TECHNICAL NOTES
Producer Price Survey (PPS)

_____

I. Introduction

I.1. Background of the Survey

The Producer Price Survey (PPS) is conducted by PSA to collect monthly producer prices of industry products produced by sample establishments in the manufacturing section. It measures the average change over time in the prices of products or commodities produced by domestic manufactures and sold at factory gate prices to wholesalers and/or other consumers in the domestic market relative to a base period.

I.2. Objectives

The PPS serves various purposes. It is used to (1) measure monthly or yearly changes in the producer price of key products/commodities in the manufacturing section; (2) to serve as deflator to Value of Production Index (VaPI) and Value of Net Sales Index (VaNSI) in the estimation of the Volume of Production Index (VoPI) and Volume of Net Sales Index (VoNSI) for the Monthly Integrated Survey of Selected Industries (MISSI), respectively; and, (3) to serve as a deflator in the estimation of manufacturing production in real terms (at constant prices) in the system of national accounts.

I.3. Historical Information on the Survey

The PPI milestones are shown below:

1980   Studies on the generation of the PPI started when the Index of Physical Volume of Production series being generated by the then Central Bank of the Philippines (now the Bangko Sentral ng Pilipinas) was discontinued. This came about because of the transfer of responsibility of operations and processing of the Monthly Survey of Establishments (MSE) for manufacturing from the Central Bank to the National Census and Statistics Office (National Statistics Office-NSO).

Work on the original PPI started with 1978 as the base year and was later revised to 1985. The source of data for the PPI was the then Monthly Survey of Establishments (MSE) for manufacturing. The MSE has a rider questionnaire, which asked for data on production of major products of the sample establishments. However, the PPI series were never released as official statistics. It was later observed that the components of the PPI were no longer reflective of the prevailing production structure of the manufacturing sector that the PPI operations were halted.

PSA Complex, East Avenue, Diliman, Quezon City, Philippines 1101
Telephone: (632) 8938-5267
www.psa.gov.ph

Management System ISO 9001:2015
TÜVRheinland CERTIFIED
www.tuv.com ID 9108640991

Digitally signed by Mapa Claire Dennis Sioson
Date: 2023.05.02 08:08:37 +08'00'

1992 to 1993	The compilation of the PPI with 1992 as the base year was revived in a-project "Improvement of the Producer Price Index of Selected Manufactured Products" through the Grants-in-Aid Program of the National Statistical Coordination Board (NSCB).
	The NSO with guidance from the Technical Committee on Price Statistics of NSCB worked for further improvements to the PPI to make it more reflective of the actual situation of the manufacturing sector. The conduct of the Producer Price Survey started as the source of data for the PPI.
	Starting with this new base year, the PPI was officially released simultaneous with the SKEM indicators. The SKEM was later renamed to MISSI.
2001	The NSO released the rebased series of PPI with 1994 as the new base year. The 1992-based series continued until December 2001 and was discontinued the year after. The 1994-based series had January 1998 as the earliest series.
2005	The work on the rebasing of the PPI to base year 2000 started.
2007	The PPI data series with 2000 as the new base period was released in August, in parallel with the 1994-based series. The 2000-based series had January 2001 as its earliest series.
2008	The 1994-based PPI data series was discontinued beginning January.
2011	The rebasing of the PPI series to base year 2006 started. This is in accordance with NSCB Resolution No. 2, series of 2009 which approves the synchronized rebasing of the price indices to base year 2006.
2014	The rebasing of the PPI series to base year 2006 was halted. Instead, rebasing of the PPI 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 price relatives of responding sample establishments was used as the imputation technique for the missing data of non-responding samples.
2017	The rebasing of the PPI series to base year 2012 began. The industry classification followed the Amended1994 Philippine Standard Industrial Classification (PSIC) which was the same as the 2000-based series.

2019	The computation for the 2012-based series continued but the industry classification used was according to the 2009 PSIC (22 industry division).
2020	The rebasing of the 2012-based PPI series was stopped. Instead, it was decided that the PPI series be rebased to 2018. The rebased PPI series which followed the 2009 PSIC was approved by the PSA Board on December 2020. The index computation methodology was still the same, Chained-Paasche type.

I.4. Scope and Coverage

PPS 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 partnership, 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 PPS 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 PPS 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 PSIC.

I.5. Industry Coverage

The industry structure or classification for PPS follows the Philippine Systems of National Accounts (PSNA) grouping. Further, the PSNA grouping follows the 2009 PSIC for the 2018 base period.

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

2009 PSIC CODE	INDUSTRY DESCRIPTION
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 categorized into industry groups*

II.   Data Collection

II.1. Data Collection

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

II.2. Survey Instrument

The PPS 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 in accomplishment. Furthermore, the questionnaire design ensures and enhances the consistency and accuracy in reporting past data.

II.3. Data Items

The survey collects prices and the percentage share of each of the top five products to the total value of products manufactured by the sample establishments. The top five products manufactured by the establishment must have the following characteristics:

- Product Name
- Brand Name
- Specification
- Unit of measure
- Percent share of the product to total value of products manufactured
- Reason for the increase/decrease in producer price for the month

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 utilize 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 PPS, the threshold is based on value of production. 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 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. Value of production by establishment were 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 PPS.

III.3. Estimation Procedure

The PPI utilizes the Chained Paasche-type method of index computation where the basic data for weight computation is the value of production.   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. 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.

For the 2023 PPI, the base year used is 2018 and the weights of the industry divisions and industry groups were computed based on the results of the 2020 ASPBI for Manufacturing establishments with total employment of 20 and over.

III.3.2. Index Computation

The computation of PPI adopts the following formula:

III.3.2.1**.** Computation of Index for Industry Group Level

<u>Normalized Monthly Index at the base year</u>

$$PPI_{ijm} = \frac{H_{ijm}}{H_{ij0}} \text{ x } 100$$

where:

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

H_{ijm} = harmonic mean of price relatives of products for industry group j in industry division i at month m of the base year computed as:

$$H_{ijm} = \frac{n_{ij}}{\Sigma_{h=1}^{n_{ij}} \dfrac{1}{p_{hijm}/p_{hij0}}} \text{ x } 100$$

H_{ij0} = average of the harmonic mean of price relatives of products for industry group j in industry division i at base year

p_{hijm} = producer price of commodity h for industry group j in industry division i at current month m

p_{hij0} = average monthly producer price of commodity h for industry group j in industry division i at base year

n_{ij} = total number of representative commodities for industry group j in industry division i

Monthly Index after the base year

$$PPI_{ijm} = PPI_{ij(m-1)} \text{ x } \frac{n_{ij}}{\sum_{h=1}^{n_{ij}} \frac{1}{p_{hijm}/p_{hij(m-1)}}}$$

where:

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

$PPI_{ij(m-1)}$ = PPI for industry group j in industry division i at previous month m-1

p_{hijm} = producer price of commodity h for industry group j in industry division i at current month m

$p_{hij(m-1)}$ = producer price of commodity h for industry group j in industry division i for the previous month m-1

n_{ij} = total number of representative commodities for industry group j in industry division i

III.3.2.2. Computation of Index for Industry Division Level

$$PPI_{im} = \frac{1}{\sum_{j=1}^{p_i} \left(W_{ij} \text{ x } \frac{1}{PPI_{ijm}} \right)}$$

where:

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

PPI_{ijm} = PPI 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

III.3.2.3. Computation of Index for Total Manufacturing

$$PPI_m = \frac{1}{\sum_{i=1}^{22} \left(W_i \text{ x } \frac{1}{PPI_{im}} \right)}$$

where:

PPI_m	=	PPI for total manufacturing at current month m
PPI_{im}	=	PPI for industry division i at current month m
W_i	=	weight for industry division i

Note: A linking factor is computed every time weights are changed. The linking factor is used to adjust new series for comparability with the old series.

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.

IV. Concepts and Definitions of Terms

Producer Price 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 the products received by the producer.

Market basket for the PPI refers to a sample of industry products which are produced and sold by manufacturers at factory gate prices.

Sample industry products are the major products of manufacturers during the base year.

Price relative is the ratio of current price to the base price.

Products/Commodities are the goods normally intended for sale in the market at a price that is designed to cover their cost of production.

Brand Name is the name identifying a product including its manufacturer.

Specifications are written statement of an item's required characteristics documented in a manner that facilitates its procurement or production.

Unit of measure is the standard unit or system of units by which a quantity is accounted for and expressed. Examples are meter, kilogram, grams, metric ton, troy ounce, and others.

Producer Price Index (PPI) measures the average change over time in the prices of products or commodities produced by domestic manufactures and sold at factory gate prices to wholesalers and/or other consumers in the domestic market relative to a base period.

V.   Dissemination of Results and Revision

Web-posting of the Press Release of PPS shall be done every 30th 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

Philippine Statistics Authority. (April 2021). *Technical Notes on the Producer Price Survey (PPS).* https://psa.gov.ph/technical-notes/pps

VII.   Contact Information

Joyce B. Egsan
OIC, ISD
(632) 8376-2060
mfg.staff@psa.gov.ph
isd.staff#psa.gov.ph

For data request, you may contact the:
Knowledge Management and Communications Division
(632) 8462-6600 local 839
info@psa.gov.ph