



# PRESS RELEASE

**PRODUCTION INDEX AND NET SALES INDEX  
(Monthly Integrated Survey of Selected Industries)  
November 2023  
(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) November 2022, October 2023<sup>r</sup>, and November 2023<sup>p</sup> (in Percent)

INDICATOR	November 2022	October 2023 <sup>r</sup>	November 2023 <sup>p</sup>
<b>Production Index (2018=100)</b>			
Value of Production Index ( <i>VaPI</i> )	13.2	1.1	2.2
Volume of Production Index ( <i>VoPI</i> )	6.4	1.5	1.9
<b>Net Sales Index (2018=100)</b>			
Value of Net Sales Index ( <i>VaNSI</i> )	19.7	-3.4	-7.1
Volume of Net Sales Index ( <i>VoNSI</i> )	12.6	-3.0	-7.3
<b>Producer Price Index (2018=100)</b>	6.4	-0.4	0.3

*p* - preliminary

*r* - revised

Source: Philippine Statistics Authority

## A. Year-on-year Growth for November 2023

### 1. Value of Production Index (*VaPI*)

The *VaPI* for manufacturing continued to increase at an annual rate of 2.2 percent in November 2023. This was faster compared with its annual growth of 1.1 percent in the previous month. In November 2022, *VaPI* recorded a double-digit annual increase of 13.2 percent. (Figure 2, and Tables A and 1)

The expansion in the annual growth of the *VaPI* in November 2023 was mainly attributed by the slower annual decrease in the manufacture of beverages at 1.4 percent in November 2023 compared with its annual drop of 26.9 percent in



the previous month. The manufacture of beverages contributed 46.1 percent to the annual uptrend of VaPI for the manufacturing section in November 2023. Out of the 22 industry divisions for the manufacturing section, manufacture of beverages was the fourth industry division with the highest weight<sup>1</sup> in the computation of VaPI.

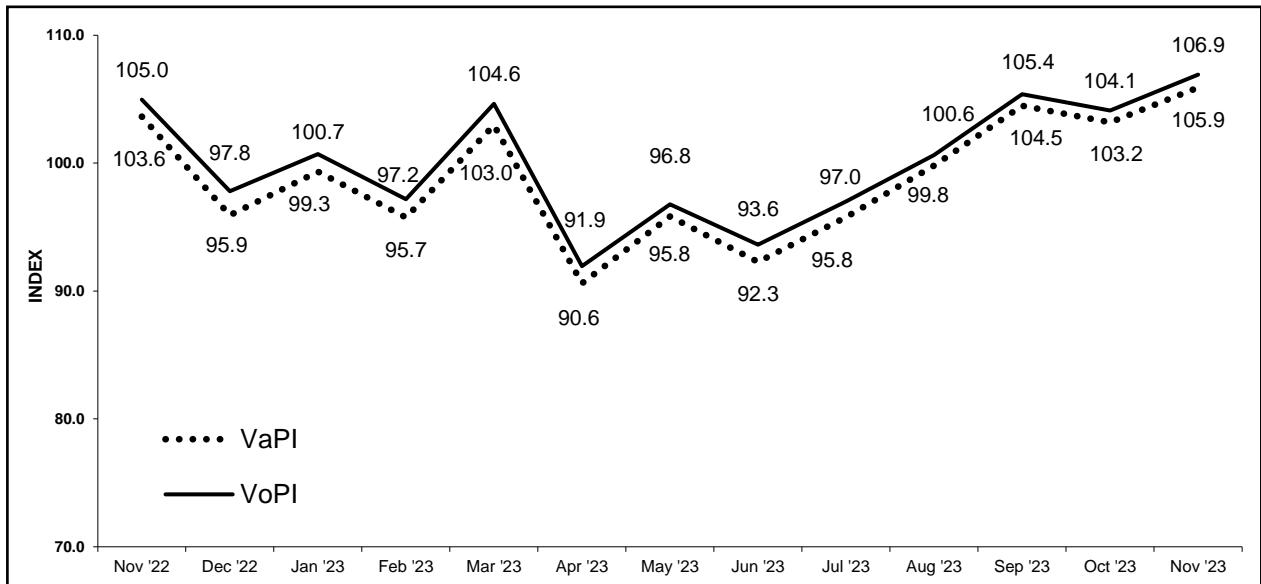
Other main contributors to the higher year-on-year growth of VaPI in November 2023 were manufacture of transport equipment with a faster annual growth rate of 11.7 percent during the period from 0.8 percent in the previous month, and manufacture of chemical and chemical products with slower annual decrease of 8.8 percent in November 2023 from an annual decline of 16.7 percent in the previous month.

Of the remaining 19 industry divisions, six exhibited annual upturns during the period. Meanwhile, 13 industry divisions posted annual reductions in November 2023. The manufacture of machinery and equipment except electrical posted the fastest annual drop of 26.9 percent during the period. (Tables C and 1)

The top three industry divisions contributing to the overall year-on-year growth of VaPI for manufacturing in November 2023 were the following:

- a. Manufacture of computer, electronic and optical products;
- b. Manufacture of food products; and
- c. Manufacture of other non-metallic mineral products.

Figure 1. Value and Volume of Production Index for Total Manufacturing November 2022 to November 2023<sup>p</sup> (2018=100)

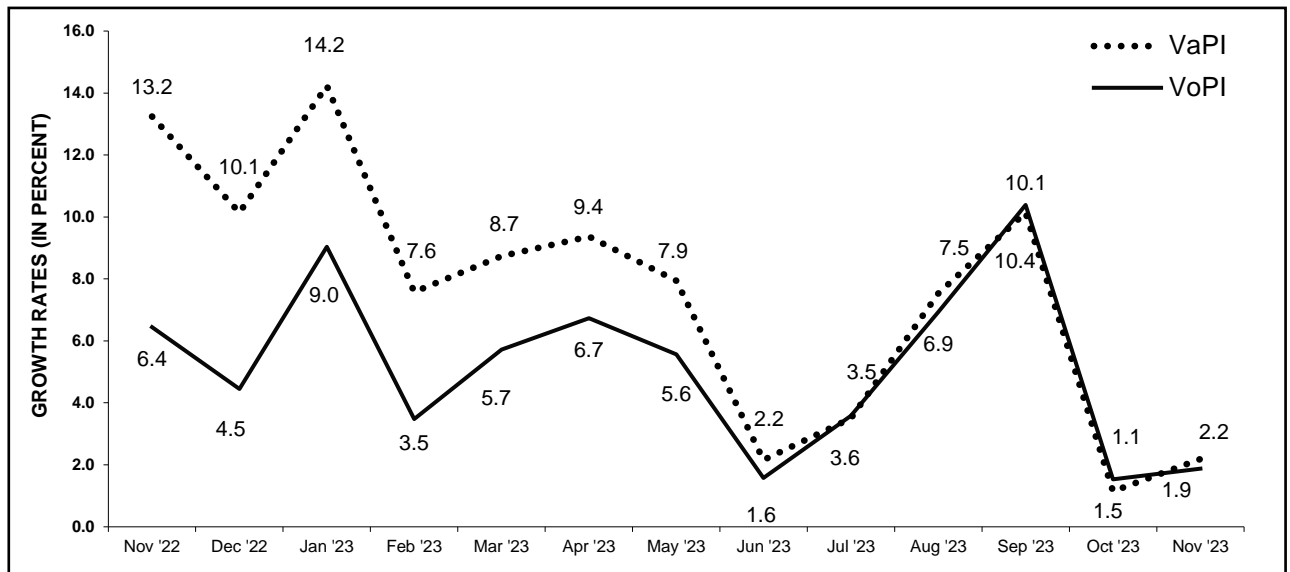


*p - preliminary*  
 Source: Philippine Statistics Authority

*COFm*

<sup>1</sup> Refer to Method of Computation in the Technical Notes

Figure 2. Year-on-Year Growth Rates (%) of Value and Volume of Production Index for Total Manufacturing November 2022 to November 2023<sup>p</sup> (2018=100)



*p - preliminary*

Source: Philippine Statistics Authority

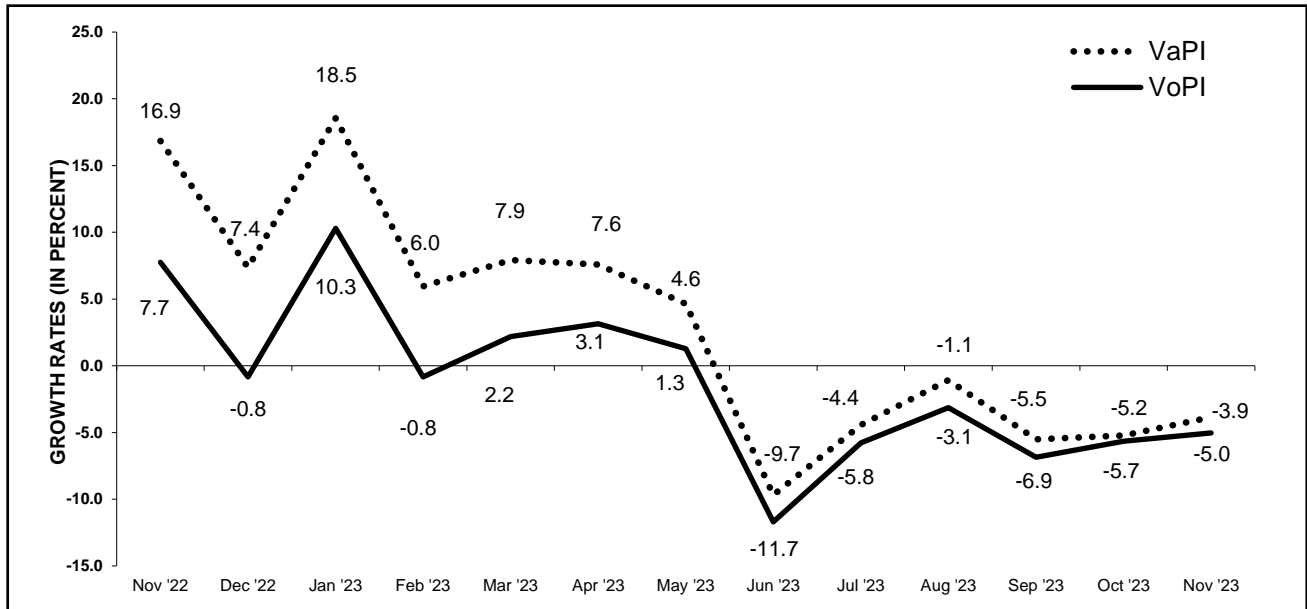
The VaPI for **manufacture of food products** registered an annual drop of 3.9 percent in November 2023. This was slower compared with its annual decline in October 2023 at 5.2 percent. In November 2022, the VaPI for manufacture of food products recorded a double-digit annual increase of 16.9 percent. (Figure 3, and Tables 1 and 1a)

The slower year-on-year decline of VaPI for manufacture of food products in November 2023 was primarily brought about by the slower annual drop recorded in the manufacture of other food products industry group at 5.3 percent in November 2023 from a double-digit annual decline of 22.2 percent in October 2023. The manufacture of other food products industry group includes bakery products, sugar, and condiments, among others.

Other contributors to the slower year-on-year downturn of VaPI for manufacture of food products were the slower decline in the manufacture of vegetable and animal oils and fats at 21.5 percent in November 2023 from 38.5 percent annual decrease in the previous month, and the annual increase in the processing and preserving of fish, crustaceans and mollusks at 6.6 percent in November 2023 from 3.5 percent annual drop in the previous month. (Table 1a)

*COFm*

Figure 3. Year-on-Year Growth Rates (%) of Value and Volume of Production Index for Manufacture of Food Products  
November 2022 to November 2023<sup>p</sup> (2018=100)



*p* - preliminary

Source: Philippine Statistics Authority

## 2. Volume of Production Index (VoPI)

The VoPI for manufacturing registered a year-on-year increment of 1.9 percent in November 2023, which was faster than the annual growth rate of 1.5 percent in the previous month. In November 2022, VoPI recorded an annual increase of 6.4 percent. (Figure 2, and Tables A and 2)

The higher annual growth of the VoPI in November 2023 was mainly brought about by the same top three industry divisions that contributed to the higher annual rate of VaPI during the period. These were the following:

- a. Manufacture of beverages, 11.6 percent annual decline from 34.4 percent annual drop in the previous month;
- b. Manufacture of transport equipment, 17.1 percent annual increase from 5.8 percent annual increment in October 2023; and
- c. Manufacture of chemical and chemical products, 2.4 percent annual drop from 10.9 percent annual decrease in October 2023.

Of the remaining 19 industry divisions, six registered year-on-year increases in November 2023. In contrast, 13 industry divisions posted annual declines during the period. The highest annual drop was observed in manufacture of machinery and equipment except electrical at 27.0 percent. (Tables D and 2)

*CSM*

The top three industry divisions contributing to the overall year-on-year growth of VoPI for manufacturing in November 2023 were the following:

- a. Manufacture of computer, electronic and optical products;
- b. Manufacture of food products; and
- c. Manufacture of beverages.

The VoPI for **manufacture of food products** registered an annual drop of 5.0 percent in November 2023. This was slower compared with its annual decline of 5.7 percent in October 2023. In November 2022, VoPI for manufacture of food products recorded an annual increase of 7.7 percent. (Figure 3, and Tables 2 and 2a)

The slower annual decrease of VoPI for manufacture of food products in November 2023 was primarily driven by the slower annual decrease in the manufacture of other food products industry group at 6.8 percent during the month from 23.9 percent annual decrement in the previous month.

Other contributors to the slower year-on-year decrease of VoPI for manufacture of food products were the slower annual decline noted in manufacture of vegetable and animal oils and fats at 15.1 percent in November 2023 from an annual decrease of 32.6 percent in the previous month, and the annual increase noted in the processing and preserving of fish, crustaceans and mollusks at 1.1 percent in November 2023 from an annual decline of 4.5 percent in the previous month. (Table 2a)

### **3. Value of Net Sales Index (VaNSI)**

The VaNSI for manufacturing recorded a faster annual decrease of 7.1 percent in November 2023 compared with its annual drop of 3.4 percent in the previous month. In November 2022, VaNSI recorded a double-digit annual increase of 19.7 percent. (Figure 5, and Tables A and 3).

The faster year-on-year decline of VaNSI during the month was primarily brought about by the faster annual decrease in the manufacture of food products industry division at 8.5 percent in November 2023 from 0.9 percent annual drop in October 2023. The manufacture of food products contributed 48.7 percent to the trend of VaNSI for the manufacturing section in November 2023.

Other primary contributors to the faster annual decline of VaNSI in November 2023 were the faster annual decreases in the manufacture of computer, electronic and optical products at 14.0 percent in November 2023 from 11.0 percent annual drop in the previous month, and manufacture of other non-metallic mineral products at 15.4 percent in November 2023 from 4.6 percent annual decrease in the previous month.

Furthermore, 14 out of the 19 remaining industry divisions exhibited annual downturns in their indices during the period, while the other five industry divisions posted annual increases. The highest year-on-year increment during the period was noted in the manufacture of basic pharmaceutical products and

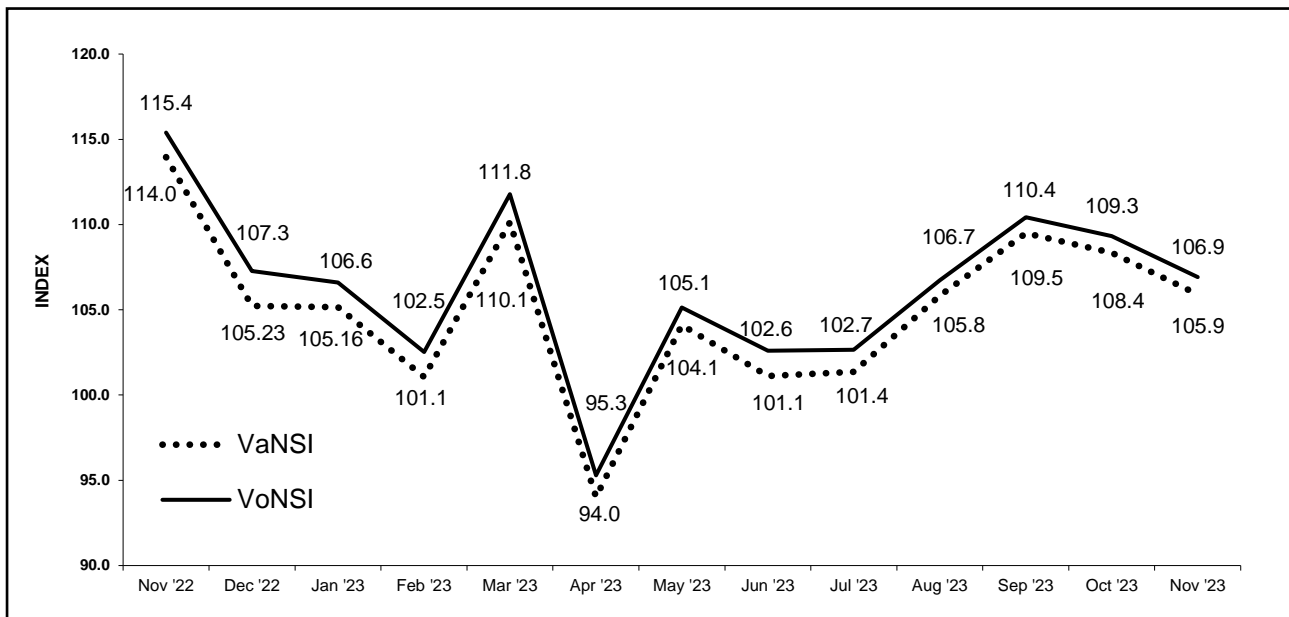


pharmaceutical preparations at 16.4 percent. (Tables E and 3)

The top three industry divisions contributing to the overall year-on-year growth of VaNSI for manufacturing in November 2023 were the following:

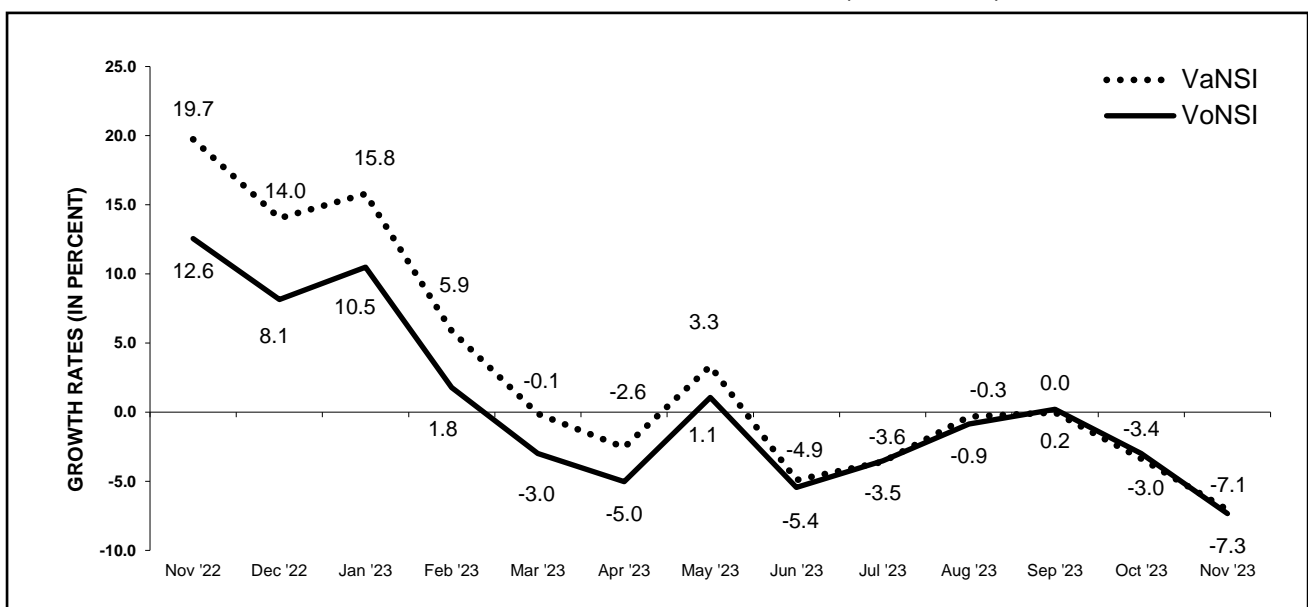
- a. Manufacture of computer, electronic and optical products;
- b. Manufacture of food products; and
- c. Manufacture of transport equipment.

Figure 4. Value and Volume of Net Sales Index for Total Manufacturing November 2022 to November 2023<sup>p</sup> (2018=100)



*p - preliminary*  
 Source: Philippine Statistics Authority

Figure 5. Year-on-Year Growth Rates (%) of Net Sales Index for Total Manufacturing November 2022 to November 2023<sup>p</sup> (2018=100)



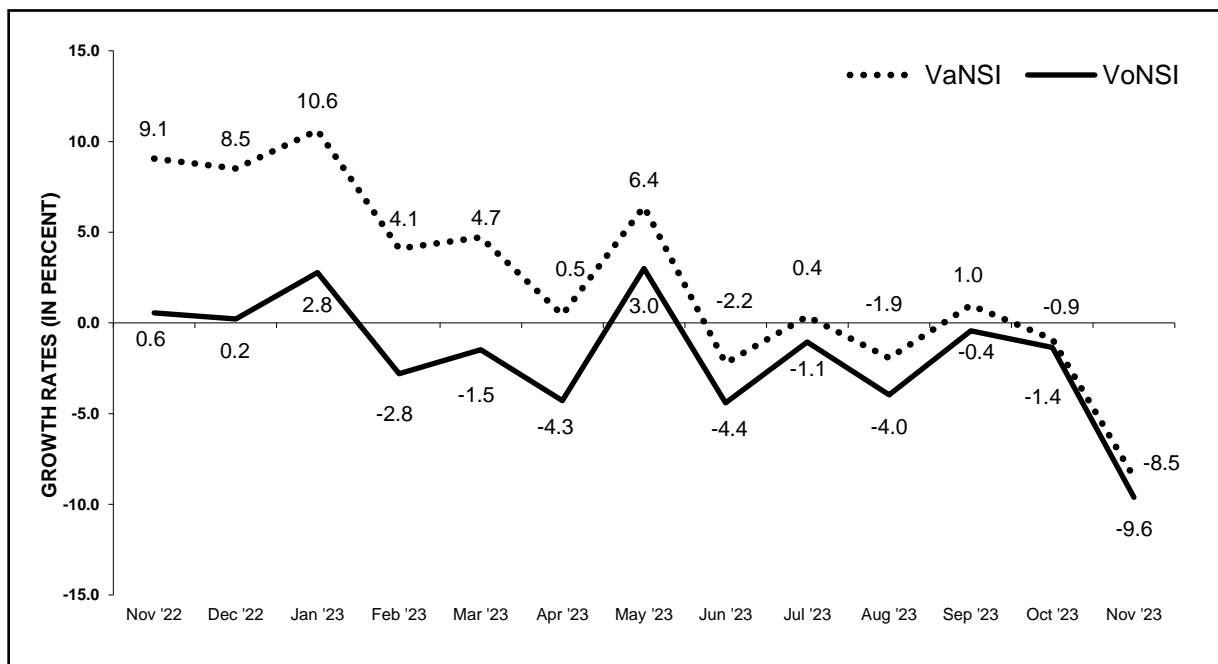
*p - preliminary*  
 Source: Philippine Statistics Authority

The VaNSI for **manufacture of food products** registered an annual decline of 8.5 percent in November 2023. This was faster compared with its annual decline of 0.9 percent in October 2023. The VaNSI for manufacture of food products recorded an annual increase of 9.1 percent in November 2022. (Figure 6, and Tables 3 and 3a)

The downturn in the year-on-year growth of the VaNSI for manufacture of food products in November 2023 was primarily driven by the faster annual decline in the manufacture of other food products industry group at 27.2 percent in November 2023 from an annual increment of 0.7 percent in the previous month. The manufacture of other food products industry group includes bakery products, sugar, and condiments, among others.

Other primary contributors to the year-on-year decrement of VaNSI for manufacture of food products were the slowdown in the annual increase in manufacture of dairy products at 9.3 percent during the month from a double-digit annual increase of 10.5 percent in the previous month, and the faster annual decline noted in the manufacture of grain mill products, starches and starch products at 29.4 percent in November 2023 from an annual drop of 28.4 percent in the previous month. (Table 3a)

Figure 6. Year-on-Year Growth Rates (%) of Net Sales Index for Manufacture of Food Products: November 2022 to November 2023<sup>p</sup> (2018=100)



*p* - preliminary  
 Source: Philippine Statistics Authority



#### 4. Volume of Net Sales Index (VoNSI)

The VoNSI for manufacturing registered a faster year-on-year decrement in November 2023 at 7.3 percent relative to its annual decrease of 3.0 percent in October 2023. In November 2022, VoNSI recorded a double-digit annual increase of 12.6 percent. (Figure 5, and Tables A and 4)

The faster annual drop of VoNSI in November 2023 was mainly brought about by the same top three industry divisions that contributed to the faster annual decrease of VaNSI during the period. These were the following:

- a. Manufacture of food products, 9.6 percent annual decrease from 1.4 percent annual decrement in the previous month;
- b. Manufacture of computer, electronic and optical products, 16.3 percent annual decrease from 11.6 percent annual drop in the past month; and
- c. Manufacture of other non-metallic mineral products, 14.5 percent annual decrease from 4.1 percent annual drop in October 2023.

Furthermore, 14 out of the 19 remaining industry divisions exhibited annual decreases during the period. Meanwhile, five industry divisions posted annual increases in November 2023. The manufacture of basic pharmaceutical products and pharmaceutical preparations posted the highest annual uptick of 16.4 percent during the period. (Tables F and 4)

The top three industry divisions contributing to the overall year-on-year growth rate of VoNSI for manufacturing in November 2023 were the following:

- a. Manufacture of computer, electronic and optical products;
- b. Manufacture of food products; and
- c. Manufacture of beverages.

The VoNSI for **manufacture of food products** registered an annual drop of 9.6 percent in November 2023. This was faster compared with its annual decline of 1.4 percent in October 2023. The VoNSI for manufacture of food products recorded an annual increase of 0.6 percent in November 2022. (Figure 6, and Tables 4 and 4a)

The faster year-on-year decline of the VoNSI for manufacture of food products in November 2023 was primarily driven by the faster annual decline in the manufacture of other food products industry group at 28.3 percent in November 2023 from 1.5 percent annual decrement in the previous month.

Other primary contributors to the faster year-on-year decrement of VoNSI for manufacture of food products were the slowdown observed in the annual increase of manufacture of dairy products at 6.1 percent during the month from an annual increase of 8.5 percent in the previous month, and the faster annual decline noted in manufacture of grain mill products, starches and starch products at 31.2 percent in November 2023 from an annual drop of 30.1 percent in the previous month. (Table 4a)





## B. Average Capacity Utilization Rate

Based on responding establishments, the average capacity utilization rate for the manufacturing section in November 2023 was reported at 74.8 percent from 74.3 percent in the previous month.

All industry divisions reported capacity utilization rates of more than 60.0 percent during the month. The top three industry divisions in terms of reported capacity utilization rate were manufacture of machinery and equipment except electrical (80.8%), manufacture of transport equipment (80.8%), and manufacture of rubber and plastic products (79.9%). (Table 6)

The proportion of establishments that operated at full capacity (90% to 100%) was 24.2 percent of the total number of responding establishments. Meanwhile, 41.5 percent operated at 70 to 89 percent capacity, and 34.4 percent operated below 70 percent capacity. (Table B)

Table B. Distribution of Responding Establishments by Capacity Utilization for Total Manufacturing: November 2023<sup>p</sup>

Capacity Utilization	Number of Responding Establishments	Percent Share to Responding Establishments
TOTAL	579	100.0
Below 50%	49	8.5
50% - 59%	69	11.9
60% - 69%	81	14.0
70% - 79%	92	15.9
80% - 89%	148	25.6
90% - 100%	140	24.2

*p - preliminary*

Notes:

- 1) Results are based on the responses of establishments that were in operation during the reference month.
- 2) There were seven establishments that 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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Table C. Year-on-Year Growth Rates (%) of VaPI by Industry Division  
October 2023<sup>r</sup> and November 2023<sup>p</sup>  
(2018=100)

INDUSTRY DIVISION	October 2023 <sup>r</sup>	November 2023 <sup>p</sup>
<b>With Positive Annual Growth Rates</b>		
1. Manufacture of paper and paper products	-3.8	0.1
2. Printing and reproduction of recorded media	27.4	9.2
3. Manufacture of basic pharmaceutical products and pharmaceutical preparations	16.6	15.4
4. Manufacture of electrical equipment	29.7	29.8
5. Manufacture of basic metals	19.1	21.2
6. Manufacture of transport equipment	0.8	11.7
7. Manufacture of coke and refined petroleum products	36.2	28.8
<b>With Negative Annual Growth Rates</b>		
8. Manufacture of computer, electronic and optical products	-1.5	-15.5
9. Manufacture of food products	-5.2	-3.9
10. Manufacture of other non-metallic mineral products	-6.9	-20.4
11. Manufacture of fabricated metal products, except machinery and equipment	-15.0	-24.0
12. Manufacture of chemical and chemical products	-16.7	-8.8
13. Manufacture of machinery and equipment except electrical	-23.4	-26.9
14. Manufacture of wood, bamboo, cane, rattan articles and related products	-43.0	-21.6
15. Manufacture of rubber and plastic products	-8.4	-7.6
16. Manufacture of wearing apparel	-22.5	-26.3
17. Other manufacturing and repair and installation of machinery and equipment	-6.9	-14.0
18. Manufacture of beverages	-26.9	-1.4
19. Manufacture of leather and related products, including footwear	-26.8	-23.4
20. Manufacture of furniture	9.5	-7.6
21. Manufacture of tobacco products	-13.8	-1.0
22. Manufacture of textiles	-11.5	-0.9

*p - preliminary*

*r - revised*

Table D. Year-on-Year Growth Rates (%) of VoPI by Industry Division  
October 2023<sup>r</sup> and November 2023<sup>p</sup>  
(2018=100)

INDUSTRY DIVISION	October 2023 <sup>r</sup>	November 2023 <sup>p</sup>
<b>With Positive Annual Growth Rates</b>		
1. Manufacture of paper and paper products	-4.1	0.7
2. Printing and reproduction of recorded media	26.3	8.6
3. Manufacture of basic pharmaceutical products and pharmaceutical preparations	16.5	15.5
4. Manufacture of electrical equipment	30.5	29.9
5. Manufacture of basic metals	24.1	26.6
6. Manufacture of transport equipment	5.8	17.1
7. Manufacture of coke and refined petroleum products	46.9	37.0
<b>With Negative Annual Growth Rates</b>		
8. Manufacture of computer, electronic and optical products	-2.1	-17.7
9. Manufacture of food products	-5.7	-5.0
10. Manufacture of beverages	-34.4	-11.6
11. Manufacture of fabricated metal products, except machinery and equipment	-16.4	-25.4
12. Manufacture of other non-metallic mineral products	-6.4	-19.6
13. Manufacture of machinery and equipment except electrical	-23.1	-27.0
14. Manufacture of wood, bamboo, cane, rattan articles and related products	-42.0	-20.2
15. Manufacture of rubber and plastic products	-8.4	-7.4
16. Manufacture of wearing apparel	-20.0	-24.3
17. Other manufacturing and repair and installation of machinery and equipment	-5.4	-13.5
18. Manufacture of chemical and chemical products	-10.9	-2.4
19. Manufacture of tobacco products	-19.0	-9.7
20. Manufacture of leather and related products, including footwear	-29.0	-26.6
21. Manufacture of furniture	7.3	-10.4
22. Manufacture of textiles	-11.5	-0.9

*p - preliminary*  
*r - revised*

Table E. Year-on-Year Growth Rates (%) of VaNSI by Industry Division  
 October 2023<sup>r</sup> and November 2023<sup>p</sup>  
 (2018=100)

INDUSTRY DIVISION	October 2023 <sup>r</sup>	November 2023 <sup>p</sup>
<b>With Positive Annual Growth Rates</b>		
1. Manufacture of textiles	-3.3	3.5
2. Manufacture of rubber and plastic products	0.7	0.4
3. Manufacture of electrical equipment	2.3	3.1
4. Manufacture of beverages	2.9	1.3
5. Manufacture of basic pharmaceutical products and pharmaceutical preparations	15.6	16.4
<b>With Negative Annual Growth Rates</b>		
6. Manufacture of computer, electronic and optical products	-11.0	-14.0
7. Manufacture of food products	-0.9	-8.5
8. Manufacture of transport equipment	-4.3	-6.7
9. Manufacture of other non-metallic mineral products	-4.6	-15.4
10. Manufacture of chemical and chemical products	-9.8	-10.3
11. Manufacture of coke and refined petroleum products	-4.3	-5.7
12. Manufacture of basic metals	-5.1	-9.2
13. Manufacture of machinery and equipment except electrical	-22.7	-20.8
14. Manufacture of paper and paper products	-12.2	-16.6
15. Manufacture of wood, bamboo, cane, rattan articles and related products	-11.6	-17.1
16. Other manufacturing and repair and installation of machinery and equipment	-14.0	-13.9
17. Manufacture of wearing apparel	-18.9	-24.7
18. Printing and reproduction of recorded media	-12.3	-16.3
19. Manufacture of tobacco products	-10.9	-6.5
20. Manufacture of furniture	23.7	-10.9
21. Manufacture of leather and related products, including footwear	-2.1	-5.6
22. Manufacture of fabricated metal products, except machinery and equipment	1.9	-0.5

*p - preliminary*  
*r - revised*

Table F. Year-on-Year Growth Rates (%) of VoNSI by Industry Division  
 October 2023<sup>r</sup> and November 2023<sup>p</sup>  
 (2018=100)

INDUSTRY DIVISION	October 2023 <sup>r</sup>	November 2023 <sup>p</sup>
<b>With Positive Annual Growth Rates</b>		
1. Manufacture of textiles	-3.3	3.5
2. Manufacture of rubber and plastic products	0.7	0.7
3. Manufacture of coke and refined petroleum products	3.2	0.3
4. Manufacture of electrical equipment	3.0	3.2
5. Manufacture of basic pharmaceutical products and pharmaceutical preparations	15.5	16.4
<b>With Negative Annual Growth Rates</b>		
6. Manufacture of computer, electronic and optical products	-11.6	-16.3
7. Manufacture of food products	-1.4	-9.6
8. Manufacture of beverages	-7.7	-9.1
9. Manufacture of other non-metallic mineral products	-4.1	-14.5
10. Manufacture of machinery and equipment except electrical	-22.3	-20.9
11. Manufacture of paper and paper products	-12.4	-16.1
12. Manufacture of basic metals	-1.1	-5.1
13. Manufacture of transport equipment	0.5	-2.1
14. Manufacture of chemical and chemical products	-3.5	-4.0
15. Manufacture of wood, bamboo, cane, rattan articles and related products	-10.0	-15.7
16. Other manufacturing and repair and installation of machinery and equipment	-12.6	-13.4
17. Manufacture of wearing apparel	-16.3	-22.7
18. Manufacture of tobacco products	-16.2	-14.7
19. Printing and reproduction of recorded media	-13.1	-16.8
20. Manufacture of fabricated metal products, except machinery and equipment	0.2	-2.4
21. Manufacture of furniture	21.2	-13.6
22. Manufacture of leather and related products, including footwear	-5.0	-9.6

*p - preliminary*  
*r - revised*



## TECHNICAL NOTES

### Monthly Integrated Survey of Selected Industries (MISSI)

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#### I. Introduction

##### I.1. Background of the Survey

The Monthly Integrated Survey of Selected Industries (MISSI) is one of the designated statistical activities undertaken by the Philippine Statistics Authority (PSA). 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 section.

##### I.2. Objectives

The MISSI provides timely flash indicators that monitor the performance of growth-oriented industries in the manufacturing section. The indicators generated by the MISSI are in the form of indices and growth rates of value of production and net sales data. Indices on volume of production and volume of net sales are derived using the producer price index as deflator.

##### I.3. Historical Information on the Survey

The predecessor of the MISSI is the Survey of Key Enterprises in Manufacturing or SKEM. Through the years of its operation, the SKEM and later on the MISSI continued to utilize the shuttle type questionnaire for data collection.

The MISSI milestones are shown below:

- 1981 The SKEM started as a project of the National Accounts Staff (NAS) of the National Economic and Development Authority (NEDA). Indices generated from the SKEM had 1981 as base period.
- 1986 The responsibility for the SKEM was transferred to the Economic Census Branch of the National Census and Statistics Office (National Statistics Office or NSO).
- 1988 The SKEM was reassigned to the Manufacturing Division of the same agency. Rebasement of the SKEM series to 1985 was completed during the year.



- 1997 Following the reorganization of the NSO, responsibility of the SKEM was again transferred to the newly created Economic Indices and Indicators Division (EIID).

Integration of the SKEM and Department of Trade and Industry's Monthly Industrial Survey (MIS) was finalized, and the new survey was renamed as MISSI. The MISSI expanded to include additional information like inventory and capacity utilization. Rebasings of the MISSI series to 1994 also started.

- 2001 Responsibility of the MISSI was again transferred to the Manufacturing Section of the Industry Statistics Division.

MISSI data series with 1994 as the new base period was released during the year, in parallel with the 1985-based series. The 1994-based series had January 1998 as its earliest series.

A pre-test survey on the Current Survey of Production (CSP) was conducted as a part of the "Study on the Development of Industrial Statistics in the Philippines" by a joint work of JICA (Japan International Cooperation Agency) Study Team and the NSO. The CSP was a field trial of basic design of commodity-based and volume-based surveys for the manufacturing industry, which was expected to further improve the existing MISSI. The CSP was later renamed MSP (Monthly Survey on Production).

- 2002 The 1985-based MISSI data series was discontinued beginning January.

The plan to improve the methodology in the calculation of the monthly industrial production indices, specifically the Volume of Production Index (VoPI) using the direct method, the NSO conducted the MSP, which aimed to collect commodity-based and volume-based data on production, sales and inventory.

- 2005 Rebasings of the MISSI series to base year 2000 started.

- 2006 The MSP was discontinued due to budgetary constraints.

- 2007 MISSI data series with 2000 as the new base period was released in August, in parallel with the 1994-based series.

New indicators in the 2000-based series were generated. These were Value of Net Sales Index (VaNSI) and Volume of Net Sales Index (VoNSI). In the 1994-based series, only year-on-year and month-on-month growth rates were generated from the Net Sales value and volume data.

- 2008 The 1994-based MISSI data series was discontinued beginning January. Only the 2000-based series was published.



- 2011 Rebasings of the MISSI series to base year 2006 started. This is in accordance to NSCB Resolution No. 2, series of 2009 which approves the synchronized rebasing of the price indices to base year 2006.
- 2014 Rebasings of the MISSI series to base year 2006 was halted. Instead, rebasing of the MISSI series to base year 2012 started since the results of the 2012 Census of Philippine Business and Industry (CPBI) was available as source of the weights.
- 2015 The use of geometric average of short-term value relatives of responding sample establishments was used as the imputation technique for the missing data of non-responding samples.
- 2020 Rebasings of the MISSI series to base year 2018 started and was approved by the PSA Board last 21 December 2020. The index computation methodology was changed, Chained Paasche-type index computation was used in the higher aggregates.

The computation of the average capacity utilization will use a simpler and direct estimation that takes into account the impact of establishments that are temporarily closed during the reference period to the production and sales of the manufacturing section.

#### I.4. Scope and Coverage

MISSI is a nationwide undertaking that covers all manufacturing establishments confined to the formal section of the economy. The formal sector of the economy consists of the following:

1. Corporations and partnerships, regardless of employment size;
2. Cooperatives and foundations, regardless of employment size;
3. Single proprietorships with branches, regardless of employment size; and
4. Single proprietorship with no branches but with total employment (TE) of 10 and over.

Hence, the MISSI covered all establishments regardless of employment size, except those establishments with:

1. Legal Organization of single proprietorship (LO=1), and
2. Economic Organization of single establishment (EO=1), and
3. TE of less than 10.

The scope and coverage for MISSI are all establishments with EO=1 (Single establishment), 2 (Branch only) and 3 (Establishment and main office) engaged in manufacturing activities as classified in the 2009 Philippine Standard Industrial Classification (PSIC).

## I.5. 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*
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 are categorized into industry groups*

## II. Data Collection

### II.1. Data Collection

The distribution and collection of MISSI questionnaires will be done according to a timetable set. Distribution is done at the beginning of each year through personal visit by a PSA field staff to the sample establishments located in the provinces and cities nationwide. Collection of accomplished questionnaires is done on or before the 23rd day after each reference month while submission of data files is done on or before the 25th day after each reference month.

## II.2. Survey Instrument

The MISSI uses a shuttle-type of questionnaire. This is the type of survey instrument that is administered to respondents in order to collect data at frequent intervals of time to provide a running account of past responses. The questionnaire also includes definition of terms and specific instructions in filling-out the questionnaire to assist the respondent in understanding the questions and for ease of accomplishment. Furthermore, the questionnaire design ensures and enhances consistency and accuracy in reporting past data.

## II.3. Data Items

The key data items of MISSI include monthly figures on employment, compensation, production, net sales/revenue, inventories of raw materials, finished products and work-in-progress, and capacity utilization of the establishment. A running account of the monthly figures from January to December of the year for all the data items for an establishment are in one questionnaire.

## III. Methodology

### III.1. Sampling Frame

The sources of the sampling frame were all manufacturing establishments of the 2019 and 2020 ASPBI with Total Employment (TE) of 20 and over whose characteristics were updated using the List of Establishments (LE).

### III.2. Sample Selection Procedure

MISSI utilizes a cut-off sampling design. “Cut-off sampling is a sampling procedure in which a predetermined threshold is established with all units in the universe at or above the threshold being included in the sample and all units below the threshold being excluded. The threshold is usually specified in terms of the size of some known relevant variable. In the case of establishments, size is usually defined in terms of employment or output” (United Nations, Producer Price Index Manual, 2004, p.650). For the MISSI, the threshold is based on value of production. The value of production is equal to the value of products sold adjusted for the changes in inventories of finished products and work-in-progress (ending less beginning). The establishments’ value of production was computed from the 2019 and 2020 ASPBI and was used as the basis in the selection of samples.

The responding sample establishments of the 2019 and 2020 ASPBI with TE 20 and over were grouped according to the 22 industry divisions and 48 industry groups. The value of production by establishment was computed and arrayed from largest to smallest value of production within each industry group or division. Concentration ratios by industry group or division were computed to determine the industry leaders

or establishments that were within the top 50 percent to 100 percent contributors to value of production by industry group or division. These industry leaders were taken as samples for the current year.

All selected samples for MISSI will also be taken as samples for the Producer Price Survey.

### III.3. Estimation Procedure

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

#### III.3.1. 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 one (1). The weight of the industry division is the percent share of the industry to the total value of production for the manufacturing section. The sum of the weights of all industry divisions is equal to one (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.

#### III.3.2. Index Computation

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 section.

##### III.3.2.1 Value of Production Index (VaPI)

The Value of Production Index (VaPI) measures the average change over time of the value of production of the manufacturing section relative to a base period.

### III.3.2.1.a. Computation of Index for Industry Group Level

*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

*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

### III.3.2.1.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 use the same computation of index as that for industry group level.

### III.3.2.1.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

### III.3.2.2 Value of Net Sales Index (VaNSI)

Value of Net Sales Index (VaNSI) measures the average change over time of the value of sales of the manufacturing section relative to a base period.

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

### III.3.2.3 Volume of Production Index (VoPI)

Volume of Production Index (VoPI) measures the average change over time of the volume of production of the manufacturing section relative to a base period. This is a derived indicator with PPI as the deflator.

#### III.3.2.3.a. Computation of 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

#### III.3.2.3.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

### III.3.2.3.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

### III.3.2.4 Volume of Net Sales Index (VoNSI)

Volume of Net Sales Index (VoNSI) measures the average change over time of the volume of sales of the manufacturing section relative to a base period. This is a derived indicator using the PPI as deflator.

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

### III.3.2.5 Capacity Utilization (CU) Rate

Capacity Utilization Rate is the ratio of total output to the maximum rated capacity of the establishment.

#### III.3.2.5.a. Computation of Average CU 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

### III.3.2.5.b. Computation of Average CU 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

### III.3.2.5.c. Computation of Average CU 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.4. Imputation Technique

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.

### III.5 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 (ASPBI) will be used to update the weights annually until the next rebasing.

Other changes are on the methodology of index computation and on the estimation of average capacity utilization rate.

#### **IV. Concepts and Definitions of Terms**

Total employment is the total number of persons who work in or for the establishment during pay periods nearest the 15th of each reference month. Total employment consists of working owners and/or unpaid workers, and paid officials and workers. Workers who are working on a sub-contractual arrangement with the establishment are excluded in employment. The payment for this arrangement is accounted as industrial services under total cost. Total cost, however, is not being collected in MISSI.

1. Working owners are owners who are actively engaged in the management of the establishment but do not receive regular pay, i.e., not included in the payroll.
2. Unpaid workers are persons working for at least 1/3 of the working time normal to the establishment who do not receive regular pay. It includes all apprentices and learners without regular pay.
3. Paid employees are full-time or part-time workers, on sick or maternity leave and on paid vacation or holiday, and employees working away from this establishment paid by and under the control of this establishment. Paid employees are managers and executives, production workers, and other employees.
  - a. Managers and executives refer to all salaried directors, managers, executives, administrative and other officials of the same category. Working owners receiving regular pay should be included in this category.
  - b. Production workers refer to all employees directly engaged in the production activities of the establishment. Included are manual workers, clerical personnel, working foreman and seasonal workers who fabricate, process, assemble, construct, install, etc. Excluded are supervisory employees above working foreman level.
  - c. Other employees refer to all other employees not included above.

Total compensation refers to the sum of salaries and wages before deductions of employees' SSS contribution, withholding taxes, etc. and employer's contribution to SSS/GSIS, PhilHealth, Pag-IBIG and other similar schemes.

1. Salaries and Wages consist of basic pay, overtime pay, cost-of-living allowances, vacation and sick leave pay, commissions, bonuses, dismissal or retirement pay, back pays and other benefits prior to deduction of employees' SSS/GSIS contribution, Pag-IBIG, PhilHealth, withholding taxes and the like.
2. Total Employer's contribution to SSS/GSIS, ECC, etc. refers to all payments made by the employer on behalf of his employees to SSS/GSIS, ECC, Pag-IBIG, PhilHealth, pension and similar schemes.

Total Value of Production is the value of all goods produced and work-in-progress during the reference month. Valuation is at producer prices, that is, the unit price (ex-plant) of a product or commodity as it leaves the establishment of the producer. It includes any indirect tax paid by the producer less any subsidies on products received by the producer.

1. Value of production for domestic market refers to products/by products produced by the establishment for another local establishment of a different enterprise. i.e., producer, wholesaler and retailer.
2. Value of production for direct exports refers to products/by products produced and shipped directly outside the country by the establishment.
3. Value of production sold to exporters refers to products/by products produced locally to exporters by the establishment.

Total Revenue/ Sales is the total cash received and receivables for goods sold and services rendered.

1. Sales from manufacturing activity includes the value of shipments of products manufactured by the establishment whether or not they were produced during the reference month. Inter-plant transfer or goods transferred from one establishment to another of the same enterprise should be valued as though sold. Valuation of goods shipped is at ex-plant price (producer price) and net of discounts, allowances and returned goods.
2. Sales to domestic market refers to sales of products/by products of the establishment to another establishment of a different enterprise i.e. producer, wholesaler and retailer.
3. Direct exports refers to products sold and shipped directly outside the country by the establishment.
4. Sales to exporters refers to the products/by products sold locally to exporters by the establishment.
5. Other Income includes income from activities other than manufacturing, such as investment interest, foreign exchange gains, rent income, and profit from the sale of non-inventory assets.

Inventory of finished product is the value of stocks of goods owned by or under the control of the establishment as of a fixed date of the reference month which are ready for shipment, regardless of where the stocks are located.

Inventory of work-in-progress is the value of stocks of all materials which have been partially processed by the establishment as of a fixed date of the reference month, but which are not usually sold or turned over to other establishment without further processing.

Inventory of raw materials is the value of stocks of raw materials as of a fixed date of the reference month. It includes materials and fuels that enter the product.

Capacity utilization is the ratio of total output to the maximum rated capacity of the establishment.

1. 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., vacations, holidays, and repairs to equipment) and availability of raw materials.

## V. Dissemination of Results and Revision

Web-posting of the Press Release of MISSI shall be done every 37<sup>th</sup> day after each reference month. Statistical tables are also posted in OpenSTAT.

Imputed values are revised upon receipt of actual data for inclusion in the revised indices.

## VI. Citation

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## VII. Contact Information

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