

## Appendix 1. Data limitations

RBS confronted some expected and some surprising challenges in creating a list of telephone numbers for interviewing and collecting the data. The original file from NCOA had 5.9 million records almost equally distributed between March and April (Diffendal and Moldoff 2010). Of these, about 4.3 million records had addresses that linked to addresses on the Census Bureau's Master Address File and were in the continental U.S. The restriction to the continental U.S. facilitated telephone interviewing by keeping the sample cases within four time zones. An initial sample of 67,000 was selected using a sampling design that considered characteristics of the NCOA records including the distribution of month of move, ZIP Code, and whether the move was for an individual or for a family. In May 2010, the NCOA sample records were matched to a commercial database to retrieve telephone numbers. Of those, 18,324 successfully linked to telephone numbers at the forwarding address. For budget reasons, a sample of 13,500 (4,500 in each interview month) was selected to send to the call center for interviewing.

The response rates were 68.8% for the June interview month, 66.4% for the September interview month, and 63.4% for the February interview month (Linse *et al.* 2012). However, the respondents did not always report an address that corresponded to the forwarding or originating address on the NCOA record. In addition, many did not report a household member with the name that was on the NCOA record. Some of the discrepancies may be due to matching errors that occurred when retrieving telephone numbers, such as linking the forwarding address to the telephone number of a former resident. A possible cause of some of the discrepancies is that people on the NCOA record moved again before the interview took place, and the link was to the older address since the retrieval of telephone numbers for all the interview months was done in May. In some cases, the person on the NCOA record appeared to have forwarded mail to an address other than where he/she was moving.

At the end of data collection, 3,424 RBS respondents reported an address and a household member with a name that matched the NCOA forwarding address and name. Of these, 1,968 respondents reported that the person whose name matched the NCOA name had stayed at a different address during 2010. Each of these people was assigned the status of Mover from one address to another or Cyclor between multiple addresses based on the entirety of the interview and all the data collected. Of the 1,968 respondents, 1,740 reported a move to the NCOA forwarding address and the date of the move.

The underlying causes of the loss of observations that lead to the two datasets in our analysis may be considered observational outcomes in and of themselves. For this reason, we consider the representativeness of the two datasets by comparing the distribution of age categories in the two datasets to the distribution of movers by age from an auxiliary source.

Although we were not able to find population controls for 2010 March and April movers, we found the distribution of movers by age from the Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS) conducted in March 2011 (U.S. Census Bureau 2011). Table A1.1 displays the distribution by age for the 3,424 RBS responses and 1,740 RBS movers used in our analyses and the 2011 CPS ASEC.

When viewing Table A1.1, one must keep in mind that the RBS interviewed households with members who filed NCOA requests in March and April while the CPS ASEC asked about moves in the past year. An analysis of data collected in the 1993 Survey of Income Program Participation found that distribution of month of move did not vary much by age (Hansen 1998). When compared to the CPS data, the age distributions for the RBS datasets seem to be low in ages 19 to 49 and high for 50 to 100 although the percentages for the ages 0 to 18 seem comparable the findings from the 2011 CPS ASEC. The concern is whether the distribution of moves by month continued to be comparable across age groups in 2010 as it was in 1993, particularly in light of the residual effects of the 2008 recession (Benetsky, Burd, and Rapino 2015).

The distributions for the RBS datasets in Table A1.1 reflect the RBS reported age of the person whose name was on the NCOA request, not the age of the RBS respondent. The percentage of self responses for the households where the NCOA person was age 30 or over ranged from 51% to 62%. However, the percentage of responses by other household members when the NCOA person was age 29 or under ranged from 60% to 65% so respondent type is correlated with age in our datasets. One of the variables in the analysis focuses on the type of respondent, and it is defined and discussed further in Section 3.

**Table A1.1.** Distribution of 2011 CPS ASES reported moves in the past year and the distribution of two RBS datasets of households with members who were 2010 March and April NCOA filers by age category (percentages)

Age category	2010 March & April NCOA filers		Movers in past year 2011 CPS ASEC
	3,424 RBS responses	1,740 RBS movers	
0 - 18**	27.8	24.7	27.0
19 - 29	10.0	9.8	32.5
30 - 49	19.5	21.6	27.6
50 - 69	25.0	22.8	10.6
70 - 100	17.7	21.2	2.3
Total	100.0	100.0	100.0

\*\* CPS age categories are 1 - 17, 18 - 29