International Journal of Public Opinion Research Vol. 7 No. 2 0954–2892/95 $3.00

RESEARCH NOTES

TRENDS IN NON-RESPONSE RATES

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We all believe strongly that response rates are declining and have been for some time.

Norman Bradburn (1992)
Presidential Address to American Association for Public Opinion Research

Response rates for all surveys—academic, government, business, media—have been falling since the 1950s.

John Brehm (1994)

Within survey research it is widely accepted that response rates have been and are continuing to decline both in the United States (Bradburn 1992, Brehm 1993, Brehm 1994, Fan 1994, Groves 1989, Groves and Lyberg 1988, Remington 1992, Schillmoeller 1988, Schorr 1992, Singer and Martin 1994, Steeh 1981) and elsewhere (Baim 1991, Davis *et al.* 1994, Groves 1989, Meier 1991, Yamada and Synodinos 1994). The drop in the initial mail return rate for the U.S. Census from 75 percent in 1980 to 63–65 percent in 1990 is seen as emblematic of this problem (Fay *et al.* 1991 and Kulka *et al.* 1991).

A corollary holds that increases in refusal rates have been the main cause of the falling response rates and that only decreases in the non-contact and other non-response rates have prevented an even greater decline in response rates.

Moreover, most researchers think that response rates will continue to deteriorate in the future. In a survey of American survey research organizations in 1993/94 by NORC, refusals and the related problem of call screening and answering machines were considered the most important problems over the next 10 years (both mentioned as a major challenge by 43 percent of firms). These response problems were cited much more frequently than the nine other concerns (high costs 24 percent, unethical studies 20 percent, biased studies 16.5 percent, lack of trained staff 10 percent, data privacy 7 percent, incorporating new technology 6 percent, lack of public interest in issues 6 percent, and consistency of new technology 4.5 percent—Smith 1994). Similarly,

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Revised version of paper presented to the 5th International Workshop on Household Survey Non-Response, Ottawa, September, 1994.

I would like to thank Woody Carter, Ann Cederlund, and James A. Davis for their comments. I would like to thank Michael Braun, Anders Christianson, Richard Curtin, Jan Kordos, Roger Jowell, Lars Lyberg, and Donna Kostanich for data on non-response.

in-depth interviews with 18 survey research industry leaders indicated that none thought response rates would increase, a few believed they would remain stable, and the majority predicted further decline (Rudolph and Greenberg 1994).

STUDIES OF NON-RESPONSE

But despite the overwhelming consensus that response rates have been falling and will continue that decline into the future, the empirical evidence from the U.S. is both more equivocal and less uniform. First, the number of studies that present definite time series comparisons over an appreciable span of time are in very short supply. The main research literature on non-response/response rates in the United States only covers eight time series and only six span a decade or more (Table 1).

Second, rather than broadly covering a range of survey types and organizations five of the eight time series are conducted by the Bureau of the Census and none come from commercial firms. In addition, only three of the time series (CAS, NES, Misc.) are based—at least in part—on the interviewing of a random respondent, the rest interview a household informant, a household head, or some other person (Table 1).

Third, the existing time series are far from consistent in showing increases in non-response rates. Only two (NES and CAS) show general increases across the time period, three show no clear change (CPS, NCS, Misc.), and three show alternating ups and downs (HIS, CED, CEIS).

Finally, several of the time series are confounded by changes in procedures for selecting respondents, call-back procedures, mode of interviewing, and other factors. This naturally complicates the assessment of true changes in non-response rates.

In sum, the existing evidence for trends in non-response is far less compelling than the unfettered assertions about free-falling response rates that are commonplace among survey researchers.

New and Updated Studies of Non-response

Nor does the case for continually climbing non-response rates in the United States gain clear support when previously examined time series are extended or when new series are considered. First, when response rates on the CAS are followed from 1982 to 1993, a further decline does occur, but the rate of decline is modest (Smith 1994). Second, the NES series from 1952 to 1992 shows an overall decline in response rates, but no trend in response rates since 1974 and no trend for refusal rates since 1978 (Table 2). Third, the CPS shows at most a minute decrease in response rates from 1980 to 1993 and no large or clear trend in refusal rates at all (Smith 1994). Finally, NORC's General Social Survey (GSS) from 1975 to 1993 shows an *increase* in the response rate and no trend in the refusal rate (Table 3).[1]

Of course it is possible that response rates have not fallen only because greater effort (i.e. more time and money) is being expended to combat the refusal tide and hold our

[1] The GSS is an in-person, full-probability sample of adults living in households (Davis and Smith 1992).

TABLE 1 **Reported trends in response rates, United States**

Survey series	*Organization*	*Period*	*Type*	*Trends*	
				Non-response	*Refusals*
Current Population Surveys	Bureau of the Census	1955–61, 68–85	HH	Up or Constant[a]	Up
National Crime Surveys	,,	1972–85	HH	Constant	Constant
Health Interview Surveys	,,	1960–85	HH	Down, Up	Up
Consumer Expenditure Diary	,,	1980–85	CU	Down, Up	Down, Up
Consumer Expenditure Interview Surveys	,,	1980–85	CU	Down, Up	Down, Up
Consumer Attitude Surveys	Survey Research Center, Institute for Social Research	1954–76	HHH[b]	Up	Up
National Election Studies	,,	1952–78	RR	Up	Up
Misc.	National Opinion Research Center	1960–74	RR[c]	Constant	Constant

Abbreviations: CU = Consumer unit, HH = Household informant, HHH = Head of Household, RR = Random respondent.
[a] One model indicates increase; another no change (DeMaio *et al.* 1986).
[b] Head of household was respondent until 1972, since then a random respondent was interviewed.
[c] Mostly random respondent surveys.
Sources: DeMaio *et al.* 1986, Groves 1989, Marquis 1977, Smith 1994, Steeh 1981.

TABLE 2 Trends in response rates on the American National Election Studies

	Response rate	*Refusal rate*
	percent	
1952	77.2	6.2
1956	85.0	7.7
1958	78.1	12.2
1960	NA	NA
1962	NA	9.0
1964	80.6	12.5
1966	77.1	13.8
1968	77.4	13.6
1970	76.6	14.1
1972	75.0	14.5
1974	70.0	16.5
1976	70.4	NA
1978	68.9	22.7
1980	71.8	20.8
1982	72.3	21.5
1984	72.1	20.7
1986	67.7	25.6
1988	70.5	22.2
1990	70.6	20.3
1992	74.0	20.8

Models	*Fit*	*Rate of change per annum*	*p*
Response rate, 1952–92	SLC	−0.33	<.001
Response rate, Pres. Years	SLC	−0.31	<.001
Response rate, Cong. Years	SLC	−0.31	<.001
Response rate, 1974–92	NCNL	+0.07	.215
Refusal rate, 1952–92	SLC	+0.45	<.001
Refusal rate, 1974–92	SLC	+0.17	<.001
Refusal rate, 1978–92	NCNL	−0.05	.546

NA = not available, SLC = Significant Linear Component, NCNL = Non-Constant, Non-Linear.
Source: Lucvano 1994.

own. This may be the case, but there does not appear to be one detailed, empirical study that carefully analyzes level of effort over time and relates that to response rates. Meier (1991) does show that between 1983 and 1989 the 'average number of calls made per issued address' rose from 2.4 to 3.4 on the British National Readership Survey and Botman and Thornberry (1994) reports that on the American HIS the average number

TABLE 3 Trends in GSS response and non-response rates

	Response rate	*Refusal rate*	*Unavailable rate*	*Other rate*	*(N)*
		percent			
1975	75.6	16.9	3.6	3.9	(972)
1976	75.1	20.8	NA	NA	(991)
1977	76.5	17.3	4.0	2.2	(1999)
1978	73.5	20.0	3.4	3.1	(2084)
1980	75.9	16.0	3.5	4.6	(1933)
1982	77.5	15.3	3.3	3.9	(1942)
1983	79.4	15.9	1.7	3.0	(2014)
1984	78.6	17.1	2.6	1.7	(1873)
1985	78.7	17.7	1.6	2.0	(1948)
1986	75.6	18.8	1.8	3.8	(1944)
1987	75.4	18.4	3.4	2.8	(1945)
1988	77.3	18.7	1.4	2.6	(1916)
1989	77.6	17.5	1.7	3.0	(1981)
1990	73.9	19.1	4.1	2.9	(1857)
1991	77.8	16.6	2.8	2.9	(1950)
1993	82.4	14.6	0.9	2.1	(1950)

Models	*Fit*	*Rate of change per annum*	*p*
Response rate, 1975–93	SLC	+0.21	<.001
Refusal rate, 1975–93	NCNL	−0.07	.18
Unavailable rate, 1975–93	SLC	−0.15	<.001
Other rate, 1975–93	NCNL	−0.04	1.000

NA=not available, SLC=Significant Linear Component, NCNL=Non-Constant, Non-Linear.
Source: GSS, NORC.

of call attempts per respondent increased from about 2.6 to about 3.2 from 1981 to 1991.

STUDIES OF NON-RESPONSE OUTSIDE THE UNITED STATES

Non-American studies also show a mixed picture (Table 4). Of 47 non-response time series, 20 show increases in overall non-response, 13 no change, 3 declines, and 11 variable trends (6 down, then up; 2 up, then down; 3 even more complex trends).[2] For the 29 time series with trends on refusals 11 indicate increases, 9 constant, 3 decreases,

[2] For most of the series presented in Table 4 there is insufficient information to calculate detailed, trend models as in Tables 2, 3, and 5. The summary description of the series is based on less rigorous evaluation of the changes and the characterization of the trends in the source documents.

TABLE 4 **Reported trends in response rates**

Country/Survey series	*Organization*	*Period*	*Type*	*Trends*	
				Non-response	*Refusals*
Belgium					
Family Expenditure Surveys	National Institute for Statistics	1973–88	—	Down, Up	—
Labor Force Surveys	,,	1983–90	—	Constant	—
Britain					
British Social Attitudes	Social and Community Planning Research	1983–93	RR -	Up	Up
National Readership Surveys	Research Service Limited	1960–90	RR	Up	Up[a]
General Household Surveys	Off. of Population Censuses and Surveys	1971–92	HH	Constant	Constant
Family Expenditure Surveys	,,	1984–91	—	Down, Up	Down, Up
Labor Force Surveys	,,	1984–91	—	Down	Down/Const.
Canada					
Canadian Labor Force Surveys	Statistics Canada	1973–77	HH	Constant	—
		1984–93	HH	Variable	—
PMB	,,	1983–89	—	Up	—
Finland					
Drinking Habits Survey	Finnish Foundation for Alcohol Studies	1968–92	RR	Down	—
Labor Force	Central Statistics Office	1977–82	—	Down, Up	—[b]
		1983–91	—	Up	Constant
Income Distribution Surveys	,,	1984–91	—	Up, Down	Up, Down
Household Budget Surveys	,,	1966–90	—	Variable	Up
France					
Radio/TV	CESP	1974–87	—	Up	—
Press	,,	1977–87	—	Constant	—

Surveys of Rent and Taxes	Institute Nationale de la Statistique et des Études Économique	1986–92	—	Constant	Constant
Germany					
German General Social Surveys	ZUMA	1980–92	RR	Constant[c]	Constant
Press	Arbeitsgemeinschaft Media-Analyse	1987–89	—	Constant	—
Broadcast	,,	1987–89	—	Constant	Constant
Ireland					
Labor Force Surveys	Central Statistical Office	1983–90	—	Down	—
JNMR	Unknown	1984–88	—	Constant	Constant
Japan					
Average	All	1975–90	Mixed	Up	—
Kokumin Swikatsu ni Kansura Yoron Choosa	Unknown	1975–90	RR	Down, Up	—
The Netherlands					
Labor Force	Central Bureau of Statistics	1973–79	—	Up	—
		1988–91	—	Constant	Constant
Consumer Sentiment	,,	1975–80	—	Up	—[d]
		1972–85	—	Variable	Down[e]
		1986–91	—	Up	Up, Down[f]
Living Conditions	,,	1974–91	—	Up	Up
Travel	,,	1978–83	—	Constant	Constant[g]
		1986–91	—	Constant	Down
Holiday	,,	1975–79	—	Up	—
Health	,,	1982–91	—	Up	Up[h]
Poland					
Household Budget Surveys	Central Statistical Office	1986–92	HH	Up, Down	Up, Down[i]
Living Conditions Surveys	,,	1973–90	HH	Up	Up
Spain					
Labor Force Surveys	National Institute for Statistics	1976–90	—	Down, Up	Up
Household Budget Surveys	,,	1973–90	—	Up	Up

[continued

TABLE 4 **Reported trends in response rates**—*continued*

Country/Survey series	*Organization*	*Period*	*Type*	*Trends*	
				Non-response	*Refusals*
Sweden					
TV Audience Surveys	Swedish Broadcasting Corporation	1969–85	RR	Down, Up	—
Living Conditions	Statistics Sweden	1980–93	—	Up	Up
Consumer Buying Expectations	,,	1980–92	—	Up	Constant
Labor Force Surveys	,,	1980–93	—	Up	Up[j]
Income Distribution Surveys	,,	1980–83	—	Up	Up[k]
		1984–93	—	Up	Down, Up
Political Opinions	,,	1980–93	—	Up	Up, Down
Switzerland					
MS	Unknown	1981–89	—	Constant	—
United States					
Current Population Surveys	Bureau of the Census	1955–61, 68–85	HH	Up or Constant[l]	Up
		1980–93	HH	Up or Constant	Constant
National Crime Surveys	,,	1972–85	HH	Constant	Constant
Health Interview Survey	,,	1960–85	HH	Down, Up	Down, Up
Consumer Expenditure Diary	,,	1980–85	CU	Down, Up	Down, Up
Consumer Expenditure Interview Survey	,,	1980–85	CU	Down, Up	Down, Up
Consumer Attitude Surveys	Survey Research Center, Institute for Social Research	1954–93	HHH[m]	Up, Const.	Up[n]

National Election Studies	,,	1952–92	RR	Up, Non-Constant Non-Linear	Up, Non-Constant Non-Linear
Misc.	National Opinion Research Center	1960–74	RR[o]	Constant	Constant
General Social Survey	,,	1972–93	RR	Down	Non-Constant Non-Linear

Abbreviations: CU = Consumer unit, HH = Household, HHH = Head of Household, RR = Random respondent, — indicates information is not available.
[a] Covers 1980–90 only.
[b] Mail 1977–82; telephone 1983–91.
[c] Based on analysis of same organization and procedures only, see Table 5.
[d] The 1975–80 and 1972–85 time series disagree on non-response rates.
[e] Refusal rates available only for 1982–5.
[f] Done with CAPI since 1986.
[g] CATI since 1986.
[h] CAPI in 1990/91.
[i] Changes in refusal rates were much smaller than variation in overall non-response rates.
[j] Switch away from use of proxy informants probably accounts for increase in non-response rate.
[k] Mail until 1983; telephone since 1984.
[l] One model indicates increase; another no change (DeMaio *et al.* 1986).
[m] Head of household was respondent until 1972, since then a random respondent was interviewed.
[n] Refusals rates only for 1954–76.
[o] Mostly random respondent surveys.
Sources: Baim 1991, Bergdahl *et al.* 1994, Christianson 1991, de Heer and Israels 1993, DeMaio *et al.* 1986, Foster and Bushnell 1994, Groves 1989, Hapuarachchi and Wronski 1994, Heiskanen 1994, Kordos 1994, Marquis 1977, Meier 1991, Smith 1994, Steeh 1981, Yamada and Synodinos 1994.

TABLE 5 **Trends in German ALLBUS response and non-response rates**

	Response rate	*Refusal rate*	*Unavailable rate*	*Other rate*	*(N)*
		percent			
1980	69.5	17.8	11.6	1.1	(4253)
1982	69.7	19.3	9.9	1.1	(4291)
1984	69.9	19.2	9.8	1.1	(4298)
1986	58.6	25.8	12.2	3.4	(5275)
1988	67.7	16.5	14.8	1.0	(4509)
1990	60.4	21.7	15.5	2.4	(5204)
1991	52.7	25.0	20.3	2.0	(2875)
1992	51.9	26.5	18.3	3.3	(4625)

Models	*Fit*	*Rate of change per annum*	*p*
Response rate, 1980–92	SLC	−1.40	<.001
Response rate, 1980–84, 88	C	—	—
Response rate, 1986, 90–92	SLC	−0.98	<.001
Response rate, 1986, 90	C	—	—
Response rate, 1991–92	C	—	—

C=Constant, SLC=Significant Linear Component.
Note: 1991 and 1992 include only the former West Germany.
Source: Michael Braun, ZUMA.

and 6 variable trends. This compilation shows more gains in non-response and refusals than declines, but in both instances most trends do not show secular growth in non-cooperation.[3]

Unfortunately the value of non-American times series is limited by their heavy reliance on governmental surveys (which restricts their generalizability) and by a lack of details on survey design and procedures. With limited documentation it is hard to evaluate the consistency of these time series. The importance of this factor is illustrated by ALLBUS data (Table 5). At first glance ALLBUS seems to show a major drop in response rates. Much of the apparent decline comes from the fact that Getas, the organization doing ZUMA's field work in 1980–84, 88 gets a consistently higher response rate than Infratest, which carried out the work in 1986, 1990–92. For Getas there is no trend for response rates. Moreover, Infratest changed its field procedures from 1986–90 to 1991–92 so that non-response was more readily accepted than previously. Controlling for field procedures, there is no change in Infratest response rates.

[3] Whenever possible we have restricted comparisons to time series conducted under methodologically similar conditions, but often there is insufficient information in the data sources on survey procedures and other technical matters. In a number of cases time series have been sub-divided into more consistent, sub-series (see notes in Table 4).

RESPONSE RATES THEN AND NOW

While the alleged rise in non-response in general and refusals in particular is less widespread, less consistent, and less compelling than typically claimed, it is clear that non-response has increased in more time series than it has declined. Because the pattern is less sweeping than previously portrayed, the standard explanation that the rise results from a growingly uncooperative and even increasingly anti-social populace and that these shifts are linked to fear of crime, political cynicism, and privacy concerns must also be examined. While these social ills factors may play a role, there are a range of methodological and structural reasons that are probably at least as important.

First, in the last 20 years in the U.S. and in a number of other countries, surveys have shifted from being primarily personal to being mostly telephone and telephone surveys have a lower response rate than personal surveys (Steeh 1981, Smith 1984, Groves *et al.* 1988). Often time series neglect to consider this and other switches in procedures.

Second, surveys are more burdensome than they used to be. Compared to the late 1940s Gallup surveys in the mid-1980s were 44 percent longer and non-Gallup surveys increased by 194 percent over this same period (Smith 1987). Similarly, in Britain's National Readership Survey the number of non-media questions grew by 260 percent from 1970 to 1988 (Meier 1991) and on the GSS in the USA average interview length increased 50 percent from the mid-1970s to the mid-1980s (Davis and Smith 1992). Greater respondent burden decreases response rates by both increasing break-offs and lowering the expectations of interviewers (Burchell and Marsh 1992, Botman and Thornberry 1994, de Heer and Israels 1993).

Third, there is more price competition than previously (in part due to the expansion of telephone surveys) (Rudolph and Greenberg 1994) and data quality in general and response rates in particular may have suffered as a consequence of cost cutting.

Fourth, there may be less concern about quality from clients than previously. One survey firm proclaims as its pseudo-motto, 'quality, speed, price: pick two.' Or maybe survey researchers themselves are selling speed and low-cost at the expense of quality.[4]

Fifth, the increased labor force participation of women in full-time employment may have reduced the pool of highly competent field interviewers thereby lowering the response rate.

Sixth, the combination of the increased employment of women outside the home and the reduction in average number of adults per household means that households are now occupied for a smaller percent of the time than before. Survey firms have compensated for these trends by usually only attempting interviews during weekday evenings and on weekends, but this both drastically narrows the window of opportunity and for personal surveys makes multiple interviews per visit to an area much more difficult to fit in the approachable time slots.

In brief, a combination of methodological and procedural changes, market factors,

[4] Crossen (1994, p. 123) asserts 'Modern technology has proven to be both an enormous boon and a terrible drag on the quality of polls. Now that pollers can do fast polls on anything and get them published almost regardless of their quality, they do.'

and structural changes in labor force participation and household structure may provide as ready a set of explanations as darker explanations centering around social decay and alienation. At the very least the former factors have to be considered before the latter can be accepted.

SUMMARY

First, rather than showing the simple, across-the-board rise in non-response and refusal rates that is widely heralded, available time series indicate a much more complex and varied pattern of change. In both the United States and elsewhere increases in both overall non-response and refusals do outnumber declines, but the majority of series do not show consistent, secular trends in either direction. More series show non-directional trends (either no change or variable and largely off-setting swings both up and down) rather than regular gains or losses.

Second, the available evidence is less general than often supposed. We identified 57 time series covering 51 surveys or averages. Of these 51, 34 came from 11 government organizations, 8 from commercial firms, 6 from academic organizations, and 3 were mixed or unknown. This is heavily tilted towards governmental surveys and underrepresents the large commercial sector.[5] This also means that most information is based on household non-response from informants and not individual non-response from randomly chosen respondents.

Third, the trends often confound measurement variation with true change. Time series often in whole or in part reflect apple-and-orange comparisons of the past to the present. Even many of presumably consistent time series comparisons are distorted in often uncertain ways by changes in definition of respondent, mode, content, and other procedures.[6]

Finally, information is almost totally lacking on the details of non-response trends. It is unknown whether the costs or level of effort has changed, whether more effort is needed to make contact or to gain cooperation, or whether conversions are more difficult.

Instead of falsely believing in a universal, on-going, and inevitable rise in non-response, survey researchers need to realize that non-response rates vary greatly in absolute level, and trends in non-response go in various directions. The research questions are why are some rates high and others low and why are some rates increasing, some falling, some holding steady, and some moving to and fro.

[5] For example, in the USA not one of the time series comes from media-related polls (e.g. Gallup, Harris, CBS/New York Times, Los Angeles Times, ABC/Washington Post, etc.) or political pollsters (e.g. Hart, Greenberg, Tetter, etc.).

[6] Changes in survey procedures often confound time series on non-response. As Richard Kulka observed about RTI's large body of studies, 'The surveys we considered have undergone so many changes over the last five years that could influence the response rates. Thus, they would not be very useful in providing the type of information you are looking for [trends in response rates].' For examples of changes in procedures and design affecting response rates see Botman and Thornberry 1994, Heiskanen 1994, Steeh 1981, Tucker and Kojetin 1994).

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International Journal of Public Opinion Research Vol. 7 No. 2 0954–2892/95 $3.00

RELATED HOUSEHOLDS, MAIL HANDLING, AND RETURNS TO THE 1990 U.S. CENSUS

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The mail return to the 1990 U.S. census averaged 64.6 percent, some 10 percentage points less than in 1980 and 5 percentage points less than had been anticipated by the Census Bureau. Because every drop of one percentage point in the mailback response rate is estimated to cost an additional $17 million to collect the information through personal visits by enumerators (Clark *et al.* 1993), it is important to understand the causes of non-response and try to counteract them in the next census.

One hypothesis advanced for the lower-than-expected rate of return for the 1990 census involves the increasing number of non-traditional households comprising the U.S. population (Dillman 1991). Using data from the Survey of Census Participation (SCP), Fay, Bates and Moore (1991) found that 80 percent of households where all members were related reported they had returned the census form, compared to only 56.4 percent of households with some unrelated persons. It was also found that mail handling behavior in households was significantly related to self-reported census mail return. Reflecting on these bivariate results, Dillman (1991, p. 56) speculated that roles and responsibilities with respect to common household tasks are less clearly defined in unrelated households, and that as a result 'mail which is addressed to the "household" rather than an individual, as is the case with the census questionnaire, is less likely than other mail to be claimed by anyone and therefore opened.'

The purpose of this paper is to test the hypothesis that the difference in mail returns to the 1990 census between related and unrelated households can largely be accounted for by differences in the way these households handle their mail. Because unrelated households made up only 6.8 percent of the population in 1990 (Bureau of the Census 1990), their behavior cannot account fully for the drop in expected mail returns to the 1990 census. However, there were 6.3 million such households in 1990, and given current trends (Bureau of the Census 1993), we expect both the number and proportion of unrelated households to increase by the year 2000. Accordingly, it seems useful to ask how much of the difference in mail returns between related and unrelated households can be accounted for by mail handling behavior, since only by understanding the underlying reasons for the differential behavior can the response rate in unrelated households be increased. These issues may also be important for other mail surveys

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At the time of the SCP data collection all three authors were affiliated with the U.S. Bureau of the Census, and all analyses were carried out at the Bureau. The views expressed in this paper are those of the authors and no official endorsement by any of the institutions with which they are affiliated is intended or should be inferred.