

ADVISORY PANELS ON CONSUMER PRICES – TECHNICAL

Minutes**17 May 2019****Board room, UK Statistics Authority, Drummond Gate, Pimlico, London SW1V 2QQ****10:30 – 13:00****Members in attendance**

Prof. Bert Balk
 Mr Rob Bucknall
 Dr Antonio Chessa
 Mr Grant Fitzner (Chair – ONS)
 Mr Mike Hardie (ONS)
 Mr Peter Levell
 Dr Jens Mehrhoff
 Mr Paul Smith
 Mr Rupert de Vincent-Humphreys

Presenters

Mr Alex Rose
 Dr Edward Rowland

Guests

Ms Jill Leyland (for items 1 and 2 only)

Observers

Mr Antonio Felton

Secretariat

Ms Joanna Corless (ONS)
 Mr Chris Payne (ONS)

Apologies

Mr John Astin
 Prof. Ian Crawford
 Dr Martin Weale

1. Introduction and apologies

- 1.1. Mr Grant Fitzner welcomed attendees to the Advisory Panel on Consumer Prices-Technical (APCP-T) meeting and passed on apologies from those who were unable to attend.
- 1.2. Mr Fitzner explained that ONS plan to publish minutes from APCP-T meetings in December and January as well as the Annual Review following their response to the House of Lords Economic Affairs committee inquiry into the use of RPI.
- 1.3. My Payne informed panel members that ONS' planned paper summarising the strengths and weaknesses of unweighted index methods was currently in progress and would be circulated shortly.
- 1.4. The circulation of non-disclosure agreements is on hold for the time-being.
- 1.5. Other actions were complete.

2. The conceptual foundations of Household Cost Indices (ESCOE workshop)

Paper APCP-T(19)07 - *This paper will be published alongside the minutes*

- 2.1. Mr Payne introduced the paper on the minutes for the ESCOE workshop on the conceptual foundations of Household Cost Indices (HCIs). Discussion was around the use of the indices

as well as the appropriateness of including capital costs, taxes and pensions. He clarified that these minutes haven't been circulated to attendees yet, so they are ONS' version of events. The slides from the presentations given at the workshop will be circulated. Those who attended the workshop felt it had been a very constructive discussion. Panel members were invited along with other workshop attendees to submit comments to feed into this work by 25th May.

Action 1: Mr Payne to circulate slides from ESCOE workshop presentations. See: https://www.escoe.ac.uk/conceptual_foundations_of_the_household_costs_indices/

- 2.2. ONS are currently looking at alternative approaches to measuring mortgage interest payments, after feedback from the ESCOE workshop on the current methodology. There was some discussion of New Zealand's approach to measuring owner occupied housing in its household living-costs price index. They simply take the change in house prices multiplied by the change in mortgage interest rates. A panel member noted that a disadvantage of using very simple methods was that sometimes they could produce counter-intuitive results.
- 2.3. One member asked for clarification on whether HCIs are a price index or a cost index and emphasised the need for economists to be included in the discussions around developing HCIs so that they are grounded in economic theory. Others expressed that there needs to be a balance between input from economists and users. Ms Leyland also pointed out that there was no conceptual framework for HICP when it was established. Prof Balk said ONS should set out which decisions are driven by economic theory and where they have deviated from this for user-driven decisions.
- 2.4. There was some discussion around user needs for the HCIs. One panel member said that a key user need will be to measure how well-off households are; how much disposable income they have and what they are spending it on. Another panel member said their understanding was that people want an index of real disposable income – how much purchasing power rises after subtracting bills – and thought this could be achieved by a democratically-weighted index that doesn't include house prices and a measure of income where contractual payments are subtracted.
- 2.5. There was some discussion around the Eurostat-published Frequent out-of-pocket purchases (FROOPP) which measures inflation of goods purchased at least every month and paid for directly and actively. This special aggregate tends to be higher than headline inflation rates, which could explain the gap between the perceived inflation rate and actual inflation rate. Public perceptions and expectations of inflation have also been recently published by European institutions.

Action 2: Dr Mehrhoff to circulate links to information about the FROOPP index and public perceptions of inflation.

- 2.6. Panel members noted that there was a lack of consensus on many issues. The National Statistician will be making a decision on how to proceed before retiring in June, and it was suggested that ONS provide a set of options on approaches to take.

Action 3: Circulate advice to John Pullinger regarding HCIs to Panel members in advance. See: <https://www.statisticsauthority.gov.uk/wp-content/uploads/2019/08/HCI-APCP-S-Letter-to-John-Pullinger.pdf>

3. This section of the minutes, and the accompanying paper APCP-T(19)08, have been redacted due to the market sensitive nature of the discussions.

4. Shortlisting appropriate index methods for use on web scraped and scanner data

APCP-T(19)09 - *This paper will be published alongside the minutes*

- 4.1. Mr Rose presented the paper, which was about the appropriateness of methods that can be applied to web scraped or scanner datasets for use in price index compilation.
- 4.2. Some panel members didn't see the rationale behind the index methods shortlisted. Prof. Balk thought there was no single best method that was suitable for all purposes.
- 4.3. There was discussion around trade-offs between transitivity and other factors; transitivity is only given by a limited number of formulae, and it requires being able to make revisions, which is not possible with consumer prices. Dr Mehrhoff suggested a deeper analysis into extension methods, which can manage this trade-off.
- 4.4. Dr Chessa noted that if a simple Jevons approach is taken then it is necessary to apply various filters to the data to remove clearance prices etc., which is not desirable and that the Walsh index performs better with clearance prices.
- 4.5. Dr Mehrhoff thought the criteria chosen were good but suggested weighting the criteria according to their importance, possibly through discussion with stakeholders.
- 4.6. Dr Mehrhoff suggested using the Dominick's data rather than synthetic data so that results are reproducible.

5. Guidelines for selecting metrics to evaluate classification in price statistics production pipelines

APCP-T(19)10 - *This paper will be published alongside the minutes*

- 5.1. Dr Rowland introduced the paper, which set out initial guidelines for how to measure classifier performance in price statistics production pipelines to minimise error in the price index. Panel members welcomed the paper as a useful contribution to work on this subject. ONS will circulate slides that could not be presented due to technical issues.
- 5.2. Dr Mehrhoff had written a similar paper on machine learning approaches to classification, which will be presented at the RSS conference in the coming September. He offered to circulate this.

Action 4: Dr Mehrhoff to circulate work to be presented at the September RSS conference on classification of scanner data.

5.3. There is a Eurostat externally contracted project to develop guidelines on classification methods. It has considered four aspects; a challenge is that the impact of these things cannot be measured directly:

- How much training data are required?
- How do they work with more or less text?
- Different classification methods
- How do they work with smaller or larger datasets?

5.4. Statistics Netherlands have a Eurostat grant to look at classification techniques. An action was taken for Dr Chessa to enquire about getting permission to share work on this

Action 5: Dr Chessa to enquire about getting permission to share Statistics Netherlands' work on classification techniques

5.5. Questions and suggestions for future consideration included:

- How do we make direct comparisons between the accuracy of a classifier and index quality
- A cost function would be useful for training the classifier
- How do we select a beta value to make the best trade-off between false negatives and false positives? We could use synthetic data and perform cross validation.
- When evaluating a classification error, what thresholds make the index reliable?
- What is the association between error in classification and risk metrics?
- Is the classifier built once or does it need to be updated regularly?

Action 6: Miss Corless to circulate slides relating to paper APCP-T(19)10.

6. AOB

6.1. Mr Fitzner invited comments from panel members on the draft work programme which was circulated, APCP-T(19)06.

Action 7: Panel members to provide comments on ONS draft work programme, APCP-T(19)06.

6.2. The next meeting is scheduled for 6th September 2019

No.	Action	Person Responsible
1	Mr Payne to circulate slides from ESCOE workshop presentations	Mr Payne
2	Dr Mehrhoff to circulate links to information about the FROOPP index and public perceptions of inflation.	Dr Mehrhoff
3	Circulate advice to John Pullinger regarding HCIs to Panel members in advance.	Ms Corless

4	Dr Mehrhoff to circulate work to be presented at the September RSS conference on classification of scanner data.	Dr Mehrhoff
5	Dr Chessa to enquire about getting permission to share Statistics Netherlands' work on classification techniques	Dr Chessa
6	Miss Corless to circulate slides relating to paper APCP-T(19)10.	Ms Corless
7	Panel members to provide comments on ONS draft work programme, APCP-T(19)06.	All panel members