

Marquette-ISM Report on Manufacturing April 2016- Final Release

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

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*The Marquette-ISM Report on Manufacturing was prepared by **Christopher Bango**, 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 2016	March 2016	February 2016
Seasonally adjusted	51.05	57.78	55.22

(Milwaukee, Wisconsin) – April's Index registered at 51.05, which is above the 50-level indicating positive territory for the fourth straight month. This places the index at or above 50 for twenty one of the past thirty two months.

What respondents are saying in April 2016:

- There are not many supply chain issues at this time.
- There has also been a substantial increase in the number of orders. It is uncertain whether or not this trend will continue.
- Compressed order cycle time
- Our Reps have said they are quoting a lot of jobs right now.

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

MANUFACTURING AT A GLANCE: April 2016*				
Index	Series Index Apr-2016	Series Index Mar-2016	Percentage Point Change	Direction
PMI	51.05	57.78	-6.7	growing
New Orders	49.37	66.20	-16.8	declining
Production	53.97	68.81	-14.8	growing
Employment	56.85	68.32	-11.5	growing
Supplier Deliveries	48.64	49.21	-0.6	faster
Inventories	46.43	36.36	10.1	declining
Customers' Inventories *	37.50	35.00	2.5	declining
Prices *	64.29	63.64	0.6	growing
Backlog of Orders *	61.54	65.00	-3.5	growing
Exports *	40.00	50.00	-10.0	declining
Imports *	56.25	57.14	-0.9	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 2016:

- N/A

Blue and White Collar Employment:

We have collected input on Blue and White Collar Employment. The indices are below for February 2016, March 2016, and April 2016.

	Diffusion Index Feb-2016	Diffusion Index Mar-2016	Diffusion Index Apr-2016	Direction	Comments
Blue Collar	66.7	63.8	53.5	growing	-
White Collar	58.4	63.8	50.2	growing	-

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

What respondents are saying in April 2016:

- More employees are needed in order to reduce lead times.
- There has been an ongoing cost review for White Collar employment levels.

COMMODITIES REPORTED UP/DOWN IN PRICE and IN SHORT SUPPLY

As an addition to the report, we have calculated commodity price indexes. We look forward to continuing to do so going forward. Below we have shown **February 2016, March 2016, and April 2016.**

Category	February 2016 Diffusion index	March 2016 Diffusion index	April 2016 Diffusion index	change in percentage point
Aluminum	50.00%	50.00%	41.67%	-8.3
Brass	50.00%	66.67%	50.00%	-16.7
Caustic Soda	0.00%	75.00%	50.00%	-25.0
Chemicals	0.00%	37.50%	50.00%	12.5
Copper	20.00%	75.00%	60.00%	-15.0
Copper Based Products	12.50%	62.50%	50.00%	-12.5
Cocoa Powder	-	-	-	-
Corn	-	-	25.00%	-
Corrugated Containers	50.00%	30.00%	40.00%	10.0
Diesel	12.50%	50.00%	91.67%	41.7
Electronic Components	25.00%	50.00%	50.00%	0.0
Gasoline	10.00%	83.33%	85.71%	2.4
High Density Polyethylene	0.00%	50.00%	50.00%	0.0
Natural Gas	0.00%	16.67%	50.00%	33.3
Nickel	25.00%	75.00%	50.00%	-25.0
PET	50.00%	50.00%	-	-
Plastic Resins	33.33%	50.00%	50.00%	0.0
Polyester	50.00%	50.00%	50.00%	0.0
Polyethylene	50.00%	50.00%	50.00%	0.0
Resins	50.00%	50.00%	50.00%	0.0
Soybean Oil	-	-	-	-
Stainless Steel	50.00%	50.00%	50.00%	0.0
Starch	-	-	-	-
Steel	40.00%	64.29%	70.00%	5.7
Steel Products	50.00%	33.33%	62.50%	29.2

Sulfur	-	-	-	-
Tin Plate	-	50.00%	-	-
Titanium Dioxide	50.00%	50.00%	50.00%	0.0
Wheat	-	-	-	-
Beef/Pork	100.00%	50.00%	100.00%	50.0

Buying Policy

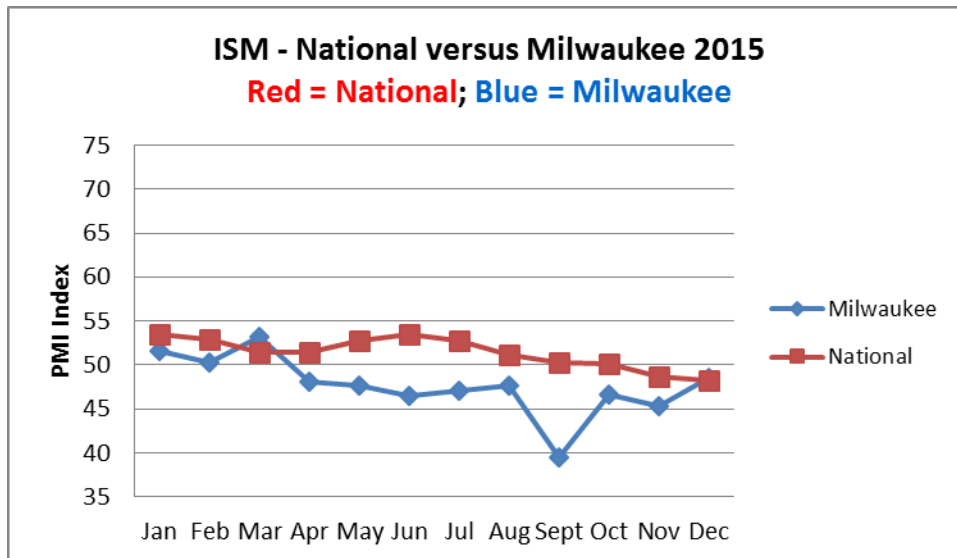
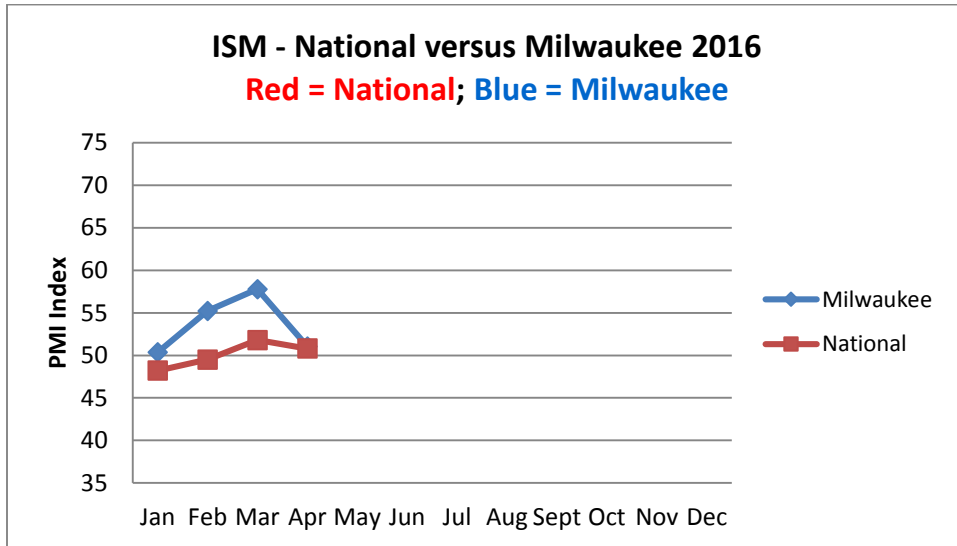
Average commitment lead time for Capital Expenditures increased by 6 days to 100 days. Average lead time for Production Materials increased by 7 days to 44 days. Average lead time for Maintenance, Repair and Operating (MRO) Supplies increased by 4 day to 18 days.

Six- Month Outlook on Business Conditions

In this outlook, there is a slight downward shift in positive expectations compared with March in terms of market conditions. Approximately 35.7% of respondents expect positive conditions, 57.1% expect conditions to remain the same and 7.1% of the respondents expect conditions to worsen within the next six months.

	Expect Positive Conditions	Expect Same Conditions	Expect Worse Conditions	Diffusion Index
Apr-16	35.7%	57.1%	7.1%	64.3%
Mar-16	44.4%	44.4%	11.1%	66.7%
Feb-16	41.7%	58.3%	0.0%	70.8%

Milwaukee versus the Nation – (for graphs of 2010, 2011, 2012, 2013, and 2014 see the January 2016 report)



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>)