
Date: 13th November

Andrea Rosen and Simon Kirby
Head of Sterling Markets Division and Senior Manager of Current Economic Conditions Division
Bank of England
Threadneedle Street
London
EC2R 8AH

Dear Andrea and Simon,

This letter covers changes to the suite of consumer price inflation statistics in 2024 made as part of ONS's Prices Transformation Project. This work aims to improve the quality and granularity of these statistics by identifying new data sources, improving methods, and developing new systems. This will be followed by a separate letter from Matthew Corder, Deputy Director of Prices Division, summarising the changes that will be implemented as part of the standard production cycle.

i. Issue

A request for the Bank of England to assess the changes to the Retail Prices Index (RPI) proposed by UK Statistics Authority (the Authority) for implementation in 2024.

ii. Action

To note the contents of this letter, which is being sent to acknowledge the requirements under Section 21 of the Statistics and Registration Service Act 2007. In previous years it has initiated the Authority's consultation with the Bank over whether any proposed changes to the RPI would constitute a fundamental change in the index which would be materially detrimental to the interests of holders of relevant index-linked gilts, and hence trigger the redemption clause.

iii. Timing

For response by 27th November 2023.

iv. Context

The ONS aims to ensure the quality of all its statistical outputs including the RPI. Our current policy is to "address the shortcomings in the RPI in full at the earliest legal and practical opportunity (in February 2030) by bringing the methods and data sources from the National Statistic and ONS's lead measure of inflation, the Consumer Prices Index including owner occupiers' housing costs (CPIH), into the RPI". Prior to 2030, and always with due consideration to the requirements of the Statistics and Registration Services Act 2007, we propose generally to follow the approach outlined in earlier policy statements, namely: "The RPI would continue to be maintained through routine changes". By contrast, in general, we "would only consider making methodological changes to the RPI if to not do so would inhibit the improvement of CPIH and the Consumer Prices Index (CPI)." The principles underlying this policy are that, given we expect to be unable to address the key methodological shortcomings of the RPI before 2030, in the interim we will generally prioritise ensuring that changes to the RPI keep it up-to-date, and are limited and predictable, with our development work focussed on improving our headline consumer price statistics (CPIH and CPI) as the best way to ensure the overall relevance, accuracy and reliability of our price statistics, and the best and most efficient use of our resources.

As work on consumer prices transformation has progressed it has become clear that there is some degree of conflict between ensuring changes to RPI are limited and predictable and maintaining the quality of the suite of consumer price statistics. To enable existing data sources and methods to be continued to be used in the RPI would require significant investment in legacy systems that are no longer being used for CPI and CPIH. We therefore propose allowing methods and data improvements from the Prices Transformation Project to feed into the RPI where they are not substantially similar to the elements of the RPI that we do not expect to be able to address before 2030, most notably the Carli formula and methodology for owner

occupiers' housing (OOH) costs. This allows us to continue to provide some predictability while also ensuring we devote resource to modernising the production and improving the quality of our full suite of consumer price statistics.

The elements of consumer prices transformation that we are proposing for inclusion in the RPI from the March 2024 publication onwards for your review under the Statistics and Registration Service Act 2007 are:

1. Second-hand cars – new index calculation systems, methods and data (March 2024);
2. Private rents – new index calculation systems and methods (March 2024);

v. Ongoing quality improvements and developments in consumer price statistics as part of the Prices Transformation Project.

1. Second-hand cars

In 2021, we obtained access to daily vehicle listings data from the largest digital automotive marketplace in the UK, Auto Trader, dating back to January 2018. Our current method involves pricing a sample of 35 models of cars aged one, two and three years, using retail prices from a trade guide, and interpolating the prices for 2- and 3-year-old cars using these data. The new data, that are received daily, include both trade and private listings. We approximate car sales from the listings data as when a car has not been present in the data for 4 consecutive days. We have assessed this assumption against SMMT used car sales quantity data and believe this to be a valid approximation of the sale. We also deduce a 70% market share from this analysis, in line with Auto Trader's own estimates.

We define a product using several variables within the data, ensuring product definitions are homogeneous while also consistently available in the data over time. The average price is calculated each month for each product definition. A GEKS-Törnqvist index using a mean splice on the published series with a 25-month window is then used for the calculation of elementary aggregate (car makes by age and fuel type) indices.

The new method and data offer a range of benefits including increased product coverage, improved representativity, and more precise information on two of the key variables related to the price of second-hand car, mileage and age. The new method also allows more granular statistics to be produced; from March 2024 we will publish indices by fuel type, and we'll be able to understand how different ages and makes of cars contribute to these indices, providing users a more comprehensive narrative around second-hand car inflation in the UK.

2. Private rents

In 2019 we obtained access to rental price information at the microdata level from the Valuation Office Agency, Welsh Government, Scottish Government and Northern Ireland Housing Executive. These data allow us to fully utilise all the 500,000 private rental prices collected annually and the additional granularity allows us to link to other property attribute data, strengthening our methods. The current method is based on a matched-pairs approach, which splits the collected rental transaction data into a sample and substitution pool, making use of approximately half of the available data. The new approach uses a hedonic regression model to estimate the value of each characteristic and estimate the price of properties with every combination of features. An Ordinary Least Squares model is used to create coefficients to calculate an imputed rental price, which was agreed following engagement with ONS's Economic Statistics Centre of Excellence, international experts, and the National Statistician's Advisory Panels on Consumer Price Statistics.

The new method allows us to fully utilise the data sources available to us and allows for the calculation of more granular indices and statistics to be produced, including by local authority and bedroom category. We plan to incorporate these improvements for England, Wales, and Scotland in March 2024. Northern Ireland Housing Executive data will require further development due to differences in structure and timeliness, we will explore the use of these data as a replacement for the current Kantar data in 2024.

vi. Ongoing improvements to our quality assurance processes.

For completeness, we have included a summary of the improvements made to our quality assurance processes. The current scrutiny process is an important part of our production as it prevents incorrect

prices from impacting the published RPI, CPIH and CPI figures. Due to the human nature of many of the errors that occur, and the need to make decisions that don't always have a clear outcome, this cannot be easily automated. An intensive manual process is therefore completed monthly to investigate any observations deemed as outliers, to either validate, correct, or remove the associated prices and/or metadata.

This scrutiny process was reviewed over the course of 2021, and we concluded that the manual process was still of fundamental importance, but some improvements could be made. We will embed these new processes into production in 2024. We will move the scrutiny process onto a new system with an improved user interface and functionality, including improved reporting and auditing of changes. Some of the process will be moved earlier in the production round, allowing time for additional quality assurance.

We will also improve training and supporting information provided to price collectors, particularly regarding accurate assigning of indicator codes (used to provide additional information as to whether a product is on sale or a replacement, for example). These changes will allow us to streamline the process and improve traceability of any changes made, ultimately providing additional reassurances over the quality of price quotes and quality adjustments being made in our suite of consumer price statistics. The change will also reduce our reliance on legacy IT systems and allow further enhancements to methods and processes to be made more easily in future.

We will also be making further improvements to our already transformed production systems more generally, including automating pipelines to reduce the risk of manual error, improving how our new pipelines could handle missing data or indices should they arise, and improving the automation of the annual process for constructing weights.

vii. Future quality improvements and developments in consumer price statistics as part of the Prices Transformation Project.

Groceries scanner data and traditional collection system

A key on-going priority in terms of Prices Transformation is preparing for the planned inclusion of point-of-sale transaction (scanner) data for groceries into our headline inflation indices (including RPI) in March 2025. We have already made substantial progress in accessing both historic and regular feeds of these data, currently covering up to 50% of the grocery sector. Indices produced using retailer scanner data will be aggregated with traditionally collected data in calculating price indices, at first for food and non-alcoholic beverages, alcohol, and tobacco categories. Our systems for processing traditional data will also be updated at this time to enable this introduction, as indices using new scanner data and traditionally collected data will need to be aggregated at the retailer / shop-type stratum level to enable full market coverage.

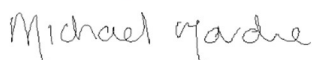
In preparation for the inclusion of grocery scanner data, we have been publishing regularly as part of our [research and developments in the transformation of UK consumer price statistics articles series](#) as well as liaising regularly with our Advisory Panels for Consumer Price Statistics, our users, and the Office for Statistics Regulation.

In 2024 we will produce an analysis of the impact of introducing groceries scanner data, as well as conducting an internal parallel run of these combined indices alongside current traditionally collected data and methods. We also plan to continue to improve our coverage of this sector using scanner data in the coming months and years.

Please let me know if you have any queries or would like to discuss any of the changes raised in this letter further.

A copy of this letter goes to Carleton Webb at the Bank of England, to Thomas Yeomans, Daniel Gallagher and Tom Hemingway at the Treasury and to Mike Keoghan, Grant Fitzner, Jason Zawadzki, Matthew Corder and Chris Jenkins here at ONS.

Yours sincerely,



Head of Prices Transformation Division, Office for National Statistics

