Monitoring and addressing non-response surveys bias during the pandemic

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Outline

• Timeline of events
• Knock-to-nudge
• Response biases, impact of Knock-to-nudge
• Response rates, impact of Knock-to-nudge
• Distribution of types of contacts – SLC example
• Information collected to inform field strategy – SLC findings
• Case Study: Labour Force Survey
Timeline of events

17/03/20  F2F data collection suspended

30/03/20  Telephone interviewing rolled out to F2F interviewers and telematching introduced

20/04/20  Online portal set up for respondents to enter their telephone details

From 06/20  W1 sample size increased for several social surveys

From 10/20  Gradual roll-out of ‘Knock-to-Nudge’ alongside W1 sample reduction for several social surveys
What is ‘Knock to Nudge (KtN)’?

- **Nudging** essentially involves a field interviewer knocking at a respondent's door to remind them to provide their phone number, via the online portal or the ONS survey enquiry line, or directly to the interviewer.

- There is also the opportunity to schedule a telephony appointment at the doorstep.

- Maximum of **three calls to each household** (morning, afternoon, evening). It is recommended that two of these nudges are done on the same day.

- A **KTN call today card** is posted through the door for non-contacts on first visit.
## Respondent characteristics response bias

<table>
<thead>
<tr>
<th>Responder Characteristics</th>
<th>SLC</th>
<th>LCF</th>
<th>LFS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bias to 46+</td>
<td>Reduced bias</td>
<td>Bias to 46+</td>
<td>Reduced bias</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No bias</td>
<td>Captured more BAME+</td>
<td>No bias</td>
<td>Captured more BAME+</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bias to married/civil partnership</td>
<td>Reduced bias</td>
<td>Slight bias to married/civil partnership</td>
<td>Captured more single people</td>
</tr>
<tr>
<td>Employment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slight biased to economically inactive</td>
<td>Reduced bias</td>
<td>No bias</td>
<td>No bias</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
# Household characteristics response bias

<table>
<thead>
<tr>
<th>Respondent Characteristics</th>
<th>SLC</th>
<th>LCF</th>
<th>LFS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tenure</strong></td>
<td>Bias to owners</td>
<td>Reduced bias</td>
<td>Bias to owners</td>
</tr>
<tr>
<td><strong>Household size</strong></td>
<td>Bias to 2 persons hh</td>
<td>Reduced bias</td>
<td>Negligible bias</td>
</tr>
<tr>
<td><strong>Rural/Urban</strong></td>
<td>No bias</td>
<td>No bias</td>
<td>No bias</td>
</tr>
<tr>
<td><strong>OAC</strong></td>
<td>Bias (less hard pressed living)</td>
<td>Reduced bias</td>
<td>Slight bias</td>
</tr>
<tr>
<td><strong>IMD</strong></td>
<td>Bias to least deprived</td>
<td>Reduced bias (noticeable)</td>
<td>Bias to least deprived</td>
</tr>
</tbody>
</table>
## Response Rates

<table>
<thead>
<tr>
<th>Survey</th>
<th>LCF</th>
<th>SLC (Wave 1)</th>
<th>LFS (Wave 1)</th>
<th>FRS*</th>
<th>NSW</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dataset</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>Highest</td>
<td>Lowest</td>
<td>Average</td>
<td>Highest</td>
</tr>
<tr>
<td>Pre-Pandemic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2019/20 – exc. Mar'20)</td>
<td>43%</td>
<td>44%</td>
<td>40%</td>
<td>43%</td>
<td>46%</td>
</tr>
<tr>
<td>Telephone mode</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Apr'20-May'21)</td>
<td>30%</td>
<td>36%</td>
<td>22%</td>
<td>27%</td>
<td>30%</td>
</tr>
<tr>
<td>KtN Period</td>
<td>31%</td>
<td>35%</td>
<td>29%</td>
<td>33%</td>
<td>40%</td>
</tr>
</tbody>
</table>

* Average taken from monthly rates
### Types of contact for SLC W1: Jan- June 2021

<table>
<thead>
<tr>
<th>Option</th>
<th>January N</th>
<th>% of total sample</th>
<th>Feb N</th>
<th>% of total sample</th>
<th>Mar N</th>
<th>% of total sample</th>
<th>April N</th>
<th>% of total sample</th>
<th>May N</th>
<th>% of total sample</th>
<th>June N</th>
<th>% of total sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>KtN</td>
<td>437</td>
<td>48%</td>
<td>543</td>
<td>56%</td>
<td>628</td>
<td>58%</td>
<td>631</td>
<td>58%</td>
<td>851</td>
<td>71%</td>
<td>740</td>
<td>67%</td>
</tr>
<tr>
<td>Portal cases (part of non-KtN)</td>
<td>144</td>
<td>16%</td>
<td>185</td>
<td>19%</td>
<td>218</td>
<td>20%</td>
<td>210</td>
<td>19%</td>
<td>160</td>
<td>13%</td>
<td>132</td>
<td>12%</td>
</tr>
<tr>
<td>Other non-KtN</td>
<td>177</td>
<td>19%</td>
<td>111</td>
<td>11%</td>
<td>126</td>
<td>12%</td>
<td>131</td>
<td>12%</td>
<td>104</td>
<td>9%</td>
<td>123</td>
<td>11%</td>
</tr>
<tr>
<td>Telematched*</td>
<td>152</td>
<td>17%</td>
<td>135</td>
<td>14%</td>
<td>112</td>
<td>10%</td>
<td>121</td>
<td>11%</td>
<td>81</td>
<td>7%</td>
<td>104</td>
<td>9%</td>
</tr>
<tr>
<td>Response Rates</td>
<td>394</td>
<td>30%</td>
<td>395</td>
<td>29%</td>
<td>450</td>
<td>33%</td>
<td>403</td>
<td>29%</td>
<td>418</td>
<td>30%</td>
<td>453</td>
<td>33%</td>
</tr>
</tbody>
</table>

* Some telematched cases include cases which were later classified as KtN –therefore the figures for Telematched are an overestimate.

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Information collected to inform field strategy

• KtN information collected in Blaise from December 2020

• 4 additional variables collected from March 2021:
  - **Day of visit:** Monday – Saturday
  - **Outcome of visit:** doorstep interaction, KtN called today card, appointment card
  - **Time of day of visit:** morning, afternoon or evening
  - **Number of visits:** 1, 2 or 3
Some of the SLC W1 March-June 2021 findings

- Most households are visited once only.
- **Doorstep interactions** are crucial in achieving interviews.
- The likelihood of doorstep interaction and interview as an outcome reduced significantly with the number of visits. **Non-contact was high for households visited 2 or 3 times**.
- KtN Called Cards have a **marginal impact on getting interviews**.
- Most visits are made between Mondays and Thursdays. Preliminary results that **visits made earlier in the week (Mondays-Thursdays) are more effective at obtaining doorstep interaction**, whether they are first or second visits.
- A large majority of visits were made in the morning and in the afternoon, yet preliminary results suggest that there a **slightly higher likelihood of doorstep interaction in the evening** for both first and second visits.
Case Study: UK Labour Force Survey
Timeline of events

17/03 F2F data collection suspended
30/03 Telephone interviewing rolled out to F2F interviewers
01/07 W1 sample size doubled
23/03 UK lockdown begins
20/04 Online portal for telephone details
01/04 Roll-out of ‘Knock-to-Nudge’ alongside W1 sample reduction
LFS response rates 2019-2021
LFS achieved sample size 2019-2021
## Average RR per type of contact

<table>
<thead>
<tr>
<th></th>
<th>Proportion of contacts</th>
<th>Average RR</th>
</tr>
</thead>
<tbody>
<tr>
<td>KTN</td>
<td>55%</td>
<td>37%</td>
</tr>
<tr>
<td>Portal cases</td>
<td>13%</td>
<td>80%</td>
</tr>
<tr>
<td>Tele-matched</td>
<td>7%</td>
<td>38%</td>
</tr>
<tr>
<td>Other non-KTN</td>
<td>6%</td>
<td>62%</td>
</tr>
</tbody>
</table>
Proportional Distribution - Tenure

- Own
- Mortgage
- Rent

Data set 1: Historical comparison
Data set 2: Telephone mode only
Data set 3: Period of KTN
Data set 4: Filtering for KTN

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Proportional Distribution - Ethnicity

Clustered Distribution

- Data set 1: Historical comparison 19/20
- Data set 2: Telephone mode only 20/21
- Data set 3: Period of KTN Apr-21
- Data set 4: Filtering for KTN Apr-21

BAME Distribution

- Data set 1: Historical comparison 19/20
- Data set 2: Telephone mode only 20/21
- Data set 3: Period of KTN Apr-21
- Data set 4: Filtering for KTN Apr-21
Tenure weight adjustment

• Changes in distribution across several characteristics observed
• Tenure was of particular concern as usually no drastic changes observed over time
• Mode change and strategies to obtain phone numbers prior to introduction of KtN had an impact on non-response bias
• Introduction of tenure as additional calibration constraint in weighting methodology to address non-response bias
• Further details on methodology and impact on estimates are published on ONS website.
Population growth adjustment (1)

- Population estimates used to gross up our weights predate the pandemic and don't show us demographic/structural changes
- Profile of responders has changed due to mode change
- HMRC Real Time Information (RTI/tax data) showed smaller falls in unemployment by non-UK nationals that LFS suggested
- RTI data limited – does not include self-employed, and those not in employment
- RTI data used to obtain estimates for EU and non-EU sub-population
Population growth adjustment (2)

• Method is based on two main assumptions:
  • change in population growth rate of the non-UK sub-populations is in the same direction as the change in their RTI employee growth rate
  • the magnitude of change in population growth rate does not exceed that of change in RTI employee growth rate
• Method involves adjusting the known population growth rate of a base period before the pandemic with the change in RTI employee growth rates adjusted by a specified factor

• Link to methodology
• Link to impact on estimates
Any questions?

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