

**Marquette-ISM Report on Manufacturing
September 2018- Early Release**

Contact: Dr. Douglas Fisher
Director, Center for Supply Chain Management
Marquette University
(414) 288-3995
douglas.fisher@marquette.edu

Released: September 28th, 2018

*The Marquette-ISM Report on Manufacturing was prepared by **Gwendolyn Davis**, a graduate student in Applied Economics at Marquette University, and distributed by **Melanie Roepke**, Associate Director of the Center for Supply Chain Management.*

Please direct data questions and requests for media commentary to Dr. Fisher.

This report should not be confused with the ISM National Report published by the Institute of Supply Management. While a reasonable attempt has been made to remain consistent with the national report, the contents of this report reflect only information pertinent to the southeast Wisconsin and northern Illinois region. This report is not used in the calculation of the national report.

Summary

Milwaukee-area PMI	September 2018	August 2018	July 2018
Seasonally adjusted	56.16	64.63	61.66

(Milwaukee, Wisconsin) – September's Index registered at 56.26, a decrease from 64.63 in August. September's Index continues to indicate positive territory.

What respondents are saying in September 2018 (in response to the question: what is the greatest supply chain issue your company is facing?):

- Lack of skilled labor
- Section 301 China Tariffs are going to kill us as 90% of the goods we sell in the U.S. are produced in China. 25% costs adder will be extremely difficult to pass on to the consumer but we will have no choice.
- Cost increases are continuing. Some of the increases are listing the reason as tariffs that have been imposed in 2018. I hope this is a short term issue. If it becomes a long

term issue I should be able to find suppliers that use domestic materials at competitive prices.

- Orders remain strong. Many threats to the supply chain exist including reduced availability of trucks, higher prices, low inventory levels, increasing lead times, and poor customer service.
- Shortage of trucks and drivers is driving up our Supply Chain costs. We are also struggling to find qualified manufacturing labor.
- Current order book is holding but 2019 forecast is very unclear. Customers holding tariff impacts back from their end users until year end - may trigger slow down. Export markets slowing in Brazil, China - market forces and impact of retaliatory tariffs.
- Raw material pricing has been a challenge to say the least this year. We are living in unprecedented times in which supply vs demand is creating turmoil in the electronic components industry. In addition, the tariff impact on product with an origin of China is really taking its toll on our product cost as well as new product development.

Important: See explanatory notes on the survey and diffusion index at the end of this report.

(*) The indices are seasonally adjusted *except for the Customers' Inventories, Prices, Backlog of Orders, Exports, and Imports Indexes*, which do not meet the accepted criteria for seasonal adjustments.

MANUFACTURING AT A GLANCE: September 2018*				
Index	Series	Series	Percentage Point Change	Direction
	Index	Index		
	Sep-18	Aug-18		
PMI	56.16	64.63	-8.5	growing
New Orders	56.98	65.84	-8.9	growing
Production	51.49	61.10	-9.6	growing
Employment	51.07	60.06	-9.0	growing
Supplier Deliveries	74.04	82.81	-8.8	slower
Inventories	47.22	53.33	-6.1	declining
Customers' Inventories *	34.62	29.17	5.4	declining
Prices *	88.89	86.67	2.2	growing
Backlog of Orders *	56.67	76.92	-20.3	growing
Exports *	45.83	54.17	-8.3	declining
Imports *	65.00	70.00	-5.0	growing

What respondents are saying in September 2018:

- Raw material prices are rising.
- Turmoil in the electronic component industry.
- High prices, low inventory levels, and increasing lead times are hurting the supply chain.
- Commodity and manufacturing lead times are increasing

Blue and White-Collar Employment:

We have collected input on Blue and White Collar Employment. The indices are below for **July 2018, August 2018, and September 2018.**

	Diffusion Index Jul-18	Diffusion Index Aug-18	Diffusion Index Sep-18	Direction	Comments
Blue Collar	49.0	64.4	54.3	growing	-
White Collar	57.1	56.7	54.3	growing	-

Note: These have been calculated based on the seasonally adjusted (SA) Blue and White Collar indices.

What respondents are saying in September 2018:

- Lack of skilled labor.
- Reduced availability of trucks.
- Shortage of trucks and drivers driving up supply chain costs.
- Struggling to find qualified manufacturing labor.

Buying Policy

Average commitment lead-time for Capital Expenditures increased from 98 days to 112 days. Average lead-time for Production Materials increased from 57 days to 61 days. Average lead-time for Maintenance, Repair and Operating (MRO) Supplies increased from 23 days to 24 days.

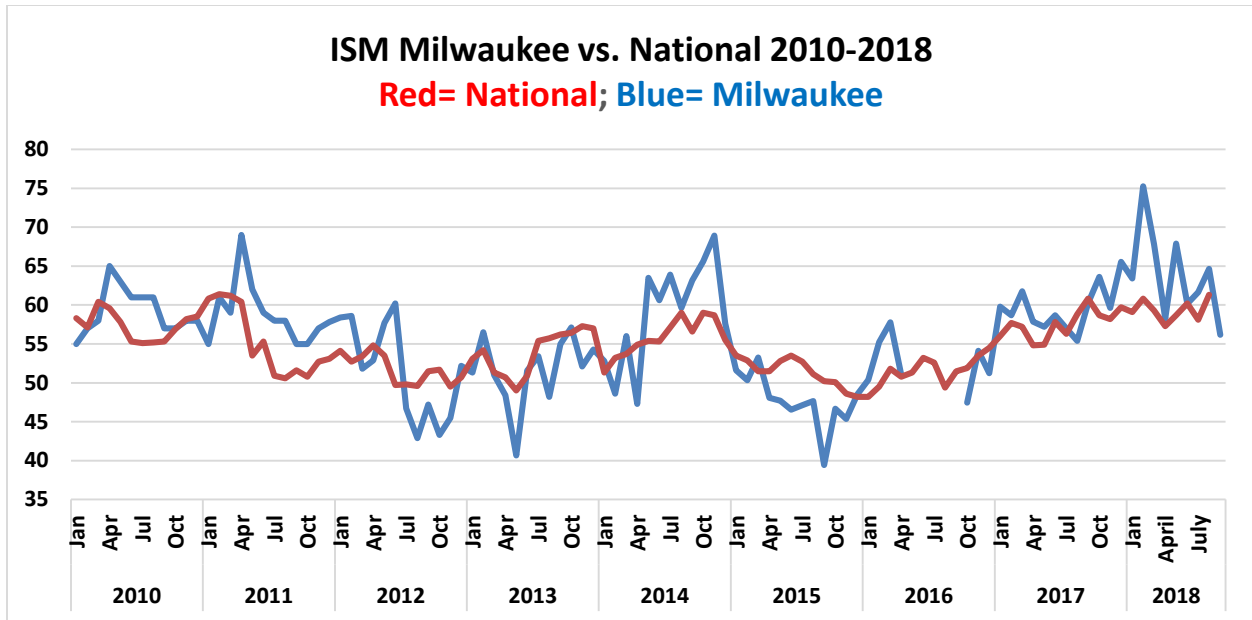
Six- Month Outlook on Business Conditions

In this outlook, there is a downward shift in positive expectations compared with August in terms of market conditions. Approximately 22% of respondents expect positive conditions, 56% expect conditions to remain the same and 22% of the respondents expect conditions to worsen within the next six months.

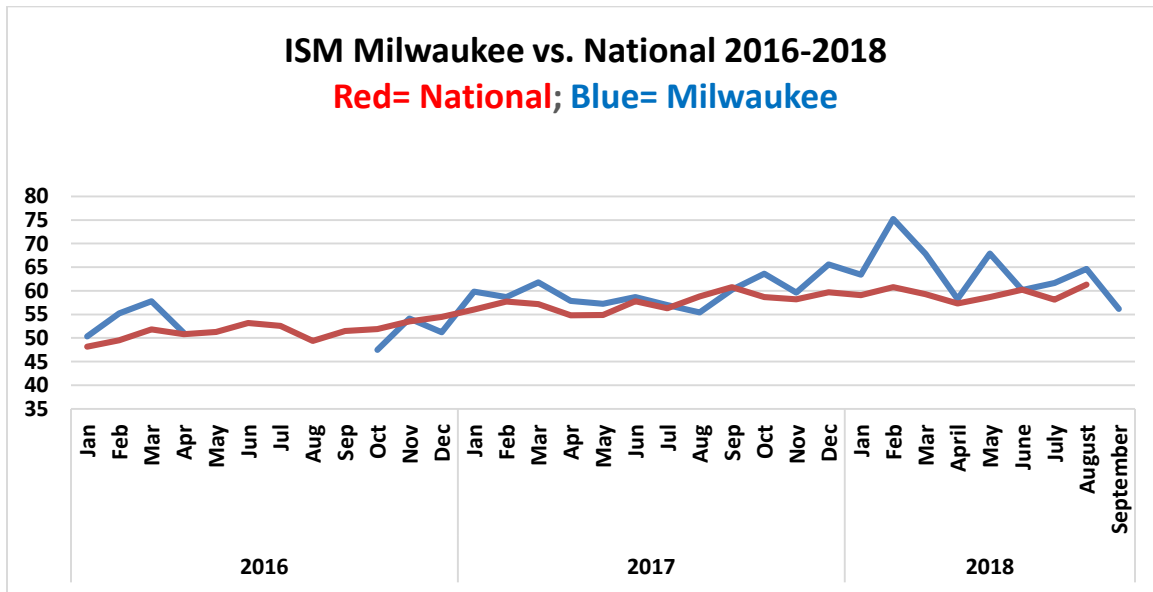
	Expect Positive Conditions	Expect Same Conditions	Expect Worse Conditions	Diffusion Index
Sep-18	22.22%	55.56%	22.22%	50.00%
Aug-18	46.67%	40.00%	13.33%	66.67%
Jul-18	33.33%	38.89%	27.78%	52.78%

Milwaukee versus the Nation –

January 2010 – September 2018 Graph



January 2016- September 2018 Graph



Insights on the ISM PMI from the National Organization:

ISM *Manufacturing Report On Business*[®] Background

In February 1982, the PMI was developed by the U.S. Department of Commerce (DOC) and ISM. The index, based on analytical work by the DOC, adjusts five components of the Institute's monthly survey — new orders, production, employment, supplier deliveries and inventories — for normal seasonal variations, applies equal weights to each and then calculates them into a single monthly index number.

An update of research originally done by Theodore S. Torda, the late economist for the DOC, shows a close parallel between growth in real Gross Domestic Product (GDP) and the PMI. The index can explain about 60 percent of the annual variation in GDP, with a margin of error that averaged $\pm .48$ percent during the last ten years. George McKittrick, an economist at the DOC, said "Not only does the PMI track well with the overall economy, but the indication provided by ISM data about how widespread changes are, complements analogous government series that show size and direction of change."

In January 1989, the Supplier Deliveries Index from the *Report* became a standard element of the DOC's Bureau of Economic Analysis Index of Leading Economic Indicators. The data was incorporated into the index from June 1976 forward. In January 1996, The Conference Board began compiling this index.

What Is a Diffusion Index?

Diffusion indexes have the properties of leading indicators and are convenient summary measures showing the prevailing direction of change. The percent response to the "Better," "Same" or "Worse" question is difficult to compare to prior periods. Therefore, the percentages are "diffused" for this purpose. A diffusion index takes those indicating "Better" and half of those indicating "Same" and adds the percentages. This effectively measures the bias toward a positive (above 50 percent) or negative index (below 50 percent). For example, if the response is 20 percent "Better," 70 percent "Same," and 10 percent "Worse," then the diffusion index would be 55 percent ($20\% + [0.50 \times 70\%]$). The data for each question is converted to a diffusion index and then seasonally adjusted.

For each index, a reading above 50 percent indicates expansion of an index, while a reading below 50 percent indicates it is generally declining. And a reading of 50 percent indicates "no change" from the previous month. Supplier Deliveries is an exception. A Supplier Deliveries Index above 50 percent indicates slower deliveries, and below 50 percent indicates faster deliveries.

(<https://www.instituteforsupplymanagement.org/files/ISMREPORT/ROBBroch08.pdf>)