

## Synchronized Rebasings of Price Indices in the Philippines

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A price index is a statistic designed to help compare how prices, taken as a whole, differ between time periods or geographical locations. It can be used to measure the economy's price level or a cost of living, help producers with business plans and pricing as well as guide investments. Currently, there are seven series of price indices compiled by the Philippine Statistical System - the Consumer Price Index (CPI), Producer Price Index (PPI) in Agriculture, PPI in Manufacturing, General Wholesale Price Index (GWPI), Wholesale Price Index for Construction Materials (CMWPI), General Retail Price Index (GRPI) and Retail Price Index for Construction Materials (CMRPI). These price indices have varying base years. At the moment, existing base year period for CPI, PPI Agriculture and PPI Manufacturing is 2000; for GWPI and CMWPI the base years are 1998 and 1985, respectively; and GRPI and CMRPI have 1978 as their base. In order to make these base years comparable during estimation of the national accounts, available price indices are rebased by a complex means known as the "splicing" method. However, this method may be unnecessary if price indices have a synchronized base year. Also, with a synchronized base year, it would be easier for other users to compute for trade margins. The PSS has made efforts towards synchronization of base years. The National Statistical Coordination Board passed the NSCB Resolution No. 6 series of 1991 requiring that the next synchronized rebasing of all price indices will have 1994 as the base year. The resolution also mandates that rebasing be done every five years. But due to the differences in the availability of data requirements and/or inputs to the rebasing of the indices, the move was not strictly implemented. Hence, there was a need to revisit and review the policy on synchronization and explore the feasibility of having a common and updated base year for these indices should be undertaken. This study recommended a flow of activities that will led to the synchronization on activities for a common base year for price indices. It recommends a timetable on when the base year should be updated.

Key words: base year, index, weights

### 1. Rationale

Price index, as defined is a normalized average (typically a *weighted* average) of prices for a given class of goods or services in a given region, during a given interval of time. It is a statistic designed to help to compare how these prices, taken as a whole, differ between time periods or geographical locations.

Price indices have several potential uses. For particularly broad indices, the index can be said to measure the economy's price level or a cost of living. More narrow price indices can help producers with business plans and pricing. Sometimes, they can be useful in helping to guide investment.

The composition of the basket of goods and services is made by considering whether changes are to be measured in retail, wholesale, or producer prices etc. The basket will also vary for economy-wide, regional, or sector specific series. Currently, a series of separate index numbers are compiled to capture the price movements in the Philippines. There are seven series of price indices compiled by the Philippine Statistical System where four - the Consumer Price Index (CPI), General Wholesale Price Index (GWPI), Producer Price Index (PPI) in Agriculture and PPI in Manufacturing - are at the national level. The other three indices - Wholesale Price Index for Construction Materials (CMWPI), General Retail Price Index (GRPI) and Retail Price Index for Construction Materials (CMRPI) - are collected only for the National Capital Region (NCR).

These price indices have varying base years. At the moment, existing base year period for CPI, PPI Agriculture and PPI Manufacturing is 2000; for GWPI and CMWPI the base years are 1998 and 1985, respectively; and GRPI and CMRPI have 1978 as their base. In order to make these base years comparable during estimation of the national accounts, available price indices are rebased by what is known as the "splicing" method. However, this method may be unnecessary if price indices have a synchronized base year. Also, with a synchronized base year, it would be easier for other users to compute for trade margins.

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## **2. Objectives of the Study**

The study intends to explore the possibility of synchronizing the base year of all price indices used in the Philippine Statistical System.

Specifically, the study aims to:

1. Review the availability of data requirements and/or inputs to the rebasing of price indices;
2. Identify the proposed common base year for all price indices; and
3. Recommend policy/ies for the synchronization of all price indices in the PSS.

## **3. Background on Price Indices**

The computation of price indices, specifically the consumer price index, started in 1945 and was then called the Cost of Living Index, with a base year of 1941. In 1964, it was officially called CPI with a base year of 1961. Then Central Bank of the Philippines compiled the first RPI covering the period January 1949 to July 1978. It also compiled the PPI for Manufacturing in 1980.

The NEDA Resolution No. 9 series of 1976 made the collection of price data used in the computation of the CPI be assigned to several government agencies. The BAEcon (now the Bureau of Agricultural Statistics or BAS) was responsible for collecting price data for all agricultural food items; the Trade Assistance Center (TAC) of the Department of Trade and Industry, for prices of all processed food and non-food items; the Central Bank of the Philippines (CB), for costs of transportation, utilities, services, rentals and other items not covered by TAC in the National Capital Region; and the National Census and Statistics Office (now the National Statistics Office or NSO), for costs of transportation, utilities, services, rentals and other items in the market basket not covered by BAEcon and TAC in areas outside the NCR. The CPI for NCR was computed by the Department of Economic Research of the Central Bank while CPI for areas outside Metro Manila and for the Philippines was constructed by NCSO.

In 1981, the computation of all Consumer, Retail and Wholesale Price Indices became the sole responsibility of the National Statistics Office (NSO) thru Letter of Instructions No. 1082, issued by the President of the Republic of the Philippines in November 1980. In the case of the Producers' Price Index (PPI) for Agriculture, the Bureau of Agricultural Statistics (BAS) was made responsible for its maintenance since a section in RA 8435 stated that the BAS shall serve as the central information server of the agriculture sector. However, the PPI for Manufacturing remained as the obligation of the NSO.

CPI had undergone several rebasing revisions unlike the other price indices, which unfortunately were not as frequently rebased. Rising concerns regarding the relevance of the market basket to current situations, Statistical Advisory Board (SAB) Resolution No. 4 series of 1985 was issued where constant rebasing of price indices every five years was mandated. This was reaffirmed by NSCB Resolution No. 6, Series of 1991 which contained "Further Amendments on the Rebasing of Price Indices".

The amended resolution should have been the start of a synchronization of the existing price indices. However, due to data abnormality for the CPI in 1985, said resolution allowed the rebasing of the CPI to 1988, and the rest of the price indices to 1985. Also, it instructed that synchronized rebasing activities be done in 1994 as this coincides with the conduct of the Family Income and Expenditure Survey (FIES) and the Commodity and Outlet Survey (COS), both of which are data requirements of the CPI.

The mandate of rebasing every five years is not being implemented up to this time. Nevertheless, the said resolution served as a basis for updating of base years for price indices giving rise to NSCB Resolution No. 13, series of 2003, updating the base of CPI to 2000. Thereafter came NSCB Resolution No. 6 and 7, series of 2008, updating the base years of PPI Manufacturing and PPI Agriculture also to 2000.

#### **4. Data Requirements of Price Indices**

The base year of the major price indices are dependent mainly on the availability of input data used in computing commodity weights. These data are available from various surveys conducted by PSS agencies.

The CPI has a market basket determined by the Commodity and Outlet Survey (COS). It utilized the Family Income and Expenditure Survey (FIES) for its weights, hence the base year is dependent on the availability of the latest FIES that are conducted every three years by the NSO. Meanwhile, the WPIs and RPIs are weighted using the Input and Output (I-O) Tables, jointly generated by NSCB and NSO, whose computation require results from the Input-Output Survey of Philippine Business and Industry (IOSPBI), a rider survey of the Census of Philippine Business and Industry (CPBI), formerly the Census of Establishments (CE). The said census and survey are scheduled to be conducted every five years, but lately were conducted every six years, the last three reference years being 1994, 2000, 2006. The PPI for Agriculture only uses the current volume of production for its weights, while the PPI in Manufacturing uses weights which are also derived from the CPBI.

Meanwhile, price data are continuously updated. For CPI, the BAS collects prices for agricultural commodities in NCR and in provincial capital where there are BAS offices. Price collection is done on a weekly basis. For all other commodities and areas not covered by BAS, the NSO collects price data twice a month. For areas outside NCR, the first collection phase is done on the first five days of the month and six price quotations are taken from two provincial capitals and four from sample municipalities. The second collection phase gathers only two quotations and covers only the provincial capitals.

For selected cities (excluding NCR), six quotations are collected for every commodity during both the first and second collection phases. For NCR, prices for food, beverage and tobacco are collected weekly from four outlets in nine markets. Prices for non-food items are collected during the first five days of the month and on the 15<sup>th</sup> of the month; four outlets in eleven markets. Prices of highly perishable goods (i.e. fresh fish and vegetables) are collected during the time of day when most housewives do their marketing.

For special items like school tuition fees, these are collected twice a year, usually at the beginning of every semester. For Personal recreational, medical and other services, price collection for NCR is semi-annual; for provincial capitals, twice a month and for sample municipalities, monthly. Changes in transport fare are

reflected immediately in NCR once implemented. For areas outside NCR, such changes are reflected in the next survey round if implementation date falls after the survey period. Price collection for house rentals is done monthly.

For the GWPI, the BAS collects the price data for agricultural commodities and prices of the other items are collected by the NSO. Price collection is done during the first 22 days of the reference month. Three or more price quotations are collected depending on the variation of prices among commodities. The price data for the CMWPI are included in those collected by the NSO.

For GRPI, prices for food are collected weekly in nine markets while for non-food items, it is done twice a month with eleven markets surveyed; seven markets for tobacco and three outlets for school supplies. Prices of selected construction materials for the CMRPI are collected monthly in 31 establishments, covering NCR by the Construction Industry Authority of the Philippines (CIAP).

For PPI Manufacturing, NSO collects prices monthly from the 292 establishments nationwide. Price collection is done on or before the 15<sup>th</sup> day of the month, immediately following the reference month. On the other hand, for PPI Agriculture, BAS relies on its Rice and Corn Production Survey and Livestock and Poultry Survey for prices of rice, corn, livestock and poultry. For other crops, the Farm Price Survey is used, wherein the monitoring for priority crops is done quarterly and for the rest, on a semestral basis. BAS data requirements and sources are mainly production taken from the Rice and Corn Production Survey for Cereals, other Crops Monitoring for other than Crops, Livestock and Poultry from Livestock and Poultry Survey and Farm Prices taken from the Farm Prices Survey.

## 5. Findings and Conclusions

Since price data are collected monthly, the price indices are released almost concurrent to each other except of the PPI for Agriculture, which is released quarterly. However, they have different base years and frequency of rebasing. Currently, the CPI, PPI for Agriculture and PPI for Manufacturing are already rebased to 2000. There are current efforts to rebase the CMWPI, GRPI and CMRPI to 2000. The GWPI still have 1998 as base but rebasing it to 2000 or a much later year is already being considered. Hence, there is a need for a workplan on how subsequent rebasing activities should be conducted.

The difference in the base year of price indices arose since their weights come from different statistical activities. That is, the production surveys of BAS are undertaken quarterly, FIES is undertaken every three years, while the CPBI and IOSPBI are undertaken every six years, instead of every five years.

The difference in the frequency of rebasing is due to the difference or time lags between releases of data inputs for the computation of weights. The BAS production survey results are published 45 days after the reference quarter; the FIES results are released 18 months after the reference year; the CPBI and IOSPBI are three years after the reference year; and the I-O Tables about one year after the release of CPBI or four years after the reference year. Hence, there is confusion on starting the activities for the base year synchronization of price indices.

## 6. Recommendation

After the year 2000, the ideal reference year for the next synchronized rebasing would be 2006 since the most recent FIES was conducted for this year. Moreover, it is the reference year of CPBI and IOSPBI.

The postponement in the conduct of the CPBI and IOSPBI, (should be every five years but conducted every six years) is be favorable to the feasibility of a synchronized rebasing, since it would have a common factor with FIES which is undertaken every three years. Hence, the proposed base years should be changed every six years.

Based on the current target publication of the FIES, CPBI, IOSPBI and I-O Tables, which takes about one to four years from their reference year, rebasing activities should be implemented four to five years after the proposed reference base year. If the time lag between the publications of their results could be shortened, this four-year wait in rebasing could be curtailed as well. However, this does not mean that the preparatory activities leading to the rebasing of the indices should be implemented only four years after the proposed base year. Instead, they should be started as soon as the needed input is already available, with the view of changing the base every six years.

## 7. Workplan of Activities

Since the NSO and the BAS are now already in the process of generating price indices with the 2000 base year. It will be more suitable to plan the next base year synchronization, which is proposed to be 2006.

Furthermore, for the rebasing of the PPI for Agriculture, the BAS does not need to wait for the publication of other surveys since the data for its weights are available by quarter and not by year, hence, it can rebase as soon as a memorandum is given.

The following are the proposed flow of yearly activities to facilitate synchronization.

- 2006** – Conduct of the 2006 FIES, the 2006 CPBI and the 2006 IOSPBI
- 2007** – Publication of Results of 2006 FIES, Conduct of COS
- 2008** – Publication of Results of 2006 IOSPBI (3<sup>rd</sup> quarter)
- 2009** – Publication of Results of 2006 CPBI
- 2010** – Publication of the 2006 I-O Tables
  - Rebasing of all Price Indices
- 2011** – Synchronized Price Indices for 2006
- 2012** – Conduct of the 2012 FIES, the 2012 CPBI and the 2012 IOSPBI
  - Start of synchronization to base year 2012.

## 8. Draft Resolution

This study is proposing the following draft resolution.

NSCB Resolution No.

### **SYNCHRONIZED REBASING OF PRICE INDICES**

**WHEREAS**, there exists a Statistical Advisory Board Resolution No. 4 of 1985 which mandates the rebasing of price indices to 1985 and every five years thereafter and said resolution was further reiterated in National Statistical Coordination Board Resolution No. 6 Series of 1991;

**WHEREAS**, General Retail Price Index (GRPI) and Retail Price Index for selected construction materials (CMRPI) are still based on 1978 prices; Wholesale Price Index for selected construction materials (CMWPI) are still based on 1985 prices; General Wholesale Price Index (GWPI), are still based on 1998 prices; Producer Price Index (PPI) in Agriculture, PPI in manufacturing, and Consumer Price Index are already based on 2000 prices;

**WHEREAS**, the 2000 Input-Output Tables needed to rebase the GWPI, CMWPI, GRPI and CMRPI is available;

**WHEREAS**, there is a need to have a synchronized base year for all price indices and the synchronized rebasing of all price indices to 2006 is feasible since the statistical activities leading to the generation of required data namely, Family Income and Expenditure Survey (FIES), Census of Philippine Business and Industry (CPBI), with the rider survey Input-Output Survey of Philippine Business and Industry (IOSPBI), were conducted in 2006 and are conducted every three and six years, respectively;

**WHEREAS**, NSCB Resolution No. 14 of 2003 provides 2005 as next benchmark year for the input-output (I-O) accounts and that it should be compiled every five years and be released one year after the release of the Census of Establishments (CE), which is recently renamed as CPBI;

**NOW THEREFORE, BE IT RESOLVED AS IT IS HEREBY RESOLVED**, that the following guidelines on the rebasing of price indices be adopted:

1. The prices based on the I-O Tables be rebased to 2000 prices;
2. The next synchronized rebasing shall have 2006 as the base year which coincides with the conduct of the 2006 Family Income and Expenditures Survey (FIES), the 2006 Census of Philippine Business and Industries (CPBI), and the 2006 Input-Output Survey of Philippine Business and Industry (IOSPBI);
3. The NSCB Technical Staff, together with NSO, shall generate the 2006 Input-Output (I-O) Tables instead of the 2005 I-O Tables; and
4. Rebasing activities should be implemented every six instead of every five years.

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