TECHNICAL NOTES
**2018-based Consumer Price Index for the Bottom 30 Percent
Income Households**

I. Introduction

The Philippine Statistics Authority (PSA), as mandated by the Republic Act No. 10625, is primarily responsible for planning, developing, prescribing, disseminating and enforcing policies, rules and regulations, and coordinates government-wide programs governing the production of official statistics, general-purpose statistics, and civil registration. The Consumer Price Index (CPI) is one of the designated statistics approved under Executive Order No. 352 – Designation of Statistical Activities that will Generate Critical Data for the Decision-Making of the Government and Private Sector.

1.1. Historical Background

The inclusion of the CPI for Bottom 30 Percent Income Households within the overall CPI for all income households was initiated in 2000, under the purview of the National Statistics Office (now part of PSA). The integration aimed to monitor the welfare of the families belonging to this income group.

The CPI for Bottom 30 Percent Income Households was initially established using 2000 as the base period. The 2012-based series for the Bottom 30 Percent Income Household was approved in 2019 through the PSA Board Resolution No. 20, Series of 2019, and released in February 2023 to synchronize the base year of the CPI with the other indices in accordance with the PSA Board Resolution No. 1, Series of 2017-146, which approved the synchronized rebasing to base year 2006 and six years thereafter. Subsequently, the 2018 base year was approved in February 2023.

1.2. Objectives

The survey of retail prices aims to collect prices of the most commonly purchased products and commonly availed services by average Filipino households for the compilation of the monthly CPI in the country. Subsequently, the CPI is used to compute indicators such as inflation rate and purchasing power of peso.

1.3. Historical Information on the CPI for the Bottom 30 Percent Income Households

In 2000, the CPI for the Bottom 30 Percent Income Households was included in the CPI for all income households compiled by the then NSO to monitor the welfare of the families belonging to this income group. The CPI for all income households, formerly called cost of living index, was first constructed by the Labor Statistics Division of the Department of Labor and Employment (DOLE). The task was transferred to the then Bureau of Census and Statistics (now part of the PSA). The first series compiled by the BCS was in 1945 with 1941 as the base year and covered Manila only. Succeeding rebasing was done in 1964, 1965, 1970, 1976, 1982, 1992, 1996, 2000, 2006, 2012, and the current base year, 2018.

1.4. Scope and Coverage

The CPI covers the goods and services commonly purchased or availed of by the households. The data are compiled at the provincial and highly urbanized city level. The goods and services are classified based on the 2020 Philippine Classification of Individual Consumption according to Purpose (PCOICOP). The following PCOICOP classifications are covered by the CPI:

1. Food and Non-Alcoholic Beverages
2. Alcoholic Beverages and Tobacco
3. Clothing and Footwear
4. Housing, Water, Electricity, Gas and Other Fuels
5. Furnishings, Household Equipment and Routine Household Maintenance
6. Health
7. Transport
8. Information and Communication
9. Recreation, Sport and Culture
10. Education Services
11. Restaurants and Accommodation Services
12. Financial Services
13. Personal Care, and Miscellaneous Goods and Services

The specific commodity groups are selected based on the results of the Family Income and Expenditure Survey (FIES). The commodity groups with expenditure data in the FIES will be initially included. The final list of specific commodity groups will be determined once the market basket is completed. Only those commodity groups with expenditure weights and corresponding market basket will be included in the CPI computation at the provincial/selected city level.

II.   Data Collection

2.1. Data Collection Procedure

Price collection for the commodities for the Bottom 30 Percent Income Households is simultaneous with the data collection for the CPI for All Income Households. Data are collected from the sample outlets (outlets or establishments where prices of commodities/services are collected or quoted). Except for food, beverages, tobacco, and petroleum products which are monitored on a weekly basis in the National Capital Region (NCR), price collection is done twice a month to effectively monitor the price changes. The first collection phase is done during the first five days of the month, while the second phase is on the 15th to 17th day of the month.

a. First Collection Phase – Areas Outside the National Capital Region (AONCR)

Prices for all commodities and cost of services are taken from the same establishments already selected as regular price outlets. Six price quotations are collected for every commodity or service listed in the forms. Two of these

six price quotations are taken from the provincial capital and the other four quotations are from the sample municipalities.

b. Second Collection Phase – AONCR

Only two price quotations are collected for every commodity or service listed in the forms. These are taken from the provincial capital.

c. For selected cities, six price quotations are required for every commodity or service listed in the forms during the first and second collection phases.

d. NCR

All unprocessed food items are priced every Tuesday of the reference week while all processed food items, beverages, and tobacco are priced every Friday of the reference week. Prices of non-food items are gathered during the first five days of the month and on the 15th to 17th day of each month. Special attention is given to the pricing of highly perishable goods, e.g., fresh fish, vegetables, and fruits. Prices of these goods are taken during the time of the day when most housewives do their marketing, i.e., usually before 10:00AM, to attain a reasonable degree of consistency in pricing identical group of items in the market.

e. Special Items

Prices of some special items are gathered less frequently. School tuition fees are collected every beginning of the school year or semester (June or July and October or November as the case may be). Elementary and high school tuition fees account for the monthly/annual fees. The entry is carried all throughout the succeeding months until the next school year. College fees account for the per semester fees. The entry is carried throughout the succeeding months until the next semester.

Items for personal, recreational, medical, and other services are priced monthly in NCR and in the sample municipalities, and twice a month in the provincial capitals. Changes in transportation fares, once implemented, are immediately included in the computation of CPI for NCR and included in the next survey round in AONCR if the implementation date falls after the survey period.

In the case of house rentals, the same addresses or the same housing unit regardless of its occupants must be the source of data in every survey period. If the structure is no longer existing or if it has ceased to be rented, an appropriate substitute should be selected. Thus, if the sample house which is to be replaced has only one bedroom then the replacement must also be a house with only one bedroom. The amount of monthly rental fee paid by the households must exclude payments for electricity and/or water. This survey of house rentals is done monthly.

Treatment of Specific Products

Transport and airfares: Changes in land and air transportation fares, once implemented, are immediately included in the computation of CPI in NCR and included in the next survey round in areas outside NCR if the implementation date falls after the survey period. Prices of gasoline products have been deregulated. However, when prices of such products increase, those engaged in the transport sector demand for an increase in land transportation fares. The petition for the increase in land transport fare is submitted to a government regulatory office for a decision after a series of hearings attended by the private and public sectors. The regulation applies to taxis, jeepneys, and non-air-conditioned buses.

Telecommunication: Residential telephone rates are gathered monthly from fixed sample outlets. Value Added Tax (VAT) is included in its monthly rate. Government postage charges are regulated. The charge for internet surfing is priced twice a month in NCR and in the provincial capitals, and monthly in the sample municipalities.

Utilities: Electricity and water rates are collected once a month in NCR and sample municipalities and twice a month in the provincial capitals. Normally, taxes are already included in pricing commodities and services (VAT and service charges).

Package of Meals: Package of meals that include meals eaten outside the home are priced monthly in NCR and sample municipalities, and twice a month in the provincial capitals.

Second-hand goods: Price collection for purposes of the CPI excludes items sold at second-hand stores.

Health: Items for medical services are priced monthly in NCR, monthly in the sample municipalities, and twice a month in the provincial capitals.

2.2. Instruments

At present, the survey forms are in printable spreadsheet format, which are being used to record the prices collected from the sample outlets. Price collection using online spreadsheet on Android-based devices and desktop application is currently being developed to be utilized for price verification and index computation.

2.3. Variables/Data Items

The major data item collected is the price of the sample commodities at the time of visit/survey period. In case there is a need to collect prices from stores other than the sample stores due to various reasons, the name and address of the new store will be listed for inclusion in the database.

III. Methodology

3.1. Unit of Enumeration

The unit of enumeration are the stores or outlets, where the prices of products and services are collected. These stores are selected based on predetermined criteria.

3.2. Sample Selection Procedure

Sample stores are selected using the following criteria: (a) Popularity of an establishment along the line of goods to be priced, (b) Consistency and completeness of stock, (c) Permanency of outlet, and (d) Geographical location.

The goods and services in the market basket are selected using the results of the Survey of Key Informants (SKI). The SKI was conducted in February 2021 to update the 2012-based market basket. The sample stores are visited and store owners or sellers were asked to confirm whether the goods or services priced from their stores are still commonly bought by the households. If a good or service is no longer commonly purchased, the respondents were asked to determine the good or service that is currently purchased the most at the time of survey. The list of responses were summarized at the provincial/selected city level to form the market basket.

3.3. Estimation Procedure

Statistical weights are applied to the division level down to the Item level of the PCOICOP. The weights are derived from the expenditure data of the FIES. The weight for each item of expenditure is a proportion of that expenditure item to the total national expenditure. The total (all items) national expenditure weights is equal to 100.

Computation of the CPI involves a number of steps as follows:

1. Compute the monthly average price for each commodity

$$\text{Monthly Average Price of Commodity} = \frac{\text{Price for Outlet 1} + \text{Price for Outlet 2} + \dots + \text{Price for Outlet k}}{k}$$

where:

k = number of outlets for each commodity

2. Compute the price relative (PR) for each commodity

- At the Base Year

$$PR = \frac{\text{Current Month's Average Price}}{\text{Annual Average Price in 2018}}$$

- After the Base Year

$$PR = \frac{\text{Current Month's Average Price}}{\text{Previous Month's Average Price}}$$

3. Compute the index for 6-digit of Item Index ($I_{i(6),t}$)

- At the Base Year

$$I_{i(6),t} = \text{Geometric Mean}(PR_i) * 100$$

- After the Base Year

$$I_{i(6),t} = \text{Geometric Mean}(PR_i) \times I_{i(6),t-1}$$

4. Compute the index for 5-digit or Sub-class Index ($I_{j(5),t}$)

$$I_{j(5),t} = \frac{\sum_{i=1}^{n} w_{i(6)} I_{i(6),t}}{\sum_{i=1}^{n} w_{i(6),t}}$$

where:
n = number of items under Sub-class j
$w_{i(6)}$ = weight of Item i

5. Compute the higher level indices

Same formula with the Sub-class level index computation is applied to compute for higher level indices.

3.4. Imputation Technique

a. **Temporary disappearance (e.g., out of stock)** – commodities temporarily not available in the sample store

Case 1: Unprocessed food items and petroleum products

The prices for unprocessed food items (agricultural food items) and petroleum products are highly volatile (price changes occur frequently). In the case that these items are not available in the particular outlet, prices for these items should be collected from the nearest outlet where the item is available or from another outlet chosen using the criteria of outlet selection during the particular survey round. The substitute outlet for the lost item(s) becomes a permanent

sample outlet (for that particular item only) even though the lost item re-appears in the original sample outlet. Meanwhile, maintain the other sample outlets where this item is still available.

Case 2: Processed Food, Beverages, and Tobacco (FBT)

In case the price of a particular FBT item is out of stock at the time of visit in the outlet, the last price quotation of the unavailable item for a particular outlet is carried unchanged until stock and its price is available again. This measure, however, is done only if the item is not available within one month. Given that after a month and the item is still not available in a particular outlet but available in other outlets, the price of the item is quoted from the nearest outlet or another outlet chosen using the criteria of outlet selection.

The substitute outlet for the lost item becomes a permanent sample outlet (for that particular item only) even though the lost item becomes available again in the original sample outlet after one month.

Case 3: Non-FBT items

Similar with case number 2, the last price quotation of the absent item is carried unchanged until stock and its price is again available. This measure, however, is done only if the item is not available within three (3) months. Given that after three months and the item is still not available in a particular outlet but available in other outlets, the price of the item is quoted from the nearest or another outlet chosen using the criteria of outlet selection.

The substitute outlet for the lost item becomes a permanent sample outlet (for that particular item only) even though the lost item becomes available again in the original sample outlet after the third month.

b. **Permanent Disappearance -** The new method in the computation of CPI, the chain or the short-term relative method, will provide timely indicators as it allows inclusion of commodities in the market basket that are frequently purchased because of (1) the changing consumer taste and preferences and (2) those that become relevant due to technological changes. Likewise, the new method allows for quicker exclusion of obsolescent commodities.

Case 1: Permanent Disappearance for a Specific Sample Municipality

a) If a certain specified item disappeared for three months in the sample municipality, get an appropriate substitute/equivalent specification for that item only in that municipality on the fourth month.

b) If a certain item specification completely disappeared from the sample municipality and appropriate substitute/equivalent specification for that item could not be found after three months but new specifications are currently available for the same item, the *overlap/linking method* is used in pricing the item. Prices for this item having new specifications are collected during the current survey period/month as well as their prices in the immediate past

month. The price change (growth rate) of the item with the new specifications is then applied in the previous month's prices of the item whose specifications are not already available, that is, the growth in prices of the item with new specifications is taken as the growth in prices of that item with the old specifications.

Case 2: Permanent Disappearance for the Whole Province

a) If a certain item specification completely disappeared in the province and appropriate substitute/equivalent specification for that item could not be found after three months but new specifications are currently available for the same item, this new available specification will serve as replacement to the obsolete item specifications in the market basket. Prices for this item having new specifications are collected during the current survey period/month as well as their prices in the immediate past month. In the second month, the price for the item with new specifications will be used in the computation of the CPI.

c. **Substitution of Outlets**

Sample outlets are abandoned and substituted due to the following reasons:

3.1. Complete abandonment of the outlet that has ceased operation - it will be substituted by the nearest outlet or another outlet chosen using the criteria in outlet selection.

3.2. Partial abandonment of an outlet (i.e., for specific items only) - if one or more sample items disappeared for three months or permanently.

IV. Concepts and Definitions of Terms

Base Period
It is a reference period, usually a year, at which the index number is set to 100. It is the reference point of the index number series.

Commodity Specifications
This refers to the detailed description of the commodity such as brand, packaging, size, and unit of measure or other characteristics that will best describe the product/commodity and are important in the determination of prices.

Consumer Price Index
It is an indicator of the change in the average retail prices of a fixed basket of goods and services commonly purchased by an average Filipino household. It shows how much on the average, prices of goods and services have increased or decreased from a particular reference period known as base year.

Index Method
It gives the formula used in computing the index number.

Index Number
This is a device used to compare relative movement in the magnitude of a variable or group of distinct but related variables between two or more points in time. An index number also shows the relative differences in the magnitude of a variable obtained at the same period of time in different areas. It is expressed in percentage form and its unit of measure is percentage point. The base of comparison is taken as 100, facilitating measure of change or difference relative to the base.

Inflation Rate
Refers to the annual rate of change or the year-on-year change of the CPI expressed in percent.

Market Basket
For CPI purposes, market basket is a term used to refer to a sample of goods and services that are commonly purchased and bought by an average Filipino household.

Outlier
A term that is generally used to describe any extreme value in a set of survey data. In a CPI context, it is used for an extreme value of price or price relative that requires further investigation or that has been verified as being correct.

Philippine Classification of Individual Consumption According to Purpose (PCOICOP)
A detailed classification of individual consumption expenditures on goods and services incurred by the three (household, general government, non-profit institutions serving households) of the five institutional sectors (non-financial corporations, financial corporations) of the 1993 and 2008 Systems of National Account (SNA). The PCOICOP was patterned after the United Nations COICOP.

Price
The amount or value paid in exchange for the commodity or a service rendered.

Retail/Consumer Price
Refers to the price at which a commodity is sold in small quantities for consumption.

Retailer
Type of trader who sells to consumers or end users.

Sample Outlets
These are stores or establishments where price of sample commodities are quoted.

Unit of Measure
Refers to which a commodity is customarily traded in the market. The unit of measure is used as the basis for pricing for consistency and to prevent misunderstanding between the price collector and the respondent.

Weight
A value attached to a commodity or group of commodities to indicate the relative importance of that commodity or group of commodities in the market basket.

V.   Dissemination of Results and Revision

The CPI and inflation rate for the Bottom 30 Percent Income Households are released five days after the reference month through a special release posted on the PSA website. A Press Conference is also held at 9:00AM on the day of the release.

Revisions of previously released data are reflected in the next press release. Revisions are done to include the price data that are submitted beyond the reference period.

VI.   Citation

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VII.   Contact Information

For additional inquiries regarding the CPI for the Bottom 30 percent Income Households, you may send your queries through the following:

GLEN G. POLO
Chief Statistical Specialist
Price Statistics Division
Economic Sector Statistics Service
Sectoral Statistics Office
Philippine Statistics Authority
Email Address: g.polo@psa.gov.ph or
                          psd.staff@psa.gov.ph

For data request, you may contact：
Knowledge Management and Communications Division
Email Address: info@psa.gov.ph or
                          kmcd.staff@psa.gov.ph