

SPECIAL RELEASE

**SEASONALLY ADJUSTED
PRODUCTION INDEX AND NET SALES INDEX
(Monthly Integrated Survey of Selected Industries)
December 2023
(2018 = 100)**

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Reference No. 2024-50

Table A. Month-on-Month Growth Rates of Seasonally Adjusted Production Index and Net Sales Index for Total Manufacturing and Food Manufacturing (2018=100) November 2023^r and December 2023^p (in Percent)

INDICATOR	November 2023 ^r	December 2023 ^p
TOTAL MANUFACTURING		
Production Index (2018=100)		
Value of Production Index (<i>VaPI</i>)	1.1	-1.0
Volume of Production Index (<i>VoPI</i>)	0.7	-0.8
Net Sales Index (2018=100)		
Value of Net Sales Index (<i>VaNSI</i>)	-2.2	2.2
Volume of Net Sales Index (<i>VoNSI</i>)	-3.3	1.8
FOOD MANUFACTURING		
Production Index (2018=100)		
Value of Production Index (<i>VaPI</i>)	2.9	0.2
Volume of Production Index (<i>VoPI</i>)	2.4	0.4
Net Sales Index (2018=100)		
Value of Net Sales Index (<i>VaNSI</i>)	-1.9	1.0
Volume of Net Sales Index (<i>VoNSI</i>)	-2.3	1.6

p - preliminary

r - revised

Source: Philippine Statistics Authority



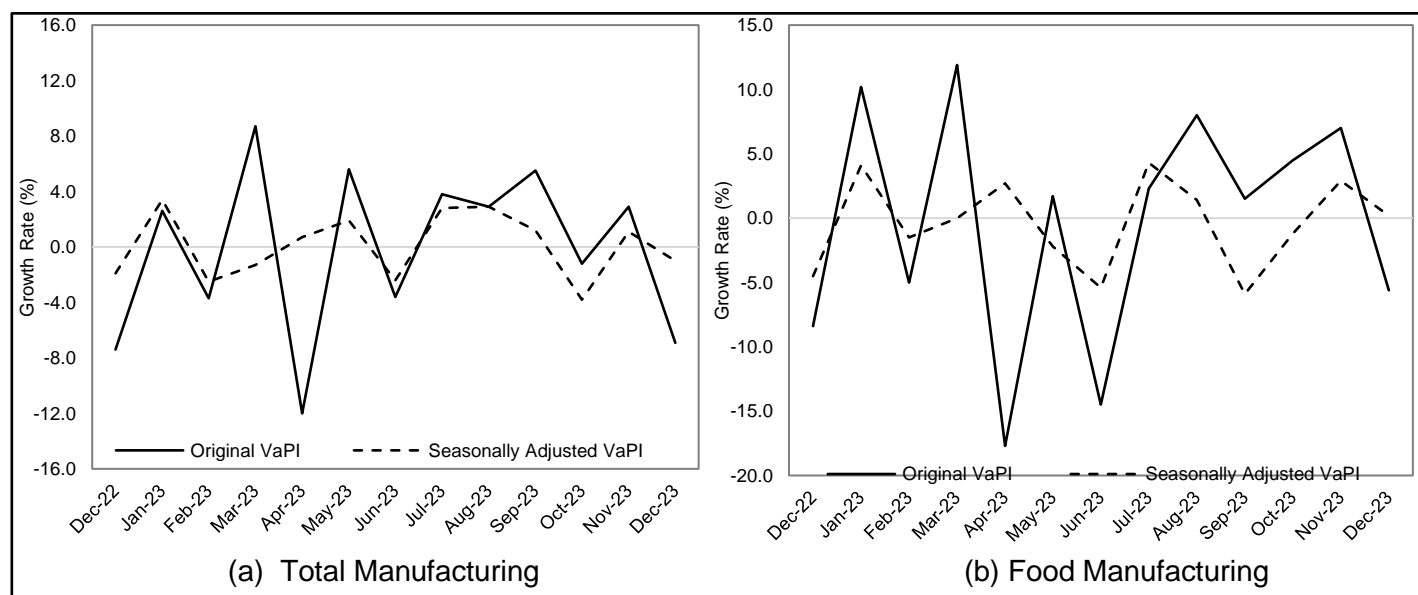
1. Value of Production Index (VaPI)

The seasonally adjusted VaPI for total manufacturing dropped at a monthly rate of 1.0 percent in December 2023 from the 1.1 percent monthly growth observed in November 2023. (Figure 1a, and Tables A and 1)

Likewise, the seasonally adjusted VaPI for food manufacturing exhibited month-on-month growth of 0.2 percent in December 2023. This was a slowdown from the previous month's expansion of 2.9 percent. (Figure 1b, and Tables A and 1)

Furthermore, the seasonally adjusted VaPI of the industry divisions other than the manufacture of food products are shown in Table 1a.

Figure 1. Month-on-Month Growth Rates of Original and Seasonally Adjusted Value of Production Index (VaPI) for Total Manufacturing and Food Manufacturing December 2022 to December 2023^p (2018=100)



p - preliminary

Source: Philippine Statistics Authority

2. Volume of Production Index (VoPI)

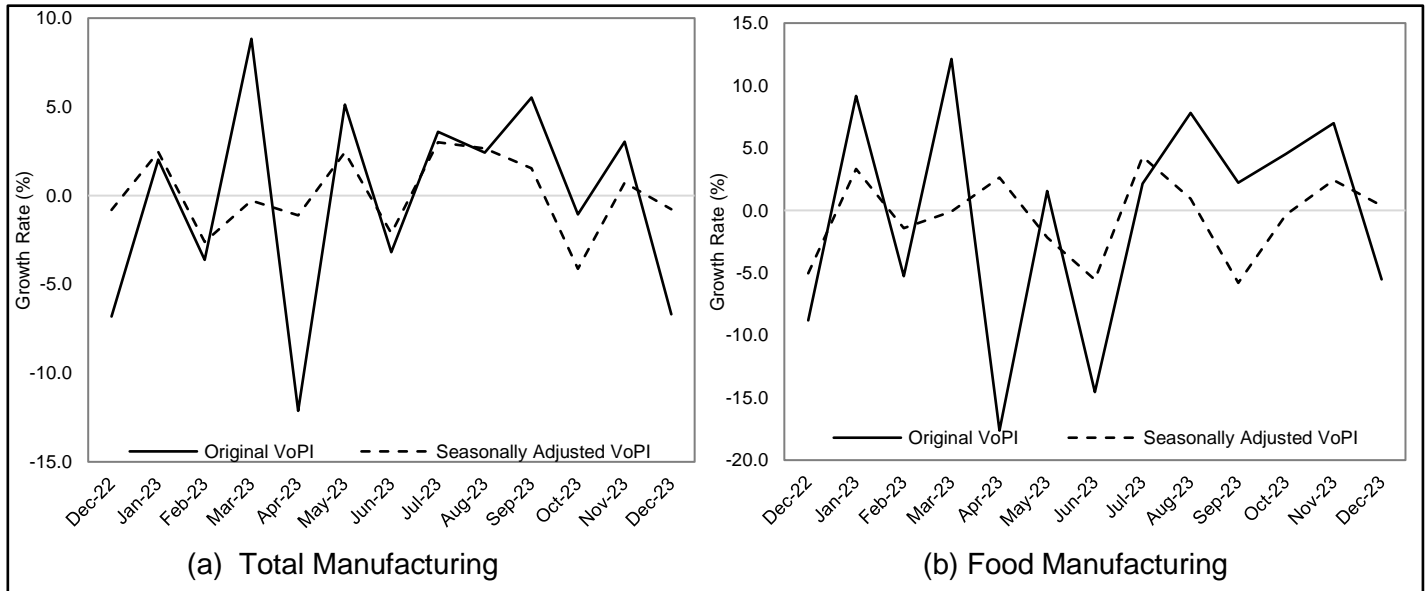
The monthly rate of the seasonally adjusted VoPI for total manufacturing decreased by 0.8 percent in December 2023. In November 2023, a 0.7 percent month-on-month growth was observed in VoPI for total manufacturing. (Figure 2a, and Tables A and 2)

Meanwhile, the monthly rate of the seasonally adjusted VoPI for food manufacturing slowed down by 0.4 percent this month from its November 2023 monthly rate of 2.4 percent. (Figure 2b, and Tables A and 2)

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In addition, the seasonally adjusted VoPI of the industry divisions other than the manufacture of food products are shown in Table 2a.

Figure 2. Month-on-Month Growth Rates of Original and Seasonally Adjusted Volume of Production Index (VoPI) for Total Manufacturing and Food Manufacturing December 2022 to December 2023^p (2018=100)



p - preliminary
 Source: Philippine Statistics Authority

3. Value of Net Sales Index (VaNSI)

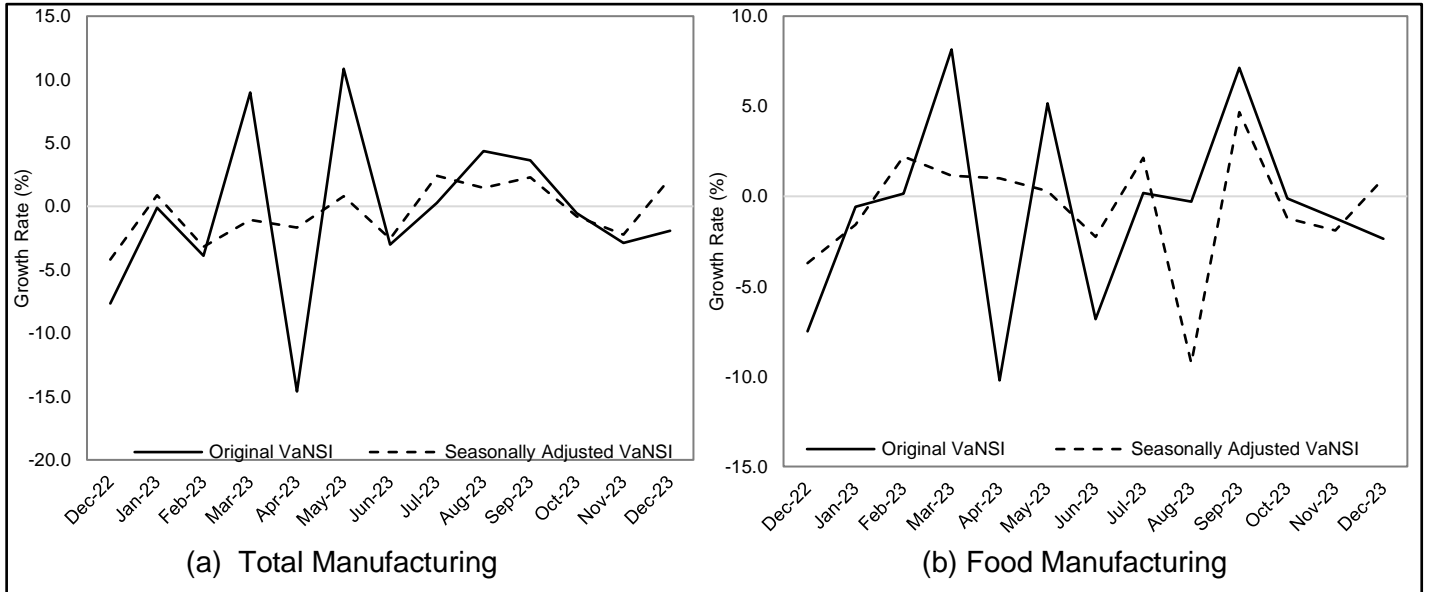
In December 2023, the monthly rate of the seasonally adjusted VaNSI for total manufacturing improved by 2.2 percent from a 2.2 percent monthly drop in November 2023. (Figure 3a, and Tables A and 3)

Similarly, the monthly rate of the seasonally adjusted VaNSI for food manufacturing increased by 1.0 percent during the month. This is an upturn from last month's decline of 1.9 percent month-on-month. (Figure 3b, and Tables A and 3)

Furthermore, the seasonally adjusted VaNSI of the industry divisions other than the manufacture of food products are shown in Table 3a.

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Figure 3. Month-on-Month Growth Rates of Original and Seasonally Adjusted Value of Net Sales Index (VaNSI) for Total Manufacturing and Food Manufacturing December 2022 to December 2023^p (2018=100)



p - preliminary
 Source: Philippine Statistics Authority

4. Volume of Net Sales Index (VoNSI)

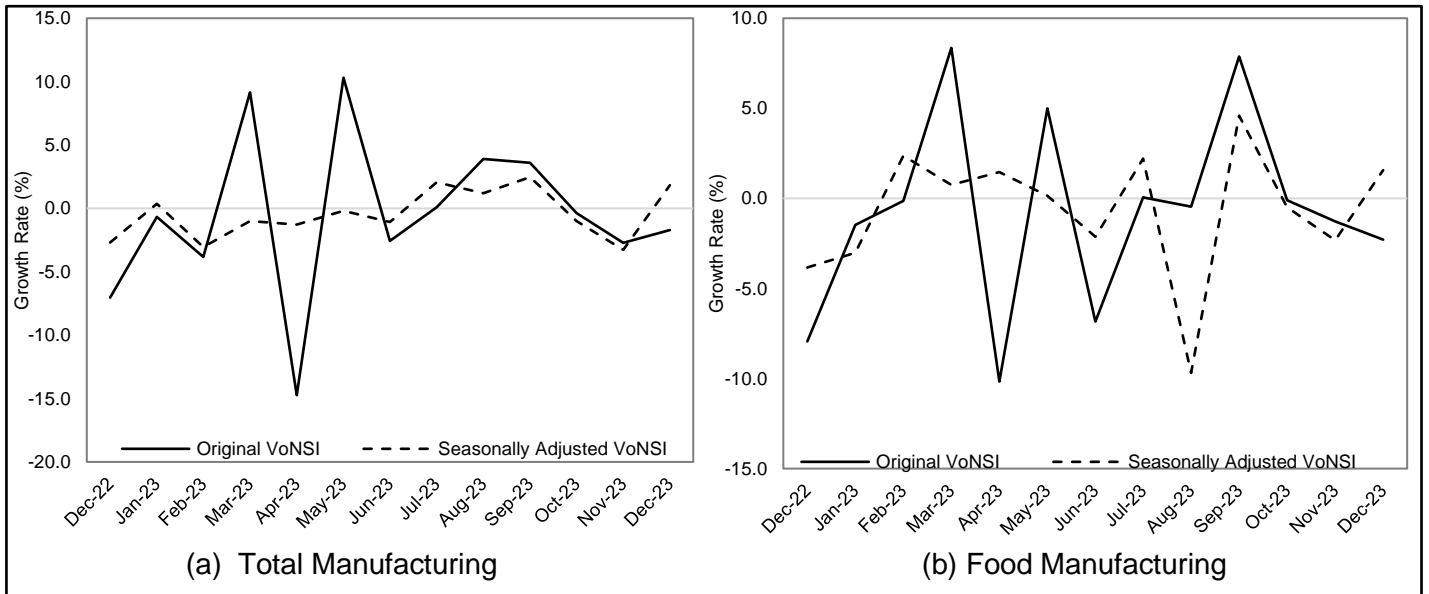
Month-on-month, the seasonally adjusted VoNSI for total manufacturing recovered in December 2023 by 1.8 percent from the 3.3 percent monthly drop observed in November 2023. (Figure 4a, and Tables A and 4)

Similarly, the monthly rate of the seasonally adjusted VoNSI for food manufacturing increased by 1.6 percent in December 2023. This is an improvement from last month's contraction of 2.3 percent month-on-month. (Figure 4b, and Tables A and 4)

Moreover, the seasonally adjusted VoNSI of the industry divisions other than the manufacture of food products are shown in Table 4a.

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Figure 4. Month-on-Month Growth Rates of Original and Seasonally Adjusted Volume of Net Sales Index (VoNSI) for Total Manufacturing and Food Manufacturing: December 2022 to December 2023^p (2018=100)



p - preliminary
 Source: Philippine Statistics Authority

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Technical Notes

The Monthly Integrated Survey of Selected Industries (MISSI) generates the original series of the Value of Production Index (VaPI), Volume of Production Index (VoPI), Value of Net Sales Index (VaNSI), and Volume of Net Sales Index (VoNSI). These indices provide information on the performance of growth-oriented industries in the manufacturing section.

This special release features the seasonally adjusted VaPI, VoPI, VaNSI, and VoNSI using X-13 Auto-Regressive Integrated Moving Average (ARIMA) of JDemetra+. The seasonally adjusted series show the trend of value and volume of production and net sales of the manufacturing section without the effects of seasonal factors.

The decomposition model chosen for the seasonal adjustment for each index is shown below.

Table A. Summary of Statistical Models Used in the Generation of Seasonally Adjusted MISSI Indices (2018=100)

Index	Industry Division	Model	ARIMA
VaPI	Total Manufacturing	Additive	(0,1,1)(0,1,1)
VaPI	Manufacture of Food Products	Multiplicative	(1,1,1)(0,1,1)
VaPI	Manufacture of beverages	Multiplicative	(0,1,1)(0,1,1)
VaPI	Manufacture of tobacco products	Multiplicative	(0,1,1)(0,1,1)
VaPI	Manufacture of textiles	Additive	(1,1,0)(0,1,1)
VaPI	Manufacture of wearing apparel	Additive	(0,1,1)(0,1,1)
VaPI	Manufacture of paper and paper products	Additive	(0,1,1)(0,1,1)
VaPI	Printing and reproduction of recorded media	Multiplicative	(0,1,1)(0,1,1)
VaPI	Manufacture of coke and refined petroleum products	Additive	(1,1,1)(1,0,0)
VaPI	Manufacture of chemical and chemical products	Additive	(2,0,0)(0,0,0)
VaPI	Pharmaceuticals & medicinal products	Multiplicative	(0,1,1)(1,0,0)
VaPI	Manufacture of rubber and plastic products	Additive	(1,1,0)(0,1,1)
VaPI	Manufacture of other non-metallic mineral products	Additive	(0,1,1)(0,1,1)
VaPI	Manufacture of basic metals	Additive	(1,0,0)(1,0,0)
VaPI	Manufacture of fabricated metal products, except machinery and equipment	Additive	(1,0,1)(0,1,1)
VaPI	Manufacture of electrical equipment	Additive	(0,1,1)(0,1,1)



Index	Industry Division	Model	ARIMA
VaPI	Manufacture of furniture	Multiplicative	(1,1,2)(0,0,0)
VaPI	Other manufacturing	Additive	(0,1,1)(0,1,1)
VoPI	Total Manufacturing	Additive	(0,1,1)(0,1,1)
VoPI	Manufacture of Food Products	Multiplicative	(1,0,0)(0,1,1)
VoPI	Manufacture of beverages	Multiplicative	(0,1,1)(0,1,1)
VoPI	Manufacture of tobacco products	Multiplicative	(0,1,1)(0,1,1)
VoPI	Manufacture of textiles	Additive	(1,1,0)(0,1,1)
VoPI	Manufacture of wearing apparel	Additive	(0,1,1)(0,1,1)
VoPI	Manufacture of paper and paper products	Additive	(0,1,1)(0,1,1)
VoPI	Printing and reproduction of recorded media	Multiplicative	(0,1,1)(0,1,1)
VoPI	Manufacture of chemical and chemical products	Additive	(1,0,0)(0,0,0)
VoPI	Pharmaceuticals & medicinal products	Multiplicative	(0,1,1)(1,0,0)
VoPI	Manufacture of rubber and plastic products	Additive	(0,1,1)(0,1,1)
VoPI	Manufacture of other non-metallic mineral products	Additive	(0,1,1)(0,1,1)
VoPI	Manufacture of basic metals	Additive	(1,1,1)(1,0,0)
VoPI	Manufacture of fabricated metal products, except machinery and equipment	Additive	(0,1,1)(0,1,1)
VoPI	Other manufacturing	Additive	(0,1,1)(0,1,1)
VaNSI	Total Manufacturing		(1,1,0)(0,1,1)
VaNSI	Manufacture of Food Products		
VaNSI	Manufacture of beverages	Multiplicative	(1,1,1)(0,1,1)
VaNSI	Manufacture of textiles	Additive	(0,1,1)(1,0,0)
VaNSI	Manufacture of wearing apparel	Additive	(0,1,1)(0,1,1)
VaNSI	Manufacture of wood, bamboo, cane, rattan articles and related products	Multiplicative	(0,1,1)(0,1,1)
VaNSI	Printing and reproduction of recorded media	Multiplicative	(1,1,1)(1,0,1)
VaNSI	Manufacture of coke and refined petroleum products	Multiplicative	(0,1,0)(0,1,1)
VaNSI	Manufacture of chemical and chemical products	Additive	(2,0,1)(0,0,1)
VaNSI	Manufacture of rubber and plastic products	Additive	(0,1,1)(0,1,1)
VaNSI	Manufacture of other non-metallic mineral products	Additive	(0,1,1)(0,1,1)
VaNSI	Manufacture of fabricated metal products, except machinery and equipment	Additive	(0,1,1)(0,1,1)
VaNSI	Manufacture of electrical equipment	Additive	(0,1,0)(0,1,1)
VaNSI	Manufacture of transport equipment	Additive	(0,1,1)(0,1,1)
VoNSI	Total Manufacturing	Additive	(1,1,0)(0,1,1)
VoNSI	Manufacture of Food Products	Additive	(0,1,1)(0,1,1)

Index	Industry Division	Model	ARIMA
VoNSI	Manufacture of beverages	Multiplicative	(0,1,1)(0,1,1)
VoNSI	Manufacture of textiles	Additive	(0,0,0)(0,1,1)
VoNSI	Manufacture of wearing apparel	Additive	(0,1,1)(0,1,1)
VoNSI	Printing and reproduction of recorded media	Multiplicative	(0,1,1)(0,1,1)
VoNSI	Manufacture of coke and refined petroleum products	Multiplicative	(0,1,1)(0,1,1)
VoNSI	Manufacture of chemical and chemical products	Additive	(1,0,0)(1,0,0)
VoNSI	Manufacture of rubber and plastic products	Additive	(0,1,1)(1,0,1)
VoNSI	Manufacture of other non-metallic mineral products	Additive	(0,1,1)(0,1,1)
VoNSI	Manufacture of basic metals	Multiplicative	(0,1,1)(0,0,0)
VoNSI	Manufacture of fabricated metal products, except machinery and equipment	Additive	(0,1,0)(0,1,1)
VoNSI	Manufacture of electrical equipment	Additive	(1,0,0)(0,1,1)
VoNSI	Manufacture of transport equipment	Additive	(0,1,1)(0,1,1)