



EUROPEAN COMMISSION
EUROSTAT

Directorate C: Macro-economic statistics

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

HICP Compliance Monitoring Report

Finland

February 2022

1. Introduction

In November 2021, Eurostat reviewed the compilation of the harmonised index of consumer prices (HICP) for Finland. 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 2021 inventory containing details of data sources, definitions and methods used in the HICP for Finland.
- The discussions at the compliance monitoring meeting with Statistics Finland, which was held via videoconference on 5 October 2021.
- The information note on the previous compliance monitoring exercise published in [September 2012](#).

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

2. Coverage and classification

The target universe of the Finnish HICP follows the household final monetary consumption expenditure (HFMCCE) concept as it is defined in Article 2(20) of Regulation (EU) 2016/792 (framework regulation) and in the Annex of Regulation (EU) 2020/1148 (implementing regulation).

In line with this concept, the HICP reflects consumption by households, including the consumption incurred by institutional households. The domestic principle is applied by covering expenditures made by both resident and non-resident households on the economic territory of Finland, while excluding expenditures made by resident households abroad. Only monetary expenditures are included.

The product categories listed in Article 5(8) of the framework regulation as well as owner-occupied housing expenditures are excluded from the coverage of the Finnish HICP ⁽¹⁾.

Statistics Finland classifies products and calculates the HICP according to the European Classification of Individual Consumption according to Purpose (ECOICOP), which was implemented in January 2016. No new 5-digit ECOICOP subclasses were introduced in the HICP since then.

(1) The national Finnish CPI covers owner-occupied housing according to a method based on the net acquisition approach. This approach includes the acquisition of new dwellings, renovations, interests on housing loans and other costs for owner-occupied housing. As opposed to the HICP, the national CPI also includes games of chance, interests on consumer credits, fire insurance on owner-occupied dwellings, vehicle tax, and the following administrative fees: fishing charge, hunting card fee and moose hunting permit fee. In the national accounts, vehicle tax and these administrative fees are included in D.59 'Other direct taxes excluding capital taxes' and therefore outside HFMCCE.

An ECOICOP category is included in the Finnish HICP if its expenditure share lies above the one part per thousand threshold defined in Article 5(7) of the framework regulation. There are commodities where the share is below this threshold but which are still kept in the index.

Compliance

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

3. Weights

The weights in the Finnish HICP are updated annually based on data on household consumption expenditure for the year t-2 estimated by the national accounts. The national accounts data on consumption expenditure is available at 5-digit ECOICOP level. National accounts figures are broken down further with the help of auxiliary data sources (for example Household Budget Surveys, scanner data, etc.). The elementary aggregate level in Finland is defined as 7-digit COICOP by region.

Due to the COVID-19 crisis which resulted in essential changes in consumption behaviour, the weights for 2021 were compiled in line with Eurostat's guidance ⁽²⁾. Statistics Finland used the national accounts data for the four quarters of 2020 to derive the 2021 HICP weights.

Price-updating takes place at the elementary aggregate level and the weights are price-updated to December of the year t-1.

The main data source for the rents item weights is the national accounts data and the Household Budget Survey. Housing allowances are included in the weights.

The weight for insurance is derived as a 3-year moving average of household expenditure of the service charge in line with the now repealed Regulation (EC) No 1617/1999. The current implementing regulation specifies that weights for insurance should be based on the service charge for a single year as defined in paragraph 16.51 of ESA2010 ⁽³⁾.

Compliance

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

Recommendation

Statistics Finland should derive weights for insurance services based on the household expenditure of the service charge estimated by the national accounts for a single year.

⁽²⁾ Available in the [HICP dedicated section](#) on Eurostat's website.

⁽³⁾ According to ESA2010, the output of non-life insurance services should be estimated from 'adjusted' claims in order to account for the possibility volatility in the claims incurred each year.

4. Sampling and representativity

The Finnish HICP is stratified according to the NUTS2 regional division which divides Finland into six major regions. The regional weights are derived from the Household Budget Survey having all NUTS2 level regions included in the sample. Within these regions, some 80 of the most representative locations (cities and communities) are selected on a purposive basis so that different criteria are satisfied (population size, location of a price collector, distance and travel costs). The sample of locations is updated annually and includes all of the biggest regional centres.

Within each location, outlets are selected taking into account the market shares of the different outlet-types (for example supermarkets, department stores, etc.). Selection and changes in the outlet sample are decided centrally.

For products covered through scanner data, strata are defined within an elementary aggregate to represent the outlets included in scanner data. Within a scanner data stratum, no further sampling is conducted. All individual products, for which a valid price, quantity and classification value is available, enter the calculations.

Online outlets are also included but e-commerce is represented in a relatively limited way. Statistics Finland has plans to improve this by increased web-scraping.

The product specifications are decided centrally to help price collectors select the most frequently sold products. These products typically cover the most popular brands and the more regularly stocked products. The product categories are resampled annually, while the sampled individual products are continuously updated (products no longer offered or not so much sold, new products appearing on the market).

Newly significant products and services are added to the basket annually based on market sales information. Proposals for inclusion in the basket are organised both centrally and using the price collectors' feedback.

The rental market is covered by different data sources which include data provided by two major private rental housing companies and the Social Insurance Institution's register of housing allowances. Each month, the rent survey includes over 225 000 price observations for rented dwellings throughout the country. However, these data sources exclude the privately owned dwellings with tenants which are not covered by the housing allowance register.

Compliance

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

Recommendations

- Statistics Finland should improve the representativity of e-commerce in line with the recommendations on cross-border internet purchases.
- Statistics Finland should further improve the representativity of the rent index as dwellings rented by private landlords to tenants without housing allowances are currently not covered.

5. Price collection

Statistics Finland relies on three approaches to obtain prices data for the HICP. Around 30% of the basket relies on the regional price collection performed by price collectors. The centralised data collection is used for around 40% of the basket. Centrally collected data contains prices that are collected either from internet pages, price lists or administrative web-pages. Finally, new data sources account for 30% of the basket. This mainly includes scanner data that covers food, alcohol, pharmaceuticals and telecom services. Prices for flights (airfares) are obtained through an Application Programming Interface (API).

The price collectors obtain the respective prices either by shop visits, by phone or email, or over the internet. Every month, price collectors collect the prices of the same products in the same outlets across the whole country, mostly using mobile data capture devices with integrated plausibility checks. It is the price collector's responsibility to identify the product-offers across time and to select replacement product-offers as needed. Price collectors also record the status of the collected price, such as a product being on discount or not, and notify if a new product-offer is selected as a replacement for a previously collected product-offer. Any deficiencies in the data collection procedures, such as following for too long a product-offer that is not representative anymore, could adversely impact the resulting price indices.

The regional price collection is carried out between the 10th and the 20th of each month. The price collection period is longer for some products for which prices are collected centrally, such as electricity or flights. The average prices obtained from scanner data cover the full month.

For some health products, the price collection frequency is quarterly. These prices are obtained from the Social Insurance Institution. The price that enters the HICP corresponds to the average price of the previous three months. The prices for drinks in restaurants are collected every three months by the Finnish Institute for Health and Welfare and enter the HICP with a one-month lag.

The rentals prices that are obtained from the register of housing allowances and from the rental housing companies include not only the costs of renting, but also additional charges. According to Statistics Finland, it is not possible to deduct the charges from the observed prices that can be found in the databases. However, the split between rents and other charges can be made in the national accounts and, as a consequence, in the weights used in the HICP.

New cars prices are collected from price lists that are available on the internet. The price index for second-hand cars is calculated by a third party that collects trade-in car prices from the car sellers.

For telecom services, Statistics Finland receives aggregated sales data by subscription type from the operators.

The prices used in health services correspond to the prices actually paid by the households, net of any reimbursements.

For flights and package holidays, the prices enter the HICP in the month during which the travel takes place. Prices for international flights are collected 1, 2 and 3 months in advance. Prices for domestic flights and package holidays are collected 1 month in advance.

For child care services, the price to be paid depends on the income and other characteristics, such as family composition. Changes in the conditions of this tariff structure are shown as price changes in the HICP. The underlying income structure used to obtain the average prices is updated annually. The resulting average prices are directly compared from one year to another in order to ensure that changes in the average price resulting from changes in the income structure are reflected as price changes in the HICP.

Compliance

The collection frequency and the temporal coverage of prices for some health products and for drinks in restaurants are not fully in line with the legal requirements. According to Article 8(1) of the implementing regulation, the prices should be included in the HICP for the month in which transactions at that price can take place.

Requirement

For health products and drinks in restaurants, Statistics Finland should increase the price collection frequency and include prices in the HICP for a given month that are charged in that month.

Recommendations

- Statistics Finland should review and improve its procedures for price collectors concerning the timing of replacements, the identification of replacement products, and the recording of information on the old and new product.
- Statistics Finland should further investigate the separation of the cost for renting and other costs (for example water and heating).

6. Replacement and quality adjustment

For products that are included in the regional price collection, temporarily missing prices are estimated by applying the average price change of the elementary aggregate to the price of the previous month. A replacement that meets the product specifications is selected at the latest after three months of estimation. For products with a less frequent than monthly price collection scheme, prices are carried forward when not collected. In case of a replacement, a decision is made at the central level if the two product-offers

are comparable or not. In the latter case, the prices are directly compared, whereas in the former case, bridged overlap is applied. A package size adjustment is made when necessary. The price change between the replaced and new product-offer (above or below 18%) influences the decision on assessing any quality differences.

For durables (for example computers) whose prices are collected centrally, either direct comparison or bridged overlap is used for quality adjustment. The price index for second-hand cars is based on a hedonic approach. Apart from second-hand cars, no other explicit quality adjustment methods are applied. For telecommunication services a monthly chaining and replenishment strategy is applied. This implicit quality adjustment method can produce a bias in the index if, for example, new products (new packages) systematically enter the market at discounted prices ⁽⁴⁾. For rents, quality changes of dwellings, like renovation works, are not registered in the data and are ignored (i.e. all dwellings in compilations are comparable in quality).

With scanner data, no replacements are conducted and the index is based on individual products available in both the previous year (the base period) and the comparison month. As a consequence, any individual product that is introduced during the current year but was not available in the previous year will be ignored. The individual product is defined by the Global Trade Item Number (GTIN), outlet type and region. There is no process for linking different GTINs in order to explicitly capture price changes related for example to package size changes.

Compliance

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

Recommendations

- The decision on whether replaced and replacement product-offers are comparable should not be based on pre-defined price change thresholds but rather on a comparison of the products' and outlets' price-determining characteristics. Statistics Finland should develop its procedures so that sound replacement and quality adjustment decisions can be made.
- For scanner data, Statistics Finland should investigate if the price index is representative with respect to dynamic product assortments and to adjust the calculation procedure as needed.
- Statistics Finland should examine the impact of changes in GTIN codes that are linked to changes in package size and to ensure that price changes due to package size changes are properly captured.
- Statistics Finland should assess the impact of the monthly chaining and replenishment method currently applied to telecommunication products.
- Statistics Finland should carry out research into methods and sources with a view to expand the use of explicit quality adjustments methods.

(4) See [HICP Recommendation on Bridged Overlap](#), in particular item 2 in recommendation 1.

7. Treatment of seasonal products

Statistics Finland applies a seasonal weight method for the treatment of seasonal products. During the out-of-season period, the weight of a seasonal product is set to zero and allocated to similar products. Seasonal products are included in 01.1.6.1 Fresh fruits, in 03.1.1 Clothing, in 03.2.1 Footwear, in 07.2.1.1 Tyres, in 09.3.2.1 Equipment for sport, and in 09.4.1.1 Recreational services.

As the out-of-season period for a seasonal product begins, its price is set to the latest 'normal' price observed during the previous in-season period. This normal price is then carried forward and used to calculate the first price link of the following in-season period. This procedure may create a bias in the index as the price change between two consecutive seasons is not fully captured. In principle, when a product has a positive weight after the weight has been zero for some months, the index should be compiled by matching the price observation in the first month of the new season with the observations from the last month of the previous season.

In the scanner data sets, seasonal products are not identified as such. In the index calculations, the individual products available in a given month are matched to the individual products available in the previous year. As a consequence, seasonal products that were available in the previous year are included in the calculations during their in-season period and excluded during their out-of-season period.

Compliance

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

Recommendation

Statistics Finland should assess the practice of updating the last in-season price with a normal price at the beginning of the out-of-season period.

8. Index calculation

In general, Statistics Finland uses a Jevons index to compile an elementary price index. A geometric average price is calculated by 7-digit COICOP and by region.

A different calculation procedure applies to scanner data. For most of the scanner data, a Törnqvist formula is used to compare the prices of individual products in the current period to the same individual products in the base period. The base period corresponds to the average month of the previous year. The corresponding price index is re-referenced to the December of the previous year in order to align with the price reference period used in the HICP. For pharmaceutical products, a geometric Laspeyres-type index is used. Finally, for telecommunication services, a chained Fisher price index is used.

With scanner data, elementary indices are calculated by retailer. The retailer-specific indices are then combined into a price index for elementary aggregate using a geometric Laspeyres-type formula.

The December month of the previous year is used as price reference period for all elementary indices. From the elementary aggregate level upwards, a Laspeyres-type index is applied. The obtained indices are chain-linked via December and are expressed in the index reference period 100=2015.

Compliance

The index calculation of the HICP for Finland is in line with the legal requirements.

9. HICP at constant tax rates and administered prices

Statistics Finland provides the HICP at constant tax rates (HICP-CT) to Eurostat 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 that are effectively introduced later than the first day of a given month are reflected in the HICP-CT of the following month.

Cigarettes may be sold with the new and the old tax rates during the same month. In practice, the new tax rate is implemented in the calculation of the HICP-CT at the time of its introduction, although some prices of cigarette packages available in outlets may still be based on the old tax rate. Observed prices (in data collection) include new tax-rates.

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

Compliance

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

10. Follow-up from the previous compliance report

The main findings from the previous compliance monitoring exercise were published in [September 2012](#). While the timeliness and collection frequency of the rent survey has been improved with the new data source introduced in 2020, it remains not possible for Statistics Finland to separate the price for renting a dwelling from other charges. Also, Statistics Finland provides the information that is required to calculate the HICP Administered Prices.

11. Overall assessment

On the basis of the information listed in section 1, Eurostat assesses that the HICP for Finland is in line with most legal requirements. Statistics Finland should improve the compliance by implementing the requirements formulated in section 5. Notwithstanding this issue, Eurostat assesses the HICP for Finland to be comparable to that of the other EU Member States. Furthermore, if Statistics Finland follows up on the recommendations given in sections 3, 4, 5, 6 and 7, the comparability of the Finnish HICP will improve further.