

TECHNICAL NOTES

I. Introduction

The Unit Value Indices (UVIs) for Exports and Imports are measures of the changes over time in the unit value or unit price of exported and imported goods. The UVIs for exports and imports can be used 1) as deflators to convert series of nominal values of exports and imports into volume estimates of Gross Domestic Product (GDP) using the expenditure approach, 2) to study the terms of trade, measure inflation, and forecast future price trends in international macroeconomics analysis, and 3) to analyze the country's competitiveness.

II. Data Source

II.1. Data Source for the Generation of UVI

The International Merchandise Trade Statistics (IMTS) serves as the data source in generating the UVI. The Philippine Statistics Authority (PSA) regularly receives copies of export and import declaration in electronic format provided by the Bureau of Customs (BOC) as stipulated in the Memorandum of Agreement (MOA) on the Electronic Exchange of Information between the BOC and the PSA.

Other export and import documents (hard copy) that did not pass through the online system of the BOC and its authorized VASPs are collected by the Central Office (CO) staff from the BOC collection points located in the National Capital Region (NCR) three times a week. Provincial Office staff collects the hard copies of export documents from the BOC collection points located in areas outside NCR at least once a week to complete the monthly coverage of the export and import statistics.

II.2. Commodity Classification

The classification of commodities are classified in accordance to the 2015 Philippine Standard Commodity Classification (PSCC), which is a coding system that conforms to the 2012 ASEAN Harmonized Tariff Nomenclature. The 2015 PSCC will be used in the computation of UVI from 2018 to 2023.



Table 1 below presents the coverage of UVI by Section.

Table 1. Coverage of UVI by Section

| Section | Description |
|----------------|---|
| Section I | Live animals; animal products |
| Section II | Vegetable products |
| Section III | Animal or vegetable fats and oils and their cleavage products; prepared edible fats; animal or vegetable waxes |
| Section IV | Prepared foodstuffs; beverages, spirits and vinegar; tobacco and manufactured tobacco substitutes |
| Section V | Mineral products |
| Section VI | Products of the chemical or allied industries |
| Section VII | Plastics and articles thereof; rubber and articles thereof |
| Section VIII | Raw hides and skins, leather, furskins and articles thereof; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silkworm gut) |
| Section IX | Wood and articles of wood; wood charcoal; cork and articles of cork; manufactures of straw, of esparto or of other plaiting materials; basketware and wickerwork |
| Section X | Pulp of wood or of other fibrous cellulosic material; recovered (waste and scrap) paper or paperboard; paper and paperboard and articles thereof |
| Section XI | Textiles and textile articles |
| Section XII | Footwear, headgear, umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops and parts thereof; prepared feathers and articles made therewith; artificial flowers; articles of human hair |
| Section XIII | Articles of stone, plaster, cement, asbestos, mica or similar materials; ceramic products; glass and glassware |
| Section XIV | Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin |
| Section XV | Base metals and articles of base metal |
| Section XVI | Machinery and mechanical appliances; electrical equipment; parts thereof; sound recorders and reproducers, and parts and accessories of such articles |
| Section XVII | Vehicles, aircraft, vessels and associated transport equipment |

| Section | Description |
|----------------|---|
| Section XVIII | Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; clocks and watches; musical instruments; parts and accessories thereof |
| Section XIX | Arms and ammunition; parts and accessories thereof |
| Section XX | Miscellaneous manufactured articles |
| Section XXI | Works of art, collectors' pieces and antiques |

III. Methodology

The PSA Board recently approved the initial results of the UVI for Export and Import covering the period of January 2018 to December 2022 through Board Resolution No. 13, Series of 2023. The PSA will use the chained Laspeyres formula in the estimation of UVI.

III.1 Base Year

The base year is the reference point of the index number series. It is usually a year at which the index number is set to 100.

In order to align with various indices generated by the PSA such as the Consumer Price Index and GDP, the base year for calculating the UVI for exports and imports is set at 2018.

III.2. Determination of the Market Basket

The specific commodities (10-digit PSCC) included in the market basket were selected using the criteria recommended by ASEANStats. These are 1) share to total FOB value of the Chapter is at least 0.20 percent, 2) frequently exported/imported commodity, and 3) homogeneity (unit value of the commodity has no large deviation from other commodities in the Chapter) is at least 60 percent.

III.3. Determination of Weights

The weights refer to the relative importance of the chapter/section to the total value of export/import in the country.

a. For Section

The weight of a section is the share of the section to the total value of exports/imports.

b. For Chapter

The weight of the chapter (2-digit PSCC) is the share of the chapter to the total value of exports/imports.

III.4. Computation of the UVI using Chained Laspeyres

a. Derivation of Unit Value (UV)

The UV refers to the derived price of the commodity in US dollar (USD) FOB value per Quantity. It is computed using the following formula:

$$U_{ijkm} = \frac{V_{ijkm}}{Q_{ijkm}}$$

where:

U_{ijkm} = Unit Value (UV) of commodity k in Chapter j of Section i at month m

V_{ijkm} = Total value (in USD FOB) of commodity k in Chapter j of Section i at month m

Q_{ijkm} = Total quantity (by unit of measure) of commodity k in Chapter j of Section i at month m

b. Computation of Price Relative (PR)

The computation of PR for each commodity (10-digit PSCC) in the Chapter (2-digit 2015 PSCC) is given as follows:

| at base year | onwards |
|--|--|
| $P_{ijkm} = \frac{U_{ijkm}}{U_{ijk0}}$ | $P_{ijkm} = \frac{U_{ijkm}}{U_{ijk(m-1)}}$ |

where:

- P_{ijkm} = Price Relative of commodity k in Chapter j of Section i at month m
 U_{ijkm} = UV of commodity k in Chapter j of Section i at month m
 $U_{ijk(m-1)}$ = UV of commodity k in Chapter j of Section i at month $m-1$
 U_{ijk0} = Average UV of commodity k in Chapter j of Section i at base year (2018)

c. Computation of Monthly UVI at Chapter Level

| at base year | onwards |
|---|---|
| $I_{ijm} = \prod_{k=1}^{n_{ij}} (P_{ijkm})^{\frac{1}{n_{ij}}} \times 100$ | $I_{ijm} = I_{ij(m-1)} \times \prod_{k=1}^{n_{ij}} (P_{ijkm})^{\frac{1}{n_{ij}}}$ |

where:

- I_{ijm} = UVI of Chapter j in Section i at month m
 $I_{ij(m-1)}$ = UVI of Chapter j in Section i at month $m-1$
 P_{ijkm} = Price Relative of commodity k in Chapter j of Section i at month m
 n_{ij} = Total number of commodities for Chapter j of Section i at month m

d. Computation of UVI at Section Level

$$I_{im} = \frac{\sum_{j=1}^{n_i} w_{ij} \times I_{ijm}}{\sum_{j=1}^{n_i} w_{ij}}$$

where:

- I_{im} = UVI of Section i at month m
 I_{ijm} = UVI of Chapter j in Section i at month m
 w_{ij} = Weight of Chapter j in Section i
 n_i = Total number of chapters for Section i

e. Computation of UVI for Total Export/Import

$$I_m = \sum_{i=1}^{n=21} w_i \times I_{im}$$

where:

- I_m = UVI for Total Exports/Imports at month m
- I_{im} = UVI of Section i at month m
- w_i = Weight of Section i
- n = Total number of Sections = 21

IV. Concepts and Definitions of Terms

Exports refer to all goods leaving the country, which are properly cleared through customs. A distinction, however, is made between export for goods grown, mined, or manufactured in the Philippines (domestic exports) and exports of imported goods that do not undergo physical and/or chemical transformation in the Philippines (re-exports).

Imports refer to all articles, wares, goods, or merchandise of every kind or class entering the jurisdiction of the Philippines from any foreign port, either with intent to unload therein, or which, after such entering, are assumed therein, or incorporated in the general mass or property of the Philippines.

V. Dissemination of Results

The initial results of the UVI for exports and imports covering 2018 to 2022 are disseminated in the form of a Special Release (SR). The succeeding SRs will cover the quarterly data of 2023, which will be posted 90 days after the reference quarter at the PSA website (<https://psa.gov.ph/statistics/export-and-import-indices>).

The revised data of the previous quarter will be reported in the preliminary release of the following quarter.

VI. Citation

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