

# Harmonisation of package holidays items for consumer price inflation

## Issue synopsis

Our current approach for calculating price indices for package holidays items is not compliant with the guidelines for the compilation of the Harmonised Index of Consumer Prices (the HICP, which EU member states are required to produce). Under Eurostat's HICP approach, price comparisons should be made relative to prices in the base period (in effect January for CPI). By contrast, the current approach involves tracking the change in price of an annual basket of holidays by making price comparisons relative to the same month in the previous year (in effect treating holidays in different months as different items).

A pilot data collection, run between 2016 and 2019, suggested that making the change would have a significant impact on the measured rate of inflation and would change the seasonal profile of the index. Feedback from our Stakeholder Advisory Panel for Consumer Prices (APCP-S) suggests that such a change would be unhelpful for analytical and policy users and is not supported.

## Recommendation

We recommend that the Eurostat approach should not be adopted into our consumer price inflation statistics. Instead, we intend to explore improvements to the measurement of package holiday price changes through our alternative data sources transformation programme.

## Current issue and current practice

1. The Office for National Statistics produces a range of consumer price inflation statistics. The "use cases" for each of these measures are described in more detail in the article, [Measuring Changing Prices and Costs for Consumers and Households](#). In summary, these are:
  - i. **The Consumer Prices Index including owner occupiers' housing costs (CPIH)**, our lead measure of consumer price inflation: it is our most comprehensive measure of consumer price inflation given the inclusion of owner occupiers' housing costs, and its construction is based on recognised economic principles
  - ii. **The Consumer Prices Index (CPI)**, our internationally comparable measure of consumer price inflation: it follows Eurostat's methodology for the Harmonised Index of Consumer Prices (HICP) which is produced by EU member states and some additional countries (such as the US); it is the same as CPIH other than the omission of owner occupiers' housing costs and Council Tax, and is currently used by the UK Government as the basis for the Bank of England inflation target for monetary policy
  - iii. **The Retail Prices Index (RPI)**, which is a legacy measure that continues to be produced for long-term existing users; RPI is the only statistic that we are

legally obliged to produce and publish every month, and the Statistics and Registration Services Act 2007 defines a process for how changes should be made

- iv. (The Household Costs Indices, which are currently in development, and which are out of scope of this paper)
2. CPIH and CPI are revised in exceptional circumstances, whereas RPI is never revised. The [revisions policy for consumer price inflation statistics](#) reflects the range of ways in which they are used and the need to avoid revisions to data. However, this does mean that significant changes in methodology or data collection can introduce structural breaks and alter the behaviour of the time series.
3. The current methodology for calculating price indices for Package Holiday items in our consumer price inflation measures differs to the treatment of price change elsewhere in the basket. For most items, price changes are calculated relative to the price recorded in January. However, for Package Holidays, we calculate the change in price of an annual basket of holidays.
4. In practice, this means treating holidays taken in different months as different items (i.e. a holiday taken in July is not the same as a holiday taken in February)<sup>1,2</sup>, and price changes (“price relatives”) are calculated with reference to the same month in the previous year, rather than January. The index is then calculated by taking the rolling average of price relatives over the whole year, weighted according to monthly expenditure. The resulting index therefore does not exhibit any seasonal behaviour.

## Deviation from established guidance

5. In July 2015, Eurostat published the [UK Compliance Report](#)<sup>3</sup> for CPI (which is the UK’s HICP). This stated that ONS’s method for package holiday collection is not compliant with HICP regulations, due to the current price relative calculation method:

*For package holidays the applied approach is not compliant with the legal requirements of Regulation No 1749/96 Article 5 and 6, since prices for different products (like seaside and skiing holiday) are collected each month without quality adjustment.*

6. In other words, the annual basket approach is not compliant because the monthly holiday prices are neither directly comparable with base period prices (they are instead comparable with the same month in the previous year), nor have been quality adjusted to account for non-comparability. In effect, the regulation means that prices should be compared with prices in the base period (January for the UK). The rationale for this approach is consistency: to bring the measurement of these items

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<sup>1</sup> <https://webarchive.nationalarchives.gov.uk/20160109133536/http://www.ons.gov.uk/ons/guide-method/user-guidance/prices/cpi-and-rpi/cpi-technical-manual/consumer-price-indices-technical-manual--2014.pdf>

<sup>2</sup> [https://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/presentation/wcms\\_331153.pdf](https://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/presentation/wcms_331153.pdf)

<sup>3</sup> <http://ec.europa.eu/eurostat/documents/272892/272977/CM-Report-UK-2014-Release-July-2015.pdf/>

into line with the approach used elsewhere in the basket. From this it follows that the path of the index reflects the monthly price evolution of a fixed basket of January holidays.

7. In his January 2015 review of UK Consumer Price Statistics<sup>4</sup>, Paul Johnson also highlighted package holiday items (among others in the basket) as having specific issues to be addressed that may be resolved through upcoming Eurostat recommendations (which at the time were not yet known).

## Historical analysis

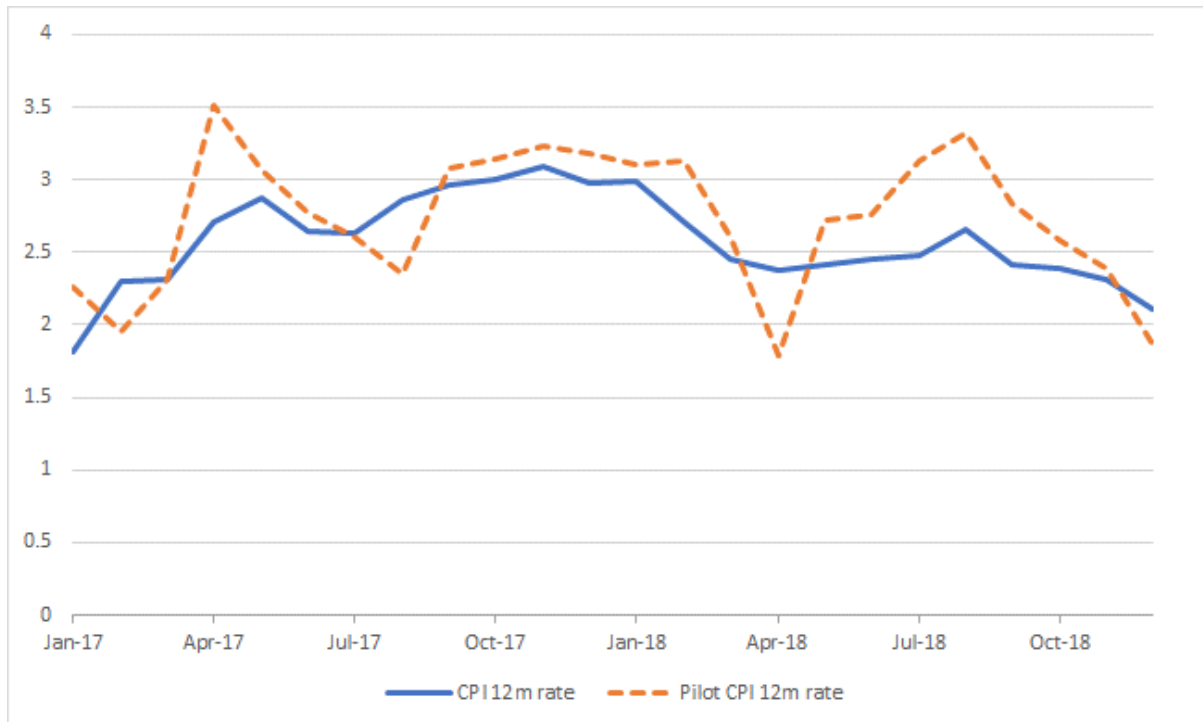
8. On this basis, a pilot price collection was run between 2016 and 2019 in parallel with the live collection. However, the nature and availability of holiday-related items makes the choice of representative items and collection of their price quotes particularly difficult. Holidays typically taken in the winter months (e.g. ski activity packages from January to March) are not available during the summer months when beach holiday packages are prevalent instead – holidays out of the northern hemisphere seasons are still available (and taken by some UK consumers) but are more difficult to compare in terms of price movements (a long weekend skiing in Europe carries considerably different cost to a week or more ski trip in the southern hemisphere, similarly a Mediterranean trip in August is difficult to compare with a 'winter sun' break further afield). Investigation of ONS web-scraped holiday data suggested that 7.8% of unique holidays available in January are available in every month throughout the year, while 25.2% can be tracked through at least four months (average values over a three-year dataset). Further detail on the manual pilot collection is provided in Appendix 1.
9. The package holidays class consists of seven items and there are three further items that are holiday-related that also calculate price relatives on a year-to-year basis. Together these items account for over 5% of the total CPI and RPI, and just under 5% of the CPIH, based on 2019 weights.
10. Since the Eurostat approach compares current holiday prices with the cost of the same holiday in January, the resulting indices exhibit seasonal behaviour. This is in contrast with the current method, where the indices are not seasonal.
11. Figure 1 shows the CPI annual rate through 2017 and 2018, based on both the current methodology for package holidays components and the pilot collection for the Eurostat approach. The average impact was +0.11 percentage points in 2017 and +0.18 percentage points in 2018 (0.24 percentage points and 0.32 percentage points respectively in absolute terms). The largest difference was 0.8 percentage points in April 2017, and in 2018 it was 0.66 percentage points in August. The large effects

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<sup>4</sup> <https://www.statisticsauthority.gov.uk/archive/reports---correspondence/current-reviews/uk-consumer-price-statistics---a-review.pdf>

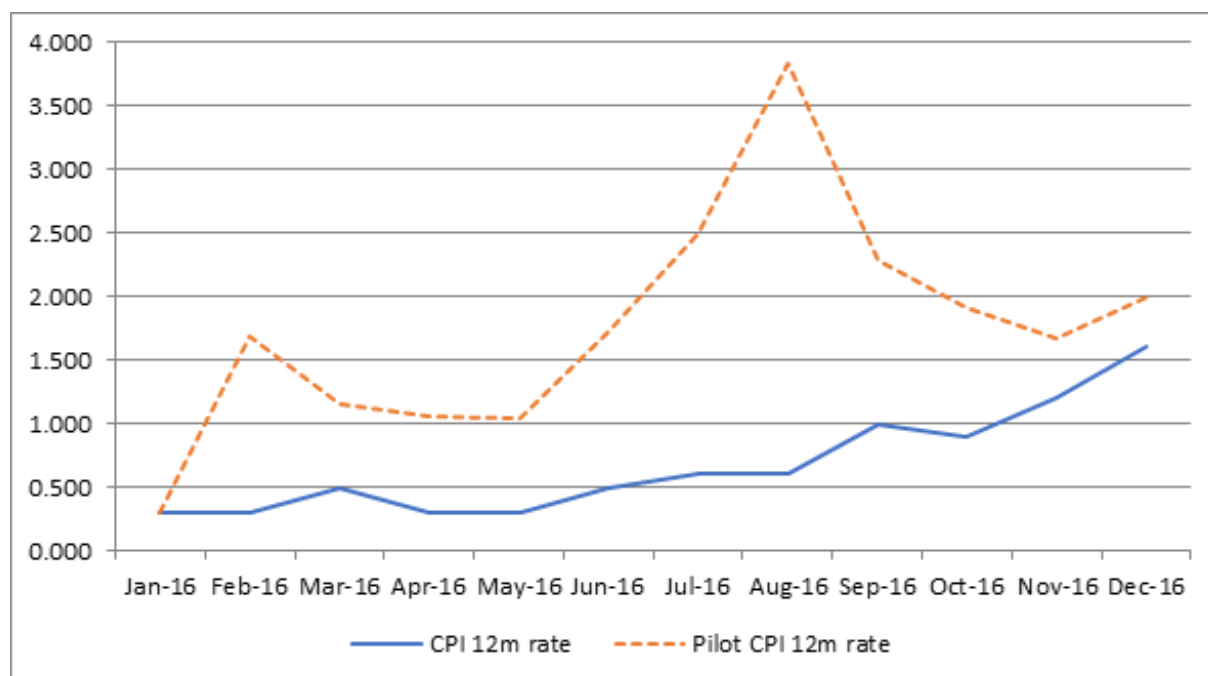
seen in April 2017 and 2018 are related to the timing of Easter holidays, which can fall in the measurement period in some years but not in others.

**Figure 1: Comparison of CPI annual inflation rate for 2017 and 2018 using the current package holidays collection and the pilot collection**



12. The analysis suggests a persistent change in the behaviour of the annual rate. The scale of the impact is more significant than other changes that we've implemented in recent years. In 2019, we [worked with the Technical APCP to explore alternative approaches](#) that would be compliant with the Eurostat legislation. However, all approaches that we have considered have led to a significant impact on the annual rate. Indeed, it is implicit in Eurostat's recommendations that the new methodology *should* have an impact on the inflation rate.
13. The above analysis focusses on the years 2017 and 2018, where annual inflation rates - which show the change in the index from the same month in the previous year - are constructed on a like-for-like basis. However, the impact is likely to be greatest in the implementation year (2016 in our pilot collection), because the current year index is based on the Eurostat seasonal approach, whereas the previous year index is based on the current CPI non-seasonal method.
14. Impact analysis based on the pilot collection suggests that, had the change been implemented in 2016, it would have altered the all-items annual CPI rate of inflation by up to 3.23 percentage points (August). Figure 2 shows a comparison of CPI using the current method with CPI constructed from the pilot collection on a January base.

**Figure 2: Comparison of CPI annual inflation rate in the implementation year using the current package holidays collection and the pilot collection**



## International Comparisons

15. As of 2019, over half of EU member states (9 out of the 16 identified methodologies<sup>5</sup>) were making some adjustment for seasonality of holiday items in their Harmonised Index of Consumer Prices (HICP).
16. Statistics Netherlands (CBS) used a “roof tile” approach<sup>6</sup> to implement changes to their HICP with minimal headline impact by use of dual calculations for a cross over period (of one year) in 2011. Since 2011 CBS has received detailed data of tours sold by several large operators, making it possible to measure short term price changes accurately. The seasonal pattern of the price is now visible in the HICP for package holidays. In 2011 CBS produced their index in two ways: one using the old methodology, and another on the new monthly comparison basis. In 2011, annual inflation rates were calculated using the old methodology, allowing for consistency in

<sup>5</sup> Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Germany, Hungary, Italy, Latvia, Luxembourg, Malta, the Netherlands, and Slovakia

<sup>6</sup> <https://www.cbs.nl/en-gb/our-services/methods/surveys/korte-onderzoeksbeschrijvingen/the-introduction-of-new-methods-for-price-observations-in-the-consumer-price-index-cpi---new-methods-for-airline-tickets-and-package-holidays->

both years. Then, in 2012, CBS introduced the new methods retrospectively by revising their 2011 monthly index numbers to the new approach and calculating annual inflation rates from the new methodology. Both versions of the 2011 index numbers, before and after recalculation, were published in order for users to make comparisons of results up to 2011 as well as for 2012 and beyond.

17. Germany recently introduced changes to their methodology for calculating package holiday price indices which not only resulted in revisions to their elementary aggregates, but also at higher levels of their HICP, the Euro area, and the European Union<sup>7</sup>. The methodological change has led to a more pronounced seasonal profile for the package holiday price index for Germany as well as for the Euro area.

## User feedback

18. We discussed the Eurostat method and shared our analysis, research and potential solutions such as the “roof tile” approach with the [Advisory Panels on Consumer Prices \(APCPs\)](#) in 2019. ONS’s recommendation at the time was to address the package holidays development through the [alternative data sources transformation programme](#) and end the manual collection of pilot data. This would allow us the flexibility to develop alternative solutions and improved measures. However, this could only be delivered over the longer-term.
19. Following ONS’s exploration of the methodology with advice from APCP-T, the findings were considered by our Stakeholder APCP (APCP-S). The unredacted minutes of the September 2019 meeting state that:

*Panel members suggested that Eurostat’s requirements do not seem to improve the current method. The Panel agreed to proposals to incorporate the work into the alternative data sources project, and that ONS should seek agreement from Eurostat.*

20. Our recommendations were implemented at the end of 2019. The manual pilot collection was discontinued, and the development was included in the alternative data sources programme to be prioritised accordingly. In the interim, the focus has been on the delivery of scanner and web-provided data for [rail fares, used cars and groceries](#). We have not yet progressed work on package holidays, reflecting the priorities agreed with APCP-S. There is therefore an outstanding question of whether future improvements to the measurement of package holidays items should aim to be compliant with HICP legislation.

## Options

Our potential options are listed below, with a more detailed description of their benefits and disbenefits in table 1.

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<sup>7</sup> [https://ec.europa.eu/eurostat/documents/272892/272974/Improved\\_calculations\\_and\\_methods\\_change.pdf](https://ec.europa.eu/eurostat/documents/272892/272974/Improved_calculations_and_methods_change.pdf)

- **Option 1**  
Continue to use the existing methodology by making price comparisons with the same month in the previous year, and do not seek to make improvements.
- **Option 2**  
Aim to implement the Eurostat methodology by making price comparisons relative to prices in January.
- **Option 3**  
Do not implement the Eurostat methodology but continue to seek improvements to the existing methodology and data collection through the [alternative data sources transformation programme](#).

**Table 1: Benefits and disbenefits of each option**

	Benefits	Disbenefits	Relation to SNA/ESA
Option 1	<ul style="list-style-type: none"> <li>- No further work required</li> <li>- No impact on high-level aggregates</li> <li>- Aligns with user feedback</li> </ul>	<ul style="list-style-type: none"> <li>- CPI not harmonised with the HICP methodology</li> </ul>	NA
Option 2	<ul style="list-style-type: none"> <li>- International comparability</li> <li>- Consistent with other items in the consumer price basket</li> </ul>	<ul style="list-style-type: none"> <li>- Significant impact on the behaviour of aggregate indices and annual rates</li> <li>- Not necessarily a methodological improvement</li> <li>- Little user appetite for the change</li> </ul>	NA
Option 3	<ul style="list-style-type: none"> <li>- Improvements implemented through existing programme of work</li> <li>- Impact can be better managed</li> <li>- Aligns with user feedback</li> <li>- Recognises feedback in the Johnson Review to review the current methodology</li> </ul>	<ul style="list-style-type: none"> <li>- CPI not harmonised with the HICP methodology</li> <li>- Changes can only be delivered over the medium to long term</li> </ul>	NA

## Conclusion

21. The decision on whether to adopt the Eurostat methodology should be considered against the use cases for our consumer price inflation measures described in paragraph 1. Whilst in principle it would be possible to adopt different approaches for different measures, this would be difficult in practice, reflect poor value for money and lead to a greater risk of error. Therefore, the preferred approach is to adopt a common methodology across all of our measures.



22. Even were we not to adopt the Eurostat approach, there is still a need to review the current approach which, as the [Johnson Review](#) says:

*is different to the methods used elsewhere in the index and results in price change for the holiday items lagging the rest of the index. Eurostat have started to look at ONS's method; we agree it should be a priority.*

23. The user feedback described in paragraphs 19 and 20 makes it clear that the Eurostat approach would not be helpful

24. However, CPIH is not currently widely used, as domestic use tends to focus on CPI given its role in monetary policy. Our use case for CPI is as an internationally comparable measure and, in this regard, the Eurostat approach would be preferred, to maintain comparability with the HICP. Moreover, the CPI's dual role as the UK's inflation target for monetary policy means that a fundamental change of this nature would be problematic for policy makers.

25. RPI is a legacy measure that we are legally obliged to produce. However, we have identified a number of shortcomings that we are [unable to address without the Chancellor of the Exchequer's consent](#). It is the Authority's policy to address the RPI's shortcomings in full at the earliest legal and practical opportunity (which is in 2030). In the meantime, our policy has been to only make changes to RPI where to not do so would impede the development of our other more robust measures. It is clear therefore that there is no case for adopting the Eurostat methodology from an RPI perspective.

26. Considering then the Eurostat methodology against our domestic use cases, we recommend option 3; that is, that:

- i. The Eurostat methodology should not be adopted in our consumer price inflation statistics
- ii. We should seek to make improvements to the existing data collection and methodology through the current [alternative data sources transformation programme](#), as agreed with APCP-S, and in recognition of the Johnson Review's comments on our current approach

## Appendix 1 – Manual pilot data collection

Collection of the first new source began in October 2015 with a pilot of manually collected quotes from a variety of retailers with online outlets. Price collection was carried out on a monthly basis, with consistent lead times varying from 8 weeks to 12 months, based on market research on consumer booking behaviours (Table 2). A sub-sample of quotes used in the live production of the CPIH/CPI were chosen, resulting in approximately 160 quotes for each holiday related item being collected per month (initially only Foreign Holidays – Hotels, Self-Catering & Cruises were collected, but the pilot sample was later expanded to include Foreign City Breaks, and UK Holidays too). With the use of a variety of set lead



times and a restricted/specific sample, this manual pilot dataset has seen limited availability of some items during certain periods (i.e. seasonal 'drop out') as holidays have sold out before the collection of price quotes has been attempted, or simple unavailability in certain destinations in particular months (e.g. cruises in the Caribbean during hurricane season are very rare).

**Table 2: Lead times and data availability for pilot package holiday collections**

<b>Item</b>	<b>Lead time</b>	<b>Time periods</b>
UK holidays: self-catering	12 months	Jan 2019 to Apr 2020
UK holidays: exc. self-catering	12 months	Jan 2019 to Apr 2020
Foreign holidays: coach holidays	12 months	Jan 2019 to Apr 2020
Foreign holidays: self-catering	3 months	Jan 2016 to Jul 2019
Foreign holidays: hotels	3 months	Jan 2016 to Jul 2019
Foreign holidays: cruises	3 months	Jan 2016 to Jul 2019
Foreign holidays: city breaks	8 weeks	Jan 2018 to Jun 2019