



EUROPEAN COMMISSION
EUROSTAT

Directorate C: Macro-economic statistics

Unit C-4: Price statistics. Purchasing Power Parities. Housing statistics

HICP Compliance Monitoring Report

Estonia

September 2020

1. Introduction

In September 2019 Eurostat reviewed the compilation of the harmonised index of consumer prices (HICP) for Estonia. The review was done against the existing legal framework, established HICP recommendations and other guidelines and good practices in the field of consumer price indices (CPIs).

The current report is based on:

- The 2019 inventory, submitted to Eurostat in March 2019, containing details of data sources, definitions and methods used in the compilation of the Estonian HICP,
- The discussion at the compliance monitoring visit that took place at Statistics Estonia (SE) in Tallinn on 23 September 2019,
- The report on the previous compliance monitoring exercise, published in March 2010.

For all main methodological topics related to the HICP this report briefly summarises the current practice in Estonia, followed by Eurostat's appraisal of compliance and, where applicable, recommendations for improvement. The report concludes with Eurostat's overall assessment of the level of compliance of the Estonian HICP.

2. Coverage and classification

The coverage of the Estonian HICP follows the Household Final Monetary Consumption Expenditure (HFMCE) on the economic territory of the country by resident and non-resident households. Consistent with the definition in Regulation (EU) No 2016/792, the economic territory comprises mainland Estonia and offshore islands. The expenditure incurred by all types of households are covered, irrespective of the kind of area they live in, income level, or residence status. The expenditure for institutional households is calculated on the basis of an ad hoc survey and a survey on the economic and social conditions of students.

The Estonian HICP follows the European classification of individual consumption by purpose (ECOICOP), without adaptations at the sub-index level. Indices at the detailed ECOICOP level are produced from January 2016 onward. The product coverage as defined for the HICP is applied.

Compliance

The coverage of the HFMCE and the classification used for the Estonian HICP are in line with the legal requirements.

3. Sampling and representativity

The territory of Estonia is stratified according to the NUTS III level into five regions comprising a total of 15 counties. While each region is represented in the HICP according to its relative weight, price collection is carried out in nine of the counties; this results in a population coverage of 85%. Each month, a total of 11 datasets are produced: one for each of 7 counties, 2 for Ida-Viru county and 2 for Harju county, which includes Tallinn.

The selection of outlets included in the prices survey (around 1,900 outlets) is purposive and is done by local price collectors in cooperation with the central office. Every type of outlet is

included in the sample. Chains account for a large proportion of the market across different sectors – food, electronic goods, textiles, books, etc. Outlets are selected based on their turnover and product offer. SE uses implicit weighting for outlets. The sample is updated annually. Typically product replacements are selected in the first month of the year.

Internet outlets are included in the sample covering goods and services such as flights, accommodation services, mobile phones and mobile services, data processing equipment, books, pharmaceuticals, and electricity. Prices are not collected from big international online marketplaces and platforms.

Newly significant and obsolete products are identified based on feedback by price collectors and sources such as periodicals and feedback by consumers. As a rule, the sample is updated every year, with price changes associated with the introduction of new items taking effect from January. Parallel price collection for new items is carried out in November and December before these new items are included in the index for January.

The sample for rents consists of one-bedroom and two-bedroom apartments in Tallinn and Tartu only. This is due to the small size of the rental market in Estonia and hence the limited offerings for other types of dwellings. Prices are collected on a monthly basis as offer prices, meaning that SE does not follow the price development for the same contracts.

For flights, prices are collected on the internet. The sample covers year-round direct flights out of Tallinn and return tickets only. Seasonal flights are not included. The sample is furthermore based on destination, such that, if a carrier goes out of business, SE tries to replace the carrier without changing the destination.

For telecommunication services, prices are also collected on the internet. Certain bundles and offers do not always stay relevant throughout the year. Therefore, SE occasionally has to make replacements to the sample during the year.

Compliance

The sampling and representativity in the Estonian HICP are in line with the legal requirements.

4. Weights

HICP weights in Estonia are compiled annually. The weights are derived primarily from national accounts based on t-2 and HBS data; they are supplemented by data from a variety of other sources, including Business Statistics, Energy Statistics, Social Statistics, Agency of Medicines, Estonian Road Administration, and other administrative sources.

The elementary aggregate weights are mainly derived from the HBS. HBS data are provided to SE each quarter, although data for the last quarter of the survey are not available in time for the compilation of the HICP weights. For this reason, SE typically uses HBS data collected from the last quarter of year t-1 through the third quarter of year t. The most recent HBS started in the first quarter of 2019, with the previous having ended in the fourth quarter of 2016. SE is provided with

quarterly estimates for the interim period. Price updating is carried out to the price level of December of t-1.

As a general rule, for ECOICOP sub-indices that have a weight in national accounts of less than 0.1% of HFMCE, no weight in the HICP is assigned. The national accounts weights are distributed to the level above. Although there is a weight for ECOICOP 07.3.6 (Other purchased transport services, 0.2% of HFMCE) in national accounts, it is not used in the HICP because it cannot be determined whether travel agency services and other booking services are paid for by an individual or a business.

Regional weights are derived on the basis of population and income data.

Compliance

The compilation of weights in the Estonian HICP is in line with the legal requirements.

Recommendation

For ECOICOP 07.3.6, SE should investigate a way of separating household from non-household expenditures and incorporate the former expenditures in the HICP weighting structure if significant.

5. Price collection

Prices are collected every month for each item in each outlet, typically in the week containing the 15th day of the month. Price collectors visit outlets and record the observed prices using electronic devices. The list of outlets and the goods to be found in each outlet are predefined. For each item, the collector records three different prices; when processing the data, SE takes the arithmetic average of the three prices. For services, the collectors record two rather than three prices. Around 20,000 price observations per month arrive to SE through price collection in the field.

For approximately 25% of the HICP weight, prices are collected centrally by SE in a given month. This includes the price collection for rents, electricity (based on data from the Nord Pool power exchange), gas, medication, new and used cars, flights, mobile phones and telecommunications services, data processing equipment, books, package holidays, accommodation services, and insurance. Data from the Social Insurance Board is used for the compilation of ECOICOP 12.4 (Social protection).

Prices for fuel, due to their volatility, are collected four times a month, with a difference of five days in between.

Prices for airfares are collected five times a month. The price collection takes place a month ahead of the flight, and it is recorded in the index for the month when the flight takes place.

Prices for package holidays are collected centrally each month, from the websites of travel agencies.

In the fields of health, education, and social protection, reimbursements are not typical in Estonia and are therefore not factored in the observed prices. For health and education, there are no prices

linked to income. For social protection, the price for staying at a retirement home is linked to the person's pension; therefore, price changes for retirement homes that result from changes in pension are reflected in the HICP.

Scanner data are not currently used for price collection. SE is negotiating with one of the large national supermarket chains to obtain scanner data from them. Recent changes in the law, allowing for the acquisition of data from private sources, have made this possible.

Web scraping is currently used in the collection of prices for data processing equipment from the three biggest retailers in Estonia. The web scraped data are not used as a proxy for physical data collection by price collectors. Since January 2019, web scraping is also used in the collection of prices for used cars. Currently, the price collection for used cars is done entirely by web scraping.

Compliance

The price collection in the Estonian HICP is in line with the legal requirements.

Recommendations

SE should attempt to increase the price collection for flights and collect prices for the same flight at different points in time in advance of the flight.

6. Discounts

Sale prices are taken into account in the Estonian HICP. However, discounts related to loyalty cards are excluded. For cars, pre-announced discounts are taken into account in the HICP.

Compliance

The treatment of discounts in the Estonian HICP is in line with the legal requirements.

7. Replacement and quality adjustment

When a product offer cannot be observed because the item is said to be temporarily out of stock, no replacement takes place. If a product-offer continues to be out of stock for two consecutive months, the price collector selects a replacement product-offer which matches the product description. Replacements for new cars typically do not happen in the middle of the year, although they are possible if a certain model disappears from the market. When a model changes, SE uses direct comparison for minor changes. Otherwise, expert judgement and option pricing may be used; SE calculates a factor to account for the most important characteristics that may have influenced the price, such as horse power and fuel consumption. For used cars, SE scrapes data from the websites of the most popular used car dealers, controlling for model, vintage, engine size, and mileage. The sample includes 20 models, stratified by large, medium, and small. The average age of sampled cars is kept fixed. The sample is updated on a rolling basis, based on the year of registration of the car.

As regards mobile phones, SE carries forward for two months the price of a model that has disappeared from the market. If a model disappears from one out of four outlets, SE will use the average price for the model from the other three outlets. When a model disappears from the market

permanently, SE finds the nearest model and considers the parameters that have changed between the two models and how much they would influence the price up or down. SE relies on expert judgement to carry out the comparison.

Direct comparison can be used for any good or service taken into account in the Estonian HICP. Only direct comparison is used for clothing and footwear. The bridge overlap method is most commonly used for restaurants and cafes and in the treatment of package holidays.

Compliance

The application of quality adjustment methods in the Estonian HICP is in line with the legal requirements.

Recommendations

SE should carry out research into methods and sources with a view to expand the use of explicit quality adjustments methods.

SE should further improve the monitoring of the quality adjustments that are applied at the regional and central levels.

8. Treatment of seasonal products

In the Estonian HICP, fruit, clothing, and footwear are treated as seasonal products. These products' indices are compiled with strict annual weights. The all-seasonal estimation method is used to impute prices during the out-of-season period. Regional prices observed in the previous typical in-season month are used.

Package holidays are not treated as seasonal products as many packages change during the year, and SE finds it hard to compare holidays taking place at different times of the year. Even for destinations that remain similar from year to year, the packages tend to change (e.g. different contracts, different agencies, and different hotels) and are therefore not treated as seasonal. Additionally, there are frequent changes in destinations for the most widely used travel agency in Estonia, making it problematic to find comparable packages every year.

Compliance

The treatment of seasonal products in the Estonian HICP is in line with the legal requirements.

Recommendation

Further investigation is needed to improve the treatment of package holidays.

9. Index calculation

The Estonian HICP is an annually chained Laspeyres-type index. At the lowest level of aggregation, the ratio of arithmetic means prices is used. SE has tested the use of a geometric mean, which produced very similar results to the arithmetic mean. SE estimated that the use of the geometric average would not significantly impact the results and therefore continues to use the arithmetic mean.

For each product, arithmetic mean prices are calculated for each price collection area (there is a total of 11 price collection areas in nine regional counties). The average prices for the collection areas are compiled into an average price for the region, and weighted regional indices are used to derive the elementary aggregates indices for the country. Regional weights are derived from multiplying the region's population by the region's per capita income.

Indices are chain-linked using December of the previous year as the linking month. The index reference period is 2015.

Compliance

The index calculation in the Estonian HICP is in line with the legal requirements.

10. HICP at constant tax rates

SE compiles the HICP at constant tax rates (HICP-CT) following the reference methodology established by Eurostat. SE includes tax changes in the HICP from the month when the tax comes into force, including for products that are sold with the new and the old tax during the same month. Taxes are applied from the first day of the month and do not change in the course of the month.

Compliance

Compilation and regular transmission of the Estonian HICP-CT is in line with the legal requirements.

11. Follow-up from the previous compliance report

The previous compliance monitoring report was published in [March 2010](#). The recommendations made by Eurostat have been followed.

12. Overall assessment

On the basis of the information listed in section 1, Eurostat assesses that the Estonian HICP is in line with legal requirements and comparable to that of the other EU Member States. If the recommendations given in sections 4, 5, 7 and 8 are followed up by SE, the comparability of the HICP will improve further.