



July 2024

# HICP Compliance Monitoring

## Report – Poland

### 1. Introduction

In April 2024, Eurostat reviewed the compilation of the harmonised index of consumer prices (HICP) for Poland. 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 (CPI).

The current report is based on:

- The 2023 inventory containing details of data sources, definitions, and methods used in the HICP for Poland.
- The discussions at the compliance monitoring meeting, which was held on **17 April 2024**.
- The information note on the previous compliance monitoring exercise published in [June 2016](#).

For the main methodological topics related to the HICP, this report briefly summarises the compilation practices of Statistics Poland, followed by Eurostat's appraisal of compliance and, if applicable, recommendations for improvement. The report concludes with an overall assessment of compliance of the HICP for Poland.

### 2. Release policy

The HICP data (all-items index; 2015=100 and change rates) for Poland are published on [Statistics Poland's website](#) after its publication by Eurostat. All publications are available in Polish and English. A reference is made to Eurostat's website, where the Polish HICP is available at the 5-digit European Classification of Individual Consumption according to Purpose (ECOICOP) level. The HICP data for Poland are published with one decimal place.

### 3. Coverage and classification

The target universe of the Polish HICP follows the household final monetary consumption expenditure (HFMCE) concept as defined in Article 2 (20) of Regulation (EU) 2016/792 and in the Annex of Commission Implementing Regulation (EU) 2020/1148.

In line with this concept, the HICP reflects consumption expenditure by all households. These definitions follow the concepts of the European System of Accounts ([ESA 2010](#)).

The HICP comprises all purchases by households within the economic territory of the country by resident and non-resident households (i.e., domestic concept). The HICP covers actual prices paid for goods and services in monetary transactions.

The product categories listed in Article 5 (8) of Regulation (EU) 2016/792, as well as imputed rentals for housing are excluded from coverage in the Polish HICP.

The HICP covers the entire area of Poland.

Statistics Poland classifies products and calculates the HICP according to the ECOICOP since December 2014.

Statistics Poland includes in the HICP all ECOICOP categories whose expenditure share lies above the threshold of one part per thousand defined in Article 5 (7) of Regulation (EU) 2016/792.

### Compliance

The coverage and classification in the Polish HICP are in line with the legal requirements.

### 4. Weights

The weights of products in the Polish HICP are updated annually using the national accounts (NA) as the main data source. Below the ECOICOP 5-digit level, the product weights are further disaggregated using several other data sources, mainly data from the Household Budget Survey (HBS). The HBS is conducted every year. The full year t-2 and the first three quarters of year t-1 are available in the HBS at the time the weights for the current year are compiled.

The product weights are price-updated to the prices of December of the previous year (price reference period).

Geographical locations and outlets are implicitly weighted in the Polish HICP by the number of collected prices. Eurostat recommends the use of explicit weights at these levels. While expenditure shares are preferable, at least population shares could be used as weights for the geographical locations (survey regions or voivodships). Weights for outlets could be derived from value-added tax (VAT) data and annual accounts, while outlet type weights could be derived from HBS data.

## **Compliance**

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

## **Recommendation**

Statistics Poland should investigate the use of explicit weights for geographical locations and outlets (or outlet types).

## **5. Sampling and representativity**

In the Polish HICP, sampling is done with respect to regions, outlets, and products.

Local price collection is carried out in a sample of 207 survey regions covering the whole territory of Poland. The survey regions are selected within 16 voivodships by the size of population and the density of the shop network. The sample of survey regions is reviewed annually. Due to population movements observed based on the National Census results for 2021, Statistics Poland is currently investigating a modification of the delimitation of the survey regions.

Prices are collected in around 170 retail outlets per survey region. Outlets are chosen by the price collectors based on their popularity with consumers, the variety of products offered, and their expected continuity on the market. The selection of outlets must be approved by the regional statistical office in the respective voivodship and should cover all relevant outlet types. The sample of outlets is reviewed and updated each year. Changes can be implemented throughout the year. Outlets with occasional presence are excluded from the sample. Eurostat recommends updating the sample of outlets following a more quantitative approach using for example revenue or VAT data from retailers.

The sample of representative items is reviewed and updated annually. The identification of newly significant goods and services is based on HBS data, transaction data, and proposals from price collectors. If found to be significant, new items are introduced in the sample at the beginning of the new calendar year.

## **Compliance**

The sampling in the Polish HICP is in line with the legal requirements.

## **Recommendation**

Statistics Poland should use a more quantitative approach to update the outlet sample.

## 6. Price collection

Most of the prices entering the Polish HICP are collected locally in the 207 survey regions. Around 20% of the prices are collected centrally by the Statistical Office (e.g., in the case of uniform prices in the country). Transaction data are used for selected food and insurance categories, while web scraping of prices from the internet has been implemented for food and some products related to health in addition to the local price collection.

In line with Commission Implementing Regulation (EU) 2020/1148, prices are collected monthly (usually between the 5<sup>th</sup> and the 22<sup>nd</sup> day of the reporting month). Prices for fresh fruits and vegetables are observed twice per month, while the prices for flights are collected nine times each month.

The collected prices are compared and validated against the price of the same product in the previous month. If the price change exceeds a specified range, the price is re-checked and supplemented with clarifying information. The validation range is predefined for different categories although price changes can considerably vary between products and outlets.

Instead of the usual price collection, Statistics Poland estimates the prices of some products <sup>(1)</sup> at the ECOICOP 5-digit level. This is mainly due to practical considerations as Statistics Poland decides first for which products prices should be collected in the next calendar year, while the products' weights are derived afterwards. Another reason is the difficulty in identifying representative items. In such cases, prices are estimated based on the price development of similar elementary aggregates or higher-level indices for the whole calendar year.

### Compliance

The estimation of prices for the mentioned reasons is not fully in line with Article 5 (1) of Commission Implementing Regulation (EU) 2020/1148, which requires the use of observed prices to compile the HICP unless Articles 9, 11, or 14 apply.

### Requirements

Statistics Poland should use observed prices only, unless Articles 9, 11, or 14 of Commission Implementing Regulation (EU) 2020/1148 apply.

### Recommendations

Statistics Poland should investigate the use of dynamic ranges to detect outliers in the price changes.

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<sup>(1)</sup> In 2022, this affected the following 9 ECOICOP categories: 04121, 05621, 07361, 09122, 09134, 09211, 09214, 09424, and 09429.

## 7. Replacement and quality adjustment

### Treatment of missing prices

Locally collected prices that are missing due to the unexpected closure of a shop or the temporary unavailability of an item are imputed for no longer than two months. The imputed price is derived by multiplying the last observed price with the index evolution of the same elementary aggregate and voivodship. The number of imputations is computed each month separately for product categories, products, and voivodships.

### Replacements

If an item is unavailable for more than two months, a replacement is selected within the same consumption segment. The replacement must match the item's description. Further selection criteria are the item's popularity based on information received from the sellers and its expected availability for price collection.

### Quality adjustments

Direct comparison is used in situations where the replacement is considered equivalent to the replaced item in terms of qualitative characteristics. If a direct comparison is not applicable and the replacement is done in the same outlet, bridged overlap is used. Package size adjustments are used when necessary. Option pricing (until 2023) and hedonics are used for cars. Carry forward of the last observed price is used only in exceptional cases when it is known that the price does not change.

The overall number of quality adjustments made is recorded and could be used for the impact assessment advised by Eurostat's recommendation on bridged overlap.

### Discounts

Discounts are generally taken into account into the HICP in line with Article 6 of Commission Implementing Regulation (EU) 2020/1148. If discounts depend on loyalty cards or other consumer specific conditions, their inclusion depends on the price collectors' decision, who assesses the popularity of these types of discounts.

## Compliance

The treatment of missing prices, replacements, quality adjustments, and discounts in the Polish HICP is in line with the legal requirements.

## 8. Treatment of seasonal products

Statistics Poland uses the seasonal imputation method. For clothing and footwear, the counter-seasonal estimation method is used while the all-seasonal estimation method is used for the other seasonal products.

The prices of fresh fruits and vegetables are collected twice per month.

The in-season and out-of-season months of the seasonal products are reviewed annually.

## **Compliance**

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

## **9. Index calculation**

The index calculation is carried out in multiple aggregation steps. At the lowest level, the prices of individual items are averaged over all survey regions by using the Jevons index. The Jevons index is also used in the following stage to aggregate the items' price indices into indices for elementary aggregates. Explicit weights are assigned to indices derived from internet prices. For scanner data, the dynamic-basket approach (based on the Jevons index) is implemented. Price indices are derived per retailer. Statistics Poland is investigating the use of multilateral methods for scanner data.

All higher-level sub-indices follow the Laspeyres-type formula, where December of the previous year acts as the price reference period. Using the HICP item weights, the sub-indices are aggregated stepwise into higher-level indices up to the all-items HICP.

All indices are chain-linked using the index for December of the previous year and expressed in the index reference period 2015=100, except for sub-indices that are integrated after the index reference period (see Article 13 of Commission Implementing Regulation (EU) 2020/1148). The indices are calculated using unrounded numbers and published with one decimal.

## **Compliance**

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

## **Recommendation**

Statistics Poland should use explicit weights for the averaging of the survey regions' prices.

## **10. HICP at constant tax rates and administered prices**

Statistics Poland compiles the HICP at constant tax rates (HICP-CT) following the methodology defined by Eurostat. Tax changes in the HICP are generally included from the month when the tax comes into force. New tax rate changes introduced later than the first day of a given month are reflected in the HICP-CT of the following month.

The classification of administered prices (HICP-AP) is reviewed and updated annually. The list for the compilation of the HICP-AP is delivered to Eurostat in line with the established transmission practice.

Rents (ECOICOP 0411 'Actual rentals paid by tenants') in Poland are classified as 'mainly administered' prices, while [Eurostat's recommendations on administered prices](#) stipulate a classification of 'not administered' for relative price caps. By definition, the price index for ECOICOP 04121 'Actual rentals paid by tenants for secondary residences' follows the one for rents but is classified as 'not administered'.

## Compliance

Statistics Poland compiles and transmits regularly the HICP-CT and provides information on administered prices in line with the legal requirements.

## Recommendation

- Statistics Poland should check the current classification of rents as 'mainly administered' against [Eurostat's recommendations on administered prices](#).
- Statistics Poland should align the classifications for administered prices of class '0411' and subclass '04121' as long as the two price indices are the same.

# 11. Special products

## Rents

The sample of dwellings is reviewed and updated annually using data from the statistical yearbook and other sources on the most popular dwelling sizes and number of rooms. The sample covers new and existing contracts. Statistics Poland follows the rents of the dwellings included in the sample irrespective of tenant changeovers. Rental prices are collected monthly in the 207 survey regions. Most rental prices are collected in the bigger cities to implicitly assign a higher weight to these price changes. No explicit weights are used in the aggregation of the rents index, which is derived as a Jevons index at the lowest level.

A new taxation on rents could lead to better data collection sources. Statistics Poland will investigate the use of this new data source.

## Energy

The samples for electricity and gas include the three most popular household tariffs. There is no difference in the tariffs between existing and new contracts. The samples cover only the regulated market (approx. 60% of the whole market for electricity and 94% for gas), as the tariffs on the non-regulated market include additional services (e.g., health care, plumber) that are difficult to separate. The prices of the three tariffs (including all fixed and variable fees) are collected in each month from the websites of the Energy Regulatory Office and for electricity also from price lists of the 5 largest energy companies. Multiple consumption profiles with a fixed annual consumption are used to calculate the bill in each survey region for each tariff. The price index of each tariff is derived as an unweighted average of the price changes in the survey regions. The overall price index for electricity and gas is derived as a share weighted

average of the price indices of the tariffs, respectively. The shares of the tariffs and the consumption profiles are derived from data of the operators. They are updated annually.

For heat energy, there are no tariffs available on the market. Prices are collected by the price collectors from the building managers. The prices are calculated as monthly fees, based on area (per m<sup>2</sup>) in case of central heating and based on volume (per m<sup>3</sup>) in case of heating water.

Fuel prices are received each month from 3 fuel companies (market share above 50%). These data do not include turnover and sales information. Price indices are calculated separately for each company. The overall price index is a share weighted average, where the shares are derived from the number of owned petrol stations by each fuel company. Statistics Poland is currently negotiating with another fuel company to deliver data on a regular basis.

## **Health**

The sample of products related to health is reviewed and updated annually based on various data sources. The prices are collected monthly at health care facilities, hospitals, stationary pharmacies, and other shops. Since 2024, prices are collected also for non-reimbursable medicines from websites using bulk web scraping. For medical services, prices are mainly collected from private providers, as the public ones offer only few additional paid services.

In line with Article 5 (2) of Commission Implementing Regulation (EU) 2020/1148, all prices are net of reimbursement. Details on reimbursements for pharmaceutical products are downloaded from the Ministry of Health website.

## **Flights**

The sampling is based on administrative data from the Civil Aviation Authority on the most popular airports and destinations. The sample is reviewed and updated annually. It includes domestic and international flights. Non-direct flights and seasonal flights are not considered.

The prices are observed on the internet up to 1 month in advance for domestic and European flights and 1, 3, and 6 months in advance, respectively, for intercontinental flights. The prices are collected on 3 different days (Monday, Wednesday, and Friday/Saturday) of 3 different weeks (second, third and fourth), resulting in 9 prices per month for each flight in the sample. The flights are implicitly weighted by the perceived popularity of the airlines and destinations.

## **Telecom services**

The sample of telecom services includes the most popular offers among consumers. It is updated annually. The prices of the selected services are collected mainly from the websites of 4 operators (overall market share of more than 90%). For the main types of services (subscriptions, calls, and text messages), shares are derived from revenue data provided by the regulator of the telecommunications market in Poland. The shares are updated every two years. The shares are used as weights in the calculation of the price index. If specific services vanish from the market, they are replaced with the most similar ones within the representative



segment available on the market. In the case of subscriptions, migration rates are used to phase out subscriptions that are no longer available.

## **Package holidays**

The sample of package holidays is based on the most popular destinations. It includes domestic and international package holidays as well as seasonal items (e.g., domestic package holidays for children). The sample is reviewed and updated annually. Prices are collected centrally from websites and locally at travel agencies. The package holidays included in the sample are implicitly weighted by the perceived popularity of the destinations.

Previous attempts to use transaction data resulted in only one company providing data, sometimes with great technical difficulties for processing them. Statistics Poland plans to recontact the companies.

## **Insurance**

Monthly data on insurances are obtained from 4 companies (market share above 50%). Price indices are derived separately for each company, either by using the number of policies per voivodship as weights or as an unweighted average. For the two classes 'Insurance connected with the dwelling' and 'Other insurance', prices are additionally collected by price collectors in the 207 survey regions because the price indices based on transaction data proved too volatile.

The weights of the classes are obtained from NA data of one year. The weights at the lower levels (5-digit level) are based on HBS data.

Statistics Poland plans to continue negotiations to add another insurance company to the sample.

## **Financial services**

The financial services sub-index is compiled using one consumer profile, which represents an average consumer (e.g., income, number of transactions) and the most popular bank fees (e.g., fees for cash withdrawals, the use of debit cards, service fees for bills payments). Investment fees are not included in the sample. The bank fees underlying the consumer profile are collected monthly by the regional statistical offices for 16 banks (one bank per office). The individual fees are summed up to derive the overall fee for the profile. Using the overall fees, the price index is calculated as a weighted arithmetic average. The weights are defined by the number of bank accounts. These weights are also used to draw the sample of banks.

## **Compliance**

The treatment of special products is in line with the legal requirements.

## Recommendations

- Statistics Poland should use explicit weights for rents (e.g., for dwelling types, new and existing contracts, survey regions).
- Statistics Poland should use explicit weights for the survey regions of the energy prices.
- Statistics Poland should analyse if the non-regulated market for electricity can be included in the sample.
- Statistics Poland should include seasonal flights in the sample.
- Statistics Poland should use explicit weights for flights and package holidays (e.g., for airlines or destinations).
- Statistics Poland should investigate the weight of other financial costs and consider the inclusion of investment fees for financial services.
- Statistics Poland should investigate the use of more than one consumer profile for financial services (e.g., customer income may impact the fees).

## 12. Follow-up from the previous compliance report

The main findings from the previous compliance monitoring exercise were published in [June 2016](#), and a follow-up report was published in [October 2018](#). Since then, Statistics Poland has improved the representativity of the sample for telecommunications and its weighting. However, sufficiently reliable data for the definition of consumer profiles could still not be obtained. For the same reason, Statistics Poland has not followed up on the recommendation given for the price developments of used cars. All other recommendations listed in the follow-up report have been addressed.

## 13. Overall Assessment

Based on the information listed in Section 1 and obtained during the compliance monitoring exercise, Eurostat assesses that while the Polish HICP is in line with most legal requirements, the requirement of Article 5(1) of Commission Implementing Regulation (EU) 2020/1148 is not fully implemented. Statistics Poland should address this non-compliance formulated in Section 6 and implement the recommendations provided in this report.

Notwithstanding these issues, Eurostat assesses the HICP for Poland to be comparable to that of the other EU Member States. If Statistics Poland closes the compliance gap and follows up on the recommendations given, the comparability of the Polish HICP will improve further.