REPUBLIC OF THE PHILIPPINES
PHILIPPINE STATISTICS AUTHORITY

PRESS RELEASE

PRODUCTION INDEX AND NET SALES INDEX
(Monthly Integrated Survey of Selected Industries)
December 2020

Date of Release: <u>05 February 2021</u>
Reference No. <u>2021-061</u>

Table A. Year-on-Year Growth Rates of Production Index,
Net Sales Index, and Producer Price Index for Total Manufacturing
(2000=100): December 2020^p, November 2020^r, and December 2019
(in Percent)

TOTAL MANUFACTURING	DECEMBER 2020^p	NOVEMBER 2020^r	DECEMBER 2019
Production Index (2000=100)			
Value (*VaPI*)	-5.1	-11.5	-6.8
Volume (*VoPI*)	-2.8	-8.6	-7.3
Net Sales Index (2000=100)			
Value (*VaNSI)*	-6.9	-12.8	-2.0
Volume (*VoNSI)*	-4.6	-9.9	-2.6
Producer Price Index (2000=100)	-2.4	-3.2	0.6

p – preliminary, r- revised
Source: Philippine Statistics Authority

PRODUCTION

Value of Production Index still exhibited a downtrend

The Value of Production Index (VaPI) for manufacturing posted an annual decrement of -5.1 percent in December 2020 compared with the faster drop of -11.5 percent in the previous month. The decline of VaPI in December 2020 was the tenth consecutive month of contraction and the lowest decrease since March 2020. In December 2019, VaPI dropped by -6.8 percent. (*Table A)*

The slower downturn in the VaPI for the sector was influenced by the increases in the indices of six (6) industry groups. These industries were led by **paper and paper products** which exhibited a two-digit growth of 13.8 percent. Contributing further to the narrower decline in December 2020 were the slower annual decreases in the indices of seven (7) industry groups. *(Tables 1-A and 1)*

On the other hand, the average annual growth rate for VaPI in 2020 was recorded at -13.9 percent. This annual rate dropped faster than the -6.9 percent registered in 2019.

## Volume of Production Index likewise continued to decrease

The Volume of Production Index (VoPI) for the manufacturing sector also continued to drop at an annual rate of -2.8 percent in December 2020, from a faster decline of -8.6 percent in the previous month. In December 2019, the annual growth rate of VoPI was recorded at -7.3 percent. *(Table A)*

Of the 20 industry groups, positive growths were observed in five (5) industry groups, namely, **paper and paper products** (26.8%), **chemical products** (7.5%), **electrical machinery** (5.7%), **food manufacturing** (5.4%), and **rubber and plastic products** (4.9%) in December 2020. *(Tables 1-B and 2)*

Contributing further to the narrower downturn in VoPI for the sector in December 2020 were the slower annual decreases in the indices of eight (8) industry groups. *(Tables 1-B and 2)*

Meanwhile, the 2020 average annual growth rate for VoPI was posted at -10.3 percent. This contraction in VoPI was faster than the reported annual decrease of -8.4 percent in 2019.

Figure 1. Value and Volume of Production Index for Total Manufacturing
November 2019 - December 2020ᵖ (2000 = 100)
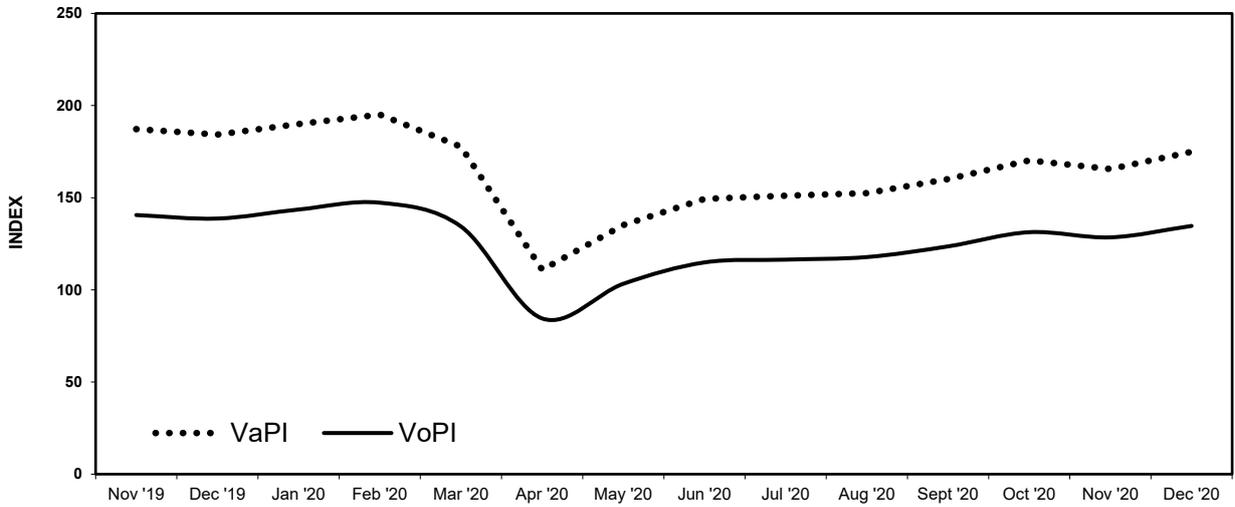
p - preliminary
Source: Philippine Statistics Authority

Figure 2. Year-on-Year Growth Rates of Value and Volume
of Production Index for Total Manufacturing (in percent)
November 2019 - December 2020ᵖ (2000 = 100)
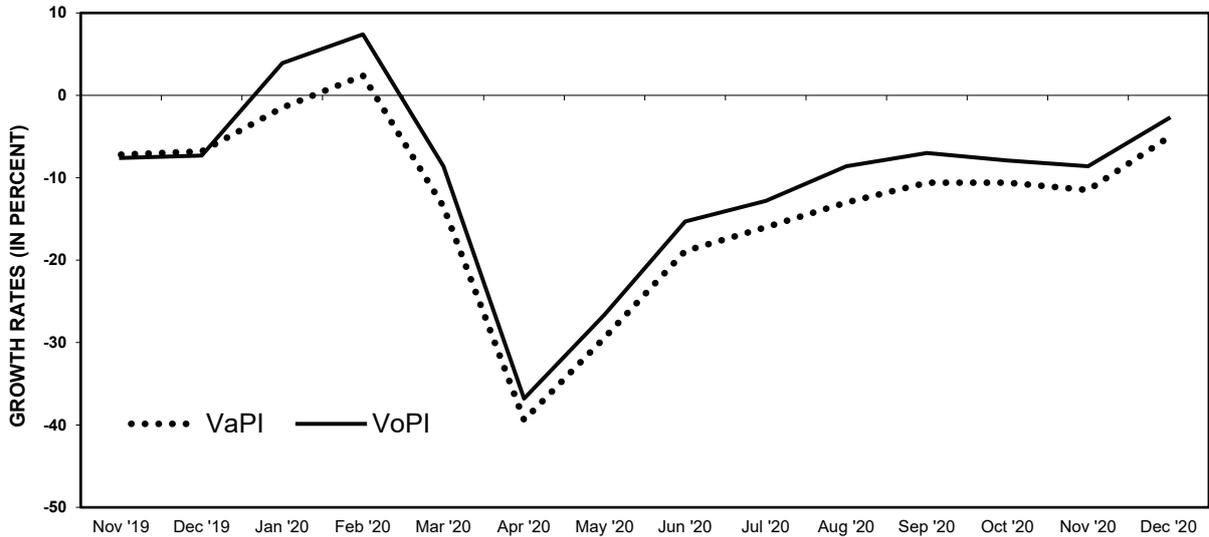
p - preliminary
Source: Philippine Statistics Authority

NET SALES

Value of Net Sales Index continued to decline at a slower pace

The Value of Net Sales Index (VaNSI) for manufacturing sector in December 2020 likewise contracted at a slower rate of -6.9 percent compared with the -12.8 percent decrease in November 2020. The contraction in December 2020 was the 11th consecutive month of decline and the lowest since March 2020. In December 2019, the year-on-year rate was at -2.0 percent. *(Table A)*

Major contributors to the slower drop in VaNSI for the sector in December 2020 were the two-digit increases observed in the following industries: **transport equipment** (24.2%), **leather products** (20.6%), and **chemical products** (10.8%). The narrower decline in the indices of eight (8) industry groups also tapered off the rate of decrease in the index of the sector. *(Tables 2-A and 3)*

In contrast, the average annual growth rate for VaNSI in 2020 was at -16.2 percent, a faster drop compared to the -1.2 percent annual rate in 2019.

Volume of Net Sales Index also dropped

The Volume of Net Sales Index (VoNSI) remained at a downward trend in December 2020 with annual growth rate of -4.6 percent. The annual rate dropped at a slower rate than the -9.9 percent in the previous month. In December 2019, the annual decrease was observed at -2.6 percent. *(Table A)*

The slower downturn in VoNSI for the sector in December 2020 was influenced by the two-digit increments in the indices of three (3) industry groups, namely, **transport equipment** (30.7%), **leather products** (28.7%), and **chemical products** (14.0%). Further tapering off the annual decline in VoNSI for manufacturing were nine (9) industry groups with narrower decline in their indices. *(Tables 2-B and 4)*

On the contrary, the 2020 average annual growth rate for VoNSI was recorded at -12.7 percent. This decline in VoNSI was faster than the -2.7 percent annual rate in 2019.

Figure 3. Year-on-Year Changes in Net Sales (in percent):
November 2019 - December 2020ᵖ (2000 = 100)
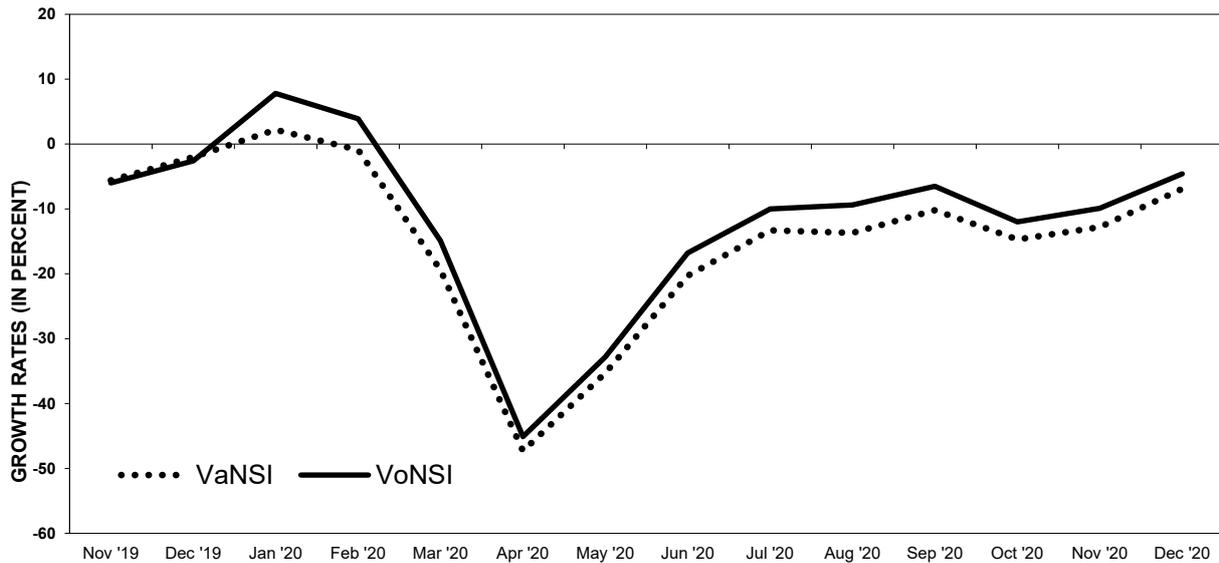
p - preliminary
Source: Philippine Statistics Authority

CAPACITY UTILIZATION

Average capacity utilization rate for manufacturing slightly decreased

Based on responding establishments, the average capacity utilization rate for the manufacturing sector in December 2020 was posted at 72.8 percent from 75.6 percent in the previous month.

Five of the 20 industry groups had at least 80 percent average capacity utilization rate, which was led by **machinery except electrical** (88.3%), **textiles** (86.2%), and **non-metallic mineral products** (82.7%). *(Table 6)*

About sixteen percent of responding establishments operated at full capacity

The proportion of establishments that operated at full capacity (90% to 100%) was 15.6 percent of the total number of responding establishments. Meanwhile, 37.5 percent operated at 70 to 89 percent capacity, while 47.0 percent operated below 70 percent capacity. *(Table B)*

Table B. Distribution of Responding Establishments by Capacity Utilization for Total Manufacturing: December 2020[p]

Capacity Utilization	Number of Responding Establishments	Percent Share to Responding Establishments
TOTAL	411	100.0
Below 50%	108	26.2
50% - 59%	34	8.3
60% - 69%	51	12.4
70% - 79%	73	17.8
80% - 89%	81	19.7
90% - 100%	64	15.6

p – preliminary
Details may not sum to totals due to rounding
Notes:
1) Results are based on the responses of establishments which were in operation during the reference month.
2) There were 12 establishments which responded but were not included in the tabulation as they temporarily or permanently ceased their business operations.
Source: Philippine Statistics Authority

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Attachments:

1. *Table 1. Value of Production Index (2000=100), Year-on-Year Growth Rates for Manufacturing Sector, January 2019 – December 2020[P]*

2. *Table 2. Volume of Production Index (2000=100), Year-on-Year Growth Rates for Manufacturing Sector, January 2019 – December 2020[P]*

3. *Table 3. Value of Net Sales Index (2000=100), Year-on-Year Growth Rates for Manufacturing Sector, January 2019 – December 2020[P]*

4. *Table 4. Volume of Net Sales Index (2000=100), Year-on-Year Growth Rates for Manufacturing Sector, January 2019 – December 2020[P]*

5. *Table 5. Producer Price Index (2000=100), Year-on-Year Growth Rates for Manufacturing Sector, January 2019 – December 2020[P]*

6. *Table 6. Average Capacity Utilization Rate by Major Industry Group: MISSI, December 2019 - December 2020[p]*

7. *Table 7. Distribution of Samples and Responding Establishments by Major Industry Group: MISSI, November 2020 and December 2020[P]*

8. *Table 8. Distribution of Samples and Responding Establishments by Major Industry Group: PPS, November 2020 and December 2020[P]*

9. *Technical Notes*

TABLE 1-A. Year-on-Year Growth Rate (%) of Value of Production Index by Industry Group: November and December 2020
(2000 =100)

INDUSTRY GROUP	December 2020[p]	November 2020[r]
Gainers		
Food manufacturing	7.0	1.9
Electrical machinery	4.5	-3.3
Chemical products	4.5	2.0
Paper and paper products	13.8	-9.1
Beverages	1.5	-13.7
Rubber and plastic products	1.5	-5.6
Losers		
Petroleum products	-48.1	-65.9
Machinery except electrical	-33.4	-29.5
Footwear and wearing apparel	-37.7	-33.3
Tobacco products	-43.8	-53.5
Transport equipment	-19.1	-16.5
Non-metallic mineral products	-27.4	-30.2
Basic metals	-7.5	11.8
Printing	-27.3	-46.8
Textiles	-16.3	-18.7
Fabricated metal products	-19.8	-21.2
Furniture and fixtures	-35.2	-30.2
Wood and wood products	-39.3	-2.1
Leather products	-40.7	-42.9
Miscellaneous manufactures	-3.3	11.1

p - preliminary, r - revised
Source: Philippine Statistics Authority

TABLE 1-B. Year-on-Year Growth Rate (%) of Volume of Production Index by Industry Group: November and December 2020
(2000 = 100)

INDUSTRY GROUP	December 2020ᵖ	November 2020ʳ
Gainers		
Electrical machinery	5.7	-1.0
Food manufacturing	5.4	0.7
Chemical products	7.5	5.6
Paper and paper products	26.8	1.3
Rubber and plastic products	4.9	-2.6
Losers		
Petroleum products	-44.3	-60.8
Machinery except electrical	-31.0	-26.3
Footwear and wearing apparel	-35.9	-32.7
Tobacco products	-46.0	-55.2
Non-metallic mineral products	-26.4	-29.0
Transport equipment	-14.9	-10.5
Furniture and fixtures	-45.7	-40.9
Printing	-28.2	-47.5
Textiles	-15.9	-18.3
Fabricated metal products	-19.9	-21.7
Basic metals	-5.7	15.0
Wood and wood products	-35.8	2.5
Beverages	-3.5	-18.0
Leather products	-36.7	-43.0
Miscellaneous manufactures	-1.0	14.0

p - preliminary, r - revised
Source: Philippine Statistics Authority

TABLE 2-A. Year-on-Year Growth Rate (%) of Value of Net Sales Index by Industry Group: November and December 2020
(2000 =100)

INDUSTRY GROUP	December 2020ᵖ	November 2020ʳ
Gainers		
Transport equipment	24.2	-14.2
Chemical products	10.8	0.2
Beverages	1.1	-10.6
Leather products	20.6	-3.1
Losers		
Petroleum products	-35.6	-43.5
Machinery except electrical	-23.3	-24.6
Non-metallic mineral products	-32.9	-36.8
Electrical machinery	-4.1	-4.0
Paper and paper products	-23.4	-13.4
Fabricated metal products	-24.6	-14.9
Printing	-26.6	-27.9
Miscellaneous manufactures	-13.0	-13.9
Rubber and plastic products	-21.3	-22.6
Food manufacturing	-1.4	-3.6
Basic metals	-4.3	10.1
Tobacco products	-7.8	13.4
Furniture and fixtures	-18.7	-14.3
Textiles	-4.0	-13.1
Wood and wood products	-9.2	8.8
Footwear and wearing apparel	-0.6	14.4

p - preliminary, r - revised
Source: Philippine Statistics Authority

TABLE 2-B. Year-on-Year Growth Rate (%) of Volume of Net Sales Index by Industry Group: November and December 2020
(2000 = 100)

INDUSTRY GROUP	December 2020p	November 2020r
Gainers		
Transport equipment	30.7	-8.1
Chemical products	14.0	3.7
Footwear and wearing apparel	2.4	15.5
Leather products	28.7	-3.3
Losers		
Petroleum products	-30.9	-35.0
Machinery except electrical	-20.5	-21.2
Non-metallic mineral products	-31.9	-35.7
Electrical machinery	-3.0	-1.7
Food manufacturing	-2.8	-4.7
Fabricated metal products	-24.7	-15.5
Printing	-27.6	-28.8
Paper and paper products	-14.6	-3.5
Furniture and fixtures	-32.0	-27.5
Tobacco products	-11.3	9.1
Miscellaneous manufactures	-10.9	-11.7
Rubber and plastic products	-18.6	-20.1
Beverages	-3.9	-15.0
Basic metals	-2.4	13.2
Textiles	-3.6	-12.7
Wood and wood products	-4.0	13.9

p - preliminary, r - revised
Source: Philippine Statistics Authority

Technical Notes

I. Introduction

The Monthly Integrated Survey of Selected Industries (MISSI) is one of the designated statistical activities undertaken by the Philippine Statistics Authority with the objective of providing flash indicators on the performance of growth-oriented industries in the manufacturing sector. The survey gathers monthly data on employment, compensation, production, net sales, inventories, and capacity utilization from manufacturing establishments.

The indicators generated from the 2020 MISSI at the 3/4-digit 2009 Philippine Standard Industrial Classification (PSIC) level are Value of Production Index (VaPI), Volume of Production Index (VoPI), Value of Net Sales Index (VaNSI), Volume of Net Sales Index (VoNSI) and capacity utilization of industries. The VoPI and VoNSI, however, are derived indicators using the 2020 Producer Price Index (PPI) as deflator.

II. Method of Index Computation

The MISSI utilizes the Laspeyres-type method of index computation where the weights are based on the value of production from the Census of Philippine Business and Industry (CPBI).

For the 2020 MISSI index series with base year of 2000, the weights of the major industries and sub-industries are based on the results of the 2000 CPBI for manufacturing establishments with average total employment of 20 and over. The weights are computed from the value of products sold plus change in inventories.

The formula in the computation of indices and growth rates are as follows:

1. Value of Production Index (VaPI)

a. Computation of Index for Industry Class Level

i. Initial Index

$$\text{VaPI}_{ijm} = \frac{V_{ijm}}{V_{ij0}} \text{x} 100$$

where:

VaPI_{ijm} = VaPI for the ith industry class of the jth industry group at the current month m

V_{ijm} = total value of production for all sample establishments in the ith industry class of the jth industry group at the current month m

V_{ijo} = average monthly value of production at base year 0

ii. Monthly Index

$$\text{VaPI}_{ijm} = \frac{V_{ijm}}{V_{ij(m\text{-}1)}} \text{ x VaPI }_{ij(m\text{-}1)}$$

where:

VaPI_{ijm} = VaPI for the ith industry class of the jth industry group at the current month m

$\text{VaPI}_{ij(m\text{-}1)}$ = VaPI for the ith industry class of the jth industry group for the previous month m-1

V_{ijm} = total value of production for all sample establishments in the ith industry class of the jth industry group at the current month m

$V_{ij(m\text{-}1)}$ = total value of production for all sample establishments in the ith industry class of the jth industry group for the previous month m-1

b. Computation of Index for Industry Group Level

$$VaPI_{jm} = \sum_{i=1}^{n} W_{ij} \times VaPI_{ijm}$$

where:

$VaPI_{jm}$ = VaPI for j^{th} industry group at current month m

$VaPI_{ijm}$ = VaPI for the ith industry class of the jth industry group at the current month m

W_{ij} = Weight for the ith industry class of the jth industry group

n = Number of industry class in the jth industry group

Same formula for industry groups without industry class

c. Computation of Index for Total Manufacturing

$$VaPI_{m} = \sum_{j=1}^{p} W_{j} \times VaPI_{jm}$$

where:

$VaPI_{m}$ = VaPI for the current month m

$VaPI_{jm}$ = VaPI for j^{th} industry group (2/3-digit) at current month m

W_{j} = Weight for the jth industry group

p = Number of industry groups = 20

2. Value of Net Sales Index (VaNSI)

The same methodology is used to compute the Value of Net Sales Index (VaNSI).

3. Volume of Production Index (VoPI)

a. Computation of Index for Industry Class Level

$$VoPI_{ijm} = \frac{VaPI_{ijm}}{PPI_{ijm}}$$

where:

$VoPI_{ijm}$ = VoPI for the ith industry class of the jth industry group at the current month m

$VaPI_{ijm}$ = VaPI for the ith industry class of the jth industry group at the current month m

PPI_{ijm} = PPI for the ith industry class of the jth industry group at the current month m

b. Computation of Index for Industry Group Level

$$VoPI_{jm} = \frac{VaPI_{jm}}{PPI_{jm}}$$

where:

$VoPI_{jm}$ = VoPI for the jth industry group at the current month m

$VaPI_{jm}$ = VaPI for the jth industry group at the current month m

PPI_{jm} = PPI for the jth industry group at the current month m

c. Computation of Index for Total Manufacturing (1-digit PSIC)

$$VoPI_m = \frac{VaPI_m}{PPI_m}$$

where:

$VoPI_m$ = VoPI for total manufacturing at the current month m

$VaPI_m$ = VaPI for total manufacturing at the current month m

PPI_m = PPI for total manufacturing at the current month m

4. Volume of Net Sales Index (VoNSI)

The same methodology is used to compute the Volume of Net Sales Index (VoNSI).

5. Capacity Utilization Rate

Capacity Utilization Rate is the ratio of total output to the maximum rated capacity of the establishment. Rated Capacity refers to the largest volume of output possible at which the factory can operate with an acceptable degree of efficiency taking into consideration unavoidable losses of productive time (i.e., vacation, holiday, and repair of equipment) and availability of raw materials.

The formulas in obtaining the Average Capacity Utilization Rate are the following:

a. Computation of Index for Industry Class Level

$$AveCU_m = \sum_{k=1}^{n} \left(CU_{ikjm} \times \frac{Prod_{kijm}}{Prod_{ijm}} \right)$$

where:

$AveCU_{ijm}$ = Average capacity utilization rate for the ith industry class in the jth industry group at the current month m

CU_{kijm} = Midpoint of the capacity utilization range reported by the kth sample establishment in the ith industry class of the jth industry group at the current month m

$Prod_{kijm}$ = Value of production for the kth sample establishment in the ith industry class for the jth industry group at the current month m

$Prod_{ijm}$ = Total value of production for the ith industry class of the jth industry group at the current month m

b. Computation of Index for Industry Group Level

- **With Industry Classes**

$$\text{AveCU}_{jm} = \sum_{j=1}^{20} \left(\text{Ave CU}_{ijm} \times W_{ij} \right)$$

where:

AveCU_{jm} = Average capacity utilization rate of the jth industry group at the current month m

AveCU_{ijm} = Average capacity utilization rate of the ith industry class of the jth industry group at the current month m

W_{ij} = Weight of the ith industry class of the jth industry group

- **Without Industry Classes**

$$\text{AveCU}_{m} = \sum_{k=1}^{n} \left(\text{CU}_{kjm} \times \frac{\text{Prod}_{kjm}}{\text{Prod}_{jm}} \right)$$

where:

AveCU_{jm} = Average capacity utilization rate of the jth industry group at the current month m

CU_{kjm} = Midpoint of the capacity utilization range reported by the kth sample establishment in the jth industry group at the current month m

Prod_{kjm} = Value of production for the kth sample establishment in the jth industry group at the current month m

Prod_{jm} = Value of production for the jth industry group at the current month m

c. Computation of Index for Total Manufacturing

$$AveCU_m = \sum_{j=1}^{20}\left(Ave\ CU_{jm} \times W_j\right)$$

where:

$AveCU_m$ = Average capacity utilization rate for total manufacturing at the current month m

CU_{jm} = Average capacity utilization rate of the jth industry group at the current month m

W_j = Weight of the jth industry group at the current m

III. Computation of Growth Rates

Year-on-year growth rates are computed by dividing the current month index by the index in the same month of the previous year less 1.

IV. Imputation and Revision

Imputation is done for sample establishments that are in operation during the reference period but no response during the release date. Results are revised accordingly when the actual data are received and these revisions are reflected in the next release.

V. Industry Coverage

The 2020 MISSI utilizes the 2009 PSIC to classify major industries and sub-industries. Twenty major industries of the 2009 PSIC were formed to comprise the industry coverage of the 2020 MISSI.

The table below presents the industry coverage of 2020 MISSI by 2009 PSIC code.

2009 PSIC CODE	INDUSTRY DESCRIPTION
C10	Food manufacturing *
C11	Beverages
C12	Tobacco products
C13	Textiles*
C14, C152	Footwear and wearing apparel
C151	Leather products
C16	Wood and wood products*
C17	Paper and paper products
C18	Printing
C19	Petroleum products*
C20,C21	Chemical products*
C22	Rubber and plastic products*
C23	Non-metallic mineral products*
C24	Basic metals*
C25,C3311	Fabricated metal products
C262,C275,C28, C263,C268,C3312,C332	Machinery except electrical*
C261,C264,C27, C29301,C3314,C332	Electrical machinery*
C29 except C29301, C30,C3315	Transport equipment
C31	Furniture and fixtures
C265,C266,C267,C32, C3313,C3319	Miscellaneous manufactures

* Industry groups categorized into industry classes