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REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL

evaluating the main findings of the pilot studies established under Regulation (EU) 2016/792 on harmonised indices of consumer prices and the house price index

1. BACKGROUND

Regulation (EU) 2016/792 [1] lays down a common framework for developing, producing and disseminating the harmonised index of consumer prices (HICP), the harmonised index of consumer prices at constant tax rates (HICP-CT), the owner-occupied housing price index (OOHPI) and the house price index (HPI). These four indices are together referred to as the 'harmonised indices'.

Article 8 of the Regulation allows the Commission to launch pilot studies, which are carried out on a voluntary basis by Member States. It can do this whenever improved basic information is required to compile the harmonised indices or the harmonised indices need to be made more comparable.

The EU's general budget contributes to financing these pilot studies, where appropriate.

These studies must assess the feasibility of obtaining improved basic information or adopting new methodological approaches.

The Commission (Eurostat) must evaluate the results of the pilot studies in close cooperation with Member States and the main users of the harmonised indices. In doing so, it takes into account the benefits of improved basic information or new methodological approaches relative to the additional costs of producing harmonised indices.

Every five years, in accordance with Article 8(5) of Regulation (EU)2016/792 the Commission must submit a report to the European Parliament and the Council evaluating, if applicable, the main findings of the pilot studies. The first report was submitted in December 2020. This is the second report, due for submission by 31 December 2025.

The first report [2] evaluated the main findings of the pilot studies for the 2016-2017 implementation period. This report covers pilot studies supported by grants from the EU's general budget for 2018-2022. Further rounds have been launched in more recent years, but the relevant studies are ongoing and cannot yet be evaluated.

The total budget committed to grants for the HICP during 2018-2022 was EUR 5 548 290. Around 65% of this amount was dedicated to pilot studies. The budget committed to grants for the HPI/OOHPI was EUR 2 640 861. Around 20% of this amount was dedicated to pilot studies.

[1] Regulation (EU) 2016/792 of the European Parliament and of the Council of 11 May 2016 on harmonised indices of consumer prices and the house price index, and repealing Council Regulation (EC) No 2494/95, OJ L 135, 24.5.2016, p. 11, ELI: http://data.europa.eu/eli/reg/2016/792/oj.

[2] Report from the Commission to the European Parliament and the Council, Evaluating the main findings of the pilot studies established under Regulation (EU) 2016/792 on harmonised indices of consumer prices and the house price index, COM(2020) 810 final of 14 December 2020, eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020DC0810&qid=1763626037139.

2. PILOT STUDIES ON HARMONISED INDICES OF CONSUMER PRICES

2.1. OVERVIEW

There were two broad priorities for pilot studies on the HICP: improved methodologies and new data sources for the HICP.

These priorities reflect the continuing need for the HICP to be relevant and methodologically sound. Data collection also needs to be modernised in response to changes in consumption patterns, data availability and the evolving digital economy, while ensuring compliance with Regulation (EU) 2016/792.

The first priority for new methodologies for the HICP is to improve the statistical tools used to compile this index. The aim is for the HICP to remain theoretically sound, robust in the face of changing consumption patterns and consistent with international best practice in price measurement. Studies financed under this activity have involved work on methods to capture digitalisation, quality-adjustment and multilateral index methods. These themes address long-standing methodological questions and new challenges arising from more complex consumption dynamics. The aim is to ensure that the HICP measures inflation with greater accuracy and comparability across Member States, while preparing for future statistical standards.

The second priority is to incorporate data from alternative data sources into the HICP. The goal is to modernise data collection in line with the digitalisation of retail markets in order to improve coverage, efficiency and timeliness. The funded studies covered scanner data, web-scraped data and inclusion of different sources. This reflects the need to adapt consumer price statistics to an environment where a lot of information is captured electronically. This requires not only new IT infrastructure but also revised statistical methods to incorporate diverse sources reliably.

There is some conceptual overlap between the two priorities even though they are presented separately. Several national projects necessarily spanned both priorities, such as applying multilateral index methods to transaction data or web-scraped data. The report describes this work under the relevant methodological topic and provides cross-references where needed.

2.2. WORK COMPLETED

Pilot studies on methods to capture digitalisation

These pilot studies examined how the HICP can adapt to new forms of consumption in the digital economy. The goal was to identify methods and data sources for measuring the prices of platform-based services and cross-border internet purchases, and to improve sample design. Work was done to test the feasibility of capturing sharing-economy services and experimental indices were produced from administrative data. Other studies included cross-border internet purchases and developed methods to quantify online expenditure shares and incorporate them into indices for categories like clothing and footwear. Parallel runs showed measurable effects on annual rates. Methodological work also addressed sample design for digitalisation and tested optimised allocation methods based on expenditure and price variance.

Pilot studies on methods for quality adjustment

These pilot studies examined how quality changes in products can be better captured in the HICP to reduce bias from turnover or relaunches. The aim was to test and refine methods and develop tools where traditional overlap methods fall short. The studies found that hedonic time-series models reflected quality-adjusted price dynamics better than basic averages, especially for goods with frequent model changes. Other work addressed supermarket relaunches by combining multilateral indices with hedonic approaches to preserve continuity. Further projects created aids for price collectors, including decision trees for adjustment methods and expanded product characteristics for online and scanner data.

Pilot studies on multilateral methods

These pilot studies explored how multilateral index methods could be applied to construct HICP series from large, high-turnover datasets, such as scanner and web-scraped data. They tested different approaches and assessed their performance under alternative splicing and chaining strategies. Several studies focused on product groups like food, clothing, appliances and electronics; and showed how the methods perform in both stable and volatile markets. Research also addressed challenges such as (i) extending indices over time, (ii) deriving stratifications when product information is limited and (iii) embedding validation tools in production systems. Overall, this work provided solid evidence on the feasibility and design of multilateral methods for consumer price statistics.

Pilot studies on scanner data

Several projects investigated using scanner data from retailers for the HICP. The focus was on end-to-end processes ranging from data acquisition and cleaning to classification and index compilation. Work was done on building systems to manage large datasets by applying filters for outliers and designing workflows suited to high-frequency, high-turnover goods (such as food, beverages, household appliances and personal care items). Some pilots also tested machine learning for product classification to reduce manual coding. Some Member States also explored suitable index formulas and trialled bilateral indices and chaining strategies for monthly compilation.

Pilot studies on web-scraped data

These pilot studies tested the feasibility of web-scraping for the HICP in areas such as clothing, electronics, transport services and tourism products (e.g. airfares and package holidays). Projects developed automated scraping tools, sometimes combined with machine learning for product classification. They also explored statistical models to improve index compilation. In some cases, web-scraped data were linked with traditional or scanner data to produce experimental indices (e.g. for laptops, hotel prices and consumer electronics). Operational use remains limited, but web-scraping has already replaced or been added to manual collection for certain product groups and has shown clear potential for wider application.

Pilot studies on incorporating prices from different data sources

These pilot studies investigated how different data streams could be combined to improve the coverage, timeliness and accuracy of the HICP. The main focus was on rents and other areas where traditional survey data are costly or incomplete. Work was done on including administrative data on private rentals from industry federations. This substantially increased the number of observations and geographical detail available. Other studies explored the use of online advertising data and professional landlord datasets for rental indices. They tested matched-model and hedonic methods to include these data. Broader pilots developed workflows for combining scanner, web-scraped and field survey data into integrated workflows to address the challenges of classification, imputation and consistency across sources.

3. PILOT STUDIES ON HOUSE PRICE INDICATORS

3.1. OVERVIEW

The pilot studies on house price indicators focused on three main priorities: (i) improving the frequency and timeliness of the HPI and OOHPI, (ii) making OOHPI weights more comparable and (iii) addressing specific methodological issues in OOHPI compilation.

The first set of projects aimed to explore whether monthly or flash indicators could be produced beyond the quarterly frequency and 85-day deadline currently required by Regulation (EU) 2016/792. This is to increase the relevance of these indicators for users and help potentially incorporate the OOHPI into the HICP. A second group of projects was designed to align OOHPI weights with Regulation (EU) 2023/1470 [3] to produce harmonised and updated time series. Finally, work was done on measurement issues to try and improve the treatment of land and structure components and to refine subindices (such as self-build dwellings, renovations and major repairs).

These activities together aimed to strengthen the methodological foundations of the HPI and OOHPI, improve comparability across the Member States and prepare for future integration with consumer price statistics.

3.2. WORK COMPLETED

Pilot studies on developing an HPI and/or OOHPI at monthly intervals and within a shorter deadline

Regulation (EU) 2016/792 requires the HPI and the OOHPI to be produced at quarterly intervals and 85 calendar days after the end of the reference quarter. These projects analysed whether the indices can be produced at monthly intervals and within a shorter deadline. This is to increase their relevance for users and ultimately enable the OOHPI to be incorporated into the HICP. These projects covered research into data sources (e.g. web-scraping) and estimation or extrapolation techniques. Where

[3] Commission Implementing Regulation (EU) 2023/1470 of 17 July 2023 laying down the methodological and technical specifications in accordance with Regulation (EU) 2016/792 of the European Parliament and of the Council as regards the house price index and the owner-occupied housing price index, and amending Commission Regulation (EU) 2020/1148, OJ L 181, 18.7.2023, p. 1, ELI: http://data.europa.eu/eli/reg_impl/2023/1470/oj.

monthly data sources were different from the data sources currently used for the quarterly indices, methods for combining these sources needed to be investigated.

Pilot studies in three Member States explored the feasibility of producing more timely and frequent house price indicators. A first objective was to alter the data collection process or to look into different data sources. A second objective was achieved by finding estimation methods that allow a reliable index to be calculated with little (or less) data available. More precise datasets were also found, resulting in reliable indices with a higher frequency. The studies drew on new data sources such as construction prices, web-scraped information and improved administrative datasets. In doing so, they demonstrated both the potential for increasing the frequency and timeliness of price indices and the limitations.

Pilot studies on improving OOHPI weights

Member States must provide Eurostat with OOHPI weights according to the breakdown set out in Article 22 of Regulation (EU) 2020/1148 [4]. This legislation did not specify data sources or methods to ensure comparability, so Eurostat started work on an implementing act to set out common quality standards. This process led to the adoption of Regulation (EU) 2023/1470, which lays down detailed specifications for these weights.

Against this background, two Member States that took part in the pilot projects revised and updated their weights and indices. They were also given the opportunity to carry out projects in this field. These projects were expected to produce weights consistent with the Regulation. Updated time series of weights from 2010 onwards could then be compiled and the resulting data sent to Eurostat.

Pilot studies in two Member States assessed the sources of the weights and their alignment with the draft implementing act for the OOHPI and HPI. The issues explored included updating weights to the last quarter of the previous year, as required by the Regulation. The relevance and feasibility of calculating a weight for 'Existing dwellings new to households' (which is also a subindex of the OOHPI) was also considered.

4. EVALUATION OF THE PILOT STUDIES

The Commission evaluates and approves the final reports on the pilot studies. The results are shared with national statistical institutes, EFTA countries and the European Central Bank. Projects were presented at annual workshops and final reports circulated through an online platform, so that findings could be shared with and discussed by statisticians. This exchange helps spot best practices and builds a common understanding of methodological options, and this in turn helps improve HICP comparability.

[4] Commission Implementing Regulation (EU) 2020/1148 of 31 July 2020 laying down the methodological and technical specifications in accordance with Regulation (EU) 2016/792 of the European Parliament and of the Council as regards harmonised indices of consumer prices and the house price index, OJ L 252, 4.8.2020, p. 12, ELI: http://data.europa.eu/eli/reg_impl/2020/1148/oj.

The pilot studies on methodological work came up with new tools and approaches for the HICP. Multilateral index methods were tested extensively and shown to be robust across many product groups. This provides strong evidence that they can improve continuity and comparability. Work on quality adjustment also confirmed that hedonic techniques improve the treatment of product relaunches and rapid quality change.

Projects on digitalisation addressed emerging consumption channels and the redesign of HICP samples, taking into account online data availability. Experimental indices for accommodation and transport services were calculated from administrative data on sharing platforms. Surveys were also used to capture cross-border internet expenditure. Studies on sample design showed that efficiency can be increased by reallocating resources according to expenditure weights and price variance. These approaches demonstrated viable methods for addressing digitalisation within the HICP.

The pilots also tested and extended the use of new data sources. Projects on scanner and web-scraped data expanded the range of alternative sources. Work on scanner data progressed from feasibility analysis to developing production systems. Some Member States are already using the production systems for selected groups of products and others are preparing to use them. Projects created routines for processing data, developed machine-learning tools for classification and tested methods for handling missing attributes. Scanner data has proven effective in broadening coverage and increasing observation frequency, while also lowering collection costs.

Web-scraping projects demonstrated the potential of automated data collection across consumer domains. Experience was acquired with scraping techniques, classification and linking to existing HICP structures. Several pilots also tested the inclusion of multiple sources. This showed that combining scanner data, web data and administrative data is feasible and improves coverage.

The studies confirmed that methodological innovation and new data sources are closely linked. Many studies spanned both priorities by applying multilateral methods to scanner data or web data. They also clarified the conditions under which new techniques can be successfully incorporated. Some studies did not lead to immediate use but nevertheless they provided tested approaches that help gradually modernise the HICP and HPI and lay the foundation for more accurate and timely statistics in the future.

The pilot studies on house price indicators contributed to progress in several areas that are central to the future development of the HPI and the OOHPI. Work on improving timeliness and frequency showed that monthly compilation is technically possible. This is particularly the case when administrative records, construction data or web-scraped sources are used. These studies also highlighted the practical difficulties of ensuring sufficient coverage, stability of data access and consistency between monthly and quarterly indices. Nonetheless, the results provide a basis for assessing how flash or monthly indicators might eventually be added to the existing quarterly framework and make the statistics more relevant for policy use.

Further projects addressed the quality and comparability of OOHPI weights and the treatment of conceptual issues. The work on weights allowed Member States to test

how national sources could be adapted to Regulation (EU) 2023/1470 to improve the consistency of historical series and enable more regular updates. These pilots were exploratory in nature and not all results are ready for operational use. However, they provided valuable evidence, clarified methodological challenges and contributed to the common knowledge base needed to improve housing price indicators across Member States.

5. CONCLUSIONS

The pilot studies funded during 2018-2022 made a significant contribution to improving EU price statistics. They strengthened the methodological and data foundations of the HICP and contributed to progress on house price indicators. This helps Member States adapt to digitalisation, new data sources and evolving statistical standards. Beyond their immediate outputs, the projects (i) expanded the pool of shared knowledge, (ii) improved comparability across Member States and (iii) demonstrated how innovation can be applied in practice. The Commission considers the pilot studies to be an essential tool for the ongoing modernisation of price statistics and will continue to support them. It also encourages the Member States to actively use the financing opportunities it offers for pilot studies.