Chapter 2
Surveying Across Borders: The Experiences of the German Emigration and Remigration Panel Study

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2.1 Introduction

International migration is predominantly conceptualised as population flows from economically less developed to economically more developed regions. This state of affairs has changed in the course of the last few decades when even the economically most prosperous countries increasingly developed into important sources of international migration. The economically highly developed countries particularly in Europe and North America continue to be major destination regions: More than 55% of all estimated 272 million international migrants in 2019 live in these countries, but they are also major source countries with 68 million international migrants originating from these regions (UN 2019). Academic scholarship about those international population movements is highly fragmented. Marginalised within migration studies, the international experiences of individuals originating from those economically prosperous societies are regularly conceptualised under a plethora of more specific headlines. They are conceptualised as "expatriates" (McNulty and Brewster 2017), "transnational professionals" (Harrington and Seabrooke 2020), "international students" (Bilecen and van Mol 2017), "mobile elites" (Jansson 2016), "life style migrants" (Benson and O'Reilly 2009) or "privileged migrants" (Fauser 2020). Given rising international movements from those economically

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highly developed countries and the potential relevance of international experiences and temporary stays abroad for successful social and economic participation in an increasingly globalised world, there exists a pressing need for more thorough investigations (cf. Erlinghagen et al. 2021 in this volume; but also van Dalen and Henkens 2013; Weinar and Klekowski von Koppenfels 2019).

The German Emigration and Remigration Panel Study (GERPS) is an ultimate response to this lack of information about the international migration of populations from economically highly developed welfare states. Drawing on Germany as a case study, GERPS collects data about the experiences of German international migrants. Conceptually, it is based on the "destination-origin-migration approach" (Erlinghagen et al. 2021) and aims to examine individual consequences not only as a question of migrants' integration into receiving societies (*destination*). Rather, the consequences of international mobility are also to be studied by comparing migrants with the non-mobile population of the country of origin (*origin*). At the same time, the consequences of international mobility will be analysed as results of specific trajectories (*migration*) in individual life courses during the migration process. Although GERPS focuses on the emigrant rather than the immigrant population, it is confronted with familiar methodological difficulties migration scholars have always discussed the sampling of an international mobile population as a "rare" (Lavrakas 2008) and often "hard-to-reach population" (Kalton and Anderson 1986; see also Lynn et al. 2018). Immigrants are a comparatively small population in their receiving society. Once we restrict the group of interest to recent immigrants or emigrants, they all the more constitute a rare population because for most countries and for most years only a fraction of the overall population are internationally mobile and leave their country of birth for an expanded period. Additionally, emigrants constitute a hard-to-reach population not only because they are geographically mobile but also because they are highly dispersed, living, in most cases, in various potential destination countries. Tracking them is unfeasible based on conventional sampling procedures. In response, GERPS aims to provide a new data infrastructure to study the individual consequences of emigration from Germany and return to Germany after temporary settlement abroad.

This chapter discusses the assets and drawbacks of this approach based on the "total survey error" framework (Groves et al. 2004, p. 48). After a short discussion of previous approaches to the investigation of internationally migrating populations from economically highly developed countries, it presents the principal research design, sampling strategy, and contents of the survey. Finally, the chapter presents assessments of the data quality including analyses of nonresponse and comparisons of the survey data with available reference statistics. Finally, the chapter suggests the research design as a template for future studies that aim to survey migrants across borders and highlights four major prospects of the data for empirical analyses in this volume.

2.2 Tackling Pitfalls of Existing Strategies to Study Internationally Mobile Populations

The most common data sources for studying international migration are national population censuses, national household surveys and national labour force surveys (Bilsborrow et al. 1997; Font and Méndez 2013b). Although surveys based on such data sources collect valuable information, the data they provide generally refer to the resident population only, including immigrants. Internationally mobile populations, including emigrants living abroad or remigrants who returned from abroad, by contrast, rarely appear in national survey data. There are various reasons for the omission of emigrants and remigrants in these data sources: Although remigrants are part of the resident population and consequently appear in such data sources, these data sources regularly fail to document that some people previously lived abroad. Emigrants are omitted from national survey data because they are–by definition–not part of the resident population that usually constitutes the sampling frame of national surveys.

In order to overcome these difficulties, recent studies have endeavoured to create new data sources that cover internationally mobile populations. Focusing on emigration in particular, they share a common approach by compiling data on immigration for major destination countries to get an understanding of the overall emigrant population of specific countries of origin. These specific compilations are based on administrative or census data (e.g. Beine et al. 2006; OECD 2015), but researchers have extended this approach to major national surveys such as the European Social Survey (ESS) or the European Union Labour Force Survey (EULFS) to get a better understanding of this population (e.g. Erlinghagen 2011; Ette and Sauer 2010). One advantage of the compiled information is that it facilitates the analysis of emigrants' socio-economic background and–using EULFS or ESS data–their living conditions in their destination countries. Recent years have seen efforts to include specific migration and emigration modules into established surveys, developed new forms of multiplicity sampling by collecting information on non-resident household members (e.g. Lien 2016; Woodrow-Lafield 1996), and applied this additional information for demographic modelling of emigration (e.g. Willekens et al. 2017). Nevertheless, major shortcomings of such approaches remain: This includes, in particular, missing information on the situation of emigrants before they left their country of origin and limited information about the migration process itself, which hinders the investigation of causes and consequences of migration (Groenewold and Bilsborrow 2008). These shortcomings also apply to remigrants: Some national labour force surveys include items about the place of residence 12 months before, principally allowing the identification of the internationally mobile population returning to their country of origin (Martí and Ródenas 2007). The problem of missing information on the situation of remigrants before they return to their country of origin and the limited information about the migration process itself remain, reducing the potential of national population censuses or national household and labour force surveys to study the causes and consequences of migration.

Next to those general population surveys that also include migrants, recent decades have seen significant progress with respect to specific migrant surveys (Font and Méndez 2013a; Kraler and Reichel 2010). New immigrant surveys conducted nowadays in many major countries of destination are of particular relevance. They include information on the situation of migrants before migration as well as about motives for migration and additional information about the migration process (e.g. Jasso et al. 2000; Reher and Requena 2009). With respect to emigration, however, these data collection initiatives are hardly comparable and based on comparatively small sample sizes. Compiling immigrant data in major destination countries to gather information about emigration from particular source countries–seen before for census and large-scale national household surveys–is not a plausible strategy for this otherwise rich data source. With respect to migrants from economically highly developed countries, the value of these specific immigrant surveys is also limited because these surveys regularly focus on immigrants from major countries of destination but rarely sampling, for example, migrants from Germany (e.g. Diehl et al. 2015; Prandner and Weichbold 2019).

In the absence of data on emigrants matching the information now available about immigrants in major destination countries, several strategies for obtaining more information about emigrants from developed countries have been devised. A first set of approaches makes use of survey data collected in the countries of origin of potential emigrants. These studies either analyse emigration and its underlying determinants by focusing on migration intentions (e.g. Cai et al. 2014; Tjaden et al. 2019; van Dalen and Henkens 2007) or they make use of retrospective questions to obtain information on temporary stays abroad after migrants have returned to their country of origin (e.g. Gerhards and Hans 2013; Kratz and Netz 2018). Data about intended behaviour are, however, only weak indicators of actual emigration behaviour and of the underlying motives for emigration. Meanwhile, data gathered through retrospective questions have general reliability problems and exclude permanent emigrants altogether (cf. Lugtig et al. 2016; Smith and Thomas 2003).

Attempts have also been made to sample emigrants directly, but these strategies have run into serious data quality issues. For example, surveys that focused on specific subgroups of emigrants, such as students or academics working abroad, generally suffer from having highly selective sample frames (e.g. van Mol 2014). Meanwhile, efforts to survey emigrants in selected countries have resulted in better sampling frames, at least for countries with appropriate population registers. Yet the data produced by such strategies appear to be highly selective–most of the participating emigrants had been living in their respective country of destination for many years, whereas individuals engaged in return migration and temporary migration were not adequately taken into account (e.g. Recchi and Favell 2009). The most ambitious attempts that have been made from a methodological perspective tracked participants of national panel surveys after they had moved abroad (Schupp et al. 2008). However, this approach resulted in unsatisfactory response rates, which inhibited the originally planned analyses and fundamentally called this otherwise attractive research strategy into question.

2.3   Research Design

The German Emigration and Remigration Panel Study (GERPS) emerged as an immediate response to this lack of appropriate data to study the individual consequences of international migration. Five main elements characterise its research design (for an overview see Fig. 2.1):

First, GERPS relies on an *origin-based sampling design* (cf. Ghimire et al. 2019) to sample this rare and hard-to-reach population. It reverses usual procedures for setting up samples of international migrants: Whereas international migrants are traditionally sampled in their countries of destination, this new approach samples the internationally mobile population in their country of origin. Origin-based sampling has not yet resulted in a coherent set of strategies, but all existing studies share that they sample international migrants in their country of origin (e.g. Beauchemin and González-Ferrer 2011; Ghimire et al. 2019; Massey and Espinosa 1997; Parrado et al. 2005; Teruel et al. 2012). GERPS applies this idea by making use of Germany's population register to set up a probability sample of the internationally mobile German population.

A second design element of GERPS is its focus not only on emigrants but also on remigrants returning to Germany after living for some time abroad. Such a *bothways migration design* (cf. Rallu 2008) provides the opportunity to account for
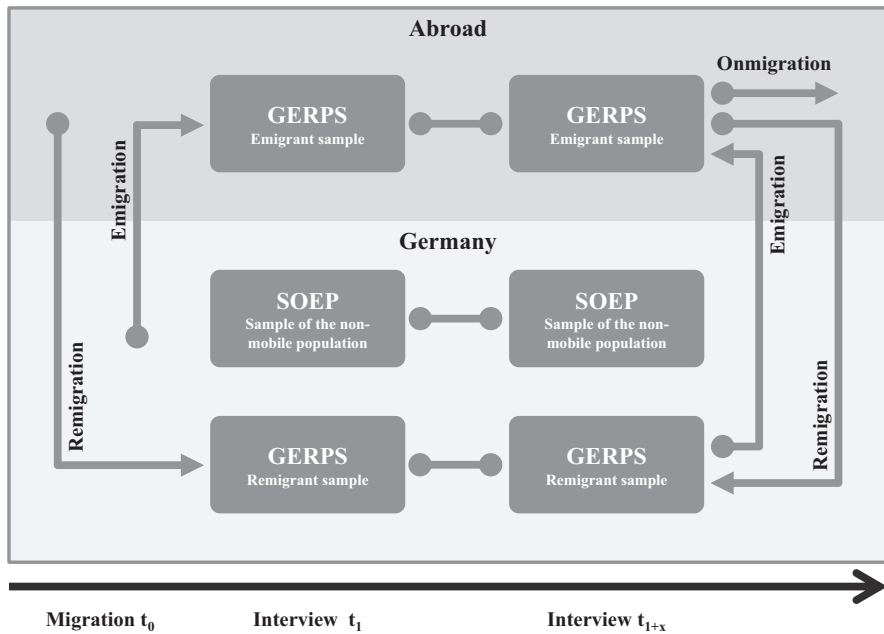

Fig. 2.1 Schematic representation of the research design of the German Emigration and Remigration Panel Study. (Source: Authors' presentation)

selective return migration and reduce potential bias. In GERPS, the problem of selective return migration is additionally reduced by focusing on recent migration of German citizens for whom the register indicates that they emigrated or remigrated in the 12 months before the sampling took place (see "Migration t_0" in Fig. 2.1).

A third design element is a logical consequence of using the population register as a sampling frame. In GERPS, the postal addresses provided by the registers are used to invite potential survey members offline, using postal invitation letters to motivate them to participate online in the web survey. This *push-to-web design* (cf. Dillman 2017) matches the highly mobile target population. It allows for surveying emigrants during their time abroad in a large and diverse number of countries of destination, whereas remigrants are surveyed after their return to Germany (see "Interview t_1" in Fig. 2.1).

Fourth, GERPS applies a *multi-sited design* studying migration in both the origin and destination countries (cf. Mazzucato 2008; Amelina and Faist 2012; Guveli et al. 2016). Many analyses of the causes and consequences of international migration must be based on information about the internationally non-mobile population. Within the GERPS research design, no separate sample of this population was drawn. Instead, the survey instruments used by GERPS were developed closely in line with the Socio-Economic Panel (SOEP) as the most established panel survey in Germany. GERPS data is easily harmonised with SOEP data to provide unlinked multi-sited data (see "SOEP" in Fig. 2.1 as well as Ette et al. 2020 for more information).

A final research design element of GERPS is its *longitudinal design* combining the collection of retrospective biographical data about the situation before the migration event with panel data to study the individual consequences of living globally. In total, at least three more follow-up surveys are planned after the first wave (see "Interview $t_1 + x$" in Fig. 2.1). It provides the opportunity to capture further movements of survey participants, for example if remigrants currently living in Germany emigrate again or if emigrants decide to move onwards to another destination country or back to Germany.

2.4 Sampling Strategy

Following an origin-based sampling design, GERPS uses Germany's population register as a sampling frame of the internationally migrating population. In most countries with population registers, high quality population surveys are regularly making use of this available list to draw random samples. Reference to population registers is particularly widespread if rare populations have to be identified as is regularly the case in migrant samples (cf. Bilsborrow et al. 1997; Méndez and Font 2013, p. 277). The problem of population registers is that they primarily serve administrative purposes. Comparing the target population of GERPS–German citizens who move and subsequently live abroad for a substantial period of time–with

the administrative procedures of Germany's population registers, over-coverage as well as under-coverage errors exist (Groves et al. 2004).

The over-coverage problems (e.g. multiple movements within a certain period, deregistrations "ex officio") are easily adjusted within the sampling process. Under-coverage, by contrast, is more difficult to adjust because it concerns an unknown quantity of persons who are principally part of the internationally mobile population in Germany but do not appear in the population register. This refers in particular to short term moves abroad, e.g. by students in exchange years, short-term assignments of employers, or retired people living for parts of the year abroad. The precise size of under-coverage is unknown but previous research shows that international migration rates documented in national household surveys are smaller compared to the information from population registers (Ette et al. 2008). Although population registers are traditionally criticised for their failure to adequately document emigration, this problem is reduced if migrants hold the citizenship of their country of origin. Whereas former immigrants now returning to their country of origin have limited incentives to legally deregister before leaving, this problem is fundamentally reduced if the national welfare state system has certain incentives to officially deregister (Poulain et al. 2006).

Although population registers do not offer perfect sampling frames for the emigrating population, the advantages of population registers definitely outweigh their disadvantages. It is therefore not surprising that the use of the population registers has been awarded "best practice" status (Häder 2015, p. 10; see also Zabal 2014) as a sample frame for high-quality population surveys with particular advantages when the aim is to identify rare and mobile populations (e.g. Cornesse et al. 2020; Glowsky 2013; Poutvaara et al. 2009). One of the major advantages of population registers is that they allow us to identify the population of interest, provide the opportunity for probability sampling, and include key demographic characteristics (e.g. sex, age, nationality, etc.) subsequently used to control for potential biases (Careja and Bevelander 2018). Based on Germany's population register, it was one of the main objectives of the sampling strategy used for GERPS to provide probability samples of the target populations. Their major characteristic is that the probability of being in the sample is known for all elements in the population and allows us to infer from the sample to the target population. Basically, the target population of GERPS includes internationally mobile German citizens. More concretely, two separate samples were necessary–a sample of emigrants and a sample of remigrants. Both included German citizens aged between 20 and 70 years. The emigrant sample additionally included only persons who had deregistered in Germany between July 2017 and June 2018 as moving from Germany to a foreign country. Correspondingly, the remigrant sample included only persons who had registered in Germany between July 2017 and June 2018 as moving from a foreign country to Germany.

In line with other studies, sampling based on the population register in Germany is always a two-stage procedure–sampling of municipalities and sampling of individuals–because Germany's population registers are decentralised and no aggregated register exists (Albers 1997; ADM 2014). The municipalities were sampled
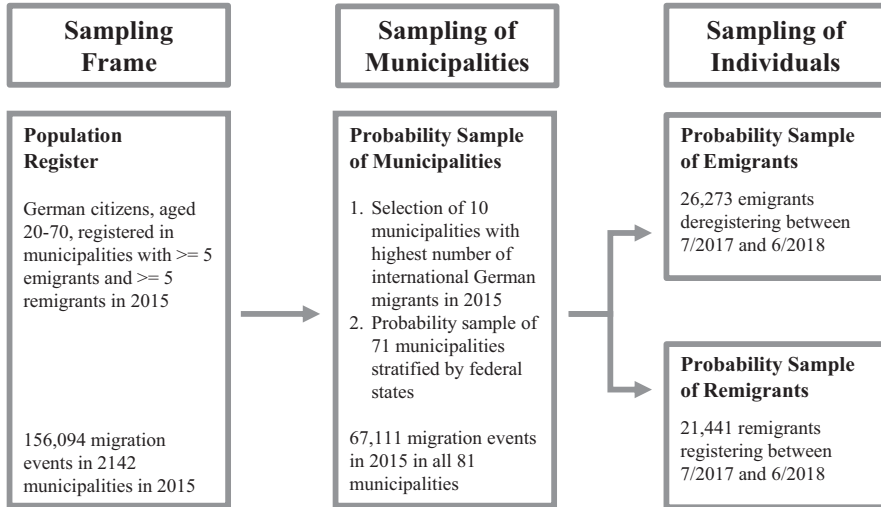
Sampling Frame	**Sampling of Municipalities**	**Sampling of Individuals**
Population Register German citizens, aged 20-70, registered in municipalities with >= 5 emigrants and >= 5 remigrants in 2015 156,094 migration events in 2142 municipalities in 2015	**Probability Sample of Municipalities** 1. Selection of 10 municipalities with highest number of international German migrants in 2015 2. Probability sample of 71 municipalities stratified by federal states 67,111 migration events in 2015 in all 81 municipalities	**Probability Sample of Emigrants** 26,273 emigrants deregistering between 7/2017 and 6/2018 **Probability Sample of Remigrants** 21,441 remigrants registering between 7/2017 and 6/2018

Fig. 2.2 Schematic representation of the sampling process of the German Emigration and Remigration Panel Study. (Source: Authors' presentation)

based on Germany's official migration statistics from the year 2015 restricted to emigrants and remigrants from municipalities with at least five emigrants and five remigrants (for an overview about the sampling process see Fig. 2.2). Although this potentially excluded a large number of municipalities with smaller numbers of international migrants, the effect on overall migration events and potential sampling errors (Groves et al. 2004) seemed reasonable.

Despite this restriction on the number of municipalities in the sampling frame, the distribution of emigrants and remigrants along the municipalities in Germany remains highly skewed, with a comparatively large portion originating from urban areas and a much smaller share from rural areas. In response, a stratified random sampling approach differentiating two sampling procedures was applied (Lohr 2010, 73ff.). A first sampling procedure determined that the ten municipalities with the highest number of international migrants in 2015 (i.e. total number of 20 to 70-year-old emigrants and remigrants with German citizenship) are part of the sample of municipalities. Within those ten municipalities, a fixed share of remigrants and emigrants are sampled based on a simple probability sample. All ten municipalities were able to provide the necessary data. In a second sampling procedure, 71 additional municipalities with smaller numbers of international migrants were sampled as clusters. These municipalities were sampled randomly proportional to their total number of movements in the year 2015 and stratified by the federal states of Germany to control for regionally proportional sampling. A balanced sampling algorithm was applied, which approximates the weighted number of emigrations and remigrations to the sampling frame (Tillé 2006). Using this strategy, the final

sample contains 81 municipalities within which two samples were drawn–a probability sample of 26,273 emigrants and a probability sample of 21,441 remigrants together constituting the gross sample.

2.5   Survey Mode and Questionnaire Structure

There are several modes for conducting standardised surveys including personal interviews ("face-to-face"), postal surveys ("mail surveys"), telephone surveys, and web surveys. All of these modes have several advantages and disadvantages (for an overview see, for example, Couper 2011) and the decision to find the "right" mode for a study depends on several aspects such as topic, target group, availability of contact information, budget, field period, and time frame of the project. The push-to-web design applied by GERPS follows a mixed-mode approach with differences between contact mode and survey response mode. This offers us the possibility to combine advantages of offline mail recruitment (Sakshaug et al. 2019) with the benefits of an online survey (Cernat and Lynn 2017; Evans and Mathur 2018; Lee et al. 2018).

The mixed-mode element in the push-to-web design was seen as a crucial obstacle because of the necessary transition from an offline letter to an online response including the self-administered login into the online questionnaire. Survey implementation and field work closely followed the recommendations of the "tailored design method" (Dillman et al. 2011). This included appealing, personalised invitation letters, the subsequent sending of up to two reminder letters in a fixed chronological sequence, and other aspects to generate trust in the research project including an appealing questionnaire design, information about the research project, a detailed data protection concept, and extensive usage of incentives (see Ette et al. 2020 for more detailed information).

The questionnaire structure follows the multi-sited design: To enable comparative analyses between GERPS data–on the internationally mobile population–with data from the SOEP–on Germany's internationally non-mobile resident population–requires coherence between the questionnaires of both studies. Therefore, wherever possible and reasonable, questions from the SOEP were incorporated so that experiences, personal characteristics, and life situations of the internationally mobile population could be compared with their non-mobile counterparts (Goebel et al. 2019; Wagner et al. 2007). In sum, 63 questions from the emigrant questionnaire and 66 from the remigrant questionnaire are comparable to the SOEP data. Additionally, the online questionnaires for both samples, emigrants and remigrants, were kept as identical as possible to provide comparative analyses on both ends of the migration process. This includes questions on various topics, including items on socio-structural characteristics as well as questions that explore the subjective attitudes, motives, and feelings of the respondents. This basic questionnaire was extended by specific questions focusing on the different situations of emigrants and remigrants and also included retrospective questions on the situation before the migration event (see Table 2.1 for an overview).

Table 2.1 Thematic structure of the questionnaires for both samples of the German Emigration and Remigration Panel Study

	Emigrant questionnaire	Remigrant questionnaire
1.	Motives and reasons for leaving Germany	Motives and reasons for last move to Germany
2.	Household structure, partnership, and housing situation before leaving Germany	Household structure, partnership, and housing situation before move to Germany
3.	Employment before leaving Germany	Employment before moving to Germany
4.	Previous long-term stays abroad and planned duration of stay abroad	Previous long-term stays abroad and planned future stays abroad
5.	Current household structure, partnership, and housing situation	Current household structure, partnership, and housing situation
6.	Contacts to friends and relatives	Contacts to friends and relatives
7.	Personal situation compared to the situation before leaving Germany	Personal situation compared to the situation before move to Germany
8.	Current employment and financial situation	Current employment and financial situation
9.	General demographic and socio-economic questions about person including language skills	General demographic and socio-economic questions about person including language skills
10.	General demographic and socio-economic questions about partner and parents	General demographic and socio-economic questions about partner and parents
11.	Attitudes, personality, and well-being	Attitudes, personality, and well-being

Source: GERPSw1

2.6 Nonresponse and Data Quality

In addition to the coverage and sampling errors discussed above, unit nonresponse is the third component affecting the quality of a survey. Unit nonresponse is the term used when not all members of a sample ultimately participate in a survey. Unit nonresponse can harm data quality and lead to biased estimations if nonresponding survey members are distributed differently among specific population subgroups in systematic ways, thus resulting in nonresponse error. Three major components of unit nonresponse are distinguished in the literature: noncontact, inability, and refusal (e.g. Groves et al. 2004; Schnell 2012). Noncontact refers to survey members who did not receive information about the survey and are thus not likely to know about the survey request, for example because the post office for various reasons did not deliver the survey invitation. Inability refers to sampled persons who did receive the information about the survey but are unable to participate because of physical obstacles or technical difficulties. In some cases, these persons inform the initiator or collector of the survey data (explicit inability), but most of the time these persons will not take part without any further information (implicit inability). These latter cases are not distinguishable from implicit refusals, which refer to sampled persons who know about the survey invitation but are unwilling to participate. They are only distinguished from implicit inability if they actively do not cooperate and inform the initiator or collector of the survey data (explicit refusal).

Table 2.2 Components of unit nonresponse and cooperation rates by sample

	Emigrants		Remigrants		Total	
	N	%	N	%	N	%
Gross sample	26,273	100.0	21,441	100.0	47,714	100.0
Noncontact	9765	37.2	3842	17.9	13,607	28.5
Explicit refusal	29	0.0	43	0.2	72	0.2
Explicit inability	4	0.0	4	0.0	8	0.0
Implicit refusal and inability	11,478	43.7	10,652	49.7	22,130	46.4
Interviews	4997	19.0	6900	32.2	11,897	25.0
Break-offs	256	0.0	382	1.8	638	1.3
Partial interviews	125	0.0	124	0.6	249	0.5
Complete interviews	4616	17.6	6394	29.8	11,010	23.1

Source: GERPSw1

In line with population surveys in general, explicit inability and refusal is almost negligible in a mixed-mode survey based on postal invitation letters. There are differences to general experiences, however, with respect to noncontact. Recent international migrants are by definition a highly mobile group and it is not surprising that address information for them is of lower quality (Méndez and Font 2013, p. 286). This is the case for remigrants contacted at their recent address in Germany after they returned from abroad. Here, 17.9% of all 21,441 sampled persons did not receive either the invitation letter or one of the reminders (see Table 2.2). The obstacles in contacting emigrants in their country of destination, where 37.2% were not successfully contacted, are even greater. Despite these difficulties contacting this rare and hard-to-reach population, 11,010 complete interviews were conducted during the first wave of the German Emigration and Remigration Panel Study. This results at a response rate of 23.1% (for standards of calculation see AAPOR 2016, p. 61), in line with surveys applying comparable research designs surveying individuals in Germany (e.g. the GESIS Panel and the German Internet Panel).

In addition to nonresponse rates and detailed nonresponse analyses (cf. Ette et al. 2020), comparative analyses between the distributions of key demographic variables in official reference statistics with the gross sample of GERPS and the final survey data provide additional information to assess data quality. Germany's official migration statistics provided by the Federal Statistical Office certainly constitute the most important reference to crosscheck data quality. Aiming to match the sampling frame of GERPS as closely as possible, data from official migration statistics in all following tables are restricted to 20 to 70-year-old German citizens and exclude deregistrations "ex officio." Additionally, the information from official statistics refers to average results of Germany's migration statistics for the years 2017 and 2018 to match the sampling period of GERPS (July 2017 to June 2018) as closely as possible. In all tables, the information on the distribution in the gross sample of GERPS relies on register information, whereas the data on complete interviews refers to the unweighted information provided by the respondents themselves. Weights that correct both for sampling errors and bias through unit nonresponse

Table 2.3 Distribution of sex in GERPS data and official statistics, in per cent

	Emigrants			Remigrants		
	Official statistics	Gross sample	Complete interviews	Official statistics	Gross sample	Complete interviews
Male	52.6	52.1	48.9	54.5	54.4	49.5
Female	47.4	47.9	51.1	45.5	45.6	50.5
N	91,399	26,226	4509	79,174	21,004	6401

Sources: Authors' calculations based on GERPSw1 and official statistics provided by the Federal Statistical Office

were under development at the time of writing and are therefore not applied in this volume.

Table 2.3 presents the distribution of male and female emigrants and remigrants. The results show that the gross sample of GERPS very closely matches the distribution share of emigrants and remigrants. Official statistics record that 52.6% of emigration events took place by males, whereas the respective share in the gross sample of GERPS is 52.1%. For remigrants, the difference is even lower and differs only by 0.1 percentage points demonstrating that errors were marginal with respect to sex sampling. As for the distribution in the sample of the interviews, however, the table shows a higher probability of females to respond to the GERPS questionnaire. As a result, females are overrepresented in the emigrant sample by 3.7 percentage points compared to official statistics and by 5.0 percentage points in the remigrant sample.

With regard to age (Table 2.4), differences in the distribution between official statistics and the gross sample of GERPS are more pronounced. This is mainly because official migration statistics record migration events with no reference to specific individuals or households. The sampling procedure of GERPS, by contrast, concentrates on only one randomly chosen individual per household. Since international migration in the household context is more likely in older age groups, the sampling procedure results at an overrepresentation of younger age groups (20–29 and 30–39 years) in the gross sample. In the survey results, the 30 to 39-year-old respondents in both samples are overrepresented by 8.7 percentage points for the emigrant sample and 7.6 percentage points for the remigrant sample. This higher probability of response by the 30 to 39-year-olds consequently results at an under-representation of the older age groups of both samples.

Finally, Germany's migration statistics also provide information about the geography of migration. The distribution of the region of destination of emigrants in the gross sample largely matches the corresponding distribution in official statistics with a 1.6 percentage point overrepresentation of Switzerland in the gross sample marking the most obvious discrepancy. Interestingly, the pattern of divergences between official statistics and the gross sample is more marked with respect to remigrants. Potential sampling errors in the divergent distribution between official statistics and the gross sample are the most pronounced. For example, 39.8% of remigrants return from an EU-28 country whereas their respective share is 42.8% in the gross sample. This is most likely caused by the regional stratification of the sampling strategy of GERPS (see Table 2.5). Additional nonresponse bias has only marginal consequences for the remigrant sample (with the exception of "other European

Table 2.4 Distribution of age in GERPS data and official statistics, in per cent

	Emigrants			Remigrants		
	Official statistics	Gross sample	Complete interviews	Official statistics	Gross sample	Complete interviews
20–29	33.3	33.6	32.0	28.2	31.0	30.1
30–39	30.6	35.9	39.3	29.0	31.1	36.6
40–49	15.8	14.8	14.6	18.3	17.5	17.6
50–59	12.8	10.3	10.4	15.8	13.9	11.0
60–70	7.5	5.3	3.7	8.7	6.4	4.7
N	91,399	26,261	4501	79,174	21,402	6393

Sources: Authors' calculations based on GERPSw1 and official statistics provided by the Federal Statistical Office

Table 2.5 Distribution of the region of destination of emigrants and the region of origin of remigrants in GERPS data and official statistics, in per cent

	Emigrants			Remigrants		
	Official statistics	Gross sample	Complete interviews	Official statistics	Gross sample	Complete interviews
EU-28	45.5	45.3	50.3	39.8	42.8	42.1
Other European	6.8	5.7	3.5	10.1	6.3	3.8
Switzerland	15.1	16.7	22.1	11.0	10.6	11.7
North America	10.3	10.4	10.1	10.3	10.6	11.4
Latin America	4.4	4.3	2.9	6.2	7.7	8.0
Asia	8.1	7.8	5.7	11.0	9.5	10.7
Africa	3.0	2.8	1.7	3.9	4.3	4.1
Oceania	4.2	4.0	2.6	4.0	3.6	4.6
Near and Middle East	2.5	3.1	1.2	3.7	4.7	3.6
N	91,399	25,239	4527	79,174	21,379	6426

Sources: Authors' calculations based on GERPSw1 and official statistics provided by the Federal Statistical Office

countries") compared to the emigrant sample. These divergences between the gross sample and the complete interviews of emigrants are mostly explained by more serious noncontact problems in non-European countries, whereas emigrants in most European countries are more easily recruited by using an origin-based sampling approach with destination based interviewing.

2.7   Conclusions

The central aim of this chapter was to present the methodological foundations of the German Emigration and Remigration Panel Study. The survey is suggested as a foundation for testing the effectiveness of the destination-origin-migration approach

for empirical research. Given the difficulties in sampling rare and hard-to-reach populations, the research design is characterised by five main elements: (1) an origin-based sampling design applying Germany's population register as a sampling frame; (2) a both-ways migration design sampling both emigrants and remigrants; (3) a push-to-web design allowing emigrants to be surveyed in their countries of destination as well as remigrants back in Germany; (4) a multi-sited design, which links data of the internationally mobile population in Germany with existing SOEP data about the non-mobile resident population; and finally (5), a longitudinal design offering retrospective information about the situation before migration as well as panel information throughout the migration process. Discussing potential survey errors and assessing data quality based on available reference statistics, the chapter showed that the research design of GERPS presents a promising starting point for surveying migrants across borders that complements traditional methods of sampling international migrants. Although the contributions in this volume may not yet exploit the full potential of these data, they are a leap ahead for migration research. There are four major contributions of GERPS data in closing existing knowledge gaps about the international migration of populations from economically highly developed welfare states in migration studies:

1. **Comparative analyses with the society in the country of origin:** Traditional samples of international migrants are regularly used to analyse group-level structural integration outcomes of immigrants in comparison to natives of the destination country. The destination society is not, however, the appropriate comparison group for an analysis of the individual consequences of migration. GERPS offers us the opportunity to compare individuals who left their country of origin with those who did not, in order to shed light on effects of international migration on individual life courses of migrants.
2. **Comparative analyses between multiple destination countries:** Traditional samples of international migrants focus on the country of destination to study immigrant populations. Such surveys in one destination country naturally only capture those emigrants who live in this particular country and ignore the possibility that migration motives and selection mechanisms might differ between destination countries of emigrants from the same country of origin. Furthermore, potentially different paths of structural integration–responding to different opportunity structures offered by different countries of destination–are rarely studied within migrant samples concentrating on only one country of destination. GERPS provides us the opportunity for comparative analyses between multiple destination countries.
3. **Comparative analyses between emigrants and remigrants:** Traditional samples of international migrants regularly focus only on the living situation in their countries of destination. They capture neither the selective migration of individuals returning home nor the individual consequences of remigration. GERPS gives us the opportunity to understand migration processes from both ends, namely regarding the time before and after emigration as well as before and after remigration so we can comparatively study individual adjustment processes abroad as well as after return.

4. **Longitudinal analyses of the individual consequences of migration across the life course:** Traditional samples of international migrants regularly provide cross-sectional data only, but international migration is a dynamic process. Multiple measurements of central target variables within a comparatively short time interval within GERPS provides us with the opportunity to understand and explain the dynamics of international migration processes and their consequences along four central dimensions of the life course–employment and income, partnership and family, well-being and life satisfaction, as well as social relations and social participation.

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