Impact of the COVID-19 Pandemic on Consumer Expenditure Surveys

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Overview

• Timeline of events—protocol changes
• Guidance to Field Staff
• Non-respondent reclassification
• COVID-19 impact on CE interview data quality
Consumer Expenditure Surveys

**Interview**
- Large purchases and recurring payments
- 3 months recall
- Rotating panel
- 4 waves
- In-person and telephone surveys

**Diary**
- Small or frequently purchased items
- Two consecutive 1-week periods
- In-person placement and pick up
- Paper diary
Protocol Changes
Timeline

March 2020
- Online version of Infobook
- Telephone interviewing only
- Census Nation Processing Center (NPC) closed

April & May 2020
- Advance Letters

June 2020
- Online Diary
- Stimulus payment questions added

July 2020
- Some personal visits are allowed for certain geographic areas (optional)
- Disposable information booklets were provided
Guidance to Field Staff - Interview

- Telephone interviewing
  - For Wave 2 to Wave 3 interviews, Field interviewers (FRs) likely have a working phone number
  - FRs use Census resources to obtain phone numbers for those cases not yet contacted/without an available phone number

- COVID flag was added for non-respondents

- Use of online version of the Information Booklet

- July 1st – Personal visits are optional
Guidance to Field Staff - Diary

- Conduct telephone interview to collect demographic and income section
- Send a web link to Diary forms or ship Diary form
- COVID flag was added for non-respondent
- June 1st – Provide option of online diary
- July 1st – Personal visits are optional
Non-respondent Reclassification
Non-respondent Reclassification

- Beginning mid-March, the COVID-19 pandemic forced the U.S. Census Bureau to mandate that interviewers make contact attempts and conduct interviews only by phone.
- Many addresses were “unreachable” by phone, making their eligibility status unknown.
- AAPOR’s Standard Definitions Report recommends being conservative with response rates.
- Increase in eligible nonresponse results in lower response rates but more accurate.
- FRs were initially instructed to code the cases of unknown eligibility as ineligible.
Non-respondent Reclassification

- CE changed some ineligible non-response to eligible nonresponse based on following rules

- Interview
  - If the interviewer attached a COVID-19 note to the case, and the CU was eligible in a previous interview
  - When the interviewer attached a COVID-19 note to the case, but we did not have information on the CU’s prior eligibility, randomly reclassified them based on prior eligibility rates for the region

- Diary
  - For Diary, we used Interview Survey eligibility rates and either both weeks were reclassified or none were
# Interview Reclassification Summary

<table>
<thead>
<tr>
<th></th>
<th>Response Rate Before Reclassification</th>
<th>Response Rate After Reclassification</th>
</tr>
</thead>
<tbody>
<tr>
<td>April</td>
<td>63 %</td>
<td>46%</td>
</tr>
<tr>
<td>May</td>
<td>63 %</td>
<td>47%</td>
</tr>
<tr>
<td>June</td>
<td>66 %</td>
<td>45%</td>
</tr>
</tbody>
</table>
## Diary Reclassification Summary

<table>
<thead>
<tr>
<th></th>
<th>Response Rate Before Reclassification</th>
<th>Response Rate After Reclassification</th>
</tr>
</thead>
<tbody>
<tr>
<td>March</td>
<td>49 %</td>
<td>39 %</td>
</tr>
<tr>
<td>April</td>
<td>52 %</td>
<td>29 %</td>
</tr>
<tr>
<td>May</td>
<td>52 %</td>
<td>29 %</td>
</tr>
</tbody>
</table>
COVID Impact on Interview Data Quality
Interview Data Quality

- **CE interview Survey**
  - From July 2019 to June 2020
  - Sample size of 13,246
  - Restricted to those who completed the interview, have change of mode information, and removed first interviewers
  - **Pre COVID-19**: Before the start of the COVID-19 pandemic (July 2019 – March 2020)
  - **During COVID-19**: After the start of the COVID-19 pandemic (April 2020-June 2020)
Background

- Since beginning of the March 2020
  - Covid-19
  - Switched to all telephone interview

- Mode effect (Biagas, 2020; Young, 2020)
  - Telephone respondent tend to have higher salaries, levels of education, and more likely to be homeowner and white
  - Personal visit respondents are more likely to use records during interview and reported lower expenditures
Quality Metrics

- Total Interview Time
- Number of Entries
- Proportion of Rounded Entries
- Total Expenditures
## Mode Changes in the data

<table>
<thead>
<tr>
<th>Time</th>
<th>Prior Mode</th>
<th>Current Mode</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre COVID-19</td>
<td>In-person</td>
<td>In-person</td>
<td>4,982</td>
</tr>
<tr>
<td></td>
<td>Telephone</td>
<td>Telephone</td>
<td>3,050</td>
</tr>
<tr>
<td></td>
<td>In-person</td>
<td>Telephone</td>
<td>1,610</td>
</tr>
<tr>
<td></td>
<td>Telephone</td>
<td>In-person</td>
<td>461</td>
</tr>
<tr>
<td>During COVID-19</td>
<td>Telephone</td>
<td>Telephone</td>
<td>1,412</td>
</tr>
<tr>
<td></td>
<td>In-person</td>
<td>Telephone</td>
<td>1,677</td>
</tr>
</tbody>
</table>
Hypothesis #1

- Naïve approach
  - telephone to telephone would show the effect of COVID-19 pandemic on changes in data quality

Pre COVID-19

Telephone to Telephone

During COVID-19

Telephone to Telephone

(Remain all telephone interview)
Hypothesis #2

Pre COVID-19

- In-person to In-person
- In-person to Telephone

During COVID-19

- In-person to Telephone

(Shift to all telephone interview)
Demographic Characteristics

- In-person to Telephone in Post COVID
  - Home owner
  - White
  - Older
Data Quality – Interview Time

The chart illustrates the trends in interview time for different methods of data collection from July 2019 to June 2020. It shows:

- **In-person to In-person**
- **Telephone to In-person**
- **In-person to Telephone**

The data indicates fluctuations in interview times across the specified months, with each method maintaining a distinct pattern. The chart provides a visual comparison of these methods over the given period.
Data Quality – Interview Time

Graph showing data quality over time with categories for Telephone to In-person, In-person to Telephone, and In-person to In-person.
Data Quality – # Entries
Data Quality – % Rounded Entries

![Graph showing Data Quality – % Rounded Entries from July 2019 to June 2020. The graph compares In-person to Telephone, In-person to In-person, and Telephone to In-person data quality.]
Data Quality – Total Expenditures

[Graph showing data quality and total expenditures with timelines for 'In-person to In-person', 'In-person to Telephone', and 'Telephone to In-person']
Result Summary

■ Trend
► Interview Time: No change
► Number of Entries: No change
► Proportion of Rounded Entries: No change
► Total Expenditures: Decrease
Conclusion

■ Impact of COVID-19 pandemic
  ▶ Shift to telephone interview
  ▶ Online Diary implemented
  ▶ Reclassification had major impact on response rate
  ▶ No significant impact on data quality

■ Lesson learned
  ▶ Flexibility & Communication was very important in responding to the COVID-19 pandemic
Contact Information

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