

The Polish Panel Survey, POLPAN

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Abstract

The Polish Panel Survey POLPAN provides data infrastructure to analyze the dynamics of social inequality from a life-course perspective. Historical events shape the study's research design. In 1987–1988, 5,817 randomly sampled men and women aged 21–65 are interviewed in what is still state socialist Poland. Soon after, their lives are upended by the profound transformations that the anti-communist revolutions in Eastern Europe triggered. To understand how people transition to the emerging social structure, close to half of the respondents are re-interviewed in 1993. This sample serves as a panel that we follow every 5 years, most recently in 2018. Since 1998, POLPAN waves feature renewal samples of the youngest cohort that become part of the panel. Participants are interviewed face-to-face on a wide range of topics, including educational and occupational careers, psychological functioning, physical and mental health, political behaviours, and social attitudes. These topics address POLPAN's overarching research problem, how does social position influence individual biographies and social networks, and how do individual choices that peoples' biographies and networks reflect, in turn influence their later social standing. A multi-dimensional approach to data quality informs POLPAN methodology and the decision to publicly share the project's products, including datasets and analytic tools.

Introduction

The Polish Panel Survey POLPAN (polpan.org) is one of the world's longest ongoing panels that focuses on transformations of the social structure, with individuals as the units of observation. The project follows—via surveys fielded every 5 years since 1988—the life courses of adult residents of Poland from State Socialism, through the post-communist transformation and the EU accession process, to the 2008 global economic crisis, into the

post-crisis environment, and reaching, by 2018, the rise of extreme politics. These data correspond to a multi-dimensional approach to individual biographies (Elder, Johnson and Crosnoe, 2003) that capture peoples' intertwined trajectories in the social, economic, political, and spheres of life (Slomczynski, Tomescu-Dubrow and Dubrow, 2015).

POLPAN is inherently interdisciplinary, to enable research on the reciprocal influence of structure and

agency. The core belongs to sociology: the project is designed to facilitate dynamic analyses of class and stratification, two key elements of social structure that best explain, as Gerhard Lenski (1966) famously put it, ‘who gets what and why’. Social structure refers, simultaneously, to a system of interrelated and relatively stable large social groups that defines the main stage where fundamental social processes occur, to a normative pattern of behaviour that sets limits on thought and action and cannot be changed by individual will, and to the institutional framework where people live (Tomescu-Dubrow *et al.*, 2018: p. 40). During major upheavals, such as the revolutions of 1989 in Eastern Europe, institutions suddenly cease to fit the surrounding world, and the structure changes. This process is rife with inequality due to disturbances in capital, labour, and consumption markets. Winners and losers of social change emerge (Verhoeven, Jansen and Dessens, 2009).

Next to sociology, demography, economics, political science, and social psychology bring important insights into the mechanisms by which some people adapt better to the new environment than others. These different social science fields contribute to a conceptualization of individual biography in POLPAN that takes on socio-economic, political, and cultural components. Informed by theories that attribute differences in adaptation to structural factors (e.g. Kohn *et al.*, 1990; Goldthorpe, 1996) and individual decision-making (e.g. Bandura, 1982; Giddens, 1984; Becker, 1994; Archer, 2003), POLPAN collects the necessary long-term data to spur analyses of when, why, and how people change their social position, and with what consequences.

POLPAN currently features seven waves on full and intermittent panelists, and new recruits. In all rounds, participants are interviewed using the face-to-face paper-based (PAPI) method. The first, 1987–1988, survey has a nationally representative sample of 5,817 women and men aged 21–65 years. In 1993, we re-interviewed a randomly drawn subsample ($n=2,259$) of these respondents. Every 5 years since, we conduct new surveys on panelists and refreshment samples of young. Several extension studies complement these data with narrative interviews with panelists (Filipkowski and Życzyńska-Ciołek, 2019; Tomescu-Dubrow *et al.*, 2019) and quantitative data from panels carried out in other countries (Kiersztyn, 2019).

Polpan Origin Story

POLPAN starts as a cross-sectional study of social structure in state socialist Poland, under the auspices of the Institute of Philosophy and Sociology, the Polish

Academy of Sciences (IFiS PAN). These are the mid-1980s, a time when sociologists’ quest to understand how class relations and inequality are shaped by the formation of group interests and social conflicts made apparent in the Solidarity movement and the imposition of Martial Law (1981–1983), aligns with government-sanctioned research priorities that include analyses of social mobility (Tomescu-Dubrow *et al.*, 2018).

The PI, Kazimierz M. Slomczynski, assembles a multi-disciplinary team of stratification, mobility and survey methodology experts, and advisers from Europe and the United States, to design the *Social Structure II* study (Slomczynski *et al.*, 1989). During the planning stage, the team discusses the prospects that respondents would openly share their views on issues that are sensitive given the country’s repressive political climate. Following pretesting, the ensuing opinion is to pursue such topics.

Fieldwork takes place late 1987 and early 1988. The decision to ask about sensitive socio-economic and political matters pays off. Even the ‘assessment of socialism’ question does not elicit uniformly politically correct answers. With the communist party firmly in power, 24 per cent of the 5,817 participants express the view that Socialism brought to most people in Poland primarily losses, 51 per cent are non-committal, and 27 per cent report mainly gains.¹

The sweeping consequences of Solidarity winning the June 1989 parliamentary elections and researchers’ foresight are the catalyst for the POLPAN panel. Massive unemployment and high inflation follow Poland’s ‘shock therapy’ for economic restructuring after Communism collapses.² Social inequality rises sharply (Bukowski and Novokmet, 2017). Within a single generation, social mobility develops under unique conditions—people move between positions specific to two distinct socio-economic systems. An unstable mixture of ‘old’ assets—primarily education, in the traditional form of a completed degree—and ‘new’ assets, including social capital accrued through international experience, replace the familiar paths to achievement.

The team behind *Social Structure II* recognizes the urgency of re-interviewing 1988 participants while these processes unfold, to facilitate causal analyses of the dynamics of social inequality. Against the background of fast rising inflation that wipes out about two-thirds of the grant’s market value within a few months from award notice to fieldwork, POLPAN’s wave 2 is run in 1993. It covers in detail respondents’ occupational history—a module that is core to all surveys—and adds new topics that emphasize adaptation to the post-communist transformation. This format, of topics stable

across time and new ones that react to major developments in society, becomes the hallmark of POLPAN's design.

Theoretical Influences in POLPAN

POLPAN bridges classic and modern social science theories (Słomczynski *et al.*, 2015). We summarize here the main theoretical orientations that inform its research problems and research design strategy.

First, POLPAN is anchored in *theories of social structure*. Social structure has a pervasive impact on the socio-economic and cultural resources (Bourdieu, 1986; Becker, 1994; Weeden *et al.*, 2007), values and beliefs (Kohn, 1959; Rokeach, 1979a; Kohn *et al.*, 1990; Inglehart and Baker, 2000; Hitlin and Piliavin, 2004), attitudes (Glass, Bengtson and Dunham, 1986; Rose, Mishler and Haerpfer, 1998; Kraus, Piff and Keltner, 2009), behaviours (Kohn, Scotch and Glick, 1979; Goldthorpe, 1999; Chan, 2010; Piff *et al.*, 2010; Dubrow, 2014), and health (Mirowski and Ross, 2003; Stephens, Markus and Fryberg, 2012) of individuals and social groups. Changes in the social structure are 'path dependent'. Some inter-group differences at time t have a disproportionate impact on later circumstances at time $t + k$, producing more pronounced differences (Nee and Yang, 1999; Pierson, 2000) that lead to societal polarization if they follow a cumulative advantage/disadvantage pattern (Słomczyński and Janicka, 2008; Chakravarty, 2009; Esteban and Ray, 2012).

The second main theoretical influence in POPAN stresses the impact that *agency* has on social phenomena (Elder, Johnson and Crosnoe, 2003; Williams, 2003; Ng *et al.*, 2005). Agency contributes to the reproduction and transformation of the social structure (Giddens, 1984; Archer, 1990, 2003; Słomczynski and Marquart-Pyatt, 2007). How people and groups interact with institutions, and the extent to which they successfully adapt to social change are informed by their subjective rationality (Goldthorpe, 1998; Boudon, 2003), perceived self-efficacy and sense of control (Bandura, 1982, 2004; Lachman and Weaver, 1998), self-dissatisfaction (Rokeach, 1979b; Schwartz and Inbar-Saban, 1988), cognitive dissonance (Festinger, 1957; Harmon-Jones and Mills, 1999), and reflexivity (Gecas, 2003), among others.

Third, *life course theory* (Elder, Johnson and Crosnoe, 2003) provides the framework within which POLPAN studies the transformation of social structure and individual agency over the decades (e.g. Słomczynski and Wyszulek, 2016). Social inequality operates in different dimensions of society and is a

phenomenon 'at the nexus of social pathways, developmental trajectories, and social change' (Elder, Johnson and Crosnoe, 2003: p. 10). To understand how inequality can be simultaneously enduring and dynamic calls for studying structural influences, such as institutional rules for entry to and exit from various life stages (e.g. Mayer and Tuma, 1990), and individual decision making that unfold over the life course (e.g. Thomas and Znaniecki, 1918; Mortimer and Shanahan, 2003). At the same time, the social context, understood as properties of aggregates of individuals (e.g. birth cohorts, social networks), links individual-level characteristics to structural properties through social interaction and socialization processes that develop over time (e.g. Erdbrink and Young, 1979; Sprague, 1982; Elder, Johnson and Crosnoe, 2003).

POLPAN'S Research Themes and Operational Definitions of Main Concepts

The theoretical underpinnings discussed above have important implications for what topics POLPAN includes, and for its choice of operational definitions. Without being exhaustive, Table 1 lists—alphabetically—main themes, and indicates when indicators are available.

Researchers used POLPAN to study these and other topics, including respondents' resources (Słomczynski, 2002; Bronson, Kunovich and Frysztacki, 2005; Green and Kryszczuk, 2006, 2009; Kiersztyn, 2015; Kopycka, 2017; Oleksiyenko and Życzynska-Ciołek, 2018; Kiersztyn, 2020), social networks (Słomczynski and Tomescu-Dubrow, 2005; Boruc, 2018) and health (Lovell, 2007; Mikucka, 2016), their socio-economic and political behaviours (Jackson and Mach, 2009; Jackson, Mach and Miller-Gonzalez, 2011; Dubrow, 2012; Słomczynski and Shabad, 2012; Kunovich, 2013; Kotmarowski, 2016), attitudes, opinions (Słomczynski and Wilk, 2002; Słomczynski and Shabad, 2003; Shabad and Słomczynski, 2011; Tomescu-Dubrow, 2011a,b; Karpiński, 2012; Baczko-Dombi and Wyszulek, 2015), values, and beliefs (Shabad and Słomczynski, 1999; Peoples, 2011; Grygiel and Humenny, 2013; Kołczyńska and Merry, 2016), for a period spanning major social change (Słomczynski and Tomescu-Dubrow, 2021; Słomczynski *et al.*, 2016; Słomczynski and Wyszulek, 2016; Tomescu-Dubrow *et al.*, 2018, 2019).

Following the Warsaw School of studying class and stratification, hereafter Warsaw School, that Wesolowski and Słomczynski founded in the 1970s (Tomescu-Dubrow *et al.*, 2018), POLPAN defines position in the social structure in terms of both class

Table 1. Major POLPAN themes, 1988–2018

Themes	POLPAN waves						
	1988	1993	1998	2003	2008	2013	2018
Adjustment to social change		✓	✓	✓	✓	✓	✓
Assessment of socialism	✓	✓	✓	✓	✓	✓	✓
Authoritarian-conservative values				✓	✓	✓	✓
Career mobility (with interruptions)			✓	✓	✓	✓	✓
Continuing education		✓	✓	✓	✓	✓	✓
Cultural consumption	✓	✓	✓	✓	✓	✓	✓
Democratic values			✓	✓	✓	✓	✓
Digital skills				✓	✓	✓	✓
Economic capital	✓	✓	✓	✓	✓	✓	✓
Economics and society	✓	✓	✓	✓	✓	✓	✓
Educational careers	✓	✓	✓	✓	✓	✓	✓
Employment precarity					✓	✓	✓
Entrepreneurship		✓	✓	✓	✓	✓	✓
Household composition	✓	✓	✓	✓	✓	✓	✓
Joblessness (including unemployment)	✓	✓	✓	✓	✓	✓	✓
Legacies of the communist era	✓	✓	✓	✓	✓	✓	✓
Marital homogamy	✓	✓	✓	✓	✓	✓	✓
Non-verbal cognitive skills (Raven test)				✓	✓	✓	✓
Occupational trajectories	✓	✓	✓	✓	✓	✓	✓
Orientations toward the future		✓	✓	✓		✓	✓
Political engagement	✓	✓	✓	✓	✓	✓	✓
Religiosity	✓	✓	✓	✓	✓	✓	✓
Role of government in society	✓	✓	✓	✓	✓	✓	✓
Role of the Catholic church in politics			✓	✓	✓	✓	✓
Self-assessed health, physical and mental			✓	✓	✓	✓	✓
Self-ranked social position	✓	✓	✓	✓	✓	✓	✓
Social capital	✓	✓	✓	✓	✓	✓	✓
Social cohesion	✓	✓	✓	✓	✓	✓	✓
Social mobility across generations	✓	✓	✓	✓	✓	✓	✓
Socio-demographics	✓	✓	✓	✓	✓	✓	✓
Sources of success in life	✓	✓	✓	✓	✓	✓	✓
Standard of living	✓	✓	✓	✓	✓	✓	✓
Status attainment	✓	✓	✓	✓	✓	✓	✓
Support for the EU		✓	✓	✓	✓	✓	✓
Transnational human capital	✓	✓			✓	✓	✓

and stratification.³ To enable researchers to build indicators for these related, yet analytically distinct concepts, POLPAN collects detailed occupational data and codes them using two Polish classifications of occupations, SCO-1978 and SCO-2009 (Domański, Sawiński and Slomczynski, 2009). Starting with 1998, we also apply the International Classification of Occupations, ISCO. For a comparison of SCO-1978, SCO-2009, and ISCO, see Domański *et al.* (2009).

POLPAN provides occupational codes for the respondents, their paternal grandfather, father, mother, first child, and first grandchild. By aggregating codes and combining this information with additional job data

available in POLPAN, such as labour market segment and workplace characteristics, researchers can measure membership in economic classes (Slomczynski *et al.*, 2007).

As a prerequisite for status attainment research (Blau and Duncan, 1967), POLPAN provides five quantitative scales derived from the Polish classifications of occupations. These indices characterize occupational roles, not the individuals who prepare for, and perform, given jobs. The Polish SEL, like the International Socio-economic Index (Ganzeboom, De Graaf and Treiman, 1992, Ganzeboom and Treiman, 1996) measures the attributes of occupation that convert a person's main

resource (education) into a person's main reward (income). The Scale of Skill Requirements differentiates occupations with respect to the cognitive abilities needed for an occupation to be satisfactorily performed, while the Scale of Work Complexity takes into account behaviours that an occupation requires with regard to information processing (data), interpersonal contacts (people) and physical effort (things), plus time of working with each. The Scale of Material Remuneration measures the attributes of occupations in terms of earning power. The Scale of Occupational Prestige ranks occupations based on expert evaluations of the prestige of job titles (Slomczynski, 2009).

POLPAN covers in detail respondents' occupational trajectories, understood as the sequence of jobs that a person holds from the time they enter the labour market to when they permanently exit it. POLPAN provides information on respondents' full history of employment, including timing of the start, interruption, and ending of each job, as well as the timing of jobless spells, to mark events that start transitions. To enable research on the increasingly prevalent phenomenon of employment precarization (e.g. Standing, 2011, 2014; OECD, 2014), POLPAN collects information about type of employment contract in each job held by the respondents since 2008, in addition to income and subjective job insecurity, measured every five years. This opens the possibility to overcome current limitations in the operationalization of precariat in terms of either non-standard contracts observed at one moment in time, or subjective job/labour market insecurity (Kiersztyn, 2016, 2017).

Health, defined in POLPAN in terms of the quality of psychological and social functioning, and the absence of physical ailments, is an important dimension where inequality manifests (Zelinska *et al.*, 2021). POLPAN collects information on self-reported disability status or disability benefits, self-assessed physical and psychological health, health reasons for work interruptions, respondents' six-dimensional Nottingham Health Profile (Hunt *et al.*, 1980; Hunt, McEwen and McKenna, 1985), their body weight and height, and extensive hospital stays.

In POLPAN, agency is operationalized through self-reported behaviours, but also through attitudes, and (to a lesser extent) values and beliefs, based on the theses that they directly or indirectly influence behaviour (Festinger, 1957; Fishbein, 1963; Rokeach, 1979b; Bandura, 1982; Bagozzi and Yi, 1989; Ajzen, 2001; Gecas, 2003). For illustration purposes, we refer to political engagement, which in POLPAN we define broadly, to include democratic values, attitudes toward key democratic institutions, and behaviours that are explicitly political

(Tomescu-Dubrow and Slomczynski, 2014). Thus, we ask respondents about their democratic values, the role of government in society, institutional trust, interest in politics, membership in political organizations, including the communist party and Solidarity, and voting in parliamentary and presidential elections.

Since POLPAN data are collected in the framework of life course theory, age-period-cohort (APC) effects studies are intrinsic to POLPAN's research landscape. Scholars can use different techniques to go around dependencies built into age, cohort, and period in APC models (Winship and Harding, 2008; Yang *et al.*, 2008; O'Brien, 2015).

Data Quality in POLPAN

In POLPAN, like in other longitudinal projects, the pursuit of survey quality involves the *survey lifecycle*, not only individual waves, and stresses comparability (Harkness, 2008; Pennell *et al.*, 2017). We discuss three main survey quality dimensions—methodological decisions, the management process, and responsiveness to users' needs—noting that some of their features changed through time, once new survey practice was established.

Polpan Methodological Decisions

Representation and sampling

Representation, next to measurement, influences properties of survey statistics, including comparability over time (e.g. Groves, 1989; Biemer, 2016; Lyberg and Weisberg, 2016; Smith, 2018). For POLPAN's target population, two sets of methodological decisions are consequential. The first was to design the 1987–1988 survey (now, wave 1) representative of the population of non-institutionalized women and men aged 21–65—this group constituted the core segment of the Polish labour force in the late 1980s. To reach it, we drew a random sample of individuals from a country-wide, territorially stratified register of households that the Centre for Public Opinion Research had prepared a year earlier. The realized sample comprises 5,817 adults (see Table 2).

The post-1990s choices of how to turn the initially cross-sectional study into a long-term panel are the second consequential factor for POLPAN's target population. We opted to: (i) return to a randomly drawn subsample of 1988 respondents in 1993, given the impossibility to re-interview everybody due to limited funding; (ii) add renewal samples of young to each post-1993 wave, to 'feed' the panel while maintaining individual

Table 2. Sampling in the Polish Panel Survey, POLPAN 1988–2018

Sample	Age	Sample		Response rates ^a	
		Target	Realized	Min.	Max.
First wave (1988)					
National random sample of women and men—main	21–65	6,000	4,346	72.4	— ^b
As above—substitution		3,127	1,471	— ^c	— ^c
Total		9,127	5,817	—	—
Second wave (1993)					
Random sample of 1988 respondents—main	26–71	2,096	1,604	76.5	— ^b
Random sample of 1988 respondents—additional ^d		1,273	273	— ^c	— ^c
Random sample of 1988 respondents—substitution		1,348	390	— ^c	— ^c
Total		4,717	2,267	—	—
Third wave (1998)					
Panelists interviewed in 1993	31–76	2,259	1,752	77.6	81.6
New recruits	21–30	660	383	58.0	58.4
Total	21–76	2,919	2,135	73.1	76.2
Forth wave (2003)					
Panelists interviewed in 1998 ^e	26–81	2,132	1,474	69.1	73.3
New recruits	21–25	336	225	67.0	69.1
Total	21–81	2,468	1,699	68.8	72.7
Fifth wave (2008)					
Panelists interviewed in 2003 ^e	26–86	1,668	1,224	73.4	79.6
New recruits	21–25	1,042	582	55.9	63.1
Total	21–86	2,710	1,806	66.6	73.4
Sixth wave (2013)					
Panelists interviewed in 2008 ^e	26–91	1,662	1,244	74.8	82.8
Panelists last interviewed in 1993/1998/2003	31–91	1,174	455	38.8	50.2
1988 respondents not interviewed in further waves	46–91	2,422	584	24.1	42.1
New recruits	21–25	795	497	62.5	69.3
Total	21–91	6,054	2,780	45.9	61.6
Seventh wave (2018)					
Panelists interviewed in 2013 ^e	26–96	2,763	1,837	66.5	73.7
Panelists interviewed only in 2008	31–35	208	38	18.3	22.9
New recruits	21–25	602	286	47.5	54.3
Total	21–96	3,578	2,161	60.4	67.8

^aResponse rates (RR), expressed in percentages, are calculated according to AAPOR's (2016) formulas. RR min. corresponds to RR1 (minimum RR), and RR max. corresponds to RR6 (maximum RR). RR max. treats the following categories of cases as ineligible: invalid addresses, institutionalized persons, deceased persons, and people permanently living abroad.

^bIneligible cases are not distinguishable from refusals.

^cUsing units from this sample depended on main sample non-response. There is no sufficient information to compute RR for this sample.

^dIncludes categories of individuals crucial for POLPAN (managers, employers, and self-employed) that survey studies of the early 1990s showed to be underrepresented.

^eThe target sample is lower than the previous wave's realized sample because of inter-wave attrition: some participants permanently withdrew from the study, some notified us about their unavailability in the coming wave, and some died.

POLPAN waves representative of Poland's age structure for women and men;⁴ (iii) follow participants past retirement age, to understand how inequalities cumulate over the lifetime. Thus, the lower bound of the age distribution in POLPAN is generally fixed at 21 years, while the upper bound is open: panelists get older, from 65 in 1988, to 95 in 2018.⁵

A necessary qualification involves temporary migrants. So far, if we learned that a panelist was

abroad for at least six months and would not be in Poland during fieldwork, we treated them as ineligible. If we learned that they would be visiting Poland, we included them in the pool of eligible respondents and the interview was attempted. For the future, we plan to experiment with different data collection modes to reach panelists living abroad at the time of fieldwork.

It should be noted that POLPAN exceptionally used substitution samples in waves 1 and 2 (1988, 1993; see

Table 2). These were drawn in parallel to, and using the same methodological design as the main samples. Interviewers were explicitly instructed on the extraordinary nature of replacing ineligible individuals and categorical refusals. The debate regarding whether and to what extent carefully designed substitutions introduce bias is ongoing (Demarest, Molenberghs and Van der Heyden, 2017).

Like other longitudinal studies (Lynn, 2018), POLPAN features higher participation rates among panelists than new recruits. With this in mind, in waves 3 and 4 (1998, 2003) we constructed the renewal samples so that the proportion of new recruits in the ‘total’ realized sample corresponds to the group’s share in the population. However, since 2008, our samples intentionally over-represent the young, to have more future panelists active on the labour market.⁶ Hence, POLPAN features wave-specific post-stratification weights for 2008, 2013, and 2018 that take into account age for women and men.

To reduce panel attrition, we first seek to minimize nonresponse in each wave. We tackle causes linked to non-location, non-contact, and refusal to cooperate (Lynn, 2018). From the very start in 1988, POLPAN uses face-to-face interviews to maximize the chance to locate sample members (Couper and Ofstedal, 2009) and produce the highest cooperation rates (De Leeuw, 2005). We communicate with participants between waves (e.g. Christmas cards, electronic notifications) to facilitate their sharing of address changes, to keep respondents engaged and thus increase their willingness to complete the next survey. From wave 4 (2003), we offer incentives to all sampled persons whom interviewers reach, to minimize refusals (Jäckle and Lynn, 2008).⁷

Second, we experiment with recontacting respondents who skipped waves without a hard refusal. In wave 6 (2013), we approached participants last interviewed in 2003, 1998, or 1993, as well as respondents of wave 1 (1988) whom we never contacted afterward due to funding limitations. Results were unexpectedly good (see Table 2). We more than doubled the number of 1988–2013 panelists, from 713 persons to 1,659. True, for intermittent panelists the data are incomplete, as they lack attitudes and opinions for the waves that respondents skipped. However, the information can be as useful as that gathered from full panelists for research problems that focus on early and late life stages.

Measurement

The POLPAN questionnaires. The design of POLPAN questionnaires is a function of the study’s substantive

research goals and methodology considerations, inter-wave comparability especially (Tourangeau, 2003; Smith, 2005; Lynn, 2009, Hillygus and Snell, 2015). Substantively, objective and subjective social position, related values, attitudes, opinions, and behaviours, and socio-demographics form the shared backbone of all POLPAN questionnaires. We add to them new topics that capture major social events via questions that generally repeat in at least two waves. Questions asked only once are an exception (see polpan.org/en/data-and-documentation/documentation/).

We strive to formulate questions that measure the same concept in different waves using the same wording, and to place them in a similar context. Nevertheless, like other long-running panels (Tourangeau, 2003), we had reasons to modify some questions, and add or drop others. Considerations of comparability over time largely drive such changes.

All attitudes, opinions, and values are measured with prospective questions. Retrospective questions deal mainly with facts, especially about respondents’ educational and occupational trajectories prior to joining POLPAN, and subsequently, between waves, and with family background.

Overall, the circumstances and events that we request participants to remember are linked to major life events, and thus should be easier to recall accurately (Tourangeau, Rips and Rasinski, 2000). Yet, some between-wave inconsistencies in answers by the same respondents about facts that should not change (e.g. father’s year of birth) appear. Seam effects (Jäckle and Lynn, 2007; Moore *et al.*, 2009) are also likely.⁸ Regarding occupational careers especially, respondents can underestimate change within the reference period of a single survey (Rips, Conrad and Fricker, 2003), and overestimate change across waves (Lynn and Sala, 2006), for example when the period of job spells they report on also spans the period that the previous wave covered.

Given the relatively long time between consecutive POLPAN waves, the social construction dimension of survey data (e.g. Houtkoop-Steenstra, 2000; Tomescu-Dubrow *et al.*, 2019), and the use of PAPI, we have refrained so far from dependent interviewing (e.g. Moore *et al.*, 2009). Instead, we seek to harmonize information ex-post (Granda, Wolf and Hadorn, 2010; Dubrow and Tomescu-Dubrow, 2016), to increase comparability of measures across waves. We use two approaches, so-called hard and soft adjustments, while preserving all original values (see Sawiński, 2017).

Survey implementation. All survey instruments—questionnaires, show cards, and interviewer instructions—are pretested prior to data collection, by the Centre of Sociological Research (ORBS) at IFiS PAN. Our lasting collaboration with ORBS, whose survey experience includes fielding all European Social Survey rounds in Poland, benefits the process of aligning POLPAN's quality standards to advances in survey methods. Since 2003, we apply the following rules (i) fieldwork period set to minimum 4 months, (ii) interviewer workload limited to maximum 40 interviews, (iii) non-response follow-ups including at least four visits, spread through the fieldwork period, (iv) use of unconditional incentives, (v) re-approaching soft refusals, (vi) progressive interviewer remuneration, and (vii) strict interviewer monitoring.

Taking into account how important the interview experience is for panel retention (Lynn, 2018), we put great effort in selecting, training, and monitoring interviewers. ORBS works closely with a country-wide interviewer network, from which interviewers are chosen based on their performance history. Together with ORBS, we train both the coordinators of the regional interviewer units and individual interviewers prior to each POLPAN fieldwork period.

Data collection involves PAPI interviews conducted in respondents' homes.⁹ POLPAN strictly monitors fieldwork. This includes reviewing weekly progress reports that the regional coordinators prepare, inspecting the first batch of survey data they deliver half-way through the fieldwork period, and interviewer performance controls.

Desk-checks constitute a first step to assess interviewers' work. We analyze 'Contact Forms' that interviewers need to complete for any contact attempt, whether successful or not, and compare respondent demographic data against information collected in previous waves, or against PESEL data, for new recruits. In case of any discrepancy, all interviews conducted by that interviewer are sent for field checks.

Field checks consist of follow-up interviews conducted face-to-face or by telephone.¹⁰ As a rule, checks cover from 5 to 10 per cent of cases in each of the following groups: successfully completed interviews, refusals, and non-contacts. If they reveal any misconduct, the case is subject to further investigation and disciplinary procedures.

Project Management

Ongoing controls during different stages of the survey lifecycle are intrinsic to survey data quality assessment

(Morganstein and Marker, 1997; Loosveldt, Carton and Billiet, 2004; Groves and Lyberg, 2010; Biemer, 2016; Lyberg and Weisberg, 2016). POLPAN management seeks to strengthen this process by keeping key actors, including social scientists, survey methodologists and ORBS, continuously engaged in the project. The decades-long collaboration takes place in an environment of personal and professional trust, including with interviewers, some of whom have participated in every wave since 1988.

The emotional relationship to POLPAN translates into extraordinary efforts to fully comply with methodological standards for data collection, processing and sharing. It also fuels the determination to apply for the national and international research grants that keep POLPAN running (polpan.org/en/about-polpan/financing).

Ethics

Participation in POLPAN is based on the informed consent of adults selected to the study's samples. We collect, store, and process respondent data in line with national and international regulations on privacy and data protection, including, initially, the OECD Guidelines Governing the Protection of Privacy, then Poland's Personal Data Protection Act of 1997, and currently, the EU-wide General Data Protection Regulation (GDPR, EU-Lex Document 32016R0679). Participants' information in publicly shared POLPAN datasets is fully anonymized.

Responsiveness to Users' Needs

Another important angle to assess data quality from is the extent to which surveys and their documentation are accessible, usable, and disseminated on time (e.g. Gryna and Juran, 2001; Biemer and Lyberg, 2003; Lyberg and Stukel, 2010). We share POLPAN data and their documentation free of charge. The integrated POLPAN 1988–2018 dataset can be downloaded from the Polish Social Data Archive, PADS, (pads.org.pl) and Harvard Dataverse (Slomczynski and Tomescu-Dubrow, 2021). All single-wave files are also archived at PADS.

The POLPAN 1988–2018 dataset provides information for a total of 7,789 respondents, of whom 3,932 were interviewed at least twice (polpan.org/en/data-and-documentation/data). A total of 1,140 participants of wave 1 (1988) were reinterviewed in wave 7 (2018). Among them, 544 participated in all waves. The technical variable 'HISTORY' identifies all waves a given respondent participated in.

The main materials relevant for using POLPAN, including methodology descriptions, questionnaires, and main publications, are available on the project's website, in both Polish and English. A set of analytic tools—*POLPAN Viewer* and *Converter*—are available from data administrators (polpan@ifispan.edu.pl) without charge.

POLPAN Viewer is a type of electronic codebook to navigate over 5,000 variables in the POLPAN 1988–2018 dataset. For each question, its wording (in English and Polish), the list of waves and questionnaire versions that feature the question, and response frequencies in each wave, are displayed and can be copied and saved.

Converter is a computer application to create life course trajectories from POLPAN data (Sawiński, 2016). It implements a standard algorithm for selecting a single occupational code for each stage of career, so that careers for all respondents are reconstructed according to the same rules. The resulting data can be exported for analysis, in wide or long format. Additionally, the *Converter presentation* format facilitates visualization.

Polpan Extension Studies

Several studies linked to POLPAN extend the scope of the panel data. To get insight into how people in Poland experience major labour market events, in 2012–2013 the *Joblessness study* interviewed a purposive sub-sample of 149 women and men who in the 2008 POLPAN wave reported being out of work for at least 3 months.¹¹ The study produced qualitative and quantitative data on topics that include how, when and for how long respondents became jobless, how they looked for and found a job, what they did all day (odd jobs and home life), and their social and political activities (Tomescu-Dubrow *et al.*, 2019).

The *Biographical project* (2014–2019) used the autobiographical narrative interview method (Schütze, 1983) with 49 women and men born between 1922 and 1942, most of whom had participated in all POLPAN waves.¹² 'Listening', rather than 'questioning', as these panelists recounted their biographies, supplements—and in some cases reinterprets—survey-yielded data and adds useful methodological insights (e.g. Andrejuk, 2016; Filipkowski and Życzyńska-Ciołek, 2019; Życzyńska-Ciołek, 2019). Most biographical interviews (in Polish) are archived (Filipkowski, 2021; Życzyńska-Ciołek, 2021).

The ongoing *Cross National Biographies* (CNB)—Young project (crossnationalbiographies.edu.pl/en, 2019–2023) harmonizes ex-post biographical survey

data on individuals aged up to 35 from POLPAN, the German Socio-economic Panel (SOEP), the U.K. Household Longitudinal Survey—Understanding Society, and the US NLSY79 Young Adults Study.¹³ The ensuing dataset will be the first to cover cross-nationally full employment histories of respondents starting from their first job, as well as their education, changes in household composition, income, and health/well-being.

Concluding Remarks

The Polish Panel Survey POLPAN started in 1988 and comprises now seven waves run in 5-year intervals on adult residents of Poland (most recently, in 2018), and several connected studies featuring narrative interviews with panelists and harmonization initiatives. This data infrastructure, built in cooperation with international academic institutions, facilitates analyses of a wide variety of themes at the intersections of sociology, demography, economics, health, political science, and social psychology.

In the increasingly rich environment of publicly available social science survey programmes, the time-span and breadth of topics in POLPAN and the project's strong theoretical and methodological foundation, allow its data to stand out. The three decades that POLPAN presently covers span two fundamentally different regime types in Poland—State Socialism and full-fledged Capitalism—the sweeping social change preceding EU membership and the developments in society since, including the anti-democratic turn in politics following 2015.

Against the background of major historical events and their consequences, POLPAN follows women's and men's accounts of their economic, political and cultural resources and behaviours, their social networks and health, and their attitudes on a broad range of social issues. Since POLPAN prospectively documents respondents' life trajectories in terms of a wide array of subjective and objective experiences, researchers can study how different types of inequality unfold and interact throughout the life course, and the extent to which individual agency mitigates their effects. Crucially, the project's panel design allows scholars to use a causal analysis framework, including fixed-effects modeling (Gangl, 2010; Brüderl and Ludwig, 2015). Age, period, and cohort dependencies can also be investigated: the POLPAN sample composition—panelists and refreshment samples of young—enables multiple approaches, centered on the biographies of respondents who participated in all waves, or on comparisons of successive cohorts entering adulthood in post-communist Poland.

In both substantive and methodological terms, POLPAN builds on a long-standing tradition of theory-driven survey research on the social structure in Poland (Wesołowski and Słomczynski, 1977) and close international cooperation with stratification scholars and survey methodologists (Słomczynski, Miller and Kohn, 1981). The seminal work developed under the Warsaw School of studying class and stratification shaped POLPAN's theoretical framework, methodology, and conceptual tools—most notably, the social classifications of occupations and occupational indexes. Expert advice from scholars such as Tamas Kolosi, Melvin Kohn, Karl Ulrich Mayer, John Goldthorpe, and Donald Treiman greatly contributed to POLPAN collecting innovative, high-quality survey data from its onset.

Methodological rigour remains a top priority in POLPAN. The project adopts a multi-dimensional definition of survey quality and implements steps to minimize total survey error, ensure comparability over time, and respond to users' needs. Regarding the latter, two points are worth stressing. First, POLPAN survey datasets with Polish and English documentation and customized analytic tools are open-access. Second, the user community will be well served if the phenomena that POLPAN studies could be analyzed cross-nationally. To facilitate such research, the POLPAN team, in collaboration with colleagues from SOEP, Understanding Society, and NLSY, recently took up the challenge to integrate data from these panels into the CNB-Young dataset, using new developments in the field of ex-post survey data harmonization (Słomczynski and Tomescu-Dubrow, 2018). This endeavour contributes an international dimension to the POLPAN data infrastructure.

Notes

- 1 Przybyłowska and Kistelski (1987) provide arguments that even under drastic restriction of opportunities for self-expression, respondents can consider the interview situation as a safe way of expressing thoughts, views, and attitudes.
- 2 Under 'shock therapy', the state withdraws quickly and decisively from the market, allowing the market to dictate immediately what needs to be produced, and for how much. Simultaneously, the state drastically reduces social welfare programmes.
- 3 In the Warsaw School framework, class and stratification, as core dimensions of social structure, are related, but analytically distinct: the class structure is about 'who controls what', while stratification is about 'who gets what and why'. Classes are social groups that control various aspects and varying amounts of resources that are important for the functioning of capital, labour, and consumption markets. Social stratification refers to systematic differentiation among persons and groups with respect to generally desired goods; the main components of stratification are formal education, occupational rank, and job income.
- 4 Refreshing samples are drawn from the PESEL National Population Register via stratified simple random sampling. This register keeps PESEL national identification numbers that are mandatory for all citizens, permanent residents, and temporary residents living in Poland for over 2 months. Polpan.org/en/data-and-documentation/methodology provides wave-by-wave sample methodology details.
- 5 Only in wave 2 (1993), the youngest respondents are 26 years old. The 1998 renewal sample accounts for this and adds people aged 21–30.
- 6 The large oversample of young in wave 5 (2008) follows from the POLPAN-Young extension study (Polish Ministry of Science and Higher Education, grant no. 1353/B/H03/2010/39).
- 7 Initially we distributed small items bearing POLPAN's name and logo. In 2018, we offered a 20 PLN gift card (ca. 6 USD).
- 8 Seam bias refers to tendency of estimates of change that are measured across the 'seam' of two successive survey waves to far exceed estimates of change that are measured within a single wave (Conrad, Rips and Fricker, 2009 as cited by Hillygus and Snell, 2015: p. 14).
- 9 Exceptionally, in wave 6 (2013), we re-approached respondents first interviewed in 1988 who 'skipped' ulterior waves via both postal and face-to-face surveys.
- 10 In 1988, follow-up checks involved postal questionnaires. Starting with 1993, ORBS switched to face-to-face and telephone checks (Sztabiński, 1995).
- 11 The Joblessness project was funded by Poland's Ministry of Science and Higher Education (1353/B/H03/2010/39).
- 12 The *Biographical project* was funded by two Polish National Science Center grants (2011/02/A/HS6/00238, and 2017/25/N/HS6/01928), and by Życzyńska-Ciołek's grant from the Graduate School for Social Research at IFiS PAN (agreement no. 9/2016).
- 13 Funding comes from the Polish National Science Centre (grant no. 2018/31/B/HS6/02043).

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