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February 2020 Manufacturing ISM® Report On Business®

Choose a Section

PMI® at 50.1%

GDP Growing at 2.1%

Production Growing; New Orders and Employment Contracting

Supplier Deliveries Slowing at Faster Rate; Backlog Growing

Raw Materials Inventories Contracting; Customers' Inventories Too Low

Prices Decreasing; Exports Growing; and Imports Contracting

(Tempe, Arizona) — Economic activity in the manufacturing sector grew in February, and the overall economy grew for the 130th consecutive month, say the nation's supply executives in the latest Manufacturing ISM® Report On Business®.

The report was issued today by Timothy R. Fiore, CPSM, C.P.M., Chair of the Institute for Supply Management® (ISM®) Manufacturing Business Survey Committee: "The February PMI® registered 50.1 percent, down 0.8 percentage point from the January reading of 50.9 percent. The New Orders Index registered 49.8 percent, a decrease of 2.2 percentage points from the January reading of 52 percent. The Production Index registered 50.3 percent, down 4 percentage points compared to the January reading of 54.3 percent. The Backlog of Orders Index registered 50.3 percent, an increase of 4.6

percentage points compared to the January reading of 45.7 percent. The Employment Index registered 46.9 percent, an increase of 0.3 percentage point from the January reading of 46.6 percent. The Supplier Deliveries Index registered 57.3 percent, up 4.4 percentage points from the January reading of 52.9 percent. The Inventories Index registered 46.5 percent, 2.3 percentage points lower than the January reading of 48.8 percent. The Prices Index registered 45.9 percent, down 7.4 percentage points as compared to the January reading of 53.3 percent. The New Export Orders Index registered 51.2 percent, a decrease of 2.1 percentage points as compared to the January reading of 53.3 percent. The Imports Index registered 42.6 percent, an 8.7-percentage point decrease from the January reading of 51.3 percent.

“Comments from the panel were generally positive, with sentiment cautious compared to January. The PMI® remained in expansion territory, but at a weak level. Demand slumped, with (1) the New Orders Index contracting at a weak level, despite new export order expansion, (2) the Customers’ Inventories Index remaining at ‘too low’ status and (3) the Backlog of Orders Index expanding for the first time in several months, but at a slow rate. Consumption (measured by the Production and Employment indexes) contributed negatively (a combined 3.7-percentage point decrease) to the PMI® calculation. Inputs — expressed as supplier deliveries, inventories and imports — strengthened in February, due primarily to supplier deliveries expanding, offset partially by inventories declining. Despite imports contraction returning at a strong rate, inputs contributed positively to the PMI® calculation, a reversal from the previous month. (The Supplier Deliveries and Inventories indexes directly factor into the PMI®; the Imports Index does not.) Prices returned to contraction, at moderately strong levels.

“Global supply chains are impacting most, if not all, of the manufacturing industry sectors. Among the six big industry sectors, Food, Beverage & Tobacco Products remains the strongest, followed by Computer & Electronic Products. Petroleum & Coal Products is the weakest. Overall, sentiment this month is marginally positive regarding near-term growth,” says Fiore.

Of the 18 manufacturing industries, the 14 that reported growth in February — listed in order — are: Wood Products; Furniture & Related Products; Plastics & Rubber Products; Printing & Related Support Activities; Paper Products; Textile Mills; Primary Metals; Food, Beverage & Tobacco Products; Computer & Electronic Products; Miscellaneous Manufacturing; Electrical Equipment, Appliances & Components; Fabricated Metal Products; Machinery; and Chemical Products. The three industries reporting contraction in February are: Petroleum & Coal Products; Transportation Equipment; and Nonmetallic Mineral Products.

#### WHAT RESPONDENTS ARE SAYING

“There are always supply chain challenges with Lunar New Year shutdowns, and this year is no different. Coronavirus is wreaking havoc on the electronics industry. Companies are delayed in starting up production, which is resulting in longer lead times, constraints and increased pricing. It's a mad dash to dual source stateside in case China isn't back online soon.” (Computer & Electronic Products)

“January started out strong, but the effects of the virus in China [and] the continued grounding of the 737 Max have suppressed new orders. We are still expected to be flat to slightly up [year-over-year] for 2020 sales, based on those issues.” (Chemical Products)

“Layoffs are here.” (Transportation Equipment)

“Coronavirus and its impact on the supply chain: We will see some softness in demand, but also [experience] havoc on items sourced from China that may cause significant delays to production.” (Food, Beverage & Tobacco Products)

“Energy markets seem to be responding to a potential drop in demand that may be related to responses [to] the coronavirus.” (Petroleum & Coal Products)

“Coronavirus continues to be front and center as a major supply chain risk to our company. Access to information in China — from our supply base and customers — is slow to come by.” (Fabricated Metal Products)

“Sales continue to be strong, with the supply base able to support as required. The major concern is the China virus and what that crisis could affect in getting parts. The company is putting plans in place to source out locations, especially in the U.S., for parts.” (Machinery)

“Business continues to be strong. We had a little January slowdown, but February has been fantastic.” (Plastics & Rubber Products)

“We have seen an increase of sales for our products.” (Furniture & Related Products)

“Current favorable forecast to budget for first-quarter sales.” (Primary Metals)

#### Manufacturing at a Glance February 2020

Index	Series Index Feb	Series Index Jan	Percentage Point Change	Direction	Rate of Change	Trend* (Months)
PMI®	50.1	50.9	-0.8	Growing	Slower	2
New Orders	49.8	52.0	-2.2	Contracting	From Growing	1
Production	50.3	54.3	-4.0	Growing	Slower	2
Employment	46.9	46.6	+0.3	Contracting	Slower	7
Supplier Deliveries	57.3	52.9	+4.4	Slowing	Faster	4
Inventories	46.5	48.8	-2.3	Contracting	Faster	9

Index	Series Index Feb	Series Index Jan	Percentage Point Change	Direction	Rate of Change	Trend* (Months)
Customers' Inventories	41.8	43.8	-2.0	Too Low	Faster	41
Prices	45.9	53.3	-7.4	Decreasing	From Increasing	1
Backlog of Orders	50.3	45.7	+4.6	Growing	From Contracting	1
New Export Orders	51.2	53.3	-2.1	Growing	Slower	2
Imports	42.6	51.3	-8.7	Contracting	From Growing	1
OVERALL ECONOMY				Growing	Slower	130
Manufacturing Sector				Growing	Slower	2

Manufacturing ISM® Report On Business® data is seasonally adjusted for the New Orders, Production, Employment and Inventories Indexes.

\*Number of months moving in current direction.

Commodities reported up/down in price and in short supply

Commodities Up in Price

Capacitors; Crude Oil\* (2); Resistors; Steel — Hot Rolled\* (4); and Steel Products.

Commodities Down in Price

Aluminum; Aluminum Products (2); Copper; Corrugate; Crude Oil\*; Natural Gas (3); Polypropylene (4); Scrap; Steel — Hot Rolled\*; and Steel — Stainless.

Commodities in Short Supply

None.

\*Indicates both up and down and price. Note: The number of consecutive months the commodity is listed is indicated after each item.

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## FEBRUARY 2020 MANUFACTURING INDEX SUMMARIES

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### PMI®

Manufacturing expanded in February, as the PMI® registered 50.1 percent, a 0.8-percentage point decrease from the January reading of 50.9 percent. “The PMI® expanded in February, but at a slower rate. Four of the big six industries expanded, at similar rates compared to January. Four of the PMI®’s 10 subindexes recorded expansion, down from six the previous month,” says Fiore. A reading above 50 percent indicates that the manufacturing economy is generally expanding; below 50 percent indicates that it is generally contracting.

A PMI® above 42.8 percent, over a period of time, generally indicates an expansion of the overall economy. Therefore, the February PMI® indicates growth for the 130th consecutive month in the overall economy, and the second month of growth following five months of contraction in the manufacturing sector. “The past relationship between the PMI® and the overall economy indicates that the PMI® for February (50.1 percent) corresponds to a 2.1-percent increase in real gross domestic product (GDP) on an annualized basis,” says Fiore.

### The Last 12 Months

Month	PMI®
Feb 2020	50.1
Jan 2020	50.9
Dec 2019	47.8
Nov 2019	48.1
Oct 2019	48.5
Sep 2019	48.2
Month	PMI®
Aug 2019	48.8
Jul 2019	51.3
Jun 2019	51.6

Month	PMI®
May 2019	52.3
Apr 2019	53.4
Mar 2019	54.6
Average for 12 months - 50.5	
High - 54.6	
Low - 47.8	

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### New Orders

ISM®'s New Orders Index registered 49.8 percent in February, a decrease of 2.2 percentage points when compared to the 52 percent reported for January. This indicates that new orders contracted after growing in January. "Of the top six industry sectors, four expanded, with Computer & Electronic Products; Fabricated Metal Products; and Food, Beverage & Tobacco Products expanding respectably. Transportation Equipment and Petroleum & Coal Products continue to be challenged," says Fiore. A New Orders Index above 52.5 percent, over time, is generally consistent with an increase in the Census Bureau's series on manufacturing orders (in constant 2000 dollars).

Of the 18 manufacturing industries, 16 reported growth in new orders in February, in the following order: Wood Products; Paper Products; Printing & Related Support Activities; Primary Metals; Apparel, Leather & Allied Products; Electrical Equipment, Appliances & Components; Plastics & Rubber Products; Textile Mills; Furniture & Related Products; Computer & Electronic Products; Miscellaneous Manufacturing; Nonmetallic Mineral Products; Fabricated Metal Products; Machinery; Food, Beverage & Tobacco Products; and Chemical Products. The two industries reporting a decline in new orders in February are: Petroleum & Coal Products; and Transportation Equipment.

New Orders	% Higher	% Same	% Lower	Net	Index
Feb 2020	28.8	49.1	22.0	+6.8	49.8
Jan 2020	24.8	54.4	20.8	+4.0	52.0
Dec 2019	18.6	51.2	30.2	-11.6	47.6
Nov 2019	20.5	48.3	31.2	-10.7	46.8

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## Production

ISM®'s Production Index registered 50.3 percent in February, 4 percentage points lower than the 54.3 percent reported for January, registering two months of growth following five consecutive months of contraction. "Two of six big industry sectors expanded, down from five in the previous month. Production was restricted due to disruptions in the supply chain across multiple industry sectors," says Fiore. An index above 51.7 percent, over time, is generally consistent with an increase in the Federal Reserve Board's Industrial Production figures.

The 12 industries reporting growth in production during the month of February — listed in order — are: Wood Products; Paper Products; Printing & Related Support Activities; Furniture & Related Products; Plastics & Rubber Products; Primary Metals; Textile Mills; Miscellaneous Manufacturing; Fabricated Metal Products; Machinery; Electrical Equipment, Appliances & Components; and Food, Beverage & Tobacco Products. The three industries reporting a decrease in production in February are: Apparel, Leather & Allied Products; Nonmetallic Mineral Products; and Transportation Equipment.

Production	% Higher	% Same	% Lower	Net	Index
Feb 2020	26.4	53.5	20.1	+6.3	50.3
Jan 2020	25.3	55.9	18.8	+6.5	54.3
Dec 2019	15.8	49.8	34.4	-18.6	44.8
Nov 2019	20.3	56.3	23.4	-3.1	48.0

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## Employment

ISM®'s Employment Index registered 46.9 percent in February, an increase of 0.3 percentage point compared to the January reading of 46.6 percent. "This is the seventh month of employment contraction, but at a slower rate compared to January. Among the six big industry sectors, two expanded and four contracted. Panelist comments were generally cautious regarding future employment potential," says Fiore. An Employment Index above 50.8 percent, over time, is generally consistent with an increase in the Bureau of Labor Statistics (BLS) data on manufacturing employment.

Of the 18 manufacturing industries, three reported employment growth in February: Food, Beverage & Tobacco Products; Plastics & Rubber Products; and Computer & Electronic Products. The nine industries reporting a decrease in employment in February, in the following order, are: Petroleum & Coal Products; Paper Products; Primary Metals; Textile Mills; Transportation Equipment; Machinery; Miscellaneous Manufacturing; Fabricated Metal Products; and Chemical Products. Six industries reported no change in February compared to January.

Employment	% Higher	% Same	% Lower	Net	Index
Feb 2020	11.7	69.1	19.2	-7.5	46.9
Jan 2020	11.7	66.0	22.3	-10.6	46.6
Dec 2019	11.5	63.7	24.8	-13.3	45.2
Nov 2019	13.9	64.9	21.2	-7.3	46.8

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#### Supplier Deliveries\*

The delivery performance of suppliers to manufacturing organizations was slower in February, as the Supplier Deliveries Index registered 57.3 percent. This is 4.4 percentage points higher than the 52.9 percent reported for January. “Suppliers continue to struggle to deliver, at a stronger rate compared to January. The index reached its highest level since November 2018, when it registered 61 percent. Lead times are generally stable. Concerns about current and ongoing reliable Asian supply dominated the comments from panelists,” says Fiore. A reading below 50 percent indicates faster deliveries, while a reading above 50 percent indicates slower deliveries.

The 13 industries reporting slower supplier deliveries in February — listed in order — are: Textile Mills; Apparel, Leather & Allied Products; Computer & Electronic Products; Chemical Products; Furniture & Related Products; Electrical Equipment, Appliances & Components; Paper Products; Nonmetallic Mineral Products; Miscellaneous Manufacturing; Transportation Equipment; Fabricated Metal Products; Food, Beverage & Tobacco Products; and Machinery. The only industry reporting faster supplier deliveries in February is Primary Metals.

Supplier Deliveries	% Slower	% Same	% Faster	Net	Index
Feb 2020	20.3	74.0	5.7	+14.6	57.3
Jan 2020	16.8	72.3	10.9	+5.9	52.9
Dec 2019	11.5	81.4	7.0	+4.5	52.2
Nov 2019	11.3	80.8	8.0	+3.3	51.7

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#### Inventories

The Inventories Index registered 46.5 percent in February, a 2.3-percentage point decrease from the 48.8 percent reported for January. “The index contracted for a ninth straight month at a faster rate, and reaching its lowest level since September 2019, when it registered 46.3 percent. Inventories are



expected to grow as disruptions in the supply chain lead to inefficiencies in material conversion,” says Fiore. An Inventories Index greater than 44.3 percent, over time, is generally consistent with expansion in the Bureau of Economic Analysis (BEA) figures on overall manufacturing inventories (in chained 2000 dollars).

The five industries reporting higher inventories in February are: Furniture & Related Products; Wood Products; Primary Metals; Plastics & Rubber Products; and Food, Beverage & Tobacco Products. The nine industries reporting a decrease in inventories in February — listed in order — are: Apparel, Leather & Allied Products; Electrical Equipment, Appliances & Components; Nonmetallic Mineral Products; Chemical Products; Computer & Electronic Products; Transportation Equipment; Machinery; Miscellaneous Manufacturing; and Fabricated Metal Products.

Inventories	% Higher	% Same	% Lower	Net	Index
Feb 2020	14.9	66.6	18.5	-3.6	46.5
Jan 2020	18.2	61.2	20.6	-2.4	48.8
Dec 2019	17.5	58.1	24.4	-6.9	49.2
Nov 2019	15.4	60.2	24.4	-9.0	47.2

#### Customers' Inventories\*

ISM®'s Customers' Inventories Index registered 41.8 percent in February, which is 2 percentage points lower than the 43.8 percent reported for January, indicating that customers' inventory levels were considered too low. “Customers' inventories are too low for the 41st consecutive month and continue to move away from ‘about right’ territory. These inventories remain at a healthy level to support future production output,” says Fiore.

Of 18 industries, the only industry reporting higher customer inventories in February is Transportation Equipment. The 11 industries reporting customers' inventories as too low during February — listed in order — are: Plastics & Rubber Products; Wood Products; Textile Mills; Electrical Equipment, Appliances & Components; Computer & Electronic Products; Fabricated Metal Products; Paper Products; Chemical Products; Machinery; Primary Metals; and Food, Beverage & Tobacco Products. Six industries reported no change in customers' inventories orders in February.

Customers' Inventories	% Reporting	% Too High	% About Right	% Too Low	Net	Index
Feb 2020	76	6.6	70.4	23.0	-16.4	41.8
Jan 2020	77	10.1	67.5	22.4	-12.3	43.8

Customers' Inventories	% Reporting	% Too High	% About Right	% Too Low	Net	Index
Dec 2019	79	8.8	64.7	26.5	-17.7	41.1
Nov 2019	76	9.7	70.6	19.7	-10.0	45.0

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#### Prices\*

The ISM® Prices Index registered 45.9 percent in February, a decrease of 7.4 percentage points from the January reading of 53.3 percent, indicating raw materials prices decreased after increasing for two consecutive months. “Prices contracted in February, driven primarily by steel, scrap steel, aluminum, natural gas, corrugate, copper and all basic manufacturing fundamentals,” says Fiore. A Prices Index above 52.5 percent, over time, is generally consistent with an increase in the Bureau of Labor Statistics (BLS) Producer Price Index for Intermediate Materials.

The five industries reporting paying increased prices for raw materials in February are: Wood Products; Textile Mills; Computer & Electronic Products; Miscellaneous Manufacturing; and Fabricated Metal Products. The eight industries reporting a decrease in prices for raw materials in February — listed in order — are: Petroleum & Coal Products; Furniture & Related Products; Paper Products; Primary Metals; Plastics & Rubber Products; Machinery; Food, Beverage & Tobacco Products; and Transportation Equipment.

Prices	% Higher	% Same	% Lower	Net	Index
Feb 2020	16.6	58.6	24.8	-8.2	45.9
Jan 2020	23.8	59.2	17.1	+6.7	53.3
Dec 2019	16.5	70.5	13.0	+3.5	51.7
Nov 2019	14.6	64.2	21.3	-6.7	46.7

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#### Backlog of Orders\*

ISM®'s Backlog of Orders Index registered 50.3 percent in February, 4.6 percentage points higher than the 45.7 percent reported in January, indicating order backlogs grew after contracting for nine consecutive months. “Backlogs entered expansion territory, a positive for the future months, but at weak levels. Backlog growth is supported by suppliers having trouble delivering materials to support production. The index recorded its strongest performance since April 2019, when it registered 53.9 percent. Three of the six big industry sectors’ backlogs contracted during the period, up from two the previous month,” says Fiore.

Eleven of the 18 industries reported growth in order backlogs in February, in the following order: Apparel, Leather & Allied Products; Textile Mills; Wood Products; Primary Metals; Paper Products; Furniture & Related Products; Computer & Electronic Products; Electrical Equipment, Appliances & Components; Nonmetallic Mineral Products; Machinery; and Fabricated Metal Products. Four industries reported lower order backlogs in February: Petroleum & Coal Products; Food, Beverage & Tobacco Products; Miscellaneous Manufacturing; and Chemical Products.

Backlog of Orders*	% Reporting	% Higher	% Same	% Lower	Net	Index
Feb 2020	88	21.8	57.0	21.3	+0.5	50.3
Jan 2020	88	17.1	57.2	25.6	-8.5	45.7
Dec 2019	89	12.6	61.4	26.0	-13.4	43.3
Nov 2019	90	16.2	53.7	30.1	-13.9	43.0

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#### New Export Orders\*

ISM®'s New Export Orders Index registered 51.2 percent in February, a decrease of 2.1 percentage points compared to the January reading of 53.3 percent. This is the second consecutive month of growth. "New export orders remained in expansion territory, but at weaker levels compared to the prior month. Three of the six big industry sectors expanded during the period, up from two the previous month. Many respondents reported that their operations were impacted by the coronavirus outbreak," says Fiore.

The eight industries reporting growth in new export orders in February, in the following order, are: Wood Products; Paper Products; Furniture & Related Products; Electrical Equipment, Appliances & Components; Food, Beverage & Tobacco Products; Fabricated Metal Products; Transportation Equipment; and Machinery. The four industries reporting a decrease in new export orders in February are: Nonmetallic Mineral Products; Plastics & Rubber Products; Chemical Products; and Miscellaneous Manufacturing.

New Export Orders*	% Reporting	% Higher	% Same	% Lower	Net	Index
Feb 2020	78	14.8	72.9	12.3	+2.5	51.2
Jan 2020	77	15.4	75.9	8.8	+6.6	53.3
Dec 2019	79	11.3	72.2	16.6	-5.3	47.3
Nov 2019	77	11.0	73.9	15.1	-4.1	47.9

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## Imports\*

ISM®'s Imports Index registered 42.6 percent in February, a decrease of 8.7 percentage points when compared to the 51.3 percent reported for January. This indicates that imports contracted after growing for one month. "Imports returned to contraction territory, with the index recording its weakest performance since May 2009, when it recorded 38.5 percent. Respondents noted the combined effects of the Lunar New Year as well as the coronavirus. Lower imports will continue as the effects of the virus are better understood," says Fiore.

The five industries reporting growth in imports in February are: Wood Products; Printing & Related Support Activities; Nonmetallic Mineral Products; Furniture & Related Products; and Plastics & Rubber Products. The 10 industries reporting a decrease in imports in February — in the following order — are: Electrical Equipment, Appliances & Components; Apparel, Leather & Allied Products; Primary Metals; Petroleum & Coal Products; Fabricated Metal Products; Transportation Equipment; Machinery; Computer & Electronic Products; Chemical Products; and Food, Beverage & Tobacco Products.

Imports	% Reporting	% Higher	% Same	% Lower	Net	Index
Feb 2020	85	12.2	60.8	27.0	-14.8	42.6
Jan 2020	84	13.6	75.4	11.0	+2.6	51.3
Dec 2019	85	13.3	71.0	15.7	-2.4	48.8
Nov 2019	82	10.3	76.1	13.6	-3.3	48.3

\*The Supplier Deliveries, Customers' Inventories, Prices, Backlog of Orders, New Export Orders and Imports Indexes do not meet the accepted criteria for seasonal adjustments.

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## Buying Policy

Average commitment lead time for Capital Expenditures increased by three days in February to 143 days. Average lead time for Production Materials decreased by one day in February to 64 days. Average lead time for Maintenance, Repair and Operating (MRO) Supplies decreased by one day in February to 31 days.

## Percent Reporting

Capital Expenditures	Hand-to-Mouth	30 Days	60 Days	90 Days	6 Months	1 Year +	Average Days
Feb 2020	22	5	7	19	28	19	143
Jan 2020	22	4	10	20	25	19	140

Capital Expenditures	Hand-to-Mouth	30 Days	60 Days	90 Days	6 Months	1 Year +	Average Days
Dec 2019	20	5	9	19	26	21	147
Nov 2019	20	6	11	16	27	20	144

Production Materials	Hand-to-Mouth	30 Days	60 Days	90 Days	6 Months	1 Year +	Average Days
Feb 2020	10	34	28	19	7	2	64
Jan 2020	11	34	27	18	8	2	65
Dec 2019	11	33	28	20	6	2	63
Nov 2019	12	36	28	16	6	2	61

MRO Supplies	Hand-to-Mouth	30 Days	60 Days	90 Days	6 Months	1 Year +	Average Days
Feb 2020	40	38	14	6	2	0	31
Jan 2020	40	36	14	8	2	0	32
Dec 2019	40	35	15	5	4	1	37
Nov 2019	41	36	16	4	3	0	31

#### About This Report

DO NOT CONFUSE THIS NATIONAL REPORT with the various regional purchasing reports released across the country. The national report's information reflects the entire U.S., while the regional reports contain primarily regional data from their local vicinities. Also, the information in the regional reports is not used in calculating the results of the national report. The information compiled in this report is for the month of February 2020.

The data presented herein is obtained from a survey of manufacturing supply executives based on information they have collected within their respective organizations. ISM® makes no representation, other than that stated within this release, regarding the individual company data collection procedures. The data should be compared to all other economic data sources when used in decision-making.

#### Data and Method of Presentation

The Manufacturing ISM® Report On Business® is based on data compiled from purchasing and supply executives nationwide. The composition of the Manufacturing Business Survey Committee is stratified

according to the North American Industry Classification System (NAICS) and each of the following NAICS-based industry's contribution to gross domestic product (GDP): Food, Beverage & Tobacco Products; Textile Mills; Apparel, Leather & Allied Products; Wood Products; Paper Products; Printing & Related Support Activities; Petroleum & Coal Products; Chemical Products; Plastics & Rubber Products; Nonmetallic Mineral Products; Primary Metals; Fabricated Metal Products; Machinery; Computer & Electronic Products; Electrical Equipment, Appliances & Components; Transportation Equipment; Furniture & Related Products; and Miscellaneous Manufacturing (products such as medical equipment and supplies, jewelry, sporting goods, toys and office supplies). The data are weighted based on each industry's contribution to GDP. According to the BEA estimates for 2018 GDP (released October 29, 2019), the six largest manufacturing sub-sectors are: Computer & Electronic Products; Chemical Products; Transportation Equipment Manufacturing; Food, Beverage & Tobacco Products; Petroleum & Coal Products; and Fabricated Metal Products. Beginning in February 2018 with January 2018 data, computation of the indexes is accomplished utilizing unrounded numbers.

Survey responses reflect the change, if any, in the current month compared to the previous month. For each of the indicators measured (New Orders, Backlog of Orders, New Export Orders, Imports, Production, Supplier Deliveries, Inventories, Customers' Inventories, Employment and Prices), this report shows the percentage reporting each response, the net difference between the number of responses in the positive economic direction (higher, better and slower for Supplier Deliveries) and the negative economic direction (lower, worse and faster for Supplier Deliveries), and the diffusion index. Responses are raw data and are never changed. The diffusion index includes the percent of positive responses plus one-half of those responding the same (considered positive).

The resulting single index number for those meeting the criteria for seasonal adjustments (PMI<sup>®</sup>, New Orders, Production, Employment and Inventories) is then seasonally adjusted to allow for the effects of repetitive intra-year variations resulting primarily from normal differences in weather conditions, various institutional arrangements, and differences attributable to non-moveable holidays. All seasonal adjustment factors are subject annually to relatively minor changes when conditions warrant them. The PMI<sup>®</sup> is a composite index based on the diffusion indexes of five of the indexes with equal weights: New Orders (seasonally adjusted), Production (seasonally adjusted), Employment (seasonally adjusted), Supplier Deliveries (seasonally adjusted), and Inventories.

Diffusion indexes have the properties of leading indicators and are convenient summary measures showing the prevailing direction of change and the scope of change. A PMI<sup>®</sup> reading above 50 percent indicates that the manufacturing economy is generally expanding; below 50 percent indicates that it is generally declining. A PMI<sup>®</sup> above 42.8 percent, over a period of time, indicates that the overall economy, or gross domestic product (GDP), is generally expanding; below 42.8 percent, it is generally declining. The distance from 50 percent or 42.8 percent is indicative of the extent of the expansion or decline. With some of the indicators within this report, ISM<sup>®</sup> has indicated the departure point between expansion and decline of comparable government series, as determined by regression analysis. The Manufacturing ISM<sup>®</sup> Report On Business<sup>®</sup> survey is sent out to Manufacturing Business Survey Committee respondents the first part of each month. Respondents are asked to report on information for the current month for U.S. operations only. ISM<sup>®</sup> receives survey responses throughout most of any

given month, with the majority of respondents generally waiting until late in the month to submit responses in order to give the most accurate picture of current business activity. ISM® then compiles the report for release on the first business day of the following month.

The industries reporting growth, as indicated in the Manufacturing ISM® Report On Business® monthly report, are listed in the order of most growth to least growth. For the industries reporting contraction or decreases, those are listed in the order of the highest level of contraction/decrease to the least level of contraction/decrease.

Responses to Buying Policy reflect the percent reporting the current month's lead time, the approximate weighted number of days ahead for which commitments are made for Capital Expenditures; Production Materials; and Maintenance, Repair and Operating (MRO) Supplies, expressed as hand-to-mouth (five days), 30 days, 60 days, 90 days, six months (180 days), a year or more (360 days), and the weighted average number of days. These responses are raw data, never revised, and not seasonally adjusted since there is no significant seasonal pattern.

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