

**Marquette-ISM Report on Manufacturing
February 2017- Final Release**

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*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	February 2017	January 2017	December 2016
Seasonally adjusted	58.69	59.81	51.23

(Milwaukee, Wisconsin) – February’s Index registered at 58.69, a decrease from the 59.81 in January. February’s Index indicates positive territory.

What respondents are saying in February 2017:

- Production is up and down this month.
- One large order going through created bottlenecks and overtime for some departments.
- Overall resin price increases.
- Rising steel prices have major unfavorable impact to profit and cost.
- Wages are forced to increase for qualified workers.

- Increase in demand for a certain sub-segment of our product offering is putting strain on material availability. This is combining with raw material shortages with our supplier to put us at real risk of a gap in supply to our customers of up to multiple months.

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

MANUFACTURING AT A GLANCE: February 2017*				
Index	Series	Series	Percentage Point Change	Direction
	Index	Index		
	Feb-17	Jan-17		
PMI	58.69	59.81	-1.1	growing
New Orders	62.76	65.50	-2.7	growing
Production	69.83	62.50	7.3	growing
Employment	52.48	58.60	-6.1	growing
Supplier Deliveries	58.39	62.50	-4.1	slower
Inventories	50.00	50.00	0.0	growing
Customers' Inventories *	37.50	37.50	0.0	declining
Prices *	81.82	73.33	8.5	growing
Backlog of Orders *	61.11	59.62	1.5	growing
Exports *	53.57	52.50	1.1	growing
Imports *	61.54	62.50	-1.0	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 February 2017:

- Increased wages for qualified workers
- Total employment will stay the same for first quarter
- Production fluctuated this month
- Warm weather has helped construction season
- High volume of employee call-in's

Blue and White Collar Employment:

We have collected input on Blue and White Collar Employment. The indices are below for **December 2016, January 2017 and February 2017.**

	Diffusion Index Dec-16	Diffusion Index Jan-2017	Diffusion Index Feb-2017	Direction	Comments
Blue Collar	51.6	55.4	52.5	growing	-
White Collar	46.2	55.3	50.2	growing	-

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

What respondents are saying in February 2017:

- Seasonal demand for products exceeds previous year
- Increased growth
- More orders are being expedited
- Exchange rate is more favorable but commodity pricing is up
- Increased lead times

Buying Policy

Average commitment lead time for Capital Expenditures increased by 23 days to 100 days. Average lead time for Production Materials increased by 21 days to 54 days. Average lead time for Maintenance, Repair and Operating (MRO) Supplies remained the same as 20 days.

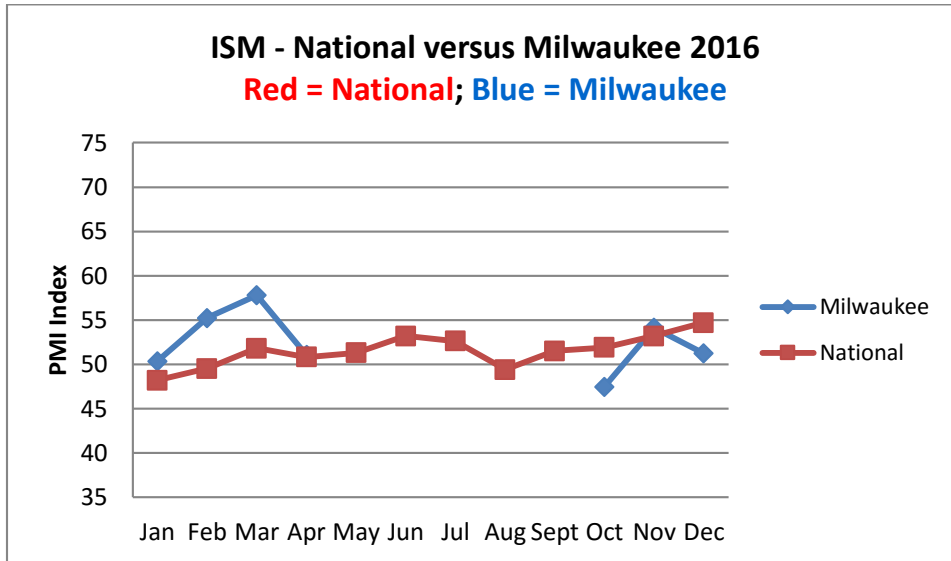
Six- Month Outlook on Business Conditions

In this outlook, there is an upward shift in positive expectations compared with December in terms of market conditions. Approximately 50% of respondents expect positive conditions, 45% expect conditions to remain the same and 5% of the respondents expect conditions to worsen within the next six months.

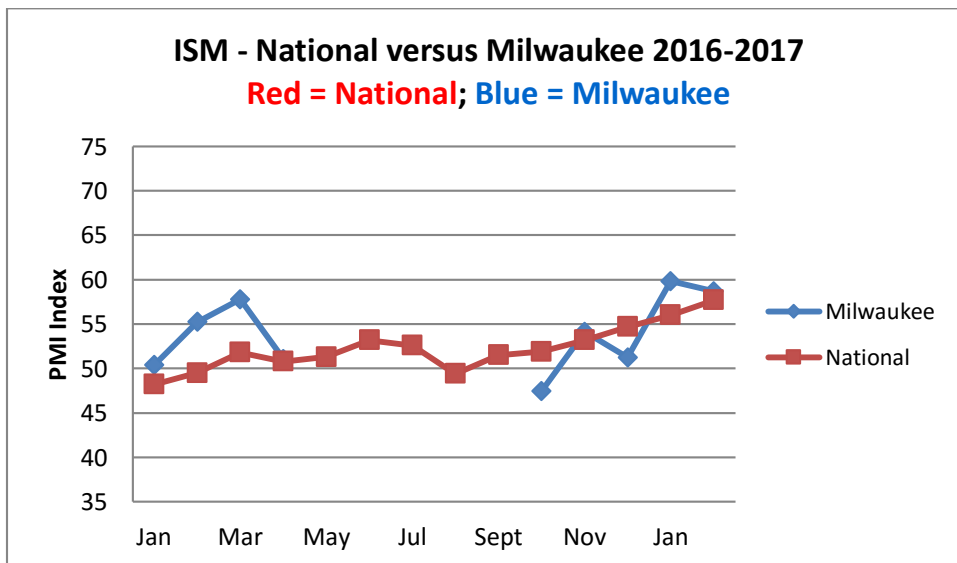
	Expect Positive Conditions	Expect Same Conditions	Expect Worse Conditions	Diffusion Index
Feb-17	50.00%	45.00%	5.00%	72.50%
Jan-17	58.07%	32.26%	9.68%	74.19%
Dec-16	52.60%	36.80%	10.50%	71.10%

Milwaukee versus the Nation – (for graphs of 2010, 2011, 2012, 2013, and 2014 see the January 2017 report)

2016 Graph



2016,Jan-2017,Feb 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>)