

Methodological approaches to recording certain types of services in the consumer price index in Belarus.

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Abstract

CPI in the Republic of Belarus has been calculated since 1991 and the National Statistical Office (Belstat) since has made many methodological improvements. But there are still some controversial issues with the Belarusian CPI compilation, which are the reasons for discussions between users of the CPI data and the National Statistical Office. First of all it is the treatment of some utility services in the CPI (central heating, hot water supply, cold water supply, sewerage and electricity). These are complex service categories, that have its specific features of the price formation and the way population pays for it. The price for these services consists of several parts and the measurement of these components in the CPI is the main debatable issue. Also these services are a substantial part of consumer spending.

This paper provides brief background on CPI construction in the Republic of Belarus and focuses mostly on the treatment of utility services and main debatable issues on this point.

Introduction

Since 1991 many renewals has been made to the CPI compilation in Belarus in order to improve the methodology. The present CPI in Belarus follows national concept, covers 450 items (more than 50 000 monthly quotations) and is based on COICOP classification. The weights for the CPI compilation are derived from the annual household budget survey and updated every year. The arithmetic Young formula is used to calculate the index at the highest level of aggregation.

Several improvements in CPI compilation have been made during the last two years. Firstly that's the implementation of the geometric average formula at elementary level for the calculation of average prices.

Since 2013 an electronic tablets were introduced into the work of price collectors. A specialized software was created for the whole chain of the collecting, processing the data and calculation of indexes. It contains the software for the tablets – for the collection of the price data, calculating the average prices and transferring it to the PC`s. Also a new software and database management system was created for the CPI calculation at the national level.

Also several items were included in the CPI basket – seven largest pharmaceutical groups, actual rents for tenants, car repair. The work is started on inclusion of car insurance in CPI basket beginning from January 2015.

Treatment of several kinds of services in the CPI

The measuring of the services that described in this paper is not actually a problem for Belstat. The problem is the criticism from the public authorities on the methods chosen by Belstat on these issues.

The items, which measurement in the CPI cause certain difficulties and disputes are:

- central heating;
- hot water supply;
- cold water supply;
- electricity.

Central heating and hot water supply

The main discussible points with central heating is the inclusion of the average amount of the heat, consumed per 1 m² of apartment, into the average price for this kind of service.

The cost of central heating the population receives in their bills in Belarus consists of three parts:

- ✓ tariff per 1 Gcalorie of heating energy – centrally fixed by the government, increases only according to the regulation of the Council of Ministers;
- ✓ average amount of heating energy consumed per 1 m²;
- ✓ total apartment square (m²).

The first two components (the tariff for 1 Gcalorie of heating energy multiplied by the average amount of heating energy consumed per 1 m²) represent the price for heating per 1 m² of apartment. This is the price used for calculation of heating price index in the CPI.

The heating season usually lasts from October till May. At the beginning of the heating season the average amount of heat, consumed in the previous year, is estimated and this constant value is used in the calculation of the price for heating till May. So, during the heating season the price index for the central heating changes only if there's a change in administered tariff for 1 Gcalorie. In May, after the heating season ends, Belstat gets the data on the actual consumption of heat by population from October till May and makes an adjustment to price in the index for May in order to reflect the difference between actual and estimated consumption through all the seven months of the heating season.

From June till September, when the service of heating is not provided, Belstat keeps the heating price index as 100% and in October the price index for heating changes (decreases or increases) because of the new average heating value estimates for the new heating season. Thus there are two months throughout the year when the index for heating changes due to change in the amount of consumed heating energy – May and October.

The main controversial point with this method is the inclusion of the average amount of the consumed energy per 1 m² in the CPI. There is an opinion outside of Belstat to consider only the tariff per 1 Gcalorie as the price for the central heating in the CPI.

The main critics of current Belstat's approach assume that when the amount of consumed heat is taken into the CPI estimation, it means that the inflation rate is under the impact of the outside temperature, what may not be appropriate for the inflation rate estimation. The critics call the amount of consumed heat as the `quantity` factor and conclude that the quantities shouldn't be taken into consideration in our case.

Belstat insists on the existing methodology of calculation of the average price for heating in the CPI. A decision whether to take into account only the tariff per 1 Gcalorie or the price for heating per 1 m² of flat was made taking into consideration different factors. First of all the aim of the estimation is to reflect the actual payments of the population for this kind of service. The actual cost of heating is the price per 1 m² of flat that includes the amount of heat consumed per 1 m². The `quantity`, which is not included in this estimation, is the total flat square. Moreover, individuals can't influence the amount of heating energy for heating of their flats. There are no tariff plans for heating in Belarus and there's only one monopolistic provider of this service. Most of the buildings are equipped with heating meters according to indications of which population is billed. Population receives monthly bills from local utility authorities with the figures on the amount of heating energy consumed. Having the same outside temperature in the same city, the amount of heating energy consumed per 1 m² in different areas of the city may vary 1.5-2 times, even the amount of heat consumed in two similar buildings in the same district of the city may vary 1.2-1.5 times. It means that with the same outside temperature in the same city, the cost of heating for consumers differs sufficiently.

There is another possible way of measuring the heating services in the CPI. The alternative is based on the monthly usage of the data on the average actual consumption of heating energy (for every month of the heating season) and thus having the variation in heating indices every month. This method had been used in Belarus more than decade ago and the statistical bodies came to the conclusion it caused significant monthly variation of the CPI due to the seasonal variation of heating indices. A current method of making adjustments to the price of heating in May and implementing new values of heating consumption in October has been adopted more than 10 years ago.

The same approach for the pricing of hot water supply is used and the same arguments are cited in favor of using the complex price for the hot water instead of pricing only the tariff per 1 Gcalorie. The price for the heating of 1 m³ of water in the CPI consists of two components:

- ✓ tariff per 1 Gcalorie of heating energy – centrally fixed by the government, increases only according to the regulation of the Council of Ministers;
- ✓ average amount of heating energy consumed per 1 m³ of water.

The difference with the central heating measurement is that the price adjustment in order to reflect the actual consumption of the heating energy takes place in August. And in September there are new average heating value estimates for the new heating season introduced.

In the case of the hot water the approach of Belstat is also criticized because of the multiplying of two components as the price for hot water supply – the tariff per 1 Gcal and the average amount of heat consumed. The proposal of some utility authorities is to measure the tariff for 1 Gcal only.

Cold water, sewerage and electricity

The main concern of the utility authorities with the measurement of the cold water, sewerage and electricity services in the CPI is measuring all kinds of existing tariffs, not just the `social` ones.

Differentiated tariffs for cold water, sewerage and electricity were implemented in the economy of Belarus quite recently and simultaneously were taken into account by statistical bodies in a process of CPI measurement. The tariffs for electricity are centrally administered and are the same for the whole territory of the country. Municipal authorities settle tariffs for the cold water and sewerage.

The price of the cold water and sewerage in the CPI is the average weighted price per resident of the apartment. There are two sets of tariffs for these services. The first (so called `social`) is for consumption of water under 4.3 m³ per month. The second tariff, that is much higher than social, is for the consumption above 4.3 m³ per month. Belstat calculates average weighted price for cold water and sewerage using the average volume of water consumption for the previous year as weights. This data is provided by utility authorities for each region (each of the 31 city). The weights are constant through the whole year and are updated in February of the next year. Currently about 17% of cold water is purchased with a higher tariff. The monthly average excess expenditure of water varies in regions from 0.2 m³ to 1.5 m³.

The price of the electricity in the CPI is the average weighted price per 1 kilowatt hour. There are two tariffs for electricity; the threshold for consumption volume is 150 kilowatt hour. The tariff for the normal usage of electricity is 30% lower than the second one. Nationally about 84% of electricity consumption relates to the `normal` consumption and 16% to the higher consumption volume.

There are two main concerns of the public authorities on these issues. The first is that statistics should take into account only social tariff because only small part of population exceeds the threshold of consumption for these services. And the thresholds themselves are rather high to let the household keep within the social tariff. The second issue is the debate on how large the share of electricity or water consumed over the thresholds should be to include the whole variety of tariffs into the CPI calculation. The main argument of the Belstat`s opponents is the fact that households may decide themselves what amount of utilities to consume, would they save money or not.

The approach of the national statistical bodies is to include all kinds of utility tariffs for population in the CPI, in accordance with the share of these tariffs in population payments.

Conclusion

Treatment of utility services in Belarusian CPI has become mostly the concern of the public authorities, but not the statistical bodies. The existing methodology is criticized mainly on two issues – including the average amount of consumed heat in average price for heating and hot water and involving all the existing tariffs for electricity and cold water (`social` and high) for calculation of the average weighted price for these services.

The questions that have been raised on these issues are as following. The first question is: should the average actual consumption of heat be included in the CPI estimation or it's just a quantitative factor which should be excluded? National statistical bodies consider the actual price, paid by households and especially in the case when population can't affect the temperature in their apartments. Since the CPI in Belarus is widely used in indexation purposes, especially for different social groups, Belstat considers the way population is billed for hot water and heating as an inflation factor, which should be involved in the CPI.

In the case of the multiple tariffs for the electricity and cold water the main argument against the current Belstat methodology is that the percentage of users who exceed the social norm of consumption is too small to include the higher tariffs in the CPI – people tend to save. What should be the share of the tariff in the population consumption to be included in the CPI? Currently Belstat follows the opinion that all the existing tariffs should be involved in estimation according to their share, even if it's too small.