Article

Research and developments in the transformation of UK consumer price statistics: November 2022

Research to modernise the measurement of consumer price inflation in the UK: fifth in a series of biannual articles to update users.

Contact:
Liam Greenhough
cpi@ons.gov.uk
+44 1633 456900

Release date:
28 November 2022

Next release:
May 2023

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1 . Other pages in this release

In this iteration of our research series, we present two articles:

- [Introducing multilateral index methods into consumer price statistics](#)

- [Outlier detection for rail fares and second-hand cars dynamic price data](#)

2 . Overview

- This is the fifth in a [series of biannual articles](#) that aims to update users on our research to modernise the measurement of consumer price inflation in the UK, while maintaining the quality and integrity of our outputs.

- Alternative data sources and new methods to use these are planned to be introduced from 2023, as detailed in our [Transformation of consumer price statistics: April 2022 article](#).

- The first categories we intend to transform are [rail fares and second-hand cars](#), this follows a continued period of engagement with stakeholders.

- The other pages in this release relate to introducing multilateral index methods into consumer price statistics and outlier detection for rail fares and second hand cars.

3 . Updates on our transformation work

Methods research

We announced plans in our [previous article](#) to use the GEKS-Törnqvist with a 25-month window and a mean splice on the published series extension method as our primary index methodology, making better use of alternative data sources from their intended introduction in 2023. In our [Introducing multilateral index methods into consumer price statistics](#), methodology article, we provide a summary of this chosen methodology along with some of the main advantages of using it for these new data sources. Additionally, in October 2022, we presented a paper covering filtering and imputation within these index methods to our [Technical Advisory Panel on Consumer Prices](#), which we will look to publish in December 2022. This paper accounts for rare scenarios when our index methods require imputation because of a lack of product matches — for example, if shortages in a particular market result in no products being available for purchase.

In our [Outlier detection for rail fares and second-hand cars dynamic price data](#), methodology article, we present our research into outlier detection methods, and our proposal for the outlier detection method that we will use when introducing alternative data sources for second-hand cars and rail fares in 2023. This article is a follow-up from our consultation with the Technical Advisory Panel on Consumer Prices in October 2022.

New impact analysis series

In addition to this biannual research-focussed series, we have now started publication of an additional [impact analysis series](#), to show the indicative impact of transformation on headline consumer price statistics. Our first publication in this series covers the intended introduction of new data sources and methods for rail fares and second-hand cars from February 2023 (to be published in March 2023). Our research series will continue to have a targeted focus on our research projects covering the exploration and proposal of new methods that we may adopt with our new data sources, whereas this new series will demonstrate the indicative impact of the final selection of methods prior to implementation of new data sources. We plan to update this series every November in line with our proposed publication schedule. For more information, please see our [Transformation of consumer price statistics: April 2022 article](#).

4 . Future developments

The research presented in our research articles is experimental, focussing on how methods need to be updated to transform and make the best use of the magnitude of information that is becoming available to us. Our impact analysis series will demonstrate the indicative impacts on our headline consumer price statistics of our final selection of methods when applied to each new data source. A full research programme is outlined in our Consumer prices development work plan.

During this period of research, we will continue to work with our Advisory Panels for Consumer Price Statistics and broader users. We welcome feedback on any of the research completed to date to cpi@ons.gov.uk, which may help shape the ongoing transformation of consumer price statistics to include new data and methods.

5 . Related links

Transformation of consumer price statistics: April 2022
Article | Released 27 April 2022
Our plans to transform UK consumer price statistics by including new improved data sources and developing our methods and systems for production from 2023.

Consumer price inflation, UK
Bulletin | Released monthly
Price indices, percentage changes, and weights for the different measures of consumer price inflation.

Consumer Prices Indices Technical Manual, 2019
Methodology | Released 18 September 2019
This technical manual is a reference tool for anyone wanting to understand how measures of consumer price inflation and associated indices are compiled.

6 . Cite this article

Office for National Statistics (ONS), released 28 November 2022, ONS website, article, Research and developments in the transformation of UK consumer price statistics: November 2022