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**Research Report**

## SOEP 2014 - TNS report of SOEP fieldwork in 2014

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SOEP – The German Socio-Economic Panel study at DIW Berlin

2015

# SOEP 2014 – TNS Report of SOEP Fieldwork in 2014

Axel Glemser, Simon Huber, Anne Bohlender

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**SOEP 2014 – TNS REPORT OF SOEP  
FIELDWORK IN 2014**

*München, 2015*

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# TNS Report of SOEP Fieldwork in 2014

by Axel Glemser, Simon Huber, and Anne Bohlender (TNS Infratest, Munich)

We summarize the most important aspects and results of the 2014 fieldwork. TNS Infratest Sozialforschung has been responsible for fieldwork, data collection, and data editing since the first wave of the German Socio-Economic Panel (SOEP) in 1984. The staff of the SOEP research unit at TNS Infratest Sozialforschung in Munich consists of 20 survey researchers, project managers, data editing officers, and support staff. In addition, more than 500 interviewers are involved in the fieldwork for each wave. TNS Infratest's large pool of interviewers ensures that sufficient face-to-face resources are available for the extensive and complex data collection processes of a regionally dispersed panel sample like the SOEP.

Generally speaking, the complexity and quantity of SOEP interviews has increased significantly over the last decade, which has affected both sampling and measurement-related SOEP survey tasks. This was true for the fieldwork on the various SOEP samples in 2014 as well: the development of qualitative innovations and quantitative top-up samples played a key role in the SOEP's efforts in both the main SOEP study, SOEP-Core, and in the Innovation Sample, SOEP-IS.

For **SOEP-Core**, presented in Section 1, the year 2014 witnessed two major challenges: the transition of the Migration Survey M1 (established in 2013) into the longitudinal section and the integration of the former study FiD (Families in Germany) into the general SOEP sampling system. The latter has to be treated as two separate subsamples: whereas the so-called cohort samples were fully integrated into SOEP-Core (e.g., same face-to-face survey mode and questionnaires), the so-called screening samples were inquired by a sequential multi-mode-design (interviewer-assisted CAWI followed by CAPI). In total 28,042 individuals living in 16,037 households were interviewed in the 2014 wave of SOEP-Core.

In the 2014/2015 wave of the SOEP Innovation Sample (SOEP-IS), a further general population refresher sample (I4) boosted the net total sample size to more than 3,700 households and 5,800 interviewed persons. Moreover a series of new and innovative survey measures were incorporated into the questionnaire, and for one

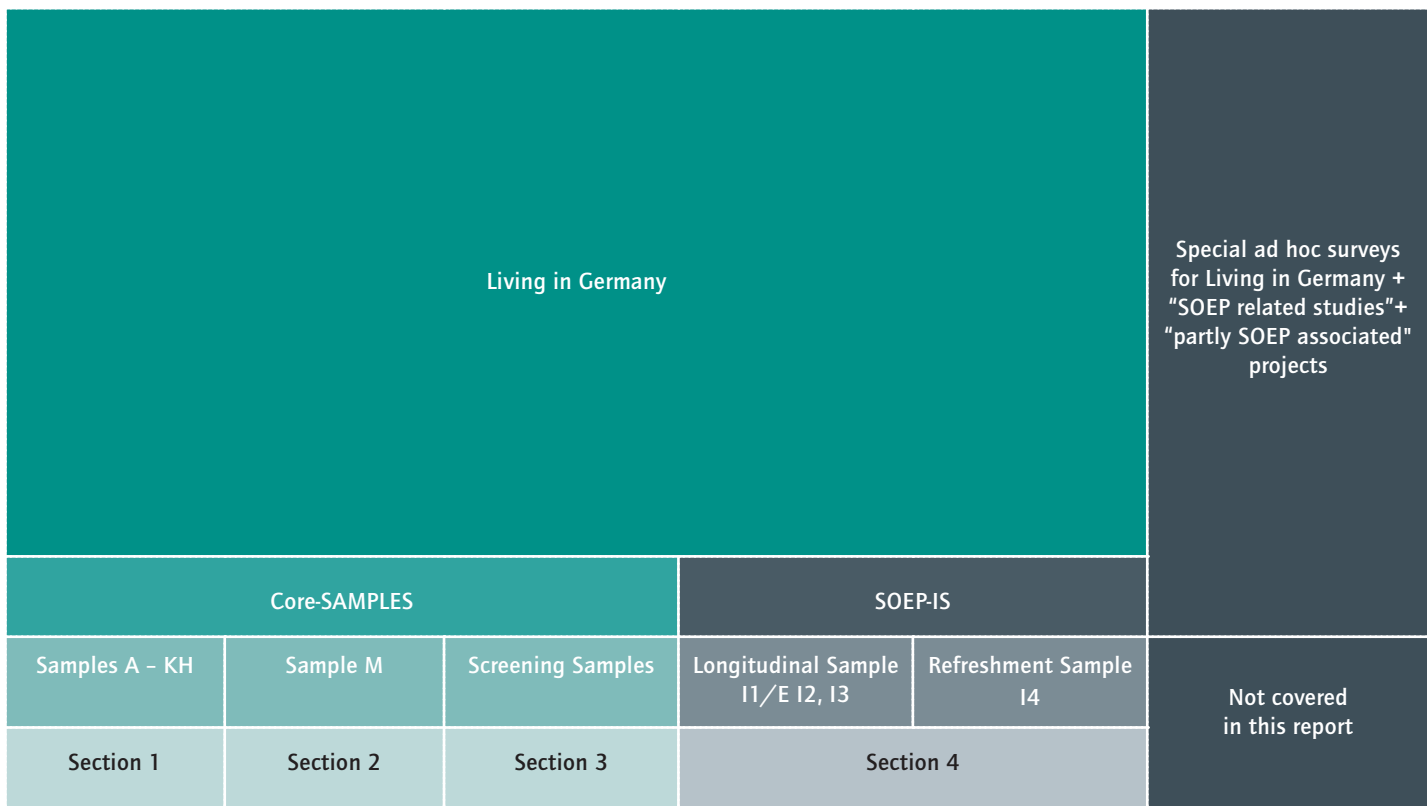
group of respondents, subjective well-being measures were supplemented by experience sampling measures (ESM) that were collected during a seven-day mobile survey.

## The Scope of This Fieldwork Report

This part focuses exclusively on the various segments of fieldwork of the 2014 wave of "Living in Germany," the name TNS Infratest Sozialforschung uses for the study with interviewers and respondents. Hence it is restricted to the various longitudinal subsamples of SOEP-Core including the second wave of the migration boost sample as well as the former FiD samples. Further, it includes a concise summary of the SOEP-IS. This section does not discuss the aims and contents of other SOEP-related or associated studies that are conducted under the label of the SOEP but are not part of the SOEP's core or IS sample.

Figure 1

## Overview of SOEP



### Overview of SOEP-Core

The data set for a given SOEP wave is made available to users by the SOEP Research Data Center as an integrated "cross-sectional sample." To prepare the data for distribution to users, TNS Infratest delivers the various data files (gross and net sample files, question-item-variable correspondence lists, all documentation) to the SOEP team at DIW Berlin in December of each year, always in the same cross-sectional format. It should be noted that the SOEP has a complex sampling system, comprised of various subsamples that have been integrated into the household panel at different times since the SOEP was launched in 1984. The various sub-samples were based on different target populations and were therefore drawn using different random sampling principles. In **table 1** we provide an overview of the trends in absolute sample size at the individual level (persons participating in a respective SOEP wave), covering thirteen (major) subsamples launched between 1984 and 2013. **Figure 2** provides an overview of the sample sizes of the various main subsamples at the household level for 2014.

Households and individuals with the longest history of (continuous) panel participation took part for the thirty-first time in 2014 (samples A and B). The following boost samples have been added to the main sample since the beginning of the new millennium:

- Sample F, designed as a general population refresher sample initially comprising more than 6,000 households in the year 2000.
- Sample G, aiming at an oversampling of high-income households and integrated into the SOEP sample system in 2002 with about 1,200 households.
- Sample H, a general population refresher sample adding 1,500 new households to the main sample in 2006.
- Sample J, a general population refresher added in 2011 with more than 3,000 households.

Table 1

## SOEP Subsamples 1984-2014

Sample	Year	1984	1990	1995	1998	2000	2002	2006	2009	2010	2011	2012	2013	2014
A+B	"SOEP West" and main groups of foreign nationalities 1984	1	7	12	15	17	19	23	26	27	28	29	30	31
C	»SOEP East« general population sample GDR 1990	-	1	6	9	11	13	17	20	21	22	23	24	25
D	Immigration sample 1995	-	-	1	4	6	8	12	15	16	17	18	19	20
E	Boost sample 1998 (general population)	-	-	-	1	3	5	9	12	13	14	15	16	17
F	Boost sample 2000 (general population)	-	-	-	-	1	3	7	10	11	12	13	14	15
G	High income sample 2002	-	-	-	-	-	1	5	8	9	10	11	12	13
H	Boost sample 2006 (general population)	-	-	-	-	-	-	1	4	5	6	7	8	9
J	Boost sample 2011 (general population)	-	-	-	-	-	-	-	-	-	1	2	3	4
K	Refresher sample 2012 (general population)	-	-	-	-	-	-	-	-	-	-	1	2	3
M1	Migration sample 2013												1	2
KH	Cohort samples: est. in 2010 (FID) and integrated in 2014	-	-	-	-	-	-	-	-	-	-	-	-	1/5 <sup>3</sup>
SC	Screening samples: est. in 2010 (FID) and integrated in 2014													1/5 <sup>3</sup>
Individual interviews per sample <sup>1</sup>														
A+B		12,239	9,518	8,798	8,145	7,623	7,175	6,203	5,196	4,790	4,541	4,204	3,926	3,761
C		-	4,453	3,892	3,730	3,687	3,466	3,165	2,769	2,559	2,392	2,262	2,111	2,006
D		-	-	1,078	885	837	780	684	565	488	461	435	398	365
E <sup>2</sup>		-	-	-	1,923	1,549	1,373	1,199	1,024	978	961	160	134	128
F		-	-	-	-	10,886	8,427	6,997	5,824	5,316	4,984	4,610	4,329	4,049
G		-	-	-	-	-	2,222	1,801	1,487	1,438	1,358	1,285	1,259	1,168
H		-	-	-	-	-	-	2,616	1,737	1,587	1,478	1,392	1,333	1,259
J		-	-	-	-	-	-	-	-	-	5,161	4,229	3,801	3,498
K		-	-	-	-	-	-	-	-	-	-	2,473	2,115	1,962
M													4,964	3,835
KH			-	-	-	-	-	-	-	-	-	-	-	2,311
SC														3,700
<b>Total</b>		<b>12,239</b>	<b>13,971</b>	<b>13,768</b>	<b>14,683</b>	<b>24,582</b>	<b>23,443</b>	<b>22,665</b>	<b>18,602</b>	<b>17,156</b>	<b>21,336</b>	<b>21,050</b>	<b>24,370</b>	<b>28,042</b>

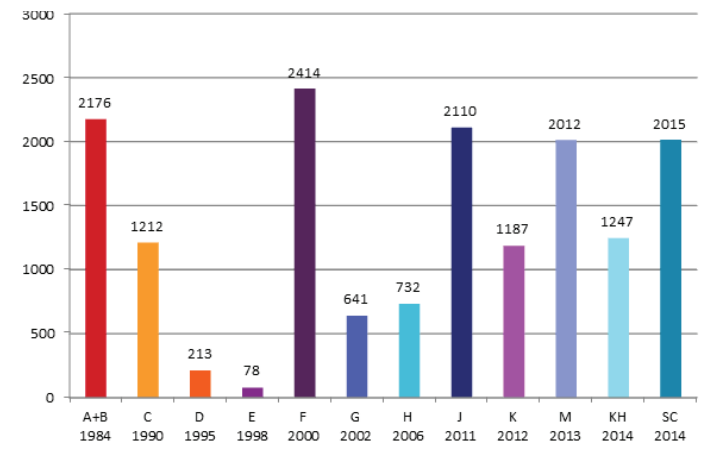
**1** Including the interviews given by juvenils who participated the first time by completing the youth questionnaire

**2** The low number of participants in sample E from 2012 on results from transferring the face-to-face-households into the SOEP-IS in 2012.

**3** The households of the former FID samples are actually being interviewed for the 5th time but for the first time under the name of SOEP.

Figure 2

## Number of Participating Households in 2014 from Various Subsamples



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- Sample K, a general population refresher added in 2012 with a total of 1,500 households.
- Sample M1 was designed to improve the representation of migrants living in Germany. Established in 2013, 2,723 households with at least one person with a migration background were interviewed to enhance the potential use of the data in integration research and in the analysis of migration dynamics.
- Samples SC (Screening Samples) and KH (Cohort Samples) established in 2010, originate from the former study “Families in Germany” (FiD), a longitudinal SOEP-equivalent sample system for the evaluation of German family policies on behalf of two German governmental departments (BMF/BMFSFJ). The evaluation and project-based funding ended in 2013. The FiD samples were methodically transferred into the main sample of the Socio-Economic Panel in 2014 and have been funded out the institutional infrastructure budget of the SOEP.

In this section of the report, the specifics and field results of the aforementioned samples are reported in three sections. Section 1 deals with the longitudinal SOEP core samples, including the former FiD cohort samples, which were fully integrated into SOEP-Core during fieldwork 2014. Section 2 reports on the second wave of the Migration Sample M. Section 3 describes the sequential multi-mode design of the former FiD screening samples and assesses the first CAWI approach used in a SOEP sample.

## 1 SOEP-Core Samples A-KH

### 1.1 Questionnaires

The SOEP is presented to respondents and interviewers under the catchy name “Living in Germany.” The primary interviewing method in SOEP samples is face-to-face. Depending on the respective subsample, CAPI and/or PAPI are the interviewing modes. In older samples, self-administered mail questionnaires are used only in exceptional cases. A thorough description of all interviewing modes and types of fieldwork processing can be found in the following section. In the year 2014, a total of 13 different questionnaires were fielded, most of them processed with PAPI as well as CAPI:

1. **Household questionnaire**, answered by the household member who is best acquainted with the matters of the household as a whole.
2. **Individual questionnaire** for all persons born in 1996 or earlier.
3. Supplementary **life history questionnaire** for all new panel household members born in 1996 or earlier (with samples J, K and KH, which are CAPI only, the life history questions are integrated into the individual questionnaire).
4. **Youth questionnaire** for all persons born in 1997.
5. Additional **cognitive competency tests** for all persons with a completed youth questionnaire (PAPI and f2f only).
6. **Student questionnaire** for all persons born in 2002.
7. Supplementary questionnaire “**Mother and Child**” for mothers of children who were born in 2014 (or born in 2013 when the child was born after previous year’s fieldwork was completed).
8. Supplementary questionnaire “**Your child at the age of 2 or 3**” for mothers of children born in 2011. In households where the father is the main caregiver, fathers are asked to provide the interview.
9. Supplementary questionnaire “**Your child at the age of 5 or 6**” for mothers (or fathers) of children born in 2008.

10. Supplementary questionnaire **“Your child at the age of 7 or 8”**, for mothers and fathers of children born in 2006. In contrast to the mother-and-child questionnaires, both parents are asked to provide an interview if they live in the same SOEP household as the child.
11. Supplementary questionnaire **“Your child at the age of 9 or 10”** for mothers (or fathers) of children born in 2004. In households where the father is the main caregiver, fathers are asked to provide the interview.
12. Supplementary **questionnaire for temporary drop-outs** from the previous wave to minimize “gaps” in longitudinal data on panel members. This questionnaire is a short version of the previous year’s questionnaire.
13. Supplementary questionnaire for panel members who experienced a death in their household or family in 2013 or 2014: **“The deceased person.”**

The mean interview length of the main questionnaires is 17 minutes for the household questionnaire and 29 minutes for the individual questionnaire. The average amount of time required by a typical household consisting of two adults is therefore 75 minutes plus the time needed for any supplementary questionnaires.

**Table 2** provides an overview of the number of interviews provided for the various questionnaires types and the respective response rates (or coverage rates.)

## 1.2 Fieldwork Specifics and Key Fieldwork Indicators

### Within-Wave Fieldwork Progress

The fieldwork period for data collection in the main SOEP samples covers a period of almost nine months, starting with the samples A-H at the end of January and being completed when the “refusal conversion” processes are completed in mid-October. Fieldwork in the recent refresher samples J and K started two weeks later due to differing fieldwork procedure rules (e.g., cash incentives and CAPI-only approach). In order to make the change from one study to the other as convenient as possible for the respondents, the fieldwork period for the former FiD cohorts samples (KH) started in June, as respondents were accustomed.

Table 2

### Questionnaires: Volumes and Response Rates, Samples A - KH

	Gross sample/ reference value <sup>1</sup>	Number of interviews	Response Rate/ Coverage Rate
Household questionnaire	13,990	12,010	85.8
Individual questionnaire	23,979	20,259	84.5
Youth questionnaire	280	242	86.4
Cognitive competence tests <sup>2</sup>	244	200	93.5
Mother and child questionnaire A	279	256	91.8
Mother and child questionnaire B	302	286	94.7
Mother and child questionnaire C	580	568	97.9
Questionnaire for parents D <sup>3</sup>	321/642	307/521	95.6/81.2
Mother and child questionnaire E	336	324	96.4
Student questionnaire	336	269	80.1

**1** Except for the household questionnaire, which refers to the gross sample, the numbers refer to the respective target population in participating households. For the child related questionnaires the reference value is the number of children of the respective age group living in participating households. Therefore the response rate for these questionnaires indicates for how many children a questionnaire has been completed by one parent (in most cases by the mother).

**2** The test can only be implemented if the fieldwork is administered by an interviewer and the youth questionnaire is completed. Therefore the denominator for the respective gross sample of the target population (n=244) is different to the one of the youth questionnaire (n=280).

**3** In contrast to the other child related questionnaires this questionnaire is supposed to be completed not by just one but by both parents. For 307 (95.6%) of 321 children born 2006 and living in households which participated in 2014 at least one questionnaire has been completed. In total, 521 questionnaires were completed. Therefore, in 81.2% of the cases both parents completed the questionnaire for the respective child.

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As indicated by the figures in **table 3**, which shows fieldwork progress by month, 50% or more of all household interviews are conducted within the first two months of fieldwork and about 80% within the first three months (two months for sample KH due to the shorter fieldwork period). This shows that the vast majority of interviews—and therefore data—are produced within a comparatively short fieldwork period. The remaining months are dedicated almost exclusively to households that are either extremely difficult to reach or that have to be dealt with using refusal conversion strategies (see next section).

### Interview Modes and Types of Fieldwork Processing

Since the beginning of the SOEP in 1984, the primary interview method has been face-to-face interviewing. Up to 2000, all face-to face interviews were conducted by paper-and-pencil interviewing (PAPI). Since then, SOEP interviewers have gradually been provided with special interviewer notebook computers to conduct their interviews via CAPI (Computer-Assisted Personal Interviewing). Since Sample J in 2011, all of the respondents in refresher samples are interviewed exclusively

Table 3

### Fieldwork Progress by Month: Distribution of Net Sample<sup>1</sup>

	Sample A-H	Sample J/K	Sample KH
January	8.4	—	—
Februar	48.6	28.3	—
March	73.1	66.3	—
April	85.2	81.7	—
May	92.4	89.2	—
June	95.6	93.5	42.8
July	98.0	96.7	80.8
August	99.2	98.8	92.7
September	99.9	100.0	99.7
October	100.0	100.0	100.0

<sup>1</sup> Denoted are cumulative percentages based on the month of the last household contact.

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by CAPI. However, respondents in the core samples A-H are still allowed to choose PAPI if they prefer.

A second type of fieldwork processing that is used exclusively in the core samples A-H is the so-called “central processing of fieldwork.” This refusal conversion process started in 1985 in the second SOEP wave and applies to households that did not agree to any further visits from an interviewer or that could not be persuaded by interviewers to continue participating for other reasons. As part of this process, the households are called on the telephone and invited to continue partic-

ipating in the study. If this “conversion” is successful, the questionnaires are sent by mail and the respondents complete the questionnaires entirely on their own. This mode-shift often leads to a conversion of “soft” refusals back into survey respondents and thus enhances the stability of the long-term samples A-H.

Two further modes of data collection are used in multi-person households in samples A-H. First, individuals who were unable to provide an interview while the interviewer was there are given the option of self-completing a PAPI questionnaire. Second, simultaneous interviewing of more than one person is useful, particularly for younger household members and those who are seldom at home during the day. This latter method is a mixture between face-to-face interviewing and self-administered interviewing. Although this option is designed to be used only as an exception, as a sample grows and ages, this often becomes the only means of ensuring low partial unit non-response in larger households.

**Table 4** shows the distribution of interviewing modes by subsamples in 2014. In general, a distinct pattern can be detected across the various SOEP samples when a multi-mode design is used: the “older” the sample, the higher the share of mail or self interviews.

In the recent samples (J, K, and KH), the options of mail questionnaire and PAPI are no longer provided. This serves one of our main objectives in the area of quality enhancement in the SOEP: We aim to increase the CAPI rate in order to enhance data quality and to provide a larger pool of respondents for questionnaire modules such as cognitive tests or behavioral experiment that are not viable with paper-based interviewing. Furthermore, these samples serve as a means of testing the performance of a longitudinal panel implemented solely in CAPI in terms of response rates and panel stability.

Table 4

### Interviewing Modes by Sub-Samples

(in percent of all individual interviews)

	Interviewer-Based			Centrally Administered
	Administered	PAPI	SELF	MAIL
A – D	24	15	36	26
E <sup>1</sup>	—	v	—	100
F	34	17	32	17
G	34	10	42	15
H	62	6	24	9
A – H	31	14	34	21
J/K	100	—	—	—
KH	100	—	—	—

<sup>1</sup> All interviewer administered households from sample E were transferred to the SOEP-IS in 2012.

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### Composition of Gross Sample

**Tables 5 and 6** present the composition of the 2014 gross sample by type of fieldwork procedures and type of households and the respective response rates for samples A-H or J-KH. The SOEP households interviewed in each wave are differentiated into three household types: previous wave respondents (A-H: 92.8% of gross sample in 2014; J-KH: 89.7%), previous wave drop-outs who rejoined the panel (A-H: 4.4%; J-KH: 7.5%), and “new” households that split off established panel households (A-H: 2.8%; J-KH: 2.8%). Interviewers make every effort to contact all households. For the reasons stated above, there are various methods used for processing

samples A-H. In 2014, 73.9% of gross sample in A-H was contacted and interviewed personally by interviewers (Table 4), while 25.4% of the sample was contacted and administered by our main office in Munich. The remaining 0.8% consists of households that must be considered drop-outs based on information from the period between waves (e.g., final drop-outs; entire household moved abroad; or death of all household members).

## Response Rates and Panel Stability

The field results of a longitudinal sample can be measured in a variety of ways. Two sets of indicators appear to be most appropriate: response rates and panel stability rates. **Response rates** reflect the simple relation between input (gross sample) and output (net sample) and are therefore an indicator of cross-sectional fieldwork success. The response rate among respondents from the previous wave who were contacted and interviewed again by interviewers—the most important of the response rates—was 94.2 %. It was similarly high to the two previous years' response rates (2012: 94.0 %; 2013: 94.7 %). The response rate for centrally administered households is naturally lower than that for interviewer-administered households. However, at 88.7% for the group of previous wave respondents, it is still remarkably high.

The response rates of the much younger samples J (88.5%) and K (88.4%) in the group of previous wave respondents are still lower than those in samples A-H. Nevertheless, compared to 2013, these rates increased considerably (J: +2.3%; K: +6.4%). The rate for sample KH (86.3%) is slightly lower. Considering the switch from one study to the other, which prompted many households to refuse to continue participating, it is a notably positive outcome.

From a long-term perspective, **panel stability** can be regarded as a decisive indicator for monitoring and predicting a longitudinal sample's development in terms of overall size. Panel stability is calculated as the number of households participating in the current year (t) compared to the corresponding number from the previous year (t-1). Thus it reflects the net total effects of panel mortality on the one hand and panel growth (due to split-off households and temporary drop-outs from previous samples) on the other. This approach is particularly helpful in household surveys where split-off households are tracked. That is, if an individual from a participating household moves into a new household, the survey institute will try to track the address change and conduct interviews with the new household. Within the context of a panel survey, a second group of households can contribute to the stabilization of the sample.

Table 5

### Composition of Gross Sample and Response Rates by Type of Fieldwork: SOEP Samples A-H

	Sample A-H abs. figures	Sample A/H in %
(1) <b>Gross sample composition by types of households</b>	8,475	100.0
Previous wave's respondents	7,865	92.8
Previous wave's drop-outs (re-joining the panel)	372	4.4
New households (split-off HH.s)	238	2.8
(2) <b>Gross sample composition by type of fieldwork</b>		
No fieldwork (between waves reported final drop-outs, deceased, moved abroad)	64	0.8
<b>Interviewer-based</b>	6,262	73.9
Previous wave's respondents	5,995	70.7
Previous wave's drop-outs	98	1.2
New households	169	2.0
<b>Centrally administered (mail)</b>	2,149	25.4
Previous wave's respondents	1,736	20.5
Previous wave's drop-outs	274	3.2
Drop-out during F2F fieldwork, further processed by mail	69	0.8
New households	70	0.8
(3) <b>Response rates by type of fieldwork</b>		
<b>Interviewer-based</b>		92.6
Previous wave's respondents		94.2
Previous wave's drop-outs		46.9
New households		61.5
<b>Centrally administered</b>		77.7
Previous wave's respondents		88.7
Previous wave's drop-outs		30.3
Drop-out during F2F fieldwork, further processed by mail		39.1
New households		28.6

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So-called “temporary drop-outs” are households in which no interview could be conducted in the previous wave(s) (for various reasons) but which “re-joined” the panel in a given panel wave.

In order to meaningfully assess panel stability rates over the years, the various subsamples should be processed for at least five consecutive waves. After this period of time, the panel stability rates of samples are usually consolidated and therefore comparable. The mean value for panel stability across the established SOEP samples A-H was 95.0% in 2014. Therefore, the results confirm the existence of a trend of increasing or at least stable values over the three last years, after several years of decreasing panel stability (see **Figure 3**). However, panel stability varies substantially across subsamples: it ranges from a low of 91.4% (-1.4% compared to the pre-

Table 6

## Composition of Gross Sample and Response Rates by Type of Fieldwork: SOEP Samples J, K, KH

	Sample J		Sample K		Sample KH		Total	
	Abs.	In %	Abs.	In %	Abs.	In %	Abs.	In %
(1) Gross sample composition by types of households	2,542	100.0	1,455	100.0	1,518	100.0	5,515	100.0
Previous wave's respondents	2,305	90.7	1,280	88.0	1,362	89.7	4,947	89.7
Previous wave's drop-outs (re-joining former panel)	158	6.2	130	8.9	124	8.2	412	7.5
New households (split-off HH.s)	79	3.1	46	2.1	32	2.1	155	2.8
(2) Type of fieldwork								
No fieldwork (between waves reported final drop-outs, deceased, moved abroad)	84	3.3	60	4.1	127	8.4	271	4.9
Interviewer-based (CAPI)	2,458	96.7	1,395	95.9	1,391	91.6	5,244	95.1
(3) Response Rate total		83.0		81.6		82.1		82.4
RR Previous wave's respondents		88.5		88.4		86.3		87.9
RR Previous wave's drop-out		18.4		23.8		46.0		27.6
RR New household		53.2		52.3		46.9		51.2

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Figure 3

## Panel Stability in SOEP Samples A-H from 2008 to 2014

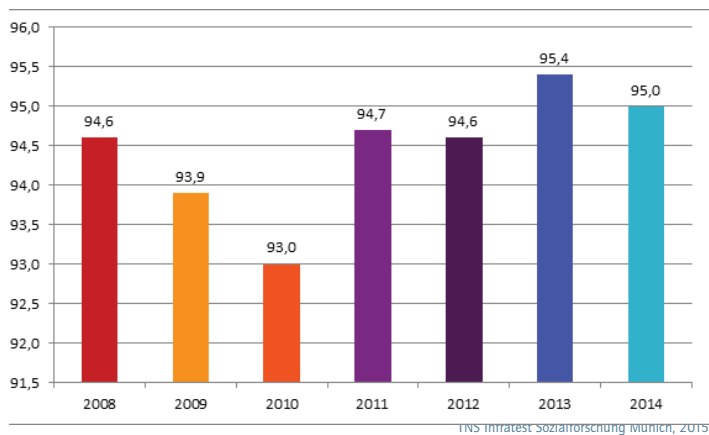
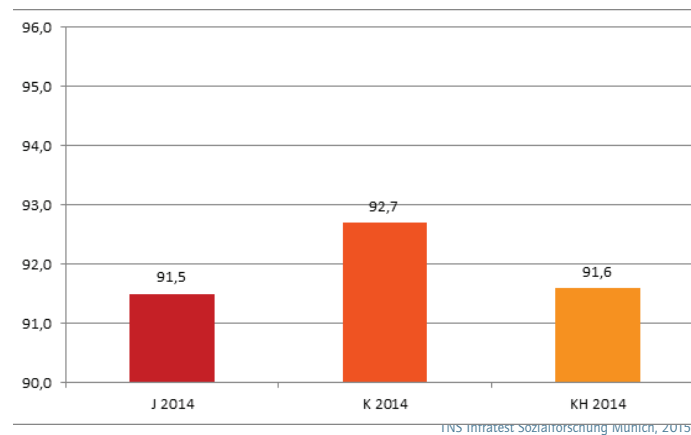


Figure 4

## Panel Stability in SOEP Samples J, K, and KH 2014



vious year) in sample B up to 97.0% in sample C (+1.7% against 2013).

**Figure 4** shows the panel stability rates of the last two refresher samples J (fourth wave in 2014) and K (third wave in 2014) together with sample KH.<sup>1</sup> It must be as-

sumed that these three subsamples will be consolidated further in the following wave and will approach the benchmark of 95% panel stability in 2015.

were interviewed for the fifth time in 2014. But since the sample went through the first four waves of the study under a different name with differing questionnaires and was then transferred into the SOEP in 2014, this sample does not yet have comparable panel stability to samples A-H.

<sup>1</sup> The households in Sample KH (cohort samples, formerly FiD)

## 2 The Migration Survey (Sample M1)

In 2013, a special refresher sample was added to the SOEP sampling system: Sample M1, which in contrast to previous refresher samples J (2011) and K (2012) provides not only a quantitative extension but also a qualitative enhancement of the SOEP sample system as it considerably improves the representation of immigrants in Germany in the SOEP. It thereby also enhances the analytical potential of the SOEP for research on integration and migration dynamics in Germany.

Sample M1 is the third subsample in the history of the SOEP that is composed exclusively of immigrant households. The first wave of the SOEP in 1984 included sample B, consisting of the five main nations of foreign workers who came to West Germany in the 1960s and 1970s (Turkey, former Yugoslavia, Greece, Italy, Spain). Sample D, established in 1994/1995, was designed to map the migration dynamics in Germany between 1984 and 1994. Therefore, the adequate representation of immigrant households has been a core element of the SOEP's sample design from the very beginning of the panel. Nevertheless, recent waves of immigration from the last decade were underrepresented. To fill this gap, migration Sample M1 was created, focusing on immigrants to Germany since 1995 and second-generation immigrants. In 2015, a fourth subsample of immigrant households will be added, focusing on immigrants to Germany since 2011 (M2). In this report, we focus on the Sample M1.

Migration Sample M1 differs considerably in both size and sampling design from previous immigrant refresher samples. With more than 2,700 households in wave 1, it is two times larger than Sample B (1984: 1,393 households) and six times larger than Sample D (1994/1995: 522 households). In contrast to the local registration office sample from 1984 and the screening samples from 1994/1995, sampling design and sampling procedure for Sample M1 did not take place at TNS Infratest Sozialforschung. In order to implement an innovative sampling procedure to map recent migration and integration dynamics, research cooperation was established between the SOEP unit at DIW Berlin and the Institute for Employment Research (IAB Nuremberg). On this contractual basis, the Integrated Employment Biographies Sample (IEBS) of the Federal Employment Agency (BA) was used as a sampling frame.

In 2014, with the fielding of the second wave, Sample M1 was integrated into the longitudinal survey framework. Fieldwork took place from April to October 2012

of the 2,723 households interviewed in 2013 participated again.

### 2.1 Specifics of Sample M1

Corresponding to the procedures used in recent SOEP refresher samples, fieldwork in Sample M1 was conducted exclusively using CAPI. PAPI or mail questionnaires were not used. A significant change from wave 1 was that the “anchor person” concept was not used here. As the sampling of the migration survey was register-based (IEBS), the usual SOEP concept of the household as the primary sampling unit was not appropriate for wave 1. Instead, the anchor persons, sampled from the Integrated Employment Biographies database, were the primary sampling unit. Consequently, in a first step, a short screening interview was conducted to validate the anchor person's migration background. When the screening led to a negative result, not only the anchor person but also the entire household was excluded from the survey, even if other household members had a migration background. When the screening of the anchor person led to a positive result, every person living in the household born prior to 1996 was asked to participate, whether these household members had a migration background or not. As a logical consequence of this procedure, the effort required from interviewers in wave 1 to contact and interview a household and its members was considerably higher than with usual SOEP surveys, in which any adult in the sampled household could be interviewed, without any additional conditions.

In wave 1, the anchor person approach was required for conceptual reasons to adequately represent the target population. This is no longer necessary in wave 2, and therefore the original SOEP household concept, with households as the primary target group, was used. As a consequence, some individual drop-outs were accepted, even if they were former anchor persons.

### Field Instruments

Regarding data collection, all questionnaires from the actual main sample were used (see Chapter 1.1). There were only minor adjustments to the individual questionnaire, as the migration history and other additional questions about migration and integration were included.

As the target population consists of people of (mostly) foreign origin, the main questionnaires (household and individual) were translated into five languages: En-

Table 7

### Language Problems and Usage of Translated Paper-Questionnaires in Wave 2

	Number	In % net sample
No language problems occurred/no need for assistance in the event of language problems	3,212	85.6
Assistance with language problems needed	540	14.4
Thereof: <sup>1</sup>		
German speaking person in the same household	356	9.5
German speaking person outside the household	64	1.7
Professional interpreter	2	0.1
Paper questionnaire	142	3.8
Thereof:		
Russian	64	1.7
Turkish	31	0.8
Romanian	18	0.5
Polish	16	0.4
English	13	0.3

<sup>1</sup> In 24 cases more than one kind of assistance was needed.

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Table 8

### Consent to Record Linkage: Response Rates

	2013	2014		
		Designated for record linkage in wave 2	Refusal in wave 1	Total
Approved	48.9%	49.4%	41.5%	44.2%
Declined	51.1%	50.6%	58.5%	55.8%

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glish, Russian, Turkish, Romanian, and Polish. These languages—with the exception of English—represent the nationalities that were overrepresented in the first wave's gross sample. The translated versions were not implemented in CAPI but printed on paper and given to the interviewer as an additional support tool to overcome language problems. **Table 7** shows different kinds of support the interviewers used when language problems occurred during the interview situation.

### Declaration of Consent to Record Linkage

A special feature of the migration sample's survey design is the linkage of respondents' survey data with

register data of the Integrated Employment Biographies Sample (IEBS). This kind of big data analysis further enhances the potential for analysis and evaluation of the respondents' educational and occupational biographies.

As in wave 1, in 2014, a certain part of the sample was asked to give their written informed consent to the record linkage at the end of the individual interview. In wave 1, not every respondent was asked for consent to record linkage: 70% of the gross sample (on a household level) was designated for data linkage in wave 1; 15% in wave 2, and the remaining 15% were not designated for linkage at all. Respondents were assigned to the three groups at random. The idea behind this approach is that the rate of cooperation with such requests varies between waves and is likely to be higher in wave 2. In addition, this approach makes it possible to analyze effects of the linkage request with reference to a control group.

Therefore, in 2014, the target group designated for record linkage in wave 2 was asked to give their consent. In addition, persons who refused to give their consent in wave 1 were asked a second time. Altogether 1,379 persons were asked to approve the data linkage. Of those, 610 signed the consent form. As presented in **Table 8** the overall response rate in 2014 was 44.2%, which is 4.7 percentage points lower than the year before. The more significant figure is the rate for the target group designated for record linkage in wave 2. At 49.4%, it is slightly higher than the previous year's rate. Therefore, it could not be verified on a statistically significant level

that the rate of cooperation to such a request is likely to be higher in wave 2.

## 2.2 Fieldwork Results and Response Rates

**Tables 9 and 10** display the fieldwork results for wave 2. Altogether, 2,841 addresses were fielded. Regarding the gross sample composition, 95.8% of all households were previous wave respondents and 4.2% were split-off households. In total, 2,012 households were interviewed, which amounts to an overall response rate of 70.8%. In the crucial subgroup of previous wave respondents, the response rate was 71.9%. Regarding the distribution of drop-outs, the largest group by far was that of soft and permanent refusals, at 21.5% of gross sample, which is 73.7% of all drop-outs. The share of households in Sample M1 that could not be reached during the fieldwork period (6.4% of gross sample and 21.8% of drop-outs) is substantial. Compared to the shares for Samples J and K in wave 2, it is 8.5 and 6.7 percentage points higher, respectively. This confirms our experiences with wave 1 of Sample M1, where the respective target population of migrant households proved more difficult to contact than households sampled for a general population refresher sample.

**Table 11** compares wave 2 response rates and panel stability rates of the recent refresher samples J, K, and M. Both fieldwork indicators in Sample M1 are about ten percentage points lower than in samples J and K. Together with the comparably low response rate for the individual questionnaire of 65.3% (see **Table 12**), this reflects well known difficulties with processing immigrant households. In a migration sample, the effort required by interviewers to contact households successfully on the one hand and to motivate every individual to be interviewed on the other, is higher than in surveys with the general population. The contact process and the interviewing situation are more complicated and sensitive as well (e.g., language problems, cultural factors, lower level of education, etc.). Furthermore, the mean number of persons living in these households is considerably higher than the population average.

## 3 The SOEP Screening Samples (Sample SC)

### 3.1 Background and Survey Design

As an integral part of the overall evaluation of German family policies, DIW Berlin and TNS Infratest Sozial-

Table 9

Sample M: Composition of Gross Sample and Response Rates

	Sample M	
	Abs.	In %
(1) Gross sample composition by types of households	2,841	100.0
Previous wave's respondents	2,723	95.8
New households (split-off HH's)	118	4.2
(2) Type of fieldwork		
No fieldwork (between waves reported final drop-outs, deceased, moved abroad)	34	1.2
Interviewer-based (CAPI)	2,807	98.8
(3) Net sample/Response Rate total	2,012	70.8
RR previous wave's respondents	1,957	71.9
Net sample/RR new household	55	46.6

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Table 10

Sample M: Fieldwork Results

	Number	In % gross sample
Gross sample	2,841	100.0
Non-interview	829	29.2
• Unable to reach during fieldwork period	181	6.4
• Anchor persons with permanent stay abroad	13	0.5
• Permanently physically or mentally unable/incompetent	18	0.6
• Language problems	6	0.2
• "Soft" refusal (currently not willing/capable)	180	6.3
• Permanent refusals	431	15.2
Interview (net sample)	2,012	70.8
• Household fully realised	1,677	59.0
• Household partially realised	335	11.8

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Table 11

Wave 2 Panel Stability in Recent SOEP-samples

	Gross sample/ reference value <sup>1</sup>	Number of interviews	Response rate/ coverage rate
Response rate of previous wave's respondents in wave 2	80.0%	82.0%	71.9%
Panel stability in wave 2	81.5%	83.9%	73.9%

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Table 12

## Questionnaires: Volume and Response Rates Sample M

	Gross sample/ reference value <sup>1</sup>	Number of interviews	Response Rate/ Coverage Rate in %
Individual questionnaire	5,750	3,752	65.3
Youth questionnaire	127	83	65.4
Cognitive competence tests <sup>2</sup>	83	73	88.0
Mother and child questionnaire A	193	152	78.8
Mother and child questionnaire B	169	128	75.7
Mother and child questionnaire C	150	118	78.7
Questionnaire for parents D <sup>3</sup>	145/290	136/222	93.8/75.9
Mother and child questionnaire E	114	107	93.9
Student questionnaire	81	72	88.9

**1** Except for the household questionnaire that refers to the gross sample, the numbers refer to the respective target population in participating households. For the child related questionnaires the reference value is the number of children of the respective age group living in participating households. Therefore the response rate for these questionnaires indicates for how many children a questionnaire has been completed by one parent (in most cases the mother).

**2** The test can only be implemented if fieldwork is administered by an interviewer and the youth questionnaire is completed. Therefore the denominator of the respective gross sample of the target population (n=83) is different to the one of the youth questionnaire (n=127).

**3** In contrast to the other child related questionnaires this questionnaire is supposed to be completed by not just one but by both parents. For 136 (93.7%) of 145 children born in 2006 and living in households which participated in 2014 at least one questionnaire has been completed. In total, 222 questionnaires were completed. Therefore, in 75.9% of the cases both parents completed the questionnaire for the respective child.

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forschung established a sampling system consisting of a total of seven subsamples in two main samples in the year 2010. The survey, named *Familien in Deutschland* (Families in Germany, or FiD for short), was converted into a longitudinal survey in the following year. In 2013, the last wave conducted on behalf of the initial-

ly responsible federal ministries (BMF/BMFSFJ) was carried out. When the project began, the long-term objective was to integrate the FiD samples into the main sampling system of the Socio-Economic Panel, both methodologically and financially, when the overall project was completed.

This process of integration took place in 2014. However, the two main samples of the FiD sampling system, the cohorts and the screening samples, were not integrated to the same degree. For budgetary reasons, it was not possible to continue surveying the whole FiD sample in a CAPI-F2F mode. As mentioned in Section 1, the cohort samples of the general population were further processed in CAPI. The screening samples, consisting of the three different subgroups—first, single parents, second, households with three or more children, and finally, low-income households—were handled with an innovative multi-mode design: an interviewer-assisted CAWI approach followed by CAPI. The aim was to convince as many households as possible to participate, using a web questionnaire to save costs over the F2F method. Another goal was to reduce the qualitative disadvantages as well as the negative effects on the response rate caused by CAWI compared to CAPI. According to this approach, interviewers using CATI (computer-assisted telephone interviewing) contacted each household to motivate and convince them to participate online and to compile a list of all household members so that the right set of CAWI questionnaires could be provided. The CATI interviewers also acted as liaisons for respondents when they had requests or problems. When households did not have access to the Internet or could not be motivated to participate by Internet, the telephone staff was encouraged to offer CAPI.

Table 13

## Sample SC: Fieldwork Progress by Month and Interviewing Mode

	CAWI interviews		CAPI Interviews		Total	
	N	In % <sup>1</sup>	N	In % <sup>1</sup>	N	In % <sup>1</sup>
May	343	30,6	-	-	343	17,0
June	276	55,2	-	-	276	30,7
July	385	89,5	-	-	385	49,8
August	87	97,2	-	-	87	54,1
September	31	100,0	292	32,7	323	70,2
October	-	-	576	97,2	576	98,8
November	-	-	25	100,0	25	100,0
Total	1,122	55.7	893	44.3	2,015	100.0

**1** Denoted are cumulative percentages of household interviews based on month.

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The interviewer-assisted CAWI process was fielded at the end of May 2014 and lasted until the end of July 2014. During this period, a few offline reminders were also sent to the households to motivate them to participate in the CAWI or to ask for missing individual CAWI questionnaires. Upon completion of the telephone process, the CAWI questionnaires remained open for online access for another two months to enable further CAWI participation. In September, the CAPI post-processing of households that could either not be contacted and that did not participate in CAWI or that preferred CAPI was fielded. Households that had stated willingness to participate online but did not participate up to the end of October were also processed with CAPI. **Table 13** shows the fieldwork progress for both interviewing modes by month. The final net sample consists of 2,015 households in total, 1,122 of which completed the interviews online (55.7 %) and 893 face-to-face (44.3 %).

## 3.2 Questionnaires

For data collection, the CAPI questionnaires from the main sample were used (see Section 1.1). Minor mode-specific changes in CAWI programming had to be made only in the design and layout of the questionnaire. The various links to the different CAWI questionnaires were presented for each individual respondent on a website with personalized access. The access data were sent by mail. The CATI process itself thus did not include the various questionnaires. In fact it gathered information about willingness to participate and recorded the household composition for those households that were willing to participate online in order to provide the right set of CAWI questionnaires. **Table 14** provides the volumes and response rates of all implemented questionnaires.

## 3.3 Fieldwork Results and Outcome Rates

The implemented design consisted of three different modes, implying a certain amount of complexity regarding the process management. The first two modes, CATI and CAWI, were conducted at the same time, whereas CAPI interviews were conducted afterwards. In **Table 15** the various gross samples are listed. The three gross samples are not entirely separate; one household could belong to two or even to three of the gross samples. The overall gross sample consisted of 2,868 households. 2,822 of these were given the online access data (gross sample CAWI). The remaining households were either ones that had informed TNS Infratest Sozialforschung between the waves that they did not want to continue participating or they were split-off households that emerged from the later CAPI process. For 2,692 households, phone numbers were available. These households comprised the CATI gross sample. The CAPI gross sample consisted of 1,426 households.

As already shown in **Table 13** in total 2,015 households were interviewed, of them 1,122 with CAWI and 893 with CAPI. The overall response rate for the screening samples was 70.3% (**Table 16**). Regarding modes, the CAWI response rate was 39.8% and the rate achieved with CAPI was 62.2%. Compared with the other former FiD cohort sample, which was interviewed exclusively with CAPI, the overall response rate of the screening samples was 11.8 percentage points lower. Another fieldwork indicator is the number of partially realized households divided by the total net sample (partial unit non-response or PUNR). As was expected because of the use of CAWI, the PUNR was comparatively high at 15.2% (cohort sample: 5.3%).

Table 14

### Questionnaires: Volume and Response Rates of Sample SC

	Gross sample/ reference value <sup>1</sup>	Number of interviews	Response Rate/ Coverage Rate in %
Household questionnaire	2,868	2,015	70.3
Individual questionnaire	5,160	3,454	66.9
Youth questionnaire	314	245	78.0
Student Questionnaire	304	265	87.2
Mother and child questionnaire A	68	46	67.6
Mother and child questionnaire B	49	47	95.9
Mother and child questionnaire C	163	146	89.6
Questionnaire for parents D <sup>2</sup>	205/410	186/285	90.7/69.5
Mother and child questionnaire E	256	225	87.9

**1** Except for the household questionnaire that refers to the gross sample, the numbers refer to the respective target population in participating households. For the child related questionnaires the reference value is the number of children of the respective age group living in participating households. Therefore the response rate for these questionnaires indicates for how many children a questionnaire has been completed by one parent (in most cases the mother).

**2** In contrast to the other child related questionnaires this questionnaire is supposed to be completed by not just one but by both parents. For 186 (90.7%) of 205 children born in 2006 and living in households which participated in 2014 at least one questionnaire has been completed. In total, 285 questionnaires were completed. Therefore, in 69.5% of the cases both parents completed the questionnaire for the respective child.

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**Figure 5** presents response rates and PUNR for the three individual sub-samples of sample SC and in addition by interviewing mode. The figure illustrates mode-specific differences on the one hand and intra-mode differences between sub-samples on the other hand. The response rates and PUNR achieved with the CAPI post-processing are still far lower than the rates shown in **Table 16** for the cohort sample, but even so, significantly higher than with CAWI. Both results are to be expected: CAPI, with

Table 15

### Sample SC: Overview on the Various Gross Samples

	N	in % gross sample
Total gross sample <sup>1</sup>	2,868	100.0
Gross sample CAWI	2,822	98.4
Gross sample CATI <sup>2</sup>	2,692	94.0
Gross sample CAPI <sup>3</sup>	1,426	49.7

**1** Includes split-off households that originated during the CAPI fieldwork process and therefore are neither included in the CAWI nor in the CATI gross sample.

**2** For 130 households of the CAWI gross sample no phone number was available.

**3** Households that at first could not be reached during CATI fieldwork and did not participate online, at second could be reached during CATI fieldwork and insisted on CAPI, at third admittedly stated willingness to participate online, but did not so until end of October and finally split-off households originated during the CAPI fieldwork process.

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Table 16

### Former FiD Samples: Response Rates and Partial Unit Non-response

	Response Rate			Partial Unit Nonresponse		
	CAWI	CAPI	Total	CAWI	CAPI	Total
Screening Samples	39.8%	62.2%	70.3%	17.8%	12.0%	15.2%
In comparison with Cohort Samples	-	82.1%	-	-	5.3%	-

1 Partial unit nonresponse: number of partially realised households divided by the total net sample.

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its strong motivation impact from the face-to-face-interviewer, usually achieves higher response rates than the largely self-administered web interviews. Besides, CAPI stand-alone achieves higher response rates than CAPI post-processing because willing participants are generally overrepresented in face-to-face interview modes and in the sequential design of the first CAWI stage as compared to the second CAPI stage. In any case, the CAPI post-processing of a CAWI sample is an effective procedure to increase the overall net sample size.

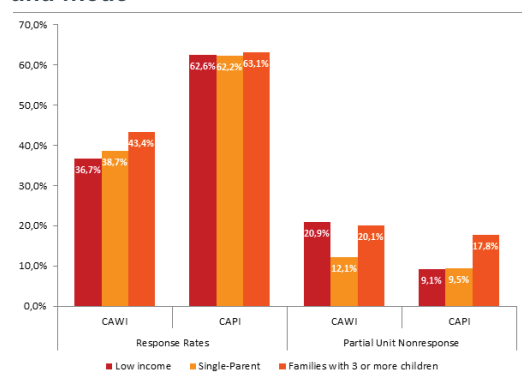
The intra-mode differences paint a somewhat patchy picture, especially for PUNR but also for the measurement of the response rates. Whereas no significant differences in response rates between subgroups can be detected in the CAPI population, the response rates

vary considerably between subgroups in the CAWI population. With PUNR, one has to keep in mind that the number of household members varies substantially between subgroups: the mean household size of partially interviewed households is 3.8 among low-income households, 3.0 among single-parent households, and 5.2 among households with three or more children.

The aforementioned findings on response rates and their mode-specific characteristics raise the following question: Does the supplementary CATI in the CAWI stage have any effect on the outcomes of the fieldwork? The main purpose of the CATI implementation was to enhance the low CAWI response. **Tables 17a** and **17b** show the results of the CATI fieldwork process. 77.7% (2,093 households) of the CATI gross sample were successfully contacted by phone. 6.3% of these households were unwilling to continue participating in the study, regardless of whether online or face-to-face. 6.6% would only participate if interviewed face-to-face. A rather high share (77.8%) of all contacted households agreed to participate online (**table 17a**). Despite the mailing of several reminders, only 56.9% of the households that agreed to do so actually completed an online questionnaire (**table 17b**). At first this seems to suggest that the CATI process did not achieve its objectives. At a second glance, one may come to a different conclusion: A sound indicator for assessing the implemented survey design, especially the significance of the telephone process, is the CAWI participation rate in the group of households that had no contact with the CATI interviewers. Compared to the group contacted by the CATI interviewers, the group of households that never had personal contact (and therefore are comparable to a regular CAWI population) functions as a sort of control group. The CAWI participation rate in this subgroup amounts to 20.9%, whereas the rate in the group with personal contact is 47.3%. From this perspective, the informative and motivational character of the personal contact via telephone resulted in a 26.4 percentage point higher participation rate in CAWI. This result suggests that the CATI approach can be cautiously interpreted as an appropriate measure to increase the CAWI response rate. In any case, the CATI approach alone is not sufficient for transforming an established face-to-face-random sample into the CAWI mode. The findings show that post-processing in CAPI is a crucial aspect of enlarging the net sample size and therefore of ensuring panel stability from a long-term perspective.

Figure 5

### Sample SC: Outcome Rates by Sub-samples and Mode



1 Partial unit non-response: number of partially realised households divided by the total net sample.

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## 4 SOEP-IS

### 4.1 Overview

The SOEP-IS (SOEP Innovation Sample) is an additional longitudinal household survey that complements the SOEP's main sample system by offering a survey framework for fielding innovative questionnaire modules and testing fieldwork procedures (see chapter 2.2 by David Richter). Important features of sampling design and core fieldwork procedures are similar to those in the main sample, but the SOEP-IS also offers special design features that facilitate the piloting and testing of innovative survey modules. And most importantly, the heterogeneity of topics within SOEP-IS is much broader because the content—aside from the core elements, longitudinal survey questions—is determined by users themselves through an annual competitive selection procedure.

Sample I<sub>1</sub>, which was established as the main SOEP sample I in 2009, served as the first SOEP-IS sample when the study was officially launched in 2011. Since then, the innovation sample has been expanded in sample size with refresher samples in 2012 (sample I<sub>2</sub>), 2013 (sample I<sub>3</sub>) and 2014 (sample I<sub>4</sub>). Additionally a subset of households from the main SOEP sample (E) was transferred to the SOEP-IS in 2012 (sample I<sub>E</sub>).

In total, 3,721 households took part in the 2014/2015 wave of the SOEP-IS. 2,797 belonged to the samples with longitudinal data that started either in 1998 (I1/E), in 2009 (I2) or 2013 (I3). In another 924 households, SOEP-IS interviews were conducted for the first time (I4). Combining all subsamples, 5,859 individuals participated in the most recent wave of the SOEP-IS. **Figure 6** provides a more detailed look at the growth in sample size since 2009.

The panel stability<sup>2</sup> of samples I<sub>1</sub> and I<sub>E</sub> has again slightly increased to 93.4%. In its third wave, sample I<sub>2</sub> was able to take another step towards greater panel stability, with a value of 92.7% in the 2014/2015 wave. In the case of sample I<sub>3</sub>, which went through the challenging transition from a cross-sectional to a longitudinal survey in this wave, panel stability reached a rate of 79.7%. The response rate in refresher sample I<sub>4</sub> did not turn out at a satisfactory level (26.5% in the adjusted gross sample).

<sup>2</sup> Panel stability is calculated as the number of participating households in the current wave compared to the corresponding number from the previous wave. So panel mortality and panel growth (split-off households) or “re-growth” (dropouts from the previous wave who “re-joined” the sample) are taken into account.

Table 17a

#### Questionnaires: Volume and Response Rates of Sample SC

	N	in % gross sample	In % contacted households
CATI gross sample	2,692	100.0	
Households that could not be contacted	599	22.3	
Contacted households	2,093	77.7	100.0
Permanent refusal (both CAWI and CAPI)	131	4.9	6.3
Target person/household undecided whether to participate	195	7.2	9.3
Target person/household insists on CAPI participation (no internet or other reasons)	139	5.2	6.6
Target person/household states intention to participate online	1,628	60.4	77.8

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In the 2014/2015 wave, it was possible to implement an even higher number of innovative questionnaire modules than in the previous wave. In total, 13 different proposals from researchers at universities and research institutes were accepted for the SOEP-IS questionnaire. With the modules “Risk Taking” and “Financial Investment,” two behavioral experiments with real-life, small-scale pay-offs for respondents aimed to take laboratory-proven research designs to a survey environ-

Table 17b

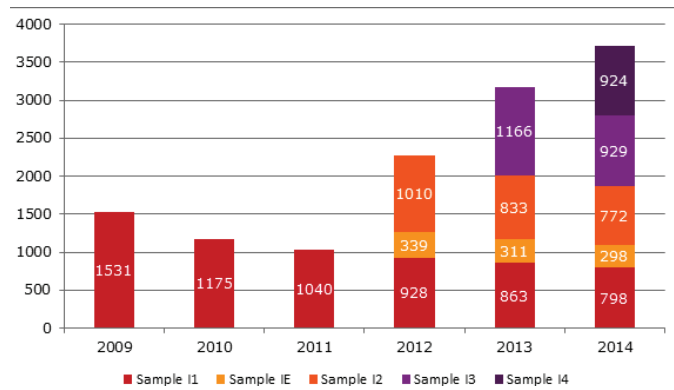
#### Sample SC: Selected Disposition Groups of the CATI Process and the Resulting Net Interviews

	N	In % contacted households
All contacted households	2,093	100.0
Thereof:		
- participated in CAWI	989	47.3
- participated in CAPI	630	30.1
- did not participate at all	474	22.6
Target person/household that stated intention to participate online	1,628	100.0
Thereof:		
- participated in CAWI	942	56.9
- participated in CAPI	424	26.0
- did not participate at all	262	16.1
Household that could not be contacted	599	100.0
Thereof:		
- participated in CAWI	125	20.9
- participated in CAPI	246	41.1
- did not participate at all	228	38.1

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Figure 6

### SOEP-IS – Household Sample Sizes 2009-2014



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the prevalence of lottery play, attitudes towards income redistribution, or overconfidence in different life domains.

Moreover, the “Day Reconstruction Method (DRM)” was employed in 2014 for the third time since its introduction in 2012 to provide fine-grained time use and well-being data and to quantify its short- and long-term stability. For one group of respondents, subjective well-being measures from DRM and the generalized life satisfaction question that has been part of the SOEP since 1984 were supplemented by measures based on the experience sampling method (ESM), which were collected during a seven-day mobile survey. This enhancement will make it possible to compare ESM- and DRM-measurements in a population-representative sample.

ment with a face-to-face population. A film shown to respondents was used to measure the prevalence of “Inattentional Blindness.” The module “Computer Assisted Measurement and Coding of Education in Surveys (CAMCES)” tested dynamic question designs such as dynamic text fields and dynamic lists to measure educational qualifications. A set of highly varied versions of one question regarding attitudes to immigration was used to disentangle different components of measurement error in another questionnaire module. Another set of modules dealt with a variety of topics using standard survey questions. Examples of these are modules about

## 4.2 The SOEP-IS Questionnaire

An integrated core questionnaire, which is based on questionnaires from the SOEP’s main sample, provides the framework of recurring variables for the SOEP-IS. It consolidates the basic elements of the SOEP household and individual questionnaires, also including core questions from the life history questionnaire for first-time panel members and three mother-child modules. The questionnaire has an integrated CAPI script to provide a fluent and smooth interview situation. The SOEP-IS core questionnaire that was used in 2014/2015 included the following modules:

Table 18

### Distribution of the Innovation Modules

	$I_e/I_1$	$I_2$	$I_3$	$I_4$
Justice Sensitivity	✓			
Lottery Play	✓	✓	✓	✓
Attitudes to Income Redistribution	✓	✓	✓	✓
Components of Measurement Error				✓
Home Chaos		✓	✓	✓
Computer Assisted Measurement and Coding of Education in Surveys (CAMCES)		✓		
Inattentional Blindness (IB)–Test				✓
Risk Taking–Behavioral Experiment			✓	
Financial Investment–Behavioral Experiment		✓		
Day Reconstruction Method (DRM)	✓			
Major Life Events	✓	✓	✓	✓
Happiness from a Cross-Cultural Perspective	✓	✓	✓	
Self-Evaluation and Overconfidence in Different Life Domains			✓	

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- Core elements of the **SOEP household questionnaire** to be completed by only one member of the household (preferably the one who is best informed about the interests of the household and its members)
- Core elements of the **SOEP individual questionnaire** to be completed by each person aged 16 and above living in the household
- Core elements of the **life history questionnaire** for first-time panel members (new respondents as well as the initially interviewed adolescents born in 1997)
- Only in the longitudinal samples: three mother-child modules to be completed by:
  - Mothers of children born after 2011
  - Mothers (or main caregivers) of children born in 2010 or 2011
  - Mothers (or main caregivers) of children born before 2010

In the most recent wave, the individual questionnaire included two ultra-short tests of cognitive ability that were used in the main SOEP in the year 2012: namely, a symbol correspondence test and a test of respondents' passive vocabulary.

The rationale behind the integration of household and individual questionnaires into one shorter core interview is to allow for more time for innovative questionnaire modules and tests. Thus, on top of the core elements, different innovation modules were included in the SOEP-IS questionnaire for 2014/2015. To be able to consider as many different ideas as possible, given the limited interview time, the different subsamples received different sets of innovation modules. In order not to overburden the new SOEP-IS panel members in refresher sample  $I_4$  who have to answer life history questions, the number of innovation modules in their version of the questionnaire was limited. **Table 18** illustrates the distribution of innovation modules in the subsamples.

## Components of Measurement Error

Survey questions that produce systematic error may threaten the validity of the findings and thereby also the primary goals of scientific work. Questioning has different effects on every individual so measurement errors occur. So this module of the SOEP-IS is supposed to examine different kinds of systematic measurement errors with the aim of disentangling the relative importance of each type of error. Due to its CAPI format and the large sample size, the SOEP-IS allows for a comparison of the relative strength of the effects in the form of a randomized Multitrait-Multimethod Design (MTMM). Because of the longitudinal design of the study, it will also be possible to examine the systematic error over time.

One of the most common sources of measurement error is the phenomenon of social desirability in survey responses. When confronted with sensitive topics, some individuals tend to give answers that they expect to correspond with social norms. Another common source of measurement error is acquiescence, the general tendency to agree with certain statements that are formulated as agree/disagree questions. Another source of error is the "satisficing" strategy, which leads respondents to consider only the extremes or only the middle options in matrix questions in order to get through the survey interview more quickly.

Each interviewee in sample  $I_4$  was asked to answer the same matrix-type question consisting of six items,

which appeared twice in two slightly different versions during the interview. Approximately 20 minutes passed between the first version and the second version. The second time the question was asked, the interviewer read an introductory statement explaining that the respondent had already answered a similar question but that it would be important for him/her to answer the next question as well so that best version of the question could be identified. In terms of content, the questions were identical: interviewees were asked about their attitudes towards immigration. The questions differed only in design.

To analyze different sources of measurement error, eight versions of the matrix question (W1 – W8) were included in the questionnaire. The item wordings varied systematically along the three following dimensions:

- The items were formulated in a positive or a negative way (e.g., "It is generally *good* for Germany's economy that people come to live here from other countries" vs. "It is generally *bad* for Germany's economy that people come to live here")
- The scale for agreement/disagreement alternated (agree-disagree or disagree-agree)
- The number of scale points varied (two-point or 11-point scale)

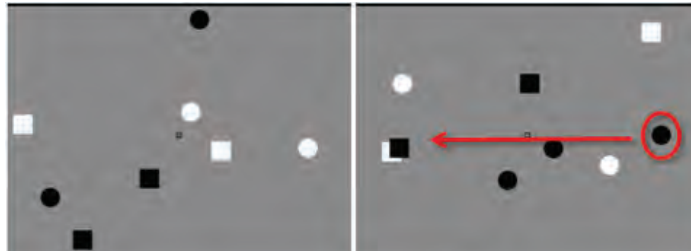
Each respondent received two out of the eight possible versions during the interview in a randomized order, which led to 56 different conditions to be randomized in total.

## Computer-Assisted Measurement and Coding of Education in Surveys (CAMCES)

The next module examined two different methods of computer-assisted measurement of education. Open questions concerning educational qualifications are generally more expensive because the various degrees have to be coded afterwards. Surveys therefore often use lists to record qualifications instead. Lists have several drawbacks, however. First, they have been shown to produce order effects. Second, a simple list with uniform educational qualifications might not be able to adequately cover the number and complexity of degrees in a certain country. Also, migrants might not be able to convert their foreign qualifications into the list of degrees available in their current state of residence. This

Figure 6

### Start Screen and Appearance of Stimulus in "Inattentional Blindness" Short Film



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can lead to non-response or incorrect data, which should be prevented as effectively as possible. This is particularly crucial in the case of education, which is one of the key variables for social science research.

To evaluate two computer-assisted measurement methods developed by the group of researchers who were responsible for this module, three different types of questions about educational qualifications were tested. Each interviewee in sample  $I_2$  was allocated to one of the three methods randomly. An introduction text for this module explained why another means of recording educational qualifications was necessary (T1921). Then the computer was handed to the respondent, as the module was designed as a computer-assisted self-interview (CASI). This was followed by questions concerning the number of years spent in the education system (Q1922), the country where the particular qualification was attained (Q1923; Q1924), and the formal education, although only respondents who had gone to school in the former East or West Germany were asked further questions (Q1925, Q1926). The question about further educational qualifications was subject to the actual test.

The first group received a "classic" 28-item list including a wide array of post-secondary educational qualifications. The members of this group were able to choose the appropriate item by clicking a radio button (Q1929). Group two was asked to enter their qualification in a dynamic text field that appeared on the screen (Q1930). With a functionality similar to a search engine, the program suggested qualifications from a linked qualification database that matched the beginning of the word that the respondent typed in. These suggestions appeared in a drop-down box, from which the respondent could choose the qualification that fit best (Q1930). The third method consisted of a dynamic list, which showed summary categories of qualifications. Each category contained various concrete qualifications as sub-points

that became visible as soon as the interviewee clicked on the particular category (Q1931).

### Inattentional Blindness (IB)

"Inattentional Blindness" describes a phenomenon in psychology in which individuals fail to notice otherwise salient events while paying attention to something else.<sup>3</sup> Simons and Chabris reported on this concept in a well-known study published in 1999<sup>4</sup>: Fifty percent of their subjects failed to notice a man in a gorilla costume who appeared on the screen while they were counting how often players of a team dressed in white shirts passed a basketball to each other. According to the researchers proposing the module for SOEP-IS, this effect has been replicated in numerous studies using a variety of stimuli and participant groups, but has never been measured in a representative population sample. Including a test of "Inattentional Blindness" in SOEP-IS would also give the opportunity to analyze possible associations with ADHD (attention deficit hyperactivity disorder), autism and socio-demographic characteristics.

To assess the prevalence of "Inattentional Blindness" in SOEP-IS, a short film was embedded in the questionnaire for sample  $I_4$  showing black and white, round and rectangular objects moving around on the screen. The respondent was asked to concentrate on the two objects and to count how often one specific type of object touched the edge of the frame. A random selection process decided whether the interviewee was to focus on circles, rectangles, white or black objects (Q260). A few seconds into the 20-second film, a new black circle moved from the right edge of the frame to the left edge and then disappeared again (see **figure 6**).

After the film, the respondent was asked how often the objects they were asked to watch had touched the edge of the frame (Q2612). Then he/she was asked whether he/she noticed an additional object that was not present in the beginning of the film. If the respondent had noticed the object, he/she was asked further questions about its shape and color, and the direction it moved across the screen (Q2613). If the interviewee did not see the object, he/she was asked to guess the aforementioned characteristics (Q2615; Q2617; Q2619).

3 Chabris, C.F., & Simons, D.J. (2010). *The invisible gorilla, and other ways our intuitions deceive us*. New York: Crown.

4 Simons, D.J., & Chabris, C.F. (1999). Gorillas in our midst: Sustained inattention blindness for dynamic events. *Perception*, 28(9), 1059–1074.

## Risk-Taking

Measures of risk-taking behavior are required to address research questions in different disciplines such as psychology, economics, and sociology. However, there are findings suggesting that differences in risk taking may be task-dependent and that it might therefore be necessary to distinguish between two kinds of risk. There are risk assessments that are made on the basis of a simple consideration of *already known probabilities*, and there are other risk assessments in which a person has to estimate the probabilities based on his/her own experience.

The risk-taking module in SOEP-IS sample I<sub>3</sub> aimed to capture both kinds of risks: risk based on probabilities presented to the respondent, and risk based on an estimation of the probabilities made by the respondent him/herself. To collect this information, a behavioral experiment was designed in which each interviewee was led through two blocks of lotteries. The order of the two blocks was randomized. In each lottery block, four individual lotteries took place. Two of these lotteries consisted of the choice between two possibilities, while the other two consisted of a choice among four alternatives.

The block of lotteries with known probabilities was designed as follows: Two (four) blue lottery boxes were displayed. Permanently displayed on each box were two possible euro amounts that could be drawn from the box, as well as their probability of being drawn (e.g., box 1: 50% €2 / 50% €3; box 2: 90% €1 / 10% €10). The respondent had to click on one of the two (four) boxes to decide which one he/she would like to draw from.

The lotteries in which respondents had to estimate the probabilities also consisted of the interviewee's decision between two (four) options displayed in the form of blue boxes. But in this version of the lottery, the boxes were not labeled. The respondent could click on each box, and for a short time, one of two possible amounts of money to be drawn from the box was displayed on it. The box could be clicked on several times, and the value displayed changed according to the probabilities that were attached to the boxes. So respondents had to estimate the probability themselves depending on how often a certain amount of money was displayed when they clicked on the blue boxes. They could click as often as they wanted to develop a sense of the prevailing probability. By pressing an additional button, they could finally select their favorite option.

Before starting the actual experiment, the interviewees took a trial run to make sure they understood the task correctly. To create a more realistic situation, the partic-

ipants received their wins from two randomly selected lotteries in cash.

## Financial Investment

The module “financial investment” which had already been part of the SOEP-IS questionnaire in 2012 aims at investigating the relative reluctance of Germans to invest in stocks. This fact is sometimes described as problematic as the high preference to invest conservatively can lead to limited returns on, for instance, retirement investment. By conducting the behavioral experiment in a slightly altered version again in 2014, longitudinal data were generated and the robustness of the former results was tested.

At the beginning of the experiment, respondents from sample I<sub>2</sub> were informed that they could win but not lose money (T2630; T2631). Then, an introductory text explained the course of the experiment, which was designed as a CASI (computer-assisted self-interview) module. The respondents were asked to invest a hypothetical sum of €50,000, either in a riskless German government bond with a return of 4% per annum or an asset whose risky return would be determined by the development of the DAX in the year after the interview (T2633). Afterwards, the respondents were informed of the real-life consequences of their decision: one year after the interview, they would earn €1 for each €2,000 of the hypothetical €50,000, including possible gains or losses from their investment decision. The final sum would depend on the real performance of the DAX in the following year, and the sum would be provided one year later by check (T2634).

Question T2636 asked respondents to decide how they wanted to invest the €50,000. They could invest the money at will in any ratio in either of the above-mentioned options. Respondents' expectations about the development of the DAX during the next year were assessed using a so-called novel histogram elicitation tool, in which expectations about the DAX's development were provided by clicking on different numbers of boxes (T2638). Afterwards, they were asked to predict the trend (profit or loss?) (Q2639) and estimate the profit/loss as a percentage (Q2640).

## Day Reconstruction Method (DRM)

The DRM module was already used as a pretest in the 2012 SOEP-IS refresher sample and in the 2012 and 2013 SOEP-IS waves. The intention behind this module

is to measure the long-term stability of the DRM ratings over four consecutive waves, from 2012 to 2015. The module is an adaptation of the DRM as introduced by Kahneman and colleagues in 2004.<sup>5</sup> By asking for the respondent's sensations throughout the day, researchers have an opportunity to create new measures of subjective well-being and examine the impacts of different activities on the quality of life. In 2014, the DRM was supplemented by a mobile phone study using the experience sampling method (ESM) that is described in further detail in Section 4.5.

The set of questions in the DRM module is designed to deliver an accurate reconstruction of the respondent's previous day. The module collected information about all activities as episodes, including start and end time, with the help of a list containing 26 activities, such as "shopping", "watching children," and "doing sports". Afterwards, additional questions were asked about a random subset of these episodes, including affective feelings during the activity, where the activity took place, and the presence of other persons.

## Shorter modules

A range of shorter modules made use of standard survey questions to generate insight into a variety of different topics:

Playing the **lottery** is popular among many people, although it is a paradox from a scientific point of view because the value of the expected win from the lottery is substantially lower than the price of a lottery ticket. So, on a long-term basis people make a loss but still play every week. Four questions that deal with respondents' lottery playing behavior were included in SOEP-IS questionnaire (Q72-Q76).

Another topic of one of the shorter modules was the respondent's **attitude towards income redistribution**. Up to now, there is no measure of people's attitudes towards redistribution policies available for use in the SOEP, and this module was designed to fill this gap. It consisted of a matrix question that measured agreement with redistribution (Q8201) as well as two questions asking whether high/low income is more the result of personal effort or more the result of circumstances that are outside of a person's control (Q8202, Q8203).

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<sup>5</sup> Kahneman, D., Krueger, A. B., Schkade, D., Schwarz, N. & Stone, A. (2004). The Day Reconstruction Method (DRM): Instrument Documentation.

Scientific findings on children's cognitive development are important in our society. This year, an instrument measuring the **home chaos** of a child was introduced to verify whether factors such as noise, traffic, or disorder could influence a child's development. The longitudinal design of the SOEP makes it possible to observe processes of child development. The operationalization of the question took the form of a matrix question about household routines, noise, and order in the home, the so-called "Chaos, Hubbub, and Order Scale" (CHAOS, Q172).

In an attempt to gain further insight into **happiness from a cross-cultural perspective** by comparing Germany to Japan, three questions about life satisfaction were included in the SOEP-IS questionnaire, in addition to the standard instruments used in the SOEP-IS to measure subjective well-being (SWB). The first question tried to identify what "satisfaction" means to the individual, a term that seems to have different definitions from one culture to the next. For example, respondents were asked to rate their agreement or disagreement with statements that are typically associated with a satisfying life (Q3253).

The question about key life events is always part of the SOEP-IS. In 2014, an additional question was added asking respondents to estimate how likely the occurrence of a certain **life event** would be (Q323). The capability to anticipate certain events may make it easier to come to terms with these events if they actually occur. This hypothesis can then be tested if the events are indeed reported in one of the following waves of the SOEP-IS.

At the end of the questionnaire, the respondents had to complete a short set of questions to obtain a measure of their **self-evaluation and overconfidence in different life domains**. They were asked to imagine 100 randomly selected individuals and estimate how many of these people would be better off than they themselves were in terms of income (Q329), life satisfaction (Q331), health (Q333), etcetera.

## Pretest for SOEP-Core

In addition to allowing for the fielding of different innovation modules through a competitive submission process, the SOEP-IS also provides a survey environment for pretesting new questions that are intended for the main SOEP questionnaire. In 2014/2015, several question blocks on energy use and recycling attitudes and behavior were pretested as part of the household questionnaire. Moreover, the individual questionnaire

contained individual pretest questions on various topics such as educational qualifications, vegetarianism, and whether the respondent's wages are set by collective agreement.

### 4.3 Longitudinal Samples $I_{1/E}$ , $I_2$ , and $I_3$

#### Fieldwork Progress

Fieldwork for the SOEP-IS usually starts in September, and the majority is concluded by the end of December or early January. This is followed by an additional fieldwork period because the four months between September and December do not provide sufficient time to process all households as thoroughly as required for a high longitudinal response rate. Households are assigned to the second fieldwork period if they could not be contacted successfully in the first period, if they were unable or unwilling to participate due, for example, to time constraints, or if interviews were missing for individual household members.

In the 2014 SOEP-IS, the main fieldwork period in the longitudinal samples lasted from September 2014 to

Table 19

#### Fieldwork Progress for Samples $I_{1/E}$ , $I_2$ and $I_3$ : Processing of Household Interviews<sup>1</sup>

	2013/2014		2014/2015	
	Gross Sample	Net Sample	Gross Sample	Net Sample
September <sup>2</sup>	30	32	20	20
October	66	71	63	69
November	80	86	82	88
December	89	94	87	93
January	91	95	93	96
February	99	100	99	100
March	100	100	100	100

<sup>1</sup> Cumulative percentages based on the month of the last household contact

<sup>2</sup> Including households who refused to take part in the survey prior to start of fieldwork

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early January 2015. As seen in **Table 19**, fieldwork for 93% of the households that participated in the study was completed by the end of December 2014. In the remaining households, some or all of the interviews were conducted in 2015.

Table 20

#### Fieldwork Results (Households)

	Sample $I_{1/E}$			Sample $I_2$			Sample $I_3$		
	Num	In % Gross	In % Net	Num	In % Gross	In % Net	Num	In % Gross	In % Net
<b>Total</b>	1,265	100.0		935	100.0		1,214	100.0	
QNDs									
Deceased <sup>1</sup>	3	0.2		3	0.3		6	0.5	
Expatriates <sup>2</sup>	2	0.2		3	0.3		5	0.4	
<b>Interview</b>	1,096	86.6	100.0	772	82.6	100.0	929	76.5	100.0
<b>Completely</b>	924	73.0	84.3	638	68.2	82.6	795	65.5	85.6
<b>Partly</b>	172	13.6	15.7	134	14.3	17.4	134	11.0	14.4
<b>Not realized</b>	169	13.4		163	17.4		285	23.5	
<b>No contact</b>	20	1.6		17	1.8		40	3.3	
<b>Interview not possible<sup>3</sup></b>	7	0.6		14	1.5		21	1.7	
<b>Refusals</b>	136	10.8		126	13.5		213	17.5	
Temporary	38	3.0		33	3.5		60	4.9	
Final	98	7.7		93	9.9		153	12.6	
<b>Other</b>	1	0.1		0	0.0		0	0.0	

<sup>1</sup> I.e. last person in the household deceased

<sup>2</sup> Whole household moved abroad

<sup>3</sup> Due to sickness, mental disease, permanent absence during fieldwork period or other reasons.

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Table 21

## Key Fieldwork Indicators

	Sample I <sub>1/E</sub>		Sample I <sub>2</sub>		Sample I <sub>3</sub>	
	Num.	In %	Num.	In %	Num.	In %
<b>(1) Gross sample composition by types of households</b>						
Previous wave's respondents	1.174	92.8	833	89.1	1.166	96.0
Temporary drop-outs prev. wave(s)	56	4.4	69	7.4	11	0.9
New households (split-off hh)	35	2.8	33	3.5	37	3.0
<b>(2) Net sample composition by types of households</b>						
Previous wave's respondents	1.056	96.4	732	94.8	903	97.2
Temporary drop-outs prev. wave(s)	18	1.6	22	2.8	10	1.1
New households (split-off hh)	22	2.0	18	2.3	16	1.7
Total	1.096	100.0	772	100.0	929	100.0
<b>(3) Panel stability<sup>1</sup></b>						
		93.4		92.7		79.7
<b>(4) Response rates by type of household (adj. gross sample)<sup>2</sup></b>						
Previous wave's respondents		90.3		88.4		78.2
Temporary drop-outs prev. wave(s)		32.1		32.4		90.9
New households (split-off hh)		62.9		54.5		43.2
Total response rate		87.0		83.1		77.2
<b>(5) Interviewer</b>						
Number of interviewers	194		148		138	
Average num. of households per int.	6.5		6.3		8.8	

**1** Number of participating households divided by previous wave's net sample

**2** Adjusted by deceased persons and expatriates

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## Fieldwork Indicators (Household Level)

**Table 20** presents final fieldwork results for samples I1/E, I2, and I3 at the household level. The total gross sample consisted of 3,414 households. This includes previous wave respondents as well as temporary drop-outs and new households from the previous wave (see

also **Table 21**). At the end of the fieldwork period, 2,797 households took part in the SOEP-IS, that is, at least one person in the household answered the individual and the household-related questions.

The composition of gross and net sample is specified among other key field indicators in Table 22. Combining all subsamples, 3,173 (92.9%) of the 3,414 gross sample households were previous wave respondents, and 136 households (4.0%) were temporary drop-outs from the previous wave that were contacted again because there was some indication that participation in the next wave was still possible. The last subsample, “new households”, emerged during the fieldwork period: split-off households are created, for example, when children move out of their parents' home and establish new households. In 2014/2015, 105 new households were integrated into the gross sample.

Table 22

## Individual Questionnaires: Number of Interviews and Response Rates

	Interviews	Response/Coverage Rate
Individual questionnaire <sup>1</sup>	4,491	89.7
Mother and child questionnaire A <sup>2</sup>	134	97.1
Mother and child questionnaire B <sup>3</sup>	113	98.3
Mother and child questionnaire C <sup>4</sup>	707	98.5

**1** Individual questionnaire from respondent in participating household (i.e. household questions provided for the household as well)

**2** Coverage rate for children with birth year >=2012

**3** Coverage rate for children with birth year 2010 or 2011

**4** Coverage rate for children with birth year <=2009

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The fieldwork results for longitudinal samples can be measured using two basic parameters: the first is panel stability, which is the decisive indicator of a household panel survey's successful development from a long-term perspective. Since panel stability is calculated as the

Table 23

### Distribution of Sample Points by Federal State

	Number Sample Points	Share Sample Points	Share HH in Net Sample <sup>1</sup>	Share Households in Germany <sup>2</sup>
Schleswig-Holstein	5	4.0%	3.5%	3.4%
Hamburg	3	2.4%	2.4%	2.5%
Lower Saxony	12	9.6%	10.6%	9.6%
Bremen	1	0.8%	0.3%	0.9%
North Rhine-Westphalia	27	21.6%	20.9%	21.5%
Hesse	9	7.2%	6.5%	7.3%
Rhineland-Palatinate	6	4.8%	5.9%	4.7%
Baden-Wuerttemberg	16	12.8%	12.8%	12.5%
Bavaria	18	14.4%	13.1%	14.9%
Saarland	2	1.6%	2.3%	1.2%
Berlin	6	4.8%	4.3%	5.0%
Brandenburg	4	3.2%	2.9%	3.1%
Mecklenburg-West Pomerania	3	2.4%	4.1%	2.1%
Saxony	7	5.6%	5.7%	5.5%
Saxony-Anhalt	3	2.4%	2.1%	2.9%
Thuringia	3	2.4%	2.6%	2.8%
Total	125	100.0%	100.0%	100.0%

<sup>1</sup> Preliminary results

<sup>2</sup> Gemeindedatei 2013

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number of participating households in the current wave compared to the corresponding number from the previous wave, panel mortality and panel growth (split-off households) or “regrowth” (dropouts from the previous wave who “rejoined” the sample) are taken into account. The second parameter for measuring fieldwork results is the longitudinal response rate. Response rates indicate the ratio between the number of interviews—in this case household interviews—and the number of units in the gross sample. In **Table 21**, the overall panel stability and response rates for all relevant subgroups are listed.

The panel stability of sample  $I_{1/E}$  has again slightly increased compared to the last wave (93.4% vs. 92.7%), while the value for  $I_E$  alone even reaches 95.8%. In its third wave, sample  $I_2$  was able to improve in terms of panel stability, with a value of 92.7% (2013/2014: 82.5%). In the case of sample  $I_3$ , which went through the challenging transition from a cross-sectional to a longitudinal survey in this wave, panel stability reached a rate of 79.7%.

### Individual Response Rates

In a household survey, a commonly used indicator to measure the success of the fieldwork process on an individual level is the number of households in which at least one questionnaire is missing. Just as in the core SOEP survey, the innovation sample tries to target every member of the household who has reached the age of 16. The share of households for which at least one person did not complete the individual interview is 15.7%. In 440 of the 2,797 households, at least one interview is missing.

Another indicator for response on an individual level is the number of people who were interviewed with the individual questionnaire. From the 5,009 adults in participating households 4,491 took part in the survey. This equals a response rate of 89.7%.

Table 24

### Distribution of Sample Points by Community Type (BIK)

	Number Sample Points	Share Sample Points	Share HH in Net Sample <sup>1</sup>	Share Households in Germany <sup>2</sup>
More than 500,000 inhabitants (center)	35	28.0%	26.4%	28.6%
More than 500,000 inhabitants (periphery)	12	9.6%	9.1%	9.0%
100,000 to 499,999 inhabitants (center)	19	15.2%	14.9%	15.9%
100,000 to 499,999 inhabitants (periphery)	18	14.4%	14.2%	14.0%
50,000 to 99,999 inhabitants (center)		2.4%	2.7%	2.3%
50,000 to 99,999 inhabitants (periphery)	10	8.0%	8.5%	7.4%
20,000 to 49,999 inhabitants	12	9.6%	9.9%	10.7%
5,000 to 19,999 inhabitants	11	8.8%	8.9%	8.0%
2,000 to 4,999 inhabitants	3	2.4%	2.9%	2.4%
less than 2,000 inhabitants	3	2.4%	2.4%	1.7%
Total	125	100.0%	100.0%	100.0%

<sup>1</sup> Preliminary results

<sup>2</sup> Gemeindefachdatei 2013

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## 4.4 Refresher Sample I<sub>4</sub>

### Sampling

Refresher sample I<sub>4</sub> was introduced to further enhance the sample size of SOEP-IS with the aim of adding approximately 1,000 newly recruited households to the net sample. Similar to all previous general population samples in the SOEP or SOEP-IS (including refresher samples J (2011), K (2012), I<sub>2</sub> (2012) and I<sub>3</sub> (2013)), sample I<sub>4</sub> was realized using a multi-stage stratified sampling design. In the following, we will summarize the two main stages of sampling separately, covering the most important methodological aspects but not providing a detailed description of methods and processes.

The sampling procedure of a new SOEP household sample makes use of the so-called ADM face-to-face sampling system and modifies it in a way that maximizes the methodological advantages so that a best-practice design for a non-registry-based household sample frame can be derived. Thus, before starting to describe the specific sampling design of refresher sample I<sub>4</sub>, we provide some context for why the ADM sampling system for face-to-face interviews is used for the SOEP.

The most important background information to bear in mind is that there is no centralized population (let alone household) directory available in Germany that contains the addresses of all private households or individuals. The data collected by the local authorities (*Städte, Gemeinden*) for the municipal registers of residents are available for surveys that are demonstrably in the “public interest”: but this information is mainly useful for sampling individuals. Due to the lack of a central household registry, the “Arbeitsgemeinschaft ADM-Stichproben Face-to-Face” has developed the basic methodology and elements of a sampling frame suitable for market and social research samples based on random sampling. The ADM Sampling System (face-to-face) is designed as an area sample that covers all populated areas of the Federal Republic. It is “based on Germany’s topology, organized by states, counties and communities, the statistical areas within communities described by public data, and the geographical data created for traffic navigation systems.”<sup>6</sup> Based on the combination of data, the sample is made up of about 53,000 areas that constitute the primary sampling units. Each sampling unit con-

<sup>6</sup> ADM Arbeitskreis Deutscher Markt- und Sozialforschungsinstitute e.V. (2014): “Stichproben-Verfahren in der Umfrageforschung – Eine Darstellung für die Praxis,” Springer Fachmedien Wiesbaden

tains on average 700 private households, the minimum number being 350.

In the second step of the ADM sampling procedure, the private households are selected using a street database from which the so-called start address for a random walk is randomly drawn. From this starting point, the interviewer proceeds by selecting/listing every third household, with a clear rule for how to proceed when he/she is facing dead ends, split roads, or other special problems on his or her walk through the sampled area.

### Stage 1: Random Selection of Sample Points

Consisting of a total of approximately 53,000 spatial areas, the sample points are the units of measurement in the first selection stage. In each unit, the number of sample points is drawn with a probability that is proportional to the number of households in each sample point. The criteria that define the stratification layers are federal state, administrative district, and municipal type. A total of 125 sample points were drawn with a selection probability proportional to the share of households in the sampling point—with states, administrative districts (*Regierungsbezirke*), and the BIK classification system (a settlement structure typology) used as the layers.

The distribution of sample points of the gross sample, both in absolute and relative figures, is shown in **tables 23 and 24**. The relative share of sample points is contrasted with the share of private households in the respective layers. As we will discuss fieldwork results in the next sub-section, in the last column of **Tables 23 and 24** we present the actual share of households in the net sample. By comparing the information on the net sample composition in two major regional layers, it is possible to observe the deviations from the “target shares” for the inference populations in the respective regional segments.

### Stage 2: Random Route Walk and Address Listing

In the second stage of the selection process, the households are selected to participate in the study at each sample point. Here, a special version of the random route technique is employed. Instead of choosing the addresses and conducting the interview in a single step, the addresses are selected in a separate step (“advance listing of addresses”). This approach is more complex than the standard random walk method, which is usually implemented without the advance listing of addresses. The more complex approach used for the SOEP delivers essential methodological advantages over the standard random walk procedure:

- Since the addresses are available before the start of fieldwork, they can be checked for plausibility and correctness. In other words: there is a precisely defined list of addresses that can be prepared for fieldwork.
- The interviewer that collects the addresses does not need to be the one who is chosen to conduct the interviews. This approach minimizes interviewer effects and can be used to check whether the random route was implemented correctly by the interviewer who listed the addresses.
- The address listing is a prerequisite for measures by the fieldwork institute to increase response rates and decrease unit non-response, such as a letter of introduction and informational brochure sent to respondents before fieldwork commences. Given the declining general willingness to participate in population surveys and selection effects in the standard random walk routine, these measures constitute important aspects of a best practice design.
- For fieldwork, the interviewer receives precisely specified addresses, whose handling can be recorded in detail in a contact protocol. This facilitates the generation of paradata on the “gross sample,” regardless of whether a household does or does not participate in the survey. For this purpose, special household context questions (*Wohnumfeldfragen*) have to be answered by the interviewer. On the basis of this (subjective, interviewer-based) information and (objective) micro-contextual social context data from the commercial provider MICROM, important indicators are generated, particularly for non-response analyses.

For each of the 125 sample points, the goal was to list 72 addresses on a random walk with a step interval of three, i.e., every third household unit on the random walk route was to be listed by an interviewer.

In total, between 28 and 39 addresses per sample point were randomly selected for fieldwork. The addresses were issued to the interviewer in two sample releases. In the first release in September 2014, 28 addresses were issued to the interviewers per sample point. In a second release in February 2015, 208 additional addresses were issued to compensate for addresses that were identified as ineligible (e.g., vacant housing units or businesses).

### Fieldwork Progress

Fieldwork in the SOEP-IS refresher sample lasted from September 2014 to early April 2015. Around 50% of

Table 25

### Fieldwork Progress 2013/2014 in Sample I<sub>4</sub> as a Percentage of the Gross and Net Sample<sup>1</sup>

	Gross Sample	Net Sample
September <sup>2</sup>	20	36
October	32	56
November	43	65
December	55	71
January	71	85
February	80	89
March	95	100
April	100	100

1 Cumulative percentages based on the month of the last household contact.

2 Including households that refused to take part in the survey prior to start of fieldwork

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households were processed within the first four months. Fieldwork progress over the whole eight-month period is displayed in **table 25**.

### Fieldwork Indicators (Household Level)

Survey-based studies are currently facing the problem of declining rates of participation. Since 2000, the public's

general motivation to take part in surveys has decreased substantially. There have been several initiatives to reverse this trend, and these measures initially seemed to have helped stabilize response rates in first-wave SOEP surveys. However, refresher samples I<sub>3</sub> and I<sub>4</sub> again reflected the broader trend of declining participation.

It was possible to motivate 924 households to take part in SOEP-IS refresher sample I<sub>4</sub>. The response rate in the adjusted gross sample equals 26.5%. This is significantly lower than other, more recently established samples in the SOEP (e.g., J 2011: 33.1%; K 2012: 34.7%; I<sub>2</sub> 2012: 34.7%) and more similar to the response rate of 27.1% in refresher sample I<sub>3</sub> in 2013/2014. **Table 26** shows the fieldwork results in detail.

### Individual Response Rates

The share of partially completed households was 16.8%. This means that in 155 of the participating households, at least one target person did not complete an individual interview. This means that the level of unit non-response in sample I<sub>4</sub> is similar to previous refresher samples (J 2011: 16.0%; K 2012: 14.6%; I<sub>3</sub> 2013: 15.2%).

A total of 1,851 persons were living in the 924 households that participated in sample I<sub>4</sub>. 1,554 of them were at least 16 years old and were therefore asked to com-

Table 26

### Fieldwork Results (Households)

	Num.	In % Gross	In % Net	In % Adjusted Gross <sup>3</sup>
<b>Total</b>	<b>3,708</b>	<b>100.0</b>		
Not eligible	223	6.0		
<b>Interview</b>	<b>924</b>	<b>24.9</b>	<b>100.0</b>	<b>26.5</b>
Completely	769	20.7	83.2	22.1
Partly	155	4.2	16.8	4.4
<b>Not realized</b>	<b>2,784</b>	<b>75.1</b>		<b>79.9</b>
No contact	349	9.4		10.0
Interview not possible <sup>2</sup>	186	5.0		5.3
Refusals	2,026	54.6		58.1
Temporary	75	2.0		2.2
Final	1,951	52.6		56.0
Other	-	-		-

1 Preliminary results

2 Due to sickness, mental disease, permanent absence during fieldwork period or other reasons

3 Adjusted gross sample = Total gross sample – not eligible

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plete an individual questionnaire. The 1,368 personal interviews that could be conducted result in a response rate of 88.0%.

## 4.5 Experience Sampling Method (ESM) in Sample I1/E

### Background and Objectives

In comparison to the data on generalized life satisfaction, which has been collected annually in the SOEP since 1984 and the SOEP-IS sample I<sub>1</sub> since 2009, Experience Sampling Methods (ESM) and the Day Reconstruction Method (DRM) are more recent innovations for measuring subjective well-being (SWB). However, having been employed primarily in convenience samples which are typically used in psychology, DRM and ESM posed new challenges for use in a random sample.

In the year 2012, the SOEP-IS SWB inventory was expanded in a first step by introducing the Day Reconstruction Method (DRM). This module, which is integrated into the SOEP-IS questionnaire, consists of retrospective questions concerning activities the target person engaged in the day before the interview, combined with SWB indicators related to these activities. After the first survey on the basis of the DRM module in sample I<sub>1</sub> in 2012, the module was repeated in 2013 and 2014. In 2014, the additional survey described in this section was set up to generate ESM-design-based interviews via mobile phone in a subgroup of sample I<sub>1/E</sub>.

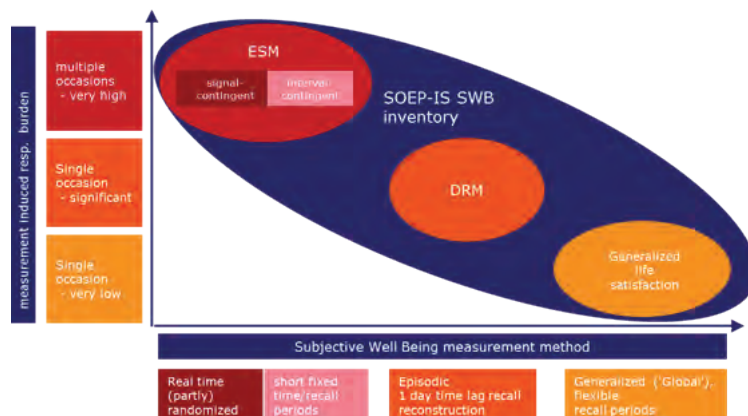
By implementing three collection methods for the measurement of SWB, the SOEP-IS provides comprehensive data that can be used for the qualitative validation of the different measurement methods. **Figure 7** shows the different SWB measurement concepts and the respective burdens they place on the respondent. **Figure 8** gives an overview of which questioning method has been used in which wave of the SOEP-IS. The introduction of DRM and ESM allows not only for a comparison of the three different SWB measuring methods but also offers an opportunity to test the long-term stability (over one year) and the short-term stability (over one week) of DRM measurements.

### Study Design

The main emphasis of the additional ESM study in sample I<sub>1/E</sub> is on the seven-day experience sampling phase. Respondents were asked to participate in 49 very short surveys on smart phones given to them by the interviewer. They received random alerts seven times a day in the

Figure 7

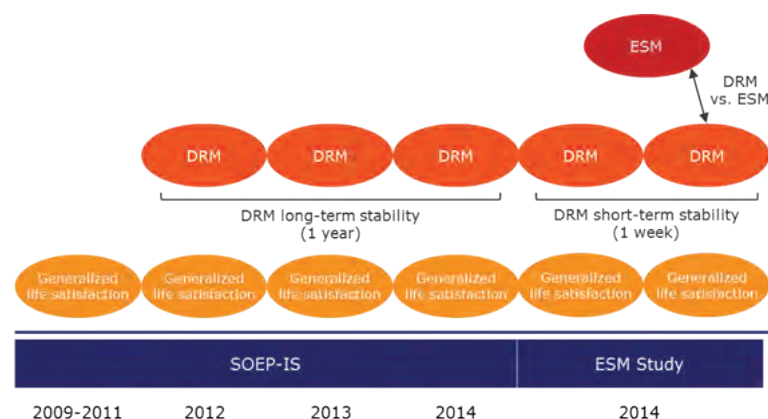
### The Subjective Well-Being Framework in SOEP-IS



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Figure 8

### Subjective Well-Being Measures in SOEP-IS Sample I1 since 2009



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seven-day ESM period and had to complete the 2.5-minute survey questionnaire within 15 minutes of receiving the alert. If the interviewee failed to answer all of the questions within the allotted time over the entire course of the survey, they were disqualified because the immediate measurement of affects is a crucial requirement for ESM.

Since people sometimes find themselves in situations in which it is not possible to complete the short survey within 15 minutes (e.g., when driving by car) or where they simply cannot hear the acoustic alert (e.g., while showering), it was assumed that even extremely moti-

Table 27

**ESM-DRM Study Sequence**

	Day 1	Day 2 to 8 (+ Day 9/10 <sup>1)</sup>	C
Data Collection Method	CAPI	Mobile	CAPI
SWB Measuring Method	DRM	ESM	DRM
Interview Duration	15 min	7*2,5 min per Day	15 min

<sup>1</sup> Substitute Days

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vated respondents might not be able to complete all 49 ESM short survey questionnaires during the seven-day period. Furthermore it was expected that respondents might not be able to complete the survey questionnaires on certain days due to unforeseen circumstances (e.g., appointments, illnesses). Therefore up to two substitute days were added to the ESM phase if a respondent completed fewer than five of the seven short surveys on one of the seven days.

A complete study sequence consisted not only of the seven-day ESM period but also included two DRM interviews before the start and after the end of the ESM phase (see **Table 27**). The respondent had to complete at least five ESM short survey questionnaires on each of the seven days during the observation period to count as having completed the ESM part of the survey.

### Sampling and selection of interviewers

One of the aims of the survey was to compare the DRM measurements collected in several waves of the SOEP-IS with the measurements based on the Experience Sampling Method (ESM) that were collected in this special survey. To achieve this, only members of the SOEP-IS sample  $I_{I/E}$ , who had answered DRM questions in the last few SOEP-IS waves were considered for the planned ESM study. As the survey was administrated with the help of the SOEP-IS interviewers, the composition of the final gross sample depended mainly on the selection of interviewers that were seen as meeting the requirements for this study. The interviewers were responsible for the recruitment of respondents and the DRM interviews at the beginning and at the end of the ESM phase. Moreover, they showed respondents how to use the smart phone, a task that was thought to be crucial in encouraging less tech-savvy respondents to take part as well.

For the ESM survey, only SOEP-IS interviewers were chosen that were already assigned to interview the

households for the SOEP-IS main survey. Thus, each household was only contacted by one interviewer—an approach that was deemed more considerate towards households, since having to get used to a second interviewer was seen as an additional burden. Furthermore, focusing on interviewers with a relatively high gross sample of addresses seemed practical for various reasons. For instance, the lower number of interviewers assigned to this study was seen as advantageous in allowing better control over the fieldwork and reducing the number of interviewers that would have to be trained. The ESM survey was therefore only conducted in households whose interviewers were responsible for a relatively large number of households overall.

The gross sample for the ESM study consisted of a total of 517 households with 840 persons who had taken part in the previous wave of SOEP-IS (2013). Altogether, 37 SOEP-IS interviewers were chosen to carry out the interviews and act as a contact for respondents in the context of the special study. Each interviewer contacted an average of 14 households for the ESM study and carried out ESM surveys with around 7 respondents. On average, each interviewer was provided with 3.5 smart phones that he/she could distribute to the participants.

During a half-day staff training, which took place in the middle of October just before the start of the ESM fieldwork, the interviewers were informed about the scientific background and course of the survey. But above all else, the aim of the training was to familiarize the interviewers with the handling of the smart phones and to brief them about the most important questions and problems that might occur during the project. This training was designed to enable the interviewers to be confident in explaining—especially to less tech-savvy respondents—how to handle the smart phone and to provide them with support during the ESM phase if necessary.

### Data Collection

#### Preparation

In late August, just before the beginning of fieldwork for the main SOEP-IS study, the selected households received a slightly modified version of the usual letter of invitation sent to respondents, informing them about the planned mobile phone survey and encouraging them to participate. The letter also contained a flyer explaining the ESM survey and describing the course of the survey and its scientific background.

After the letters were sent, the interviewers had to contact the households and pre-recruit those who were in-

terested so that a fieldwork sample for the mobile phone study could be set up. As not all results of the pre-recruitment could be finalized until the middle of October, individuals from whom no answer about participation had been received were included in the fieldwork sample.

After all preparatory steps were carried out and the training course had taken place, the interviewers began to make appointments for the first DRM interview. Here the same rules as for the DRM in the SOEP-IS main study applied: If possible, the DRM interview should not take place on a Sunday or Monday.

#### Day 1

On day one, the interviewer visited the household, handed over the smart phone, and carried out the initial 15-minute DRM interview. Then an explanation of the course and the rules of the ESM survey followed. The interviewer also took time to answer questions the respondent might have. After the respondent signed a consent form to participate in the survey, the interviewer explained to them how to operate the smart phone. As participants should already be awake when the phone alert came in the morning, the respondent was asked to set an individual start time that marked the beginning of the 12-hour time period in which all seven daily mobile phone surveys would be completed. After this, the respondent had the opportunity to complete one ESM survey as a trial run.

For later reference, the participants also received a small (21 x 14.8 cm) 12-page brochure with information about the survey and instructions for how to use the mobile phone. The interviewer and the participants also completed a schedule containing the date of the final DRM interview as well as the dates of all ESM survey days, including possible substitute days.

#### Day 2 to Day 8

On days 2 to 8, participants had to fill in the ESM short questionnaires at seven random and previously unannounced times of the day. They were instructed to contact the interviewer if they had any questions or problems during the ESM phase, so interviewers had to be reachable by mobile phone. If the interviewer could not find a solution to a problem or did not know the answer to a question, he/she could contact a project manager at TNS Infratest Sozialforschung.

The response behavior of respondents was recorded and supervised by the SOEP team at TNS Infratest Sozialforschung with the help of a monitoring program designed for this purpose. If a participant missed the ESM surveys too often, his/her interviewer was asked to con-

tact the participant to explain again that he/she had to complete at least five surveys per day or solve possible problems with the smart phone.

If the respondent participated in the ESM survey on fewer than seven days, the special ESM software installed on the smart phones automatically added to two substitute days on to the end of the seven-day ESM phase. In this case, the interviewers and interviewees had to postpone their appointment for the final interview on short notice.

#### Day 9

At the end of the ESM phase, the interviewer visited the household again to carry out the final 15-minute DRM interview with reference to the previous day's activities and SWB measures. Since ESM measures were taken on the previous day, concurring periods of time were recorded with the two different methods.

On day 9, the respondents also received their monetary incentive paid in cash. The amount depended on the number of completed ESM surveys. The "updated" incentive amount was displayed after each ESM short survey: For every complete ESM survey, they earned 1 euro (as long as the respondent participated in at least five interviews a day). If all seven surveys had been completed on a given day, the participants received a bonus of 4 euros for that day. So the maximum monetary incentive a respondent could earn amounted to 77 euros.

#### Questionnaire

The DRM survey at the beginning and at the end of the sequence corresponded to the DRM module that was included in the main SOEP-IS questionnaire for sample I<sub>1/E</sub> in wave 2014/15. For further information, please refer to **Section 4.2** of this report. Additionally, two further questions from the SOEP concerning generalized life satisfaction were included at the beginning of both of the CAPI interviews<sup>7</sup>.

The ESM questionnaire consisted of 17 questions that were modelled after the DRM questions. Each short mobile survey included exactly the same set of questions. The first block focused on the respondent's current situation. The second part consisted of questions about the

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7 "How satisfied are you today with the following areas of your life? How satisfied are you with..." Items: "...your health?", "...your sleep?", "If employed: ...your job?", "...your household income?", "If employed: ...your personal income?", "...your dwelling?", "...your leisure time?", "...your family life?"

"Please indicate for each of the following feelings how often or rarely you experienced them in the last four weeks. How often have you felt..." Items: "...angry?", "...worried?", "...happy?", "...sad?". Scale: "Very rarely", "Rarely", "Occasionally", "Often", "Very often"

Table 28

## Results SOEP-IS ESM Study 2014<sup>1</sup>

	N	In % Gross Sample	N Wants to participate	In % Wants to participate
Gross sample	840	100.0		
<b>Results of pre-recruitment</b>				
Wants to participate	274	32.6		100.0
Doesn't want to participate	429	51.1		
Unable to reach	31	3.7		
No result	106	12.6		
<b>Results of ESM fieldwork</b>				
ESM complete <sup>2</sup>	257	30.6	237	86.5
49 ESM questionnaires in first 7 days	112	13.3	106	38.7
Without substitute day	125	14.9	113	41.2
with substitute day	20	2.4	18	6.6
ESM incomplete	8	1.0	6	2.2
No ESM - participated in SOEP-IS	471	56.1	27	9.9
No ESM - no participation in SOEP-IS	104	12.4	4	1.5

<sup>1</sup> Preliminary results

<sup>2</sup> At least 5 ESM-interviews on 7 days have been completed; DRM1 and DRM2 have been provided

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intensity of current emotions. Respondents received an acoustic alert announcing the start of each short survey. From that time on, the survey was available for 15 minutes. If the respondent did not react within those 15 minutes, he or she received further alerts five and ten minutes after the first.

The survey started with a few questions about the respondent's momentary situation and activities: "Where are you at the moment?", "What are you doing at the moment?", "Is this activity more pleasant or more unpleasant?", "Who is with you?". The participants had to select answers to the questions "What are you doing at the moment" and "Who is with you?" from a list. The list of possible activities corresponded to the list used in the context of the DRM interview in the main study. However, the order had been adjusted according to the frequency of certain activities as reported in previous waves of the DRM. This aimed at shortening the search process for frequent activities that appeared at the top of the list.

The second part of the questionnaire focused on the intensity of 13 emotions. On a scale from 1 ("not at all") to 7 ("very strongly"), the interviewees were asked to rate the degree to which they currently felt happiness, anger, frustration, tiredness, sorrow, worry, pain, enthusiasm, satisfaction, boredom, loneliness, stress, or a sense of deeper meaning. After the interview was finished, the phone displayed the number of remaining interviews for that day and the amount of the monetary incentive that they had earned so far.

## Fieldwork Results

In the pre-recruitment phase, 274 of the 840 SOEP-IS participants who were chosen to take part in the ESM study stated interest in participating in the additional survey. This amounts to 37.3% of all respondents who had provided an answer in the pre-recruitment phase, prior to the start of the main ESM fieldwork phase.

Overall, 257 respondents provided complete ESM surveys consisting of five to seven ESM-interviews on seven days and two DRM interviews. This means that we have complete ESM surveys available for 30.6% of the 840 chosen SOEP-IS participants, a slightly higher response than anticipated at the start of the study. The completeness of the ESM interviews was satisfactory as well: 43.6% of the persons with complete ESM surveys managed to answer all 49 ESM interviews in the first seven days, not missing a single survey, and only 7.8% needed an extra day. Please refer to **Table 28** for more detailed results.

One of the reasons why a more elaborate study design, providing smart phones and interviewer assistance, was chosen for the ESM study in SOEP-IS was that it was

Table 29

## ESM Net Sample by Age Groups<sup>1</sup>

	SOEP-IS Net Sample I <sub>1/E</sub>		ESM Gross Sample		ESM Net Sample	
	N	%	N	%	N	%
24 and younger (> y 1989)	162	9.2	91	10.8	29	11.3
25 - 34 (y 1980 - 1989)	185	10.5	97	11.5	45	17.5
35 - 44 (y 1970 - 1979)	205	11.6	103	12.3	39	15.2
45 - 54 (y 1960 - 1969)	343	19.5	159	18.9	40	15.6
55 - 64 (y 1950 - 1959)	323	18.3	137	16.3	41	16.0
65 - 74 (y 1940 - 1949)	316	17.9	147	17.5	49	19.1
75 and older (< y 1940)	228	12.9	102	12.1	14	5.4
NA	-	-	4	0.5	-	-

<sup>1</sup> Preliminary results

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deemed to be better suited for convincing less tech-savvy, possibly older respondents to take part in the additional mobile phone survey. **Table 29** provides a first indication as to whether this strategy was successful with a comparison of the age distribution in the ESM net sample with the age distribution in the net sample of the SOEP-IS main study in 2014. A look at the oldest group of respondents “75 and older” shows that their share in the ESM net sample does differ from their share in the SOEP-IS net sample. However, the share of respondents from 55 to 74 in the ESM net sample is lower than their share in the SOEP-IS net sample.