TECHNICAL NOTES
Seasonally Adjusted Consumer Price Index

I. Introduction

The official release of the Seasonally Adjusted Consumer Price Index (SACPI) began in 1996 in accordance with the National Statistical Coordination Board Resolution No. 8 Series of 1996 dated 12 August 1996, entitled “Designating the Generation and Release of Seasonally Adjusted CPI” by the former National Statistics Office on a monthly basis five days after the reference month. Following the creation of the Philippine Statistics Authority (PSA) by virtue of the Republic Act No. 10625, the generation and publication of the SACPI was adopted through PSA Resolution No. 1, Series of 2017-045.

Through the years, the Consumer Price Index (CPI) market basket underwent several revisions. The SACPI followed the same index reference periods with the headline CPI. Currently, the SACPI uses 2018 as its base year.

The purpose of seasonal adjustment in the CPI is to reveal the actual trend without being hampered by the periodic patterns caused by the changing seasons, which influenced seasonal price fluctuations such as weather, national holidays, release of bonuses and pension schedules, and other institutional calendar effects. The SACPI is mainly carried out for policy makers or policy advisers who wish to read the trend from the economic time series. It also provides month-on-month comparison and analyzes the short-term trend and seasonal effects in the series.

The PSA releases the monthly SACPI by three geographic coverage, namely: Philippines, National Capital Region (NCR), and Areas Outside the National Capital Region (AONCR). Moreover, the commodity classification used for the CPI is the 2020 Philippine Classification of Individual Consumption according to Purpose (PCOICOP).

II. Data and Sources

The seasonal adjustment uses the CPI data generated from the monthly “Retail Price Survey for the Generation of Consumer Price Index for All Income Households”. For seasonal adjustment purposes, the CPI data series is referred to as the “original series” and the deseasonalized data is called seasonally adjusted series. Below are the CPI time series used in the 2024 monthly seasonal adjustment:

Philippines	NCR	AONCR
• All items • Food and non-alcoholic Beverages • Clothing and footwear • Housing, water, electricity, gas and other fuels • Furnishings, household equipment and routine household maintenance • Health • Transport • Personal care, and miscellaneous goods and services	• All items • Food and non-alcoholic beverages • Housing, water, electricity, gas and other fuels • Furnishings, household equipment and routine household maintenance • Health • Personal care, and miscellaneous goods and services	• All items • Food and non-alcoholic Beverages • Clothing and footwear • Housing, water, electricity, gas and other fuels • Furnishings, household equipment and routine household maintenance • Health • Transport • Education services • Restaurants and accommodation services

III. Methodology

Basically, seasonal adjustment consists of identification, estimation, and removal of seasonal variations from a time series. It involves the decomposition of an original series into four components, namely: trend, cycle, seasonal factor, and irregular.

The PSA currently uses the EViews version 12 for the time series decomposition process and estimation of seasonal factors of the CPI. EViews has built-in seasonal adjustment methodologies like X12-ARIMA. The decomposition of time series may involve choosing between additive and multiplicative models. Additive decomposition model assumes the size of seasonal component is independent from the size of the series. The multiplicative decomposition model, on the other hand, assumes the size of seasonal component is proportional to the size of the series. The choice between additive and multiplicative models is to subject the original series into both additive and multiplicative adjustments and compare the results.

3.1. Annual Evaluation of Seasonality of CPI

Each CPI series is tested for the presence of stable seasonality every beginning of the year. The purpose is to evaluate the seasonality in each series once the data completes its full-year values. All commodity divisions including all items and non-food aggregates of CPI at the national, NCR, and AONCR are subject to annual evaluation. Those time series that exhibit stable seasonality will be used in the monthly generation and publication of the seasonally adjusted CPI.

3.2. Monthly Seasonal Adjustment of CPI

The CPI series with identified stable seasonality are included in the monthly seasonal adjustment. The type of decomposition model chosen for each CPI series during the annual evaluation is used in the monthly generation of the SACPI. The data released includes the original CPI, seasonally adjusted series and its components, and month-on-month trends of each series.

IV. Concepts and Definitions of Terms

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.

Seasonally Adjusted Consumer Price Index (SACPI)
After the removal of seasonal variations, the resulting series is referred to as the seasonally adjusted series or the deseasonalized series. By removing the effects of seasonality on the CPI series, analysis can be made on a month-on-month basis. Thus, seasonal adjustment allows comparisons over recent months and gives short-term trend movements for the series. In general, if seasonally adjusted CPI levels are lower than the unadjusted series, it means that seasonal factors push up prices relative to the expected trend.

Seasonality
This is a regular periodic pattern of fluctuations that repeats from year to year. Each observation period is called a season, and the number of seasons within a year is referred to as periodicity or the length of the seasonality.

Time Series
A sequence of measurements of some numerical quantity observed during successive periods of time. This observed time series consists of four components such as trend, cycle, seasonal, and irregular. The first three components are characterized as signals, while the last component is referred to as noise or random shocks.

V. Dissemination of Results and Revision

The seasonally adjusted CPI is simultaneously released with the headline CPI and inflation rate five days after the reference month through a press release posted on the PSA website.

Like the headline CPI, the revisions of previously released data are reflected in the succeeding press release.

VI. Citation

Data for the seasonally adjusted CPI should be cited with the following information:

Philippine Statistics Authority. (2024). *Technical Notes on the 2018-based Seasonally Adjusted Consumer Price Index (SACPI).* https://psa.gov.ph/price-indices/seasonally-adjusted-cpi

VII. Contact information

For additional inquiries regarding the Seasonally Adjusted CPI, you may send your queries through the following:

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