



THE IMPORTANCE OF ENSURING THE COMPARABILITY IN TIME OF MACROECONOMIC INDICATORS IN THE STUDY OF MASS SOCIO- ECONOMIC PHENOMENA

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Abstract

The values of a specific indicator are sorted in space and time obtaining uni and bidimensional, territorial and chronological statistical series, considered as basis for comparative analyses. The indicators calculated on the basis of these series are grouped in two categories: indicators of comparisons over time; indicators of comparisons in space and indicators of time conditioned by space and territorial indicators conditioned by time. Given the complexity of the socio-economic phenomena, in order to ensure the accuracy of statistical data, their statistical analysis requires the comparability in time of the macroeconomic indicators regardless the statistical system used.

Key words:

Macroeconomic indicators in nominal expression, macroeconomic indicators in the real expression, Laspayres- type index, Paasche-type index

JEL Codes:

E00,C81

1. Introduction

For the indicators analysis over time it is necessary to ensure the comparability of the synthetic indicators of national economy at national and international level.

In the current macroeconomic statistics, the macroeconomic indicators of results are expressed in current prices, called "nominal" indicators, i.e. in comparable prices, called "real" indicators. The over time comparisons of the indicator at the current prices misstate their development and the analysis of the national economy evolution requires the expression in comparable prices- the prices for an eventually basic period. That is why it is necessary to know the actual change caused by the increase or decrease of the physical volume.

There is a problem regarding the deduction of the change in the nominal value in at least two parts: one that expresses the price change, and one that highlights the real change that is the amount of goods and services, going to eliminate prices variation by deflating them. What remains is the real change.

The central issue is to choose a calculation formula for the index to summarize the prices change, a past and current subject of thorough debates in the specialty literature.

2. Theoretical considerations on the comparability of macroeconomic indicators

In practice there are used Laspayres-type index and the Paasche-type index with all their advantages and disadvantages despite their limited application at the macroeconomic level. The two calculation formulas for these two indices summarize the relative prices change of goods considered as weights of the current period or of the basic period of the indices.

The decomposition of the macroeconomic indicators of „nominal „ results in both price and physical volume components will differently proceed depending on the content of the macroeconomic aggregate. For example, there are also synthetic indicators (GDP) and in their case, the physical volume is not directly obtained, it results by secondary calculations, or are aggregated like the distribution or financial flows where they don't have a skeleton and therefore cannot be separated in two parts.

Price indices for GDP provide us with a picture of the decomposition of a synthetic macroeconomic aggregate on factorial indices. In order to establish the real GDP, you can start either from the achieved GDP or the used GDP and the corresponding price index.

In terms of production, GDP is calculated as the difference between the value of the industrial branches production and the intermediate branch consumption,

such as the sum of the gross added values in the branches.

The GDP price index, also called the default Paache-type index, is not directly calculated on the account of the quantities and prices, but as a ratio between nominal GDP and the GDP physical volume index of Laspeyres-type.

The nominal GDP growth rate takes into account the influence of changes in the physical volume of production and pricing in the GDP calculation.

In statistical practice, it is impossible to record all the prices of the economic goods, so it is impossible to make a complete research and therefore one resorts to a representative sample of goods and services.

In terms of end use, GDP is determined as the difference between the value of the end goods-end-consumption products, investments, exports and the value of the imported goods. In this case, for the GDP deflation, the start is to be made from the components expressing the final use of the goods.

For each component there is calculated an implicit price index of Laspeyres-type which supports the deflation of the respective component.

The deflation involves dividing each component in current (nominal) prices by the default price index.

These aggregation deflated components are used to obtain the real GDP. The actual growth rate of GDP eliminates the influence of prices changes in the GDP calculation.

The Paasche-type implicit price index of GDP is obtained as the ratio between GDP in current prices and GDP in comparable prices. Implicit Paasche-type price index of GDP, also called deflator, represents an important tool of the inflation rate assessment.

The inflation size is calculated through the same relation using also the consumption price index. However, of all these, the best inflation assessment is made by using the GDP default price index, as it involves the capital goods besides the consumption goods and services.

In addition to the GDP price index, in statistics there are calculated other price indices as well, such as: consumer price index of population; price indices for agricultural products; indices of prices for industrial products; the price index of exported products, imported products price index etc.

The consumer price index (CPI), is most widely known and used in international statistics as a measure of inflation.

In the job collective agreements, an explicit clause is stipulated regarding the compensation for the prices increase and it is highlighted by this index. The entire monetary and fiscal policy of the Government is influenced by changes that occur in the CPI.

Normally, the CPI should express a summary of price developments between the two periods, for all the goods and services consumed by all families in the country. As it is impossible to record all the products and services, all families resort to representative samples of the goods and services (the typical basket of goods and services) and to families samples, on different categories of population.

On the basis of the typical basket of goods and services purchased on the market by certain types of families, we can establish the consumer price index expressing the average change of prices.

This index is calculated as a Laspeyres index, considering the consumption as a basis of reference.

For the construction of the index the following criteria are also taken into account:

- the selection of goods and services within the current consumption of the population sample according to which the price index is calculated. There are included only those goods and services grouped into food products, manufactured goods and services as part of the consumption expenditures of a sample family and which become weights for calculating the respective index; the population categories recorded as shoppers (consumers) for whom the index is calculated can be included in the following categories: families with a member employed as an officer or worker, peasant families, families of pensioners, families in urban areas etc.;
- the prices used in the index calculation are the consumers' prices.

In order to obtain these prices and tariffs it is imperative to make samples in three fields:

1. the sample of goods and services including the goods and services in three categories: food, non-food products and services;
2. sample outlets (where prices are recorded, meaning the price of products sold to population);
3. sample data of observation. The consumer price index must be a representative index for monthly average prices. There must be taken into account both the frequently changing prices (for short periods) and the prices that move slowly (for longer time).

Samples for the observation of prices are updated on a regular basis, in accordance with the changes taking place in the structure of consumption.

Price recording is done through a survey organized on household level (family budgets). The two sources are independent. The average prices for the category of food or manufactured goods and services are established considering the products purchased by

the family and prices paid (expenditure for the purchase of goods and services).

The consumption price index is largely used in the national and international economic analyses, as follows:

- ☞ *Primarily*, it represents the indicator used to assess the inflation rate ($CPI\text{-inflation rate} = 100$);
- ☞ *Secondly*, it is used to convert the families' consumption (expressed in current prices) into constant, comparable prices in order to observe their progress, allowing knowledge of changes in consumption from one year to the next, without the inflation interference from one year to another;
- ☞ *Thirdly*, it has a social utility being involved in the salary negotiations, in the indexation of wages pensions etc. These indexations are used as collaterals for maintaining and increasing the purchasing power of nominal salary, wages and incomes. The CPI is used to calculate the real revenues. The salary is the most important source of income for the population.

The real salary expresses the purchasing power of nominal wages and will be calculated as the ratio between the average net nominal salary and the consumption price index.

The net nominal salary will be obtained by deducting direct taxes and social contributions from the gross nominal wages. The real salary dynamics is calculated either as a direct index of the real wages or as ratio between two dynamics: the net nominal average salary dynamics and the prices dynamics, that is the consumer price CPI-index.

Real salary index expresses the dynamic change in the purchasing power of average net nominal salary. The evolution of real wages depends on the accuracy of indexing, i.e. the frequency of the nominal wages readjustment as follows: if it is regularly made, the purchasing power is stable and vice versa, the real wages rate may decrease if the adjustment frequency increases or may grow if the adjustment frequency decreases.

The real income is calculated as the ratio between the net nominal earnings and the consumer prices index. The net nominal earnings are obtained from the nominal gross earnings minus the direct taxes and social contributions. For the net income calculation the starting point is the household income (those produced by labor and property), adding the earnings from social services minus the direct taxes and social contributions. Real incomes are also calculated considering families grouped on specific criteria: occupation of the head of the family, the socio-professional category, children's number and age etc., by using the same calculation method.

3. Conclusions

The evolution analysis of the national economy requires the expression of macroeconomic indicators in the real expression. Thus, they are corrected with an index expressing the prices change in the long run for the end products included in the specific calculation methodology. In other words, any macroeconomic analysis carried out on the basis of indicators expressed in comparable prices (real indicators) lead to conclusive results regarding the evolution and dynamics of a national economy, but also of intervening periodical changes on the macroeconomic level.

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