MARQUETTE UNIVERSITY BUSINESS
Center for Supply Chain Management

ISM institute for supply management
ISM—Milwaukee, Inc.

Marquette-ISM Report on Manufacturing
April 2017- Final Release

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Final Version (includes ISM National Results for April, 2017)

*The Marquette-ISM Report on Manufacturing was prepared by **Phyo T Aung**, a graduate student in Applied Economics at Marquette University, and distributed by **Beth Krey**, 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 2017	March 2017	February 2017
Seasonally adjusted	57.87	61.77	58.69

(Milwaukee, Wisconsin) – April’s Index registered at 57.87, a decrease from the 61.77 in March. April’s Index indicates positive territory.

What respondents are saying in April 2017:

- Supply chain cannot keep up with increased demand.
- Plenty of new orders for us. However, lower inventories from suppliers continue to be a problem in getting these new orders out the door.
- Some of the issues we encountered this month: vacations due to Easter holiday, Good Friday, Spring Break, people requesting personal days caused by flu symptoms (and misc illnesses).
- Long term demand is up over previous year and forecasts.

- 90 days demand reflects summer holiday shutdowns.
- Prices are increased by polyurethane due to shortages of several chemicals, plastics, raw materials, polyethylene and polypropylene.
- Prices increase by between 6-12%.
- Increase orders.
- Lower inventories from suppliers is the problem to get new orders.
- Encountered quality problems with two main raw materials.
- Lead times holding steady for most suppliers
- Increased customer demand driving higher import levels
- Had some distribution constraints in Q1, getting caught up with shipments now

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

MANUFACTURING AT A GLANCE: April 2017*				
Index	Series Index Apr-17	Series Index Mar-17	Percentage Point Change	Direction
PMI	57.87	61.77	-3.9	growing
New Orders	59.78	65.12	-5.3	growing
Production	55.46	64.94	-9.5	growing
Employment	63.73	66.91	-3.2	growing
Supplier Deliveries	62.38	61.88	0.5	slower
Inventories	48.00	50.00	-2.0	declining
Customers' Inventories *	38.10	28.95	9.1	declining
Prices *	76.00	79.55	-3.5	growing
Backlog of Orders *	54.55	66.67	-12.1	growing
Exports *	52.78	50.00	2.8	growing
Imports *	61.11	63.33	-2.2	growing

(*) 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 2017:

- Increased prices and demands.
- Price increase from manufacturer
- Shortage of raw materials.
- Pricing increases from Polyurethane and Plastics due to a shortage of several chemicals – Pricing increases with Polyurethanes anywhere between 6-12%; Plastics vary day to day and Polyethylene and Polypropylene 6% increases.
- Business is still strong and growing.

- Continue to invest in R&D and NPD
- Support higher production plan.
- Plenty of new orders for us. However, lower inventories from suppliers continue to be a problem in getting these new orders out the door.
- Everybody expects everything tomorrow, no matter what the qty.
- More construction/maintenance projects being started

Blue and White Collar Employment:

We have collected input on Blue and White Collar Employment. The indices are below for **February 2017, March 2017 and April 2017.**

	Diffusion Index Feb-17	Diffusion Index Mar-17	Diffusion Index Apr-17	Direction	Comments
Blue Collar	52.5	65.3	61.9	growing	-
White Collar	50.2	55.4	54.4	growing	-

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

What respondents are saying in April 2017:

- Decreased lead times overall.
- Encountered quality problems with two main raw materials.
- Lead times holding steady for most suppliers.
- Steel is higher.
- Prices increase from manufacturer due to the shortage of raw materials.
- Increased customer demand by higher import levels.
- Forecast to increase double-digit sale growth.
- More construction/maintenance projects are being started.

Buying Policy

Average commitment lead-time for Capital Expenditures decreased from 114 days to 99 days. Average lead-time for Production Materials decreased from 40 days to 34 days. Average lead-time for Maintenance, Repair and Operating (MRO) Supplies decreased from 17 days to 14 days.

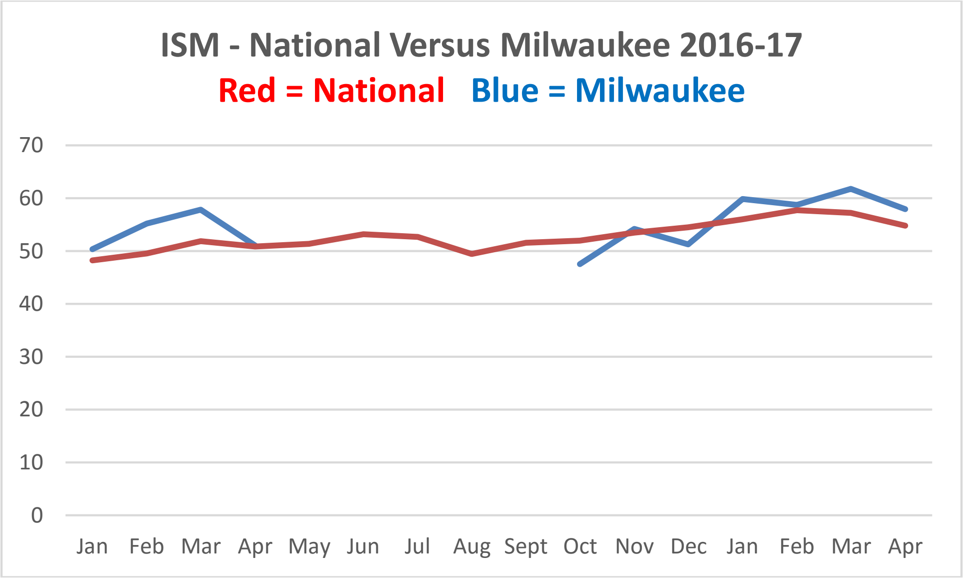
Six- Month Outlook on Business Conditions

In this outlook, there is an upward shift in positive expectations compared with March in terms of market conditions. Approximately 48% of respondents expect positive conditions, 48% expect conditions to remain the same and 4% of the respondents expect conditions to worsen within the next six months.

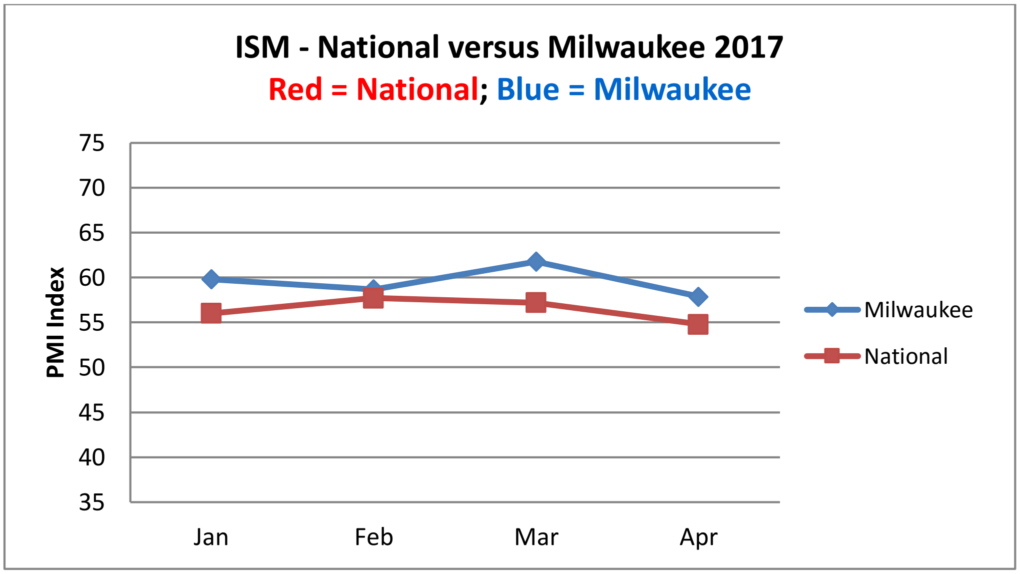
	Expect Positive Conditions	Expect Same Conditions	Expect Worse Conditions	Diffusion Index
Apr-17	48.00%	48.00%	4.00%	72.00%
Mar-17	50.00%	36.36%	13.64%	68.18%
Feb-17	50.00%	45.00%	5.00%	72.50%

Milwaukee versus the Nation –

Jan,2016 - April,2017 Graph



2017 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 ± .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)