

**Marquette-ISM Report on Manufacturing
December 2016- Final Release**

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Final Version (includes ISM National Results for December, 2016)

*The Marquette-ISM Report on Manufacturing was prepared by **Alex Christiansen**, 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	December 2016	November 2016	October 2016
Seasonally adjusted	51.23	54.11	47.46

(Milwaukee, Wisconsin) – December's Index registered at 51.23, a decrease from the 54.11 in November. December's Index indicates positive territory.

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

MANUFACTURING AT A GLANCE: December 2016*				
Index	Series Index Dec-2016	Series Index Nov-2016	Percentage Point Change	Direction
PMI	51.23	54.11	-2.9	growing
New Orders	59.36	64.87	-5.5	growing
Production	60.00	53.16	6.8	growing
Employment	43.45	45.58	-2.1	declining
Supplier Deliveries	56.52	55.23	1.3	slower
Inventories	36.84	51.72	-14.9	declining
Customers' Inventories *	33.33	47.73	-14.4	declining
Prices *	66.67	50.00	16.7	growing
Backlog of Orders *	53.33	62.00	-8.7	growing
Exports *	50.00	52.78	-2.8	growing
Imports *	46.15	50.00	-3.8	declining

(*) 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 December 2016:

- Increased sales
- Discounting to try and push material out the door due to being down the first week of January for physical inventory
- Increased demand
- With yearend coming, we need to make-ahead
- Lower inventory so we don't have to count as much for physical inventory
- Bringing inventory down for yearend financial statements
- Some commodity prices trending up, we have not taken any increases yet
- Oil went up so oil-derived commodities are increasing prices
- New scheduling program in place will show improvement in through-put
- Expect oil & gas market to improve slightly
- Launching new products that should take more market share away from our competitors
- Looking positive but unsure
- Some signs of life in Q1 orders but no increases beyond 90 days

Blue and White Collar Employment:

We have collected input on Blue and White Collar Employment. The indices are below for **October 2016 and November 2016 and December 2016.**

	Diffusion Index Oct-16	Diffusion Index Nov-16	Diffusion Index Dec-16	Direction	Comments
Blue Collar	51.9	51.3	51.6	growing	-
White Collar	59.3	51.3	46.2	declining	-

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

What respondents are saying in December 2016:

- Operations consolidation

Buying Policy

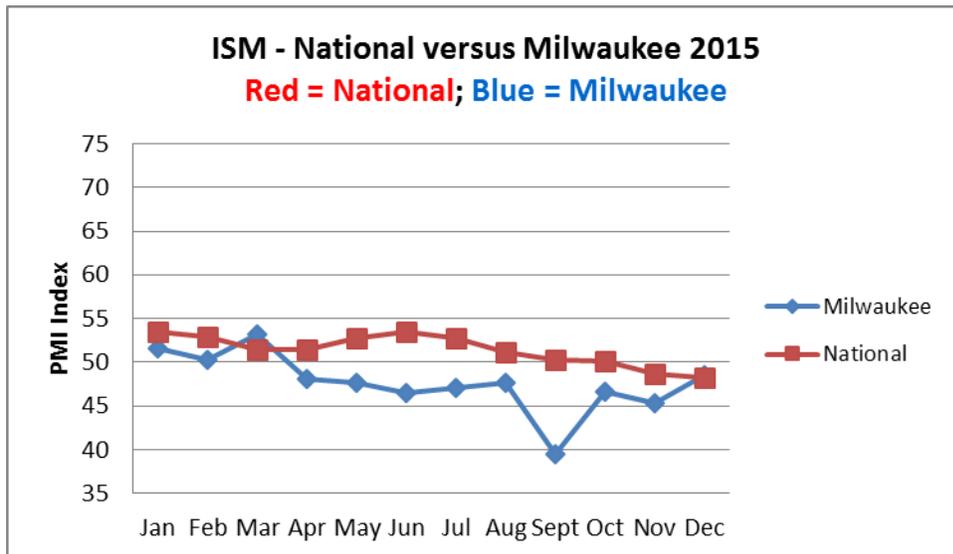
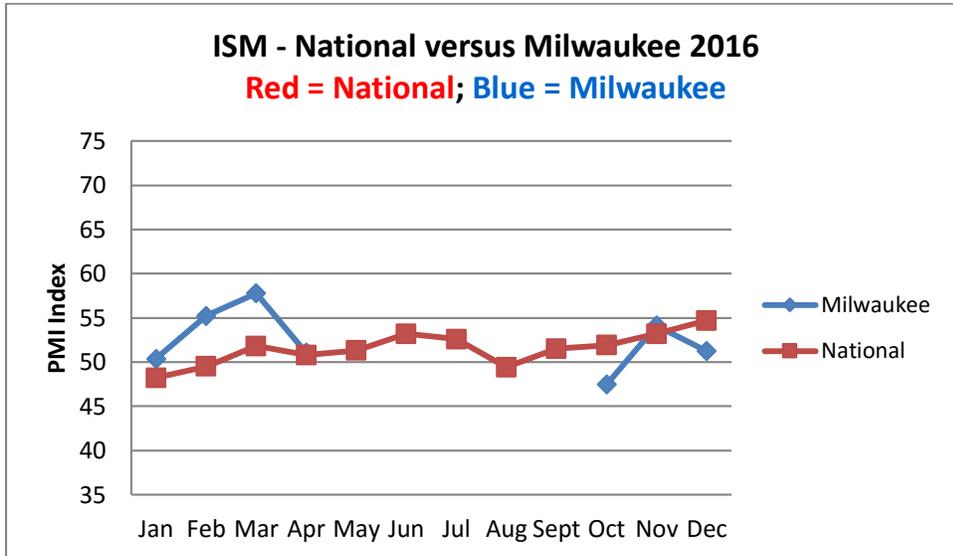
Average commitment lead time for Capital Expenditures increased by 18 days to 114 days. Average lead time for Production Materials increased by 7 days to 49 days. Average lead time for Maintenance, Repair and Operating (MRO) Supplies stayed the same at 27 days.

Six- Month Outlook on Business Conditions

In this outlook, there is an upward shift in positive expectations compared with November in terms of market conditions. Approximately 52.6% of respondents expect positive conditions, 36.8% expect conditions to remain the same and 10.5% of the respondents expect conditions to worsen within the next six months.

	Expect Positive Conditions	Expect Same Conditions	Expect Worse Conditions	Diffusion Index
Dec-16	52.6%	36.8%	10.5%	71.1%
Nov-16	48.3%	44.8%	6.9%	70.7%
Oct-16	42.9%	38.1%	19.0%	61.9%

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>