



PRESS RELEASE

**PRODUCTION INDEX AND NET SALES INDEX
(Monthly Integrated Survey of Selected Industries)
December 2021
(2018=100)**

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Table A. Year-on-Year Growth Rates of Production Index, Net Sales Index, and Producer Price Index for Total Manufacturing (2018=100): December 2020, November 2021^r, and December 2021^p (in Percent)

TOTAL MANUFACTURING	DECEMBER 2020	NOVEMBER 2021^r	DECEMBER 2021^p
Production Index (2018=100)			
Value (VaPI)	-18.0	27.2	18.6
Volume (VoPI)	-14.8	25.8	17.9
Net Sales Index (2018=100)			
Value (VaNSI)	-19.4	26.1	20.6
Volume (VoNSI)	-16.3	24.8	19.9
Producer Price Index (2018=100)	-3.7	1.1	0.6

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



PRODUCTION

Value of Production continued to increase

The Value of Production Index (VaPI) for manufacturing continued to register an annual increment of 18.6 percent in December 2021, from an annual growth of 27.2 percent in the previous month. In December 2020, VaPI declined at an annual rate of -18.0 percent. (Tables A and 1)

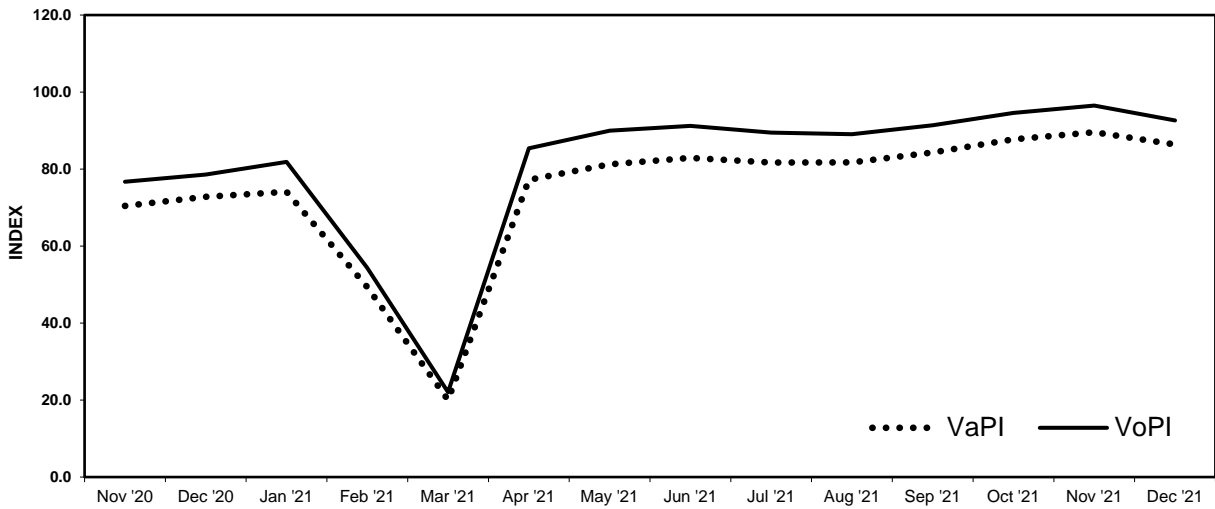
The growth in VaPI in December 2021 was contributed by the increases in 12 of the 22 industry divisions. Among these, the top contributor was **manufacture of wood, bamboo, cane, rattan articles and related products** and **manufacture of coke and refined petroleum products** with 93.6 and 75.1 percent annual growth rates, respectively. On the other hand, the remaining 10 industry divisions recorded decreases with **manufacture of basic pharmaceutical products and pharmaceutical preparations** registering the fastest annual decline of -29.5 percent. (Tables A.1 and 1)

Volume of Production Index likewise registered increment

The Volume of Production Index (VoPI) sustained a positive annual growth of 17.9 percent annually in December 2021, from its previous month's annual growth of 25.8 percent. In December 2020, VoPI dropped at an annual rate of -14.8 percent. (Tables A and 2)

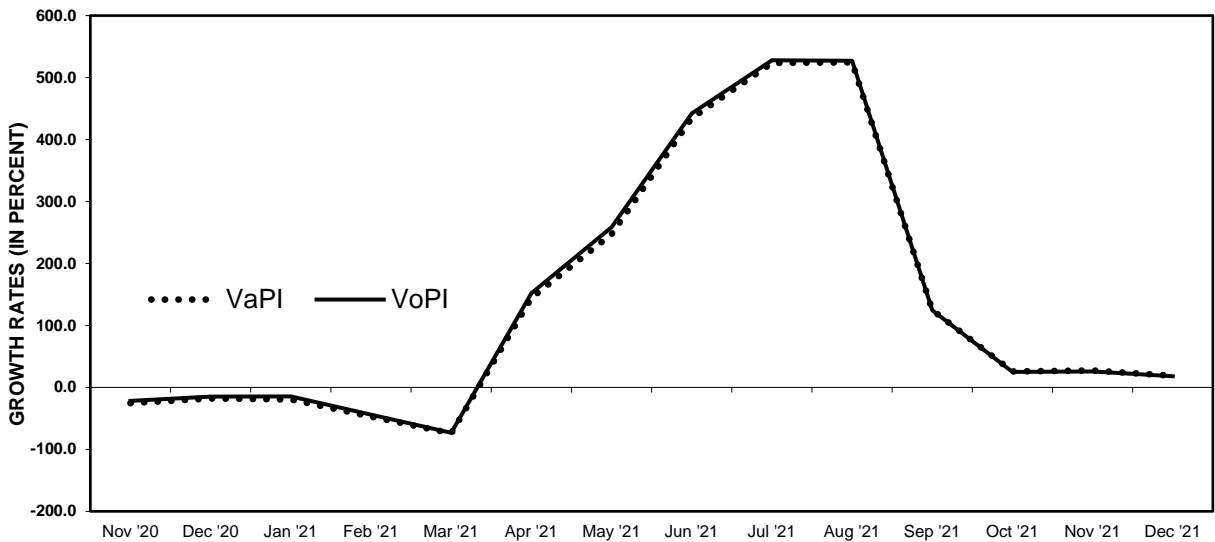
The increase in VoPI was brought about by the positive growth rates of 11 industry divisions. Of these, **manufacture of wood, bamboo, cane, rattan articles and related products** was the major contributing factor with 122.6 percent growth rate. On the contrary, the remaining 11 industry divisions recorded decreases which was led by **manufacture of basic pharmaceutical products and pharmaceutical preparations** with -30.2 percent annual rate. (Tables A.2 and 2)

Figure 1. Value and Volume of Production Index for Total Manufacturing November 2020 - December 2021^P (2018 = 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 2020 - December 2021^P (2018 = 100)



p – preliminary
Source: Philippine Statistics Authority

TABLE A.1. Year-on-Year Growth Rate (%) of Value of Production Index
by Industry Division: November 2021^r and December 2021^p
(2018 =100)

INDUSTRY DIVISION	November 2021 ^r	December 2021 ^p
Gainers		
Manufacture of food products	23.8	33.9
Manufacture of coke and refined petroleum products	123.5	75.1
Manufacture of computer, electronic, and optical products	25.4	11.1
Manufacture of electrical equipment	53.4	58.1
Manufacture of other non-metallic mineral products	56.3	37.4
Manufacture of machinery and equipment except electrical	36.5	43.9
Manufacture of wood, bamboo, cane, rattan articles and related products	57.4	93.6
Manufacture of fabricated metal products, except machinery and equipment	28.9	39.6
Other manufacturing and repair and installation of machinery and equipment	-5.9	20.8
Manufacture of textiles	3.0	19.5
Manufacture of basic metals	22.3	0.9
Manufacture of leather and related products, including footwear	-0.2	6.2
Losers		
Manufacture of transport equipment	-5.4	-10.4
Manufacture of beverages	2.1	-11.8
Manufacture of basic pharmaceutical products and pharmaceutical preparations	-8.7	-29.5
Manufacture of chemical and chemical products	-5.0	-5.6
Manufacture of rubber and plastic products	0.5	-8.8
Manufacture of tobacco products	-19.7	-13.8
Manufacture of paper and paper products	4.3	-5.1
Manufacture of wearing apparel	-10.9	-8.5
Manufacture of furniture	16.1	-3.0
Printing and reproduction of recorded media	7.7	-2.1

p - preliminary, r- revised

Source: Philippine Statistics Authority

TABLE A.2. Year-on-Year Growth Rate (%) of Volume of Production Index by Industry Division: November 2021^r and December 2021^p (2018 = 100)

INDUSTRY DIVISION	November 2021 ^r	December 2021 ^p
Gainers		
Manufacture of food products	20.5	31.5
Manufacture of computer, electronic, and optical products	42.9	27.4
Manufacture of coke and refined petroleum products	84.8	47.6
Manufacture of other non-metallic mineral products	56.4	37.0
Manufacture of electrical equipment	44.9	49.6
Manufacture of wood, bamboo, cane, rattan articles and related products	83.9	122.6
Manufacture of machinery and equipment except electrical	40.7	50.0
Manufacture of fabricated metal products, except machinery and equipment	31.0	40.4
Other manufacturing and repair and installation of machinery and equipment	-4.6	22.5
Manufacture of textiles	-2.4	13.7
Manufacture of leather and related products, including footwear	-1.9	4.5
Losers		
Manufacture of transport equipment	-6.8	-11.7
Manufacture of beverages	-0.8	-14.6
Manufacture of chemical and chemical products	-10.5	-10.4
Manufacture of rubber and plastic products	-5.0	-13.7
Manufacture of basic metals	13.4	-6.9
Manufacture of basic pharmaceutical products and pharmaceutical preparations	-10.5	-30.2
Manufacture of tobacco products	-20.4	-14.5
Manufacture of paper and paper products	2.7	-6.6
Manufacture of wearing apparel	-11.2	-9.0
Manufacture of furniture	17.2	-2.4
Printing and reproduction of recorded media	9.2	-0.8

p - preliminary, r- revised

Source: Philippine Statistics Authority

VaPI and VoPI showed recovery in 2021

The annual average growth rate of VaPI in 2021 was 47.0 percent, indicating a turnaround from a decrement of -43.0 percent annual average growth rate in 2020. In 2019, the annual average year-on-year growth of VaPI was -10.7 percent. (Table B)

In 2021, VoPI also showed a recovery as its annual average growth rate climbed to 50.3 percent, from a -40.5 percent drop in 2020. In 2019, the annual average year-on-year growth of VoPI was -8.7 percent (Table B)

Table B. Annual Average Indices and Year-on-Year Growth Rates of Production for Total Manufacturing (2018=100)
(January – December, 2019-2021)

Category	2019 (Jan – Dec)	2020 (Jan – Dec)	2021^P (Jan – Dec)
Value of Production (VaPI)			
Annual Average VaPI	89.1	50.8	74.7
Annual Average Year-on-Year Growth	-10.7	-43.0	47.0
Volume of Production (VoPI)			
Annual Average VaPI	91.7	54.2	81.5
Annual Average Year-on-Year Growth	-8.7	-40.5	50.3

p – preliminary

Source: Philippine Statistics Authority

NET SALES

Value of Net Sales Index remained at positive growth

The Value of Net Sales Index (VaNSI) continued to grow at an annual rate of 20.6 percent in December 2021, from an annual growth rate of 26.1 percent in the previous month. In December 2020, VaNSI dropped at an annual rate of -19.4 percent. (Tables A and 3)

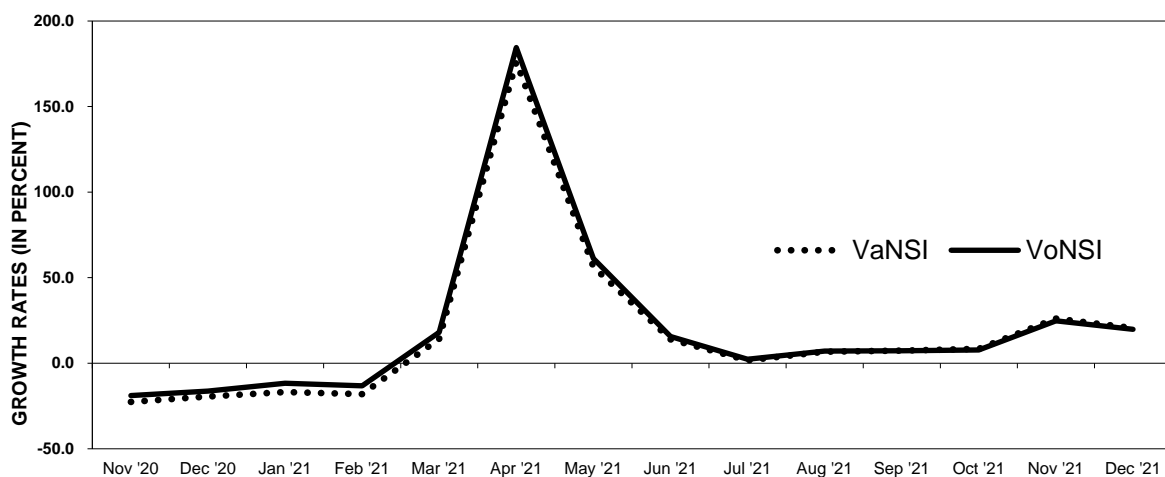
Of the 22 industry divisions, 15 reported positive growth rates led by **manufacture of coke and refined petroleum products** which registered an annual increase of 62.9 percent. Meanwhile, seven industry divisions showed downturns in December 2021 with **manufacture of basic pharmaceutical products and pharmaceutical preparations** registering the lowest rate of -20.9 percent. (Tables C.1 and 3)

Volume of Net Sales Index also exhibited growth

The Volume of Net Sales Index (VoNSI) recorded a year-on-year increase of 19.9 percent in December 2021, from a 24.8 percent increase in the previous month. In December 2020, VoNSI dropped by -16.3 percent. (Tables A and 4)

The increase in VoNSI was brought about by the positive growth rates of 15 industry divisions led by **computer, electronic and optical products** with 68.9 percent annual growth. In contrast, seven industry divisions exhibited decreases during the period, with **manufacture of basic pharmaceutical products and pharmaceutical preparations** posting the highest drop of -21.7 percent. (Tables C.2 and 4)

Figure 3. Year-on-Year Changes in Net Sales (in percent):
November 2020 – December 2021^p (2018 = 100)



p – preliminary

Source: Philippine Statistics Authority

TABLE C.1. Year-on-Year Growth Rate (%) of Value of Net Sales Index
by Industry Division: November 2021^r and December 2021^p
(2018 =100)

INDUSTRY DIVISION	November 2021 ^r	December 2021 ^p
Gainers		
Manufacture of computer, electronic, and optical products	45.2	47.3
Manufacture of coke and refined petroleum products	68.5	62.9
Manufacture of food products	32.1	18.1
Manufacture of other non-metallic mineral products	62.4	47.2
Manufacture of basic metals	27.8	12.9
Manufacture of fabricated metal products, except machinery and equipment	23.7	27.4
Manufacture of machinery and equipment except electrical	38.0	18.7
Manufacture of electrical equipment	18.8	13.7
Manufacture of wood, bamboo, cane, rattan articles and related products	9.2	25.6
Manufacture of transport equipment	-0.3	2.0
Other manufacturing and repair and installation of machinery and equipment	-5.7	8.4
Manufacture of tobacco products	5.3	8.3
Manufacture of paper and paper products	-8.0	5.3
Manufacture of textiles	1.5	13.1
Printing and reproduction of recorded media	4.1	9.6
Losers		
Manufacture of beverages	8.1	-12.0
Manufacture of basic pharmaceutical products and pharmaceutical preparations	-0.5	-20.9
Manufacture of rubber and plastic products	4.7	-5.7
Manufacture of wearing apparel	-10.9	-16.1
Manufacture of leather and related products, including footwear	-7.5	-8.6
Manufacture of chemical and chemical products	3.5	-0.8
Manufacture of furniture	14.6	-6.1

p - preliminary, r- revised

Source: Philippine Statistics Authority

TABLE C.2. Year-on-Year Growth Rate (%) of Volume of Net Sales Index by Industry Division: November 2021^r and December 2021^p (2018 = 100)

INDUSTRY DIVISION	November 2021 ^r	December 2021 ^p
Gainers		
Manufacture of computer, electronic, and optical products	65.5	68.9
Manufacture of food products	28.8	16.0
Manufacture of coke and refined petroleum products	39.4	37.4
Manufacture of other non-metallic mineral products	62.6	46.9
Manufacture of fabricated metal products, except machinery and equipment	25.7	28.1
Manufacture of machinery and equipment except electrical	42.2	23.8
Manufacture of wood, bamboo, cane, rattan articles and related products	27.6	44.5
Manufacture of basic metals	18.5	4.2
Manufacture of electrical equipment	12.3	7.7
Other manufacturing and repair and installation of machinery and equipment	-4.4	10.0
Manufacture of tobacco products	4.5	7.4
Manufacture of paper and paper products	-9.4	3.6
Printing and reproduction of recorded media	5.5	11.1
Manufacture of transport equipment	-1.8	0.6
Manufacture of textiles	-3.8	7.5
Losers		
Manufacture of beverages	5.0	-14.8
Manufacture of chemical and chemical products	-2.6	-5.8
Manufacture of rubber and plastic products	-1.0	-10.8
Manufacture of basic pharmaceutical products and pharmaceutical preparations	-2.5	-21.7
Manufacture of wearing apparel	-11.2	-16.5
Manufacture of leather and related products, including footwear	-9.0	-10.0
Manufacture of furniture	15.6	-5.5

p - preliminary, r- revised

Source: Philippine Statistics Authority

Similarly, VoNSI showed an improvement in 2021 as it registered an annual average growth rate of 27.0 percent. In contrast, VoNSI experienced downtrends in 2019 and 2020 with annual average rates of -0.2 percent and -20.1 percent, respectively. (Table D)

Table D. Annual Average Indices and Year-on-Year Growth Rates of Net Sales for Total Manufacturing (2018=100)
(January – December, 2019-2021)

Category	2019 (Jan – Dec)	2020 (Jan – Dec)	2021^P (Jan – Dec)
Net Sales (VaNSI)			
Annual Average VaPI	97.4	74.3	84.4
Annual Average Year-on-Year Growth	-2.5	-23.7	24.7
Net Sales (VoNSI)			
Annual Average VaPI	99.8	79.7	92.2
Annual Average Year-on-Year Growth	-0.2	-20.1	27.0

p – preliminary

Source: Philippine Statistics Authority

CAPACITY UTILIZATION

Average capacity utilization rate for manufacturing continued to increase

Based on responding establishments, the average capacity utilization rate for manufacturing sector in December 2021 was reported at 67.3 percent, from 67.8 percent in the previous month.

There were 20 out of 22 industry divisions with more than 50 percent average capacity utilization rate, led by **manufacture of tobacco products** (87.0%), **manufacture of other non-metallic mineral products** (81.3%), and **manufacture of furniture** (78.3%). (Table 6)

Responding establishments that operated at full capacity was 23.3 percent

The proportion of establishments that operated at full capacity (90% to 100%) was 23.3 percent of the total number of responding establishments. Meanwhile, 39.7 percent operated at 70 to 89 percent capacity, while percent 37.0 operated below 70 percent capacity. (Table E)

Table E. Distribution of Responding Establishments by Capacity Utilization for Total Manufacturing: December 2021^p

Capacity Utilization	Number of Responding Establishments	Percent Share to Responding Establishments
TOTAL	519	100.0
Below 50%	77	14.8
50% - 59%	58	11.2
60% - 69%	57	11.0
70% - 79%	95	18.3
80% - 89%	111	21.4
90% - 100%	121	23.3

p – preliminary

Notes:

- 1) Details may not sum to totals due to rounding.
- 2) Results are based on the responses of establishments which were in operation during the reference month.
- 3) There were 38 establishments which responded but were not included in the tabulation as they temporarily or permanently ceased their business operations.

Source: Philippine Statistics Authority

DENNIS S. MAPA, Ph.D.

Undersecretary

National Statistician and Civil Registrar General

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 MISSI are Value of Production Index (VaPI), Volume of Production Index (VoPI), Value of Net Sales Index (VaNSI), Volume of Net Sales Index (VoNSI) and Average Capacity Utilization Rate of the manufacturing sector.

Rebasing

Starting with the January 2021 reference month, production and sales indices from the MISSI are rebased to 2018, from 2000 base period.

The major changes in the rebasing are (1) the industry structure or classification and (2) the weights which measure the relevance of the industries. The industry classification for the 2018-based series follows the 2009 Philippine Standard Industry Classification (PSIC), while the 2000-based series adopted the 1994 PSIC. For the rebased series, the weights at the base year were computed based on the final results of the 2018 Census of Philippine Business and Industry (CPBI). The results of the Annual Survey of Philippine Business and Industry will be used to update the weights annually until the next rebasing.

Another changes are on the methodology of index computation and on the estimation of average capacity utilization rate which are discussed in the next section.

II. Method of Index Computation

The VaPI and VaNSI utilize the Paasche-type method of index computation where the basic data of weight computation are the value of production and sales, respectively. The sources of these data are

the CPBI for the base year and the Annual Survey of Philippine Business and Industry (ASPBI) for the succeeding years until the next rebasing.

1. Weights Computation

The weight of the industry group is the percent share of the industry to the total value of production for the industry division. The sum of the weights of all industry groups within an industry division is equal to 1.

The weight of the industry division is the percent share of the industry to the total value of production for the manufacturing sector. The sum of the weights of all industry divisions is equal to 1.

The same methodology is used in the computation of the weights for sales, but instead of value of production, data on sales is used.

2. Index Computation

The formula in the computation of indices are as follows:

1. Value of Production Index (VaPI)

a. Computation of Index for Industry Group Level

i. Monthly Index at the base year

$$VaPI_{ijm} = \frac{V_{ijm}}{V_{ij0}} \times 100$$

where:

$VaPI_{ijm}$ = VaPI for industry group j in industry division i at current month m

V_{ijm} = total value of production for all sample establishments of industry group j in industry division i at current month m of the base year

V_{ij0} = average monthly value of production at the base year

ii. Monthly Index after the base year

$$VaPI_{ijm} = \frac{V_{ijm}}{V_{ij(m-1)}} \times VaPI_{ij(m-1)}$$

where:

- $VaPI_{ijm}$ = VaPI for industry group j in industry division i at current month m
 $VaPI_{ij(m-1)}$ = VaPI for industry group j in industry division i for the previous month m-1
 V_{ijm} = total value of production for all sample establishments of industry group j in industry division i at current month m
 $V_{ij(m-1)}$ = total value of production for all sample establishments of industry group j in industry division i for the previous month m-1

b. Computation of Index for Industry Division Level

$$VaPI_{im} = \frac{1}{\sum_{j=1}^{p_i} \left(W_{ij} \times \frac{1}{VaPI_{ijm}} \right)}$$

where:

- $VaPI_{im}$ = VaPI for industry division i at current month m
 $VaPI_{ijm}$ = VaPI for industry group j in industry division i at current month m
 W_{ij} = weight for industry group j in industry division i
 p_i = number of industry groups in industry division i

Note: Industry divisions with no industry groups uses the same computation of index as that for industry group level.

c. Computation of Index for Total Manufacturing

$$VaPI_m = \frac{1}{\sum_{i=1}^{22} \left(W_i \times \frac{1}{VaPI_{im}} \right)}$$

where:

$VaPI_m$ = VaPI for the current month m

$VaPI_{im}$ = VaPI for industry division i at current month m

W_i = weight for industry division i

2. Value of Net Sales Index (VaNSI)

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

3. Volume of Production Index (VoPI)

a. Computation for Index for Industry Group Level

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

where:

$VoPI_{ijm}$ = VoPI for industry group j in industry division i at current month m

$VaPI_{ijm}$ = VaPI for industry group j in industry division i at current month m

PPI_{ijm} = PPI for industry group j in industry division i at current month m

b. Computation of Index for Industry Division Level

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

where:

$VoPI_{im}$ = VoPI for industry division i at current month m

$VaPI_{im}$ = VaPI for industry division i at current month m

PPI_{im} = PPI for industry division i at current month m

c. Computation of Index for Total Manufacturing

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

where:

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

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

PPI_m = PPI for total manufacturing at current month m

4. Volume of Net Sales Index (VoNSI)

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

5. Average Capacity Utilization Rate

Capacity Utilization Rate is the ratio of total output to the maximum rated capacity of the establishment. The formulas in obtaining the Average Capacity Utilization Rate (AveCU) are the following:

a. Computation of AveCU for Industry Group Level

$$AveCU_{ijm} = \frac{\sum_{c=1}^k (X_c \times f_{cijm})}{n_{rijm} + n_{tijm}}$$

where:

$AveCU_{ijm}$ = average capacity utilization rate for industry group j in industry division i at current month m

X_c = midpoint of capacity utilization rate at interval c

f_{cijm} = frequency of responding samples at interval c for industry group j in industry division i at current month m

n_{rijm} = total number of responding (good) establishments for industry group j in industry division i at current month m

- n_{tjkm} = total number of temporarily closed/closed establishments for industry group j in industry division i at current month m
- k = total number of capacity utilization intervals

b. Computation of AveCU for Industry Division Level

$$AveCU_{im} = \sum_{i=1}^{p_i} (W_{ij} \times AveCU_{ijm})$$

where:

- $AveCU_{im}$ = average capacity utilization rate for industry division i at current month m
- W_{ij} = weight for industry group j in industry division i
- $AveCU_{ijm}$ = average capacity utilization rate for industry group j in industry division i at current month m
- p_i = number of industry groups in industry division i

c. Computation of AveCU for Total Manufacturing

$$AveCU_m = \sum_{i=1}^{22} (W_i \times AveCU_{im})$$

where:

- $AveCU_m$ = average capacity utilization rate for total manufacturing at current month m
- W_i = weight for industry division i
- $AveCU_{im}$ = average capacity utilization rate for industry division i at current month 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 MISSI utilizes the 2009 PSIC to classify industry divisions and industry groups. Twenty-two industry divisions of the 2009 PSIC were formed to comprise the industry coverage of the MISSI.

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

2009 PSIC CODE	INDUSTRY DESCRIPTION
C10	Manufacture of food products*
C11	Manufacture of beverages
C12	Manufacture of tobacco products
C13	Manufacture of textiles
C14	Manufacture of wearing apparel
C15	Manufacture of leather and related products, including footwear
C16	Manufacture of wood, bamboo, cane, rattan articles and related products*
C17	Manufacture of paper and paper products
C18	Printing and reproduction of recorded media
C19	Manufacture of coke and refined petroleum products
C20	Manufacture of chemical and chemical products*
C21	Manufacture of basic pharmaceutical products and pharmaceutical preparations
C22	Manufacture of rubber and plastic products*

2009 PSIC CODE	INDUSTRY DESCRIPTION
C23	Manufacture of other non-metallic mineral products*
C24	Manufacture of basic metals*
C25	Manufacture of fabricated metal products, except machinery and equipment*
C26	Manufacture of computer, electronic and optical products*
C27	Manufacture of electrical equipment*
C28	Manufacture of machinery and equipment except electrical*
C29,C30	Manufacture of transport equipment*
C31	Manufacture of furniture
C32,C33	Other manufacturing

**Industry divisions categorized further into industry groups*