Survey Errors in Reports of Move Month

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Motivation for study

- Surveys ask respondents to recall events
- U.S. censuses ask respondents to recall where they lived on Census Day, April 1
- Some census evaluation interviews may occur 11 months after April 1
- Assumption: respondents who move around April 1 are able to give correct answers
- Recall errors may cause respondents to be enumerated at the wrong location
Literature on Event Recall

• Much research on respondent recall and several models of survey response process
  Cannell et al. (1981), Sudman et al. (1996)

• Telescoping may be backward or forward
  Rubin & Baddeley (1989), Huttenlocher et al. (1990); Janssen et al. (2006)

• Wording of questions may aid recall
  Prohaska et al. (1998), Tourangeau et al. (2000)

• Use of move date as anchor may aid recall
  Wagenaar (1986), Belli et al. (2008)

• Limited research on error in recalling move dates
  Auriat (1993)
Source of sample of movers

- U.S. Postal Service National Change of Address database
  - Name of person making request
  - Current address where mail delivered
  - Destination address where mail will be forwarded
  - Date to start forwarding mail
  - Indicator of whether a Family move or an Individual move
Recall Bias Survey (RBS) asked move months

- US Census Bureau conducted RBS as research project during 2010 Census (Census Day: April 1)
  - Questionnaire very similar to one used in evaluations
    Linse, Pape, Rosenberger, Contreras (2012)
- Sample of addresses selected from NCOA file
  - Requests submitted in March & April 2010
  - Linked to commercial database to get telephone number
Recall Bias Survey (RBS) implementation

- Questions about moves:
  - Did HH member move in 2010?
  - If yes, asked for addresses and dates of all moves

- 3 waves of telephone interviews: 4,500 each
  - June: 2 to 3 months after Census Day, RR 69%
  - Sept: 5 to 6 months after Census Day, RR 66%
  - Feb: 10 to 11 months after Census Day, RR 63%
Research strategy

• Assume NCOA record is “truth”
• Compare each RBS response to NCOA record to be sure household has same person and mentions same address
• Investigate error in reports of moves and move month
  – Logistic regression models
  – Multinomial analysis
Limitations

- NCOA undercoverage: Many movers do not file a request
- NCOA overcoverage: Some requests do not represent a move
- Movers may forward mail to one address but move to another
- Only 20% of addresses link to a telephone number
Data for analysis

- 8,937 respondents combining 3 waves
- 3,424 were **same person** as NCOA record
  - Address matched NCOA forwarding address
  - HH member matched NCOA name
- Of those, 1,740 were **same event** as NCOA
  - Reported move to NCOA forwarding address
  - Reported date of that move
Logistic regression models

- Variables studied
  - RBS reported a move
  - RBS reported move month agreed with NCOA
  - RBS reported move month indicated a Census Day address that agreed with NCOA

- Models found association with
  - Length of time since move
  - Move-HH type
    - 1-person HH, Family move, Individual move
Error rate in reports of a move
(% of NCOA moves not reported)

by time since move

<table>
<thead>
<tr>
<th>Time Since Move</th>
<th>Error Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 - 3 months</td>
<td>38%</td>
</tr>
<tr>
<td>5 - 6 months</td>
<td>40%</td>
</tr>
<tr>
<td>10 - 11 months</td>
<td>52%</td>
</tr>
</tbody>
</table>

by HH-move type

<table>
<thead>
<tr>
<th>Move Type</th>
<th>Error Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Person HH move</td>
<td>40%</td>
</tr>
<tr>
<td>Family move</td>
<td>33%</td>
</tr>
<tr>
<td>Individual move</td>
<td>53%</td>
</tr>
</tbody>
</table>
Error rate in reports of move month
(% with reported move month disagreeing with NCOA)

by time since move

<table>
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<tr>
<th>Time Since Move</th>
<th>Error Rate</th>
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</thead>
<tbody>
<tr>
<td>2 - 3 months</td>
<td>23%</td>
</tr>
<tr>
<td>5 - 6 months</td>
<td>27%</td>
</tr>
<tr>
<td>10 - 11 months</td>
<td>35%</td>
</tr>
</tbody>
</table>

by HH-move type

<table>
<thead>
<tr>
<th>Move Type</th>
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<tbody>
<tr>
<td>1-Person HH move</td>
<td>17%</td>
</tr>
<tr>
<td>Family move</td>
<td>24%</td>
</tr>
<tr>
<td>Individual move</td>
<td>33%</td>
</tr>
</tbody>
</table>
Error rate in reported Census Day residence (% with reported CD residence disagreeing with NCOA) by time since move

- 2 - 3 months: 15%
- 5 - 6 months: 15%
- 10 - 11 months: 22%

Error rate in reported Census Day residence (% with reported CD residence disagreeing with NCOA) by HH-move type

- 1-person HH move: 11%
- Family move: 14%
- Individual move: 21%
Effect of variables

• Reports given 10 to 11 months after move had highest error rates for all variables
  – No difference for reports between 2 to 3 months and 5 to 6 months after move

• Reports about moves by an Individual in HH had highest error rates for all variables
  – Fewer reports of moves
  – More error in reports of move month
  – More error in reported Census Day residence
Multinomial analysis

- Direction of net effect of error in RBS reports move month
  - Zero
    - Errors offset, equally earlier and later than NCOA
  - Backward telescoping
    - More errors tend to be earlier than NCOA
  - Forward telescoping
    - More errors to be later than NCOA
- Data: self-responses
Direction of error in self-reports of move month
Direction of error

• Self-responses
  – Backward telescoping occurred 10 to 11 months after a move, but not at 2 to 3 months or 5 to 6 months afterwards
  – Differ from Janssen et al. (2006) about when backward telescoping starts
Future research

• More research needed to identify point when error in recall of move month becomes problematic

• Complete address and strong matching criteria necessary for definitive results
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