as accelerating growth will be brief.

Industry Outlook

2017: 9.0%

2018: -0.5%

Industry Summary

- US Farm Machinery Shipments transitioned to an accelerating growth trend in August. Shipments during the 12 months through October were up 7.3% compared to last year.
- US Wholesale Trade of Farm Products Raw Materials transitioned to Phase C, Slowing Growth, in August (10-month leading indicator). Slowing Wholesale Trade corroborates our outlook for US Farm Machinery Shipments to begin decelerating in the first half of 2018.
- John Deere and Caterpillar Stock Prices are rising (nine-month leading indicators). Rising Stock Prices suggest accelerating growth for Shipments may extend into the second half of 2018 and pose an upside risk to the forecast.

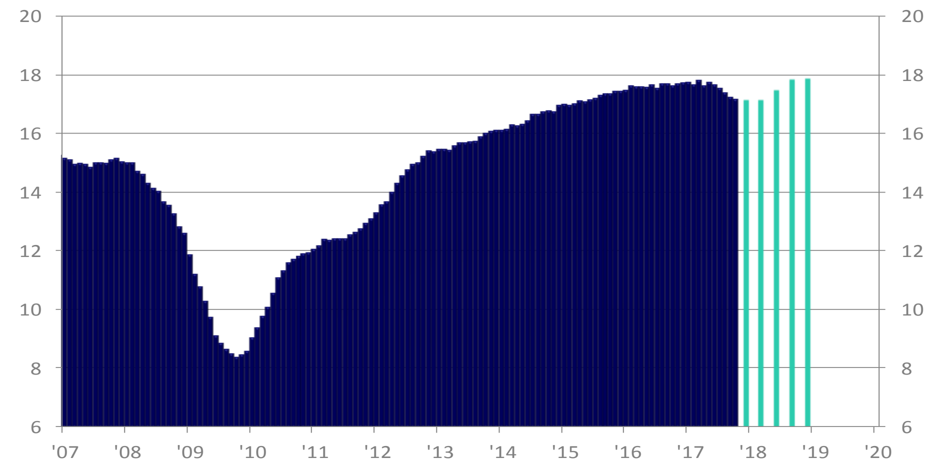
Forecast Summary

- Shipments are trending along the upper end of the forecast but are within the forecast range. The forecast is unchanged since the previous forecast.
- Production will rise through mid-2018 before declining through the end of the year.

North America Light Vehicle Production

Annual Trend

12-Month Moving Total, Millions of Units

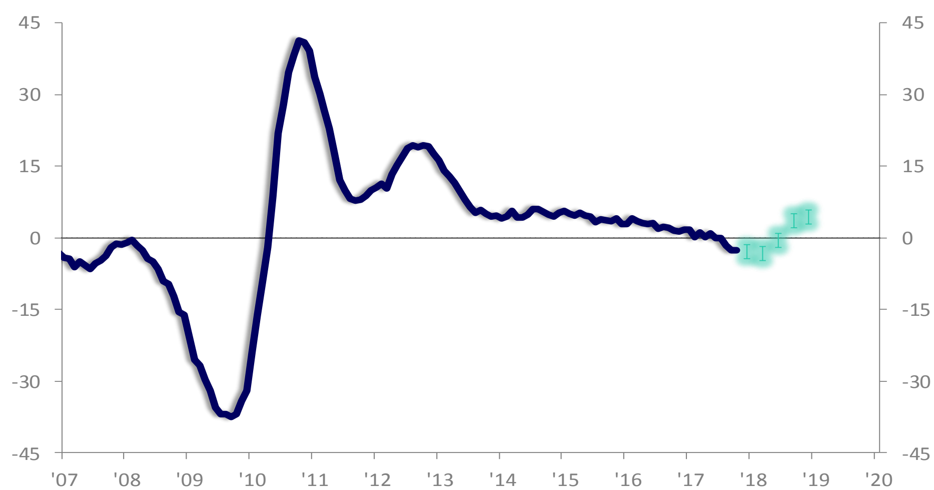


Management Objective™

Evaluate your capital equipment needs for the next business cycle.

Year-over-Year Growth Rate

12/12 Rate-of-Change



Industry Outlook

2017: -2.9%

2018: 4.3%

Industry Summary

- North America Light Vehicle Production during the 12 months through October was 2.7% below the year-ago level.
- The Passenger Car segment of North America Light Vehicle Production is down 11.2% from one year ago. Meanwhile, the Light Truck component is up 2.5% from the year-ago level, but the growth rate is diminishing. Cyclical decline will persist for each of these components into the first half of 2018, and will place downward pressure on North America Light Vehicle Production through the same time period.
- Mexico Light Vehicle Production is up 13.6% year over year and is outpacing both US and Canada Light Vehicle Production (down 6.4% and 7.6%, respectively). Look to Mexico for growth opportunities related to this Industry.

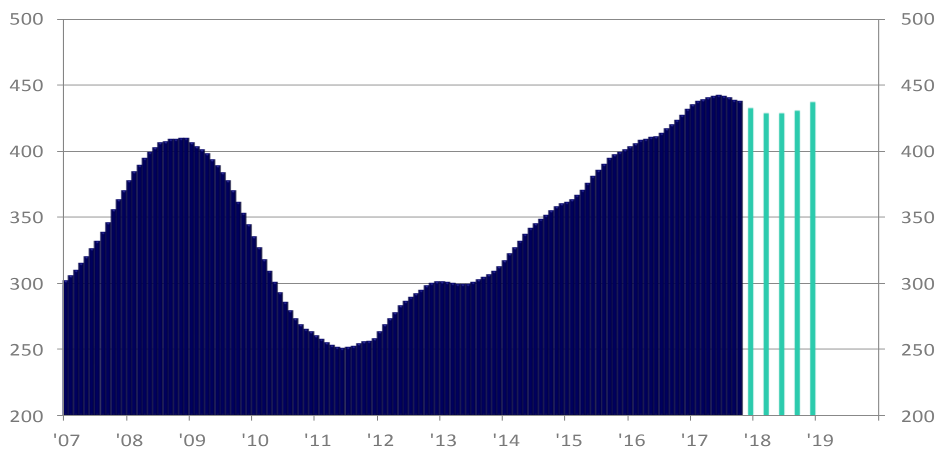
Forecast Summary

- Production is trending within the forecast range, which is unchanged since the previous report.
- Expect Production to transition to a rising trend in 2018. Rise will extend through year-end 2018 but will not exceed year-ago levels until the second half of the year.

US Private Nonresidential Construction

Annual Trend

12-Month Moving Total, Billions of Dollars

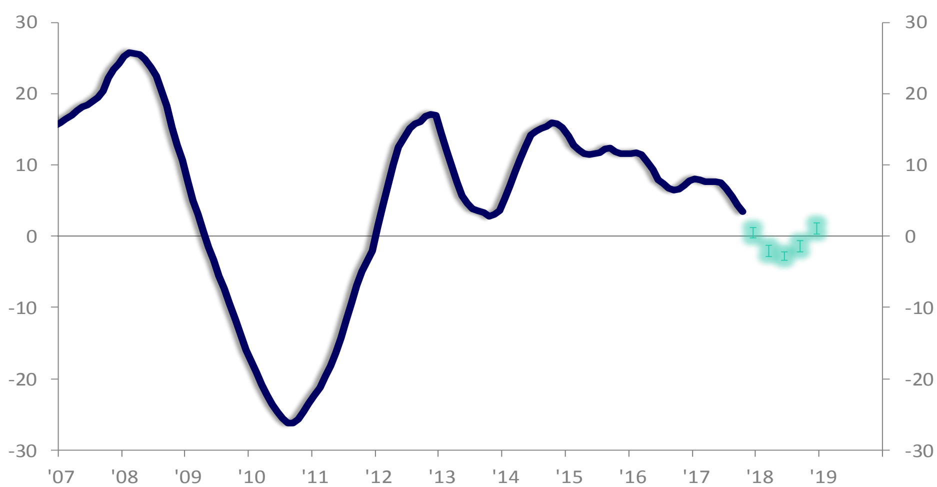


Management Objective™

Consider offering alternative products with a lower cost basis to retain market share during this period of lower demand.

Year-over-Year Growth Rate

12/12 Rate-of-Change



Industry Outlook

2017: 0.5%

2018: 1.1%

Industry Summary

- US Private Nonresidential Construction during the 12 months though October totaled $437.5 billion, 3.4% above the year-ago level.
- Corporate Profits lead US Private Nonresidential Construction by about two years. The down cycle in Corporate Profits through December 2015 signaled Construction weakness through 2017. It now appears that the Construction declining trend will extend longer than that input suggested.
- The US Institutional Sector Architecture Billings Index, which leads Construction by about two years signals that rise will return to Nonresidential Construction in the second half of 2018.

Forecast Summary

- Unexpected weakness in several construction markets, including Water and Sewer, Manufacturing, and Power, indicated that a forecast revision was necessary. The unexpected weakness was not indicated by the macroeconomic leading indicators.
- The forecast was revised downward 12.5% for 2018.
- Construction will decline through mid-2018 before rising through the end of the year.

INDICATORS

US Leading Indicators

Indicator	Direction			What it means for the US economy
	4Q17	1Q18	2Q18	• The ITR Leading Indicator™ has not yet signaled a meaningful timing input for a general downward trend.
ITR Leading Indicator™	🟢	🟢	🟢	
ITR Consumer Activity Leading Indicator™	🟢	🟢	🔴	• The ITR Consumer Activity Leading Indicator™ is signaling slowing growth in the second quarter of 2018. The US Purchasing Managers Index suggests the acceleration could go deeper into 2018.
US Leading Indicator	🟢	🟢	🟢	
US Purchasing Managers Index	🟢	🟢	🟢	• The sum of leading indicators points to accelerating rise through at least early 2018 for US Industrial Production, in line with our forecast.
US Total Capacity Utilization Rate	🟢	🟢	N/A	

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

The US economy is expanding; leading indicators confirm that this trend is likely to extend through early 2018. Ensure your training programs are sufficient to handle accelerating Employment for next year.

Appendix—Market Definitions

US Durable Manufacturing Production — Durable goods manufacturing production. Includes items that are not consumed and generally have a lifespan greater than three years, such as machinery and equipment, furniture, primary metals products, wood products, etc. Index, 2012 = 100, NSA.

US Chemical Products Production — NAICS 325. The Chemical Manufacturing subsector is based on the transformation of organic and inorganic raw materials by a chemical process and the formulation of products. This subsector distinguishes the production of basic chemicals that comprise the first industry group from the production of intermediate and end products produced by further processing of basic chemicals that make up the remaining industry groups. 2012 = 100, NSA.

US Civilian Aircraft Equipment Production — NAICS 336412,3. This U.S. industry comprises establishments primarily engaged in one or more of the following: (1) manufacturing aircraft engines and engine parts; (2) developing and making prototypes of aircraft engines and engine parts; (3) aircraft propulsion system conversion (i.e., major modifications to systems); and (4) aircraft propulsion systems overhaul and rebuilding (i.e., periodic restoration of aircraft propulsion system to original design specifications). 2012 = 100, NSA.

US Electrical Equipment (without Appliances) Production — NAICS 3351,3,9. This industry comprises establishments primarily engaged in manufacturing power, distribution, and specialty transformers; electric motors, generators, and motor generator sets; switchgear and switchboard apparatus; relays; and industrial controls. Also includes establishments primarily engaged in (1) manufacturing electric light bulbs and tubes, and parts and components (except glass blanks for electric light bulbs) or (2) manufacturing electric lighting fixtures (except vehicular), nonelectric lighting equipment, lamp shades (except glass and plastics), and lighting fixture components (except current-carrying wiring devices). Also includes establishments manufacturing batteries, communication and energy wire and cable, wiring devices, carbon and graphite products, and other miscellaneous electrical equipment and components. 2012 = 100, NSA.

US Industrial Machinery Production — NAICS 3332. Industrial machinery manufacturing index. This industry comprises establishments primarily engaged in manufacturing industrial machinery, such as food and beverage manufacturing machinery, semiconductor manufacturing machinery, sawmill and woodworking machinery (except handheld), machinery for making paper and paper products, printing and binding machinery and equipment, textile making machinery, and machinery for making plastics and rubber products. 2012 = 100, NSA.

US Farm Machinery Shipments — NAICS 333111. Shipments of agricultural machinery and equipment, and other turf-and-grounds-care equipment, including planting, harvesting, and grass mowing equipment (except lawn and garden-type). Measured in billions of dollars, NSA.

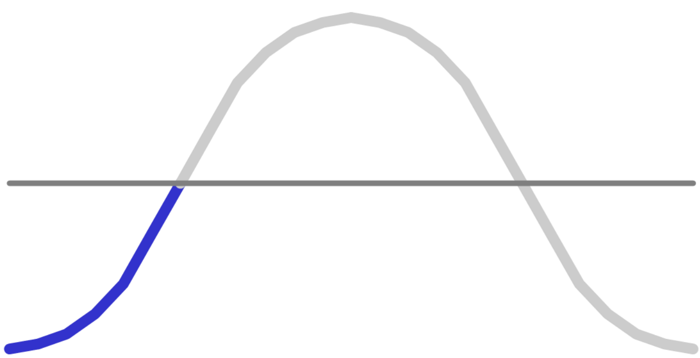
Appendix—Market Definitions

North America Light Vehicle Production — Passenger car and light-duty truck production (classes 1-3), including transplants in the US, Canada, and Mexico combined, measured in millions of units, not seasonally adjusted. A passenger car is a road motor vehicle, other than a motorcycle, intended for the carriage of passengers and designed to seat no more than nine persons (including the driver). The Class 1 truck gross vehicle weight rating (GVWR) ranges from 0–6000 lb. (0–2722 kg). The Class 2 truck gross vehicle weight rating (GVWR) ranges from 6,001–10,000 pounds (2,722–4,536 kg). Class 2 is subdivided into Class 2a (½-ton) and Class 2b (¾-ton), with class 2a being 6,001–8,500 pounds (2,722–3,856 kg), and class 2b being 8,501–10,000 pounds (3,856–4,536 kg). Class 2a is commonly referred to as a light-duty truck, with class 2b being the lowest heavy-duty class, also called the light heavy-duty class. The Class 3 truck gross vehicle weight rating (GVWR) ranges from 10001–14000 lb (4536–6350 kg) (1-ton pickup trucks).

US Private Nonresidential Construction — Private nonresidential construction in the US, measured in billions of dollars, NSA. Includes private construction of the following types: office, commercial, automotive, lodging, dining, retail, warehouse, storage facilities, schools, dormitories, sports facilities, galleries, museums, hospitals, medical buildings, special care facilities, religious buildings, fitness centers, amusement parks, movie theaters, social centers, transportation facilities, power facilities, and manufacturing facilities.

Management Objectives™

Phase



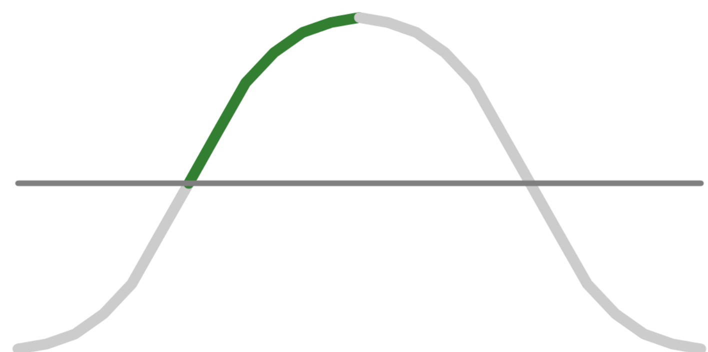
A

1 Model positive leadership (culture turns to behavior)
2 Establish tactical goals which lead to strategic achievement
3 Develop a system for measurement and accountability re: #2
4 Align compensation plans with #2 and #3
5 Be keenly aware of the BE (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 (know what they value)
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

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 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, 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

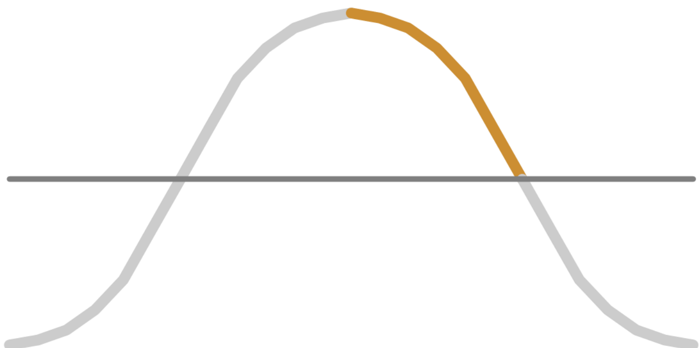
Phase



B

Management Objectives™

Phase C



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

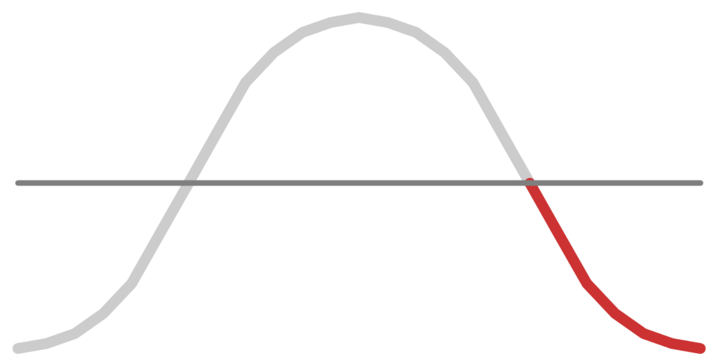
14 Evaluate vendors for strength (don't get caught honoring their warranties with no one to accept returned goods)

15 Manage the backlog through pricing and delivery, try to fill the funnel

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

Phase



D