

Submission to IPC Session 2205, “Innovations and Challenges in  
Large-Scale Demographic Population-Based Surveys”

**Recent Challenges and Innovations in Panel Surveys:  
Insights from the U.S. Panel Study of Income Dynamics**

September 2024

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**Introduction**

The U.S. Panel Study of Income Dynamics (PSID) is the world’s longest-running panel survey. The study collects detailed information on income and wealth dynamics, but also extensive data on demographic behavior and outcomes—including fertility and contraception, cohabitation and marriage, education, health and mortality, migration, living arrangements, time use, and other related topics. Data are collected on the original sample families and their descendants, providing information on intergenerational connections in behavior and outcomes. PSID includes two major ongoing supplements—the Child Development Supplement (CDS) and the Transition into Adulthood Supplement (TAS)—that collect data on, respectively, children’s health, development, and well-being and young adults’ transitional life course outcomes between the ages of 18 and 28 years. Data from PSID, CDS, and TAS are widely used by demographers and other social scientists, with 7,500 journal articles, books, book chapters, and dissertations published to date. Since the inception of PSID in 1968, and over the course of data collection for 43 waves over 56 years, the study has encountered challenges that are common to almost all large-scale population-based surveys around the world. In this paper, we provide an overview of recent challenges faced by PSID and descriptions of the innovations that have been developed, tested, and implemented in response to these challenges. Among the recent challenges we address in this paper are declining response rates, the need to sample and incorporate new immigrants to the U.S., respondents’ interest in completing interviews by the web rather than by telephone or in person, and increasing pressure from sponsors to reduce costs or limit their rate of growth.

**Background**

PSID began in 1968 with a sample of approximately 5,000 families. PSID interviews one adult respondent in each family unit. PSID respondents provide information about themselves, their spouse or partner, and all other family members. PSID interviewed individuals from families in the original sample every year from 1968 to 1996 and biennially thereafter in their original or split-off households. Two major immigrant refresher samples were added to PSID in 1997–1999 and 2017–2019. The 1997 PSID immigrant refresher added 511 families who had moved to the U.S. after 1968 (PSID 2000; McGonagle et al. 2012). By 2021, the original families together with split-off families comprised 679 families. In 2017–2019, PSID recruited 644 post-1997 immigrant families, of which 445 were successfully interviewed in 2021.

The PSID sample has grown substantially over time by enrolling children of sample families when they reach adulthood and form their own family units and by adding new immigrants. In

2021, the PSID sample comprised of 9,478 family units and 23,260 individuals, with 13,882 reference persons and their spouse or partner and 9,478 other family members. Table 1 shows the age composition in 2021 of the PSID sample and distribution by race and family poverty status. The sample includes individuals of all ages and races and substantial representation of families below the poverty line.

**Table 1.** PSID Reference Persons and Spouse/Partners by Age, Other Family Members by Age, and All PSID Individuals by Age and Race and by Age and Family Poverty Status in 2021, Unweighted

Age group	Reference person & spouse/partner		Other family members		All PSID persons (reference person & spouse/partner plus other family)					Family poverty status		
					Race							
	N	%	N	%	White	Black	Latino	Other	Total	Poor	Non-poor	Total
≤18 years	9	0	7,129	75	41	36	16	7	100	18	82	100
19–39	5,547	40	1,794	19	41	34	16	9	100	15	85	100
40–59	4,835	35	276	3	48	32	13	7	100	10	90	100
60+	3,491	25	279	3	57	27	9	7	100	11	89	100
All ages	13,882	100	9,478	100	45	33	14	7	100	14	86	100

PSID has significantly influenced similar household panel studies in countries such as the United Kingdom (Understanding Society), Germany (Socio-Economic Panel), Canada (Survey of Labor and Income Dynamics), Australia (Household, Income and Labour Dynamics in Australia Survey), Japan (Japan Household Panel Survey), Korea (Korea Labor and Income Panel Study), and China (China Family Panel Survey).

PSID has provided a user-friendly website for accessing the entire data archive free of charge.

### **Challenges and Innovations**

We briefly describe several recent challenges encountered by PSID and innovations that have been developed in response to these challenges.

A first challenge faced by PSID—and essentially all other population surveys—is declining response rates. PSID’s response rates have fallen slightly over time, but the study continues to achieve high wave-to-wave response rates of 93%–95% and overall response rates approaching 90%. To our knowledge, these response rates are currently unmatched among household panel surveys worldwide and run counter to the well-documented trend of steady decline (e.g. De Leeuw et al. 2018). At the same time, attrition in PSID has been higher for certain groups, such as males and low-income individuals. PSID’s high response rates are largely attributable to devoting considerably more time, effort, and funds to obtaining interviews from respondents. The mechanism of doing so include substantial incentive payments to respondents; major increases in attempts to contact respondents using multiple different modes, including telephone calls, text and email messages, and in-person visits; matching experienced interviewers with the same families over time; use of tailored refusal-conversion techniques; and offering respondents the choice of completing the interview on the web or by telephone. Many of these approaches to maintaining high response rates in PSID have been evaluated using randomized controlled experiments (e.g., McGonagle & Sastry 2021; McGonagle et al. 2023; McGonagle & Sastry 2023).

Second, ongoing longitudinal surveys, such as PSID, lose coverage of their target population over time due to new immigration into the study area. PSID recently added an immigrant refresher sample to the study beginning in 2016 and continuing through 2021. The addition

involved sampling and screening of new immigrants, intensive recruitment of new sample members, follow-up efforts to maintain and enhance the group of new immigrants, and collecting a new module on immigrant background and assimilation. For PSID, this process took several years, during which the political environment in the U.S. made fieldwork activities associated with recruitment and retention of new immigrants especially challenging. PSID's efforts were largely successful, however, and the study's immigrant refresher has allowed the study to maintain its representation of the entire U.S. population.

Third, after nearly two decades of conducting PSID primarily by computer-assisted telephone interview (CATI), in 2021 PSID introduced mixed-mode (web/CATI) survey administration. The addition of the web mode was the result of considerable work and testing, including pilot testing to assess data quality, mode effects, and uptake and breakoff rates. Offered to a random subset of the sample in 2021, the experimental design of introducing a new mode of data collection allowed the study to assess its effects on response rates, fieldwork costs, mode differences in responses to the survey questions, and data quality. The results indicate that there are few differences in response patterns or data quality by web versus CATI mode and both modes achieved similarly high response rates (Sastry & McGonagle 2023, 2024).

Finally, increasing pressure from sponsors, greater fieldwork effort to combat declining response rates, and rising wages for fieldwork staff have all contributed to a need to reduce costs or limit their rate of increase. PSID has been able to control costs through several approaches. The switch to a web-first mixed mode data collection approach led to substantial cost savings through reductions in interviewer effort (Sastry & McGonagle 2023; McGonagle & Sastry 2023). At the same time, web interviews tend to be completed early in the fieldwork period, providing an important new opportunity to reduce fieldwork costs by reducing the length of the fieldwork period, which PSID has evaluated experimentally (McGonagle & Sastry 2024). An important feature of the shift to web interviewing is the substantial increase in adoption of the web mode over time, which reduces costs further and reduces concerns about mode differences in survey responses. While rates of web interviewing are increasing over time in PSID, in the PSID Transition to Adulthood Supplement virtually all interviews with this young adult sample are completed by web which is leading to cost savings in additional ways.

## **Summary and Conclusions**

This paper will provide an overview of recent challenges faced by the U.S. Panel Study of Income Dynamics, the world's longest-running panel survey, and the innovations that have been developed to address these challenges. Lessons from PSID's experiences will be summarized and assessed, with a focus on their generalizability and application to large-scale demographic population-based surveys in other settings around the world. We will conclude with an assessment of future challenges and a discussion of research priorities and interventions that are needed to address these future challenges.

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