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The 1979 Research Panel was the third of three major field tests conducted by the Income Survey Development Program (ISDP) to fulfill its mandate to examine and resolve the technical and operational problems involved in the design and implementation of a survey mechanism that would meet the needs for improved data on income, assets, and program participation for program and policy analysis. As the most proximal and realistic pilot or prototype for the Survey of Income and Program Participation (SIPP), the 1979 Research Panel employed a longitudinal panel design, whereby persons at sample addresses were contacted early in the calendar year and recontacted at regular intervals (usually every three months) and asked about their income and other characteristics for the preceding few months. In this way, a highly detailed record was built up for each person for the entire calendar year according to the schedule presented in Table 1. In addition, since less time was required to update basic information after the initial interview, time was available in later waves of interviewing to ask additional questions or questionnaire modules on: (a) topics of interest that were stable enough not to require updating on each visit; and (b) emerging issues of special interest to particular agencies or programs. As a result of the diligent application of this modular approach, the fully-implemented 1979 Research Panel produced an overwhelming array of data suitable for longitudinal analysis and a corresponding wealth of detailed socioeconomic data on more specialized issues suitable for complex cross-sectional analyses.

Table 1
1979 Research Panel Interview Months and Reference Period

Wave	Rotation Group	Interview Month	Three Month Reference Period
1	1	Feb. 1979	Nov. 1, 1978 - Jan. 31, 1979
	2	Mar. 1979	Dec. 1, 1978 - Feb. 28, 1979
	3	Apr. 1979	Jan. 1, 1979 - Mar. 31, 1979
2	1	May 1979	Feb. 1, 1979 - Apr. 30, 1979
	2	Jun. 1979	Mar. 1, 1979 - May 31, 1979
	3	Jul. 1979	Apr. 1, 1979 - Jun. 30, 1979
3	1	Aug. 1979	May 1, 1979 - Jul. 31, 1979
	2	Sep. 1979	Jun. 1, 1979 - Aug. 31, 1979
	3	Oct. 1979	Jul. 1, 1979 - Sep. 30, 1979
4	1	Nov. 1979	Aug. 1, 1979 - Oct. 31, 1979
	2	Dec. 1979	Sep. 1, 1979 - Nov. 30, 1979
5	3	Jan. 1980	Oct. 1, 1979 - Dec. 31, 1979
	1	Feb. 1980	Nov. 1, 1979 - Jan. 30, 1980
6	2	Mar. 1980	Dec. 1, 1979 - Feb. 29, 1980
	3	Apr. 1980	Calendar Year 1979
	1	May 1980	(Jan. 1, 1979 - Dec. 31, 1979)
	2	Jun. 1980	

As the largest, most complex, and most "complete" of the ISDP field tests, the 1979 Research Panel is of sufficient design, size, and interest to occupy social and policy analysts for many years to come, and its use for such substantive and policy research has been actively promoted (e.g., David, 1983; Kasprzyk, 1983a). It is important to keep in mind, however, that the fundamental purpose of the ISDP field tests--including the "state-of-the-art" 1979 Research Panel--was methodological:

to serve as a flexible vehicle for conducting field experiments and feasibility tests to evaluate the effectiveness of alternative design features and data collection strategies (Ycas and Lininger, 1981). Hence, the 1979 Research Panel is replete with such methodological assessments, and potential users of these data should be aware of their nature for at least two reasons. First, since most of these tests and experiments have not been fully analyzed or evaluated (some not at all), the potential for methodological as well as substantive analysis of these data is very great (cf. David, 1983). Second, since these methodological assessments are an integral part of the total survey design, they bear directly in some cases on the likely quality of the data for substantive analysis, including: (a) potential differences in the nature or quality of data collected under different experimental variations; (b) the confidence one can have in the accuracy of certain data; and (c) the extent to which data collected under different procedures can legitimately be conceptually merged for certain analyses rather than analyzed separately.

OVERVIEW OF TESTS AND EXPERIMENTS

With the latter especially in mind, I have summarized in Table 2 the full range of explicit methodological research embedded in the 1979 Research Panel. Although virtually every aspect of the 1979 Research Panel was subject to methodological scrutiny and evaluation, in particular, five formal, controlled experimental comparisons of alternative design or data collection strategies were systematically incorporated in the survey, and seven other procedures were explicitly included to provide a focused nonexperimental assessment of their feasibility for implementation in the SIPP. For each of these 12 tests and experiments a brief description is provided, along with its basic design, a capsule summary of results, and a note on its possible implications (if any) for substantive analysis.

Controlled Experiments

The first of five formal experiments included in the 1979 Research Panel compared two alternative questionnaire formats for measuring income reciprocity, one using a "household screening approach" to determine receipt of various kinds of income and the other a more conventional person-by-person "individual" approach. It was hoped that the former approach would reduce the time needed to administer the questionnaire without a corresponding reduction in data quality. Preliminary analyses by Coder (1980) and Kaluzny (1981) indicated few differences between the two approaches in estimates of income reciprocity rates by type, and only a slightly higher incidence of "don't knows" and "refusals" under the household screening approach, but the average savings per household was only about five minutes.

While differences between these two experimental groups are apparently small and undra-

Table 2
The 1979 ISDP Research Panel:
Overview of Tests and Experiments

Test or Experiment	Description	Study Design	Capsule Summary of Results	Implications for Substantive Analysis
<u>CONTROLLED EXPERIMENTS</u>				
1. Alternative Questionnaire Formats	Experimental comparison of a "household screening" versus an "individual screening" approach for measuring income reciprocity.	Random assignment to households of alternative forms (one-third to household approach) during <u>first</u> wave of interviewing <u>only</u> .	Preliminary results suggest that household screening format did not offer significant improvement over the individual approach in either time or data quality.	Data on income reciprocity gathered during Wave 1 confounded by any potential form effects.
2. Self-Respondent Versus Proxy Respondent Rules	Experimental comparison of rules maximizing self-response with those permitting proxy interviews for absent household members.	Random assignment of households to respondent rule alternatives (one-third to self-respondent) throughout <u>all</u> waves of interviewing.	Slightly higher costs and somewhat better data under self-response rules vs. higher interview rates under proxy treatments.	Data gathered in all interview waves subject to additional variation due to respondent rule treatments.
3. Three-Month Versus Six-Month Recall of Asset Income	Experimental comparison of length of recall period for property income.	Assignment of random half-samples to alternative reporting periods in Waves 1-5.	Little analysis done to date.	Data on amounts of asset or property income potentially subject to variation due to length of recall period.
4. Variable Recall of Monthly Information	"Staggered" interview design providing systematic comparison of monthly information reported using a 1-, 2-, and 3-month reference period.	Equal groups of households randomly assigned to a different month for each wave of interviewing.	Preliminary analyses reveal no consistent evidence of systematic recall effects.	Staggered design complicates calculation of monthly and calendar quarter estimates. May reduce recall bias in estimates of monthly income.
5. Seven-Point Versus Ten-Point Attitude Scale	Experimental comparison of reports of subjective economic well-being as assessed by two alternative attitude scales.	"Split-ballot" technique with a random half of self-respondents responding to each scale in Waves 1-3.	Ten-point scale resulted in broader distribution, reduced positive skew, and increased valid variance.	Measures of subjective economic well-being measures in Waves 1-3 subject to increased variance due to response scale differences.
<u>FEASIBILITY TESTS</u>				
6. Student Follow-up Interviews	Examination of accuracy of information collected for students living away at school during interview period.	Administered Wave 4 questionnaire twice: by proxy at parents' address and in person at school address.	Preliminary analyses suggest quality of proxy response is reasonably good when proxies are able to report information.	Proxy data on college students somewhat incomplete, but not seriously so.
7. Nonfarm Self-Employment Income Test	Tested feasibility of using off-line mail-back surveys for obtaining quarterly estimates of self-employment income.	Respondents self-employed in a business or professional practice during Wave 1 mailed self-response mail questionnaire in first two calendar quarters.	Poor response rates forced abandonment of test after second calendar quarter.	Data on subannual self-employment inadequate for 1979 Research Panel.
8. Staggered-Interview Design	Study to determine whether increased interviewer experiences with the questionnaire and survey resulted in lower error rate.	Interviews conducted quarterly with one-third of the households interviewed during each of the three months comprising a quarter.	Little evidence that monthly interviewing results in substantially improved field performance.	See "4. Variable Recall of Monthly Information."

Table 2 (Continued)

Test or Experiment	Description	Study Design	Capsule Summary of Results	Implications for Substantive Analysis
9. Social Security Number Validation	Test feasibility of obtaining valid SSN's for sample household members.	Two rounds of validation, both including a computer match and manual search of administrative records, and field follow-up on invalid or missing SSN's.	Valid SSN's determined for 95.5 percent of cases included in project.	Survey information capable of being linked with administrative records systems using SSN identifier for high proportion of sample persons.
10. SSI Administrative Data Match	Match of survey and administrative records to validate information common to both sources and enhance survey data base.	Computer and clerical match of records using SSI subsample and SSI administrative tapes.	Final match rate of 99 percent achieved, but no analysis of data quality conducted to date.	None: List frame sample records not included on working files.
11. SSI Domain Match	Match to determine number of persons included in panel through area and BEOG subsamples also in SSI subsample frame.	Computer and clerical match of sample members with valid SSN's to SSI universe file.	Time consuming process resulting in "reasonable" match rate.	None: only area frame cases included in public use files. No need for multiple frame estimation.
12. Mover's Cost Study	Assessment of costs of following sample individuals moving to new address within 50 miles of an ISDP PSU.	Systematic recording by interviewers of their mileage and time spent in discovering, locating, and following up movers.	Mover household follow-up rate of 76 percent and a cost increase of about 8 percent attributable to following movers.	Substantial reduction in non-response due to loss of mobile sample members.

matic, however, there is nevertheless little doubt that data on income reciprocity gathered during Wave 1 of the 1979 Research Panel is confounded somewhat by any such potential "form effects". By definition the "household screening approach" compelled a higher level of "proxy" rather than self-reporting for income reciprocity than under the individual approach (even under standard respondent rules), and because a few questions on income receipt that could not be covered on a household basis (e.g., verification of labor force, retirement, and disability status and Medicare and Medicaid coverage), and all questions concerning amounts of income received, were asked on a person-by-person basis even under the household screening approach, there is a distinct possibility that different types of income data may have been reported differentially under that approach but not when the individual approach was used. Moreover, although these alternative forms were used only during the first wave of interviewing, one cannot rule out the possibility of a longitudinal "forms effect" on these data. For example, serving as the "household respondent" in Wave 1 might result in more accurate reporting of one's own economic data across time than would be the case if each person reported income reciprocity for themselves, and, conversely, those initially not serving as household respondents might subsequently be poorer reporters of income reciprocity in Wave 2 when exposed to these questions for the first time.

The second experiment involved a controlled comparison of alternative respondent rules. Some households were interviewed using rules that required self-response except in special situations, while others were interviewed under "standard" respondent rules, whereby proxy interviews were accepted for absent persons from other household members when convenient. A number of different analyses have been conducted to date in an effort to study the effects of these proxy respondent rules and self-respondent rules on data quality, non-interview rates, and costs of data collection (e.g., Coder, 1980; Kaluzny, 1981, 1982; Kulka, 1983). In general, while the use of self-response rules results in approximately 20 percent more self-response (85 vs. 65 percent) and 4-6 percent higher interviewing costs than standard respondent rules, results on non-response and data quality are mixed. While the proxy treatment had a positive effect on household and person interview rates, self-respondent rules apparently resulted in somewhat better data (as implied, for example, by the greater use of records, lower item nonresponse for certain key items, less rounding, and less variance in non-zero amounts), although some of these effects appeared to be somewhat smaller by Wave 2 (Kaluzny, 1982).

Unlike the "forms" experiment, the self-proxy response experiment continued throughout all waves of data collection, so that any potential influences on data quality or increases in the variance of key variables due to this experimental factor are likely to be found throughout the database. Yet, with few exceptions, the longitudinal implications of these alternative respondent rules have not yet been investi-

gated. Changes in the proportions of proxy respondents or in the characteristics of proxy vs. self-responders under the two conditions may vary over time, thereby confounding somewhat longitudinal analyses of variables especially sensitive to respondent rules. More generally, suppose that a comparison of the 1979 Research Panel to other survey data suggested that the former provided more accurate data relative to an independent source of information. Suppose further that this improvement was directly attributable to the use of a maximum self-response rule (i.e., under regular proxy rules estimates were similar). Without making such an assessment, however, one might assume that in general the ISDP design results in better data and generalize this assumption to the SIPP, an erroneous presumption, of course, unless the SIPP were to employ rules maximizing self-response. Moreover, it is not difficult to see how such a methods "artifact" might similarly influence important relationships among variables of major policy significance.

The third experiment compared property or asset income amounts reported using a three-month reference period with that reported for a six-month recall period. The basic objective of this experiment was to determine if information on asset or property income data collected every six months would be as accurate as that collected quarterly. Results of this experiment would provide evidence on the magnitude of loss with the longer recall period (a critical ingredient in justifying the current four-month recall design for the SIPP), but very little of this analysis has been done to date (cf. Czajka, 1983).

The very reason for conducting this experiment, however, implies increased variation in reported amounts of asset or property income due to differences in length of recall period. Since the preceding three months are reported with an identical recall period by both groups every other wave, the influence is not constant for all months. Thus, substantive analyses of a "common" three-month period may yield different results than that of a similar period where recall is three months longer for one group than the other. Similarly, quarter-to-quarter variation in asset income reporting may be greater within the six-month reporting group than within the three-month subsample. Moreover, since asset income reciprocity is reported quarterly, the expected influences would likely be on asset income amounts, but a longer reporting period for "amounts" could also have an indirect adverse effect on reports of reciprocity as well. In addition, if a recall effect of either type is present, such effects may either dissipate or increase in magnitude over the life of the panel (through Wave 5).

A fourth experiment, afforded by the use of a "staggered" interview design in which each quarter's interviewing was spread over three months with a variable three-month reference period (see Table 1), provided for a systematic comparison of income and other information reported for several months during the year using a one-, two-, or three-month reference period. Although the staggered design was not

adopted for this reason, it provides a "natural" experimental design for the assessment of potential monthly recall bias by length of reporting period for virtually all income types and a wide variety of other variables. To date, however, only preliminary analyses of this natural recall experiment have been conducted (Kaluzny, 1981, 1982; Czajka, 1982), none of which have provided consistent evidence of a systematic recall effect.

Nevertheless, the implications of this monthly interview design for substantive analyses are considerable. On the positive side, the staggered interview procedure provides an ongoing measure of monthly recall bias, and to the extent that such bias exists, the varied recall period tends to minimize its effect (relative to more typical quarterly interviewing) when making comparisons of monthly changes, since income and other monthly data were always collected with the same average length of recall. On the other hand, the staggered approach introduces some substantial problems with regard to missing data and response variance for monthly and quarterly estimates. Point estimates for a given month are made with higher variation, and the staggered approach requires that calendar quarter estimates for two thirds of the sample be derived from data collected in two separate interviews, resulting in greater levels of missing data, linkage problems, and increased month-to-month variation within quarters. For example, recent analyses of data from the 1979 Research Panel indicate a degree of variation in quarterly earnings greater than seems reasonable, and month-to-month changes in income reciprocity generally tend to be greater between interviews than in the reference period reported within each interview (David, 1983:11; Moore and Kasprzyk, 1984).

A final area of controlled experimentation involved a comparison of reports by self-respondents of their subjective economic well-being assessed by using either a seven- or ten-point attitude scale. Preliminary analyses of these data (Vaughan and Lancaster, 1980) suggested that the ten-point scale achieved the desired effect of spreading out their distributions and reducing the positive skew associated with the seven-point scale, and additional analyses with a few variables suggested that this was primarily valid variance. In light of these findings, it would appear that these economic well-being measures may indeed vary significantly according to which response scale version is used, and substantive analysis involving these variables must take such variation into account, either by conducting separate analyses with these alternative measures or by directly including in the analysis a variable indicating which of these two experimental versions was used.

Feasibility Tests

In addition to the formal experimental comparison of self-respondent versus proxy respondent rules, two other more specialized respondent tests were carried out. One examined the accuracy of information collected for students living away at school during the interview period by administering the fourth wave ques-

tionnaire twice for absent students -- once by proxy at the parents' address and a second time in person at the school address. The basic objective of this study was to evaluate both differences in reporting and the additional burden imposed on field staff when students were followed to their temporary addresses. With regard to the latter, over one-fourth of the students identified lived at a school address outside the sample area, and of those assigned for follow-up, only 74 percent were interviewed, with most nonresponse due to inability to contact respondents at their school addresses. Preliminary analyses of data from the students interviewed indicate that when "amounts" or details are available from both the self and proxy interviews the quality of proxy responses is generally quite good, but proxy respondents are frequently unable to provide a "valued response" at all (cf. Roman and O'Brien, 1984). In general, then, proxy data obtained for college students are clearly somewhat incomplete, but most analyses of data from the 1979 Research Panel should not be greatly influenced by these deficiencies, with the possible exception of those which rely on special subsamples containing a large proportion of college students and focus on variables especially prone to such proxy reporting error.

The second respondent test examined the feasibility of using off-line mail-back surveys for obtaining quarterly estimates of nonfarm self-employment income from respondents owning a business or professional practice. Because of poor response rates, this particular effort to measure subannual self-employment income was abandoned after the second quarter. Although some substantive analyses have been conducted using these data (e.g., Whiteman, 1983), methodological analysis took the form of additional experimentation with alternative procedures in an effort to improve this performance, none of which were very successful. The major implication of this feasibility test for social or policy analysts is that data on subannual self-employment income collected in the 1979 Research Panel are generally regarded as deficient.

The staggered interview design (mentioned earlier), which roughly tripled each interviewer's experience with a form, was itself a feasibility study. In addition to routine quality control interviews, an expanded re-interview program was initiated to determine whether such increased interviewer experience with the questionnaire and with the survey in general results in lower error rates. Research conducted to date provides little support for the proposition that monthly interviewing resulted in substantially improved field performance or data quality. Should such differences exist, however, this "interviewer experience" or "learning curve" factor may combine with potential recall factors to increase variation in these survey data, variation which would not be there if all interviews were conducted the first week of the calendar quarter, for example.

Two other feasibility tests incorporated in the 1979 Research Panel were designed to explore issues related to linkage of survey

responses with data in administrative records systems. First, since the Social Security Number (SSN) is the identifier in most general use, a project to determine valid SSN's for sample households was conducted using two rounds of validation, both including a computer match and manual search of Social Security Administration (SSA) administrative records. Through the use of those procedures and exploiting the panel design to obtain corrected SSN's from the field in later interview waves, valid SSN's were determined for 95.5 percent of the cases included in the project, a rate that might be improved with minor modifications in the future (Kasprzyk, 1983b). As a result, should access to administrative records systems be granted, substantive analysis using survey information linked to records data would be possible for a high proportion of persons sampled in the 1979 Research Panel.

Second, two distinct projects were undertaken to examine the feasibility of linking 1979 Research Panel data to benefit records of the Supplemental Security Income (SSI) program. The first involved a match of survey and administrative records using the 1979 Research Panel SSI subsample and SSI administrative tapes in order to validate information common to both sources and enhance the survey database. Overall, 3,950 sample persons in the 1979 Research Panel were matched with the SSI data sets, yielding a final match rate of 99 percent. However, analyses of data quality on this survey-administrative data match have not yet been conducted, and, since these list frame sample cases are not included in the public use microdata files (NTIS, 1983), this project is of no particular concern to substantive data analysts. Similarly, the second linking project, an SSI "domain match", was designed to determine the number of persons included in the panel through the area and Basic Educational Opportunity Grants (BEOG) subsamples who were also in the frame used to select the SSI subsample. Employing a match indicator code algorithm using validated SSN's, in combination with name, race, and date of birth, a reasonable match rate was achieved, albeit over a longer time period than would be required to support multiple frame estimation (Kasprzyk, 1983b). Since only the area frame cases are included in the public use files, however, multiple frame estimation is not required for substantive analyses of these data.

Finally, in an effort to determine the incremental costs of following movers (an integral feature of the survey design for the 1979 Research Panel and the SIPP), interviewers were asked to keep a systematic record of their mileage and time spent in discovering, locating, and following up persons or households that moved. A detailed analysis of this Mover's Cost Study is presented by White and Huang (1982), who (among other things) reported a mover household follow-up rate of 76 percent (with an eligible person interview rate of 92 percent in interviewed households) and a cost increase of approximately 8 percent attributable to following movers. Of particular interest to potential policy analysts of these data is that nearly 78 percent of the 1979 Research

Panel Wave 6 sample households had never moved. Relative to other longitudinal databases where movers are not followed, then, sample attrition due to this factor is clearly lower in the 1979 Research Panel, and estimates involving variables related to residential mobility less subject to such nonresponse bias.

CONCLUSION

In conclusion, from this brief overview it should be clear that, aside from their great analytic potential, some of these tests and experiments may also have a deleterious or confounding impact on certain substantive analyses that might be conducted using data from the 1979 Research Panel. And, in a few cases, these methodological have some positive implications for such analyses as well. Such implications range from some obvious deficiencies in some of these data highlighted by these field tests to more subtle influences on data quality and variances due to the experimental treatments imposed on the survey design. Especially with regard to the latter, the positive benefit of including such methodological tests in the survey design is that the potential influence of such factors on substantive results from this survey may be directly assessed in data analyses. It is important to note, however, that if these factors are not so examined their influence may lead to distorted or spurious conclusions. By describing some possible road blocks that these tests and experiments may throw in the way for substantive analysis and interpretation, this paper has sought to illustrate the need for both consumers and analysts of these data to keep their methodological nature clearly in mind and, where possible, to assess directly the potential influence of these factors on research results.

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