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Directorate C: National Accounts, Prices and Key Indicators
Unit C-4: Price statistics; Purchasing Power Parities; Housing Statistics

HICP COMPLIANCE MONITORING

INFORMATION NOTE ON THE HARMONISED INDICES OF CONSUMER PRICES FOR GERMANY

June 2015

In the context of compliance monitoring and quality assurance, Eurostat reviewed the HICP for Germany. The practices used to compile the HICP for Germany have been reviewed against HICP legislation and other guidelines and good practices in the field of consumer price indices.

This report takes account of publicly available information on the CPI and HICP for Germany and additional information collected by Eurostat prior to, during and after a visit to the Federal Statistical Office (Destatis) on 5 July 2013.

1. INTRODUCTION

HICP compliance for Germany was assessed positively by Eurostat in 2009 and 2010. In 2013, in the context of compliance monitoring and quality assurance, Eurostat reviewed again the statistical practices used to compile the HICP in Germany against the HICP methodology and other guidelines and good practices in the field of consumer price indices. In addition to general compliance with HICP regulations and, in particular, with regulations adopted since 2010, the focus of Eurostat's assessment was on the follow-up of Eurostat's recommendations from the previous compliance report.

HICPs/CPIs are regularly disseminated by the Federal Statistical Office (Destatis) in a press release (also in English) and in the dissemination database. A price kaleidoscope is available on the website showing weights and price changes at the sub-index level for the national CPI as well as a personal inflation calculator.

2. DATA COLLECTION AND VALIDATION

2.1. Organisation

In Germany, de-central price collection falls under the responsibility of Statistical Offices of the Länder. They are responsible for choosing the mode of price collection: some Länder Offices still use paper questionnaires, others use tablet PCs or smartphones.

Central price collection is carried out by the staff of the Federal Statistical Office or by specially trained staff at one of the Länder Offices. Central price collection is mainly carried out on the basis of price lists supplemented by internet surveys for internet purchases and mail orders, through access to private databases, e.g. for package holidays, and via purchase of survey data, e.g. for pharmaceuticals. In some cases, prices are collected at one site for the whole country, e.g. in fashion chains with country-wide uniform prices, or by survey on the phone or by questionnaire filled by the reporting unit itself.

Analyses have shown significant differences between prices collected on the internet and those collected in physical outlets. Therefore, the former are not used as estimates for the latter. Eurostat welcomes the efforts of Destatis to investigate the possibilities of using scanner data and web scraping.

The list of items for which prices are collected is determined centrally by Destatis in consultation with the Länder Offices. Product descriptions are loose in order to allow for regional differences and market developments so as to ensure that replacement products can be easily found. Price collectors are instructed to select representative products ensuring that at least 3 different models as well as different package sizes are selected.

The German territory is divided into 16 Länder and 94 regions. Prices in general are collected in each region. In the regions, towns and municipalities are selected and the sample is stratified by types of outlets. In principle, price collection follows the behavior of purchasers and takes place where the sales take place.

2.2. Frequency

Most prices are collected monthly. For prices that are collected less frequently, notably rents and university tuition fees, it is ensured that price changes enter into the index without delay. In some cases, such as services for the maintenance and repair of the dwelling, garden maintenance and household services, prices are collected from other statistics (Statistics on Salaries and Wages and Construction Price Indices), which are themselves published quarterly. Eurostat recommends that Destatis undertakes research into the detection of alternative data sources.

More frequent price collection is carried out for airfares, some package holidays (city tours).

Taking into account all practical considerations, the German price collection practice appears to be generally in line with HICP requirements as regards its frequency.

2.3. Data validation

Data validation is based on a multi-stage system. At the first stage, price entries by the price collectors undergo automatic plausibility checks. Then desk officers at the Länder Offices check and confirm the data entered by the price collectors and verify replacement products. After the calculation of the Länder results, they are again checked item by item for plausibility by the desk officers. Finally, the results of the Länder are compared by Destatis staff and index developments are checked for plausibility. The joint IT programme additionally checks how long prices have been unchanged, marked as special offer or missing. There is close cooperation between Destatis and Länder offices in analysing price developments and handling figures.

The production process is well documented. There are several manuals and process documentations for internal use. There are also quality reports containing metadata accessible via internet. Finally, there are regular articles on methodological issues in the monthly Destatis magazine 'Wirtschaft und Statistik'.

3. PRICES

For most products transaction prices are collected in line with HICP requirements. However, list prices are used to estimate transaction prices in situations of centralised price collection. If this is the case, price collection is supplemented by other sources so as to verify the information and also to ensure that price changes are entered into the index calculation without delay.

Reduced prices enter into the index calculation if they are available to all potential consumers. Discounts for a restricted group of households enter into the index calculation by own consumption segments with explicit weights, if they are significant.

For prices linked to income or transaction value, the average income development and a basic transaction value are taken into account, respectively.

In case a product disappears permanently during the year, standard replacement procedures are applied. Missing prices are imputed only for seasonally unavailable items.

4. TAXES AND ADMINISTERED PRICES

Destatis transmits to Eurostat HICPs at constant tax rates (HICP-CT) according to the requirements. Tax changes enter into the index in the month when the changes take place. This practice is compliant with the methodology referred to in the Commission Regulation (EU) No 119/2013.

Germany has transmitted a list of sub-indices where prices are fully or partially administered for the calculation of the HICP Administered Prices (HICP-AP). Prices of a wide range of products in the area of services related to the dwelling, healthcare services, transport services, communication, education and social protection are either directly set or significantly influenced by the government. The list has not been updated for several years.

5. WEIGHTS

In the course of the implementation of the new minimum standards for HICP weightings laid down by Commission Regulation (EU) No 1114/2010, in 2012, Destatis started reviewing the sub-index weights annually taking into account preliminary National Accounts data. The data are supplemented by a multitude of other reliable sources.

Destatis reviews the weights below sub-index level every 5 years, which is in line with the minimum requirements as set out by the regulation.

Expenditure weights are used to aggregate the indices of the Länder to the federal level indices. They are updated every 5 years. There is no direct reference in the regulation to standards that should be applied to regional weights. Nevertheless, since this aggregation relates to the highest aggregation levels and expenditure data is obtained from the National Accounts, which are available on the yearly basis, it seems straightforward to review the Länder weights at yearly frequency. Therefore, Eurostat recommends reviewing Länder weights at yearly frequency.

Outlet weights are calculated and updated every 5 years for 8 shop categories. Eurostat recommends reviewing these weights also at yearly frequency.

6. SAMPLE DESIGN

6.1. Product sample

The products are selected using purposive sampling. The list of products is drawn up by Destatis in cooperation with the Länder. The product descriptions are loose and the price collectors choose the most sold product in each outlet.

The current survey catalogue is subdivided into approximately 750 consumption segments with explicit weights defined by homogeneity of the products from the consumer's point of view. They serve a given consumption purpose and include products which are perceived by consumers as substitutes. The segments are further divided by region and outlet category. Replacements of product-offers that disappear during the year are in many cases chosen even on a more detailed level than the mentioned 750 consumption segments. Replacements are introduced in the third month of unavailability of a product-offer so that new product-offers are introduced on a continuous basis.

In line with the legal requirements, all COICOP classes with a share in total expenditure of at least one part of a thousand are covered in the German HICP. COICOP classes that are excluded have a weight of less than one part of a thousand in total expenditure.

The list of representative products is systematically reviewed every 5 years. Between these complete basket reviews new products are included into the index on the basis of a significance threshold that is lower than the one required by the HICP minimum standards. However, Destatis does not have full up-to-date information on which new products are included at Länder level.

6.2. Outlet sample

The outlets are selected using purposive sampling following a stepwise approach. First, the representative municipalities are selected within the regions. Second, representative outlets are selected within the outlet categories. Price collectors select then for each elementary aggregate the most sold product in the outlet included in the sample.

Since local price collection is organised in a decentralised way and falls under the responsibility of the Länder offices, the latter select the outlets.

The sample of outlets is stratified into 8 categories and each of them with a market share for a certain elementary aggregate of at least 5 percent shall be covered by the price collection. Internet purchases constitute, together with mail orders, an own outlet category. Outlets are explicitly weighted according to market share.

The sample of outlets is updated every 5 years parallel to the update of the product sample. Outlets are replaced on the continuous basis if they are closed down. Eurostat recommends that the outlet sample should be systematically reviewed in yearly frequency together with the review of outlet weights.

7. INDEX STRUCTURE AND AGGREGATION METHOD

The list of products for which prices are collected has loose product descriptions in order to ensure the coverage of each elementary aggregate and to accommodate regional differences in consumption habits.

The consumption segments result from different combinations of product definitions and one or more product characteristics and they are defined below the 4-digit COICOP level. Within the segments two dimensions are taken into account: the local element and the shop category.

The elementary aggregates are calculated using arithmetic means. For prices that are collected both centrally and de-centrally, the formula is modified by entering multipliers which serve as quantity weights. Actually, this is a Laspeyres-type weighted index and not a simple ratio of arithmetic mean prices.

8. QUALITY ADJUSTMENT

The application of quality adjustment methods is kept to a minimum. Around 5 to 10 percent of price observations are affected. Where there are agreed European standards, methods that can be classified as B-methods (in accordance with Article 5 of Regulation no 1334/2007) are

applied. The product sample is stratified into consumption segments. Replacements within a consumption segment will lead either to direct price comparison (e.g. for clothing and footwear) or to explicit quality adjustment (e.g. for technical products). Replacements outside the consumption segments, if unavoidable, are seen as sample refreshment and lead to bridged overlap. Quality adjustments for differences resulting from latest fashion trends are not carried out. The bestseller approach is pursued for books, CDs, downloads, computer games and software. Otherwise, quantity adjustment, option pricing (cars), hedonic regression and bridged overlap are applied.

9. TREATMENT OF SPECIAL PRODUCT GROUPS

9.1. Seasonal items

Germany implemented the new standards on the treatment of seasonal items in 2011. The minimum standards are applied to fresh fish, fruit and vegetables, clothing and footwear as well as package holidays.

Changes were introduced in the coverage of the index to include seasonal products, in particular some fresh fish, fruit and vegetables, in the price for the first out-of-season month and also to the method of estimation of price movements starting from the second month out of season. Previously, only very few seasonal products were included into the index due to their low expenditure levels over the whole year. The price development of out-of-season products was estimated during the entire period based on the last observed price and the price development of similar products. Presently, the average price over the last in-season period or the normal price is included into the index calculation in the first month out of season and then counter-seasonal estimation is carried out whenever possible, otherwise all-seasonal estimation method is applied. Sales prices for clothing and footwear are put back to their normal levels. For package holidays the class-confined seasonal weights method is applied.

9.2. Rents

The sample of dwellings is stratified according to size, age and type of financing, and results in two categories for each criterion. Secondary residences are included. Quality adjustment is carried out in case of value-adding major maintenance applying expert judgement combined with option pricing.

The sample is currently under review in order to improve the coverage of providers as well as to include the date of the contract as additional parameter of the sample as previously recommended by Eurostat. A separate transmission of indices for social rents will no longer be possible from 2015 onwards.

9.3. Cars

The sample includes both new and used cars. For new cars list prices from manufacturers are used. Destatis considers it impossible to collect actual transaction prices due to individual negotiations and construction upon individual order. Investigation into the car rebate index carried out at academic level could not reveal an accurate estimate for the relation between list and actual transaction price.

For used cars data is purchased from a specialised company. The dataset includes actual transaction prices of used cars on a monthly basis.

Quality adjustment is carried out via option pricing and supported judgemental quality adjustment for new cars and via hedonic regression for used cars.

9.4. Telecommunications

Telecommunication services are divided into fixed and mobile services. Internet services are covered completely by the telephony services. SMS are covered by mobile services.

Data is obtained from service providers. Around 30 enterprises comprising around 90 percent of the market are surveyed. Companies are weighted according to their shares in customer sales. They provide information about top-selling tariffs and detailed consumer profiles twice a year.

The coverage of the telecommunication services appears appropriate. Eurostat acknowledges that Destatis has extended the data base to provider independent sources, in particular information obtained from the federal network agency and the Household Budget Survey.

9.5. Insurances

Prices are collected for insurance services for cars, dwellings insurance, health insurance, personal liability insurance, substance insurance and legal protection insurance. Health insurance premiums are partly income-dependent.

Eurostat's recommendation from the last compliance report to extend the sample to include also old contracts was partially followed up. The sample of health insurance services was complemented by old contracts. However, the sample for car insurances which constitutes the biggest part of the sample could not be extended due to substantial difficulties to obtain these data. Destatis considers that the car insurance market in Germany is highly contested and changing of service provider is very common so that the share of new contracts should be reasonably high.

10. PLANNED CHANGES

Germany is currently investigating scanner data for detergents used in washing machines as well as web-scraping.

Destatis is working on the implementation of the COICOP level 5. From January 2015 onwards parallel calculations will be pursued with the aim to calculate the impact of the new classification. Figures based on the new calculation will be disseminated starting with January 2016.

11. OVERALL ASSESSMENT

Eurostat considers that the methods used for producing the German HICP are of a good standard. Eurostat's recommendations in the previous reports have been partially followed (see below), and the quality of the consumer price statistics has improved during recent years.

German data pass all standard HICP validation tests. Identified instances of non-compliance with the HICP legal framework, such as the frequency of sample update and price collection

in some areas, are not likely to have a significant impact on the all items inflation rate. German HICP data should therefore be considered comparable to the HICPs of other EU countries.

Eurostat recommends that:

- the outlet sample should be reviewed more systematically in order to insure that all types of outlets are correctly represented in the HICP,
- research should be carried out into the detection of alternative data sources in order to ensure monthly collection of prices for the maintenance and repair of the dwelling, garden maintenance and household services.