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*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	April 2018	March 2018	February 2018
Seasonally adjusted	58.26	67.80	75.24

(Milwaukee, Wisconsin) – April's Index registered at 58.26, a decrease from 67.80 in March. April's Index continues to indicate positive territory.

What respondents are saying in April 2018:

- Near term demand showing significant reductions.
- Low long run demand.
- Uncertainty growing in market due to impacts of policy, tariffs, and trade issues.

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.

What respondents are saying in April 2018:

- Tariff and currency issues.
- Price increases and low inventory (long lead times) continue to plague our supply chain.

MANUFACTURING AT A GLANCE: April 2017				
Index	**Series Index Apr-18**	**Series Index Mar-18**	**Percentage Point Change**	**Direction**
PMI	58.26	67.80	-9.5	growing
New Orders	45.54	64.88	-19.3	declining
Production	59.14	64.55	-5.4	growing
Employment	76.78	78.19	-1.4	growing
Supplier Deliveries	69.86	81.38	-11.5	slower
Inventories	40.00	50.00	-10.0	declining
Customers' Inventories *	33.33	30.00	3.3	declining
Prices *	95.00	88.24	6.8	growing
Backlog of Orders *	44.44	73.33	-28.9	declining
Exports *	50.00	63.64	-13.6	neutral
Imports *	66.67	75.00	-8.3	growing

Blue and White-Collar Employment:

We have collected input on Blue and White Collar Employment. The indices are below for **February 2018, March 2018, and April 2018.**

	Diffusion Index Feb-18	Diffusion Index March-18	Diffusion Index April-18	Direction	Comments
Blue Collar	57.5	58.4	62.4	growing	-
White Collar	50.4	51.1	62.4	growing	-

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

What respondents are saying in April 2018:

- The company's economic peak has passed.
- Many customers are delaying order deliveries.

Buying Policy

Average commitment lead-time for Capital Expenditures increased from 108 days to 111 days. Average lead-time for Production Materials increased from 52 days to 55 days. Average lead-time for Maintenance, Repair and Operating (MRO) Supplies increased from 19 days to 23 days.

Six- Month Outlook on Business Conditions

In this outlook, there is a downward shift in positive expectations compared with March in terms of market conditions. Approximately 30% of respondents expect positive conditions, 40% expect conditions to remain the same and 30% of the respondents expect conditions to worsen within the next six months.
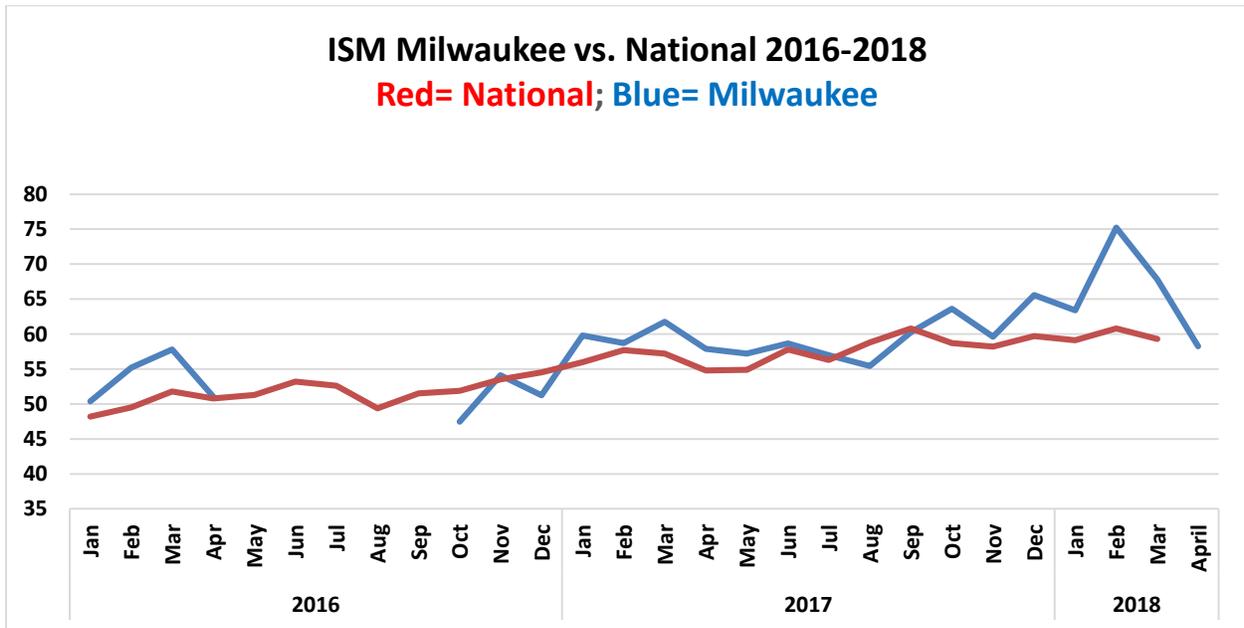
	Expect Positive Conditions	Expect Same Conditions	Expect Worse Conditions	Diffusion Index
Apr-18	**30.00%**	**40.00%**	**30.00%**	**50.00%**
Mar-18	**52.94%**	**35.29%**	**11.76%**	**70.59%**
Feb-18	**73.33%**	**13.33%**	**13.33%**	**80.00%**

Milwaukee versus the Nation –

January 2010 – April 2018 Graph

ISM Milwaukee vs. National 2010-2018
Red= National; Blue= Milwaukee
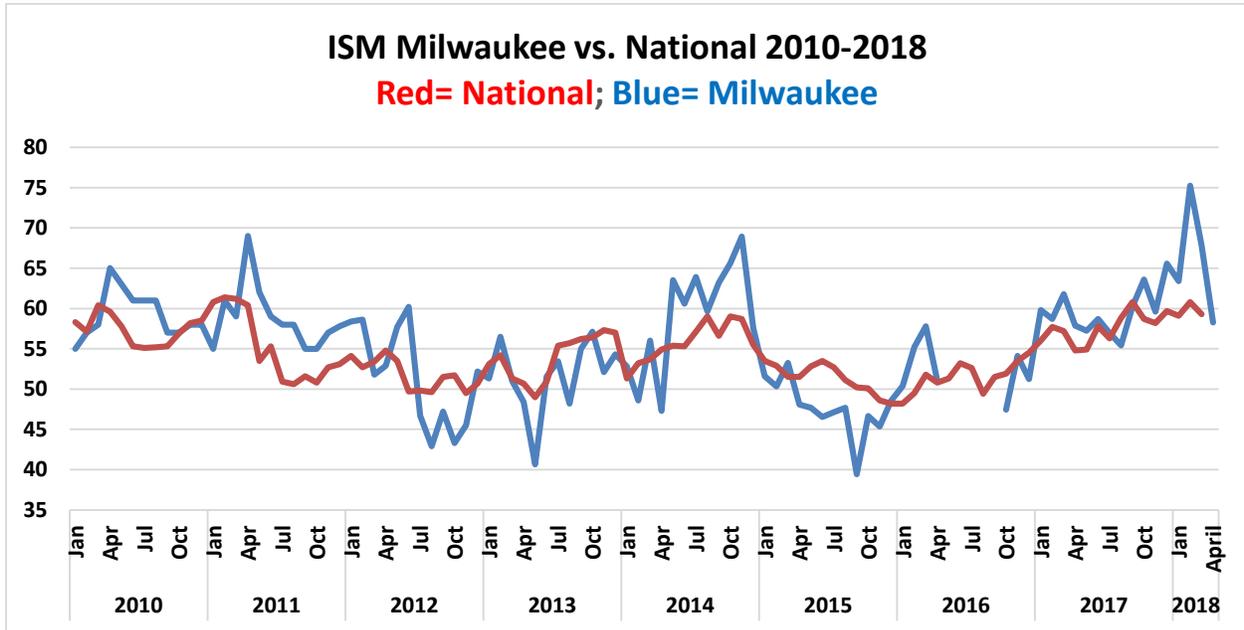
January 2016- April 2018 Graph

ISM Milwaukee vs. National 2016-2018
Red= National; Blue= Milwaukee

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 ± .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 x 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)