

ADVISORY PANEL ON CONSUMER PRICES – TECHNICAL

Weights update, 2022

Status: final

Expected publication: alongside minutes

Purpose

1. This paper proposes an approach for calculation of weights for the Consumer Prices Index including owner occupiers' Housing costs and the Consumer Prices Index for 2022, taking into account international guidelines, data issues and the relevance of our consumer prices weights.

Actions

2. Members of the Panel are invited to:
 - a) Comment on the considerations around 2022 weights presented under coherence and comparability, accuracy and reliability, timeliness and punctuality, and relevance
 - b) Advise on the ONS's preferred option for 2022 weights: to aim for weights that reflect spending in the base year, 2021

Background

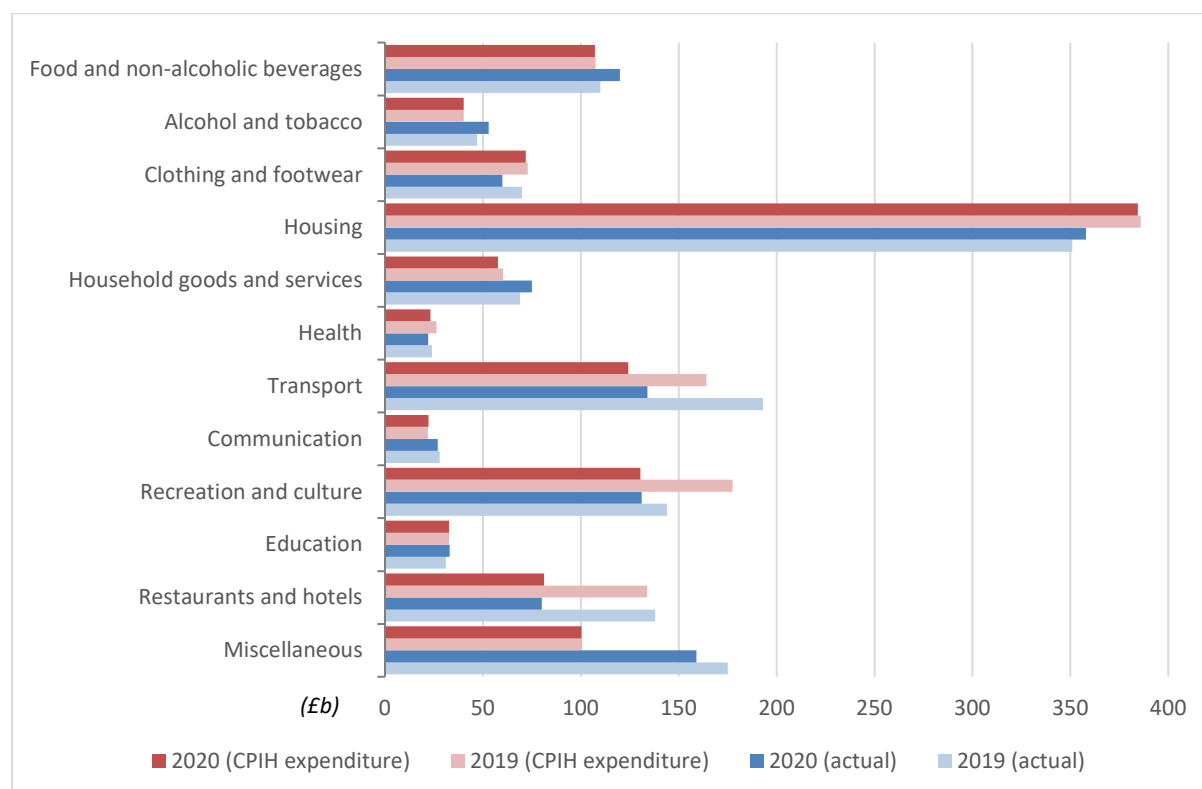
3. Prior to 2021, the usual process for updating the weights in the Consumer Prices Index including owner occupiers' housing costs (CPIH) and Consumer Prices Index (CPI) took place annually in December of the previous year (with a secondary update taking place in January). Household Final Consumption Expenditure (HFCE) data were taken from the quarter 3 Consumer Trends publication, which represented consumer spending data from two years prior to the index year (so for example, 2019 weights were based on consumer spending in 2017). Some adjustments were made, and additional data was incorporated (primarily from the Living Costs and Food Survey), reflecting differences in coverage between CPIH and HFCE.
4. For the January index the resulting set of expenditures were price updated to reflect price levels in December of the previous year. For the February to December indexes, a further price update was applied so that expenditures reflected price levels from January of the index year.
5. Price updating is common practice for international CPIs and means that the resulting indices are based on the Lowe index method. The second price update is unique to the UK and stems from the need to update weights and reference prices in different periods. An understanding of the double price update is not necessarily relevant to this paper¹.
6. For the 2021 weights update it was clear that a different approach was required. Normally expenditure does not change greatly from year to year, however, with the onset of the coronavirus (COVID-19) pandemic, this was no longer the case. Whilst continuing with the usual weights update would have been operationally straightforward, the resulting weights

¹ More information can be found in the article [Assessing the impact of methodological improvements on the Consumer Prices Index](#)

would not necessarily have been relevant to the current experience of consumers, nor consistent with the aims and principles of the CPIH and CPI.

7. A different approach was therefore taken for the weights in 2021, which was consistent with [Eurostat guidelines](#) and other countries' approaches internationally. We used the most up to date HFCE spending data available (2020 quarters 1-3, second estimate; quarter 4 was imputed) and looked at how much the 2020 estimates deviated from the 2019 dataset, which would usually have been used for the weights update.
8. Where the 2020 estimates differed from the 2019 estimates by more than 25% we replaced the 2019 data with 2020 data. We also gave some consideration to any estimates in the range 20% to 25% for adjustment. The resulting adjusted dataset formed the basis for our weights update in 2021. Price updating was applied as normal (although accounting for differing base years). More information on the approach taken is provided in the article, [Coronavirus \(COVID-19\) and consumer price inflation weights and prices: 2021](#).
9. Figure 1 compares the final set of 2020-adjusted expenditures that were used for the 2021 CPIH weights against a) the 2019 expenditures that would normally have been used to construct the 2021 CPIH weights, and b) the current 2019 and 2020 HFCE datasets. Differences between the CPIH and HFCE datasets reflect both revisions to the national accounts as new data are incorporated, and differences in scope and coverage between CPIH and HFCE. In particular, some package holidays expenditure is removed from HFCE transport and is added – along with further package holidays expenditure - into CPIH recreation and culture.

Figure 1: Comparison of current HFCE 2019 and 2020 estimates with CPIH expenditure based on 2019 data and 2020-adjusted data



10. This paper sets out the considerations we will need to take into account when considering our approach for calculating weights for the upcoming year: 2022. This paper sets out the considerations we will need to take into account when considering our approach for calculating weights for the upcoming year: 2022. We have structured the discussion around the [dimensions of quality](#) as specified by ONS, in line with the Government Statistical Service and the European Statistical Service definitions (accessibility and clarity is omitted as it is not directly relevant to the discussion).

Analysis

Coherence and comparability

11. At this stage we do not know what international guidance will be issued for weights compilation in 2022 (if at all). Any guidance from Eurostat, for example, isn't likely to be issued until later in the year. However, from the guidance Eurostat issued last year, it is clear that for the Harmonised Index of Consumer Prices (HICP, which is the UK's CPI),

“...the key element of the legal framework [...] specifies that the expenditure shares used for the HICP in year t should be representative of year t-1. This is in line with the overall Laspeyres philosophy of the HICP. In practice, national accounts data of year t-2 are used as basis to estimate the expenditure shares for t-1. In normal times, structural changes between t-2 and t-1 are limited so that t-2 data can be used to estimate t-1 (either by price-updating or not price-updating between t-2 and t-1). Clearly, this is not the case when consumption expenditure changes significantly, both in level and structure, between t-2 and t-1, such as in the current COVID-19 pandemic”

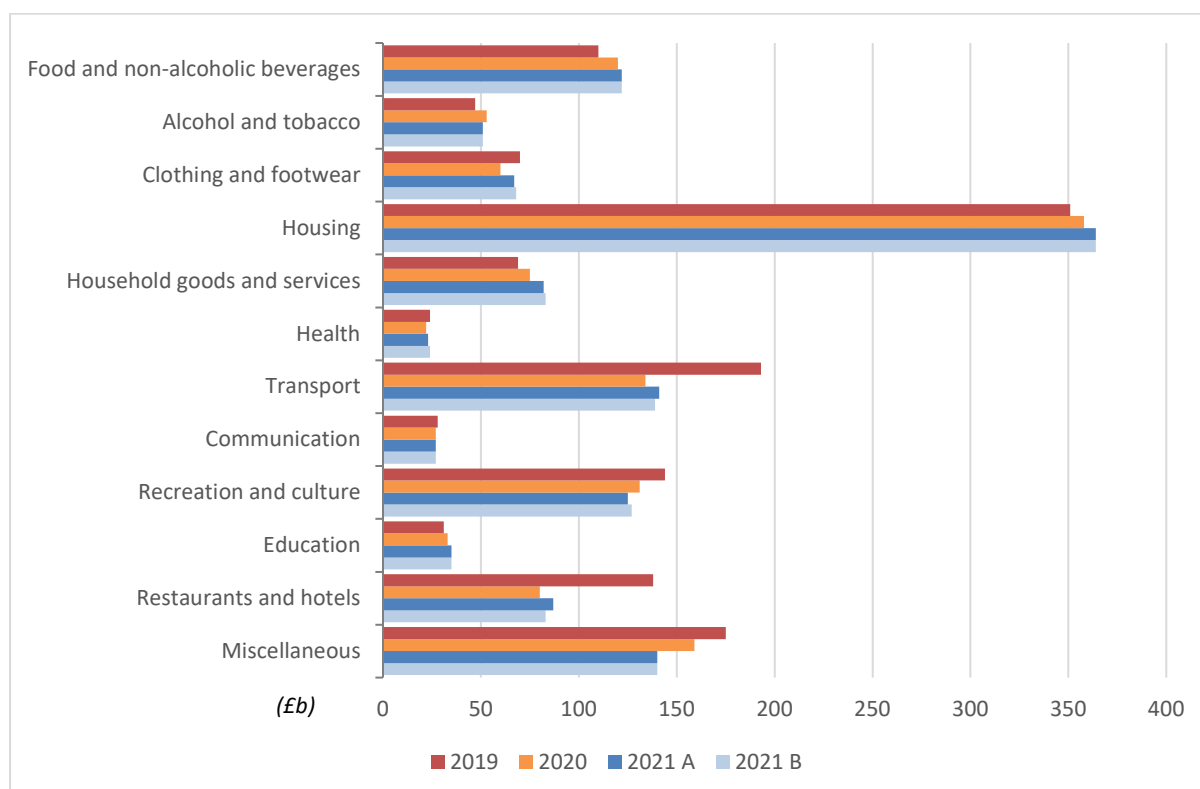
12. In other words, Eurostat are clearly aiming for base-year weights in the HICP. The implication of this is that for 2022, the HICP recommendation is likely to be that weights should be as reflective of 2021 spending as possible.

Accuracy and reliability

13. If we were to follow the approach of trying to update existing expenditure to reflect 2021 spending, some consideration needs to be given to the best way to do this.
14. One option is to start from 2019 expenditure again, as this provides a stable and reliable set of estimates as a base. As we are working from expenditures that were unaffected by the pandemic it will be clearer to see where any unusual effects lie. In essence this approach would be to start with non-pandemic expenditure and to apply any pandemic impacts to it.
15. The other option would be to start from 2020 expenditure. This would reflect the most up-to-date estimates, and is the dataset that would have been used in normal times. However, compared to other years, the spending distribution is quite unusual, which may make it harder to understand the effects that any adjustments would have. Moreover, the data collection in 2020 was affected by the pandemic and lockdown restrictions, so the data may not be as reliable as they would usually be. In essence this approach would be to start with pandemic expenditure and to reinstate any areas where expenditure has recovered.

16. On 30 September 2021, the latest [HFCE data were published](#) showing consumer spending up to quarter 2 of 2021. Figure 2 compares 2019 and 2020 HFCE from the latest dataset with 2021 spending. As quarters 3 and 4 are not yet available, they have been estimated using the same approach that was taken for the missing 2020 quarter 4 in production of the 2021 CPIH weights. Quarter 3 2021 was estimated by applying the 2019 quarterly growth for the same period. Because quarter 4 2021 has not yet occurred we present two potential options: option A estimates quarter 4 using the 2019 quarterly growth and option B uses 2020 growth. The most appropriate choice will likely depend on what happens over the remainder of 2021. Some coverage adjustments have been made: narcotics, prostitution and games of chance have been removed from the HFCE data. However, there are other differences in coverage that have not been accounted for. Most notably, package holidays are not included in the HFCE recreation and culture division, some of which is recorded under transport instead.
17. The chart suggests that some of the big falls in spending seen in 2020 have not recovered to their pre-pandemic position, and that 2020 estimates are more likely to be relevant to current spending levels than 2019 estimates. The choice of option A or B for uprating 2021 quarter 4 makes relatively little difference, particularly compared to differences from 2019. It should be remembered, however, that this analysis is presented at a relatively high level, and the lower level story may be more complex.

Figure 2: Comparison of estimated 2021 HFCE data with 2019 and 2020 HFCE



Timeliness and punctuality

18. Data availability is a further issue, although the problem is not necessarily any more acute than for last year’s weight update.

19. At the timing of the weights updating process we should have the second estimate of quarters 1, 2 and 3 HFCE data for 2021 available to us. This means that quarter 4 would need to be imputed in the same way as last year. It also means that the data that are available are at an earlier vintage than we would normally use and are liable to be improved as further data are incorporated. We controlled for this additional uncertainty in 2021 by adopting a threshold approach to only adjust categories of spending where it was clear that the 2020 data were likely to be a better indicator than the 2019 data. A further consideration here is how to adapt the threshold approach for use with either a less timely base set of data (2019) or a less reliable one (2020).
20. If we were to use 2019 or 2020 data verbatim there would be no particular timing issues to consider, other than that we would potentially have access to a more final version of the 2019 dataset than we would usually have.
21. There are also delays processing the LCF dataset for 2020. Among other uses, the LCF dataset is normally used to make a number of adjustments for scope and coverage differences to the HFCE dataset, most notably to provide an estimate for package holiday spending. By December 2020 we expect around three quarters of the cases in the LCF dataset (quarters 2 to 4) to have been processed and available. The LCF team are processing cases in such a way that we do not expect any systematic differences between processed and unprocessed cases, reducing the potential for bias. At this point, quarters 1 and 2 of 2021 will also be available with a similar proportion of processed cases, and a provisional version of quarter 3 may be available.

Relevance

22. With the roll out of the UK's vaccination programme, and the gradual easing of restrictions since April 2021, there are now opportunities for consumers to resume relatively normal levels of spending. However, this is unlikely to mean that consumer spending has more or less returned to its pre-pandemic distribution. For example, different households will be more or less willing to accept different levels of risk, depending on their particular circumstances and attitudes. Moreover, parts of the CPIH basket are dependent on the restrictions imposed by other countries, such as air fares, sea fares or foreign holidays. It is impossible to predict the relative level of restrictions for individual countries in 2022.
23. At this stage we do not have any data that will inform us of what the current UK spending distribution looks like. There is also greater uncertainty around the year ahead than there would normally be. Although to date the vaccination programme has been relatively successful, there are further considerations around the impact of schools returning from holiday and the impact of new variants that could potentially unsettle the expenditure distribution again.
24. We could make a guess that 2019 pre-pandemic data might be more reflective of consumer spending in 2022, or that the 2020 mid-pandemic data that would normally be used may be more reflective of consumer spending in the year ahead. However, there are no data to support either judgement and, in any case, either choice is likely to be different from actual 2022 spending – probably by more than we'd normally see from using expenditure data lagged by two years.

25. A further mitigating factor is that, over the course of the pandemic, we have been able to use strategies to quantify the impact of using less relevant weights. This includes our analysis on the [Effect of reweighting the consumer prices basket during the coronavirus pandemic](#), and a [counter-factual estimate of CPIH and CPI](#) based on the 2019 weights that would have been used in 2021 had the pandemic not happened. For January 2021, using 2019 data for expenditure weights would have decreased the measured rate of CPIH inflation by 0.1 percentage points.

Options for consideration

26. The options for consideration therefore are to :-
- i. Use 2019 pre-pandemic expenditure as the basis for the 2022 weights
 - ii. Use 2020 mid-pandemic expenditure as the basis for the 2022 weights, in line with the usual weights procedure
 - iii. Aim to estimate expenditure that is reflective of base-year (2021) spending in the same way as was done last year, using either -
 - a. 2019 data as a base
 - b. 2020 data as a base
27. Based on the discussion above, **our current preferred option is 3a**, in line with the process we followed last year and in anticipation of the international guidance.

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September 2021