

**Marquette & ISM - Milwaukee Manufacturing Survey
December 2022**

Contact: Dr. Marko Bastl
Associate Professor of Supply Chain Management
Director, Center for Supply Chain Management
Marquette University
(414) 288-6866
Marko.Bastl@marquette.edu

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*The Marquette-ISM Report on Manufacturing was prepared by **Onamica Dhar**, graduate student in Applied Economics at Marquette University, and distributed by **Kelly Wesolowski**, Associate Director of the Center for Supply Chain Management.*

*Please direct data questions and requests for media commentary to **Dr. Marko Bastl**.*

This report should not be confused with the Report On Business[®], PMI[®], NMI[®], published by the Institute of Supply Management[®] (ISM[®]). 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 2022	November 2022	October 2022
Seasonally adjusted	45.42	44.74	45.24

(Milwaukee, Wisconsin) - December's Index registered at 45.42, an increase from 44.74 in November. December's index indicates positive territory.

What are respondents saying in December 2022:

- Short term slowdown in production.
- Increasing interest rate is affecting housing business.
- Inflation is still a major issue.
- Material shortages are still a major issue.

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

MANUFACTURING AT A GLANCE: December 2022*				
Index	Series	Series	Percentage	Direction
	Index	Index	Point	
	Dec-22	Nov-22	Change	
PMI	45.42	44.74	0.7	declining
New Orders	22.31	39.06	-16.8	declining
Production	44.52	41.24	3.3	declining
Employment	52.03	45.73	6.3	growing
Supplier Deliveries	43.27	51.92	-8.7	growing
Inventories	64.97	45.73	19.2	growing
Customers' Inventories *	38.89	50.00	-11.1	declining
Prices *	70.83	72.73	-1.9	growing
Backlog of Orders *	29.17	40.91	-11.7	declining
Exports *	28.57	35.71	-7.1	declining
Imports *	41.67	42.86	-1.2	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. **Note:** A reading above 50 percent indicates that the manufacturing economy is generally expanding (**growing**); below 50 percent indicates that it is generally contracting (**declining**). Supplier Deliveries is the one exception, where it is the reversed relationship. Above 50 percent indicates declining, below 50 percent indicates growing.

What are respondents saying in December 2022

- Prices of goods and services are increasing.
- Production is decreasing.
- We see an increase in interest rate.
- Reducing inventory for shortened lead time.
- Supply chain systems are slowly improving

We have collected input on Blue and White Collar Employment. The indices are below for **December, November, and October 22.**

	Diffusion Index December-22	Diffusion Index November-22	Diffusion Index October-22	Direction	Comments
Blue Collar	52.0	45.7	45.7	growing	-
White Collar	43.4	45.7	45.7	declining	-

Note: These have been calculated based on the seasonally adjusted (SA) Blue and White Collar indices. A reading above 50 percent indicates that the manufacturing economy is generally expanding (**growing**); below 50 percent indicates that it is generally contracting (**declining**).

What are respondents saying in December 2022:

- New employment decreases.
- Blue collar labor demand increases.

Buying Policy

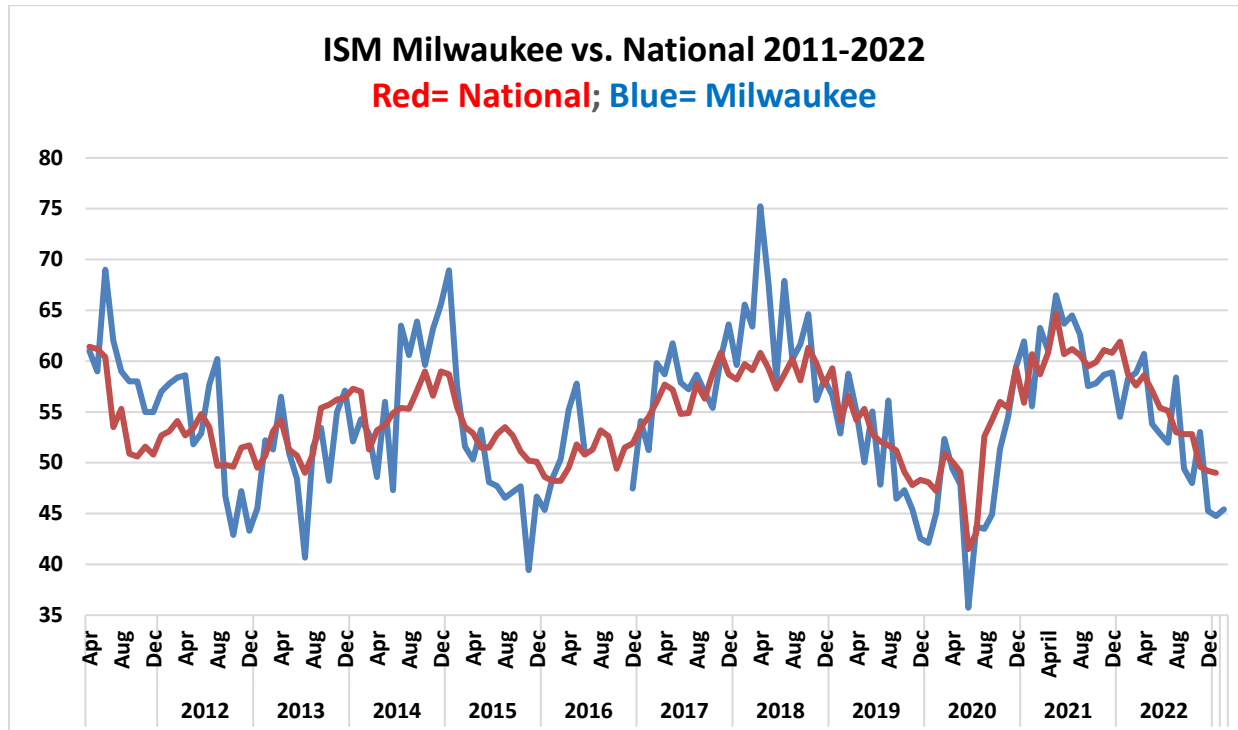
Average commitment lead-time for Capital Expenditures decreased from 176 to 156 days. Average lead-time for Production Materials decreased from 123 to 98 days. Average lead-time for Maintenance, Repair and Operating (MRO) Supplies decreased from 46 to 38 days.

Six- Month Outlook on Business Conditions

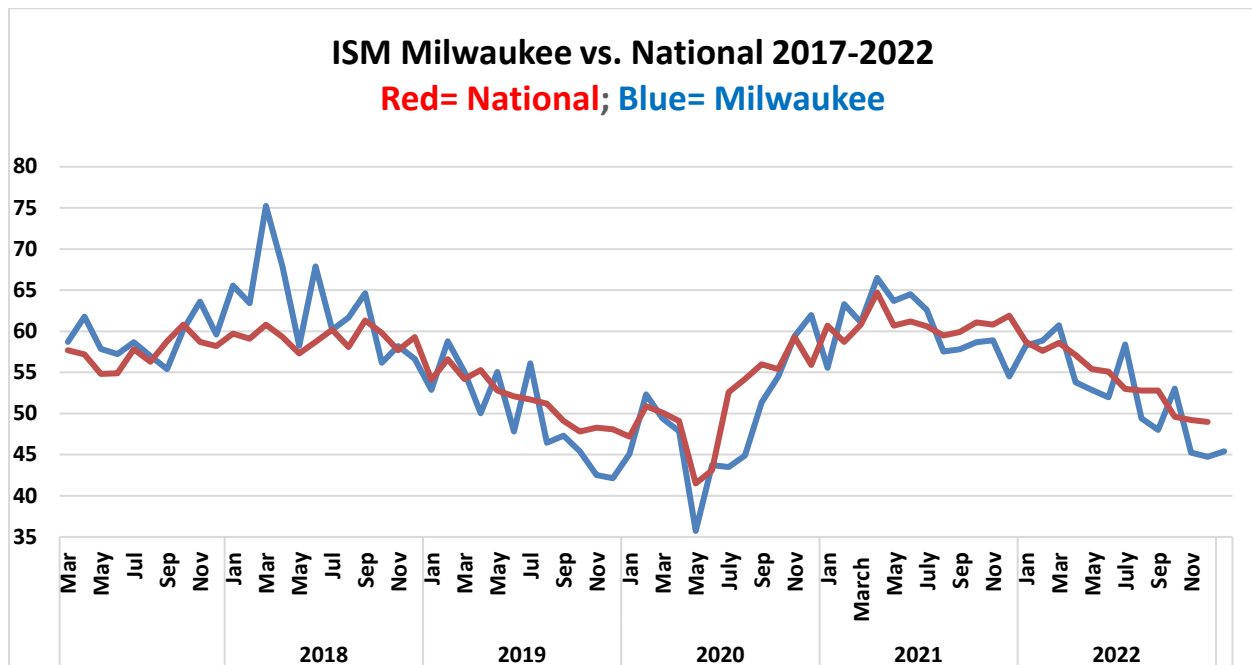
In this outlook, there is an upward shift in positive expectations compared with November in terms of market conditions. Approximately 18% of respondents expect positive conditions, 36% expect conditions to remain the same and 45% of the respondents expect conditions to worsen within the next six months.

	Expect Positive Conditions	Expect Same Conditions	Expect Worse Conditions	Diffusion Index
22-Dec	18.18%	36.36%	45.45%	36.36%
22-Nov	10.00%	20.00%	70.00%	20.00%
22-Oct	25.00%	25.00%	50.00%	37.50%

**Milwaukee versus the Nation –
January 2011 – December 2022 Graph**



January 2017 –December 2022 Graph



Insights on the ISM® PMI® from Institute for Supply Management®:

Marquette & ISM—Milwaukee Manufacturing Survey 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.ismworld.org/supply-management-news-and-reports/reports/ism-report-on-business/>