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Final Version (includes ISM National Results for November, 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	November 2016	October 2016	N/A
Seasonally adjusted	54.11	47.46	

(Milwaukee, Wisconsin) – November's Index registered at 54.11, an increase from the 47.46 in October. November's Index indicates positive territory.

What respondents are saying in November 2016:

- Seasonal (year end) inventory reduction in process. Planning long lead time parts from China around the annual Chinese New Year shut downs. Monitoring key commodities as there are some (soft) indications of prices trending up (corrugated/linerboard, copper, resins, steel).
- Sales are off by 8 to 10%, unstable market conditions.
- No constraints in the supply side of business - just not enough demand and not enough visibility of demand.
- Chemical increases such as TDI which experienced a force majeure in September at one of the chemical plants owned by Covestro. This plant globally supplies 20% of the chemical used to manufacture polyethylene material. The plant closure will cause an increase in pricing in the manufacturing of polyethylene products.
- Orders picking up, still slow in production
- New orders in fall 2019. Product has been discounted too deeply and in 2019 it creates a revenue problem.
- Rising commodity prices should be short-term issue.
- Watching key commodities as (they) may start trending up
- Currently the latest supply chain issues include locating a large tonnage multi-shot tooling house/molder who is not captive to the automotive world

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

MANUFACTURING AT A GLANCE: *November 2016**				
Index	**Series Index Nov-2016**	**Series Index Oct-2016**	**Percentage Point Change**	**Direction**
PMI	54.11	47.46	6.7	growing
New Orders	64.87	47.67	17.2	growing
Production	53.16	46.59	6.6	growing
Employment	45.58	54.34	-8.8	declining
Supplier Deliveries	55.23	45.83	9.4	slower
Inventories	51.72	42.86	8.9	growing
Customers' Inventories *	47.73	44.74	3.0	declining
Prices *	50.00	42.86	7.1	growing
Backlog of Orders *	62.00	42.50	19.5	growing
Exports *	52.78	43.33	9.4	growing
Imports *	50.00	57.69	-7.7	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 November 2016:

- Ramping up for seasonal promotions
- Larger orders coming in
- Larger orders – longer lead time to produce
- Lower year-end targets
- Increased demand for products
- Increased business depleted inventory
- Very difficult to hire factory labor
- Seasonal inventory pull down

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.**

	Diffusion Index N/A	Diffusion Index Oct-2016	Diffusion Index Nov-2016	Direction	Comments
Blue Collar		51.9	51.3	growing	-
White Collar		59.3	51.3	growing	-

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

Buying Policy

Average commitment lead time for Capital Expenditures decreased by 37 days to 96 days. Average lead time for Production Materials decreased by 7 days to 42 days. Average lead time for Maintenance, Repair and Operating (MRO) Supplies increased by 5 days to 27 days.

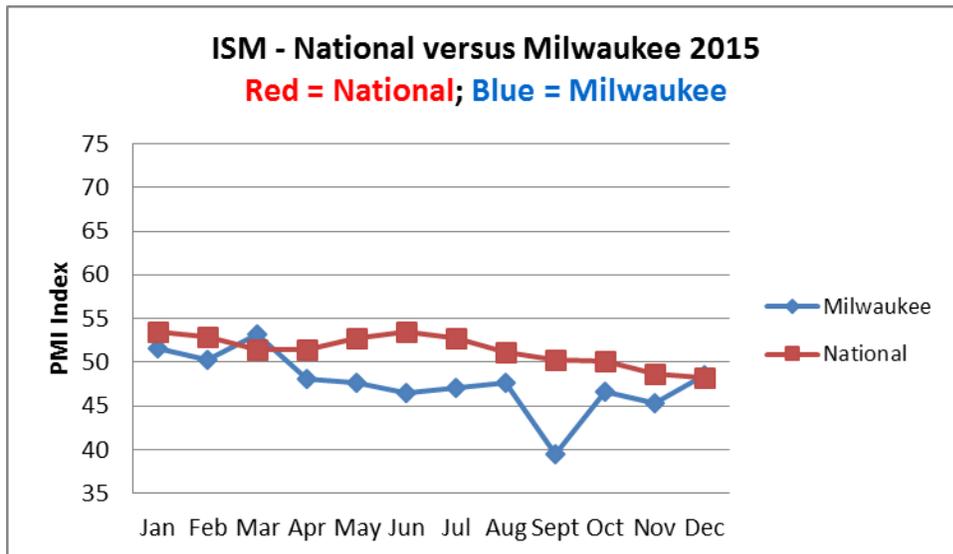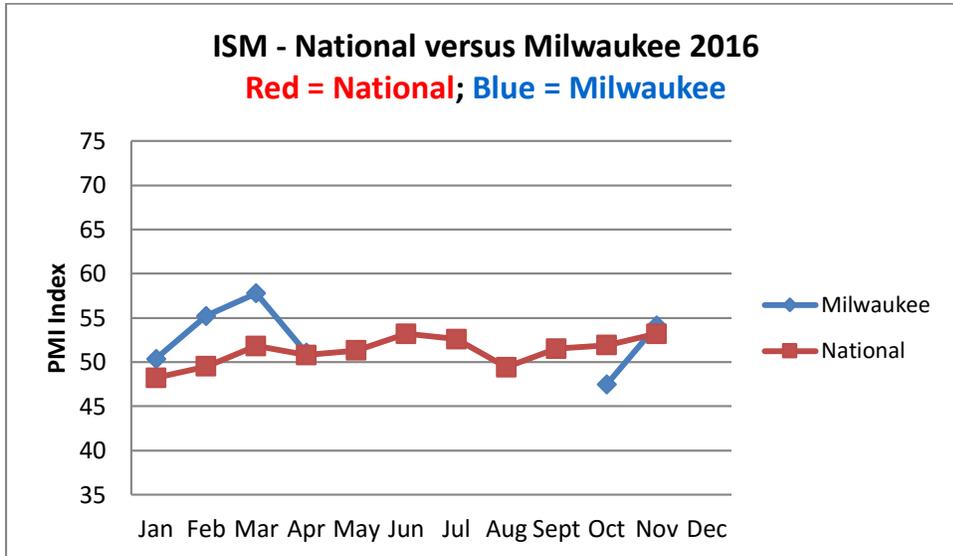**Six- Month Outlook on Business Conditions**

In this outlook, there is an upward shift in positive expectations compared with October in terms of market conditions. Approximately 48.3% of respondents expect positive conditions, 44.8% expect conditions to remain the same and 6.9% of the respondents expect conditions to worsen within the next six months.

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

What respondents are saying about the outlook:

- We continue to growth market share and launch new products.
- The election is over.
- Political uncertainty is behind us.
- Expect ongoing infrastructure spend.
- 2017 does not look better than 2016

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

ISM - National versus Milwaukee 2016
Red = National; Blue = Milwaukee

ISM - National versus Milwaukee 2015
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)