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April 2020 Manufacturing ISM[®] Report On Business[®]

PMI[®] at 41.5%

Production, New Orders, and Employment Contracting

Supplier Deliveries Slowing at Faster Rate; Backlog Contracting

Raw Materials Inventories Contracting; Customers' Inventories Too Low

Prices Decreasing; Exports and Imports Contracting

(Tempe, Arizona) — Economic activity in the **manufacturing sector contracted in April**, and the **overall economy contracted after 131 consecutive months of expansion**, 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 April PMI[®] registered 41.5 percent, down 7.6 percentage points from the March reading of 49.1 percent. The New Orders Index registered 27.1 percent, a decrease of 15.1 percentage points from the March reading of 42.2 percent. The Production Index registered 27.5 percent, down 20.2 percentage points compared to the March reading of 47.7 percent. The Backlog of Orders Index registered 37.8 percent, a decrease of 8.1 percentage points compared to the March reading of 45.9 percent. The Employment Index registered 27.5 percent, a decrease of 16.3 percentage points from the March reading of 43.8 percent. The Supplier Deliveries Index registered 76 percent, up 11 percentage points from the March reading of 65 percent, limiting the decrease in the composite PMI[®].

"The Inventories Index registered 49.7 percent; 2.8 percentage points higher than the March reading of 46.9 percent. The Prices Index registered 35.3 percent, down 2.1 percentage points compared to the March reading of 37.4 percent. The New Export Orders Index registered 35.3 percent, a decrease of 11.3 percentage points compared to the March reading of 46.6 percent. The Imports Index registered 42.7 percent, a 0.6-percentage point increase from the March reading of 42.1 percent.

“Comments from the panel were strongly negative (three negative comments for every one positive comment) regarding the near-term outlook, with sentiment clearly impacted by the coronavirus (COVID-19) pandemic and continuing energy market recession. The PMI[®] indicates a level of manufacturing-sector contraction not seen since April 2009, with a strongly negative trajectory. **Demand** contracted heavily, with the (1) New Orders Index contracting at a very strong level, again pushed by new export order contraction, (2) Customers’ Inventories Index approaching a level that is considered a negative for future production, and (3) Backlog of Orders Index strongly contracting, in spite of a lack of production during the period. **Consumption** (measured by the Production and Employment indexes) contributed negatively (a combined 36.5-percentage point decrease) to the PMI[®] calculation, with activity dramatically contracting due to plant closures and lack of demand. **Inputs** — expressed as supplier deliveries, inventories and imports — strengthened again due to supplier delivery issues that were partially offset by continuing imports sluggishness. The delivery issues were the result of disruptions in domestic and global supply chains, driven primarily by supplier plant shutdowns. Inventory contraction slowed due to throughput issues. Inputs contributed positively (a combined 13.8-percentage point increase) to the PMI[®] calculation. (The Supplier Deliveries and Inventories indexes directly factor into the PMI[®]; the Imports Index does not.) Prices continued to contract (and at a faster rate in April), supporting a negative outlook.

“The coronavirus pandemic and global energy market weakness continue to impact all manufacturing sectors for the second straight month. Among the six big industry sectors, Food, Beverage & Tobacco Products remains the strongest. Transportation Equipment and Fabricated Metal Products are the weakest of the big six sectors,” says Fiore.

Of the 18 manufacturing industries, the two that reported growth in April are: Paper Products; and Food, Beverage & Tobacco Products. The 15 industries reporting contraction in April, in order, are: Printing & Related Support Activities; Furniture & Related Products; Transportation Equipment; Textile Mills; Fabricated Metal Products; Nonmetallic Mineral Products; Machinery; Plastics & Rubber Products; Electrical Equipment, Appliances & Components; Petroleum & Coal Products; Wood Products; Miscellaneous Manufacturing; Computer & Electronic Products; Primary Metals; and Chemical Products.

WHAT RESPONDENTS ARE SAYING

- “Thirty-percent decrease for April due to COVID-19 impact on both customers and suppliers.” (Computer & Electronic Products)
- “Production stopped, other than to make hand sanitizer for those in need.” (Chemical Products)
- “COVID-19 has created a wave of activities, including vendors closing, vendors focusing only on the medical industry, employees not coming to work, delayed shipments from overseas, [and] etcetera.” (Transportation Equipment)
- “The food processing B2B space remains steady. We are weathering the storm. There is a fortunate increased need for packaged foods. Softening is showing through in some products that find their way into food service and lodging.” (Food, Beverage & Tobacco Products)
- “Our refinery is losing money making gasoline due to the falling demand.” (Petroleum & Coal Products)

- “We supply the construction industry in various ways, where the slowdown has been a bit slower than most industries. It is, however; beginning to impact our business, and we see more challenges on the horizon.” (Fabricated Metal Products)
- “The company I work for manufactures personal protective equipment [PPE], specifically N95 masks, face shields, as well as selling protective clothing and hand protection. In the area of PPE, our backlog has spiked to numbers we have never seen. While no doubt some of the backorders will be canceled, many of the orders are longer term commitments from [the] U.S. government.” (Apparel, Leather & Allied Products)
- “Our packaging business is starting to see signs of a slowdown in May after two strong months into COVID-19.” (Paper Products)
- “COVID-19 has destroyed our market and our company. Without a full recovery very soon, and some assistance, I fear for our ability to continue operations.” (Nonmetallic Mineral Products)
- “Dealing with the effects of coronavirus and having 65 percent of our operations down.” (Furniture & Related Products)

Manufacturing at a Glance April 2020

Index	Series Index Apr	Series Index Mar	Percentage Point Change	Direction	Rate of Change	Trend* (Months)
PMI®	41.5	49.1	-7.6	Contracting	Faster	2
New Orders	27.1	42.2	-15.1	Contracting	Faster	3
Production	27.5	47.7	-20.2	Contracting	Faster	2
Employment	27.5	43.8	-16.3	Contracting	Faster	9
Supplier Deliveries	76.0	65.0	+11.0	Slowing	Faster	6
Inventories	49.7	46.9	+2.8	Contracting	Slower	11
Customers' Inventories	48.8	43.4	+5.4	Too Low	Slower	43
Prices	35.3	37.4	-2.1	Decreasing	Faster	3
Backlog of Orders	37.8	45.9	-8.1	Contracting	Faster	2
New Export Orders	35.3	46.6	-11.3	Contracting	Faster	2
Imports	42.7	42.1	+0.6	Contracting	Slower	3

Index	Series Index Apr	Series Index Mar	Percentage Point Change	Direction	Rate of Change	Trend* (Months)
OVERALL ECONOMY				Contracting	From Growing	1
Manufacturing Sector				Contracting	Faster	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.

***Number of months moving in current direction.**

Commodities reported up/down in price and in short supply

Commodities Up in Price

Caustic Soda; Disinfectants & Soaps; Freight; Personal Protective Equipment (PPE); PPE — Gloves (2); PPE— Masks; and Precious Metals.

Commodities Down in Price

Aluminum (3); Copper (3); Corn; Crude Oil (3); Diesel Fuel (2); Distillates; Gasoline; Natural Gas (5); Scrap (3); Steel — Hot Rolled (3); Steel — Stainless; and Steel Products.

Commodities in Short Supply

Capacitors; Disinfectants & Soaps; Electrical Cable; Hand Sanitizer (2); Isopropyl Alcohol (2); N95 Masks; PPE — Gloves (2); PPE — Masks (2); and Resistors.

Note: The number of consecutive months the commodity is listed is indicated after each item.

APRIL 2020 Manufacturing Index Summaries

PMI®

Manufacturing contracted in April, as the PMI® registered 41.5 percent, 7.6 percentage points lower than the March reading of 49.1 percent. “The PMI® contracted strongly in April after dropping below 50 percent in March. The PMI® recorded its lowest level since April 2009, when it registered 39.9 percent. The 7.6-percentage point decrease in the PMI® is the largest one-month decline since a 9-percentage point decrease in October 2008. Among the big six industries, only Food, Beverage & Tobacco Products expanded. For the second month in a row, all of the PMI® subindexes show a strong negative impact due to the ongoing coronavirus pandemic,” 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 April PMI[®] indicates a contraction of the overall economy after 131 consecutive months of growth. The manufacturing sector contracted for the second consecutive month. “The past relationship between the PMI[®] and the overall economy indicates that the PMI[®] for April (41.5 percent) corresponds to a 0.4-percent decrease in real gross domestic product (GDP) on an annualized basis. From a pure demand and material-conversion standpoint, discounting the oversized influence in the ability to obtain supply, the economic contraction in April was likely sharper than the traditional PMI[®] calculation indicates,” says Fiore.

The Last 12 Months

Month	PMI[®]
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Apr 2020	41.5
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Mar 2020	49.1
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Feb 2020	50.1
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Jan 2020	50.9
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Dec 2019	47.8
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Nov 2019	48.1
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Month	PMI[®]
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Oct 2019	48.5
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Sep 2019	48.2
-----------------	------

Aug 2019	48.8
-----------------	------

Jul 2019	51.3
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Jun 2019	51.6
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May 2019	52.3
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Average for 12 months - 49.0

High - 52.3

Low - 41.5

New Orders

ISM®'s New Orders Index registered 27.1 percent in April, a decrease of 15.1 percentage points compared to the 42.2 percent reported for March. This indicates that new orders contracted for the third consecutive month. This is the index's lowest reading since December 2008, when it registered 25.9 percent. The 15.1-percentage point decrease in the New Orders Index between March and April is the largest one-month decline since April 1951 (18.7 percentage points). "Of the top six industry sectors, Food, Beverage & Tobacco Products expanded strongly, while Chemical Products contracted and Transportation Equipment; Petroleum & Coal Products; Fabricated Metal Products; and Computer & Electronic Products contracted strongly," 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, the two that reported growth in new orders in April are: Food, Beverage & Tobacco Products; and Paper Products. The 15 industries reporting a decline in new orders in April — in the following order — are: Textile Mills; Printing & Related Support Activities; Nonmetallic Mineral Products; Transportation Equipment; Petroleum & Coal Products; Furniture & Related Products; Fabricated Metal Products; Machinery; Electrical Equipment, Appliances & Components; Plastics & Rubber Products; Miscellaneous Manufacturing; Computer & Electronic Products; Wood Products; Primary Metals; and Chemical Products.

New Orders % Higher % Same % Lower Net Index

Apr 2020	17.7	22.7	59.7	-42.0	27.1
Mar 2020	23.5	44.4	32.1	-8.6	42.2
Feb 2020	28.8	49.1	22.0	+6.8	49.8
Jan 2020	24.8	54.4	20.8	+4.0	52.0

Production

The Production Index registered 27.5 percent in April, the lowest figure since numeric ISM® *Report On Business*® index records began in January 1948. The index indicated a second straight month of contraction, and the 20.2-percentage point decrease from the March reading of 47.7 percent is the largest one-month decline since January 1984, when the index fell 20.7 percentage points. "Food, Beverage & Tobacco Products was the only top-six industry sector that expanded, with the others contracting strongly due to lack of new orders and labor available to convert material," 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 two industries reporting growth in production during the month of April are: Paper Products; and Food, Beverage & Tobacco Products. The 14 industries reporting a decrease in production in April — listed in order — are: Textile Mills; Printing & Related Support Activities; Furniture & Related Products; Transportation Equipment; Plastics & Rubber Products; Fabricated Metal Products; Machinery;

Nonmetallic Mineral Products; Miscellaneous Manufacturing; Petroleum & Coal Products; Electrical Equipment, Appliances & Components; Computer & Electronic Products; Chemical Products; and Primary Metals.

Production % Higher % Same % Lower Net Index

Apr 2020	18.6	21.2	60.2	-41.6	27.5
Mar 2020	21.5	53.7	24.8	-3.3	47.7
Feb 2020	26.4	53.5	20.1	+6.3	50.3
Jan 2020	25.3	55.9	18.8	+6.5	54.3

Employment

ISM®'s Employment Index registered 27.5 percent in April, 16.3 percentage points lower than the March reading of 43.8 percent. This is the index's lowest reading since June 1949 (27.2 percent) and largest one-month percentage-point decrease since numeric records began in January 1948. "This is the ninth month of employment contraction, and at a much faster rate compared to March. All six big industry sectors experienced employment contraction as a result of furloughs and layoffs due to a lack of new orders and/or social-distancing mandates," 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, the only industry to report employment growth in April is Apparel, Leather & Allied Products. The 16 industries reporting a decrease in employment in April, in the following order, are: Printing & Related Support Activities; Furniture & Related Products; Transportation Equipment; Textile Mills; Machinery; Electrical Equipment, Appliances & Components; Fabricated Metal Products; Plastics & Rubber Products; Petroleum & Coal Products; Nonmetallic Mineral Products; Primary Metals; Miscellaneous Manufacturing; Wood Products; Computer & Electronic Products; Chemical Products; and Food, Beverage & Tobacco Products.

Employment % Higher % Same % Lower Net Index

Apr 2020	2.8	50.7	46.6	-43.8	27.5
Mar 2020	8.6	70.1	21.3	-12.7	43.8
Feb 2020	11.7	69.1	19.2	-7.5	46.9
Jan 2020	11.7	66.0	22.3	-10.6	46.6

Supplier Deliveries*

The delivery performance of suppliers to manufacturing organizations was slower in April, as the Supplier Deliveries Index registered 76 percent. This is 11 percentage points higher than the 65 percent reported in March. The index reached its highest level since April 1974, when it registered 82.1 percent. The 11-percentage point increase is the largest one-month jump since January 1976, when the Supplier Deliveries Index increased 12.8 percentage points. “Suppliers continue to struggle to deliver, at a much stronger rate compared to March. The COVID-19 pandemic was the primary cause of global and domestic supply chain disruptions, with suppliers impacted by plant shutdowns, transportation challenges and the continuing difficulty in importing parts and components,” says Fiore. A reading below 50 percent indicates faster deliveries, while a reading above 50 percent indicates slower deliveries.

The 17 industries reporting slower supplier deliveries in April — listed in order — are: Printing & Related Support Activities; Petroleum & Coal Products; Textile Mills; Miscellaneous Manufacturing; Computer & Electronic Products; Food, Beverage & Tobacco Products; Transportation Equipment; Electrical Equipment, Appliances & Components; Apparel, Leather & Allied Products; Furniture & Related Products; Machinery; Chemical Products; Plastics & Rubber Products; Paper Products; Nonmetallic Mineral Products; Fabricated Metal Products; and Primary Metals. The only industry reporting faster supplier deliveries in April is Wood Products.

Supplier Deliveries	% Slower	% Same	% Faster	Net	Index
Apr 2020	55.8	40.3	3.9	+51.9	76.0
Mar 2020	35.7	58.6	5.7	+30.0	65.0
Feb 2020	20.3	74.0	5.7	+14.6	57.3
Jan 2020	16.8	72.3	10.9	+5.9	52.9

Inventories

The Inventories Index registered 49.7 percent in April, 2.8 percentage points higher than the 46.9 percent reported for March. “The index contracted for an 11th straight month, but at a slower rate. Inventory contraction slowed as expected due to supply chain disruptions and lack of labor to convert material,” 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 10 industries reporting higher inventories in April, in order, are: Wood Products; Paper Products; Textile Mills; Furniture & Related Products; Primary Metals; Petroleum & Coal Products; Fabricated Metal Products; Electrical Equipment, Appliances & Components; Machinery; and Transportation Equipment. The six industries reporting a decrease in inventories in April — listed in order — are: Apparel, Leather & Allied Products; Printing & Related Support Activities; Computer & Electronic Products; Food, Beverage & Tobacco Products; Plastics & Rubber Products; and Chemical Products.

Inventories % Higher % Same % Lower Net Index

Apr 2020	31.7	37.2	31.2	+0.5	49.7
Mar 2020	20.5	55.0	24.5	-4.0	46.9
Feb 2020	14.9	66.6	18.5	-3.6	46.5
Jan 2020	18.2	61.2	20.6	-2.4	48.8

Customers' Inventories*

ISM[®]'s Customers' Inventories Index registered 48.8 percent in April, 5.4 percentage points higher than the 43.4 percent reported for March, indicating that customers' inventory levels were considered too low. "Customers' inventories are too low for the 43rd consecutive month; however, the index took another step toward 'about right' territory in April. These inventories no longer remain at a level that will support future production output," says Fiore.

Of the 18 industries, the three industries reporting higher customers' inventories in April are: Nonmetallic Mineral Products; Transportation Equipment; and Textile Mills. The nine industries reporting customers' inventories as too low during April — listed in order — are: Wood Products; Printing & Related Support Activities; Apparel, Leather & Allied Products; Fabricated Metal Products; Furniture & Related Products; Chemical Products; Paper Products; Primary Metals; and Computer & Electronic Products. Six industries reported no change in customers' inventories in April.

Customers' Inventories % Reporting % Too High % About Right % Too Low Net Index

Apr 2020	73	21.7	54.2	24.1	-2.4	48.8
Mar 2020	75	11.4	64.0	24.6	-13.2	43.4
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

Prices*

The ISM[®] Prices Index registered 35.3 percent in April, 2.1 percentage points lower than the March reading of 37.4 percent, indicating raw materials prices decreased for the third consecutive month, at a faster rate. "Prices contracted in April, driven primarily by scrap steel, other steels, aluminum, copper, corn, distillates and other energy sources. Prices contracted to their lowest level since January 2016, when the index registered 33.9 percent," 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 three industries reporting paying increased prices for raw materials in April are: Furniture & Related Products; Textile Mills; and Food, Beverage & Tobacco Products. The 12 industries reporting a decrease in prices for raw materials in April — listed in order — are: Petroleum & Coal Products; Wood Products; Plastics & Rubber Products; Fabricated Metal Products; Apparel, Leather & Allied Products; Electrical Equipment, Appliances & Components; Nonmetallic Mineral Products; Machinery; Chemical Products; Primary Metals; Transportation Equipment; and Computer & Electronic Products.

Prices	% Higher	% Same	% Lower	Net	Index
Apr 2020	10.0	50.6	39.4	-29.4	35.3
Mar 2020	11.6	51.7	36.7	-25.1	37.4
Feb 2020	16.6	58.6	24.8	-8.2	45.9
Jan 2020	23.8	59.2	17.1	+6.7	53.3

Backlog of Orders*

ISM[®]'s Backlog of Orders Index registered 37.8 percent in April, an 8.1-percentage point decrease compared to the 45.9 percent reported in March, indicating order backlogs contracted for the second consecutive month. This is the index's lowest reading since March 2009 (37.6 percent). The 8.1-percentage point decrease in the Backlog of Orders Index is the largest one-month decline since May 2011, when it dropped 9.1 percentage points. "Despite weak production output, backlogs heavily contracted as a result of weak levels of new orders and new export orders. Two of the six big industry sectors' backlogs expanded during the period, most notably Computer & Electronic Products. Panelists' comments indicate supply chain disruptions are the primary cause of backlog growth," says Fiore.

The three industries reporting growth in order backlogs in April are: Food, Beverage & Tobacco Products; Paper Products; and Computer & Electronic Products. In April, 13 industries reported lower backlogs, in the following order: Printing & Related Support Activities; Fabricated Metal Products; Nonmetallic Mineral Products; Transportation Equipment; Furniture & Related Products; Petroleum & Coal Products; Wood Products; Textile Mills; Miscellaneous Manufacturing; Plastics & Rubber Products; Machinery; Electrical Equipment, Appliances & Components; and Chemical Products.

Backlog of Orders	% Reporting	% Higher	% Same	% Lower	Net	Index
Apr 2020	91	20.9	33.7	45.4	-24.5	37.8
Mar 2020	90	18.1	55.5	26.3	-8.2	45.9
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

New Export Orders*

ISM[®]'s New Export Orders Index registered 35.3 percent in April, a decrease of 11.3 percentage points compared to the March reading of 46.6 percent. This is the index's lowest reading since December 2008 (34.7 percent) and the largest one-month decline since a 12.9-percentage point decrease in October 2008. "The New Export Orders Index contracted heavily, with none of the six big industry sectors expanding. This indicates a clear slowdown in global demand," says Fiore.

The only industry reporting growth in new export orders in April is Apparel, Leather & Allied Products. The 14 industries reporting a decrease in new export orders in April, in the following order, are: Printing & Related Support Activities; Transportation Equipment; Miscellaneous Manufacturing; Textile Mills; Plastics & Rubber Products; Furniture & Related Products; Fabricated Metal Products; Nonmetallic Mineral Products; Machinery; Food, Beverage & Tobacco Products; Primary Metals; Computer & Electronic Products; Electrical Equipment, Appliances & Components; and Chemical Products.

New Export Orders % Reporting % Higher % Same % Lower Net Index

Apr 2020	79	12.0	46.5	41.5	-29.5	35.3
Mar 2020	76	12.5	68.1	19.4	-6.9	46.6
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

Imports*

ISM[®]'s Imports Index registered 42.7 percent in April, an increase of 0.6 percentage point compared to the 42.1 percent reported for March. "For the third consecutive month, imports were in contraction territory, with the index at levels not seen since May 2009, when it registered 38.5 percent. As was the case with supplier deliveries-related comments, respondents indicated the continuing impact from COVID-19 in global supply markets as the primary cause of reduced import activity," says Fiore.

The five industries reporting growth in imports in April are: Apparel, Leather & Allied Products; Petroleum & Coal Products; Textile Mills; Nonmetallic Mineral Products; and Food, Beverage & Tobacco Products. The 11 industries reporting a decrease in imports in April — in the following order — are: Plastics & Rubber Products; Transportation Equipment; Printing & Related Support Activities; Miscellaneous Manufacturing; Computer & Electronic Products; Electrical Equipment, Appliances & Components; Paper Products; Furniture & Related Products; Fabricated Metal Products; Primary Metals; and Machinery.

Imports % Reporting % Higher % Same % Lower Net Index

Apr 2020	86	20.4	44.6	35.1	-14.7	42.7
Mar 2020	83	16.5	51.4	32.2	-15.7	42.1

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

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

Buying Policy

Average commitment lead time for Capital Expenditures decreased by two days in April to 133 days. Average lead time for Production Materials decreased by one day in April to 64 days. Average lead time for Maintenance, Repair and Operating (MRO) Supplies increased by three days in April to 40 days.

Percent Reporting

Capital Expenditures Hand-to-Mouth 30 Days 60 Days 90 Days 6 Months 1 Year + Average Days

Apr 2020	26	6	11	17	20	20	133
Mar 2020	22	6	9	21	24	18	135
Feb 2020	22	5	7	19	28	19	143
Jan 2020	22	4	10	20	25	19	140

Production Materials Hand-to-Mouth 30 Days 60 Days 90 Days 6 Months 1 Year + Average Days

Apr 2020	14	33	23	20	8	2	64
Mar 2020	12	28	31	20	7	2	65
Feb 2020	10	34	28	19	7	2	64
Jan 2020	11	34	27	18	8	2	65

MRO Supplies Hand-to-Mouth 30 Days 60 Days 90 Days 6 Months 1 Year + Average Days

Apr 2020	39	32	14	10	4	1	40
Mar 2020	40	32	16	8	3	1	37
Feb 2020	40	38	14	6	2	0	31
Jan 2020	40	36	14	8	2	0	32

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 April 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®, 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® 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[®] reading above 50 percent indicates that the manufacturing economy is generally expanding; below 50 percent indicates that it is generally declining. A PMI[®] 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[®] has indicated the departure point between expansion and decline of comparable government series, as determined by regression analysis. The **Manufacturing ISM[®] Report On Business[®]** 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[®] 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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