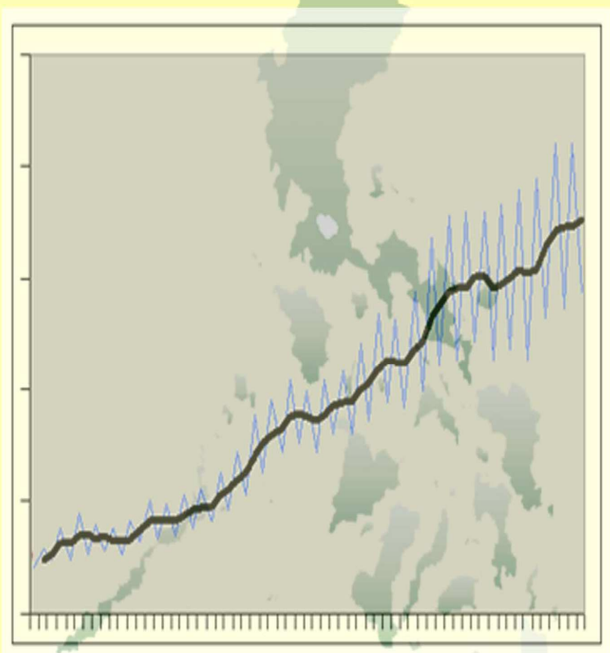
2006-based Seasonally Adjusted Consumer Price Index in the Philippines Primer



Philippines National Statistics Office

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The seasonal adjustment of a time series mainly refers to the isolation of seasonal fluctuations, leaving the basic trend of the observed series. Seasonal fluctuations can be due to composite effect of climates and institutional events which repeat more or less regularly each year.

Why Deseasonalize?

Seasonal adjustment is mainly carried out for policy makers or policy advisers who wish to be able, at a glance, to read the trend from the economic time series without being hampered by the seasonal movements.

Knowledge of seasonal fluctuations is often of great importance for corporate commercial policy since it usually explains short-term changes in such variables as demand for a certain product. Some examples are (i) daily fluctuations related to days of the week as in retail sales, and (ii) hourly fluctuations related to hours of the day as in electricity consumption.

It should be noted that seasonal adjustment would produce smoothed quarterly or monthly values.

What is Consumer Price Index?

The consumer price index (CPI) is an indicator of the change on the average retail prices of fixed basket of goods and services commonly purchased by households relative to base year or reference year.

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.

Practices of Seasonal Adjustment of Time Series

Modern Practice

Various statistical agencies throughout the world publish both economic and seasonally adjusted data. Various methods such as DEMETRA by the Eurostat and X11 by Statistics Canada are used for seasonal adjustment. The most popular method employed is the X11 approach.

Practice in Philippines

The National Statistics Office (NSO) is one of the government agencies that supported the initial practice of offering seasonally adjusted data in the Philippines in 1992 thru the technical assistance of the Asian Development Bank (ADB). Seasonal adjustment has since then been supported by a host of government agencies in data collection, including the National Statistical Coordination Board (NSCB), the Bureau of Agricultural Statistics (BAS), Bangko Sentral ng Pilipinas (BSP), and Bureau of Labor and Employment Statistics (BLES). These efforts have been facilitated through the Technical Committee and Technical Working Group on Seasonal Adjustment of Philippine Time Series Data.

The CPI, being one of the most widely used price statistics in the country, was among those statistical data that was tested initially by the members of the NSO's project team for seasonal adjustment.

Historical Background on Seasonal Adjustment of Philippine CPI

Initially, in 1992, the 1988-based CPI monthly series were tested at the one and two–digit levels of CPI disaggregation for the Philippines, National Capital Region and Areas Outside the National Capital Region (AONCR) using the software (X11ARIMA88) developed by Statistics Canada for seasonal adjustment. However, the results of the tests showed that among the series, only the aggregate CPI levels for food, beverages and tobacco (FBT) and non-FBT items in NCR and AONCR series registered presence of stable seasonality. The rest of the CPI series including the CPI for All Items for the three areas (Philippines, NCR and AONCR) under study indicated no seasonality mainly due to the opposite direction of peaks and troughs exhibited by the components of the series, thus, cancelling out their seasonality.

In 1996, with 1994 as the base year, the monthly CPI series utilizing the same coverage as the 1988-based series were also evaluated for seasonality using the X11ARIMA88 software that was later updated to X112000 to address 2K problem in data encoding. The results of the tests showed that only the aggregate CPI for FBT and Non-FBT items in NCR and AONCR were found to have stable seasonality, the same findings with that of the 1988-based CPI series. The issuance of NSCB Resolution Number 8 Series of 1996 dated August 12, 1996 entitled "Designating the Generation and Release of

Seasonally Adjusted CPI by the NSO" began the official release of seasonally adjusted CPI on a monthly basis, that is five days after the release of the regular CPI by the NSO.

In 2000, the NSO started to rebase the CPI from 1994 to 2000. With the approval of the 2000-based CPI series under NSCB Resolution Number 13 Series of 2003 on December 12, 2003 and the discontinuance of the 1994-based CPI series effective January 2005, the NSO again tested the presence of seasonality in the 2000-based CPI series for seasonal adjustment. Similar with the 1988 and 1994 series, the one and two digit CPI levels using the 2000 series for the three areas were tested. The results of the tests showed that only the aggregate CPI for FBT and Non-FBT items in NCR and AONCR were found to have stable seasonality, the same findings with that of the 1988 and 1994-based CPI series

On January 14, 2005, the Technical Committee of Seasonal Adjustment of Philippine Time Series approved the seasonal adjustment for the 2000-based CPI for FBT and non-FBT items in NCR and AONCR. Thus, starting with the January 2005 CPI series, the 2000-based seasonally adjusted CPI series were simultaneously released with the original CPI series five days after the reference month.

In June 2011, with the official release of the new series (2006=100), the NSO started to evaluate the 2006 CPI series for seasonal adjustment. The 2006 series is the first in the CPI series that used UN Classification of the Individual Consumption According to Purpose (COICOP) in determining the commodity groupings of items. The 11 COICOP commodity divisions listed below including the All Items CPI were tested for the presence of seasonality:

- All Items
  Division: 11
- Food and Non-Alcoholic Beverage
- Alcoholic Beverage and Tobacco
- Clothing and Footwear
- Housing, Water, Electricity, Gas and Other Fuels
- Furnishings, Household Equipment and Routing Maintenance of the house
- Health
- Transport
- Communication
- Recreation and Culture
- Education
- Restaurant and Miscellaneous Goods and Service

Factors Causing Seasonality in Prices

Seasonality in prices occurs with the seasonality in the availability of supply of goods and services, as well as in the demand for them. Availability of goods is affected by production cycles resulting from varying climatic conditions and availability of raw materials and other inputs to production. On the other hand, demands for certain goods and services change during special occasions such as opening of classes and holidays like Christmas. The practice of implementing changes during the beginning of the year can also affect prices. For instance, lessors have the tendency to increase rentals beginning January.

Scope and Coverage in the Seasonal Adjustment of Philippine CPI

The 2006-based CPI series by division for the Philippines, National Capital Region (NCR) and Areas Outside NCR were tested for the presence of seasonality The period covered the monthly CPI from January 2006 to November 2011.

Summary Results

Annex 1 showed the summary results of the runs in All Items and the 11 commodity divisions in the Philippines, NCR and AONCR. Meanwhile, Annex 2 listed the model chosen for the 2006-based CPI series by commodity division and by area with stable seasonality.

Thus, starting January 2012, the NSO released the 2006-based Seasonally Adjusted CPI for the commodity divisions listed below for the Philippines, NCR and AONCR:

Philippines

1. All Items
2. Alcoholic beverages and tobacco
3. Clothing and footwear
4. Housing, water, electricity, gas and other fuels
5. Health
6. Recreation and Culture
7. Education
8. Restaurant and Miscellaneous Goods and Services

NCR

1. Alcoholic beverages and tobacco
2. Non-Food
3. Furnishing, household equipment and routine maintenance of the house
4. Transport
5. Education

AONCR

1. Alcoholic beverages and tobacco
2. Clothing and footwear
3. Housing, water, electricity, gas and other fuels
4. Furnishing, household equipment and routine maintenance of the house
5. Recreation and Culture
6. Education
7. Restaurant and Miscellaneous Goods and Services

Availability of the Results

A press release of the monthly Seasonally Adjusted CPI (2006=100) is available five days after the reference month, simultaneous with the release of the headline inflation. When the 5th day falls on a Saturday, the release is advanced to the 4th day which is a Friday. However, if it falls on a Sunday, the release will be done on the following Tuesday. The results are posted at the NSO website www.census.gov.ph. Data are also available upon request at NSO, Industry and Trade Statistics Department, Economic Indices and Indicators Division (Telephone Numbers: 716-39-35 and 715-33-47).

For further inquires, write, call or visit:

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