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**Research Report**  
**SOEP Wave Report 2016**

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German Institute for Economic Research (DIW Berlin)

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Janina Britzke, Jürgen Schupp (Editors)

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# SOEP Wave Report 2016

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





# Contents

<b>EDITORIAL</b> .....	5	Many Refugees Have Work Experience but a Smaller Share Possess Formal Vocational Qualifications .....	118
<b>PART 1</b>		Language Acquisition: Refugees Nearly Achieve Proficiency Level of Other Migrants .....	126
<b>Overview of the SOEP Research Infrastructure at DIW Berlin</b> .....	7	Refugees Entered the Labor Market later Than Other Migrants .....	134
SOEP in a Nutshell .....	8	Half of the Refugees in Germany Found Their First Job through Social Contacts .....	140
SOEP Structure .....	11	Forced Migration, Arrival in Germany, and First Steps toward Integration .....	148
SOEP Administrative and Management Team .....	12	IT and Communication Technologies Dominate Adolescent Downtime .....	162
Division 1: Survey Methodology .....	14		
Division 2: Data Operation and Research			
Data Center (RDC) .....	16		
Division 3: Applied Panel Analysis and Knowledge Transfer .....	18		
SOEP Staff at DIW Berlin .....	20		
SOEP Survey Committee .....	22		
<b>PART 2</b>		<b>PART 4</b>	
<b>SOEP Data and Fieldwork</b> .....	23	<b>SOEP Service Activities &amp; Knowledge Transfer in 2016</b> .....	177
The Landscape of SOEP Studies .....	24	SOEP in the Media .....	178
Kantar Public's Organization of SOEP Fieldwork .....	26	New SOEP Brochure: Leben in Deutschland (Living in Germany) .....	179
An Overview of the SOEP Samples .....	28	Twelfth International German Socio-Economic Panel User Conference (SOEP 2016) .....	180
The SOEP Screening Samples (L 2/3) .....	37	Panel Survey Methods Workshop 2016 .....	182
The SOEP Migration Survey and Refugee Sample (M1-M5) ...	41	SOEP at the 30th Annual Conference of the European Society for Population Economics .....	183
Report from the SOEP .....	41	Report of the DIW Berlin Scientific Advisory Board .....	184
Report 2016 from Kantar Public .....	44	SOEP Service	
The SOEP-Innovation Sample (SOEP-IS) .....	55	SOEPcampus 2016 .....	185
Field Work Report 2016 from Kantar .....	58	SOEP-in-Residence 2016 .....	185
Everyday Experiences in the SOEP Innovation Sample (EESOEPI-S): A Multi-Method Study .....	69	SOEP User Survey 2016 .....	185
SOEP-Related Study: BRISE .....	73	SOEP Staff & Community News .....	189
The SOEP Metadata Documentation System: paneldata.org .....	75	SOEP People Video Series .....	192
Report from the SOEP Research Data Center .....	78	Katharina Mahne .....	193
		Jennifer Hunt .....	194
		SOEP Glossary .....	196
<b>PART 3</b>		<b>PART 5</b>	
<b>A Selection of SOEP-Based DIW Economic Bulletins</b> .....	81	<b>SOEP-Based Publications in 2016</b> .....	203
Development of Top Incomes in Germany since 2001 .....	82	SOEP-Based Publications over the Last Decade .....	240
Shrinking Share of Middle-Income Group in Germany and the US .....	90	(S)SCI Publications in 2016 by SOEP Staff .....	205
German Public Opinion on Admitting Refugees .....	104	(S)SCI Publications in 2016 by the SOEP User Community ...	207
Integrating Refugees: Insights from the Past .....	112	SOEPpapers .....	214
		SOEP Survey Papers .....	218
		<b>IMPRINT</b> .....	222



# Editorial

**Jürgen Schupp**

Director of the Research Infrastructure SOEP  
Professor of Sociology at Freie Universität Berlin



We are pleased to present the seventh SOEP Wave Report, offering a glimpse of our work over the past year. In 2016, we conducted the 33rd wave of the survey and distributed 32 waves of SOEP data—25 of which included data from respondents in the former GDR—to over 500 users worldwide.

The central focus of our work is the dataset we refer to as SOEP-Core. It consists of the original SOEP study and all of the subsamples and refresher samples that have been added to it over the years. When the study was launched in 1984, its aim was to provide a representative picture of private households in Germany from both a cross-sectional and longitudinal perspective. This remains the objective of SOEP-Core to this day. Since 2001, we have also been systematically collecting detailed data on the children and adolescents in these households. As a result, we now have data on three or even four generations of a single family for many SOEP-Core households. An additional focus of our work is on some of the more recent studies to join the SOEP “family”, which are of growing importance to our data users.

The SOEP User Conference took place in June 2016 at the Berlin Social Science Center, where more than 80 researchers presented findings based on data from the SOEP and its related studies. The theme of the conference was intergenerational mobility. The SOEP Conference, as well as DIW Wochenberichte and media reports brought public attention to the SOEP on repeated occasions throughout 2016. Two topics were a particular focus of media reporting on the SOEP: first, issues of income and wealth distribution and the changing gap between rich and poor, and second, the integration of refugees.

In September, our survey research institute, TNS Infratest, which has been doing the fieldwork for the SOEP since the study began, changed its name to Kantar Public Germany. Despite the change of name, it remains an independent institute focused on social and political research. The survey itself

continues to be known to respondents by the same name, “Living in Germany”. This is also the title of the new information brochure that we produced in 2016, which we will be sending out to all the SOEP households in 2017.

We also have news to report on our SOEP Survey Committee: the DIW Board of Trustees appointed two new Survey Committee members for an initial term of three years at their November 2016 meeting. Arthur van Soest, Professor at the Tilburg School of Economics and Management, Netherlands, and Urs Fischbacher, Professor of Applied Economics at the University of Konstanz, will advise the SOEP starting in 2017 together with the other seven members of the SOEP Survey Committee on the SOEP survey and SOEP service.

Over 350 of the more than 7,000 total publications using SOEP data were published in 2016. This Wave Report contains the complete texts of several recent DIW Wochenberichte, published in English in the DIW Economic Bulletin, reflecting the wide range of SOEP-based research on subjects ranging from the declining size of the middle class in Germany and the United States, to German public opinion on refugees, to the amount of free time young people spend using computers, smartphones, and tablets. We also introduce several of the international researchers who are doing groundbreaking research with the SOEP data.

We wish you happy reading.



## PART 1

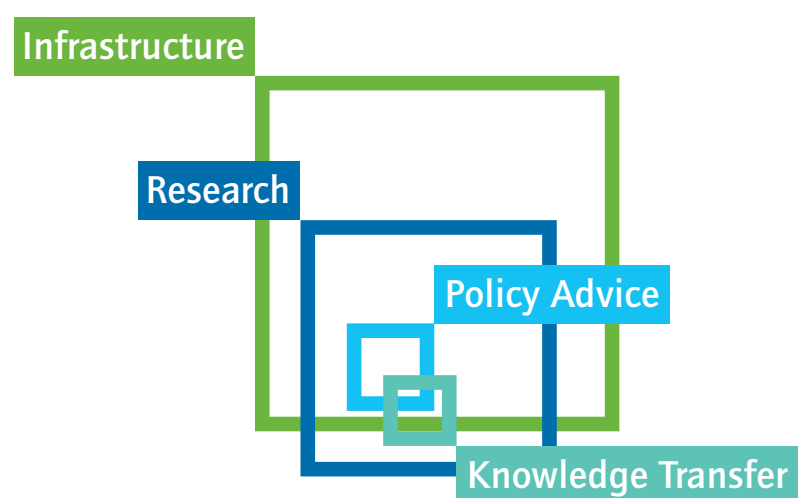
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# Overview of the SOEP Research Infrastructure at DIW Berlin

2016



# SOEP in a Nutshell



## Infrastructure

The Socio-Economic Panel (SOEP), based at the German Institute for Economic Research (DIW Berlin), is the longest-running and largest multi-disciplinary survey in Germany. The data collected as part of the SOEP survey are not only used by the staff of DIW Berlin but are also distributed to researchers worldwide for use in their own studies. As such, the SOEP is one of the most important research infrastructures in the social, behavioral, and economic sciences worldwide, and it is also part of the German Federal Ministry for Education and Research (BMBWF) National Roadmap for Infrastructures. As a member institute of the Leibniz Association, the SOEP receives federal and state funding. The SOEP Research Data Center offers researchers from outside DIW Berlin access to anonymized SOEP data, which are provided exclusively for scientific research purposes. SOEP experts offer guidance and advice to researchers who want to use the SOEP as a data source or control sample. More than 7,000 research papers and other publications using the SOEP data have been published to date.

[http://www.diw.de/soeppapers\\_en](http://www.diw.de/soeppapers_en)

## Research

Over 500 researchers from a range of disciplines are currently using SOEP data for empirically oriented research in the social and economic sciences: [http://www.diw.de/soeppeople\\_en](http://www.diw.de/soeppeople_en). Since the start of the SOEP study in 1984, the focus has been on “Living in Germany”, as the study is known among its respondents: <http://www.leben-in-deutschland.info> (in German only). Research based on the SOEP data examines processes of both continuity and change in our society. Studies using SOEP data explore the distribution of social resources—not just income and wealth but also access to education and work—and how this affects people’s chances of social advancement. Other studies look at how social and economic living conditions affect people’s life satisfaction and well-being—a question that has been a subject of SOEP research since the outset. In 2004, researchers in developmental psychology began to discover the SOEP’s potential for use in psychological research. Since then, the SOEP data have been used to study personality development across the life course. The SOEP is also one of the largest repeat surveys of immigrants in Germany. The first SOEP survey of refugees to Germany was conducted in 2016.



SOEP team

## Policy Advice

The SOEP is an independent, non-partisan research infrastructure. That means that the topics of the SOEP study are selected solely according to scientific criteria. At the same time, findings from the SOEP study make a substantive contribution to the social and economic policy debate. The results of research using SOEP data are published regularly in the DIW Berlin Wochenbericht (in German) and the Economic Bulletin (in English). These publications serve to promote the exchange of ideas between experts and representatives of important social groups. In so doing, the DIW Wochenbericht and Economic Bulletin provide an empirical foundation for public policy decisions both within Germany and at the European and international level.

<http://www.diw.de/wochenbericht> and  
[http://www.diw.de/econbull\\_en](http://www.diw.de/econbull_en)

## Knowledge Transfer

The SOEP is involved in numerous activities aimed at informing the broader public about its research findings. SOEP staff members engage in diverse press and public relations activities. The SOEP team regularly takes part in the Long Night of Sciences in Berlin together with colleagues from Kantar Public Germany (previously known as TNS Infratest Sozialforschung) and is active on social media. The SOEP also contributes to the German Data Report, a joint project of the Federal Statistical Agency (Destatis), the Federal Agency for Civic Education (bpb), the Berlin Social Science Center (WZB), and the SOEP. The SOEP also supports universities and non-university research facilities in providing methodological training to SOEP data users. The workshops offered as part of the SOEPCampus program are oriented toward young researchers in the fields of sociology, economics, education, and psychology.

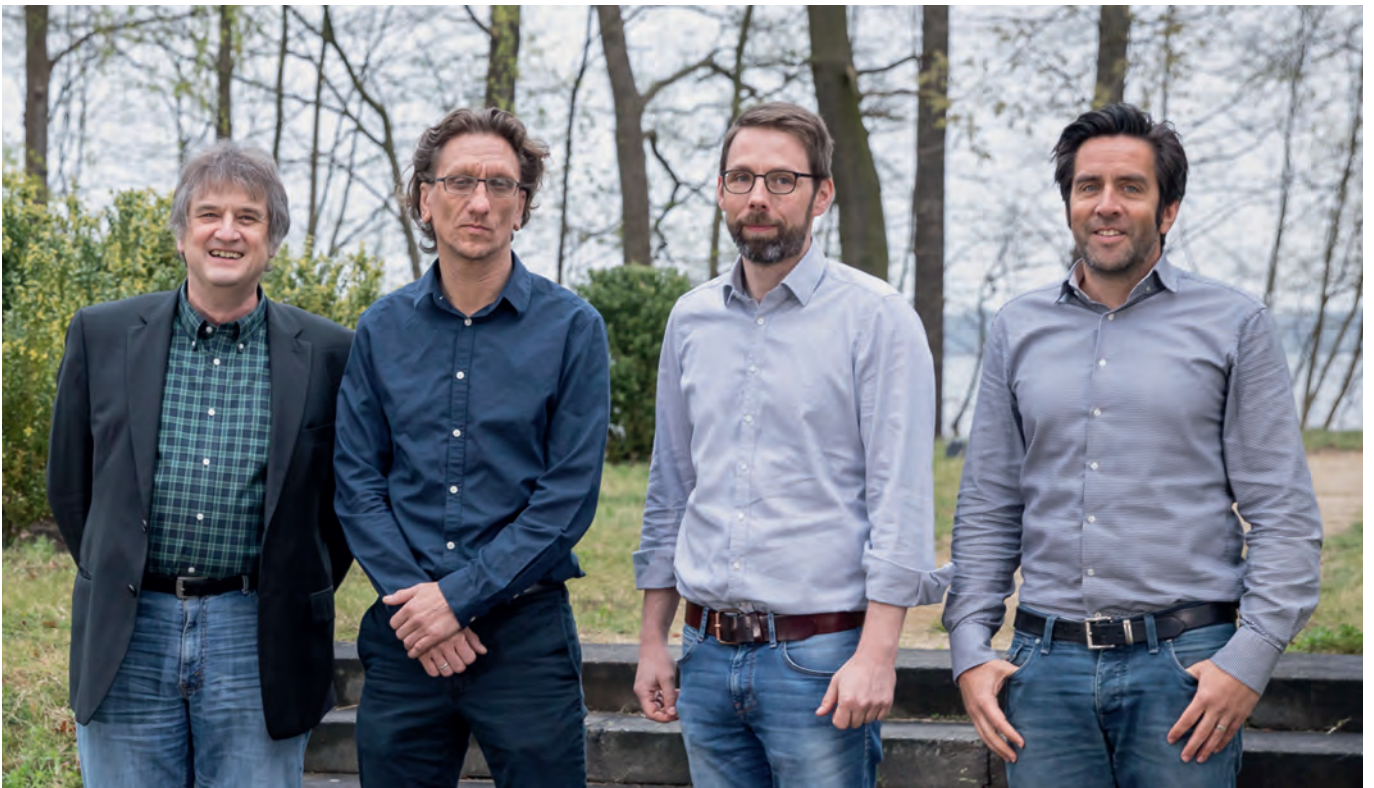
[http://www.diw.de/soepcampus\\_en](http://www.diw.de/soepcampus_en)

## The Future of the SOEP

Since the beginning of the study more than 30 years ago, the SOEP has been adapting constantly to changing social contexts. When the Berlin Wall fell in November 1989, the study quickly expanded to include households in the former GDR, with the first survey going out to this group in June 1990. Since 1994, the SOEP has included an additional sample of immigrants to Germany from the former Soviet Union. And in 2016, after hundreds of thousands of refugees came to Germany in 2015 seeking protection, the IAB-BAMF-SOEP Refugee Survey was launched. The SOEP is constantly monitoring current social developments and expanding the range of topics that can be studied using SOEP data. The study is also constantly being refined methodologically—for instance, through the use of new technologies for surveying. Over time, the paper version of the SOEP questionnaire has gradually been replaced by computer-assisted personal interviews conducted on laptops. And with the SOEP Refugee Survey, the survey institute stays in contact with respondents by means of a mobile phone app. For respondents who agreed to register linkages, SOEP data are linked with data from other sources: Since 2013, SOEP survey data have been linked with administrative data (when respondents give written consent) for use in migration and integration research.

The linked data are subject to special data protection requirements and are accessible to only a limited number of researchers. In 2012, the SOEP Innovation Sample was launched for use in addressing innovative new research questions. It now has around 5,500 respondents in close to 3,000 households. The SOEP Innovation Sample allows researchers from institutes worldwide to contribute their own survey questions. It has already been used in research on happiness to test innovative methods for measuring life satisfaction, and in economics for behavioral experiments on risk-taking in adults. The SOEP team is also working to facilitate linkages between the SOEP study and data from household panel studies in other countries. Numerous research groups from outside Germany are already using the SOEP data—in countries from Australia to the United States of America. Around 1,000 of the publications using SOEP data are internationally comparative studies. One of these has shown that in Germany as well as in Sweden and the USA, parental wealth plays a significant role in determining whether or not children manage to improve their socio-economic status. In the coming years, the SOEP will be working to promote increased use of the data by the international research community.

# SOEP Structure



SOEP Director Jürgen Schupp and Division Heads Martin Kroh, Jan Goebel, and Carsten Schröder take a participatory approach to department management.

The pages that follow give an overview of the three divisions of the SOEP and the work of the administrative and management team.

SOEP Director  
Jürgen Schupp

Head of Division 1: Survey Methodology  
Martin Kroh

Head of Division 2: Data Operation and Research  
Data Center  
Jan Goebel

Head of Division 3: Applied Panel Analysis and  
Knowledge Transfer  
Carsten Schröder

From left to right:  
Jürgen Schupp,  
Jan Goebel,  
Martin Kroh, and  
Carsten Schröder



# SOEP Administrative and Management Team

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Selin Kara  
Trainee as Specialist in Market and  
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Christine Kurka  
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Christiane Nitsche  
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Uta Rahmann  
Documentation and Reporting

Michaela von Schwarzenstein  
Team Assistance

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SOEP Communications Management

Stefan Zimmermann  
Trainee as Specialist in Market and  
Social Research, second year

In 2016, the SOEP Administrative and Management team was responsible for around 50 staff members, as well as trainees, doctoral students, grant holders, and about 45 student assistants. The team provides a range of research and administrative support services to the entire SOEP including translation and editing.

One key area of work is research and project management. This includes acting as liaison for the SOEP Survey Committee and coordinating and facilitating administrative processes between the SOEP unit and DIW Berlin's financial and human resources units. Another key area of work is the planning and coordination of press and public relations activities to promote SOEP publications and findings in traditional and social media outlets and in cooperation with the DIW Berlin communication unit. This also includes maintenance and development of the SOEP website. A third key area is the coordination of the SOEP's international activities. The SOEP has contractual partnerships with numerous institutions worldwide, and maintains close contact with the DIW Research Fellows nominated by the SOEP.

A fourth key area is editing and archiving of the various SOEP publication series, including the SOEP Wave Report, the SOEPnewsletter, the SOEP Survey Papers, and the SOEPpapers series. Last but not least, the administrative and management team is in charge of budget planning for the SOEP infrastructural unit, consulting with the SOEP's funding bodies, reporting on the SOEP's program budgets for approval by the DIW Board of Trustees, responding to queries from the Leibniz Association, and coordinating the SOEP's contributions to the DIW Annual Report.



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Christine Kurka, Stefan Zimmermann,  
Monika Wimmer, Janina Britzke,  
Jürgen Schupp, Patricia Axt,  
Selin Kara, Christiane Nitsche,  
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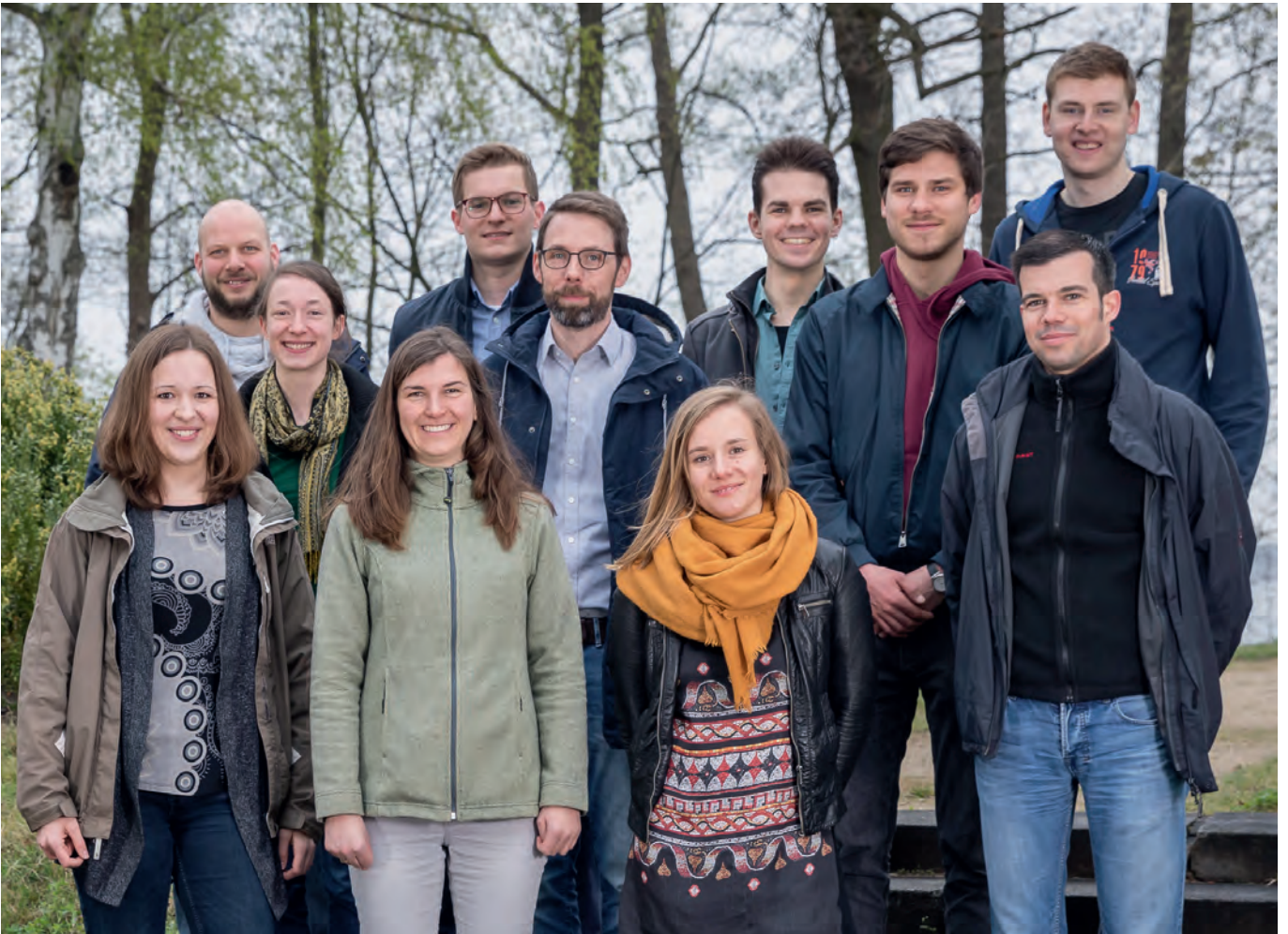
Tim Winke  
PhD Scholarship Recipient, Sociology

The Survey Methodology team is responsible for all aspects of data collection for the SOEP survey. Its central tasks include specifying the sampling design for the various SOEP samples, developing the SOEP questionnaires, and conducting survey research on selectivity and measurement errors in the data. The team carries out all these activities in close consultation with members of the SOEP Survey Committee and Kantar Public Germany in Munich, the survey research institute in charge of the SOEP fieldwork, which covers both interviews and all direct contact with respondents. The team also oversees the SOEP Innovation Sample, which provides a framework for the testing of new and innovative concepts, survey modules, and survey instruments for potential inclusion in the core SOEP survey.

The team is also responsible for conducting the externally funded projects known as “SOEP-Related Studies,” which are aimed primarily at building and improving the longitudinally oriented research data infrastructure.

The Survey Methodology team’s activities include research on the effectiveness of methods to increase willingness to participate in the survey and the provision of weighting variables to correct for selective response rates. Other key focal points of research are: differences between data collection methods (e.g., between personal and mail interviews), the role of interviewers in data quality, and the implementation of new survey instruments such as behavioral experiments, complex cognitive psychological tests, and non-invasive health measures in fieldwork on large-scale studies.





From left to right:  
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Michaela Schmäzle, Elisabeth Liebau,  
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The Research Data Center of the SOEP, as part of the SOEP Department at DIW Berlin, offers a comprehensive range of support services and coordinates access to the SOEP data. In all of its work, the SOEP Research Data Center adheres closely to the Criteria of the German Data Forum (RatSWD) for the accreditation of research data centers.

The team makes the anonymized SOEP data available to the research community. Interested researchers are invited to contact the SOEP to sign a data distribution contract. This is the precondition for use of the SOEP's scientific use files. The form of data access provided to users depends on the data protection regulations that apply to the data set in question. Access to the scientific use files is provided through a personal download link sent to users. More sensitive data, for instance, regional data, are made available to users by remote execution, remote access, or at a guest research workstation at DIW Berlin.

The team is responsible for processing the anonymized data sent to DIW Berlin by Kantar Public in Munich so that they can be used for both longitudinal and cross-sectional analysis. Data processing involves generation of user-friendly variables and preparation of the data for use with standard statistical software packages. Further focal points of the team's work include analysis of refusals to answer individual questions or entire questionnaires, development of methods of compensating for these refusals, and the provision of small-scale indicators. The team also produces comprehensive documentation on these activities and reports on key research findings, most of which can be found on the SOEP Research Data Center website. Members of the team have also developed a web-based tool <https://paneldata.org>, following the DDI standard for documentation of scientific studies to present all of the SOEP and SOEP-Related Studies to our users. A detailed description of this tool can be found in Part 2 of this report. The SOEP Research Data Center also provides user support in the framework of methodological lectures and work-



shops at universities. A guest program enables users to access the data on site at the SOEP Research Data Center. Guest visits are required for access to the sensitive regional data, which are subject to strict data protection provisions. As a special service to users, the SOEP Research Data Center also offers personal advice to researchers who want to use the SOEP as reference data or a control sample for their own studies. The team has a number of international research partnerships. These forms of cooperation make the SOEP a crucial part of the international data infrastructure. The overarching aim of the SOEP research infrastructure is to strengthen the empirical foundation for international comparative cross-sectional and longitudinal analysis. The SOEP data are used widely by researchers in Germany and abroad in international comparative analysis.

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 Jana Jaworski, Daniel Schnitzlein,  
 Marvin Petrenz, Jan Goebel,  
 Andreas Franken, Knut Wenzig,  
 and Peter Krause

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The SOEP not only provides data infrastructure as a public good; we also carry out our own research on a wide range of topics using the SOEP data. This research is important to the SOEP for two reasons. First, the published research results increase the visibility of the SOEP in the international research landscape. Second, the ongoing research guarantees in-depth, regular, and systematic discourse on the quality of the SOEP data and on the relevance of the modules and questions included each year in the SOEP surveys.

Key themes of the team's research are: distributional analysis, policy evaluation, youth and family research, education and competencies, living conditions and migration, and determinants of emotions (happiness, well-being, etc.). Our interdisciplinary team conducts research on all these themes in cooperation with researchers worldwide. The quality of this research work is documented in publications in international refereed journals, in activities such as the successful supervision of doctoral dissertations, as well as in series of externally funded projects. Funding bodies include the German Research Foundation, the Leibniz Association, and various other foundations and federal ministries.





From left to right:  
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Based at the SOEP but  
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The DIW Berlin Board of Trustees appoints the SOEP Survey Committee. The nine members, all renowned international scholars, provide advice on the further development of the SOEP survey as well as SOEP service. We are very grateful that this impressive group of researchers is willing to help us in ongoing work to build and enhance the SOEP.

In 2016 the Survey Committee welcomed two new members: Melissa Hardy (Distinguished Professor of Sociology and Demography, Pennsylvania State University) and Lucinda Platt (Department of Social Policy, London School of Economics and Political Science). Uwe Sunde was elected the new Survey Committee Chairman.

## PART 2

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# SOEP Data and Fieldwork

2016



# The Landscape of SOEP Studies

## SOEP-Core

SOEP-Core is THE centerpiece of the wide-ranging representative longitudinal study of private households located at the German Institute for Economic Research, DIW Berlin. SOEP-Core was started in 1984 as a research project in an interdisciplinary Collaborative Research Center of the German Research Foundation. In 1990—just after German reunification—we enlarged the area covered by the SOEP study by adding a representative sample from East Germany. This feature makes the SOEP unique among other household panel surveys worldwide. Each year since 1984, around 14,000 households and about 30,000 individuals have been surveyed by the SOEP’s fieldwork organization, Kantar Public Germany. The data provide information on all members of each household. Respondents include Germans living in the states of both the former East and West Germany, foreign citizens residing in Germany, recent immigrants, and a new sample of refugees added in 2016. Some of the many topics include household composition, education, occupational biographies, employment, earnings, health, and satisfaction indicators.

## SOEP-Innovation Sample (SOEP-IS)

The longitudinal SOEP-Innovation Sample (SOEP-IS) was created in 2012 as a special sample for testing highly innovative research projects. It was designed primarily for methodical and thematic research questions that involve too great a risk of non-response to be included in the long-term SOEP study, whether because the instruments are not yet scientifically verified or because they deal with very specific research issues. Proposals approved for the SOEP-IS up to now include economic behavioral experiments, implicit association tests (IAT), and complex procedures for measuring time use (day reconstruction method DRM). Researchers at universities and research institutes worldwide are encouraged to submit innovative proposals to the SOEP-IS. An open call for proposals is made annually, with a submission deadline at the end of the year.

## SOEP-Related Studies (SOEP-RS)

There are now a number of studies in Germany that have incorporated questions from the SOEP questionnaire to validate their results on a representative sample of the German population (thus making use of the SOEP as reference data). The SOEP-Related Studies (SOEP-RS) are designed and implemented in close cooperation with the SOEP team and structured in a similar way to the SOEP. This makes it possible to link the SOEP-RS datasets either with the original SOEP questionnaire (SOEP-Core) or with the SOEP-IS questionnaires and to analyze the data together. Some examples of SOEP-Related Studies are: BASE-II (Berlin Aging Study II), FiD (Families in Germany), PIAAC-L, SOEP-ECEC Quality, SOEP-LEE (Employer-Employee Survey), and BRISE (The Bremen initiative for reinforcing early childhood development).

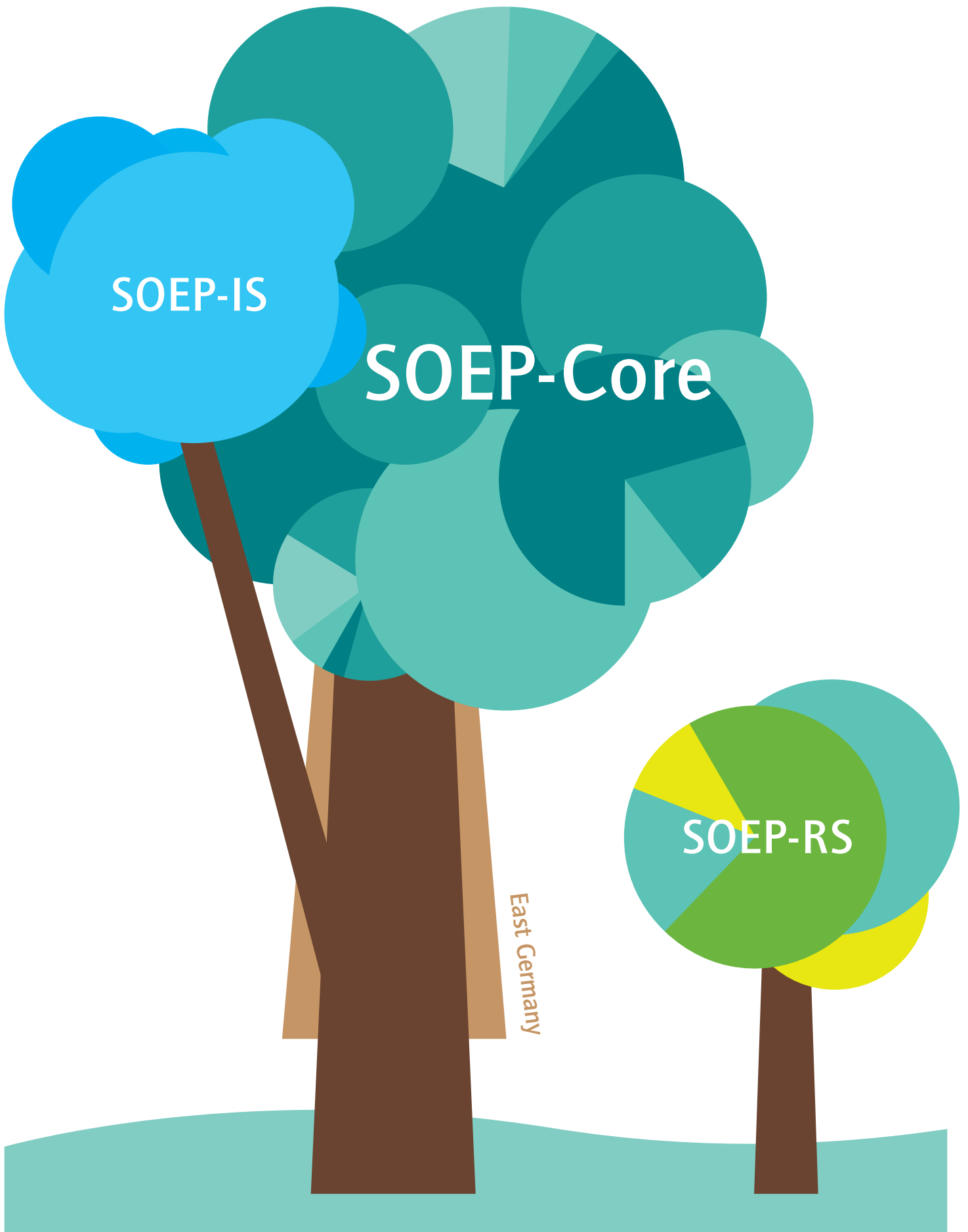
today



2012

1990

1984



# Kantar Public's Organization of SOEP Fieldwork

By Axel Glemser

## Kantar Public

Headquartered in Munich, Kantar Public is one of the most prestigious institutes for political and social research in Germany. Together with Kantar TNS, which serves commercial clients, Kantar Public is the German member of the Kantar Group into which WPP (London) has bundled its research activities. As a member of a leading global network, the institute provides its clients with premium research data, strategic knowledge, and science-based advice for decisions in business and society. It works with nationally and globally active corporations and medium-sized businesses, as well as numerous federal ministries, agencies, and scientific institutions. Kantar uses systems for quality assurance and total quality management processes in all areas and on all levels of its organization. Kantar Public and its predecessor, known as "Infratest," have been conducting political and social research since the 1950s. In the early 1980s, Infratest Sozialforschung (Infratest Social Research) was founded as a separate company that has become the leading commercial research institute in the field of social science surveys in Germany today. In recent years, Kantar Public has worked closely with contracting institutes to design and conduct a number of empirical studies and project types that have made national and international scientific history. Foremost among them is the "German Socio-Economic Panel Survey" (SOEP), which respondents also know as "Living in Germany" (LiD). Kantar Public has been responsible for collecting data for the SOEP since it was launched in 1984. The research institute's range of tasks covers the entire data collection process from the conceptual design, sampling, and implementing the survey instruments to cross-sectional weighting, data processing, and methodological field reporting. These activities are coordinated in a separate business unit of Kantar Public.

## SOEP Team at Kantar Public

For the SOEP, Kantar Public has created a customized business unit that reflects the specific requirements of the project's composition and structure. The tasks of the SOEP team can be divided into three areas: 1) methodological and conceptual, science-based and science-oriented advice and guidance, 2) panel management, and 3) comprehensive data processing, including data acquisition, verification, and editing.

The first area includes general project management and project controlling, analysis, documentation for methodological field reports, and consulting services for the SOEP group at DIW Berlin. Kantar Public assists DIW Berlin with sample design, designing and implementing data collection methods, and consulting on innovative survey methods as used in SOEP tests, pilots, and the SOEP Innovation Sample. In the second area, panel management, several individual tasks are especially noteworthy: the assignment and telecare of interviewers and, coordination of the interface to the field organization. Further key tasks include organizing and mailing survey documents to interviewers and respondents, which consist of ordering and handling the incentives, the "central administration" of households that participate exclusively in the mail mode, coding the response results in the panel database, and manning the hotline for respondents on issues related to data collection, the data privacy policy, etc. In the context of data processing, data from paper questionnaires are registered and comprehensive, partly automatic data examinations are carried out along with individual checkups that include longitudinal consistency checks. In addition, respondents' statements are coded according to occupation and industry classifications.

Overall, the SOEP team in Munich includes 20 permanent employees (some part-time) and assistants. More employees are continuously involved in the processing of the project from several of Kantar's data production units in Germany. They include the

project managers responsible for organizing face-to-face fieldwork, questionnaire programming professionals, and experts from the Statistics Department who are responsible for sampling and cross-sectional weighting.

## Face-to-Face Capability

Kantar Public does not follow the common practice of outsourcing parts of the fieldwork to third-party institutions. Instead, it conducts all of the face-to-face interviews for ambitious surveys with interviewers trained and managed in-house. The reasons for the exclusive use of in-house expertise for sophisticated surveys like the SOEP are obvious. In-house interviewers are essential for (a) effective communication between the project leader and interviewer during the fieldwork phase, (b) efficient fieldwork management with a view to response-oriented sample processing, and (c) effective quality control of the fieldwork. For panel studies, it is especially important to use the same interviewer each year to ensure continuity in processing the sample from a longitudinal perspective. At the household level, interviewer continuity has a favorable effect on the longitudinal response rate.

In Germany, Kantar has a total of approximately 1,600 interviewers, including several select groups of interviewers for special studies that are not equipped with modern touch-pen laptops. About 900 interviewers work with touch-pen laptops and about 600 of them are available for surveys like the SOEP. These interviewers have experience with implementing sophisticated social research projects in general and with the SOEP in particular. If the SOEP requires additional data collection support, there are around 140 interviewers available on the “special” LID staff. Most of these special LID-interviewers have extensive SOEP experience with the conventional paper-and-pencil method (PAPI) and the computer-assisted personal interviewer (CAPI) modes.

The large interviewer pool at Kantar guarantees a nationwide infrastructure for face-to-face interviews in Germany. Through a rigorous selection process that includes requirements for a minimum employment length and a minimum volume of work on the interviewer staff, professional recruitment managers select the SOEP interviewers.

The Face-to-Face Line, also based in Munich, is the Kantar fieldwork organization responsible for the complete organization of the interviewer staff. This includes complex recruitment processes, establishing and maintaining database-driven information systems for managing and monitoring the interviewer staff, monitoring and controlling the samples in the fieldwork, and preparing response statistics. In cooperation with project management, the Face-to-Face Line also coordinates payment for interviewers through fees, charges, and premium models. In addition, the Face-to-Face Line drafts and creates the field and training materials for the interviewers in collaboration with project management.

With the support of 33 regional “contact interviewers,” the Face-to-Face Line guarantees the optimal coordination of the complete interviewer staff. The contact interviewers are interviewers with extensive experience and outstanding contact and leadership abilities. Thus, in addition to having an in-house contact at Kantar Germany, each interviewer also has a permanent local contact person available to him or her. The contact interviewers play an important role in local recruiting and training processes. They regularly participate in central field organization events and training sessions (in-house or online events) or project-specific training, acting as multipliers for the distribution of important information and knowledge to the interviewers.

# An Overview of the SOEP Samples

## Fieldwork Report 2016 from Kantar Public

By Simon Huber

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, Kantar Public delivers the various data files (gross and net sample files, question-item-variable correspondence lists, and the complete documentation) to the SOEP group at DIW Berlin. The SOEP uses a complex sampling system comprised of various subsamples that have been in-

tegrated into the household panel at different times since the SOEP was launched in 1984. The various subsamples are based on different target populations and are therefore drawn using different random sampling techniques.

**Table 1** provides an overview of sizes of the various subsamples for the year 2016. **Table 2** and **3** present the history and development of all major SOEP subsamples since 1984 in absolute sample sizes.

Table 1

### Sample sizes in the 2016 subsamples

Sample	Households	Adults	Youths <sup>1</sup>	Children <sup>2</sup>	Total individual questionnaires
A+B	1,857	3,148	39	193	3,380
C	1,073	1,726	24	125	1,875
D	173	288	4	20	312
E	68	102	-	6	108
F	2,094	3,421	34	195	3,650
G	590	1,037	6	26	1,069
H	639	1,052	16	56	1,124
J	1,883	3,058	38	192	3,288
K	1,046	1,675	24	162	1,861
L1	1,122	2,055	36	1,018	3,109
L2/3	1,804	3,257	264	637	4,158
M1	1,493	2,738	40	481	3,259
M2	660	1,094	10	217	1,321
M3	1,769	2,351	-	-	2,351
M4	1,769	2,466	-	-	2,466
IE	266	423	-	82	505
I1	721	1,150	-	224	1,374
I2	669	1,073	-	235	1,308
I3	770	1,222	-	227	1,449
I4	623	934	-	183	1,117
I5 <sup>3</sup>	1,057	1,556	-	379	1,935
<b>Total</b>	<b>22,146</b>	<b>35,826</b>	<b>535</b>	<b>4,658</b>	<b>41,019</b>

<sup>1</sup> 16-year-olds who completed the youth questionnaire.

<sup>2</sup> Children under the age of 16 on whom a mother-child or parent questionnaire has been completed or who completed the pre-teen questionnaire.

<sup>3</sup> Preliminary estimate due to currently running data checks and validation.

Table 2

## SOEP Sub-Samples 1984–2016 – Number of Waves

Sample	Year/wave	1984	'90	'95	'98	2000	'02	'06	'09	'11	'12	'13	'14	'15	'16
A+B	"SOEP West" and main groups of foreign nationalities 1984	1	7	12	15	17	19	23	26	28	29	30	31	32	33
C	"SOEP East" general population sample GDR 1990	-	1	6	9	11	13	17	20	22	23	24	25	26	27
D	Immigration sample 1995	-	-	1	4	6	8	12	15	17	18	19	20	21	22
E	Boost sample 1998 (general population)	-	-	-	1	3	5	9	12	14	15	16	17	18	19
F	Boost sample 2000 (general population)	-	-	-	-	1	3	7	10	12	13	14	15	16	17
G	High income sample 2002	-	-	-	-	-	1	5	8	10	11	12	13	14	15
H	Boost sample 2006 (general population)	-	-	-	-	-	-	1	4	6	7	8	9	10	11
J	Boost sample 2011 (general population)	-	-	-	-	-	-	-	-	1	2	3	4	5	6
K	Boost sample 2012 (general population)	-	-	-	-	-	-	-	-	-	1	2	3	4	5
L1	Cohort samples: est. in 2010 (FiD) and integrated in 2014 <sup>1</sup>	-	-	-	-	-	-	-	-	-	-	-	1/5	2/6	3/7 <sup>1</sup>
L2/3	Screening samples: est. in 2010 (FiD) and integrated in 2014 <sup>1</sup>	-	-	-	-	-	-	-	-	-	-	-	1/5	2/6	3/7 <sup>1</sup>
M1	Migration sample 2013	-	-	-	-	-	-	-	-	-	-	1	2	3	4
M2	Migration sample 2015	-	-	-	-	-	-	-	-	-	-	-	-	1	2
M3	Refugee sample 2016	-	-	-	-	-	-	-	-	-	-	-	-	-	1
M4	Refugee sample 2016	-	-	-	-	-	-	-	-	-	-	-	-	-	1
IE	Innovation sample 1998 (SOEP E) <sup>2</sup>	-	-	-	1	3	5	9	12	14	1/5	2/16	3/17	4/18	5/19 <sup>2</sup>
I2	Innovation sample 2009	-	-	-	-	-	-	-	1	3	4	5	6	7	8
I2	Innovation sample 2012	-	-	-	-	-	-	-	-	1	2	3	4	5	
I3	Innovation sample 2013	-	-	-	-	-	-	-	-	-	1	2	3	4	
I4	Innovation sample 2014	-	-	-	-	-	-	-	-	-	-	1	2	3	
I5	Innovation sample 2016	-	-	-	-	-	-	-	-	-	-	-	-	-	1

<sup>1</sup> In 2016, the households of the former FiD ("Families in Germany") samples were interviewed for the seventh time, but in SOEP-Core for the third time.

<sup>2</sup> Households from SOEP sample E that were surveyed face to face were transferred to the SOEP-IS in 2012. In 2016, they were interviewed for the nineteenth time using SOEP questionnaires.

Table 3

## SOEP subsamples 1984–2016 – number of households per sample

Sample	Year/wave	1984	'90	'95	'98	2000	'02	'06	'09	'11	'12	'13	'14	'15	'16	
A+B	"SOEP West" and main groups of foreign nationalities 1984	5921	4,640	4,508	4,285	4,060	3,889	3,476	2,923	2,538	2,379	2,270	2,176	2,028	1,857	
C	"SOEP East" general population sample GDR 1990	-	2,179	1,938	1,886	1,879	1,818	1,717	1,535	1,355	1,312	1,250	1,212	1,131	1,073	
D	Immigration sample 1995	-	-	522	441	425	402	360	306	266	251	232	213	193	173	
E	Boost sample 1998 (general population)	-	-	-	1,056	842	773	686	574	546	92	82	78	70	68	
F	Boost sample 2000 (general population)	-	-	-	-	6,043	4,586	3,895	3,033	2,885	2,702	2,567	2,414	2,273	2,094	
G	High income sample 2002	-	-	-	-	-	1,224	859	757	706	687	677	641	606	590	
H	Boost sample 2006 (general population)	-	-	-	-	-	-	1,506	996	858	818	783	732	684	639	
J	Boost sample 2011 (general population)	-	-	-	-	-	-	-	-	3,136	2,555	2,305	2,110	1,983	1,883	
K	Boost sample 2012 (general population)	-	-	-	-	-	-	-	-	-	1,526	1,281	1,187	1,108	1,046	
L1	Cohort samples: est. in 2010 (FiD) and integrated in 2014 <sup>1</sup>	-	-	-	-	-	-	-	-	-	-	-	1,247	1,184	1,122	
L2/3	Screening samples: est. in 2010 (FiD) and integrated in 2014 <sup>1</sup>	-	-	-	-	-	-	-	-	-	-	-	2,015	1,968	1,804	
M1	Migration sample 2013	-	-	-	-	-	-	-	-	-	-	2,723	2,012	1,667	1,493	
M2	Migration sample 2015	-	-	-	-	-	-	-	-	-	-	-	-	1,096	660	
M3	Refugee sample 2016	-	-	-	-	-	-	-	-	-	-	-	-	-	1,769	
M4	Refugee sample 2016	-	-	-	-	-	-	-	-	-	-	-	-	-	1,769	
IE	Innovation sample 1998 (SOEP E) <sup>2</sup>											339	311	298	282	266
I2	Innovation sample 2009	-	-	-	-	-	-	-	1,531	1,040	928	863	798	741	721	
I2	Innovation sample 2012	-	-	-	-	-	-	-	-	-	1,010	833	772	710	669	
I3	Innovation sample 2013	-	-	-	-	-	-	-	-	-	-	1,166	929	840	770	
I4	Innovation sample 2014	-	-	-	-	-	-	-	-	-	-	-	924	672	623	
I5	Innovation sample 2016 <sup>3</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	1,057	

<sup>1</sup> In 2016, the households of the former FiD ("Families in Germany") samples were interviewed for the seventh time, but in SOEP-Core for the third time.

<sup>2</sup> Households from SOEP sample E that were interviewed face to face were transferred to the SOEP-I5 in 2012.

<sup>3</sup> Preliminary estimate due to currently running data checks and validation.

The households and individuals with the longest history of (continuous) panel participation took part for the 33rd time in 2016 (samples A and B). Since 1984, various subsamples have been added to the core sample. The following samples have been added since 2009:

- **Sample I1** started with more than 1,500 households in 2009 and served as the core sample of the SOEP-Innovation Sample (SOEP-IS) when it was established in 2012. Since then, the SOEP-IS has been expanded by refresher samples in 2012 (sample I2), 2013 (sample I3), 2014 (sample I4), and 2015 (sample I5). Additionally, a subset of households from sample E was transferred to the SOEP-IS in 2012 (sample IE).
- **Sample J** is a general population refresher of more than 3,000 households that was integrated in 2011.
- **Sample K** is a general population refresher totaling 1,500 households that was integrated in 2012.
- **Samples L1** (cohort samples) and **L2/3** (screening samples) were established in 2010. They originated in the old “Families in Germany (FiD)” study, a longitudinal SOEP-equivalent sample system for the evaluation of German family policies on behalf of two German government ministries (the Federal Ministry of Finance (BMF) and Federal Ministry for Family Affairs, Senior Citizens, Women and Youth (BMFSFJ)). That evaluation ended in 2013. The FiD samples were transferred to the methodological and financial framework of SOEP-Core in 2014.
- **Sample M1** was designed to improve the representation of migrants living in Germany. Established in 2013, over 2,700 households with at least one person with a migration background were interviewed to enhance the analytical potential for integration research and migration dynamics. A second migration sample (sample **M2**) of almost 1,100 households was integrated in 2015.
- **Samples M3** and **M4** were designed to represent the rising number of refugees that have immigrated to Germany since 2013. Both samples were established in 2016 with a sample size of 1,769 households each.

## SOEP-Core Samples A–KH

### Questionnaires and Survey Instruments

The primary interviewing method in the SOEP-Core samples is face-to-face with computer-assisted personal interviewing (CAPI) and/or paper and pencil interviewing (PAPI) modes, depending on the subsample and the assigned interviewer. A small percentage of households in samples A to H are interviewed with the help of self-administered mail questionnaires that were introduced as a means of converting non-respondents into respondents. In 2016, 14 different questionnaires were used in the households of the SOEP-Core samples. Most of them were processed with both PAPI and CAPI:

1. **Household questionnaire** answered by the person living in the household who is most familiar with overall household matters.
2. **Individual questionnaires** answered by all adult household members (2016: born in 1998 or earlier).
3. Supplementary **“life history”** questionnaire answered by all new respondents joining a panel household (2016: born in 1998 or earlier).
4. **Youth questionnaire** answered by household members age 16 or 17 (2016: born in 1999).
5. Additional **cognitive competency tests** for all persons with a completed youth questionnaire (age 16 or 17; interviewer-assisted modes only).
6. **Youth questionnaire** answered by household members age 13 or 14 (2016: born in 2002).
7. **Youth questionnaire** answered by household members age 11 or 12 (2016: born in 2004).
8. **Supplementary questionnaire** answered by mothers of newborn children (2016: born in 2016 or 2015 if the child was born after the previous year’s fieldwork was completed).
9. **Supplementary questionnaire** answered by mothers (or fathers) of children age two or three (2016: born in 2013).
10. **Supplementary questionnaire** answered by mothers (or fathers) of children age five or six (2016: born in 2010).
11. **Supplementary questionnaire** answered by mothers and fathers of children age seven or eight (2016: born in 2008).
12. **Supplementary questionnaire** answered by mothers (or fathers) of children age nine or ten (2016: born in 2006).



13. Supplementary questionnaire answered by temporary dropouts 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.
14. Supplementary questionnaire answered by panel members who experienced a death in their household or family in 2015 or 2016.

**Table 4** provides an overview of the number of interviews provided for the various questionnaire types and the corresponding response or coverage rates.

The mean face-to-face interview lengths for the main questionnaires in 2016 were 17 minutes for the household questionnaire and 46 minutes for the individual questionnaire. The time taken for a model household consisting of two adults was therefore 109 minutes plus the time needed for any supplementary questionnaires. This is a significant increase since the last wave, when the total interview time in a model household was 87 minutes.

In 2016, another addition to the range of SOEP questionnaires covering early life from birth to first-time participation as an adult was implemented: the youth questionnaire answered by household members age 13 or 14 (2016: born in 2002). This questionnaire fills the gap between the youth questionnaire for 11- or 12-year-olds and the youth questionnaire for 16- or 17-year-old respondents.

In addition to questionnaires, respondents and interviewers are provided with several other survey instruments. In terms of data provision, the most important is the household grid. It provides basic information on every household member and allows us to track whether anyone entered or left the household since the last wave. Since 2014, an electronic version of this grid has been employed in all households whose interviewers are equipped with a laptop. At the end of January, all households received a letter announcing the beginning of the new wave. In almost all households from samples A–H, the letter included a lottery ticket as an unconditional incentive. Participants in the newer samples, J–L1, and some households from A–H receive a cash incentive. The cash incentive for the individual questionnaire is €10 and participants receive €5 for the shorter household questionnaire. Teenagers and children receive a small gift for completing their respective questionnaires. Interviewers also bring a small present to the household as a whole and present it upon their arrival.

Before starting an interview, the interviewers give the respondents a brochure on the survey and an information sheet regarding data privacy and security. The brochure contains short summaries of selected scientific publications that are based on SOEP data and news about the study. For example, the 2016 brochure included a short report on the SOEP respondents who were invited to take part in a town hall meeting with Chancellor Angela Merkel.

Table 4

#### Questionnaire volumes and response rates – samples A–L1

	Gross sample/reference value <sup>1</sup>	Number of interviews <sup>1</sup>	Response rate/coverage rate
Individual questionnaire <sup>2</sup>	19,407	17,541	90.4%
Youth questionnaire: age 16 or 17	269	221	82.2%
Cognitive competency tests <sup>3</sup>	188	179	95.2%
Youth questionnaire: age 13 or 14	229	249	92.0%
Youth questionnaire: age 11 or 12	269	291	92.4%
Mother and child questionnaire: newborn	196	179	91.3%
Mother and child questionnaire: age 2 or 3	245	235	95.9%
Mother and child questionnaire: age 5 or 6	502	496	98.8%
Questionnaire for parents <sup>4</sup> : age 7 or 8	502/1,004	497/853	99.0%/85.0%

<sup>1</sup> The numbers refer to the corresponding target population in participating households. For the child-related questionnaires, the reference value is the number of children in the relevant age group living in participating households. Therefore, the response rate for these questionnaires indicates the number of children for whom a questionnaire has been completed by one parent (in most cases by the mother).

<sup>2</sup> There are 21 additional individual questionnaires conducted in household that are coded as non-participating households as there was no household questionnaire for 2016.

<sup>3</sup> The tests can be implemented only if the fieldwork is administered by an interviewer and the youth questionnaire is completed. Therefore, the gross sample for the tests (n=188) is different from the sample for the youth questionnaire (n=269).

<sup>4</sup> In contrast to the other child-related questionnaires, this questionnaire is supposed to be completed not by just one but by both parents. For 497 (99.0%) of 502 children born 2008 and living in households that participated in 2016, at least one questionnaire has been completed. In total, 853 questionnaires were completed.

## Fieldwork Characteristics and Key Fieldwork Indicators 2016

### Interview Modes

Since the SOEP was initiated in 1984, face-to-face interviewing has been the primary method of data collection. Until 2000, all face-to-face interviews were conducted in paper-and-pencil interviews (PAPI). Since then, SOEP interviewers have gradually been equipped with laptops for conducting CAPI interviews (computer-assisted personal interviews). Since sample J in 2011, CAPI has been exclusively used to interview the respondents from refresher samples. However, PAPI is still used to collect data from the respondents in samples A–H if they prefer or their interviewer does not have a laptop yet.

The second type of fieldwork processing exclusively used in core samples A–H is known as “central administration of fieldwork,” in which respondents complete their questionnaires at home and return them by mail. This was first used as a refusal conversion process in the second wave of the SOEP in 1985 and is focused on households that did not agree to any further visits from an interviewer or could not be motivated by the interviewers to participate for other reasons. As part of the process, households are contacted by telephone and urged to keep participating in the study. If the “conversion” is successful, basic household information is collected and the questionnaires are sent by mail. Thus, in these households, questionnaires are fully self-administered. This mode shift often leads to a conversion of soft refusals, in turn improving the stability of long-term samples A–H.

Another method of interviewing is used in multi-person households from samples A–H. Individuals who were unable to provide an interview while the interviewer was present are offered the option to self-complete a paper questionnaire as a means of reducing partial unit non-response (PUNR). The option of interviewing more than one person simultaneously with the help of paper questionnaires can be useful for reducing the overall length of interviewer visits in households with many members, thereby increasing acceptance. This method is a mixture of face-to-face interviewing and self-administered interviewing. Although this option is actually an exception, the longer a sample exists, the more frequently it is used to ensure low PUNR in larger households.

Table 5 shows the distribution of interview modes by subsample in 2016. In general, a distinct pattern can be detected across the various SOEP samples when using a multi-mode design: the “older” the sample, the higher the share of mail- or self-interviews. In the recent samples (J, K and L1), the options of a mail questionnaire as part of “central administration” or a self-completed paper questionnaire in the interviewer-assisted mode are no longer available. This serves one of our main objectives for improving the quality of the SOEP: we aim to increase the CAPI rate to improve data quality and provide a larger pool of respondents for questionnaire modules that are not viable with paper-based questionnaire administration: cognitive tests and behavioral experiments, for example.

Table 5

#### Interviewing modes by subsamples (as a percentage of all individual interviews)

	Interviewer-based			Centrally administered
	CAPI	PAPI	SELF	MAIL
A–D	25.4	12.2	35.8	26.6
E <sup>1</sup>	0.0	0.0	0.0	100.0
F	36.1	14.4	31.4	18.1
G	34.0	8.3	40.5	17.2
H	64.4	3.2	23.1	9.3
A–H	33.2	11.5	33.3	22.0
J/K	100.0	0.0	0.0	0.0
L1	100.0	0.0	0.0	0.0
<b>Total</b>	<b>58.9</b>	<b>7.1</b>	<b>20.6</b>	<b>13.5</b>

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

## Fieldwork Progress

Data collection in the SOEP-Core samples used to cover a period of nine months starting at the beginning of February and ending when the refusal conversion processes were completed in the fall. In order to increase fieldwork capacity for the other SOEP samples, the fieldwork period was significantly abbreviated in 2016: it started in February and ended by the end of July. As indicated by the figures in **Table 6**, which shows fieldwork progress by month, almost 90 percent of the households were interviewed within the first three months. The vast majority of interviews are conducted within a comparatively short fieldwork period. The remaining months are dedicated almost exclusively to contacting difficult-to-reach households, households whose new addresses need to be tracked, or households where various refusal conversion strategies have to be applied.

Table 6

### Fieldwork progress by month: processing of household interviews<sup>1</sup>

	2015		2016	
	January	1.5%	0.0%	2.9%
February	28.7%	29.5%	40.6%	42.9%
March	57.8%	60.2%	67.8%	70.9%
April	74.1%	77.4%	83.9%	87.1%
May	83.2%	86.0%	95.8%	97.9%
June	89.7%	92.2%	98.7%	99.6%
July	94.2%	96.2%	99.8%	99.9%
August	97.2%	98.8%	100.0%	100.0%
September	99.4%	99.8%		
October	100.0%	100.0%		

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

<sup>2</sup> Includes households that refused to take part in the survey prior to start of fieldwork.

## Composition of the Gross Sample

**Table 7** presents the composition of the gross sample 2016 by type of fieldwork procedure and household, as well as the response rates and partial unit non-response for samples A–H, J, K, and L1. The SOEP households from each wave are differentiated into three types of households: previous wave respondents (92.4 percent of gross sample in 2016), previous wave dropouts that were re-contacted (5.1 percent), and “new” households that split off from established panel households (2.6 percent).

Interviewers make every effort to contact the households. However, for the reasons stated above, there are alternative ways of processing the households in samples A–H. In 2016, 72.2 percent of households in the gross sample in A–H were processed by interviewers and 26.3 percent were administered centrally. The remaining 1.5 percent were households that are considered dropouts based on information from the period between waves (e.g., final dropouts; entire household moved abroad or is deceased).

## Response Rates and Panel Stability

The field results of a longitudinal survey can be measured in different ways. Two sets of indicators appear to be most relevant: response rate and panel stability rate. Response rates reflect the simple relation between input (gross sample) and output (net sample) and therefore are an indicator of cross-sectional fieldwork success. The response rate in the group of respondents from the previous wave processed by interviewers, which is the most important response rate, was 92.6 percent. Response rates for centrally administered households are naturally lower than the rate for households processed by interviewers. However, at 88.5 percent in the group of respondents from the previous wave, it is still remarkable given the fact that all these households have a history of refusing further participation in the study.

The response rates for dropouts from the previous wave and new households are significantly lower than for households that took part in the study the year before. Nevertheless, a response rate of 40.9 percent among dropouts from the previous wave that were processed by interviewers shows that contacting these households again is useful in two out of five cases. Furthermore, interviewers are able to convince about half of the new households that joined the sample when members of panel households formed a new household to participate in the study (51.3 percent).

Table 7

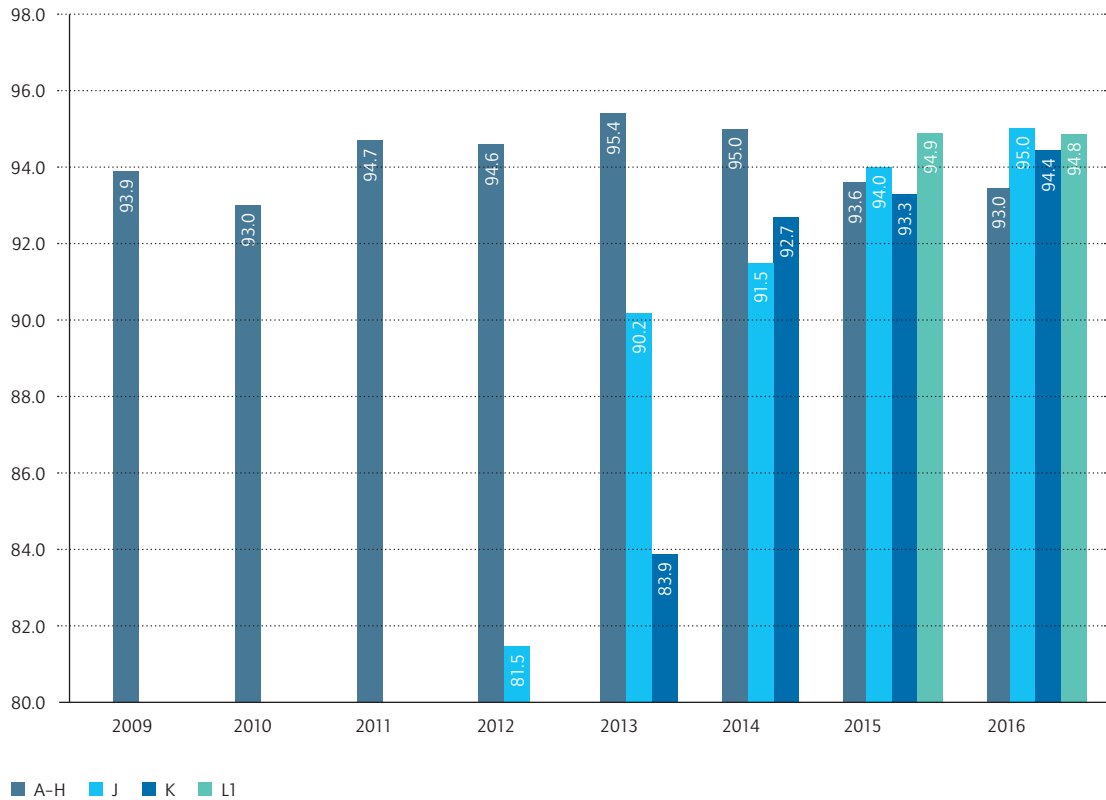
## Composition of gross sample and response rates by type of fieldwork

	Total		Samples A-H		Sample J		Sample K		Sample LI	
	Abs.	In %	Abs.	In %	Abs.	In %	Abs.	In %	Abs.	In %
<b>(1) Gross sample compositions by types of HH</b>										
Respondents in previous wave	12,194	100.0	7,547	100.0	2,138	100.0	1,218	100.0	1,291	100.0
Drop-outs in previous wave	11,263	92.4	6,988	92.6	1,983	92.8	1,108	91.0	1,184	91.7
New households (split-off HH.s)	620	5.1	354	4.7	106	5.0	76	6.2	84	6.5
	311	2.6	205	2.7	49	2.3	34	2.8	23	1.8
<b>(2) Gross sample composition by type of fieldwork</b>										
<b>No fieldwork<sup>1</sup></b>	126	1.0	112	1.5	8	0.4	5	0.4	1	0.1
<b>Interviewer-based</b>	10,081	82.7	5,448	72.2	2,130	99.6	1,213	99.6	1,290	99.9
Respondents in previous wave	9,497	77.9	5,236	69.4	1,975	92.4	1,103	90.6	1,183	91.7
Drop-outs in previous wave	352	2.9	86	1.1	106	5.0	76	6.2	84	6.5
New households	232	1.9	126	1.7	49	2.3	34	2.8	23	2.3
<b>Centrally administered (mail)</b>	1,987	16.3	1,987	26.3	-	-	-	-	-	-
Respondents in previous wave	1,573	12.9	1,573	20.8	-	-	-	-	-	-
Drop-outs in previous wave	268	2.2	268	3.6	-	-	-	-	-	-
Drop-outs during F2F, further processed by mail	67	0.5	67	0.9	-	-	-	-	-	-
New households	79	0.6	79	1.0	-	-	-	-	-	-
<b>(3) Response rates by type of fieldwork</b>										
<b>Interviewer-based</b>	9,055	89.8	5,004	91.9	1,883	88.1	1,046	85.9	1,122	86.9
Respondents in previous wave	8,792	92.6	4,895	93.5	1,819	92.1	1,004	91.0	1,074	90.8
Drop-outs in previous wave	144	40.9	38	44.2	39	36.8	28	36.8	39	46.4
New households	119	51.3	71	56.3	25	51.0	14	41.2	9	60.9
<b>Centrally administered</b>	1,490	75.0	1,490	75.0	-	-	-	-	-	-
Respondents in previous wave	1,392	88.5	1,392	88.5	-	-	-	-	-	-
Drop-outs in previous wave	55	20.5	55	20.5	-	-	-	-	-	-
Drop-outs during F2F, further processed by mail	17	25.4	17	25.4	-	-	-	-	-	-
New households	26	32.9	26	32.9	-	-	-	-	-	-
<b>(4) Panel stability<sup>2</sup></b>		93.7		93.0		95.0		94.4		94.8
<b>(5) Partial unit non-response<sup>3</sup></b>		21.2		22.3		23.0		22.2		13.5

<sup>1</sup> Between waves reported final dropouts, deceased, moved abroad; <sup>2</sup> Number of participating households divided by previous wave's net sample; <sup>3</sup> Share of households (number of household members > 1) with at least one missing individual questionnaire.

Figure 1

Panel stability in SOEP samples from 2009 to 2016 (as a percentage of participation in previous year's survey)



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 compared to the number from the previous year. It reflects the net total effects of panel mortality on the one hand and panel growth on the other. This approach is particularly helpful in household surveys where split-off households are tracked: if an individual from a participating household moves into a new household, Kantar Public will attempt to track the address change and conduct interviews with the new household. In the context of a panel survey, a second group of households can contribute to the stabilization of the sample: "temporary drop-outs," i.e., households that could not be interviewed in the previous wave(s) for various reasons but "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 established SOEP samples A–H achieved 93.0 percent in 2016, which is slightly lower than during the last waves (see **Figure 1**). Panel stability in the last two refresher samples J (Wave VI in 2016) and K (Wave V in 2016) has improved since 2014, reaching the level of A–H in 2015 and exceeding it in 2016. The cohort samples L1, which were successfully integrated in 2014, show a remarkably high panel stability rate of 95 percent over the last two years.

One indicator of the success of the fieldwork process on an individual level is the number of households in which at least one questionnaire is missing (partial unit non-response). As the SOEP targets every adult member of the household, the share of multi-person households in which at least one person did not complete the individual interview is interesting to observe in addition to response rate and panel stability. In 2016, the share for samples A–L1 (**Table 7**) was 21.2 percent.

# The SOEP Screening Samples (L2/3)

## 2016 Fieldwork Report from Kantar Public

By Simon Huber

### Interviewing Modes

Along with SOEP sample L1 (cohort samples), screening samples (L2/3) were established in 2010 as part of the study, “Families in Germany (FiD),” a longitudinal SOEP-equivalent sample system for the evaluation of German family policy. In 2014, both samples were transferred to the core sample system of the Socio-Economic Panel. Doing so switched the screening samples—which consisted of the subgroups: single parents, households with three or more children, and low-income households—from an exclusively interviewer-assisted mode to a CATI/CAWI hybrid approach, followed by CAPI.

Since 2015, the screening samples have remained in this innovative multi-mode design. The aim in every wave is, on the one hand, to recruit as many households as possible for participation via the Internet and to maintain a high panel stability rate on the other. The gross sample is thus divided into various subgroups depending on the mode of participation in previous years. Households that participated online at least once since 2014 were being processed online in 2016. That includes households that participated in CAPI mode in 2015 but did not

explicitly refuse to do the interviews online. A CAPI interviewer was immediately sent to households that rejected the CAWI mode in previous waves. Households that did not answer the CAWI questionnaires during the first two months of CAWI fieldwork were subsequently sent a CAPI interviewer.

In order to reduce both potential qualitative disadvantages and negative effects on the response rate caused by CAWI in comparison to CAPI, CATI interviewers contacted each household in the CAWI population to encourage online participation. They also made a list of all household members to ensure that the right set of CAWI questionnaires would be provided. The CATI interviewers further acted as contacts for respondents in case of requests or problems. If a household did not have Internet access or could not be motivated to participate online, the telephone staff then offered them CAPI.

Fieldwork with CAWI—assisted by CATI—started in August 2016, and the online questionnaires remained available to respondents until mid-November 2016. Additionally, letters were sent to remind respondents about the study or to ask for missing individual CAWI questionnaires.

Table 8

Sample L2/3: Fieldwork progress by month and interviewing mode

	CAWI interviews		CAPI interviews		Total	
	Abs.	In % <sup>1</sup>	Abs.	In % <sup>1</sup>	Abs.	In % <sup>1</sup>
August	467	60.9	350	33.8	817	45.3
September	233	91.3	236	56.5	469	71.3
October	54	98.3	203	76.1	257	85.5
November	13	100.0	226	97.9	239	98.8
December	0	100.0	22	100.0	22	100.0
<b>Total</b>	<b>767</b>		<b>1,037</b>		<b>1,804</b>	

<sup>1</sup> Cumulative percentages based on the month of the household interview.

Table 9

**Questionnaires: Volume and response rates – sample L2/3**

	Gross sample/reference value <sup>1</sup>	Number of interviews	Response rate/coverage rate
Household questionnaire	2,477	1,804	72.8
Individual questionnaire <sup>2</sup>	3,633	3,188	87.8
Youth questionnaire: age 16 or 17	298	259	86.9
Youth questionnaire: age 13 or 14	257	233	90.7
Youth questionnaire: age 11 or 12	213	197	92.5
Mother and child questionnaire: newborn	37	31	83.8
Mother and child questionnaire: age 2 or 3	44	43	97.7
Mother and child questionnaire: age 5 or 6	57	51	89.5
Questionnaire for parents <sup>3</sup> : age 7 or 8	298/149	232/145	97.3/77.9
Mother and child questionnaire: age 9 or 10	172	162	94.2

<sup>1</sup> The numbers refer to the respective target population in participating households. For the child-related questionnaires, the reference value is the number of children in the respective age group living in participating households. Therefore the response rate for these questionnaires indicates the number of children for whom a questionnaire has been completed by one parent (in most cases by the mother).

<sup>2</sup> There are 69 additional individual questionnaires conducted in households that are coded as non-participating households as there is no household questionnaire for 2016.

<sup>3</sup> Unlike the other child-related questionnaires, this questionnaire is supposed to be completed not by just one but by both parents. For 145 (97.3%) of 149 children born in 2008 and living in households that participated in 2016, at least one questionnaire was completed. In total, 232 questionnaires were completed.

Fieldwork with CAPI began in mid-August with households that either had no Internet connection or had refused to participate in CAWI. Households that had stated a preference for CAPI in their phone conversations with CATI interviewers were subsequently added to the CAPI fieldwork process, followed by those who had said they wanted to complete the questionnaires online but had not done so by early October. **Table 8** shows the progress of fieldwork for both interviewing modes by month.

## Questionnaires and Survey Instruments

Regarding data collection, all questionnaires from sample A–L1 were used with the exception of the cognitive competence test, which can only be carried out with an interviewer present. Minor changes in CAWI programming were mode-specific and only pertained to design and layout. The CATI process did not include the various questionnaires. It only captured the mode that the household planned to use and recorded the household composition for those households that wanted to or already had completed the questionnaires online. **Table 9** provides the volumes and response rates of all distributed questionnaires.

All households received a letter and a brochure announcing the new wave of the study. The letter was transmitted to respondents in CAWI along with an online access code to a personal page containing links to every questionnaire the respondent was ex-

pected to fill out. For every questionnaire, a household received five euros. It received an additional bonus of 10 euros if all questionnaires required of the household were completed. For CAWI, the incentives were sent as vouchers in letters or e-mails depending on the respondent's preference. For CAPI, the incentive was paid in cash by the interviewer.

## Fieldwork Results

The study design of sample L2/3 consisted of two interviewing modes that were flanked by telephone interviews. **Table 10** lists the gross and net samples of both the CAWI and CAPI populations. These gross samples are not distinct; one household could be processed in both modes through the end of fieldwork in November. The overall gross sample consisted of 2,477 households, 1,672 of which were given online access data (gross sample CAWI). The overall CAPI gross sample consisted of 1,505 households. In total, 1,804 households were interviewed, 767 with CAWI and 1,037 with CAPI. The overall response rate was 72.8 percent. The CAWI response rate was 45.9 percent; with CAPI it was 68.9 percent.

**Table 11** shows the composition of the gross sample by type of household and their respective response rates. The response rate for the screening samples was 82.9 percent in households that participated in the previous wave, 36.0 percent in households that did not participate in 2015, and 28.7 percent in split-off households that participated for the first time in 2016. The relatively high response rates in the latter two groups and the relatively large proportion



of dropouts in the gross sample from the previous wave (13.8 percent, SOEP-Core: 5.1 percent) helped stabilize the panel, resulting in a high panel stability rate of 91.7 percent. Another fieldwork indicator is the proportion of partially realized households with more than one adult target respondent (partial unit non-response or PUNR). As expected, due to the implementation of CAWI, the PUNR was comparatively high at 26.6 percent.

Table 10

**Sample L2/3: Gross and net samples and response rates by mode**

	Gross sample	Net sample	Response rate
CAWI <sup>1</sup>	1,672	767	45.9%
CAPI <sup>2</sup>	1,505	1,037	68.9%
<b>Total<sup>3</sup></b>	<b>2,477</b>	<b>1,804</b>	<b>72.8%</b>

<sup>1</sup> Temporary dropouts previous wave, CAWI-participation previous wave, CAPI-participation previous wave but did not refuse to participate online.  
<sup>2</sup> No Internet access or declined to use CAWI in previous wave, could not be reached during CATI fieldwork and did not participate online, could be reached during CATI fieldwork and insisted on CAPI, willingness to participate online but did not do so until early October, households that were formed during the CAPI fieldwork process (split-off households).  
<sup>3</sup> The CAWI and CAPI gross samples are not distinct; one household could be processed in both modes.

Table 11

**Sample L2/3: Composition of gross sample and response rates by type of household**

	Total	
	Absolute	In %
<b>(1) Gross sample compositions by types of HH</b>	<b>2,477</b>	<b>100.0</b>
Respondents in previous wave	1,971	79.6
Drop-outs in previous wave	342	13.8
New households (split-off HHs)	164	6.6
<b>(2) Net sample composition by type of HH</b>	<b>1,804</b>	<b>100.0</b>
Respondents previous wave	1,634	90.6
Temporary drop-outs prev. wave(s)	123	6.8
New households (split-off HHs)	47	2.6
<b>(3) Response rates by type of HH</b>		
Respondents previous wave		82.9
Drop-outs previous wave		36.0
New households		28.7
<b>(4) Panel stability<sup>1</sup></b>		<b>91.7</b>
<b>(5) Partial unit non-response<sup>2</sup></b>		<b>26.6</b>

<sup>1</sup> Number of participating households divided by previous wave net sample.

<sup>2</sup> Share of households (number of household members >1) with at least one missing individual questionnaire.

Table 12

**Sample L2/3: Fieldwork results of the CATI process**

	Absolute	In % of gross sample	In % of contacted households
CATI gross sample	1,356	100.0	
Households that could not be contacted	388	28.6	
<b>Contacted households</b>	<b>968</b>	<b>71.4</b>	<b>100.0</b>
Permanent refusal (Both CAWI and CAPI)	39	2.9	4.0
Household undecided whether to participate	48	3.5	5.0
Household insisted on CAPI participation (no Internet or other reasons)	26	1.9	2.7
<b>Household stated intention to participate online</b>	<b>855</b>	<b>63.1</b>	<b>88.3</b>



**Table 12** displays the result of the CATI fieldwork process. 71.4 percent (968 households) of the CATI gross sample, which consisted of households in the CAWI population with a functioning telephone number, could be contacted by phone. 4.0 percent of these households declined to participate further in the study, whether online or face-to-face. Only 2.7 percent insisted on being interviewed face-to-face. A relatively high proportion of all households contacted (88.3 percent) stated their willingness to

participate online. Even though the households were reminded by mail to fill out the questionnaires, only 61.9 percent of those who had intended to participate online actually did so (see **Table 13**). Households that had not filled out the online questionnaires by early October were transferred to CAPI, in which 18.8 percent (161 households) of the households that had stated their intention to participate online actually took part in the study.

Table 13

**Sample SC: Sample L2/3: Resulting net interviews of the CATI process**

	Respondents	In %
<b>Household stated intention to participate online</b>	<b>855</b>	<b>100.0</b>
- participated in CAWI	529	61.9
- participated in CAPI	161	18.8
- did not participate at all	165	19.3

# The SOEP Migration Survey and Refugee Sample

## Report from the SOEP

By Martin Kroh and Jürgen Schupp

### SOEP Migration Boosts in 2013–2017 (M1–5)

The increased influx of refugees to Germany in the second half of 2015 poses a major challenge for the government, policy makers, administrative agencies, and the population of the country as a whole. It also makes it all the more urgent for empirical social researchers, official statistical agencies, and research institutions to produce empirical data for studying the social processes surrounding this wave of immigration. Improvements are needed in research infrastructures that provide data for secondary research on refugees and their motives for migration, on concerns and fears about refugees within the German population and people's willingness to provide help, and on processes of political polarization. Yet in the years before the increased refugee influx, gross immigration was also above one million persons per year, many of whom came from Eastern as well as Southern Europe.

In the SOEP longitudinal study, we are meeting this challenge by building, adapting, and expanding our survey and the range of services we provide. As part of this endeavor, the Institute for Employment Research (IAB) in Nuremberg and the Socio-Economic Panel (SOEP) research infrastructure at DIW Berlin have partnered to survey migrants to Germany in 2013 (M1) and 2015 (M2) that mainly included EU migrants who arrived in recent years in Germany. In 2016, the Federal Office of Migration and Refugees (BAMF) joined the collaborative project to gather a large representative sample of refugees. The first refugee sample in 2016 focused on refugees who arrived in Germany between 01/2013 and 01/2016 (M3). A second sample uses the same immigration

period; however, it focuses on families with underage children (M4). Finally, a larger number of recent refugee migrants between 01/2016 and 12/2016 will be interviewed for the first time in 2017 (M5).

**Table 14** provides an overview of the number of active adult respondents and children in the SOEP in 2014, distinguishing between persons with and without a migration background<sup>1</sup> in the different subsamples. We distinguish among the existing “old” samples A through J (A/J)<sup>2</sup>, the recently integrated samples of the “Families in Germany” project (L1, L2, L3)<sup>3</sup> as well as the 2013 and 2015 migration boosts (M1, M2). Finally, **Table 14** reports the (unweighted) number of adult and underage persons in the households of the refugee samples (M3, M4) in their first wave in 2016. Please note that the 2013 migration boost almost doubled the number of adult respondents with a migration background. In 2013, integrating the samples L1, L2, and L3 as well as sample M1 and M2 already increased the total number of children with a migration background from fewer than 1,000 in the old samples A through J to more than 4,000 in total. Finally, in 2016 in the IAB-BAMF-SOEP-Migration Study, we augmented the SOEP data on migrants to include another 4,795 adult respondents who arrived in Germany as refugees. The number of children in these households amounted to 5,717. The 2016 data including sample M3, M4 will be released to the scientific community for secondary data analysis in late 2017 (soepV.33).

1 According to the official German statistics, persons are considered to have a migration background if they migrated to Germany, have non-German citizenship, or if their parents migrated to Germany.

2 The old samples also contained migration boosts, namely Sample B from 1984, targeting what were then known as “guest worker” households, and Sample D from 1994, which focused on ethnic German migration to Germany between 1984 and 1994.

3 Samples L1, L2, and L3 were first interviewed in 2010 and 2011 and integrated into the SOEP retrospectively in 2014 (soepV.31). Sample L1 targeted families with newborn children from the 2007–2010 birth cohort. L2 sampled families with low-income single parents as well as large families, and sample L3 targeted single parents and large families.

Table 14

**The number of active respondents and children in 2015/16 by sample (SOEPv.32 and SOEPv.33.beta)**

2016 (Wave BG)	Samples		
	No migration background	Migration background	Total
<b>Adults (18+)</b>			
<b>Year 2015 (v32)</b>			
A/J	13,684	3,022	16,706
(Families) L1, L2, L3	4,232	1,410	5,642
(EU migrants) M1, M2	324	4,436	4,760
<b>Total</b>	<b>18,240</b>	<b>8,868</b>	<b>27,108</b>
<b>Adults (18+)</b>			
<b>Year 2016 (v33.beta)</b>			
(Refugees) M3, M4	-	4,795	4,795
<b>Children (-17)</b>			
<b>Year 2015 (v32)</b>			
A/J	2,599	702	3,301
(Families) L1, L2, L3	4,194	1,336	5,530
(EU migrants) M1, M2	104	2,376	2,480
<b>Total</b>	<b>6,897</b>	<b>4,414</b>	<b>11,311</b>
<b>Children (-17)</b>			
<b>Year 2016 (v33.beta)</b>			
(Refugees) M3, M4	87	5,630	5,717

Table 15

**Migration boosts of the SOEP**

First Wave		Target Population	
1984	Sample B	Migration to (West) Germany up to 1983	"Guest Workers"
1994	Sample D	Migration to (West) Germany 1984/1994	Ethnic German
2013	Sample M1	Migration to Germany 1995/2010	Mainly EU migrants
2015	Sample M2	Migration to Germany 2010/2013	Mainly EU migrants
2016	Sample M3	Migration to Germany 2013/2015	Refugees
2016	Sample M4	Migration to Germany 2013/2015	Refugee families
2017	Sample M5	Migration to Germany 2016	Refugees

The three SOEP migration boosts not only increase the total number of observations on persons with a migration background but also function as a necessary expansion to the SOEP's prospective design, compensating for migration-based changes in the underlying German population. Since existing longitudinal samples cannot represent these changes in the underlying population, we need to supplement the existing samples with new ones, focusing the recent migration influx in particular (see **Table 15**). Therefore, the target population of M1 in 2013 was households migrating to Germany between 1995 and 2010; M2 in 2015 targeted households migrating to Germany between 2009 and 2013; and finally M3

and M4 targeted households of refugees to Germany between 2013 and 01/2016 and M5 between 02/2016 and 12/2016.

The sampling frame for the refugee boosts M3/5 is the Central Register of Foreign Nationals (AZR). Samples M1 and M2 were innovative insofar as they were the first migration samples in Germany drawn from the Integrated Employment Biographies Sample of the IAB ([http://panel.gsoep.de/soep-docs/surveyspapers/diw\\_ssp0271.pdf](http://panel.gsoep.de/soep-docs/surveyspapers/diw_ssp0271.pdf)). The administrative register file comprises all individuals who have been employed at least once in Germany, are registered as unemployed or seeking employment, or who re-

ceived benefits such as unemployment benefit I or II or other similar forms of government assistance. The selection procedure provides comprehensive representation of members of the labor force with a migration background and their family members in Germany. We link the survey data—after obtaining consent from the individuals affected—in samples M1/5 with information from the Integrated Employment Biographies. This will create a new database for scientific use that combines the comprehensive information of a household survey with precise labor market information from the social insurance data. In adherence to strict data protection and privacy regulations, this unique new database will provide the labor market information from the social insurance system in fully anonymized form. Linked data will be made available by the Research Data Centre (FDZ) of the Federal Employment Agency at the Institute for Employment Research. The linked data on samples M1 and M2 are available under the acronym IAB-SOEP-MIG-ADIAB (IAB-SOEP Migration Sample linked to administrative data of the IAB). Questionnaires in the migration boost samples include questions that have been part of SOEP-Core for the last three decades. In addition, the survey covers each respondent's complete migration history, education, training, and employment history in Germany and abroad, and numerous aspects of cultural and living environments relevant to the social integration of migrants. Also in the case of the 2016 refugee boost, we asked questions specific to this population about the situation in their country of origin as well as their asylum application procedure and public housing.

We are convinced that with this data—along with our standard indicators on concerns about migration to Germany and xenophobia—the SOEP will soon offer a rich, diverse, and robust database for research on the impact of the refugee influx into Germany, one that will undoubtedly be of great interest to social scientists and economists worldwide.

## Report 2016 from Kantar Public (Samples M1–4)

By Axel Glemser, Simon Huber, and Ingo Leven

### Fieldwork Results: Migration Sample M1+M2

The two subsamples that constitute the SOEP migration survey, which was designed to improve the representation of migrants living in Germany, were established in 2013 (sample M1) and 2015 (sample M2). In 2016, M2 was transferred to a longitudinal sample and processed with the fourth wave of sample M1. Fieldwork started in April and lasted until August (see **Table 16**).

**Table 17** displays the fieldwork results by subsample and type of household. In total, 3,262 addresses comprised the gross sample. 84.7 percent of all households were respondents in the previous wave; 11.3 percent were dropouts in the previous wave; and 4.0 percent were split-off households. In total 2,153 households were interviewed, 1,493 in M1 and 660 in M2. The comparatively low response rates of 69.6 percent in M1 and 59.0 percent in M2—with the relatively high partial unit non-response of 29.3 percent overall and the relatively low response rate of 85.5 percent for the individual questionnaire (see **Table 18**)—reflect the difficulties in processing migrant households that have arisen since the first wave of M1 in 2013 within the more or less general population survey and sample design selected initially. In a migration sample, the effort required by interviewers to contact households successfully on the one hand and to motivate every individual to take

Table 16

#### Fieldwork progress by month: processing household interviews<sup>1</sup>

	Gross sample	Net sample
April <sup>2</sup>	24.1%	27.5%
May	52.0%	60.4%
June	72.7%	82.5%
July	90.3%	94.9%
August	100.0%	100.0%

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

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

Table 17

**Sample M1 and M2 : Composition of gross and net sample and outcome rates by type of household (HH)**

	Sample M1		Sample M2		Total	
	Absolute	In %	Absolute	In %	Absolute	In %
(1) Gross sample compositions by types of HH	2,144	100.0	1,118	100.0	3,262	100.0
<b>Respondents from previous wave</b>	1,668	77.8	1,096	98.0	2,764	84.7
Drop-outs from previous wave	369	17.2	0	0.0	369	11.3
New households (split-off HHs)	107	5.0	22	2.0	129	4.0
(2) Net sample composition by type of HH	1,493	100.0	660	100.0	2,153	100.0
<b>Respondents from previous wave</b>	1,339	89.7	651	98.6	1,990	92.4
Drop-outs from previous wave	109	7.3	-	-	109	5.1
New households (split-off HH)	45	3.0	9	1.4	54	2.5
(3) Response rates by type of HH		69.6		59.0		66.0
<b>Respondents from previous wave</b>		80.3		59.4		72.0
Drop-outs from previous wave		29.5		-		29.5
New households		42.1		40.9		41.9
(4) Panel stability <sup>1</sup>		89.7		60.2		77.9
(5) Partial unit non-response <sup>2</sup>		28.8		30.3		29.3

<sup>1</sup> Number of participating households divided by previous wave's net sample.

<sup>2</sup> Share of households (number of household members >1) with at least one missing individual questionnaire.

Table 18

**Questionnaire volumes and response rates – samples M1+M2**

	Gross sample/reference value <sup>1</sup>	Number of interviews <sup>1</sup>	Response rate/coverage rate
Individual questionnaire <sup>2</sup>	4,479	3,830	85.5%
Youth questionnaire: age 16-17	75	50	66.7%
Cognitive competence test	50	45	90.0%
Youth questionnaire: age 13-14	73	64	87.7%
Youth questionnaire: age 11-12	107	93	86.9%
Mother and child questionnaire: newborn	166	139	83.7%
Mother and child questionnaire: age 2-3	129	116	89.9%
Mother and child questionnaire: age 5-6	150	138	92.0%
Questionnaire for parents <sup>3</sup> : age 7-8	117/234	104/166	88.9%/70.9%
Mother and child questionnaire: age 9-10	118	108	91.5%

<sup>1</sup> The numbers refer to the respective target population in participating households. For the child-related questionnaires, the reference value is the number of children in the respective age group living in participating households. Therefore the response rate for these questionnaires indicates the number of children for whom a questionnaire has been completed by one parent (in most cases by the mother).

<sup>2</sup> There are two additional individual questionnaires conducted in households that are coded as non-participating households as there is no household questionnaire for 2016. 129 of the 3,830 respondents were first-time respondents and therefore answered the additional biographical questions.

<sup>3</sup> In contrast to the other child-related questionnaires, this questionnaire is supposed to be completed not by just one but by both parents. For 497 (99.0%) of 502 children born in 2008 and living in households that participated in 2016, at least one questionnaire has been completed. In total, 853 questionnaires were completed.

part in an interview on the other hand is obviously greater than in surveys of the general population. The contact process and the interviewing situation are more complicated and delicate as well (e.g., language problems, cultural specifics, level of education). This was the reason to try collecting data on the current SOEP refugee sample by using a different approach to sampling and operationalizing the instruments more geared toward the characteristics of the target group (see section: **The SOEP Refugee Sample** below).

## Questionnaires and Survey Instruments

For data collection in the SOEP migration samples in 2016, all of the questionnaires from SOEP-Core were used. However, a specific biographical questionnaire covering the migration history and other additional questions about migration and integration were used for adult household members that were first-time participants in the study. **Table 18** shows the gross samples and net volumes of the various individual questionnaires. All questionnaires were conducted with CAPI, with the exception of the cognitive competence test, which is a paper questionnaire. The mean interview length for the main questionnaires was 15 minutes for the household questionnaire and 44 minutes for the individual questionnaire.

As the target population consists of persons of (mostly) foreign origin, the main questionnaires (household and individual) were translated into five languages: English, Russian, Turkish, Romanian, and Polish. With the exception of English, these are the languages of 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 19** displays different kinds of aids the interviewers used when language problems arose during the interview situation.

A special feature of the migration sample's survey design is the linkage of respondents' survey data to register data from the Integrated Employment Biographies Sample (IEBS). As in the previous waves, in 2016, a portion of samples of M1 and M2 was asked to give their written consent to record linkage at the end of the individual interview. In 2016, the target group designated for record linkage consisted of 620 participants, of whom 48.5 percent consented to data linkage. Since 2013 (M1) and 2015 (M2), respectively, a total of 4,407 respondents have been asked for their consent to record linkage up to two times, to which 2,923 consented (66.3 percent).

Table 19

### Language problems and usage of translated paper questionnaires in M1+M2

	Total	Net sample in %
Net sample (individual questionnaire)	3,832	100.0
No language problems occurred/no need for assistance with language problems	3,160	82.5
Assistance with language problems needed	672	17.5
<i>Of that number:</i>		
German-speaking person in the same household	236	6.2
German-speaking person from outside the household	75	2.0
Professional interpreter	10	0.3
Translated paper questionnaire	351	9.2
<i>Of that number:</i>		
Russian	113	2.9
Turkish	55	1.4
Romanian	63	1.6
Polish	51	1.3
English	69	1.8



## The SOEP Refugee Sample (M3+M4)

### Sampling Design of the IAB-BAMF-SOEP Refugee Survey

In order to implement an innovative sampling procedure for mapping recent migration and integration dynamics, the SOEP at DIW Berlin, the Institute for Employment Research (IAB Nuremberg), and the Research Centre of the Federal Office for Migration and Refugees (BAMF-FZ) formed a research partnership. This alliance also facilitated drawing samples for research from the Central Register of Foreign Nationals (Ausländerzentralregister, AZR). M3 is the acronym for the first boost sample of households that represents adult refugees who entered Germany between January 1, 2013 and January 31, 2016, and applied for asylum in Germany. The sample consists of two tranches. The second tranche was necessary because in the second half of 2015, so many refugees entered Germany that this led to a gap between application for asylum and registration in the Central Register of Foreign Nationals. M4 is the acronym for the second new refugee boost sample. It consists of two tranches as well. The first one is a household boost of the M3 sample. For the second tranche, underage children of refugee families were sampled as key respondents, but only the adults in their respective households were sampled to participate.

The sampling frame of the Central Register of Foreign Nationals provides only basic information about foreigners in Germany, including: name, date of birth, and a registration number linked to the local recordkeeping authority. Thus the BAMF-FZ was in charge of contacting those local recordkeeping authorities to obtain actual addresses of the refugees. As experts in the SOEP group at DIW Berlin conducted the drawing of the gross samples, we will provide some general information on the sampling procedure. A stratified multistage approach was used:

- Each available data set was flagged to indicate membership in the target group of refugees entering Germany from January 1, 2013 until January 31, 2016 who applied for asylum according to the information of the register.
- All datasets were linked to the local recordkeeping authority. They were the primary sampling units (PSU) in accordance with strata based on the information of the Central Register of Foreign Nationals. Local recordkeeping authorities with a smaller

number of refugees have been integrated into synthetic PSUs.

- The sampling of 130 PSU, stratification by federal state and administrative district are based on the Central Register of Foreign Nationals.
- The gross overall sampling of eligible registration numbers to be supplied with addresses by the local recordkeeping authority included: 80 addresses per PSU for M3 T1, 40 addresses per PSU for M3 T2, and 45 addresses per PSU for M4 T1 and T2 in each tranche.
- This procedure should have led to  $n=27,300$  addresses in the overall sample. Due to a lack of cooperation by local recordkeeping authorities (in time), refugees leaving their local recordkeeping authorities' designated area before registering their address, and unaccompanied minor refugees excluded by the local recordkeeping authorities for M4 T2, this resulted in a total of 25,763 addresses in the gross samples, M3 and M4.
- BAMF-FZ provided Kantar Public with these addresses. In order to conduct a sufficient amount of interviews, Kantar Public drew a gross sample for fieldwork: 24 addresses per PSU<sup>4</sup> in M3 T1, 6 addresses per PSU in M3 T2, 11 addresses per PSU in M4 T1, and 17 addresses per PSU in M4 T2.
- This procedure resulted in 7,635 addresses in gross samples M3 and M4 for fieldwork.

**Tables 20 and 21** show the distributions of the gross and net samples by federal state; **Tables 22 and 23** show the distributions of these samples with respect to community type and spatial interlocking (BIK types). The net proportions of households reflect the gross proportions fairly accurately in the current waves of M3 and M4. With regard to the gross proportion of households, one should bear in mind that refugees are distributed among and within federal states by an official allocation procedure (*Königsteiner Schlüssel*).

<sup>4</sup> For M3 T1 fieldwork started with 45 addresses per PSU. But the first weeks of fieldwork indicated that there was a much higher net response than expected based on this sample size. Therefore, the number of valid addresses per PSU was reduced to 24.

Table 20

## Distribution of sample points by federal state for M3

Federal state	Number of sample points	Percentage of households in gross sample for fieldwork of M3	Percentage of households in net sample of M3
Schleswig-Holstein	6	4.8%	4.6%
Hamburg	4	3.5%	4.6%
Lower Saxony	10	9.2%	9.0%
Bremen	3	3.0%	3.7%
North Rhine-Westphalia	25	19.0%	15.5%
Hesse	7	5.5%	6.4%
Rhineland Palatinate	4	2.8%	3.4%
Saarland	5	3.6%	3.6%
Baden-Wuerttemberg	15	11.6%	11.8%
Bavaria	17	13.4%	16.1%
Berlin	10	7.7%	6.3%
Brandenburg	7	5.2%	5.6%
Mecklenburg-Western Pomerania	3	2.3%	1.4%
Saxony	3	2.2%	2.0%
Saxony-Anhalt	3	1.9%	1.8%
Thuringia	7	4.3%	3.9%

Table 21

## Distribution of sample points by federal state for M4

Federal state	Number of sample points	Percentage of households in gross sample for fieldwork of M4	Percentage of households in net sample of M4
Schleswig-Holstein	5	3.9%	6.3%
Hamburg	4	3.1%	3.7%
Lower Saxony	13	9.8%	8.9%
Bremen	1	0.8%	1.5%
North Rhine-Westphalia	26	20.2%	18.3%
Hesse	8	6.1%	6.4%
Rhineland Palatinate	5	4.0%	3.8%
Saarland	3	2.3%	1.6%
Baden-Wuerttemberg	16	12.0%	14.2%
Bavaria	17	13.0%	14.5%
Berlin	10	7.7%	4.4%
Brandenburg	6	4.5%	4.8%
Mecklenburg Western Pomerania	3	2.3%	2.1%
Saxony	8	6.2%	6.1%
Saxony-Anhalt	3	2.3%	2.3%
Thuringia	2	1.6%	0.9%

Table 22

**Distribution of sample points by community type (BIK) for M3**

BIK Type	Share of households in gross sample for fieldwork of M3	Share of households in net sample of M3
0 (more than 500,000 inhabitants/center)	27.7%	26.2%
1 (more than 500,000 inh./periphery)	3.4%	3.0%
2 (100,000 to 499,999 inh./center)	21.1%	23.1%
3 (100,000 to 499,999 inh./periphery)	11.2%	11.7%
4 (50,000 to 99,999 inh./center)	1.8%	0.8%
5 (50,000 to 99,999 inh./periphery)	12.0%	12.5%
6 (20,000 to 49,999 inh.)	12.5%	12.8%
7 (5,000 to 19,999 inh.)	7.3%	6.8%
8 (2,000 to 4,999 inh.)	1.8%	1.8%
9 (less than 2,000 inh.)	1.2%	1.1%

Table 23

**Distribution of sample points by community type (BIK) for M4**

BIK type	Share of households in gross sample for fieldwork of M4	Share of households in net sample of M4
0 (more than 500,000 inhabitants/center)	26.8%	21.8%
1 (more than 500,000 inh./periphery)	11.3%	11.6%
2 (100,000 to 499,999 inh./center)	18.8%	19.3%
3 (100,000 to 499,999 inh./periphery)	12.6%	13.6%
4 (50,000 to 99,999 inh./center)	2.8%	3.3%
5 (50,000 to 99,999 inh./periphery)	5.7%	6.3%
6 (20,000 to 49,999 inh.)	10.8%	12.2%
7 (5,000 to 19,999 inh.)	8.0%	8.2%
8 (2,000 to 4,999 inh.)	2.3%	2.7%
9 (less than 2,000 inh.)	0.8%	1.0%

**Fieldwork Results**

There was no prior empirical evidence for creating a refugee sample of persons entering Germany recently for large-scale quantitative social research. There were no clear expectations about what might happen during face-to-face interviews. The challenge was to conduct interviews on-site in different settings with maximum flexibility. Most respondents were living independently in their own households. Some respondents were living in federal or community-organized accommodations for asylum seekers. With these accommodations, the first challenge was to obtain permission to gain access to them. Secondly, because many refugees were expected to move around a great deal, at least within Germany, actually finding them at the addresses given by the local recordkeeping authorities was anticipated to present a challenge. And thirdly, the specific background of the target population led to the assumption that most of them would not speak German well enough to be interviewed, also making it difficult for interviewers to communicate their questions. Given this situation, only a very vague estimation of the expected cooperation rate was possible in advance. Nevertheless, the first weeks of the fieldwork period clearly indicated that each possible stage of attrition would not affect this survey as much as other surveys targeting the general population in Germany.

Face-to-face interviewing for M3 started in mid-June, and fieldwork was scheduled to end in September. Interviewers were allowed to continue interviewing through the first weekend of October such that the final, most delayed interviews were conducted in October. **Table 24** shows the progress of the fieldwork for the whole period.

Fieldwork for M4 started in mid-August. While almost two-thirds of the interviews were completed

Table 24

**Cumulative fieldwork progress by month**

	M3		M4	
	In % of gross sample	In % of net sample	In % of gross sample	In % of net sample
June	6.2	6.2		
July	28.6	31.5		
August	57.9	63.2	4.1	4.8
September	97.5	98.1	11.1	11.6
October	100.0	100.0	29.2	30.7
November			66.0	68.6
December			100.0	100.0

after two and a half months for M3, M4 had a slower start. The focus was on finishing M3 with a sufficient number of interviews within this overlapping fieldwork period. After finishing M3, the focus shifted to M4, enabling interviewers to concentrate on this project only. This resulted in a significant push to finish interviewing for M4 by the end of December.

Table 25 shows the fieldwork results for samples M3 and M4. About one-third of the addresses were either definitely or possibly invalid. About 20 percent of the addresses were valid, but an interview could not be obtained for various reasons. In both samples, 1,769 households could be interviewed. As the SOEP standard procedural preference of interviewing all household members was not a major objective for the first wave of the two refugee samples, the number of households that were partially interviewed (i.e., at least one individual questionnaire was missing) is comparably high. However, 582 additional people in M3 and 697 in M4 were interviewed, resulting in 2,351 individual interviews in M3 and 2,466 in M4.

Tables 26 and 27 show the fieldwork results and Table 28 the different outcome rates for both sam-

ples. Only a few cases had to be excluded because the key respondent was an unaccompanied refugee minor. In addition, it was seldom the case that the key respondent belonged to a household in which another key respondent who we had already interviewed also lived. Those cases are listed as QNDs in Tables 26 and 27. With these kinds of attrition and the low number of invalid addresses, there were a large number of addresses left over for fieldwork. And this proved to be very crucial.

In M3, the interviewers could not process 27.4 percent of all addresses (gross sample I). That defines gross sample II as containing 2,941 viable addresses. After adjusting for deceased anchor respondents and those who had moved abroad, 2,863 addresses remained (70.7 percent of gross sample I). Overall, the interviewers were able to contact 2,547 anchor respondents, that is, 62.9 percent of gross sample I. Compared to the recent general refresher samples in the SOEP, the response rate of 61.8 percent, defined as the number of interviews divided by adjusted gross sample II, is very high.

In M4, the interviewers were unable to process 21.1 percent of all addresses (gross sample I). That de-

Table 25

## Fieldwork results M3 and M4

	M3		M4	
	Abs.	In % of gross sample	Abs.	In % of gross sample
<b>Gross sample for fieldwork</b>	<b>4,051</b>	<b>100.0</b>	<b>3,688</b>	<b>100.0</b>
<b>Unknown eligibility</b>	<b>1,194</b>	<b>29.5</b>	<b>832</b>	<b>22.6</b>
- Unable to reach during fieldwork period	316	7.8	295	8.0
- Key respondent moved and unable to obtain address	878	21.7	537	14.6
<b>Not eligible (e.g., business address, address does not exist)</b>	<b>232</b>	<b>5.7</b>	<b>241</b>	<b>6.5</b>
<b>Eligible, non-interview</b>	<b>856</b>	<b>21.1</b>	<b>846</b>	<b>22.9</b>
- Key respondent deceased or permanently living abroad	78	1.9	65	1.8
- Permanently physically or mentally unable / incompetent	37	0.9	24	0.7
- Language problems	153	3.8	158	4.3
- "Soft refusal" (currently not willing / capable)	372	9.2	435	11.8
- Permanent refusals	115	2.8	123	3.3
- Other (e.g. detained, "in hiding," refusal by refugee housing, dropout during interview)	101	2.5	41	1.1
<b>Interview (of key respondent)</b>	<b>1,769</b>	<b>43.7</b>	<b>1,769</b>	<b>48.0</b>
- Household completely interviewed (including single households)	1,291	31.9	1,035	28.1
- Household partially interviewed	478	11.8	734	19.9

Table 26

**Fieldwork results M3 in different gross samples**

	M3		
	Absolute	In % of gross sample	In % of gross sample II
Gross sample I (all gross number of addresses for fieldwork)	4,051	100.0	
Non-processable addresses (not attempted; key respondent moved / unable to obtain new address; QNDs)	1,110	27.4	
Gross sample II (processable addresses)	2,941	72.6	
Deceased and moved abroad	78	1.9	
Gross sample II adjusted	2,863	70.7	100.0
Unable to reach during fieldwork period	316	7.8	11.0
Contacted processable addresses	2,547	62.9	89.0
Non-cooperation (permanently unable / incompetent; language problems; soft and permanent refusals)	778	19.2	27.2
Valid Interviews	1,769	43.7	61.8

Table 27

**Fieldwork results M4 in different gross samples**

	M3		
	Absolute	In % of gross sample	In % of gross sample II
Gross sample I (all gross number of addresses)	3,688	100.0	
Non processable addresses (not attempted; key respondent moved / unable to obtain new address; QNDs)	778	21.1	
Gross sample II (processable addresses)	2,910	78.9	
Deceased and moved abroad	65	1.8	
Gross sample II adjusted	2,845	77.1	100.0
Unable to reach during fieldwork period	295	8.0	10.4
Contacted processable addresses	2,550	69.1	89.6
Non-cooperation (permanently unable / incompetent; language problems; soft and permanent refusals)	781	21.2	27.5
Valid Interviews	1,769	48.0	62.2

Table 28

**Outcome rates M3 and M4**

	M3		M4	
	Gross sample I in %	Gross sample II adjusted in %	Gross sample I in %	Gross sample II adjusted in %
Contact rate (contacted addresses / gross sample)	62.9	89.0	69.1	89.6
Response rate (interviews / gross sample)	43.7	61.8	48.0	62.2

defines gross sample II as containing 2,910 viable addresses. After adjusting for deceased anchor respondents and those who had moved abroad, 2,845 addresses remained (77.1 percent of gross sample I). Overall, the interviewers were able to contact 2,550

anchor respondents, that is, 69.1 percent of gross sample I. The response rate in M4 of 62.2 percent, defined as the number of interviews divided by adjusted gross sample II, is as remarkable as in M3.

## Fieldwork Approach with Foreign Languages

With refugees who had entered Germany very recently, language problems were expected to present a challenge to the interviewing process in this SOEP survey. It was generally agreed that matching interviewers with special language skills to respondents in a nationwide survey was not feasible, particularly when there is no prior knowledge of the respective target person's background and skills. The solution was to use an innovative CAPI program. Instead of using translated questionnaires on paper, which served as a reference for the interviewers and the interviewees in recent M1 and M2 samples, the translation was scripted into the CAPI such that German and another language were shown on the screen at the same time. The language was selected at the beginning of the interview. There was no way to switch to another language during the interview, which did not turn out to be a major issue. Moreover, a foreign-language hotline was set up to help interviewer and interviewee arrive at an agreement on the language for their upcoming interview and to help with all other issues and concerns regarding its nature and scope. If interviewees could not read and

write in their respective language well enough, audio files were available on each screen for interviewees to listen to the questions and answers in their respective language. As this procedure was quite complex and costly, the number of languages offered to the interviewees was limited to six: English, Arabic, Farsi, Urdu, Pashto, and Kurmanji. All written materials and fieldwork documents for the households were translated into these six foreign languages as well. **Figure 2** shows an example of this approach, a screenshot from the Arabic CAPI questionnaire.

As expected, Arabic was the most frequently used language and was used in almost two-thirds of all interviews (M3: 63.1 percent, M4: 64.8 percent). The results of using the different language versions are shown in **Table 29**. The language versions of Pashto, Urdu and Kurmanji were only used for a very limited number of interviews. In contrast, English (M3: 18.5 percent, M4: 15.4 percent) and Farsi (M3: 11.1 percent, M4: 12.9 percent) were used with the second highest regularity; with English as the number one choice when none of the provided languages were the interviewees' native language.

Figure 2

**Q51**

**Ist die Unterkunft, in der Sie jetzt wohnen, Ihre erste Unterkunft in Deutschland oder haben Sie davor in Deutschland schon in einer oder mehreren anderen Unterkünften gewohnt?**

هل المأوى الذي تتقيم فيه حالياً هو أول مأوى لك في ألمانيا أو سبق لك أن أقمت في مأوى آخر أو مأوى آخرى في ألمانيا؟

1 Ich wohne immer noch in der ersten Unterkunft  
1 لا يزال أسكن في المأوى الأول

2 Ich habe davor nur in einer anderen Unterkunft gewohnt  
2 لقد سبق لي أن سكنت في مأوى آخر

3 Ich habe davor in 2 bis 3 anderen Unterkünften gewohnt  
3 لقد سبق لي قبل ذلك أن سكنت في 2 إلى 3 مأوى أخرى

4 Ich habe davor in 4 bis 6 anderen Unterkünften gewohnt  
4 لقد سبق لي قبل ذلك أن سكنت في 4 إلى 6 مأوى أخرى

5 Ich habe davor in 7 bis 9 anderen Unterkünften gewohnt  
5 لقد سبق لي قبل ذلك أن سكنت في 7 إلى 9 مأوى أخرى

6 Ich habe davor in 10 oder mehr Unterkünften gewohnt  
6 لقد سبق لي قبل ذلك أن سكنت في 10 مأوى أخرى أو أكثر

Keine Angabe

Text vorlesen      Antworten vorlesen



Table 29

**Utilization of specific language version**

	M3		M4	
	Abs.	In % of interviews	Abs.	In % of interviews
Total	2,351	100.0	2,466	100.0
German / English	436	18.5	380	15.4
German / Arabic	1,483	63.1	1,598	64.8
German / Farsi	260	11.1	317	12.9
German / Pashto	39	1.7	49	2.0
German / Urdu	55	2.3	22	0.9
German / Kurmanji	78	3.3	100	4.1

Table 30

**Intensity of use of a specific language version M3 plus M4 (key respondents in percent)**

	English	Arabic	Farsi	Pashto	Urdu	Kurmanji
Every question	19.8	63.7	58.0	31.4	54.2	36.5
More than two thirds	7.0	12.0	13.7	10.5	15.3	11.9
More than half	5.9	8.0	8.9	7.0	13.9	7.5
Less than half	9.8	6.9	6.6	9.3	8.3	13.8
Not at all	57.5	9.3	12.8	41.9	8.3	30.2

Table 31

**Consent to record linkage: Consent rates**

	M3		M4	
	Absolute	In %	Absolute	In %
Consented	1,828	77.8	2,006	81.3
Declined	197	8.4	227	9.2
Didn't understand the issue	326	13.9	233	9.4
Total	2,351	100.0	2,466	100.0

**Table 30** shows the extent to which translations were used in interviewing. Although English translations are often used in the SOEP when interviews are conducted in German, the English translation was used little to not at all in the majority of these interviews. Only one-fifth of respondents used the English translation for each question. For 64 percent of the interviews in the Arabic version, which as mentioned above was used very frequently, the translation was also needed for every question. At 9 percent, the percentage of cases in which the translation was requested, but not required, is comparatively low. A very similar distribution is shown in the Farsi and Urdu versions. In Pashto and Kurmanji, a somewhat different picture emerges; here the response category “not at all” is much higher.

The audio files were used less frequently than the translations and only requested selectively in the interviews. With longer texts and more demanding questions, especially if the target person had difficulties reading, audio files were helpful in the interview situation. Overall the audio files proved helpful in all language versions.

### Questionnaires and Survey Instruments

As with every other subsample of the migration population in the SOEP (M1 and M2) established previously, there was a clear need for several deviations from standard SOEP questionnaires in order to reflect the special characteristics of the target group. Several additional questions concerning migration and integration were integrated into the individual questionnaire to better field the range of research questions and research goals of the cooperating partners involved. This included topics such as: heritage, (experiences on) the way to Germany, language skills, integration classes in Germany, job experience, current occupation, educational background, health, attitudes, and values. The household questionnaire was much more SOEP-related in order to establish longitudinal information on the households.

In recent years it has to a certain extent become standard to link respondents’ survey data in the SOEP with registry data from the Integrated Employment Biographies Sample (IEBS). All interviewees were asked to give their written consent to the record linkage at the end of the individual interview. **Table 31** shows the results for consent or rejection.

The mean interview length for anchor respondents in both refugee samples was about 110 minutes. In many cases, the interview lasted three hours or more. The mean interview length for other household members who completed the individual questionnaire without the household section was about 90 minutes. Further, one has to add significant time for the contact phase. In many cases the interviewers had to answer questions after the interview was completed. Therefore, the survey was very demanding and time-consuming for both the interviewees and the interviewers.

### Follow-Up (by App)

For this very specific SOEP boost sample, it was assumed that the targeted population of refugees arriving in Germany from 2013 onwards would have significantly higher mobility compared to the general population. This pertains to both geographic mobility within Germany and their potential return to the home countries. This refugee survey also faces huge challenges with regard to panel management and respondents’ commitment to the study “Living in Germany” for the medium and long term. The idea was to tackle these challenges with an innovative new approach: Upon completion of the survey, participants were offered a smartphone app by the interviewers in person. The aim of this special instrument is to keep in touch with the panel members until the start of the next F2F survey wave in 2017.

Table 32

**Consent to use of app: Consent rates**

	M3		M4	
	Absolute	In %	Absolute	In %
Consented	783	44.1	634	35.9
Declined	542	30.6	723	41.0
Didn't understand the issue	176	9.9	229	13.0
No smartphone	205	11.6	147	8.3
Don't know	68	3.8	32	1.8
Total	1,774	100.0	1,765	100.0

Table 33

**Consent to use of app: Installation of app**

	M3		M4	
	Absolute	In %	Absolute	In %
Downloaded and installed	470	60.0	323	50.9
Downloaded but not installed	134	17.1	212	33.4
No download possible	179	22.9	99	15.6
Total	783	100.0	634	100.0

The app primarily serves as a means of contact and information source for respondents to stay up to date on both the study and refugee and migration issues in Germany in general. Secondly, there is a function for conducting very short app surveys during the year. On the one hand, this should give researchers the opportunity to collect additional information. On the other hand, it should also increase the interviewees' commitment to "Living in Germany" as a whole. Thirdly, the respondents are offered a profile where they can update and manage their personal data, including names and addresses, if their living situation should change. And last but not least, the decision was made to use the smartphone's GPS technology in order to be able to carry out passive technology-supported address management for consenting respondents. Of course, all the regulations of research ethics and data protection have been rigorously observed. Participants were provided with special clarifications, and all were asked individually for explicit consent regarding each stage of active and passive data usage. This piece of research is regarded as an innovative methodological pilot in the field of survey practice.

**Table 32** and **33** indicate that this innovation did not roll out as expected. Only around two of five key respondents (M3: 44.1 percent, M4: 35.9 percent) agreed to download the app. While just around one-tenth did not own a smartphone (M3: 11.6 percent, M4: 8.3 percent) or did not understand the issue (M3: 9.9 percent / M4: 13.0 percent), a large portion of the respondents refused to download the app (M3: 30.6 percent, M4: 41.0 percent) altogether.

Further, there have been technical issues with downloading and installing the app. The interviewers were supplied with a UMTS device that allowed them to offer interviewees a Wi-Fi hotspot in case they did not have their own Wi-Fi access or the credit required for using their provider's Internet services. However, this was not sufficient to facilitate installation of the app, as there were further technical issues when trying to install it on different devices, especially older hardware and software versions that use rather uncommon configurations. Therefore, installation was technically only possible in up to three out of five cases (M3: 60.0 percent, M4: 50.9 percent). Consequently, only one of four key respondents was able to successfully install the app on their smartphone (M3: 26.5 percent, M4: 18.3 percent).

# The SOEP-Innovation Sample (SOEP-IS)

By David Richter

The SOEP-Innovation Sample (SOEP-IS) is a service provided by the SOEP to researchers worldwide for their research projects. The SOEP-IS is well suited to short-term experiments, but is especially useful for testing long-term instruments that are not appropriate for SOEP-Core—whether because the instruments have not yet been scientifically verified, or because the questions deal with very specific research issues. Since 2013, the SOEP has accepted users’ proposals for the SOEP-IS and assessed these submissions in an annual competitive refereed pro-

cess to identify the “best” research questions and operationalization processes. In 2016, almost 6,000 individual respondents in more than 3,200 households participated in the SOEP-IS survey. Many of these women and men have been part of a boost sample in SOEP-Core since 1998, while others joined in 2009. These individuals provide a wealth of longitudinal data to the SOEP-IS. Additional samples were added to the SOEP-IS in 2012, 2013, 2014, 2015, and 2016 (see **Table 34**).

Table 34

## The SOEP Innovation Sample (SOEP-IS)

Sample/Survey Year	1998-2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>Sample E (IE)</b> (started in 1998 with 373 households and 963 individuals)	373 (963) in the SOEP	447 (934) in the SOEP	453 (936) in the SOEP	464 (944) in the SOEP	339 (649) in the SOEP-IS	310 (603) in the SOEP-IS	298 (570) in the SOEP-IS	282 (540) in the SOEP-IS	266 (506) in the SOEP-IS
<b>Sample I (I1)</b> (started in 2009 with 1,495 households and 3,052 individuals)		1495 (3,052) in the SOEP	1175 (2,450) in the SOEP	1040 (2,113) in the SOEP-IS	928 (1,845) in the SOEP-IS	846 (1,740) in the SOEP-IS	798 (1,562) in the SOEP-IS	741 (4,141) in the SOEP-IS	721 (1,380) in the SOEP-IS
<b>Supplementary sample 2012 (I2)</b> (started in 2012 with 1,010 households and 2,005 individuals)					1,010 (2,035)	833 (1,698)	772 (1,550)	710 (1,399)	669 (1,313)
<b>Supplementary sample 2013 (I3)</b> (started in 2013 with 1,166 households and 2,256 individuals)						1,166 (2,256)	929 (1,788)	840 (1,617)	770 (1,458)
<b>Supplementary sample 2014 (I4)</b> (started in 2014 with 924 households and 1,667 individuals)							924 (1,667)	672 (1,226)	623 (1,123)
<b>Supplementary sample 2016 (I5)</b> (started in 2016 with 1,057 households and 1,935 individuals)									1,057 (1,935)
<b>Households total (individuals total)</b>	373 (963)	1,942 (3,986)	1,628 (3,386)	1,504 (3,057)	2,277 (4,529)	3,173 (6,297)	3,721 (7,137)	3,245 (6,196)	4,106 (7,715)

## Data Access

To protect the confidentiality of respondents' data, the SOEP adheres to strict security standards in distributing the SOEP-IS data. The data are reserved exclusively for research purposes and provided only to members of the scientific community. The SOEP Research Data Center distributes the SOEP-IS data to users as an independent dataset. Individuals and institutions that have signed a SOEP data distribution contract can submit an informal application (in the form of a letter or e-mail), requesting a supplemental contract allowing use of the SOEP-IS data. After signing the required contracts with the SOEP, users receive the SOEP-IS dataset by personalized encrypted download. Users can also access small-scale regional data, which can be linked to the SOEP-IS data, on site at the SOEP Research Data Center.

## Access to SOEP-IS Data from 2011, 2012, 2013, 2014, 2015, and 2016

The latest SOEP-IS data were released in late March 2017. The data release contained the core SOEP questions and additional SOEP modules included in the SOEP-IS in 2015, user-friendly generated SOEP variables for 2015, as well as all of the previous SOEP-IS data going back to the first subsample in 1998. Also included were the innovative modules from 2011, 2012, 2013, and 2014 which are released after a 12-month embargo during which the data are available exclusively to the researcher who submitted the questions. The data from the 2015 SOEP-IS modules will be under embargo until April 2018 and not available to users until then.

### Innovative Modules Surveyed in 2011

- Internalized Gender Stereotypes Vary Across Socioeconomic Indicators (Dietrich, Eagly, Garcia-Retamero, Holst, Kröger, Ortner, Schnabel)
- Justice Sensitivity (Liebig)
- Pension Claims (Grabka)

### Innovative Modules Surveyed in 2012

- Adaptive General Ecological Behavior Scale (Otto & Kaiser)
- Anxiety and Depression (Brähler & Zenger)
- Control Strivings (Gerstorf & Heckhausen)

- Day Reconstruction Method (DRM; Lucas & Donnellan)
- Expected Financial Market Earnings (Schmidt & Weizsäcker)
- Fear of Dementia (Kessler)
- Just Sustainable Development Based on the Capability Approach (GeNECA; Gutwald, Krause, Leßmann, Masson, Mock, Omann, Rauschmayer, Volkert)
- The Big Two Psychological Content Dimensions: Agency and Communion (Gebauer, Asendorpf & Bruder)

### Innovative Modules Surveyed in 2013

- Conspiracy Mentality Questionnaire (CMQ; Haffke)
- Day Reconstruction Method (DRM; Lucas & Donnellan)
- Job Preferences and Willingness to Accept Job Offers (Auspurg & Hinz)
- Job Task Survey (Görlich)
- Regional Identification (Neyer, Zimmermann, & Schubach)
- Narcissistic Admiration and Rivalry Questionnaire (NARQ-S) (Küffner, Hutteman, & Back)
- Sleep Characteristics (Stang & Zinkhan)
- Socio-Economic Effects of Physical Activity (Lechner & Pawlowski)

### Innovative Modules Surveyed in 2014

- Computer-Assisted Measurement and Coding of Educational Qualifications in Surveys (CAMCES; Herzing & Schneider)
- Confusion, Hubbub, and Order Scale (CHAOS) (Rauch)
- Cross-Cultural Study of Happiness (Uchida & Trommsdorff)
- Day Reconstruction Method (DRM; Lucas & Donnellan)
- Decisions from Description and Experience (Mata, Richter, Josef, Frey, & Hertwig)
- Determinants of Attitudes to Income Redistribution (Poutvaara, Kauppinen, & Fong)
- Expected Financial Market Earnings (Huck & Weizsäcker)
- Experience Sampling Method (ESM; Lucas & Donnellan)
- Finding Efficient Question Format for Long List Questions (Herzing & Schneider)
- Flourishing State (Mangelsdorf & Schwarzer)
- Inattentive Blindness (Conley, Chabris, & Simons)

- Justice Sensitivity (Baumert, Schlösser, Beierlein, Liebig, Rammstedt, & Schmitt)
- Lottery Play: Expenditure, Frequency, and Explanatory Variables (Beckert & Lutter + Oswald)
- Future Life Events (Luhmann & Zimmermann)
- Self-Evaluation and Overconfidence in Different Life Domains (Ziebarth, Arni, & Goette)
- Separating Systematic Measurement Error Components Using MTMM (Cernat & Obersky)

### Innovative Modules in 2015

- Attitude Inferences and Interviewer Effects (Kühne)
- Couples' Prediction Accuracy for Food Preferences (Scheibehenne)
- Day Reconstruction Method (DRM; Lucas & Donnellan)
- Diversity of Living-Apart-Together-Couples (Schmiade)
- Emotion Regulation (Romppel & Schulz)
- Epigenetic Markers of Stress (Helms & Weierstall)
- Fiscal Crisis in the EU and European Solidarity (Lengfeld)
- Grit and Entrepreneurship (Dupuy & Kritikos)
- Happiness Analyser Smartphone Application (Ludwigs, Lucas, & Veenhoven)
- Impostor Phenomenon (Neureiter)
- Future Life Events (Luhmann & Zimmermann)
- Narcissistic Admiration and Rivalry Questionnaire (NARQ-S) (Küffner, Hutteman, & Back)
- Ostracism Short Scale (Rudert & Greifeneder)
- Preference for Leisure (Borghans & Collewet)
- Private or Public Health Care: Evaluation, Attitudes, and Social Solidarity (Immergut, Burlacu, Ainsaar, & Oskarson)
- Self-Regulated Personality Development (Specht & Hennecke)
- Separating Systematic Measurement Error Components Using MTMM (Cernat & Obersky)
- Sickness Presenteeism (Steidelmüller & Breitsohl)
- Smartphone Usage (Wrzus)
- Socio-Economic Effects of Physical Activity (Lechner & Pawlowski)

### Innovative Modules in 2016

- Adaptation in Very Old Age (Gerstorf, Hoppmann & Ram)
- Adaptation to Major Life Events (Brose)
- Aging in a Changing Society (Pavlova, Rothermund & Silbereisen)
- Collective vs. Individual Risk Attitudes (Gorelkina)
- Fiscal Crisis in the EU and European Solidarity (Lengfeld)
- Happiness Analyser Smartphone Application (Ludwigs, Lucas, & Veenhoven)
- Informal Care Outside the Household (Ehrlich & Kelle)
- Internet Based Psychotherapy (Apolinário-Hagen)
- Language Skills, Income and Employment (Gazzola, Templin & Wickström)
- Perceived Discrimination (Schlenzka & Stocker)
- Personal and Economic Relations (Hommelhoff)
- Physical Attractiveness (Schunk)
- Representations of Scientific Information (Brandt, Kimmig, Cress, Kimmmerle & Hofer)
- Resilient Behavior in the Workplace (Soucek)
- Separating Systematic Measurement Error Components Using MTMM (Cernat & Obersky)
- Status Confidence & Anxiety (Delhey, Schneikert & Steckermeier)
- Subjective Social Status (Süssenbach & Euteneuer)

### Data Collection in 2016

Twenty-eight proposals were submitted for the 2016 wave of SOEP-IS data collection. We received eleven proposals from the field of economics, seven from the field of sociology, nine from psychology, and one from medical and health sciences. Eighteen of these were accepted. Due to the limited testing time available, the remaining ten proposals had to be rejected. We also replicated innovative modules in 2016: the module on the fiscal crisis in the EU and European solidarity and the Happiness Analyser Smartphone Application from 2015, as well as the module separating systematic measurement error components using MTMM from 2014—the third part of the data collection was executed in 2016.



# Fieldwork Report 2016 from Kantar Public

By Bettina Zweck

## Overview

The SOEP-IS (SOEP-Innovation Sample) is a longitudinal household survey with a special design that allows the testing of highly innovative research projects. Important features of sampling design and core fieldwork procedures are similar to those in the SOEP-Core sample, but the SOEP-IS also offers a special framework that eases the piloting and testing of innovative survey modules. They may be of a methodological nature, as was the original idea when the first SOEP-IS sample was established in 2009. As the study gained more attention from different scientific research institutions, new questionnaire modules were continuously incorporated into

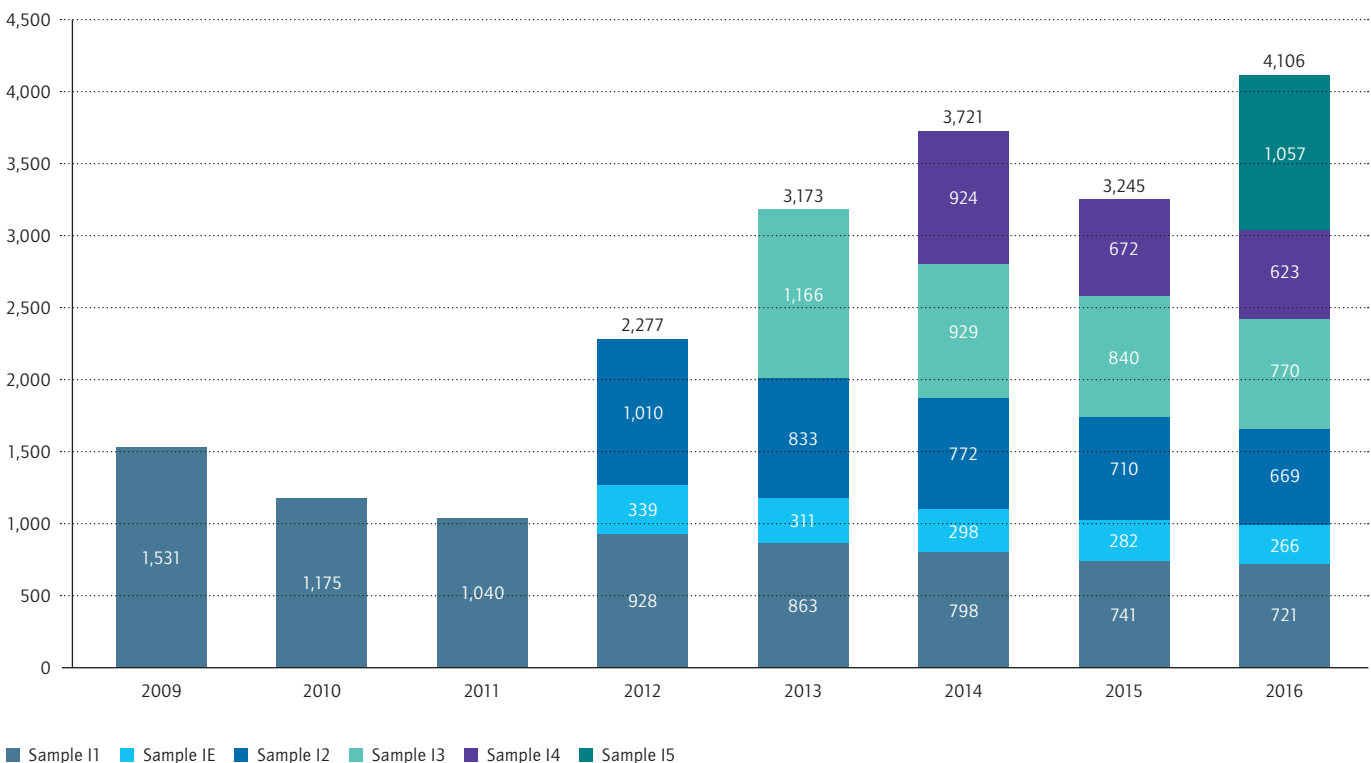
the survey and the study was institutionalized officially in 2011. These modules may deal with very unique research issues, too unique for the main sample: highlighting personal opinions and attitudes or ascertaining individual consequences of changes in life cycle. They may even include small behavioral experiments. The sample size of the Innovation Sample has been expanded with regular refresher samples: sample I2 in 2012, sample I3 in 2013, sample I4 in 2014. **Figure 3** provides more details about the development of sample size since 2009. The SOEP-IS refresher sample in 2016 is described in a subsequent section.

## Questionnaire

The basic framework for the data collection in SOEP-IS consists of an integrated core questionnaire founded on basic elements of the household and individual questionnaires of the SOEP-Core. It also includes core questions from the life-history questionnaire for first-time panel members, and three mother-child modules. In contrast to the other SOEP samples, where each questionnaire is separate, the

Figure 3

### Development of the SOEP-IS samples since 2009



SOEP-IS has one questionnaire for each respondent, with an integrated CAPI script. In order to provide a smooth and efficient interview situation, the script automatically routes the target person scheduled to answer in the given wave to all of the question modules.

The SOEP-IS core questionnaire that was used in 2016 included the following modules:

- 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 household matters overall and about household members)
- Core elements of the SOEP individual questionnaire to be completed by each person age 17 and above living in the household
- Core elements of the life-history questionnaire for first-time panel members (new respondents as well as young people born in 1999 who participated in the panel for the first time)
- Three mother-child modules to be completed by:
  - Mothers of children up to 23 months of age (mother-child module A)
  - Mothers of children between 24 and 47 months of age (mother-child module B)
  - Mothers of children older than 48 months of age (mother-child module C)

**Table 35** shows the gross samples and the number of respondents receiving each of the different questionnaire modules.

The rationale behind the integration of household and individual questionnaires into one shorter, core interview is to allow more time for innovative ques-

tion modules and tests. Thus, as already mentioned in the previous section, 15 different innovative modules were integrated into the SOEP-IS questionnaire in 2016 over and above the core elements. To be able to consider as many different ideas as possible, given the limited interview time, the members of the different sub-samples received different sets of innovative modules. **Table 36** illustrates the distribution of the innovation among over the subsamples. In the following section, we describe these modules in varying detail, depending on whether special aspects need to be considered for their implementation in a large-scale, face-to-face representative sample of Germany's population.

### Collective vs. Individual Risk Attitudes

In the experiment, two respondents in a household with a minimum of two persons were randomly selected to join the experiment before the individual interview started. They had to make different decisions in the context of a lottery. These decisions referred to the sums of money a respondent could win.

If for any reason one of the two respondents did not participate, another member of the household, also randomly preselected, was asked to participate. The condition to participate in the lottery experiment was the willingness to also complete the individual questionnaire. The respondents made different decisions in a lottery game. Then, a computer algorithm decided whether they had won and if so, how much. At the end, a random decision by computer determined whether the respondents actually received the respective sum.

Table 35

#### Questionnaires: Completion and response rates SOEP-IS 2016

	Gross sample/ reference value <sup>1</sup>	Interviews	Response/response rate
Individual questionnaire	5,445	4,802	88.2%
Mother and child module: up to 23 month-old children	100	99	99.0%
Mother and child module: between 24 and 47 months-old children	100	100	100.0%
Mother and child module: older than 48 months	773	752	97.3%

<sup>1</sup> The numbers refer to the respective target population in participating households. For the child-related questionnaires, the reference value is the number of children in the respective age group living in participating households. Therefore the response rate for these questionnaires indicates the number of children for whom a questionnaire has been completed by one parent (in most cases by the mother).

Table 36

**Distribution of the innovative modules**

	IE/I1	I2	I3	I4
Collective vs. Individual Risk Attitudes		✓	✓	
Happiness Analyzer Smartphone Application	✓		✓	
Aging in a Changing Society		✓		✓
Informal Care	✓	✓	✓	
Internet Based Psychotherapy	✓	✓	✓	✓
Status Confidence and Status Anxiety	✓	✓		✓
Fiscal Crisis in the EU and European Solidarity			✓	✓
Immigration (MTMM)				✓
Perceived Discrimination	✓			✓
Personal and Economic Relations	✓	✓	✓	✓
Resilient Behavior in the Workplace	✓			✓
Representation of Scientific Information ("Foxes")	✓	✓		
Social Status			✓	✓
Language Skills		✓	✓	
Physical Attractiveness	✓	✓	✓	✓

In general, the experiment contained two conditions. The two participants were randomly assigned to one of the two conditions. In the first condition, the decisions the respondents had made were revealed—so the other participant was aware of the decision before he or she made his or her next decision. In the other condition, the decisions were kept secret.

### Happiness Analyzer Smartphone App

The innovation module “Happiness Analyzer Smartphone Application” is being carried out in cooperation between the SOEP group at the DIW Berlin and the Happiness Research Organisation (HRO) in Düsseldorf. This innovation module was already part of the SOEP-IS in 2015, but within other samples of the SOEP-IS. The HRO is an independent research institute that specializes in the investigation of people’s everyday lives and individual sense of happiness. To conduct such an investigation, they developed an app that allows users to analyze their day-to-day experiences and the influence of these experiences on their well-being, using the Day Reconstruction Method (DRM) and the Experience Sampling Method (ESM). At the end of the interview, all members of samples IE, I1 and I3 who own a smartphone with either IOS or Android operating systems were asked to watch a short video that presented the scientific background and benefits of the Happiness App project, as well as key features of the app itself. Respondents were to complete four short ESM-style questionnaires at random times during

the day, followed by a DRM-style diary at the end of each day for one week. Afterward, they could keep using the app for as long as they wanted and were able to display their activities and mean happiness levels with the application. They were also informed that the data collected by the app would be delivered to DIW Berlin and matched with their answers from the SOEP-IS interviews. If the respondent was interested in downloading the app, the interviewer handed over two consent forms that needed to be signed, as well as the respondent’s personal ID. This ID needed to be entered after downloading the app, to allow for the app data to be merged with SOEP-IS data. In contrast to the previous year, respondents who used the app consistently received an Amazon coupon worth 50 euros. Additionally, the interviewers were told to stay while the interested participants were downloading the app.

### Shorter Modules

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

- **Aging in a Changing Society:** This module is linked to demographic change. The questions address social expectations about aging and retirement provisions, and respondents’ views of older people. The aim of the module is to gain understanding of the psychological factors underlying these perceptions of aging.

- Especially with regard to demographic change in Germany, the module Informal Care is highly relevant as well. This module supplements the questions covered in the survey on people in need of care within a household by adding questions that concern care needs and activities outside the home. The new information facilitates a more comprehensive analysis of caregiving.
- **Internet-Based Psychotherapy:** The main goal of this module is to find out more about acceptance of and attitudes toward Internet-based psychotherapy. Respondents are asked if they are familiar with this new form of therapy and asked to state whether they would make use of it.
- **Status Confidence and Status Anxiety:** The questions in this module help to investigate people's everyday experiences of appreciation and disregard. Respondents are asked to describe situations in which they experienced respect and disrespect in their daily lives. This information may provide insight into reasons for and consequences of such experiences.
- **Fiscal Crisis in the EU and European Solidarity:** This module was already part of the SOEP-IS in 2015. Over the course of the European financial crisis, politicians appealed to the German population to show solidarity by supporting financial aid to indebted countries. The main goal of the module is to find out how willing respondents are to give support to indebted countries, and what types of cost cuts—such as pension reductions or federal employee layoffs—they expect from recipient countries.
- The **Perceived Discrimination** module gives detailed insight into discrimination in Germany, thereby providing information that assists in developing preventive measures and combating discrimination over the long term. If respondents have experienced discrimination, they are asked about the frequency, possible reasons, and the specific areas in which discrimination took place.
- **Personal and Economic Relations** concerns situations in which private, personal ties and economic or work-related ties blend. How these areas merge is investigated by asking questions about the respondent's attitude toward a marriage contract and whether they have one. Respondents are also asked to state whether relationships occur at their workplace and, if so, the number. Furthermore, respondents provide information on how often people talk about sexual matters at work.
- **Resilient Behavior in the Workplace:** With this module, scientists seek to gain insight into factors contributing to stressful working conditions and the psychological well-being of employees. Resilience to stress is measured by statements on difficult situations in the workplace and how one handles these situations. The respondents are asked to use a scale to assess whether the statements and forms of behavior apply to them or not.
- The researchers behind the **Foxes** module are interested in the mechanism of knowledge transfer and how different forms of presenting scientific information influence factual knowledge. To find out more about this mechanism, the respondents are asked about their knowledge of foxes. Since this is imparted differently among generations, the answers from this module can be structured and compared according to the respondents' year of birth. After collecting the status information on how much respondents know about foxes in 2015, the plan is to repeat the module in SOEP-IS 2016 by presenting information about foxes in different forms.
- With the **Social Status** module, the SOEP-IS gathers information on the perceived social status of individuals in their own community. The subjective social status may have effects on a person's health and is therefore highly important to research. Respondents are asked to rate themselves in comparison to their social environment as well as compared to the whole of Germany. This is done on a scale that is visualized as a ladder. Respondents can choose the ladder rung on which they see themselves.
- **Language Skills** can have a positive influence on citizens' and immigrants' income and employment status. With this module, scientists want to investigate this effect more thoroughly. It includes questions about the mother tongue of the respondent as well as other foreign language skills, along with experience abroad. Additionally, respondents are asked about the mother tongue and language skills of their parents. Rare regional dialects are of particular research interest and therefore an important topic in this module.
- **Separating Systematic Measurement Error Components Using MTMM:** Like "Happiness Analyzer Smartphone Application" and "Fiscal Crisis in the EU and European Solidarity," this module is a replication of 2015. By using the Multitrait-Multimethod Matrix (MTMM), this module examines different systematic measurement errors. To do so, respondents are confronted with statements regarding immigration. These statements vary between assigned groups of respondents and are asked at

different points in the interview. Respondents are required to evaluate the statements based on a scale.

- **Physical Attractiveness** is a trait that has a considerable impact on a person's opportunities in life. Scientists hope to find out more about this by including a question at the end of the SOEP-IS: The interviewer was asked to evaluate the attractiveness of his or her respondent.

### Fieldwork Results

Data collection for the main fieldwork wave of the SOEP-IS usually lasts from September until the end of December or the beginning of January, and is followed by an additional fieldwork period at the beginning of the next year. Households are assigned to the second fieldwork wave if they could not be contacted successfully in the main fieldwork wave, if they were unable or unwilling to participate (for example, due to time constraints), or if interviews were missing for individual household members. As is indicated by the figures in **Table 37**, fieldwork for 90 percent of the households that participated in the study was completed by the end of December 2016. In the remaining households, some or all interviews were conducted by February 2017.

**Table 38** presents the composition of the gross and net sample and response rates at the household level. The total gross sample consisted of 3,550 households. This includes previous wave respondents as well as temporary drop-outs from the previous wave, and new households. Overall, 3,049 households took part in the SOEP-IS in 2016: that means that at least one person in the household answered the individual and the household-related questions.

Combining all subsamples, 3,244 households (91.4 percent) of the gross sample were respondents in the previous wave. There were 220 households (6.2 percent) that were temporary drop-outs from the previous wave. The last group, "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 2016, 85 new households were integrated into the gross sample (2.4 percent).

The fieldwork results of 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. Panel stability is calculated as the number of participating households in the current wave divided by the corresponding number from the previous wave. Thus, panel mortality and panel growth (split-off households) and "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 38**, the overall panel stability and response rates for all relevant subgroups are listed.

The panel stability of all samples has increased since the last wave. Among all samples, sample I1/E, which has the longest history in the SOEP-IS, has reached the highest panel stability (2016: 96.5 percent; 2015: 93.3 percent). The panel stability of sample I2, which has had four waves to date, is 94.2 percent (2015: 92.0 percent). Sample I3's panel stability was a bit lower (91.7 percent), but has shown

Table 37

#### Fieldwork progress by month: Processing of household interviews<sup>1</sup>

	2015		2016	
	Gross sample	Net sample	Gross sample	Net sample
September <sup>2</sup>	22.3	23.5	23.8	25.1
October	54.3	59.6	56.3	60.5
November	72.8	80.0	76.2	81.5
December	83.3	90.6	84.7	90
January	91.4	96.1	92.6	96.2
February	98.8	99.9	100.0	100.0
March	100.0	100.0		

<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.

Table 38

## Composition of gross sample and response rates

	Total		Sample I1/E		Sample I2		Sample I3		Sample I4	
	Num.	In %	Num.	In %	Num.	In %	Num.	In %	Num.	In %
<b>(1) Gross sample composition by type of HH</b>	3,550	100.0	1	100.0	773	100.0	915	100.0	766	100.0
Respondents in previous wave	3,245	91.4	1	93.3	710	91.8	840	91.8	672	87.7
Dropouts in previous wave	220	6.2	47	4.3	42	5.4	52	5.7	79	10.3
New households	85	2.4	26	2.4	21	2.7	23	2.5	15	2.0
<b>(2) Net sample composition by type of HH</b>	3,049	100.0	987	100.0	669	100.0	770	100.0	623	100.0
Respondents in previous wave	2,903	95.2	944	95.6	637	95.2	731	94.9	591	94.9
Dropouts in previous wave	92	3.0	25	2.5	18	2.7	25	3.2	24	3.9
New households	54	1.8	18	1.8	14	2.1	14	1.8	8	1.3
<b>(3) Response rates by type of HH<sup>1</sup></b>										
Respondents in previous wave	2,903	89.9	944	92.5	637	90.4	731	87.4	591	88.7
Dropouts in previous wave	92	42.6	25	54.3	18	45.0	25	49.0	24	30.4
New households	54	63.5	18	69.2	14	66.7	14	60.9	8	53.3
<b>(4) Panel stability<sup>2</sup></b>		94.00		96.5		94.2		91.7		92.7
<b>(5) Partial unit non response<sup>3</sup></b>		26.7		25.8		28.7		25.3		27.4

<sup>1</sup> Adjusted by deceased persons and expatriates.

<sup>2</sup> Number of participating households divided by net sample from previous wave.

<sup>3</sup> Share of households (number of household members >1) with at least one missing individual questionnaire.

an increase since 2015 as well (90.4 percent). The procedure of transitioning sample I4 from a cross-sectional to a longitudinal survey was successful, as panel stability was 92.7 percent. This means an increase of 20 percent in comparison to the first year of this sample in 2015 (72.7 percent).

In household surveys, 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 (partial unit non-response). As in the standard SOEP survey, the Innovation Sample tries to target every adult member of the household. The share of multi-person households in which at least one person did not complete the individual interview remained nearly stable (2016: 26.7 percent; 2015: 26.8 percent).

### Collective vs. Individual Risk Attitudes and Happiness Analyzer Smartphone App

The **Collective vs. Individual Risk Attitudes** module was implemented in multi-person households in subsamples I2 and I3. As this experiment involved two participants and, therefore, required each participant's consent to complete the individual questionnaire after the experiment, a certain amount of

non-cooperation was to be expected. From the overall 755 suitable households that took part in the SOEP-IS 2016, 65.8 percent (497 households, or 994 persons) participated in the lottery.

With the **Happiness Analyzer Smartphone App** module, the aim was to ascertain the share of respondents in a representative sample interested in downloading the Happiness Analyzer app when given a 50-euro Amazon voucher for participating. The most important prerequisite for using the app is the availability of a smartphone with Android or IOS operating system. 38.1 percent of the gross sample of 2,762 respondents selected for the module had such a phone available (Table 39). Of the remaining 1,051 respondents presented with the app, 410 signed the consent form and downloaded the app, making the participation rate among the group of people with suitable smartphones 39.0 percent. This equals 14.8 percent of the total gross sample. Common reasons for not wanting to download the app were no interest and time constraints.



Table 39

**Participation rates: Happiness analyzer smartphone app module**

	Num.	In % of gross sample	In % of suitable smartphones available
Gross sample	2,762	100%	
No suitable smartphone available	1,711	61.9%	
<b>Suitable smartphone available</b>	<b>1,051</b>	<b>38.1%</b>	<b>100%</b>
<b>No app download during interview</b>	<b>641</b>	<b>23.2%</b>	<b>61.0%</b>
Not interested/willing	370	13.4%	35.2%
Not enough time/too time-consuming	160	5.8%	15.2%
Never uses apps/other technical objections	38	1.4%	3.6%
Data security/privacy	5	0.2%	0.5%
Not possible due to sickness or language reasons	6	0.2%	0.6%
Other reasons	23	0.8%	2.2%
Interested but no download during interview	39	1.4%	3.7%
<b>Consent form signed and app downloaded while interviewer was present</b>	<b>410</b>	<b>14.8%</b>	<b>39.0%</b>

## The SOEP-IS Refresher Sample (I5)

As already mentioned, the innovation sample was enlarged again in 2016 to include a refresher sample. In the following section, we will report on the sampling procedure and the fieldwork progress. Furthermore, the questionnaire for the SOEP-IS Refresher Sample, which consists of other innovation modules than the continuing samples, will be presented.

### Sampling

The introduction of the refresher sample I5 aimed at further increasing the sample size of SOEP-IS by adding approximately 1,000 newly recruited households to the net sample. Similar to all previous general population samples in SOEP-Core or SOEP-IS (including refresher samples J (2011), K (2012), I2 (2012), I3 (2013) and I4 (2014), sample I5 used a multi-stage stratified sampling design. In the following, the two main stages of sampling will be summarized, covering the most important methodological aspects.

The sampling procedure for the new SOEP household samples makes use of the so-called ADM face-to-face sampling system. However, this sampling system is modified in a way that maximizes the methodological advantages to obtain a best-practice design for a non-registry-based household sample frame. Therefore, we will provide some background

information on the ADM sampling system and its advantages for face-to-face interviews as used for SOEP, before describing the I5 sampling design.

Most importantly, in Germany, no centralized population directory is available that contains the addresses of all private households or individuals. The data, which is collected by the local authorities (Städte, Gemeinden) for the personal registers, are available for surveys that prove to be of “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 the elements for 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>1</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 contains on average 750 private households, the minimum number being 350.

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

In the second step of the ADM sampling procedure, the private households are selected using a street data base from which the “start address” for a random walk is randomly drawn. From this starting point, the interviewer proceeds by selecting/listing every sixth household, following clear rules 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

The sample points, which consist of a total of approximately 53,000 spatial areas, 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. In contrast to the 2014 SOEP-IS refresher sample, double points were used which resulted in 250 points at the end. The aim of using double points was to reach a wider spread of the sample. 125 sample points were drawn with a selection probability proportional to the share of households in the sampling point—with states, administrative districts and the BIK classification system (a settlement structure typology) used as the layers. For each political municipality, one additional

sample point (= double point) was drawn in order to reach the final number of 250 sample points.

**Table 40** and **41** show the distribution of sample points of the gross sample by federal state and community type (BIK), both in absolute and relative numbers. The relative share of sample points is contrasted with the share of private households in the respective layers. In the last two columns of **Tables 40** and **41**, we present the actual share of households in the net sample and the share of all households in Germany. By comparing the information on the net sample composition according to two major regional layers, it is possible to observe the deviations from the “target shares” for the inference populations in the respective regional segments. As the SOEP does not use any kind of quota balance according to which adjustments of the gross sample during the fieldwork period could be justified, deviations from the target figures can only be used within the given gross address sample to increase the efforts in sample points and regions where significant deviations can be observed.

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

In the second stage of the selection process, the households that are supposed to participate in the study are chosen for each sample point. For this

Table 40

#### Distribution of sample points by federal state<sup>1</sup>

Federal state	Number of sample points	Share of sample points (in %)	Share of households in net sample (in %)	Share of all households in Germany (in %) <sup>2</sup>
Schleswig-Holstein	8	3.2	3.5	3.5
Hamburg	6	2.4	2.4	2.4
Lower Saxony	24	9.6	10.6	9.5
Bremen	2	0.8	0.3	0.9
North Rhine-Westphalia	54	21.6	20.9	21.5
Hesse	18	7.2	6.5	7.3
Rhineland Palatinate	14	5.6	6.0	4.7
Saarland	32	12.8	12.8	12.5
Baden-Wuerttemberg	38	15.2	13.1	15.3
Bavaria	2	0.8	2.3	1.2
Berlin	12	4.8	4.3	4.9
Brandenburg	8	3.2	2.9	3.1
Mecklenburg Western Pomerania	6	2.4	4.1	2.1
Saxony	12	4.8	5.7	5.4
Saxony-Anhalt	8	3.2	2.1	2.9
Thuringia	6	2.4	2.6	2.8
<b>Total</b>	<b>250</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

<sup>1</sup> Preliminary results.

<sup>2</sup> Gebietsstand 2015.

Table 41

**Distribution of sample points by community type (BIK)<sup>1</sup>**

BIK-Region	Number of sample points <sup>2</sup>	Share of sample points (in %)	Share of households net sample (in %)	Share of households in Germany (in %) <sup>3</sup>
0 More than 500,000 inhabitants (center)	70	27.8	28.6	28.7
1 More than 500,000 inhabitants (periphery)	25	9.9	10.1	9.2
2 100,000 to 499,999 inhabitants (center)	40	15.9	15.4	16.0
3 100,000 to 499,999 inhabitants (periphery)	36	14.3	13.6	14.0
4 50,000 to 99,999 inhabitants (center)	6	2.4	1.7	2.2
5 50,000 to 99,999 inhabitants (periphery)	18	7.1	6.6	7.5
6 20,000 to 49,999 inhabitants	28	11.1	11.4	10.6
7 5,000 to 19,999 inhabitants	19	7.5	8.6	7.8
8 2,000 to 4,999 inhabitants	7	2.8	2.5	2.3
9 less than 2,000 inhabitants	3	1.2	1.5	1.7
<b>Total</b>	<b>252</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

<sup>1</sup> Preliminary results.

<sup>2</sup> Two sample points are situated in two BIK-Regions, therefore the sum is 252 and not 250 (which is the original number of sample points).

<sup>3</sup> Gebietsstand 2015.

purpose, a special version of the random route technique is employed. Instead of choosing the addresses and conducting the interview at the same time, the selection of addresses is 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 SOEP delivers essential methodological advantages compared to the standard random walk routine:

- The addresses can be checked with regard to plausibility and correctness as they are available before the start of the fieldwork. In other words: there is a precisely defined list of addresses that can be prepared for fieldwork which corresponds with and thus defines the gross sample.
- Kantar Public verifies the routes taken by the interviewers, and also checks and tries to improve the address quality where necessary with maps and secondary data in order to control for selection effects and avoid invalid addresses for the fieldwork.
- The address listing is essential for the fieldwork institute in order to use measures to increase response rates and decrease unit non-response. These measures include an advance information letter along with a study brochure before fieldwork commences. Considering the declining 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 participates 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. This year, three of the household context questions that evaluate the residential area were asked as well during the process of listing the addresses in order to improve address quality. Once a problematic starting address was identified—located, for example, in an industrial area where no interviews could be expected—the starting address was changed within the sample point and the listing procedure started again.

For each of the 250 sample points, the goal was to list 36 addresses on a random walk with a step interval of six, i.e., every sixth household unit on the random walk route was to be listed by an interviewer.

The addresses were issued to the interviewer in two sample releases. In the first release in October 2016, 14 addresses per sample point were randomly selected for fieldwork and were issued to the interviewer. In a second release in February 2017, four additional

Table 42

**Fieldwork progress by month: Processing of household interviews SOEP-IS refresher sample in percent of gross and net sample<sup>1</sup>**

	2016		2017	
	Gross sample	Net sample	Gross sample	Net sample
October <sup>2</sup>	8.4	12.1	23.8	25.1
November	21.8	36.8	56.3	60.5
December	26.9	47.2	76.2	81.5
January	49.6	62.7	84.7	90
February	74.8	83.3	92.6	96.2
March	98.7	99.1	100.0	100.0
April	100.0	100.0		

<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.

Table 43

**Fieldwork results (households)<sup>1</sup>**

	Abs.	In % of gross sample I	In % of gross sample II
Gross sample I (all gross addresses for fieldwork)	4604	100	
Not eligible (QNDs, e.g. business address, address does not exist)	192	4.2	
Gross sample II (processable addresses)	4412	95.8	100.0
Unknown eligibility (unable to reach during fieldwork period)	405	8.8	9.2
Eligible, non-interview	2950	64.1	66.9
Permanently physically or mentally unable / incompetent	102	2.2	2.3
Language problems	69	1.5	1.6
"Soft refusal" (currently not willing / capable)	82	1.8	1.9
Permanent refusals	2697	58.6	61.1
Interview	1057	22.96	24.0
Household completely interviewed (including single households)	779	16.9	17.7
Household partially interviewed	278	6.0	6.3

<sup>1</sup> Preliminary results.

addresses per sample point were given to the interviewer in order to reach the target sample size of 1,000 households (net sample).

**Fieldwork Progress**

Fieldwork in the SOEP-IS refresher sample lasted from October 2016 to early April 2017. Around 50% of households were processed within the first four months. Fieldwork progress over the whole seven-month period is displayed in **Table 42**.

**Fieldwork Indicators (Household Level)**

Survey-based studies currently face the problem of a steadily decreasing motivation of the public to take part in surveys. Thus, participation rates have been declining substantially in the past 20 years. Several initiatives to stop this trend have been launched and these actions initially also seemed to have helped stabilize response rates in the first-wave SOEP surveys. Nevertheless, in refresher samples I<sub>3</sub>, I<sub>4</sub> and I<sub>5</sub>, these measures unfortunately were not able to compensate for the trend of decreasing willingness to participate in survey studies.

It was possible to motivate 1,057 households to take part in SOEP-IS refresher sample I5. The response rate in the adjusted gross sample (4,412 households) equals 24.0%. This is significantly lower than other more recently established samples (e.g., J 2011: 33.1%; K 2012: 34.7%; I2 2012: 34.7%) and fits the trend of decreasing response rates in the “newer” refresher samples I3 2013 (27.1 %) and I4 2014 (26.5%). **Table 43** shows the fieldwork results in detail on a household level.

### Questionnaire

In contrast to the continuing SOEP-IS samples, each respondent in the refresher sample responded to each module. Therefore, compared to the continuing samples, fewer modules were asked in sum in order to guarantee a comparable and above all acceptable interview time.

- **Real Estate:** this module adds to the integrated questions on housing situations in the core questionnaire. Respondents who live as a tenant in an apartment or a house were asked to estimate the development of rent rates in the upcoming years. People who are owners of the house or apartment where they live were asked the same questions but with regard to the purchase price of the dwelling. Respondents were asked whether they thought the rent or purchase prices would increase or decrease in the upcoming years and, depending on their answer, what percentage decrease or increase they expected in the next two years and in the next 30 years.
- The module **Risk** addresses the topic of how tolerant a person is to taking risks. A question on risk tolerance is already included in the core questionnaire where respondents evaluate their risk-taking on a scale. This module adds to that question by proposing different decision scenarios. In each scenario, respondents have to choose between a 50 percent chance of winning 300 euros or certainty of receiving a smaller amount of money. The amount of “safe” money varied from question to question and depended on the answers of the respondents given in the previous question. All in all, respondents were confronted with five different risk scenarios. The information reveals how far people are willing to take risks and at which point a person prefers a safe amount of money over the risk of ending up with no money at all.
- A longer module of the SOEP-IS refresher sample, **Self-Evaluation**, deals with the question of how people evaluate themselves in comparison to others. To address this topic, respondents answer questions on how they judge their knowledge with regard to the topics of “nature” and “mathematics”. In each of the two blocks, respondents are asked a factual knowledge question, and in the next step, they state how well they think they score compared to other people living in Germany. Additionally, the respondents’ real knowledge was tested by an open-ended question. With the topic of nature, respondents had to name as many plant species as possible within 20 seconds. The interviewer records the time and the number of correct species. In the “mathematics” block, respondents were asked to complete a numerical series within 20 seconds. Again, the interviewer records the time and notes the number of correctly mentioned numbers of the numerical series. This way, the module provides information on the actual knowledge respondents have related to their judgement of their knowledge compared to the average among the population.
- A short number of questions incorporated in the SOEP-IS refresher sample revolve around **Data Protection**. Respondents were asked how they handle data protection themselves and how they judged risks of data and privacy protection.
- **Financial Market Expectations:** following the Data Protection module, respondents were asked how they assessed the development of the DAX, the German stock market index comprising the 30 largest listed companies. They stated whether they thought the DAX would make profit or loss in the next twelve months, 24 months, and in the next 30 years.
- The module **Language** gives detailed information on peoples’ dialects. Questions were asked regarding the respondents’ ability to speak a certain dialect, but also with whom they speak this dialect (with their own children, colleagues, or a doctor). Additionally, respondents provided information on whether their parents speak a dialect and also how important this dialect is to the respondent. Moreover, respondents were asked to state the region where they live and about their English skills. In order to be able to evaluate how strong the person’s dialect really is, the interviewer was asked at the beginning of the module to evaluate the respondent’s dialect.
- **Salary:** In this module, questions about the respondents’ salary were formulated depending on whether the respondent works part-time or full-time. The information gives insight into how people judge their salary development in the upcoming years (in one, two, and ten years) assuming they will continue working in their

current position. Moreover, respondents were asked what salary they would expect if they changed their working hours either from full-time to part-time or vice versa. Additionally, respondents were asked to assess the salary of an average employee.

- Knowledge about shares and forms of investment is the topic of the module **Numeracy**. Respondents were also asked about their savings behaviour. After these general questions, respondents had to solve short math problems. There was no time limit for the answers and respondents had enough time to answer. The interviewers were not allowed to let the respondents know whether their answer to a question is right or wrong, since it could influence their answers to the following math problems.
- A short number of questions regarding a person's **willingness to help** were integrated into the SOEP-IS refresher sample. The questions concern the respondents' willingness to donate money, which was measured by a scale. Moreover, respondents stated whether they had made a donation in the past year and if so, how much.
- **Assessment of other people:** This module consists of four thematically different questions asked at different points within the questionnaire. The module aimed to investigate how people assess other households regarding finances, life satisfaction, and risk tolerance. For example, respondents were asked to state what percentage of the German population they think are able to pay their rent without any problems.

## Everyday Experiences in the SOEP Innovation Sample (EE-SOEP-IS): A Multi-Method Study

By Stefan Siebert, Elisabeth S. Blanke, and Annette Brose

### Background

This study examines the development of well-being in adulthood and its relationship to the occurrence of critical life events and stressors in daily life. The study participants are 179 middle-aged adults who were recruited from the SOEP Innovation Sample (SOEP-IS). The study is being conducted as a partnership between DIW Berlin, Kantar Public (formerly TNS Infratest), and the Emmy Noether Independent Junior Research Group (EN Group) "Adaptation to Major Life Events," funded by the Deutsche Forschungsgemeinschaft (DFG) and affiliated with the Humboldt-Universität zu Berlin.

"Critical life events" are challenging, potentially life-changing events such as losing a job, giving birth, and experiencing the death of a partner. These events are, however, normative in that most people are likely to encounter one or more of them throughout their lifetime. Daily stressors are everyday experiences that are less extreme, such as experiencing a high workload, but may also have an impact.

People commonly manage to adapt to critical life events (Bonanno, Westphal & Mancini, 2011). At the same time, these events entail a risk because not all individuals succeed in adapting to them. Some people's levels of well-being may decrease, to the extent that they develop psychological illnesses in response to events (Monroe & Harkness, 2005). Therefore, it is essential to understand the circumstances under which certain individuals are characterized by maladaptive developmental trajectories and others by adaptive ones. The central assumption of this study is that daily stressors play an important role in explaining individual differences in how people adapt to critical life events.



Figure 4

**Study design**

Wave	Wave I		Wave II		Wave III
Phase	T1	T2	T3	T4	T5
Content	Computerized selfreport and cognitive testing	Experience sampling I	Computerized selfreport and cognitive testing	Experience sampling II	Computerized self-report
Duration	2 hours	3 weeks, 6 times per day on 12 days, 4 minutes each	2 hours	3 weeks, 6 times per day on 12 days, 4 minutes each	1 hour
Period	February–July 2016	February–July 2016	February–May 2017	February–May 2017	February–May 2018

As a result, this study investigates whether or not individuals' histories of critical life events affect how they handle stressors in daily life. Moreover, it investigates the role of stress regulation and its prerequisites (in particular, cognitive control as an underlying mechanism that allows people to control thoughts and behavior), and how both relate to well-being.

Working with participants from the SOEP-IS is a unique opportunity for this project because each yearly wave of the panel obtains information on critical life events (Richter & Schupp, 2015). In turn, the current study provides a lens through which we can gain insights into the micro-level experiences and behavior (e.g., daily stressors and daily stress regulation) of the participants in the SOEP-IS.

## Everyday Experiences in the SOEP-IS: Overview and Wave 1

The study is a multi-method longitudinal study (Figure 4) parallel to the ongoing yearly interviews of the SOEP-IS. It consists of two waves of in-depth psychological assessments of well-being, cognitive control, and critical life events, and two waves of experience sampling (i.e., the assessment of thoughts and behavior in real time and in the daily lives of study participants; Bolger, Davis & Rafaeli, 2003). Wave 3 will follow up on the well-being information for a third time. The Wave I and Wave II assessments take place in participants' homes.

The main reason for working with participants in the SOEP-IS is the opportunity to link the longitudinal information on critical life events obtained from the SOEP-IS data to micro-level experiences in daily life and to information on psychological constructs such as cognitive control and resilience. Each year, the

SOEP-IS participants provide information on critical life events directly (e.g., reports on illnesses) and indirectly (annual reports on income—and a drastic change in income can be viewed as a critical life event). The resulting history of life events has one key advantage over retrospective reports of the lifetime occurrence of events: it is not subject to strong memory bias. The micro-level information collected as part of the daily lives of participants also provides ecologically valid windows on the within-person dynamics of how individuals behave and feel. Such information is highly valuable because it may reveal the psychological mechanisms that explain why some individuals more successfully adapt to critical life events than others (e.g., because they are able to distance themselves from daily stressors). Additional advantages of the study design are the option of linking macro-level socio-economic information and psychological insights more generally and the ability to work with a much more representative sample than is common in psychological studies, which of course makes this study's results more generalizable in comparison to many other studies.

## Methods

Our target sample was 180 participants in the first wave of data collection (T1 and T2), and we almost achieved it ( $N = 179$ , 52.5% female). The participants ranged in age from 39 to 61 years. They were chosen from the SOEP-IS based on the following criteria: within the relevant age range, at least two waves of participation in the SOEP-IS, active participation in the SOEP-IS in 2014, and place of residence not more than 60 kilometers away from a German railway station with ICE connections. In addition, we aimed at a balance among individuals with differing past exposure to critical life events.

## Study Procedures: Particular Challenges When Linking Macro- and Micro-level Research

The EN Group collected the data in this study, which is a novelty in the history of the SOEP-IS because Kantar Public usually collects the SOEP-IS data. To handle the formalities of data collection, the EN Group, Kantar Public, and the SOEP at DIW Berlin formed a partnership. To obtain the confidence of the target participants from the SOEP-IS, the first contact was established by the Kantar Public interviewer, with whom they were familiar from the regular SOEP-IS data collection. With the consent of the participants, the contact details were transferred to the EN Group. All the procedural details and contents of the agreed upon by the data collection were three institutions and the data protection experts of the three institutions approved all the data protection aspects.

Collecting data for a nationally representative survey covering all of Germany also presents a novelty in psychological research. Its key challenges are (a) the recruitment and training of experienced interviewers who agree to travel long distances and collect data in participants' home environments, and (b) travel organization. We recruited interviewers with training in the social sciences. They had experience with psychological data collection and at least some experience in working with people of various backgrounds, including some affinity with the latter, and were experienced and enthusiastic travelers. The interviewer training sessions took place over several days. They were familiarized with the study's goals and with the SOEP-IS itself as a means of pointing out the broader context of the data collection activity and their responsibilities to multiple studies and institutions. Each aspect of data collection was explained in detail and we used role-playing to establish interviewer expertise. One of the heads of the study was responsible for organizing the travel. He made appointments with the participants and recommended itineraries to the interviewers, including hotels in case they had to remain in a city or region overnight. The interviewers were prepared for having to switch trains and use different means of transportation, and possibly missing some connections and finding alternatives.

One of the study's main challenges has been to aim for standardized testing in environments that are anything but standardized. Anecdotal evidence suggests that the interviewers are exposed to highly individual ways and conditions of living and varying motivations for participating in the study. To provide a glimpse into the variety of situations the interview-

ers encountered: Some were invited for lunch and/or coffee, were introduced to family members, were offered rides to train stations, or felt like in efficient business meetings because of time constraints on the side of the participants. It was highly challenging to keep the procedures standardized across visits, and the interviewers had to be well prepared for this challenge. An additional study would be required to find out the (significance of) potential effects of this form of psychological assessment. Needless to say, this downside is more than compensated for by the fact that we are able to work with a very diverse sample that is not common in psychological studies.

## Multi-Method Psychological Assessment

Multiple methods are used to collect the data in this study. Most importantly, the study contains two waves of experience sampling in which people report on the daily stressors, emotions, stress regulation, and momentary activities in their daily lives. During each wave, participants are prompted six times a day on 12 days distributed over three weeks, and they are asked to answer standardized questions. The large number of prompts allows each individual to be treated as a single study when the data are analyzed.

The three waves also contain computerized self-report measures of more stable personal attributes (e.g., resilience, well-being) and computerized tasks that measure cognitive control (working memory tasks). Wave II includes a standardized interview in which participants are asked to recall the lifetime occurrence of critical life events, including their subjective evaluation of impairment by and recovery from the events.

## First Results

### Participation Rate

As mentioned above, the target sample size was 180 participants and the final sample size at Wave 1 was 179. Kantar Public established the initial contact with 1,108 participants from the SOEP-IS (in tranches, to avoid over-recruitment) to arrive at this sample size. The participation rate with reference to the SOEP-IS sample was therefore 16%.

Table 44

**Socio-demographic characteristics of the sample (as provided in 2013<sup>1</sup>)**

	M	SD
Weekly working hours	36	15.3
Gross income	€ 2,562	€ 2,144
Net income	€ 1,711	€ 1,308
Years of education	12.6	2.4

<sup>1</sup> The year 2013 was chosen for comparisons because a personality questionnaire was administered in the SOEP-IS this year.

### Study Evaluation

At the end of Wave I, we asked the study participants to evaluate the study and their participation up to that point in time. The overall evaluation of study participation was “good” on average: the 5-point scale had the categories “very bad”, “bad”, “neutral”, “good”, “very good”. Based on the open-end questions, it became clear that most participants were very satisfied with our interviewers’ visits, but considered the experience sampling phase quite intrusive. Apparently they felt obliged to answer each prompt and not free to choose between answering or not answering as appropriate in that particular moment. They also complained about the monotony of the questionnaire. Wave II was adjusted slightly to remedy these perceived deficits. In particular, the interviewers now emphasize that the participants are free to decide when to respond to a prompt. We also explain that from a methodological point of view, using standardized questionnaires is unavoidable. Finally, we raised the incentives for the experience sampling phase.

### Socio-Demographic Characteristics of the Sample

**Table 44** provides information on the socio-demographic background of the sample. Comparisons to SOEP-IS participants in the same age range and with a comparable gender distribution revealed only small differences in the indicators of socio-economic status. In particular, this study’s sample did not differ from the SOEP-IS in terms of years of education and gross income. However, the employment status of this study’s participants was marginally more often “unemployed” and less often “in full-time job” (with both  $p$ -values = .05).

The differences between the two samples were more significant when psychosocial variables were considered. The participants in this study were less satisfied with their health and life in general. They also rated themselves as more impulsive and open to new

experiences than other participants in the SOEP-IS. The two samples evaluated their contacts with relatives and friends similarly and did not differ on any dimensions of personality other than openness.

### Subsequent Steps: Wave 2 and 3

Wave II of data collection is currently in progress. To date (February 13, 2017), 83% of the participants from Wave I ( $n = 141$ ) agreed to remain in the study and they will be visited again in the coming months. Data collection in Wave III will encompass fewer variables than data collection in the other waves. It will only consist of self-reported measures of the central constructs of this study. The interviewers will not visit the participants again, but instead assist them in responding to the questionnaires by telephone.

As a preliminary synopsis, we can state that the effort of data collection is certainly disproportionate to (a) data collection in other psychological studies that often work with convenience samples and (b) data collection in panel studies that are designed as representative samples. However, we consider this study and its design to be innovative and promising from both the psychological and sociological perspectives. Setting up the practicalities of the study required great effort, but it was rewarding in that all sides experienced the cooperation between the three institutions as an asset. Furthermore, a large percentage of the participants are not only willing to continue participating but also look forward to our interviewers’ visits. The scientific results of this study will determine the overall value of our endeavor.

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# SOEP-Related Study: BRISE

By Hannes Kröger

## Overview

The Bremen initiative for reinforcing early childhood development (Bremer Initiative zur Stärkung frühkindlicher Entwicklung, BRISE) is a long-term study that examines the systematic effects of early childhood care and education.

BRISE will monitor around 1,000 mothers from Bremen who are expecting a child between spring 2017 and the end of 2018, along with their families. One-quarter of the mothers will be selected to participate in an intervention in the form of a chain of measures (*Maßnahmekette*) linking the programs on early childhood and pre-school care and education that are integrated into everyday life and already generally available in Bremen in families and daycare centers. The monitoring begins at pregnancy and ends at the time the child starts school: it is fine-tuned according to the child's respective development stage. Children and their families who take advantage of the care and education programs in the city of Bremen at their own discretion are used as the control group.

Over a period of up to two years, approximately 1,000 socially and culturally disadvantaged families living in various neighborhoods of Bremen will be integrated into the sample as BRISE families. A series of indicators was used to determine whether or not a family is disadvantaged: low education level, cramped housing, psychological problems, prison terms, early (underage) parenthood, single parenthood, chronic impairment, migration background, etc. The intervention will be implemented for all the participating families in ten Bremen neighborhoods, while the

remaining neighborhoods will function as the control group. The neighborhoods are as comparable as possible with regard to social structure and demography. The intervention is being allocated on the basis of neighborhood to ensure that the infrastructure required for the chain of measures is actually available and achievable for all of the participating families that will be taking advantage of it.

BRISE will fill a key gap in the research on early childhood development, particularly in Germany. The study will evaluate the cumulative effects of several successive interventions on the cognitive, social, and emotional development of children. The measures in the intervention are not new nor were they specially developed for the study; they are already available in Bremen. This ensures that they can be realistically implemented and, therefore, that the results of BRISE could serve as guidelines for future care and education programs. Above and beyond the observation period ending the day the children start school, the BRISE study will work with the hypothesis that a broad range of important milestones in the biographies of the children in the study—including completing school (higher probability of successfully completing school), professional careers (greater likelihood of successfully entering the job market), and family structures (higher quality of relationships, higher probability of lasting relationships)—can be positively influenced by systematically monitoring the children through the chain of measures in BRISE. In order to verify the hypothesis, the BRISE cohorts will be added to SOEP as a long-term, additional sample.

## The BRISE Consortium

With initial funding from the Federal Ministry of Education and Research (Bundesministerium für Bildung und Forschung, BMBF) for four years, the BRISE research project will examine the cumulative effects that a coordinated care and education program has on the cognitive, social, and emotional development of children. The program planning includes a second four-year funding phase. A consortium of seven institutions will carry out the project. In addition to DIW Berlin, the Leibniz Institute for Science and Mathematics Education at the University of Kiel (IPN), the University of Bremen, the University of Bamberg, the Leibniz Institute for Educational Trajectories (LifBi), Freie Universität Berlin, and Heidelberg University are consortium members.

IPN will assume responsibility for most of the scientific coordination and the field study will be conducted in Bremen. The Max Planck Institute for Human Development is supporting the research infrastructure development (BabyLab) in Bremen. The coordinating partners will place their scientific focus on professionalizing the pedagogical staff and domain-specific processes in the fields of mathematics and the natural sciences, i.e., on issues of developmental psychology and developmental psychopathology. The Education and Family Department at DIW Berlin will conduct a cost-effectiveness analysis of the measures, and DIW Berlin will be responsible for dovetailing BRISE and the Socio-Economic Panel (SOEP). To accomplish this, the innovative means used to collect SOEP data are to be applied at the study center in Bremen. The University of Bamberg and LifBi, both consortium members, will oversee the effort to dovetail BRISE with the Leibniz Institute's National Educational Panel Study (NEPS). Comparative analyses will be conducted with both panel studies. Consortium member Heidelberg University will run milestone-oriented early childhood develop-

ment diagnostics. And Freie Universität Berlin will focus on the interaction quality in families and day-care centers. Through the connection with SOEP and NEPS, BRISE will be able to rely on additional, high-quality comparative data and to answer the question of whether the Bremen findings are transferable and statistically representative.

## Data Collection Timetable

The first survey will be conducted during the third trimester of the mothers' pregnancy. Next, the mothers and their households will be surveyed in a manner compatible with the SOEP questionnaires. Early childhood development based on MONDEY programs (Milestones of Normal Development in Early Years) will also be documented, with data collection updates at regular intervals until the children are three years old. Based on existing tools used by NEPS, data on parent-child interaction, habituation paradigms, and the children's behavior with respect to cognitive-sensorimotor, motor, and expressive-language-related abilities will be collected when the children are approximately seven months old. NEPS will also collect data on specific items in these areas adjusted to the development stage at later points in time in order to map the children's courses of development in detail. The parents will also be requested to supply information on their attitudes toward and use of childcare programs. The data collection will also be supplemented by information from the "mother pass"—issued by attending physicians to expectant mothers between the 10th and 12th weeks of pregnancy—and medical examination record.

The SOEP survey will also be repeated in the form of the mother-child surveys that are applied in the SOEP-Core data for newborn babies, children between two and three, and again between five and six.

For more details, visit the BRISE website: <http://www.brise-bremen.de> (in German only).



# The SOEP Metadata Documentation System: [paneldata.org](http://paneldata.org)

By Marcel Hebing and Jan Goebel



## The History of SOEPinfo, DDI on Rails, and our Latest Service [paneldata.org](http://paneldata.org)

In order to provide comprehensive—as well as user-friendly—documentation of the increased diversity within the family of SOEP studies over these last several years, we have been working to develop a new documentation and metadata portal. “User-friendly data” are data that can be easily understood by users and analyzed for a variety of research themes. This requires a clear description of the data and easy access to comprehensible documentation. When the SOEP released its first longitudinal dataset in the mid-1980s, the documentation on questions that had been asked previously and the underlying variables could still be provided in the form of simple tables created using a word processing program. By the late 1980s, these tables had grown so large that they had to be transferred into the then-widely-used database management system, dBASE.

As the complexity continued to increase with each additional wave of data, it became necessary to switch from simple tables to a documentation system called

SOEPinfo. By the end of the 1990s, this documentation system was ported to a web-based program by the SOEP’s IT specialist, Ingo Sieber. It allows our user community a simple and practical point of entry to a SOEP data structure that is becoming more complex with each successive wave. By means of a web-based basket and a script generator that can be used in most common statistical software packages with the SOEP data, even first-time users are able to conduct their own independent, longitudinal SOEP analyses with confidence after an introductory workshop of just a few hours.

While the first version of SOEPinfo was completely tailored to the data format of the SOEP, the data reality at the SOEP Research Data Center has changed since then. We now offer SOEPlong, which uses the new computing capacities, and translates the SOEP data from their usual cross-sectional format into the clearer, longitudinal format. There are also additional studies like the SOEP Innovation Sample and related studies like BASE II. The successor to SOEPinfo therefore had to similarly combine in-depth documentation to the old SOEPinfo with the abstraction of a model that can be applied to a variety of panel studies.



In 2013, we started to develop a new software system, which is intended as a study-independent documentation tool for panel data: DDI on Rails (<http://www.ddionrails.org>). The first version of the software was developed by Marcel Hebing as part of his doctoral thesis on metadata-driven infrastructures for panel studies. The three main goals for the design of the new metadata system were (1) to create an open-source software that would allow our solution to be applied by other longitudinal studies, (2) to adhere to a metadata standard like DDI, to ensure the possibility of integration into other retrieval systems, and (3) to maintain the full functionality of SOEPinfo.

Our vision is that DDI on Rails will accompany researchers throughout the entire course of their research projects, from conception to publication. The system offers researchers the possibility to explore the SOEP data and to compile personalized datasets by using the script generator, and it reflects the specific features of longitudinal studies. Even the SOEPLIT database of SOEP-based publications is integrated into DDI on Rails.

The current version of DDI on Rails can link generated variables back to the original variables and even the underlying questions. It is used to provide comprehensive documentation of our new SOEPLong data, which include references to the original SOEP-Core variables. Beside the pure links for variables over time, DDI on Rails provides more sophisticated views of changes over time. These views are available on the variable level (where the value labels are compared), and on the question level (where changes in the texts are identified and highlighted).

The software DDI on Rails is used to provide an open service for the documentation of panel data on the domain [paneldata.org](https://paneldata.org). By the end of 2016, [paneldata.org](https://paneldata.org) will host our SOEP-Core study and its long version SOEPLong, our innovation sample SOEP-IS, and SOEP-related studies like BASE II. Furthermore, Pairfam has joined in to document their data on [paneldata.org](https://paneldata.org). The integrated search interface allows exploration of multiple studies at the same time. And we plan to provide additional functionality to compare and use multiple studies for analysis purposes.

DDI on Rails is independent of any specific study and was developed as open-source software. In the future, the documentation will also include different versions (releases) of the data and will reflect the specific features of longitudinal studies. We invite other longitudinal studies to document their data using this product. The SOEP team aims at providing this metadata portal solution to other longitudinal stu-

dies as a special service of the SOEP infrastructure. Furthermore, we provide a hosted service for the documentation of panel data, which is open for external panel studies.

## The Current Status: Basket and Script Generator Now Available for SOEP-Core v32 as a Beta Version

The data documentation systems presently available to support the use of our current SOEP data are being restructured from the ground up. They are thus not optimal at the moment and unfortunately not as far along as they should be according to the plan developed approximately one year ago. We would like to take this opportunity to apologize for the delay. However, dear users, we now see the “light at the end of the tunnel” and are optimistic that the majority of the restructuring measures will be completed in 2017.

The successor to the tried and tested SOEPinfo system, DDI on Rails, developed by Marcel Hebing, has been available at <https://paneldata.org> for some time now. The new metadata system provides documentation, item correspondence and the basket and its script generator not only for our SOEP-Core study. It also does so for our innovation panel (SOEP-IS) and a series of other panel studies, some of which are displayed in a view that facilitates comparison above and beyond the studies.

In such a documentation system that documents and links several studies with each other, user-friendly updating tools for quickly adding new survey waves have become increasingly important. We decided to thoroughly restructure the underlying software tools, now in the Python programming language. This will make the interfaces for importing and exporting much more user-friendly and simpler to use in the future. And with the new search options based on Elasticsearch with “faster” algorithms, we can expect shorter response times. The development work for our new SOEPinfo 2.0 is almost complete and has been online available in a beta version. Interested users are invited to create their user account on <https://paneldata.org> to try out the basket and script generator for the current version (32) of the SOEP-Core data.

We welcome your feedback. The easiest way is to send an email to Marcel Hebing ([mhebing@diw.de](mailto:mhebing@diw.de)).

Figure 5

Screenshot of <https://paneldata.org>

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# SOEP Questionnaire Individual 2010

Question 100   Question 200 »

**Wie zufrieden sind Sie gegenwärtig mit den folgenden Bereichen Ihres Lebens? Wie zufrieden sind Sie ...**

Bitte kreuzen Sie für jeden Bereich auf der Skala einen Wert an: Wenn Sie ganz und gar unzufrieden sind, den Wert "0", wenn Sie ganz und gar zufrieden sind, den Wert "10". Wenn Sie teils zufrieden/teils unzufrieden sind, einen Wert dazwischen.

	ganz und gar unzufrieden 0	1	2	3	4	5	6	7	8	9	10	ganz und gar zufrieden 10
mit Ihrer Gesundheit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
mit Ihrem Schlaf?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(falls Sie erwerbstätig sind) mit Ihrer Arbeit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(falls Sie im Haushalt tätig sind) mit Ihrer Tätigkeit im Haushalt?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
mit dem Einkommen Ihres Haushalts?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
mit Ihrem persönlichen Einkommen?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
mit Ihrer Wohnung?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
mit Ihrer Freizeit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**Basic Info**

**Study:**  
SOEP Core study

**Questionnaire:**  
Individual 2010

**Question:**  
100

**Scale:**  
txt

**Number:**  
100

→ Go to questionnaire

🔍 Related questions 15

🔍 Resulting variables 11

🔍 String representation

# Report from the SOEP Research Data Center

By Jan Goebel

## Overview of Last Year

In 2016, the range of datasets the SOEP provides to our user community has continued to grow. The SOEP is no longer merely one longitudinal study, but a constellation of different studies with the SOEP-Core at its center.

Of course, the most important addition to our user services in 2016 was the release of Version 32 of the SOEP-Core data (1984–2015, 10.5684/soep.v32) and the integration of the new IAB-SOEP Migration Sample. Along with this “classic” data distribution, we also distributed the data from the release of the SOEP Innovation Sample (10.5684/soep.is.2014, see pp. 55 for more on the SOEP-IS). An important addition to SOEP-Core in 2015 was the second IAB-SOEP Migration Sample, a special immigrant boost sample that we released in cooperation with the IAB. With our Version 32 data release, the first wave of this new sample will be available.

The increasing diversity and growing range of data products provided by the SOEP Research Data Center underscore the importance of the new system we have been developing as a follow-up to SOEPinfo. The new system now not only contains virtually all the functions of the old SOEPinfo, but can also show relationships between the individual studies. We plan to continue expanding the possibilities of the new documentation service, [paneldata.org](http://paneldata.org), for documenting various surveys and the links between them in one overarching system. For detailed information, see pp. 71.

Due to the different demands of different datasets, depending on their size and the depth of the data, we offer different forms of data access. First, data are distributed as standard scientific-use files via secure download connections (using the encryption program Cryptshare, and providing users with individual passwords for downloading). Second, for the “sensitive” regional data, which are subject to strict data protection regulations, users can obtain access through our remote execution system SOEPremote (based on the LISSY System of the Luxembourg Income Study), which has been available for years now, or as part of a guest research visit to the SOEP.

Real remote access is available from the Data Service Center for Business and Organizational Data (DSZ-BO) in Bielefeld, with a server on the DIW Berlin Intranet. This allows researchers at a specially-protected terminal in Bielefeld to access regional data connected with the SOEP and to access data from SOEP-LEE. For the use of the highly-sensitive geocoded coordinates of the survey households, a specialized mode of data access was designed. This service is provided on specific computers on site at DIW Berlin, where researchers can work with the data via a secure connection with a special server. The SOEP Research Data Center is the only one in Germany that allows its scientific users to use a longitudinal survey in connection with the coordinates of the survey households. This use is only possible, however, under adherence to extremely high technical and organizational standards. Researchers are not allowed to use the coordinates and the survey data simultaneously. This prevents researchers from determining where an individual household is actually located. Data transfers to or from this server have to be made and overseen by employees of the Data Research Center.<sup>1</sup>

<sup>1</sup> See: Goebel, Jan, and Bernd Pauer, “Datenschutzkonzept zur Nutzung von SOEPgeo im Forschungsdatenzentrum SOEP am DIW Berlin,” *Zeitschrift für amtliche Statistik Berlin-Brandenburg* 8 (3).

## New in the SOEP.v32 data

### New Migrant Subsample (M2)

In 2013, we surveyed the first IAB-SOEP Migration Sample in partnership with the Institute for Employment Research (IAB) in Nuremberg (for an overview of M1, see SOEP Survey Paper 216). The households from the second IAB-SOEP Migration Sample surveyed in 2015 are now also included in the SOEP data. The target population of the second IAB-SOEP Migration Sample consists of immigrants to Germany who have arrived between 2010 and 2013. Migrants from the new EU member states in Eastern Europe dominate this group. This focus will make it possible to better describe the dynamic recent evolution of immigration to Germany. The sample M2 consists of 1,096 households, and was, like sample M1, drawn from register data from the Federal Employment Agency.

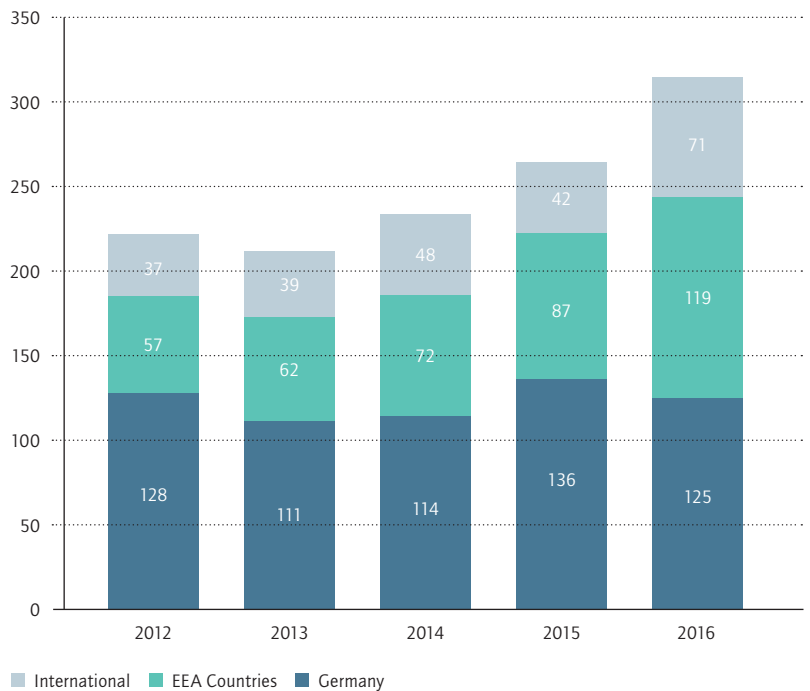
### Record Linkage

The data from both samples can be linked with administrative employment and income data: survey respondents are asked to provide explicit consent to record linkage. But since this linked dataset contains social data, these weekly anonymized data are only accessible on site at the Research Data Center of the German Federal Employment Agency at the IAB (FDZ IAB). Researchers can access FDZ IAB data through a guest visit to the IAB or through remote data processing, also arranged with the IAB. The linked data is now available to external researchers. Requests for data access should be directed to FDZ IAB, since a contract with IAB for data use is required.

A detailed description of further changes and additions to the data in version 32 is available online at <http://www.diw.de/soepdatachanges>.

Figure 6

### New data distribution contracts



### Data Usage

The SOEP Research Data Center (SOEP-RDC), which is accredited by the German Data Forum (RatSWD), provides access to anonymous microdata for the international research community, thereby fulfilling our task as an independent, non-partisan research infrastructure.

Since the SOEP data can only be used for scientific research purposes, a data use contract with the DIW is mandatory to obtain any of the data no matter whether they are going to be used within or outside Germany. The SOEP Hotline ([soepmail@diw.de](mailto:soepmail@diw.de)) provides assistance in applying for data use. All the necessary forms are also available on our website (most importantly, the form to apply for a data distribution contract). See: <http://www.diw.de/soepforms>.

Figure 6 presents an annual overview of the number of data distribution contracts signed since 2012. In 2016, we signed a record number of more than 300 contracts with external users.

Usually there is more than one individual data user behind a given contract number—often an entire research team at the respective institute. The breakdown for 2016 in **Table 45**, shows that more than 1,000 individual researchers were given access to the SOEP data that year.

### Remote Execution (SOEPremote)

The SOEP offers not only the opportunity to use regional data on site at the SOEP Data Research Center (80 researchers in 2016), but also that of controlled remote execution (at least at the level of the district-level indicators). Using the thoroughly tested LISSY software of the Luxembourg Income Study, Stata syntax jobs are run and tested at the SOEP-RDC. Users can send the Stata syntax by e-mail to the SOEP-RDC, which automatically checks the data for

Table 45

#### New contracts in 2016

Region	Contracts	Researchers
Germany	125	755
EU/EEA	119	162
International	71	116
Total	315	1,033

authorization and for unauthorized commands and runs the job. If all automatic checks are passed, the output file is sent out immediately. If not, a SOEP-RDC staff member checks the output by hand. **Table 46** shows that around 50 to 80 users are active every year. These users produce several thousand syntax jobs per year, counting only those with a processing time of over five seconds.

Table 46

#### SOEPremote use by year

	2012	2013	2014	2015	2016
Unique users	55	54	65	69	83
Number of jobs > 5 sec.	4,219	6,170	5,815	8,237	8,305
Number of jobs (total)	9,434	10,036	10,407	13,337	12,497

## PART 3

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# A Selection of SOEP-Based *DIW Economic Bulletins*

2016





**Source:**

DIW Economic Bulletin  
1+2/2016

Vol 6, pp. 3-8  
January 14, 2016  
ISSN 0012-1304

[http://www.diw.de/econbull\\_en](http://www.diw.de/econbull_en)

# Development of Top Incomes in Germany since 2001

By Charlotte Bartels and Carsten Schröder

What share of total income in Germany is owned by the country's top income earners and how has this share developed over the past decade? Answers to these questions can be found both in representative survey data such as the Longitudinal Socio-Economic Panel (SOEP) study and in administrative data on income taxation. After the statistics have been harmonized accordingly, it becomes clear there remain systematic differences for the top one percent's incomes – both in terms of the level of measured income concentration and in terms of changes over time. However, the two sets of data are very similar for the top ten percent excluding the top one percent as far as both level and trend of income shares are concerned.

In order to explain the recent history of inequality in Germany, we first need to answer several questions that deal with aspects crucial for the measurement of inequality: a) Should income be measured on the individual or household level? b) Should inequality be measured within the German population as a whole or only within a subgroup (taxpayers, for instance)? c) On which income concept (for example, gross or net) should the analysis be based? Then the empirical implementation can begin. In Germany, the empirical analysis can be based on both scientific survey data and administrative data from the tax authorities. A recent discussion suggests that the choice of data base will affect the development of the income share of the top income group.<sup>1</sup>

The following analysis describes income concentration in Germany using survey data from the SOEP study and income tax data. In the empirical implementation, we have chosen, for both sets of data, a uniform approach to the key questions raised above (congruence principle). This makes it possible to isolate the effect of the choice of data basis on the measured concentration of income.

Specifically, concentration indicators, for both sets of data, are based on taxable gross incomes of tax units, that is, both joint and individual assessments.

Our analysis focuses on top income recipients, i. e., a societal group with a potentially significant political and social influence. The fundamental question is, of course, to what extent the income share of the top one percent or the top ten percent is a measure of inequality in so-

<sup>1</sup> M. Drechsel-Grau, A. Peichl, and K. D. Schmid, "Einkommensverteilung und gesamtwirtschaftliche Entwicklung in Deutschland Spitzeneinkommen – ein Missing-Link," *Wirtschaftsdienst* 10 (1-5) (2015) use the German Federal Statistical Office's Taxpayer-Panel and the SOEP for an up-to-date inequality analysis. They found systematic differences in the time patterns. However, their study did not implement aforementioned aspects in a uniform manner.

## Box 1

**Definition of tax units and income concept**

The concentration of income is measured at the level of tax units. That is, in the SOEP data, one household with a married couple is treated as one unit and one household with an unmarried couple as two units. The income concept used in the income tax statistics is total income (Section 2 of the German Income Tax Act (*Einkommensteuergesetz, EStG*)), which is composed of the sum of the seven income categories (agriculture and forestry, business, self-employment, employment, capital income, renting and leasing, other), plus tax-relevant capital gains less income type-specific income-related expenses, savings allowances, and

losses. Old-age lump-sum allowance and exemptions for single parents are deducted. Since large tax-deductible amounts, such as special expenses for social security contributions, are not deducted, the total amount of income for most tax households is considerably higher than the actual taxable income to which the tax rate is applied. The total amount of income tax is modeled in the SOEP data by deducting the allowances from the gross income of the tax unit and only adding the taxable share of the pension income. It should be noted, however, that income from self-employment, for instance, is recorded differently in both sets of data and therefore the total amount of income can only be approximately simulated in the SOEP data.

ciety as a whole<sup>2</sup> and its welfare development,<sup>3</sup> or rather an indicator of the concentration of a country's economic power.<sup>4</sup>

**Harmonizing data sources for comparable results**

In order to generate comparable concentration measures from the income tax and SOEP<sup>5</sup> data, definitions of the observation unit and income concept must first be harmonized according to the congruence principle. Con-

structing households (and the people living in them) from tax units in the income tax data is impossible due to lack of the necessary information, so we constructed tax units from households in the SOEP.

The tax units in the SOEP data can be determined using information captured about marital status and household members' relationships to each other. Then, the gross household income observed in the SOEP study is divided between the tax units in the household, tax-exempt income is taken into account, and tax allowances deducted to obtain total income as defined by tax law (see Box 1).

We have used the total amount of gross income in a tax unit as the harmonized income concept in both datasets (see Box 1). We have also adjusted the income tax data in order to obtain a harmonized income concept over time, despite the introduction of the half-income assessment method and the flat rate withholding tax (see Box 2).

After harmonization, the concentration of income for the tax units can now be examined over time using the two sets of data. A comparison of dataset-specific findings allows us to assess the effect of the selected data on the measured concentration of income. Specifically, we examined the period from 2001 to 2011.

**Snapshot for 2007**

Figure 1 shows the different percentiles of top earners in 2007 (top ten percent of the income distribution) and the corresponding income limits based on SOEP and income tax data. Up to the 96-percent percentile, income levels are higher according to the SOEP than according

<sup>2</sup> Inequality measurements such as the Gini coefficient and top incomes often evolve similarly over time, but are not completely congruent. See A. Leigh, "How closely do top income shares track other measures of inequality?," *Economic Journal* 117, nos. F619-F633 (2007) and J. Roine and D. Waldenström, "Long run trends in the distribution of income and wealth," in *Handbook in Income Distribution*, vol. 2, eds. A. B. Atkinson and F. Bourguignon (Amsterdam: North Holland, 2014).

<sup>3</sup> See also criticism in the latest annual report by the Council of Economic Experts on overall economic development, *Zukunftsfähigkeit in den Mittelpunkt. Jahrgutachten 2015/16* (Stuttgart: Metzler-Poeschel, 2015), 482.

<sup>4</sup> To calculate an inequality measure such as the Gini coefficient solely using income tax data makes little sense as the lower incomes of pensioners and low-earners are not fully included, if at all. To allow statements about a society's inequality of wealth distribution to be made, tax data should be completed with data about the lower end of the distribution. Examples here include S. Bach, G. Corneo, and V. Steiner, "From Bottom to Top: The Entire Income Distribution in Germany, 1992–2003," *Review of Income and Wealth* 55 (2) (2009): 331–359 as well as "Effective Taxation of Top Incomes in Germany," *German Economic Review* 14 (2) (2013): 115–137 and F. Alvaredo, "A note on the relationship between top income shares and the Gini coefficient," *Economics Letters* 110 (2011): 274–77.

<sup>5</sup> The SOEP is a representative longitudinal study of households conducted every year since 1984 in West Germany and since 1990 in eastern and western Germany by DIW Berlin in cooperation with the survey institute TNS Infratest Sozialforschung, see G. G. Wagner, J. Göbel, P. Krause, R. Pischner, and I. Sieber, "Das Sozio-oekonomische Panel (SOEP) "Das Sozio-oekonomische Panel (SOEP): Multidisziplinäres Haushaltspanel und Kohortenstudie für Deutschland — Eine Einführung (für neue Datennutzer) mit einem Ausblick (für erfahrene Anwender)," *ASA Wirtschafts- und Sozialstatistisches Archiv* 2 (4) (2008): 301–328.

## Box 2

**Need for correction of administrative data in case of a reform**

Both representative survey data and administrative data have potential advantages and weaknesses. Survey data record comprehensive characteristics in the household context which allow a detailed description of inequalities and their causes. In fact, they do not always succeed in attracting a sufficient number of households with very high incomes to participate. This leads to inaccuracies, particularly at the top of the income distribution.

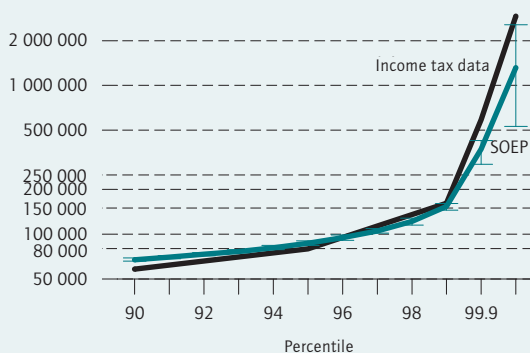
When working with administrative data, an extensive knowledge of reforms during the period under observation is necessary to make the data comparable. Of particular note here are the introduction of the half-income system in 2001/2002 and the flat rate withholding tax for capital incomes in 2009. To obtain an intertemporally comparable time series on income concentration, incomes from the income tax data were adjusted for the effects of these reforms. As a result, following the intro-

duction of the half-income system, only some of the dividends are visible in the income tax data. Since the size of the share (around 38 percent) comes from tax legislation, the underlying basis (100 percent) can be extrapolated. If the full dividend amount is used to calculate the income shares (see Figure 1), the decline due to cyclical trends is considerably lower. Since the introduction of the withholding tax in 2009, the tax liability on dividends and interest is deducted directly at source. This capital income no longer needs to be declared in the income tax return. Tax households whose tax rate is lower than the rate of withholding tax of 25 percent, however, have an incentive to declare this capital income. Since the incomes of high-income households in Germany consist mainly of business income and only around ten to 20 percent from dividends and interest and are subject to a high rate of income tax due to the high commercial income, these households in particular mostly have no incentive to declare their capital income in their income tax returns. External information on the development of capital income is used to correct for this (see Bartels and Jenderny (2015) for details on capital income calculations after 2009).

Figure 1

**Income thresholds in 2007**

In euros



Source: Bartels, C., Jenderny, K. (2015), and own calculations.

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to tax statistics.<sup>6</sup> From the 97-percentile percentile upward, the reverse is true. Up to the 99-percentile lim-

<sup>6</sup> This finding can be attributed to a possible middle-class bias in the SOEP data. Civil servants, for instance, are overrepresented in the SOEP example.

it, i. e., up to the top one percent, income tax and SOEP data are close. In the percentile above this, however, the SOEP data is less reliable: in order to determine the top one-tenth of a percent, and the top one-hundredth of a percent, the 95-percent confidence interval in the SOEP data is very large, and the income limits are well below those of the income tax data.

**Development of income concentration for the group containing the top one-percent tax units**

The data sources gave quite different results for the income share of the top one percent of tax units (see Box 3 for the calculation method). According to the income tax data, the top one percent of earners held between 11 and almost 15 percent of total income from 2001 to 2011, while the corresponding figure from SOEP data was only between around seven and nine percent.

Although the concentration coefficients in both data sources differ, in the first half of the 2000s, they consistently show a parallel increase in the income share accruing to the top one percent. After this period, the trends deviate. According to the income tax data, the increasing income concentration at the top continues up to 2008 and remains at a lower level following the financial crisis in 2009. In contrast, the concentration of

## Box 3

**Calculating income shares**

Microdata from a census of all German income taxpayers have been available since 1992. The income share can be determined from a simple count: if the tax cases are sorted in ascending order according to the total amount of income and income values of the richest 482,969 taxpayers aggregated, their aggregate income in 2007 was around 201 billion euros (in 2010 prices).

A comparison with population-representative data is not straightforward for two reasons. First, not all the individuals in Germany are liable to pay income tax. It is assumed that around ten million tax units (assessed separately and jointly) do not submit a tax return. This population group and their incomes are therefore not included in the income tax data. Further, some incomes are not or only partly included in the tax data. For instance, capital incomes below the saver's allowance are not included. The construction of tax data alone does not depict the income situation of the total population. In order to make a statement like "The richest one percent of the population in Germany owns X percent of the total income of households," more information is needed: a) on the share of the population not included in the tax data (around 81 million people live in Germany; in 2007, income tax data counted 38 million taxpayers) and b) on the amount of income from households not included in the tax data.

The potentially taxable population is approximated using the total number of married couples and singles over 20 years.<sup>1</sup> In 2007, there were approximately 48.3 million potential taxpayers—this is our basic population.<sup>2</sup> This means the richest one per cent of all potential taxpayers includes precisely 482,969 tax units, while this number of cases corresponds to 1.3 per cent of actual taxpayers.

In this analysis, income shares from 2001 to 2008 are calculated on the basis of microdata from income tax, so no additional assumption about the income distribution is required.<sup>3</sup> The income share of the richest one percent in 2007 is calculated as:

$$\frac{\text{Aggregated income of top 1 \%}}{\text{Total income}} = \frac{201 \text{ billion}}{1,432 \text{ billion}} \approx 14 \%$$

**1** This age limit is used by many scientists who have calculated time series for the World Top Incomes Database (WTID). See also contributions on Germany, the US, and Canada in A. Atkinson and T. Piketty, *Top Incomes Over the Twentieth Century* (Oxford University Press, 2007).

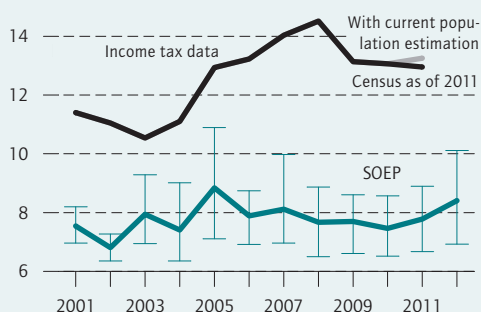
**2** These values can be taken from the *Statistical Yearbook*.

**3** In order to construct long-term time series since the introduction of income tax in the nineteenth century, tables are required with the number of taxpayers in certain income groups and their aggregate income. These tables have been published in Germany since the mid-nineteenth century by the Statistical Offices of the Federal States.

Figure 2

**Income share of top 1%**

In percent



Source: Bartels, C., Jenderny, K. (2015), and own calculations.

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income in the SOEP data remains virtually unchanged since 2005 and the changes that were recorded are not statistically significant.

When the concentration ratios for 2005 and 2011 are compared, the tax data also show no clear increase since 2005. There are indications that the corporate sector increasingly retained profits and did not distribute them. If these retained earnings had been distributed to top earners, the measured concentration of income would probably be higher.

The lower level of income concentration in the SOEP data is largely due to the top earners in the SOEP data at the upper end of the distribution having considerably lower incomes on average: in 2007, the average income of the top one percent was approximately 258,000 euros (in 2010 prices) according to the SOEP data, but it was around 376,000 euros (in 2010 prices) according to the income tax data.

Assuming the high incomes follow the Pareto distribution, the Pareto coefficient can determine income limits and ultimately the income share of the top ten percent. This method, proposed by Pareto (1896)<sup>4</sup> and also by Kuznets (1955),<sup>5</sup> was revived and further developed by Piketty (2003).<sup>6,7</sup> For the years 2009 to 2011, a Pareto interpolation was conducted based on the tabulated income tax statistics and an adjustment for missing capital income since the introduction of withholding tax (see Bartels and Jenderny (2015)). The income share of the richest one percent in 2007 is calculated as:

$$\frac{a}{(a-1)} \text{ Income limit of top 1 \%} \frac{\text{No. of top 1 \%}}{\text{Total income}}$$

$$= 2.56 \cdot 161,655 \cdot \frac{482,969}{1,432 \text{ billion}} = 14 \%$$

<sup>4</sup> V. Pareto, *Cours D'Économie* (Duncker&Humboldt, 1896).

<sup>5</sup> S. Kuznets, "Economic Growth and Income Inequality," *American Economic Review* 45(1) (1955): 1-28.

<sup>6</sup> T. Piketty, "Income inequality in France, 1901-1998," *Journal of Political Economy* 111(5) (2003): 1004-1042.

<sup>7</sup> The time series of more than twenty countries were collected in the World Top Incomes Database (<http://topincomes.parisschoolofeconomics.eu/>) initiated by Piketty and Atkinson, among others.

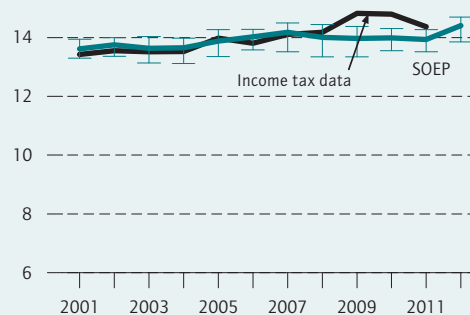
## Development of income concentration in other top-income areas

Figure 3 shows the income share accruing to the top five percent of tax units excluding the top one percent (5-1) and Figure 4 shows the shares below the top ten percent excluding the top five percent (10-5). In contrast to findings for the top one percent, hardly any differences between the two sets of data can be identified in these two high-income areas. If we take, for example, the top five and top one percent, irrespective of the dataset used, this gives an income share of around 13 to 14 percent, depending on the year. The trends are similar and indicate a slight increase in income concentration up to 2007. In the top five to top ten percent, irrespective of the dataset used, the income share is around 11 to 12 percent, depending on the year. This indicates, at most, a weak increase in income concentration.

Figure 3

### Income share of top 5-1%

In percent



Source: Bartels, C., Jenderny, K. (2015), and own calculations.

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Figure 4

### Income share of top 10-5%

In percent



Source: Bartels, C., Jenderny, K. (2015), and own calculations.

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## Conclusion

Both the income tax and SOEP survey data provide valuable information about the distribution of income in Germany. However, the two sets of data have differing underlying populations (taxpayers and total population), observation units (tax cases and households), and definitions of income (total income and gross household income). According to the congruence principle, these concepts must be harmonized before the income concentration measures from the two datasets can be compared meaningfully.



In fact, the harmonized SOEP and income tax data tell a similar story about the concentration of income in Germany since 2001: for the top ten to five percent and top five to one percent, there is a small increase in income concentration between the two datasets at a marginally diverging level. For the top one percent, both datasets show a parallel increase in income concentration for the first half of the 2000s, which is not statistically significant, however, in the SOEP data. According to the income tax data, the concentration continues to increase up to 2008 but remains at a lower level after the start of the financial crisis in 2009. Conversely, the concentration of income in the SOEP data has remained almost stable since 2005. The concentration levels for the top one percent are considerably higher according to the income tax data because average incomes in this range differ by more than 100,000 euros between the two datasets.

Overall, the income tax data has the obvious advantage that they contain many more cases of very high income in Germany.<sup>7</sup> However, it should also be noted that there are three key drawbacks of this data source for inequality research. First, capital income has not been systematically recorded in income tax data since the introduction of the flat rate withholding tax introduced in 2009

<sup>7</sup> No single case of gross household income exceeding two million euros was recorded in the SOEP data for 2013.

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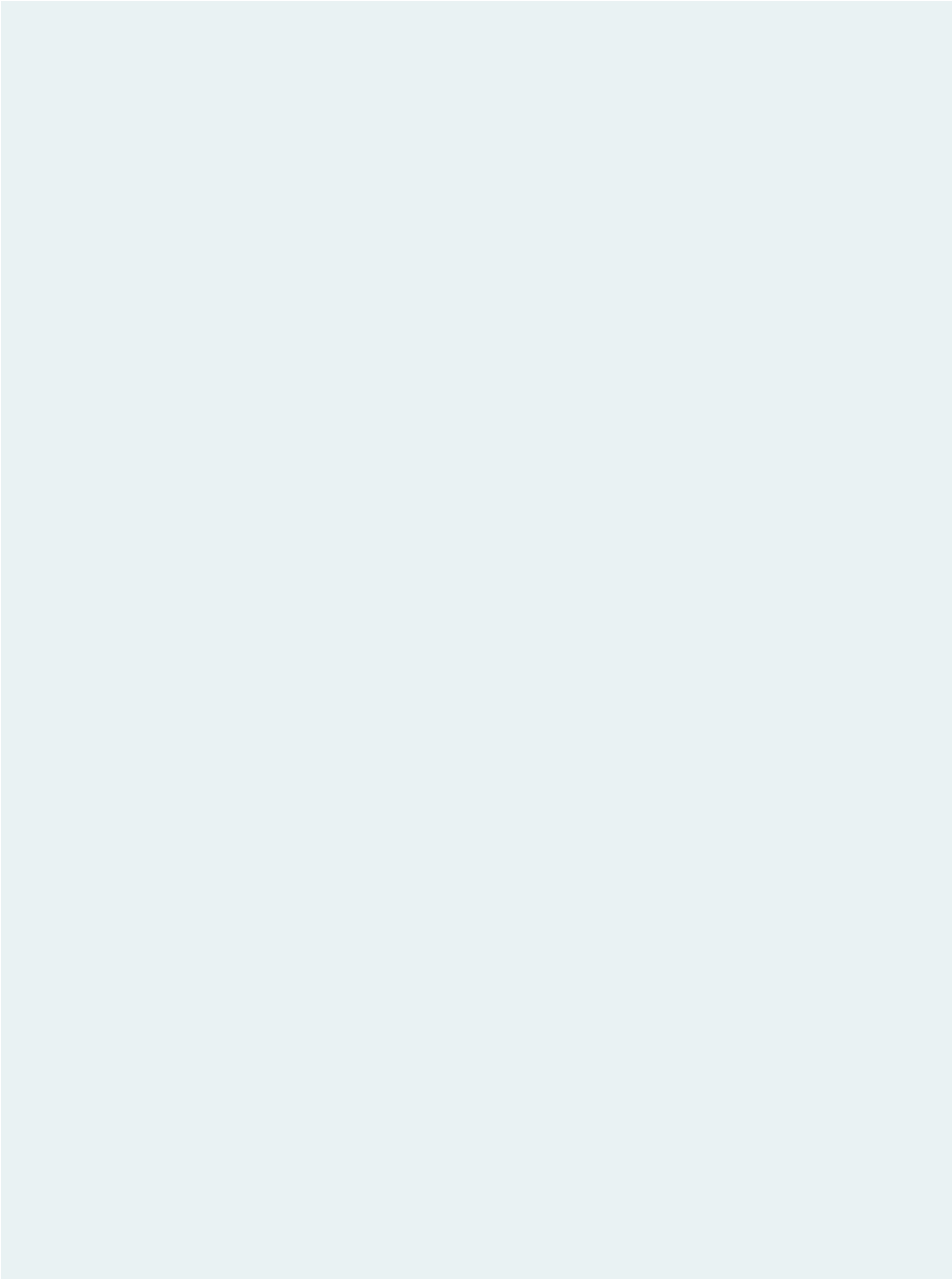
**Keywords:** Top incomes, concentration, inequality, SOEP, income tax records

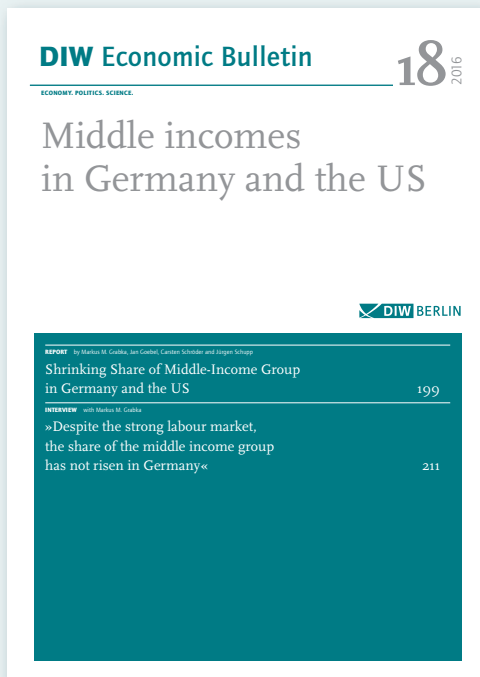
which particularly affects the top income range where capital income is concentrated. If, as is currently being discussed by policy-makers, the flat rate withholding tax is in fact abolished and capital income is once again taxed as personal income tax, then income tax data would become a more reliable source for capital income again. Second, the income tax data do not provide a very full description of the income situation at the lower end of the distribution because individuals with low incomes do not usually need to declare their income and are therefore not included in the data. Third, no equivalent income can be determined using income tax data due to a lack of information concerning the household context. Equivalent income is needs-weighted incomes, incomes that take into account differences in needs between households with different compositions, such as number and age of household members, and are standard distribution analyses.

To obtain a full picture of the development of inequality in Germany since 2001 and not just of income concentration at the very top, incomes in the lower and middle income classes in the SOEP data must be combined with incomes among the top ten percent from the income tax data.<sup>8</sup> Future studies should look at further developing relevant approaches to this.

<sup>8</sup> See Bach, Corneo, and Steiner "From Bottom to Top."

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# Shrinking Share of Middle-Income Group in Germany and the US

By Markus M. Grabka, Jan Goebel, Carsten Schröder and Jürgen Schupp

According to calculations based on the Socio-Economic Panel (SOEP) study, the proportion of middle-income group in Germany fell by more than five percentage points from 1991 to 2013, taking it to 61 percent. Germany is not the only country to have experienced such a downturn, however. Analyses of the situation in the US indicate a similar decline. To the middle-income group belong individuals in households earning a total income, before tax and social security contributions, of 67 to 200 percent of the median. In the US, however, there has been a stronger increase in income polarization than in Germany: in the US, those who have left the middle-income group tend to be concentrated more on the periphery of the income distribution. The share of income of the middle-income group has also dropped substantially in both countries studied. This decline affected all age groups with the exception of individuals of people at retirement age. In the US, it was primarily immigrants from Latin America who tended to move down from the middle-income group, while in Germany, the most notable decline was seen in the share of foreigners in the middle-income bracket. However, when looking at the personal wealth of the middle-income group, patterns differ: while in the US, this group experienced a decline in real net worth of over one quarter, in Germany it experienced an increase of 15 percent in real terms.

Building on previous analyses conducted by DIW Berlin on the development of the income stratification of the population in private households, the present study focuses on the middle-income tier (often also referred to as the “middle class”—see box) in Germany up to 2013<sup>1</sup> and draws comparisons with the situation in the US. The empirical basis for Germany relies on data from the Socio-Economic Panel (SOEP) study conducted by DIW Berlin in cooperation with the fieldwork organization TNS Infratest Sozialforschung.<sup>2</sup> Since this is an annual repeated panel survey, it can be used to create time series on the development of income distribution for the same individuals or households.<sup>3</sup> The information on the development of income stratification in the US is based on data from the Current Population Survey conducted by the United States Census Bureau., and was published by the Pew Research Center (PEW) and published in December 2015,<sup>4</sup> triggering a broad public debate both in

**1** Most recently in Jan Goebel, Martin Gornig, and Hartmut Häußermann, “Polarisierung der Einkommen: die Mittelschicht verliert,” *DIW Wochenbericht*, no. 24 (2010): 2–8, and also Markus M. Grabka and Joachim R. Frick, “The Shrinking German Middle Class: Signs of Long-Term Polarization in Disposable Income?,” *DIW Weekly Report*, no. 4 (2008): 21–27.

**2** The SOEP is a representative longitudinal study of households conducted every year since 1984 in West Germany and since 1990 in eastern Germany; see G. G. Wagner, J. Goebel, P. Krause, R. Pischner, and I. Sieber, “Das Sozio-oekonomische Panel (SOEP): Multidisziplinäres Haushaltspanel und Kohortenstudie für Deutschland – Eine Einführung (für neue Datennutzer) mit einem Ausblick (für erfahrene Anwender),” *ASta Wirtschafts- und Sozialstatistisches Archiv* 2, no. 4 (2008): 301–328.

**3** In each case in the present report, the income year is shown. This is in line with the conventions of the German Federal Government’s Report on Poverty and Wealth (Federal Ministry of Labour and Social Affairs, *Life Situations in Germany* (2013)) and the Report of the German Council of Economic Experts (most recently *Annual Economic Report 2014/2015: More confidence in market processes*). In the SOEP, annual incomes are captured retrospectively for the preceding calendar year but adjusted for the population structure at the time of the survey. The data presented here for income year 2013 were therefore captured in the SOEP Wave Report 2014.

**4** Pew Research Center, *The American Middle Class Is Losing Ground: No longer the majority and falling behind financially* (Washington, D.C.: December 2015), [http://www.pewsocialtrends.org/files/2015/12/2015-12-09\\_middle-class\\_FINAL-report.pdf](http://www.pewsocialtrends.org/files/2015/12/2015-12-09_middle-class_FINAL-report.pdf)

Box

### Understanding the term “middle class” in sociology and economics

In the present report, society is divided into different income groups and people with middle-incomes are referred to as the “middle class.” This categorization is now commonly used in economic theories, many of which continue to be heavily based on the concept of *homo oeconomicus*, as well as in the media; this definition is not to be confused with the notion of middle class in the social context.

The term “middle class” first became popular in sociology in the field of social structure analysis. The term “levelled middle-class society” coined by Helmut Schelsky<sup>1</sup> in the 1950s described the social structure in post-war society as dynamic.<sup>2</sup> According to Schelsky, society was very much shaped by both vertical and horizontal permeability, and the traditional tension between the upper and lower class was increasingly being alleviated. Schelsky's thinking was thus very much in line with that of sociologist Theodor Geiger,<sup>3</sup> who studied the theory of social structure and social classes and who, even before the Second World War, described the middle class as being increasingly important and playing a key role in society.

<sup>1</sup> Helmut Schelsky, *Wandlungen der deutschen Familie in der Gegenwart* (Dortmund: 1953).

<sup>2</sup> At the time of publication, Schelsky's study met with considerable interest worldwide, even if his rather optimistic outlook on the future was not one that many shared. In place of the study, see the literature review written at the time by Svend Riemer, *American Journal of Sociology* 59(3) (1953): 272–273.

<sup>3</sup> Theodor Geiger, *Die soziale Schichtung des deutschen Volkes: soziographischer Versuch auf statistischer Grundlage*, reprint of 1932 edition (Stuttgart: Ferdinand Enke, 1987).

Much later, sociologist Rolf Heinze<sup>4</sup> took up this idea, characterizing the middle class as a symbol of an advancement-oriented and permeable society, although the empirical validity of this class was seriously doubted in the sociological debate that took place in the early 1980s. Even before the onset of the 2008 economic and financial crisis, these doubts once again dominated the debate at the time.<sup>5</sup>

In spite of the comparatively long tradition of debate in the social sciences, to date there is no standard definition or even clear-cut operationalization guideline on how to demarcate

<sup>4</sup> Rolf G. Heinze, *Die erschöpfte Mitte. Zwischen marktbestimmten Soziallagen, politischer Stagnation und der Chance auf Gestaltung* (Weinheim/Munich: Juventa, 2011).

<sup>5</sup> See, in particular, the study by Burkhard Lutz published in the mid-'80s entitled *Der kurze Traum immerwährender Prosperität. Eine Neuinterpretation der industriell-kapitalistischen Entwicklung im Europa des 20. Jahrhunderts* (Frankfurt/New York: Campus, 1984), as well as the numerous works by Ulrich Beck, such as *Risikogesellschaft – Auf dem Weg in eine andere Moderne* (Frankfurt: Suhrkamp, 1986) and *Die Neuvermessung der Ungleichheit unter den Menschen* (Frankfurt: Suhrkamp, 2008). For a sociological perspective, also see Robert Castel, “Die Wiederkehr der sozialen Unsicherheit,” in *Prekarität, Abstieg, Ausgrenzung. Die soziale Frage am Beginn des 21. Jahrhunderts*, eds. Robert Castel and Klaus Dörre (Frankfurt: Campus, 2009), 21–34, as well as Berthold Vogel, “Wohlstandskonflikte und Unsicherheitsverschärfung: Die Mitte der Gesellschaft gerät unter Druck,” in *Unsichere Zeiten – Herausforderungen gesellschaftlicher Transformationen. Verhandlungen des 34. Kongresses der Deutschen Gesellschaft für Soziologie in Jena 2008*, ed. Hans-Georg Soeffner (Wiesbaden: VS Verlag für Sozialwissenschaften, 2010), 157–168. Heinze, *Die erschöpfte Mitte*, therefore characterizes the new middle class as precarious or the “depleted middle class, although he does pinpoint the ever-increasing power of professional independence in addition to their waning social integration.

the US and in Germany.<sup>5</sup> The present report compares the findings on income distribution for American society with the equivalent situation in Germany.

### Median incomes in US and Germany on downward trend since 2000

For reasons of comparison, the stratification of the population in private households used here is based on needs-adjusted household income before tax deductions and

social security contributions and including public transfers and old-age pensions. This is different from the commonly used concept of disposable income.<sup>6</sup> Household income is divided into three income categories: the poorest group comprises individuals with a household income of less than 67 percent of the median income of the country's total population,<sup>7</sup> the middle-income group has an

<sup>5</sup> See “Middle-class families, pillar of the American dream, are no longer in the majority, study finds,” *Los Angeles Times*, December 9, 2015, <http://www.latimes.com/nation/la-fi-middle-class-erosion-20151209-story.html>. For reactions to the findings in Germany, also see, for example, “Den Populisten die Stirn bieten,” *die ZEIT*, December 19, 2015, <http://www.zeit.de/wirtschaft/2015-12/parteien-populismus-usa-frankreich-wahlen-gefahr>

<sup>6</sup> The needs-weighting in the analysis for both countries was based on the square root of the household size and income was adjusted for a three-person household. Non-monetary transfers—such as food stamps which were received by almost 46 million people in the US in 2015, making them a relevant variable (see United States Department of Agriculture Food and Nutrition Service <http://www.fns.usda.gov/sites/default/files/pd/SNAPsummary.pdf>)—are not factored into the imputed income concept.

<sup>7</sup> The median of the income distribution is the value separating the wealthier half of the population from the poorer half. Also see the term “median income” in the DIW Glossary, <http://www.diw.de/de/>

and analyze the “middle class.”<sup>6</sup> Income-based demarcations commonly used in economics to describe the middle class employ a needs-adjusted approach to measuring household income that is recognized worldwide.<sup>7</sup> Nonetheless, for the middle class discussed here as a major socio-structural group, actual scope for action, formal education and qualifications, social and professional standing, family background, network connections, leisure behavior, and their value systems are not necessarily accurately characterized. This in turn invokes public debate on whether the crumbling middle class that empirical studies point to are not rather a case of “orchestrated middle-class panic.”<sup>8</sup>

Income-based concepts mean that the size of the middle-income class can change solely as a result of economic developments, which is why such concepts infer “mobility” of sorts, without the socio-structural classes of those affected by fluctuations in income, such as those in permanent full-time employment,<sup>9</sup>

**6** See Steffen Mau, *Lebenschancen. Wohin driftet die Mittelschicht?* (Berlin: Suhrkamp, 2012).

**7** The advantage of this is that social positioning can be applied to every individual within a household instead of using a definition of middle class that is based on a person's professional standing or education, in which, for example, the unemployed, pensioners, and children cannot be assigned their own status. In a market economy society, the disposable income of a household has its own social impact.

**8** Jürgen Kaube, “Die inszenierte Mittelschichtspanik,” *Frankfurter Allgemeine Zeitung*, June 17, 2010, 35.

**9** Also see Gert G. Wagner, “Wachsende Teilzeitbeschäftigung zu Lasten der Vollzeiterwerbstätigkeit?,” *DIW Wochenbericht*, no. 44 (1998): 807–811.

necessarily having to change. This methodological limitation also applies to the findings in the present report.

With regard to the labor market, what is being referred to as the “employee middle class” also occasionally features in public debates on the middle class.<sup>10</sup> The “employee middle class” includes, for example, regular wage-earners and civil servants (including those in vocational training and apprenticeships). Self-employed persons with no employees also fall into this category. This category does not include self-employed people with employees, those in marginal employment, and those who are not in gainful employment (primarily pensioners, the unemployed, and students). This distinction is not, however, the focus of the present report.

Lastly, it is also worth bearing in mind adults' own subjective perception of what class they belong to. Adults will factor both earnings and formal qualifications into their decision on whether they consider themselves lower/working class, upper class, or, as is the case here, middle class.<sup>11</sup>

**10** See Gert G. Wagner, “Die Mär von der bröckelnden Mittelschicht,” *Frankfurter Allgemeine Sonntagszeitung*, April 3, 2016, 28.

**11** Heinz-Herbert Noll and Stefan Weick, “Schichtzugehörigkeit nicht nur vom Einkommen bestimmt,” *Informationsdienst Soziale Indikatoren*, no. 45 (2011).

income of between 67 and 200 percent of the median,<sup>8</sup> while the highest-income group contains those with incomes of more than 200 percent of the median.

The analysis of the situation in the US is based on the period beginning 1970 (see Figure 1). Here, the real median income of the middle class increased by 40 percent from

diw\_01.c.413351.de/presse\_glossar/diw\_glossar/medianeinkommen.html (available in German only). According to this demarcation, the threshold values for the income an individual needs to reach in order to be deemed middle-income class were for a one-person household just under 2,660 euros per month in 2013 and 7,950 euros per month at 2014 prices.

**8** Previous studies on the development of the middle class use different threshold values. Further, there is generally no uniform income concept used to describe the middle class. For example, an earlier DIW Berlin study was based on disposable household income rather than the total income used in the present study. See Grabka and Frick, “Schrumpfende Mittelschicht.”

around 55,000 US dollars to just under 77,000 US dollars between 1970 and 2000. From 2000 to 2014, however, the median income of the middle-income group declined by four percent in real terms.

Data for the former West Germany (prior to reunification) have only been available since 1983 and since 1991 for the reunified Germany. Between 1983 and 1991, the median income of the middle-income tier in West Germany increased by 13 percent in real terms. For Germany as a whole, the corresponding figure increased by as little as seven percent by 2000, and this, too, was followed by a one-percent slight drop by 2013.<sup>9</sup>

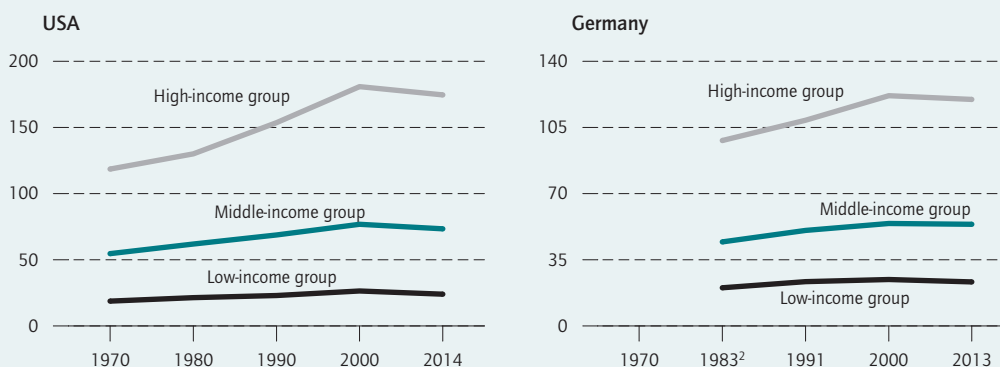
**9** In contrast to the median, the mean value for the total population shows an increase for the period from 2000 to 2012. On this, see J. Goebel, M. M.



Figure 1

**Median<sup>1</sup> of overall income**

In 1,000 US dollars and in 1,000 euros respectively, both in 2014 prices



1 Categorization based on household income before taxes and social-security contributions, income is needs-weighted by square root equivalence scale, normalization with respect to 3-person household.

2 "Old" (former West German) states only.

Source: PEW(2015), SOEPv31 calculations by DIW Berlin.

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Median income of middle-income group is declining after 2000 in US and Germany.

### Share of individuals having a middle-level income on the decline in both the US and Germany

A change in income level over time is in itself not enough to give us an insight into the changes in the distribution of income and income-based social stratification in the two countries of interest. In addition to the development of incomes within the different income strata, demographic developments are also relevant here. In recent years, the US has seen a considerable increase in the number of adults (see Figure 2), with growth of 50 percent between 1981 and 2015 an increase from 183 to 242 million adults between 1991 and 2015 alone. By way of contrast, in post-reunification Germany, the number of adults rose by as little as around four million to just under 68 million adults in 2013.

In Germany, the middle-income group is traditionally the largest population group in total numbers.<sup>10</sup> The share of this group in the total adult population, however, is

on a downward slope. While in 1983 this group still accounted for around 69 percent of the adult population, this number had fallen to 64 and 61 percent by 2001 and 2013, respectively. For some time, a similar trend could be seen in the US, where in 1971 the middle-income group accounted for 61 percent of the total adult population, compared to 59 percent, 54 percent, and just under 50 percent in 1981, 2001, and 2015, respectively.

This declining relative importance of the middle-income tier in the US population is also reflected in the income share it accounts for (see Figure 3). In the US, in 1980, the middle class still accounted for a 60-percent share of income, compared with 54 percent in 1990 and as little as 43 percent in 2014. Thus, over the entire period from 1980 to 2014/15, the middle-income group's income share has declined more drastically (a 28-percent drop) than its population share (an 18-percent drop). The income share of the lower-income tier remained at a good one-tenth during the same period, while this group's population share increased from 25 to 29 percent. The upper-income group was able to increase its income share from 30 percent in 1980 to 49 percent in 2014. By comparison, this group's population share only rose from 14 percent to 21 percent.

A similar trend can be observed in Germany. Here, too, the income share accruing to the lower-income bracket has barely changed over the years. In Germany as a whole, the share of the country's total income accounted

Grabka, and C. Schröder, "Income Inequality Remains High—Young Singles and Career Entrants Increasingly At Risk of Poverty," *DIW Economic Bulletin*, no. 25 (2015): 325–340. The different trends in the arithmetic mean and median indicate an increase in inequality over this period.

<sup>10</sup> Over the decades, the majority of the German population have also consistently perceived themselves to be members of the middle class. See Roland Habich, "Soziale Lagen und soziale Schichtung," *Datenreport 2013* (Federal Statistical Office, 2013): 181–188.

Figure 2

**Adult population<sup>1</sup> of US and Germany**

In million persons



1 Categorization based on household income before taxes and social-security contributions, income is needs-weighted by square root equivalence scale, normalization with respect to 3-person household.

2 "Old" (former West German) states only.

Source: PEW(2015), SOEPv31 calculations by DIW Berlin.

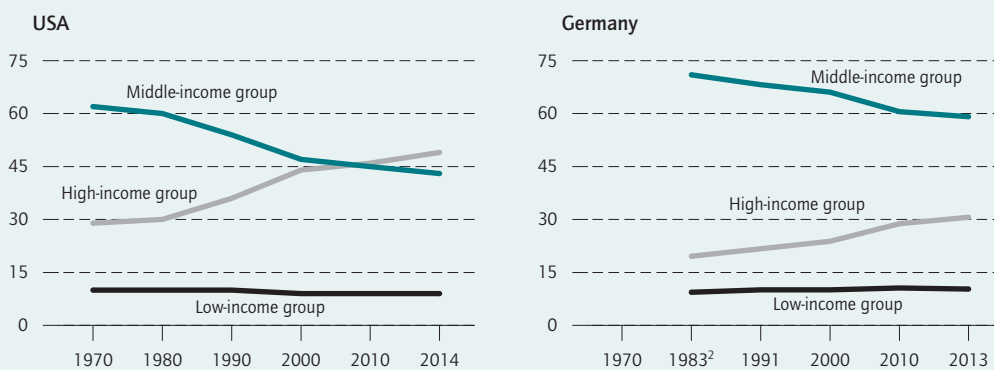
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Adult population is growing after 2001 in US but size is stagnating in Germany. Population share of middle-income group is declining in both countries.

Figure 3

**Group-specific shares of total income<sup>1</sup>**

In percent



1 Categorization based on household income before taxes and social-security contributions, income is needs-weighted by square root equivalence scale, normalization with respect to 3-person household.

2 "Old" (former West German) states only.

Source: PEW(2015), SOEPv31 calculations by DIW Berlin.

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Share of middle-income group in overall income is decreasing in US and Germany.

Figure 4

**Group-specific shares of adult population<sup>1</sup>**

In percent



<sup>1</sup> Categorization based on household income before taxes and social-security contributions, income is needs-weighted by square root equivalence scale, normalization with respect to 3-person household.

<sup>2</sup> "Old" (former West German) states only.

Source: PEW(2015), SOEPv31 calculations by DIW Berlin.

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Population share of middle-income group is declining in US and Germany. Polarization is more pronounced in US.

for by the upper-income group was 22 percent in 1991 and this increased to 29 percent by 2005, and only slightly increased to more than 30 percent until 2013. The population share of this upper-income group has only slightly increased since 1983, from 9 percent to 13 percent. In contrast, the income share of the middle-income group in Germany, which was 68 percent in 1991, had fallen by nine percentage points by 2013. At the same time, this group's population share declined from around 66 percent to 61 percent over the same period. Thus, the middle-income groups remains the largest group in Germany.

### Similar decline in middle-income group in both the US and Germany

In the following section, two additional groups (one above and one below the middle-income bracket) are introduced to illustrate the complexity of income stratification. Accordingly, the lower-income group now comprises all individuals with a total income of less than 50 percent of the median and the lower middle-income bracket is made up of those with incomes of 50 to 67 percent of the median. Above the middle-level group are those with an income of between 200 and 300 percent of the median and, in the top tier of the income hierarchy are those with incomes over 300 percent of the median.

According to this classification, 60 percent of the adult population in the US was in the middle-income group at the beginning of 1970 (see Figure 4). By 2015, this share had shrunk to 50 percent. The only groups to show any increase in the population shares were those at the margins of the distribution. While the share of those with a lower income grew by three percentage points, the increase in the upper-income group was twice as high at six percentage points.<sup>11</sup> The share of the upper-income group in the US now lies at nine percent, which is more than twice as large as in the early 1980s.

In Germany too, a relative decline in the number of middle-income individuals can be observed.<sup>12</sup> In 2013, the

<sup>11</sup> In the US, there was already evidence of growing income polarization in the 1980s. See James E. Foster and Michael C. Wolfson, "Polarization and the decline of the middle class: Canada and the U.S.," *The Journal of Economic Inequality* 8(2) (2010): 247-273.

Even if alternative income concepts and different threshold values are used, the US middle class can still be seen to be shrinking drastically. See Edward N. Wolff, Ajit Zacharias, and Thomas Masterson, "Trends in American Living Standards and Inequality, 1959-2007," *Review of Income and Wealth* 58(2) (2012): 197-232.

<sup>12</sup> Even if we use needs-adjusted disposable household income including the imputed rental value of owner-occupied residential property—the standard basis for calculating income inequality and relative poverty risk used in the German Federal Government's Report on Poverty and Wealth—a seven-percentage-point decline in the number of middle-income recipients can still be seen. Likewise, if

Table

**Income mobility<sup>1</sup> in Germany**

In percent

	Low-income group	Low-middle income group	Middle-income group	Upper-middle income group	High-income group	Overall	Population share in base period
<b>1991\1997</b>							
Low-income group	44	27	28	1	0	100	12
Low-middle income group	15	30	53	1	0	100	12
Middle-income group	6	9	79	6	1	100	66
Upper-middle income group	3	2	46	39	11	100	9
High-income group	2	1	27	33	37	100	2
<b>1999\2005</b>							
Low-income group	49	24	25	3	0	100	12
Low-middle income group	21	38	40	0	0	100	13
Middle-income group	5	8	77	9	1	100	65
Upper-middle income group	1	1	39	42	16	100	9
High-income group	4	1	39	23	34	100	3
<b>2007\2013</b>							
Low-income group	53	19	25	3	0	100	14
Low-middle income group	23	35	40	1	0	100	12
Middle-income group	4	8	79	7	2	100	62
Upper-middle income group	2	1	45	37	15	100	8
High-income group	2	0	27	22	49	100	4

<sup>1</sup> Categorization based on household income before taxes and social-security contributions, income is needs-weighted by square root equivalence scale, normalization with respect to 3-person household.

Source: SOEPv31 calculations by DIW Berlin.

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Mobility of middle-incomes in Germany remains at stable level—about ⅓rd of the middle-income group remain in the same group after six years.

middle class still accounted for 61 percent of the population—eight percentage points less than in 1983. Income polarization is less pronounced in Germany than in the US but it increased nonetheless. Unlike in the US, in Germany, the population share in both the lower-income brackets (in each case an increase of more than 1.5 percentage points) and the upper-income brackets (over two percentage points) rose more consistently.

However, to factor in the impact of reunification in Germany, the change in middle incomes that has occurred since 1991 should be paid particular attention. Here, it is evident that the share of the middle-income group has fallen by more than five percentage points in both countries examined. The similarity in the patterns is particularly surprising given the more than 25-percent increase in the population of the US—predominantly as a result of migration. Having said that, migrants generally earn below-average levels of income, at least during the peri-

od immediately after immigration, which partially explains the waning significance of the middle class in the US. In Germany, the total population increased to a lesser extent between 1991 and 2013 and the number of people migrating to Germany was also lower than to the US which resulted in a contraction of the “middle class,” not only in relative but also in absolute terms (by approximately 2.5 million adults). What is particularly remarkable in current developments in Germany is the fact that, to date, the growth in employment<sup>13</sup> seen since 2006 has not caused the population share of the middle-income group to stabilize, much less grow. This brings us to the conclusion that there must be a multitude of other reasons for the developments outlined in the present report.<sup>14</sup>

<sup>13</sup> According to official employment figures, the number of employed people living in Germany increased by 2.7 million or 6.8 percent between 2006 and 2013 (Federal Statistical Office, *Employment Accounts* (2016)), <https://www.destatis.de/DE/ZahlenFakten/GesamtwirtschaftUmwelt/Arbeitsmarkt/Erwerbstaetigkeit/TabellenErwerbstaetigenrechnung/InlaenderInlandskonzept.html>

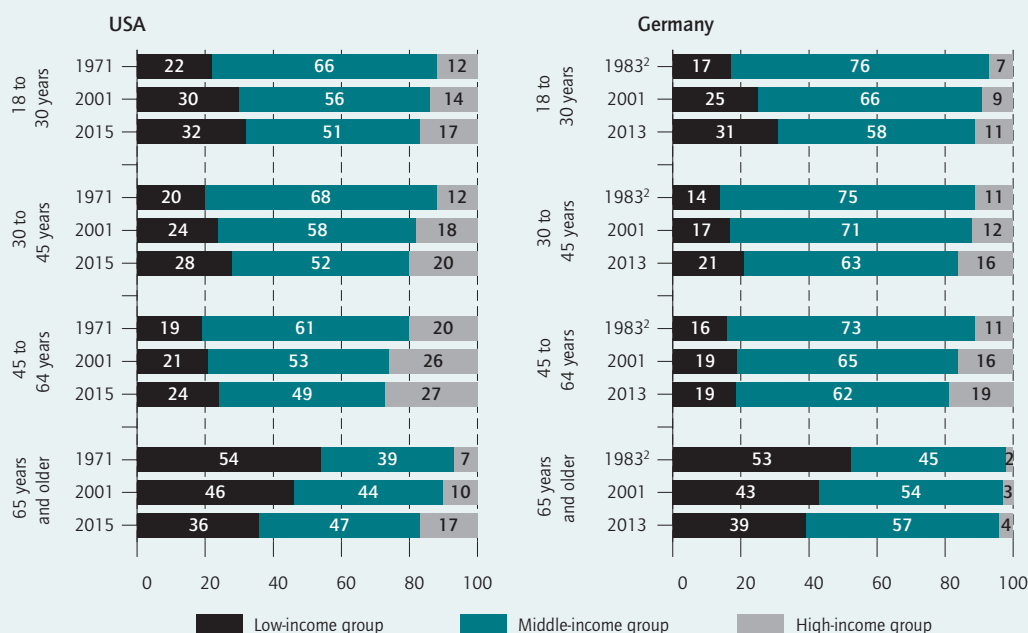
<sup>14</sup> For example, when we compare gross wages in Germany and the US, we must bear in mind that there are significant differences between the two countries in terms of their average tax and contribution rates. Whereas in the US over the last 15 years, the average contribution rate was around 31 percent

we restrict our analysis to the development of the middle-income group since 1991 only, the middle class is down by just under seven percentage points. This downward trend was particularly notable after the turn of the millennium and since 2005 this decline has not worsened.

Figure 5

**Share of adult population by age and income group<sup>1</sup>**

In percent



<sup>1</sup> Categorization based on household income before taxes and social-security contributions, income is needs-weighted by square root equivalence scale, normalization with respect to 3-person household.

<sup>2</sup> "Old" (former West German) states only.

Source: PEW(2015), SOEPv31 calculations by DIW Berlin.

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Share of age group 30–44 years in middle-income group drops most pronounced—both in US and Germany.

Another interesting aspect that has come to light in our comparison of the two countries is that, based on comparable group definitions, the population share of the two lower-income groups is approximately the same in both countries (29 percent in the US and 26 percent in Germany), while the population share of the upper-income group is more than twice as high in the US as in Germany.<sup>15</sup>

Since the SOEP survey interviews the same people repeatedly, for Germany, we are able to portray the level of individual upward and/or downward mobility (see Table). Three post-reunification six-year periods are examined (1991–1997, 1999–2005, and 2007–2013). During all three periods, over two-thirds of those who belong to the middle-income group in the reference year were

still in this income bracket six years later.<sup>16</sup> The remaining middle-income units experienced both upward and downward shifts. Downward mobility predominated in our findings, which have not been corrected for demographic changes:<sup>17</sup> in all three periods, up to 15 percent of the middle-income group in the reference year slipped down into a lower-income bracket. The share of individuals moving upward out of the middle-income group, in contrast, was between seven and ten percent.<sup>18</sup>

(for a single person), the corresponding figure for Germany in the year 2000 was as much as 53 percent, and even now is still around 49 percent (OECD, *Taxing Wages 2016* (2016)).

<sup>15</sup> This is also reflected in the higher level of income inequality in the US, where the Gini coefficient on market income in 2012 was 0.513, compared to 0.501 in Germany (OECD Income Distribution Database – new income definition).

<sup>16</sup> Mobility processes occurring within the six-year period are excluded from the present analysis.

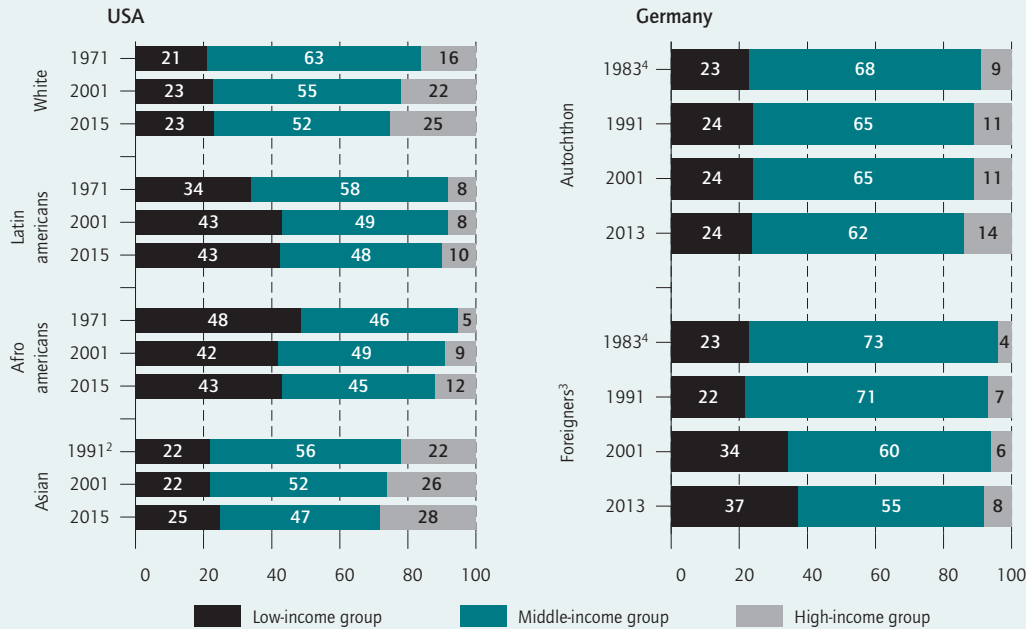
<sup>17</sup> Consequently, this longitudinal view does not include individuals moving into a particular income group in the time between the reference year and the end of the observation period in much the same way as it excludes those individuals who migrated to or emigrated from Germany during the period in question.

<sup>18</sup> Wage mobility in East and West Germany is described in Regina T. Riphahn and Daniel D. Schnitzlein, "Wage mobility in East and West Germany," *Labour Economics*, 39 (2016): 11–34.

Figure 6

**Shares of adult population by ethnicity (resp. migration background) and income group<sup>1</sup>**

In percent



<sup>1</sup> Categorization based on household income before taxes and social-security contributions, income is needs-weighted by square root equivalence scale, normalization with respect to 3-person household.

<sup>2</sup> Data for 1971 not available.

<sup>3</sup> Born abroad.

<sup>4</sup> "Old" (former West German) states only.

Source: PEW(2015), SOEPv31 calculations by DIW Berlin.

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Population shares in income groups by ethnicity and migration background are changing: in US white and Asians are more frequent among high-income group, afro and latin american are more frequent in low-income group. In Germany, we find a decreasing population share of foreigners in middle-income group and an increasing share in low-income group.

### More and more individuals of people at retirement age in middle-income bracket

In both countries studied, it is evident that, apart from individuals of people at retirement age, the share of middle-income recipients has fallen across all age groups (see Figure 5). In both countries, this decline was particularly pronounced among 30- to 44-year-olds. In the US, this group has seen a 15-percentage-point decline since 1971, with a similar drop in Germany since 1983. What is striking in the groups of young adults (aged 18–29) was the increase in their share in the lowest-income group in particular, whereas the proportion of middle-aged individuals (aged 30–44) increased in both the lower- and upper-income groups. For individuals of people at retirement age, on average, an improvement in income position can be seen; in both countries, the share of this group in the poorest income bracket fell by just about 15 percentage points. In Germany, we are seeing this age group's share in the middle-income bracket grow once again. In the US,

for its part, frequent cases of movement into the upper-income category have even been observed.

In the US, age plays a minor role for the probability to belong to the middle-income group. In 2015, irrespective of the age group, between 47 and 52 percent of all adults fell into this income bracket. In Germany, the middle-age groups (those aged from 30–44 and 45–64) continued to be overrepresented in the middle-income group (63 percent).

### Ethnicity and immigrants

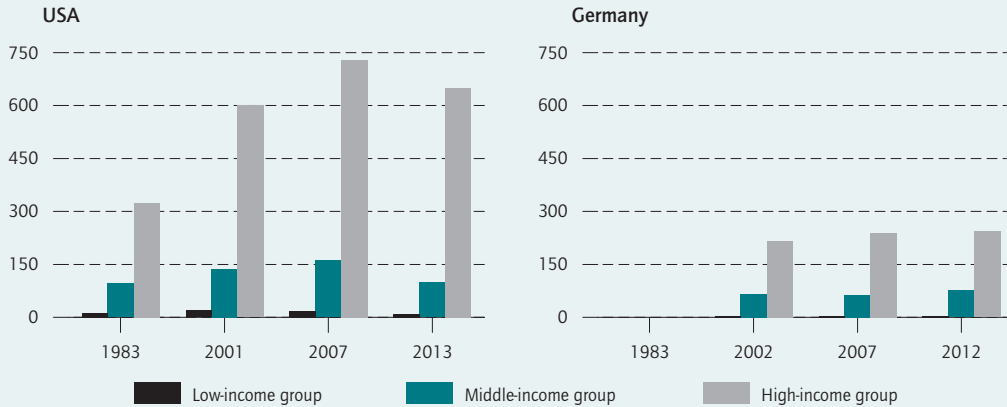
In the US, ethnicity plays a major role in income-distribution analyses. Throughout the entire observation period, the Afro-American population accounted for a below-average share of the middle-income tier (see Figure 6). In 1971, their share was 46 percent; in 2015, this figure was unchanged. Nevertheless, the decrease in the share of Afro-Americans in the lower-income group by



Figure 7

**Median household net worth<sup>1</sup>**

In 1,000 US dollars and in 1,000 euros respectively, both in 2014 prices



<sup>1</sup> Categorization based on household income before taxes and social-security contributions, income is needs-weighted by square root equivalence scale, normalization with respect to 3-person household.

Source: PEW(2015), SOEPv31 calculations by DIW Berlin.

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Pronounced differences between US and Germany in wealth positions of middle- and high income group.

five percentage points since 1971 is evidence of upward social mobility in this group. For all other ethnic groups, there was a decline in the population share in the middle-income tier—particularly for those in the white ethnic category (a decrease of approximately ten percentage points). The ethnic group which experienced the strongest growth in the lower-income tier was those with Latin-American roots.<sup>19</sup> The decrease in the share of whites and Asians in the middle-income group was primarily due to an increase in the upper-income group.

In Germany, ethnicity is usually not surveyed in population studies. For this reason, the present study makes a distinction as to whether an individual was born in Germany or abroad. The share of foreign-born in the middle-income group has fallen particularly dramatically—by more than 15 percentage points since 1991. For those born in Germany, the decreasing importance of the middle-income tier is less pronounced (a drop of four percentage points). The share of foreigners in the lower-income group, in particular, has increased, while, the autochthonous population has increasingly shifted to the upper-income group.

<sup>19</sup> This is also a result of the migration that has taken place since then. New immigrants generally have more problems on the labor market when they first arrive, partly because the educational qualifications acquired in their country of origin are not recognized, meaning they frequently find themselves in the lower-income bracket.

### Marked differences in net worth between US and Germany across all income strata

What is striking in both countries studied is the pronounced difference in the median net worth<sup>20</sup> of the middle-income group compared to the upper-income group (see Figure 7). If we calculate the ratio between the median net worth values in these two income groups, we can see that, in 2013, the upper-income group in the US had a net worth which was, on average, over 6.6 times higher than that of the middle-income group. The corresponding quotient for Germany was considerably lower at 3.2 in 2012. What is also striking is the differences in wealth between the German and US upper-income tier. Without taking purchasing power parities into account, the wealth of the upper-income group in the US is more than twice that of Germany.

<sup>20</sup> Net worth is the sum of a household's tangible and non-tangible assets minus liabilities. In the US, tangible assets include the value of vehicles; this is not the case in Germany. In the present analysis, the net worth figures are not needs-adjusted. The net worth described in the present report does not include entitlements from state pension schemes. Wealth data in the US are based on the Survey of Consumer Finances (SCF) funded by the Federal Reserve. Further, when drawing comparisons between US and German wealth data, it is important to bear in mind that, due to statutory pension entitlements in Germany compared to the predominantly private pension system in the US, the current wealth figures, particularly for the middle class, are lower in Germany and/or would be higher if pension entitlements were to be monetarized (see Joachim R. Frick and Markus M. Grabka, "Old-age pension entitlements mitigate inequality—but concentration of wealth remains high," *DIW Weekly Report*, no. 8 (2010): 55–64.

The development of net worth has differed between the two countries since the early 2000s. In the US, there was a noticeable decline in the net worth of those in the poorer population group. The initial level was already low, at under 20,000 US dollars in 2001, and by 2013 this figure had halved to less than 10,000 US dollars. The American middle class experienced losses of 28 percent in its net worth: from 136,000 US dollars in 2001 to 98,000 US dollars in 2013. Despite the financial market crises at the time, the upper-income tier saw an increase in its net worth over the median, of eight percent in real terms, or just under 50,000 US dollars; the median net worth in 2013 was 650,000 US dollars.<sup>21</sup>

In Germany, we can see a very different picture. From 2002 to 2012, people belonging to the low-income group recorded real wealth losses of 16 percent, whereas people in the middle-income and high-income group experienced a gain in wealth of 15 and more than 10 percent in real terms, respectively. This growth in wealth of the middle-income tier is primarily the result of an increase in financial assets (not including private insurance).<sup>22</sup>

### Role of the middle income group in functional income distribution

Parallel to the declining share of middle-income group, a change in functional income distribution can also be observed in both countries analyzed. The share of national aggregate income made up of employees' salaries in the US declined from 67 percent to 61 percent between 1980 and 2013.<sup>23</sup> In Germany, this figure fell from 73 percent to 68 percent during the same period.<sup>24</sup> Earnings from dependent employment, however, constitute the most important income component in the middle-income group, while at the upper edge of the income distribution, capital income and earnings from self-employment along with rental income are the most important factors. Members of the lower-income groups, in contrast, often rely on social security transfers.

Despite the growth in employment observed in Germany since 2006, there is no notable upward mobility of low-income earners into the middle class. There are a number of possible reasons for this, one of which is presumably the sectoral shift away from an industry- toward a services-oriented society, because average earnings in the German commercial sector are still higher than in the services sector and the proportion of part-time employees is larger here, too. Correspondingly, in the US, the number of jobs in the manufacturing industry declined by 36 percent from 1979 to 2015 alone.<sup>25</sup> The service sector, however, is also the branch of industry with an below-average level of trade union organization.

### Conclusion

The shrinking middle class is a phenomenon which can be observed both in Germany and the US. The present report describes the change in social structure in both countries on the basis of total household income before tax deductions and social security contributions. This income concept is also affected by demographic changes such as the rise in single-person households, migration, or the increase in homogamy (relationships between individuals who are on a quasi-level footing in terms of education and socioeconomic status). Changes in the tax and transfer system, however, have no direct impact. The following, therefore, focuses predominantly on developments in the labor market since this is the primary factor contributing to changes in income structure in Germany.<sup>26</sup> There are a number of comparisons of labor market developments in the US and Germany during the period studied, which particularly highlight the importance of the labor market reforms implemented in Germany between 2001 and 2005 with the aim of reducing unemployment and, at the same time, increasing labor market flexibility. These comparisons also highlight the moderate wage policies of the trades unions.<sup>27</sup> Of course, even all these policy measures could not prevent the lower-income group from

<sup>21</sup> One explanation for the different changes in net worth is the importance of real estate ownership in the different income tiers. In the lower strata, from a quantitative perspective, property ownership is the most important type of asset. The financial crisis resulted in considerable losses in the value of these assets. The wealth of the upper tier primarily takes the form of securities. These incurred short-term book losses but this type of asset has recovered rapidly since the crisis.

Compared to 1983, it is also clear that both the lower- and the middle-income group in the US have been stagnating at more or less the same level in real terms, while the upper-income group was able to double its real wealth (based on the median).

<sup>22</sup> For the middle-income group, however, the value of private insurance and net real estate ownership barely changed during the ten-year period studied.

<sup>23</sup> Robert Z. Lawrence, "Recent Declines in Labor's Share in US Income: A Preliminary Neoclassical Account," *Working Paper Series*, no. 15-10 (Peterson Institute for International Economics, 2015).

<sup>24</sup> Federal Statistical Office, *National Accounts* (2016). The unadjusted wage share is shown.

<sup>25</sup> The number of people employed in the manufacturing and construction industries more or less remained constant between 2000 and 2015; Federal Statistical Office, *Erwerbstätige im Inland nach Wirtschaftsbereichen* (2016), <https://www.destatis.de/DE/ZahlenFakten/Indikatoren/Konjunkturindikatoren/VolkswirtschaftlicheGesamtrechnungen/vgr010.html>

<sup>26</sup> On this, see Martin Biewen and Andos Juhasz, "Understanding Rising Inequality in Germany, 1999/2000-2005/06," *Review of Income and Wealth* 58(4) (2012): 622-647.

<sup>27</sup> On this, see the recent article by Florian Hoffmann and Thomas Lemieux, "Unemployment in the Great Recession: A Comparison of Germany, Canada, and the United States," *Journal of Labor Economics* 34 (1) (2016): 95-139. Also see analyses by Christian Dustmann, Bernd Fitzenberger, Uta Schönberg, and Alexandra Spitz-Oener, "From Sick Man of Europe to Economic Superstar: Germany's Resurgent Economy," *Journal of Economic Perspectives* 28 (1) (2014): 167-188. For a discussion of the period after German reunification, see Jennifer Hunt and Michael C. Burda, "From Reunification to Economic Integration: Productivity and the Labor Market in East Germany," *Brookings Papers on Economic Activity* (2) (2001): 1-72.

growing and the middle-income group from slipping down the hierarchy.

The middle class is perceived as an important economic and social actor<sup>28</sup> owing to the significant contribution it makes to capital accumulation—human capital as well as real and financial assets—in doing so boosting the country’s aggregate income and consumption.

In order to increase the income share of the middle class, besides having a proactive wage policy (e.g., up-

grading service-class jobs), various other steps can be taken. These include: increasing opportunities for upward mobility in the labor market, providing incentives for converting what are known as “mini-jobs” (salary of up to 450 euros per month) into jobs subject to mandatory social insurance, taking steps to help people reconcile work and family life, and implementing measures to improve people’s access to education, training, and qualifications (buzzword: lifelong learning).

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**28** OECD (2012), [http://www.oecdobserver.org/news/fullstory.php/aid/3681/An\\_emerging\\_middle\\_class.html](http://www.oecdobserver.org/news/fullstory.php/aid/3681/An_emerging_middle_class.html).

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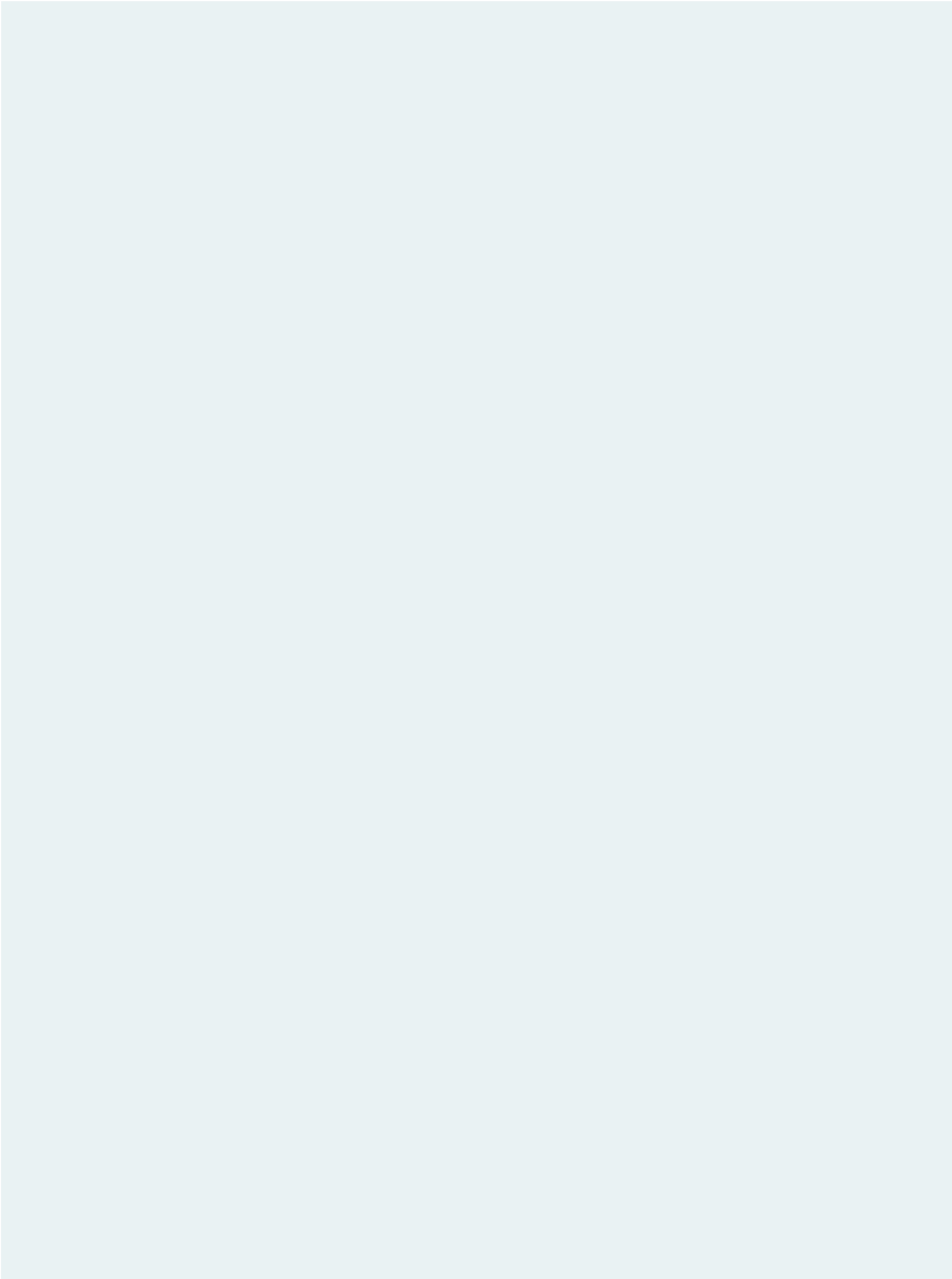
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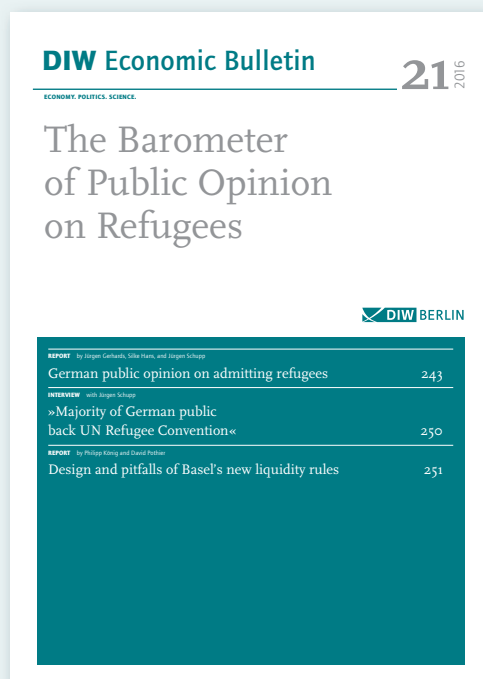
**JEL:** D31, I31, I32

**Keywords:** Middle class, Inequality, Polarization, SOEP

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# German Public Opinion on Admitting Refugees

By Jürgen Gerhards, Silke Hans, and Jürgen Schupp

Since the beginning of 2016, the Socio-Economic Panel (SOEP) study has been conducting a monthly survey of German attitudes, expectations, and fears concerning migration. The third wave of the survey—the Barometer of Public Opinion on Refugees in Germany (Stimmungsbarometer zu Geflüchteten in Deutschland)—conducted in March 2016, shows that more than half of all respondents still associate the influx of refugees with more risks than opportunities. Nonetheless, a clear majority (81 percent of respondents) are in favor of admitting refugees and those fleeing political persecution, in accordance with international law. At the same time, however, the majority are of the conviction that refugees should be sent back to their home country once their reason for leaving it no longer pertains. Only 28 percent of all respondents are in favor of allowing refugees who have already been living in Germany for some time to remain in the country even after the situation in their country of origin has improved.

Since September 2014, surveys conducted by the elections research group (*Forschungsgruppe Wahlen*) have consistently ranked issues concerning migration, foreigners, and refugees as the most important problem in Germany.<sup>1</sup> In each of the SOEP's January, February, and March 2016 surveys conducted for the Barometer of Public Opinion on Refugees in Germany, approximately three-quarters of respondents felt that the recent influx of refugees brought more risks than opportunities for Germany, at least in the short term.<sup>2</sup>

Does the German population's perception of this influx as a problem imply that the majority are not in favor of allowing any more refugees and persecuted individuals into the country? Which groups of refugees do Germans think should be granted asylum and which groups would they rather keep out? Should individuals who have been granted asylum be allowed to stay in Germany even when the reason they fled their home country no longer pertains? The third wave of the Barometer of Public Opinion on Refugees in Germany, which is a representative survey of around 2,000 individuals conducted in Germany in March 2016,<sup>3</sup> provides information that will help us to answer these questions.

## Clear majority of German public in favor of temporarily admitting refugees and persecuted peoples in accordance with international law

The conditions under which refugees and politically persecuted individuals are admitted into the European Union and Germany is codified in various laws. At the

<sup>1</sup> [http://www.forschungsgruppe.de/Umfragen/Politbarometer/Langzeitentwicklung\\_-\\_Themen\\_im\\_Ueberblick/Politik\\_II/#Probl1](http://www.forschungsgruppe.de/Umfragen/Politbarometer/Langzeitentwicklung_-_Themen_im_Ueberblick/Politik_II/#Probl1), accessed April 24, 2016.

<sup>2</sup> For an analysis of the January 2016 findings, see Philipp Eisnecker and Jürgen Schupp, "Flüchtlingzuwanderung: Mehrheit der Deutschen befürchtet negative Auswirkungen auf Wirtschaft und Gesellschaft," *DIW Wochenbericht*, no. 8 (2016), and for an update of the February 2016 findings, see Philipp Eisnecker and Jürgen Schupp, "Stimmungsbarometer zu Geflüchteten in Deutschland," *SOEPpapers on Multidisciplinary Panel Data Research*, no. 833 (Berlin: 2016).

<sup>3</sup> For more in-depth information about the survey, see Eisnecker and Schupp, "Flüchtlingzuwanderung."



Table 1

**Public opinion on the admission of different groups of refugees**

In percent

Reason for seeking asylum	Disapproval	Ambivalence	Approval	Mean <sup>1</sup>
Subsidiary Protection (EU-Law)	10	8	81	8.9
Political Persecution because of ... (Geneva Convention)	20	16	63	7.4
Human rights activities	14	12	74	8.3
Labor union activities	31	20	49	6.5
Religion (Christian)	14	14	72	8.2
Religion (Muslims)	31	18	51	6.7
Ethnic Minority	21	15	64	7.6
Homosexuality	27	16	57	7.1
Overall assessment of all reasons for seeking asylum	19	13	69	7.4

<sup>1</sup> Values 1 to 11.

Source: CAPI-Bus, Module "Barometer of Public Opinion on Refugees in Germany", February 25, 2016 – March 21, 2016. Calculations made by authors.

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A clear majority of respondents approves of those fleeing from war or civil war being granted the right to reside in Germany.

national level, Article 16a of the Basic Law of the Federal Republic of Germany sets out the right of asylum for persons persecuted on political grounds. In international law, the UN Convention and Protocol Relating to the Status of Refugees (1951 Refugee Convention) is the most pertinent: according to Article 1a of the Convention, a refugee is an individual who, "owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality, and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country." Whether or not there is evidence that an asylum-seeker has been persecuted, is established in an asylum procedure.<sup>4</sup>

The 1951 Refugee Convention, ratified by 146 countries, does not, however, apply to individuals who are fleeing war or civil war in their country of origin. The protection of this category of refugees is codified by what is known as the Qualification Directive<sup>5</sup> in EU law and is regulated in the national laws of the EU member states. Refugees

<sup>4</sup> For a recent explanation of the German terms *Flucht*, *Asyl*, and *Migration*, see Robert Bosch Stiftung, *Chancen erkennen – Perspektiven schaffen – Integration ermöglichen. Bericht der Robert Bosch Expertenkommission zur Neuausrichtung der Flüchtlingspolitik* (Stuttgart: 2016), 27–35.

<sup>5</sup> Council Directive 2004/83/EC of April 29, 2004 as well as Directive 2011/95/EU of December 13, 2011.

who fall outside the scope of the 1951 Refugee Convention are eligible for "subsidiary protection" if they face a real risk of suffering "serious harm,"<sup>6</sup> such as the death penalty, torture, or a threat to their lives caused by situations of international or internal armed conflict in their country of origin.<sup>7</sup>

Even if, in a democracy, a given law can be said to have a high level of legitimacy because it is either ratified by a government which was elected by the people or by the country's parliament, the public may not necessarily feel it to be legitimate. People may deem the legally defined conditions under which asylum status may be granted to be more or less legitimate. Accordingly, they will tend to either be in favor of or against admitting refugees or those fleeing political persecution.

The picture depicted by the Barometer is unambiguous (see Table 1): citizens largely perceive the law to be legitimate. The clear majority of respondents are of the conviction that people who seek refuge in Germany due to armed conflict in their country of origin should receive *subsidiary protection*. Popular support, at 81 percent and with a mean value of 8.9 on a scale from one to eleven (see box), is very high and, in fact, compared with all other reasons given for seeking asylum, represents the highest level of approval<sup>8</sup>.

### German public not in strong support of all reasons for seeking asylum

A majority of the public feel that persons who are protected under the 1951 Refugee Convention should be admitted into Germany. While popular support is relatively high at 63 percent with a median value of 7.4 and spans all reasons for persecution, it is considerably lower than in the case of refugees fleeing war and civil war. Around one in five respondents (compared with one in ten in the case of war refugees) is against Germany admitting persecuted people according to the 1951 Refugee Convention. Further, respondents apparently do not deem all reasons for seeking asylum set out in the Convention as equally legitimate. With respect to political persecution in the broadest sense, for instance, persecution as a result of involvement in human rights ac-

<sup>6</sup> Directive 2011/95/EU, Article 15.

<sup>7</sup> In Germany, Section 4, para. 1 of the Asylum Act (AsylG) legislates for such obstacles to refolement specific to the country of destination.

<sup>8</sup> This is important, since armed conflict in the country of origin will increasingly be the primary reason for Syrian refugees, currently the largest group of refugees in Germany, to be granted asylum in the future. For a transitional period, Syrians were awarded automatic refugee status under international law (1951 Refugee Convention). This is a higher protection status which accords more rights but has more stringent criteria. With the reintroduction of case-by-case assessments for Syrian refugees—the asylum procedure was simplified for them from November 2014 to December 2015—subsidiary protection status will once again become increasingly important.

Box

### The data source of the Barometer of Public Opinion on Refugees in Germany

The Barometer of Public Opinion on Refugees in Germany is a survey conducted in conjunction with DIW Berlin's longitudinal survey, Socio-Economic Panel (SOEP) study, and with the survey institute *TNS Infratest Sozialforschung* in Munich. The data source of each survey is a multi-layered, representative random sample with around 2,000 face-to-face interviews per wave, including questions on multiple issues. The survey's target group is Germans living in households, aged 14 and older. The field time of the survey results presented here was from February 25 to March 21, 2016.

In the refugee survey conducted in March 2016, respondents were asked, among other things, which groups of people, in their opinion, should be allowed to stay in Germany for several years as refugees and/or as those fleeing political persecution, and which should not. The questions were formulated in line with the two existing laws. First, respondents were asked about those eligible for subsidiary protection. Second, they were asked about various groups covered by the Geneva Convention, who are considered to be victims of political persecution. Here, a distinction was drawn between

different reasons for persecution: those at risk of persecution on the grounds of their commitment to *human rights* or *labor unions*, and those persecuted because of their religion as *Muslims* or *Christians*, as members of an *ethnic minority*, or as *homosexuals*. Respondents were asked in each case to indicate on a scale of 1 to 11 whether the relevant groups should be deported (1) or be allowed to remain in Germany (11).

The data in the tables show, for each reason for seeking asylum, the arithmetic mean of the level of support for the right of residency (minimum: 1, maximum: 11) as well as the share of respondents whose attitude toward the right of residency is negative (values of 1 to 5 on the scale), neutral (6), or positive (7 to 11). For each of the legal dimensions (subsidiary protection due to war, recognition on account of persecution in accordance with the Geneva Convention), and for all reasons for fleeing, the mean value of agreement with the various items was also calculated. Here, values between 5.5 and 6.5 are considered to be "neutral" while lower and higher values represent rejection of and agreement with the right of residence, respectively.

tivities is seen by 74 percent of respondents as a legitimate reason to be given asylum in Germany, compared with persecution for labor union activity, which meets the approval of just 49 percent of respondents.<sup>9</sup>

Similar differences are evident when we examine the persecution of individuals belonging to certain minority groups. While almost three-quarters of respondents are in favor of granting the right of residence to persecuted Christians, that figure is far lower in the case of persecuted ethnic minorities, homosexuals, and particularly persecuted Muslims.

The discrepancies with regard to religion are particularly striking. In this context, clearly the fact that around half of all respondents feel that refugees pose a threat to

German cultural life and core values plays a role. This threat is primarily projected onto Muslim refugees. Respondents who believe that refugees predominantly undermine rather than enrich Germany's cultural life and core values, tend to oppose the admission of persecuted Muslims, as is illustrated with the bivariate correlations of  $r=0.45$  and  $r=0.47$ , respectively. The correlation with opposition to persecuted Christians being admitted into Germany in contrast is substantially lower ( $r=0.31$  and  $r=0.32$ , respectively).

### Majority of German public in favor of temporary residence for those granted refugee status

Overall, the Barometer findings show that German perceptions of the legitimacy of admitting politically persecuted individuals into Germany corresponds, by and large, with existing law. This also applies to the permitted length of stay in Germany. Asylum law limits the right of residence as a matter of principle and makes it contingent on the continued existence of the reason for admission. Persons granted asylum under Article 16a of the Basic Law of Germany and those awarded refugee status under the 1951 Refugee Convention are subject to the same residency regulations and both initially re-

<sup>9</sup> It is possible that survey respondents in Germany may find it difficult to imagine that people in other countries could be persecuted for labor union activity. In any case, this topic receives much less media attention than the persecution of human rights activists. Perhaps, labor union activity has more negative connotations than human rights activism. Labor union activity often involves the representation of an individual's own particular interests whereas human rights activists tend to be driven by more universalist motives.

Table 2

**Public opinion on the duration of residence rights granted to refugees**  
In percent

	Opinion on the admission of refugees <sup>1</sup>			Total
	Approval	Ambivalence	Disapproval	
<b>When people granted refugee status have been living in Germany for some years, and the situation in their country of origin has improved, those refugees should...</b>				
...be repatriated (values 1 to 5)	82	65	45	55
neutral (6)	10	18	19	17
... be allowed to remain in Germany (values 7 to 11)	9	17	35	28

<sup>1</sup> According to the overall assessment of all reasons for seeking asylum in the final row of table 1.

Source: CAPI-Bus, Module "Barometer of Public Opinion on Refugees in Germany", February 25, 2016 – March 21, 2016. Calculations made by authors.

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Majority of Germans is in favor of repatriating those granted refugee status when the situation in the country of origin has improved.

ceive a temporary three-year residence permit. Provided there is no justification for revocation of the entitlement to asylum or refugee status, a permanent residence permit is then granted. Persons granted subsidiary protection, however, are generally initially awarded a one-year residence permit which can then be extended repeatedly by a further two years.<sup>10</sup> For each extension, the authorities must assess whether the conditions for awarding protection status continue to exist, for example, whether the armed conflict in the country of origin is ongoing. Only after seven years can an individual granted subsidiary protection receive a permanent residence permit under very strict conditions.<sup>11</sup> Thus, refugee status and subsidiary protection are not the same as the right to permanent residency in Germany.

According to the present survey, this aspect of the law also meets with the approval of the German population. The Barometer of Public Opinion on Refugees asks whether respondents feel that refugees who were admitted into Germany and who have been living in the country for

some years should be repatriated as soon as the situation in their country of origin has sufficiently improved. At 55 percent, the majority of respondents believe that, in such cases, refugees should indeed be repatriated (see Table 2). Just 28 percent are in favor of granting individuals the right to remain. One in six are undecided on this question. Of those respondents who are neither for nor against admitting refugees into Germany, around half advocate repatriation in the event that the situation in the country of origin improves. Among those in favor of admitting refugees into Germany, around one-third believe they should receive a permanent right to reside in Germany (see Table 2).

Overall, the analysis shows a clear overlap between the German public's belief in the legitimacy of admitting refugees into the country and existing law. This applies both to their willingness to accommodate people in need and to provide them with protection, as well as to their interpretation of the right to protection as a temporary right of residence.

### Strong normative anchoring of refugee protection

How firmly are attitudes toward granting refugee status to those in need of protection anchored in the public consciousness? There are two arguments suggesting that the attitudes described above are stable and strongly internalized norms. First, the willingness to admit asylum seekers is still high despite the fact that many respondents fear disadvantages and risks for Germany as a consequence of the influx of refugees. Second, there are only relatively moderate socio-structural and politically motivated differences in respondents' belief in the legitimacy of admitting refugees into the country—high levels of support for accepting asylum seekers can be observed in almost all sections of the population.

With regard to the first argument, research into the low-cost hypothesis has shown that people stray from their normative attitudes if there are drawbacks to adhering to the norm.<sup>12</sup> It follows from this that the more firmly anchored the norm is, the more willing people will be to accept the disadvantages associated with it. The majority of adults in Germany tend to see the effects of the influx of refugees as negative and are of the opinion that this immigration brings more risks than opportunities in its wake.<sup>13</sup>

<sup>10</sup> For more detail on the different laws, see the German Federal Office for Migration and Refugees (Bundesamt für Migration und Flüchtlinge), *Der Ablauf des deutschen Asylverfahrens* (last updated July 2015) (Nuremberg: 2015), accessed April 25, 2016, [http://www.bamf.de/SharedDocs/Anlagen/DE/Downloads/Infothek/Asyl/schema-ablaufasylverfahren.pdf?\\_\\_blob=publicationFile](http://www.bamf.de/SharedDocs/Anlagen/DE/Downloads/Infothek/Asyl/schema-ablaufasylverfahren.pdf?__blob=publicationFile)

<sup>11</sup> See <http://www.bamf.de/DE/Migration/AsylFluechtlinge/Asylverfahren/Rechtsfolgen/rechtsfolgen-node.html>, accessed April 25, 2016.

<sup>12</sup> For an example of this hypothesis in a study of environmental behavior, see Andreas Diekmann and Peter Preisendörfer, "Persönliches Umweltverhalten – Diskrepanzen zwischen Anspruch und Wirklichkeit," *Kölner Zeitschrift für Soziologie und Sozialpsychologie* 41 (2) (1992): 226–251.

<sup>13</sup> See Eisnecker and Schupp, "Flüchtlingenzuwanderung."

Table 3

**Assessment of the consequences of refugee migration**

In percent

	Consequences are ...			Approval of the admission of refugees from war or civil war among those who expect <i>negative</i> consequences from refugee migration
	rather negative	ambi-valent	rather positive	
<b>Social consequences of refugee migration</b>				
Is good or bad for the economy	39	23	39	71
Cultural life is undermined or enriched by refugees	44	21	35	70
Germany becomes a worse or better place to live because of the refugees	47	30	23	72
The core values of our society are undermined or enriched by refugees	51	30	18	70
The influx of refugees bears more risks or opportunities in the <i>short term</i>	74	11	15	78
The influx of refugees bears more risks or opportunities in the <i>long term</i>	48	15	37	70
<b>Personal consequences of refugee migration</b>				
	<b>high (60-100)</b>	<b>medium (50)</b>	<b>low (0-40)</b>	
Likelihood of <i>negative</i> personal consequences	19	9	72	62

Source: CAPI-Bus, Module "Barometer of Public Opinion on Refugees in Germany", February 25, 2016 – March 21, 2016. Calculations made by authors.

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Despite the rather negative expectations regarding the social consequences of the influx of refugees, only one in five Germans expect negative effects for themselves or their families.

In the March 2016 survey of the Barometer of Public Opinion on Refugees in Germany, respondents were asked again for their views on various issues such as how they thought immigration would impact on the economy or cultural life in Germany (see Table 3). It is only in relation to the consequences for the German economy that positive and negative assessments are more or less equally balanced. In all other dimensions, the expectation that the influx of refugees will have primarily negative effects prevails. This applies in particular to the short-term effects. Almost three-quarters of respondents believe that the influx of refugees brings more risks than opportunities in the short term. 15 percent of respondents see more opportunities than risks, although the Barometer's latest survey shows that negativity levels are slightly lower in all dimensions, compared to the results from January and February 2016, and the positive assessments are higher. It is remarkable, however, that, given their negative expectations for society as a whole, almost three-quarters of adults consider the probability of negative *personal* consequences to be low.

People's overall negative view has only a limited impact on their acceptance of granting people asylum in Germany. Table 3 shows the share of those who see primarily negative effects of refugee immigration but still support accepting those fleeing war and civil war. Even in this rather pessimistic group, over 70 percent of respon-

dents are in favor of granting refugees the right to remain in Germany. In particular, the fear of short-term problems appears to have virtually no effect on people's willingness to take in refugees. It is only among those who fear an increased chance of negative effects for themselves or their family that proportionally fewer respondents advocate a right of residence for (civil) war refugees. At 62 percent, however, here, too, supporters are still in the majority. In any case, at 19 percent, this group includes only a minority of respondents.

With regard to the second argument,—the high level of consistency in the findings across different groups of persons—election and attitude research has shown that belonging to particular social groups is associated with a higher probability of supporting xenophobic attitudes and of voting for right-wing parties.<sup>14</sup> We can assume that this also applies to attitudes toward acceptance of refugees. However, Table 4, which shows support for refugees across different groups, indicates that this is only the case to a very limited extent. Although there are certainly differences according to the respondents' level of education, place of origin (region), religious affiliation,

<sup>14</sup> See, for example, Kai Arzheimer, "Die Wahl extremistischer Parteien" in *Handbuch Wahlforschung*, eds., Jürgen W. Falter und Harald Schoen, 2nd ed. (Wiesbaden: 2014), 523-561.

Table 4

**Approval of the admission of refugees from war or civil war in different social groups**

In percent

Social background and political orientation					
Education	low (9-year-degree)	medium (10-year-degree)	high (12-year-degree)		
	79	77	87		
Region of residence	East Germany	West Germany			
	74	83			
Place of residence	rural	small town	urban		
	74	86	86		
Political orientation	left	moderately left	medium	moderately right	right
	88	85	80	79	73
Religious denomination	none	Catholic	Protestant	Muslim	
	76	83	81	89	
Contact with refugees					
Professionally	never	occasionally	weekly	(almost) daily	
	79	86	84	79	
Day-to-day live	never	occasionally	weekly	(almost) daily	
	77	83	82	82	
Larger refugee shelter near place of residence	no	place of residence	neighborhood		
	78	79	88		

Source: CAPI-Bus, Module "Barometer of Public Opinion on Refugees in Germany", February 25, 2016 – March 21, 2016. Calculations made by authors.

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Socio-demographic groups hardly differ in their approval of the admission of refugees from war or civil war.

and political leaning, these are comparatively less pronounced. Even in the groups that are least in favor of granting residence—those living in rural regions, eastern Germans, individuals with a lower level of education, and supporters of right-wing politics—an overwhelming 70 percent of respondents are nevertheless in favor of refugees being granted temporary residence in Germany. This also applies to respondents describing themselves as belonging to the right-wing of the political spectrum.

It also has very little effect whether respondents have contact with refugees, be it professionally, in their day-to-day lives, or from living near a mid- to large-sized refugee shelter. It might seem reasonable to assume that the type of contact would affect attitudes to right of residence, either positively or negatively. Here, too, the differences are minor, however, and there is a high level of support across all groups.

## Conclusion

Willingness to admit refugees is clearly based less on self-interest and considerations of the benefits than on a normative imperative to provide protection for those in need. The German people support the current legal regulations although they believe that admitting refugees is not without its risks and disadvantages for their country.

However, the data also show that in the view of many Germans, the normative obligation to assist no longer pertains if the reason for fleeing and the persecution cease to exist. Only 28 percent of all respondents were in favor of allowing refugees who have already been in Germany for several years to remain if the situation in their home country improves. Here, too, German opinion is in agreement with applicable laws. The exceptional

acts of fleeing war and persecution are regulated in *international* law. Permanent immigration is decided on the basis of *national* immigration law and the right of residence. The criteria regulating admission here are quite different and these do not so much follow universal norms as national interests first and foremost. Due

to demographic change in Germany, it might be entirely in the national interest not to send refugees who, in the space of a few years, have become well integrated in the labor market and society back to their home countries as is typically done today but instead to offer them long-term prospects in Germany.

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DIW Economic Bulletin		34+35	2016
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Integration of refugees			
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<b>EDITORIAL</b>	by Philipp Eisenacker, Johannes Giesecke, Martin Koh, Elisabeth Lohau, Jan Martin, Zeno Salkutskik, Dana Schacht, C. Katharina Spieth, and Franz Westermann		
Integrating refugees: insights from the past		387	
<b>INTERVIEW</b>	with Martin Koh		
»A variety of measures and initiatives can accelerate the immigration process for today's refugees«		391	
<b>REPORT</b>	by Elisabeth Lohau and Zeno Salkutskik		
Many refugees have work experience but a smaller share possess formal vocational qualifications		392	
<b>REPORT</b>	by Elisabeth Lohau and Dana Schacht		
Language acquisition: refugees nearly achieve proficiency level of other migrants		400	
<b>REPORT</b>	by Zeno Salkutskik, Johannes Giesecke, and Martin Koh		
Refugees entered the labor market later than other migrants		407	
<b>REPORT</b>	by Philipp Eisenacker and Dana Schacht		
Half of the refugees in Germany found their first job through social contacts		414	
<b>REPORT</b>	by C. Katharina Spieth, Franz Westermann, and Jan Martin		
Children and adolescents with refugee background less likely to participate in voluntary educational programs— with exception of extracurricular school activities		422	

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# Integrating Refugees: Insights from the Past

By Philipp Eisnecker, Johannes Giesecke, Martin Kroh, Elisabeth Liebau, Jan Marcus, Zerrin Salikutluk, Diana Schacht, C. Katharina Spieß, and Franz Westermaier

According to current estimates, more than one million refugees arrived in Germany between 2014 and 2015. Their integration into German society and the labor market is now one of the most pressing policy issues. How can the various challenges be met? A look into the past can help provide some answers.

This special issue of the *DIW Economic Bulletin* analyzes survey data on refugees who arrived in Germany mainly between the years 1990 and 2010. Most of them came from the Western Balkans and from Arab and Muslim countries—regions that play a major role in the current immigration wave. These empirical findings may allow us to draw conclusions about how refugees in the recent past can be successfully integrated into Germany's education system and labor market.

The primary data basis is the IAB-SOEP Migration Sample, a joint initiative of the Institute for Employment Research (IAB) and the German Socio-Economic Panel (SOEP). Most of our analyses are based on results from surveys conducted in 2013. We compare refugees to non-refugee migrants who entered Germany during the same time period.

This issue of the *EB* investigates five different aspects of integration: the qualifications refugees brought with them to Germany, as well as their educational backgrounds and professional qualifications from abroad; language acquisition; labor market participation; the process of finding a first job in Germany; and the use of voluntary educational programs by children and adolescents from refugee backgrounds.

A mixed picture emerges overall, with some striking differences between refugees and other migrants: refugees arrived with lower educational and professional qualifications, and were less likely to obtain recognition from

German authorities of the educational and vocational certificates that they had received abroad (see the first report in this issue).<sup>1</sup> However, the majority of refugees had already gained work experience before arriving in Germany (acquired, for instance, through on-the-job training). These findings point to the need for better and more targeted provision of information for refugees on the recognition procedure and suggest the importance of expanding recognition to cover informally acquired qualifications in order to provide refugees with better job market prospects.

At the time of their arrival, refugees had lower German proficiency on average than did other migrants—yet their language skills improved more rapidly over time than did those of other migrants (see the second report in this issue).<sup>2</sup> Enrollment in the German education system and the use of German in various everyday situations are positively correlated with language acquisition among both refugees and other migrants.

Entry into the labor market took longer for refugees—especially for women from refugee backgrounds—than it did for other migrants. Although the employment rates between the two groups converged over time, employment structures and income levels of refugees still differed from those of other migrants and non-migrants, even years after the refugees' arrival (see the third report in this issue).<sup>3</sup> Any institutional obstacles hindering refugees' swift integration into the labor market should therefore be eliminated as quickly as possible. It is also critical that refugees find jobs that match their qualifications.

- <sup>1</sup> Liebau, E., Salikutluk, S. (2016): Many refugees have work experience but a smaller share possess formal vocational qualifications. *DIW Economic Bulletin* 35/2016, 392–399.
- <sup>2</sup> Liebau, E., Schacht, D. (2016): Language acquisition: refugees nearly achieve proficiency level of other migrants. *DIW Economic Bulletin* 35/2016, 400–406.
- <sup>3</sup> Salikutluk, Z. et al. (2016): Refugees entered the labor market later than other migrants. *DIW Economic Bulletin* 35/2016, 407–413.

Box

### Data and definitions

#### The Socio-Economic Panel (SOEP) and the IAB-SOEP Migration Survey

The Socio-Economic Panel (SOEP) is an annual follow-up survey of German households conducted by *TNS Infratest Sozialforschung* on behalf of DIW Berlin. The SOEP has been active in West Germany since 1984 and in East Germany since 1990.<sup>1</sup> The survey, which is based primarily on personal interviews with all adult household members, focuses on topics such as income, labor market participation, education, quality of life, life satisfaction, social participation, and health. In addition, adult respondents provide a range of information about the children living in the household, and adolescent household members also begin participating in the survey after the age of 16.

Since the first survey in 1984, the SOEP has included special samples of individuals with migrant backgrounds. This provides an important data base for analysis of the integration process.<sup>2</sup> For example, the 1984 sample (Sample B) focused on people from countries like Turkey, Yugoslavia, Italy, Spain, and Portugal—individuals who, between the 1950s and 1970s, were recruited to work in Germany. The immigration of (late) repatriates, especially during the 1990s, was the focus of a special sample from 1994<sup>3</sup> (Sample D). The SOEP boost samples, which were added between 1998 and 2012 in order to maintain the overall sample size, also included a large number of households in which people with migrant backgrounds were living.

In 2013, the IAB-SOEP Migration Sample—a joint project between the Institute for Employment Research (IAB) of the Federal Employment Agency and the German Socio-Economic Panel (SOEP) at DIW Berlin—was conducted for the first time.<sup>4</sup> This survey, which is also made available in an integrated form as Sample M1 in the SOEP's dataset and doubles the number of migrant respondents in the SOEP, focuses on

households of migrants who came to Germany in or after 1995 and either took a job that is subject to social insurance contributions or received transfers of the Federal Employment Agency.<sup>5</sup>

The reports in this issue of the *Economic Bulletin* are based primarily on data from the 2013 SOEP survey (SOEP.v31). This includes the IAB-SOEP Migration Sample, in which 30,956 adults and 13,933 children in 16,975 households participated. Nearly 10,000 adults and 5,000 children and adolescents in the 2013 survey reported a migrant background, which corresponds to roughly one third<sup>6</sup> of all household members who took part in the SOEP survey that year.

#### The definition of refugees

In the SOEP, foreigners and other persons who were not born in Germany are asked when they immigrated to Germany and what kind of legal status they had at arrival. Altogether, 751 respondents (SOEP.v31, Table 1) reported entering Germany as asylum-seeker or refugee. A group of 5,612 individuals with migrant background was primarily made up of repatriates (i. e., ethnic Germans), labor migrants, and EU citizens as well as family migrants—for example, the spouse and children of a legal resident of Germany (this group is referred to here as "other migrants"). Among all migrants, 1,616 did not provide information on their status upon arrival and are therefore excluded from the analyses.

Minor children of immigrants who did not answer this question themselves were assigned the parents' legal status. For the years 1994 to 2014, there were 806 children of refugees and 6,370 children of other migrants in our sample. The sample also contains adolescents (aged 17), 101 of whom were categorized as refugees and 823 as other migrants.

The number of cases referred to in the different reports in this issue of the *Economic Bulletin* vary. Among other reasons, this is because the various analyses deal with different topics and use data on varying population groups (for example, employed persons in 2013).

<sup>1</sup> Wagner, G. G. et al. (2008): Das Sozio-oekonomische Panel (SOEP): Multidisziplinäres Haushaltspanel und Kohorten Studie für Deutschland – Eine Einführung (für neue Datennutzer) mit einem Ausblick (für erfahrene Anwender). *Allgemeines Statistisches Archiv* 2 (4): 301–328.

<sup>2</sup> Liebau, E. und Tucci, I. (2015): Migrations- und Integrationsforschung mit dem SOEP von 1984 bis 2012: Erhebung, Indikatoren und Potenziale. *SOEP Survey Papers* 270: Series C. Berlin: DIW/SOEP.

<sup>3</sup> Schupp, J. und Wagner, G. G. (1995): Die Zuwandererstichprobe des Sozio-oekonomischen Panels (SOEP). In: *Vierteljahrshefte zur Wirtschaftsforschung*, Jg. 64, Heft 1, S. 16–25.

<sup>4</sup> Brücker, H. et al. (2014): The new IAB-SOEP Migration Sample: an introduction into the methodology and the contents. *SOEP Survey Papers* 216: Series C. Berlin: DIW/SOEP.

<sup>5</sup> Kroh, M. et al. (2015): The 2013 IAB-SOEP Migration Sample (M1): Sampling Design and Weighting Adjustment. *SOEP Survey Papers* 271: Series C. Berlin: DIW/SOEP.

<sup>6</sup> This represents more than a quarter in the weighted case.

The reports on language skills, qualifications, and job acquisition are based solely on the 2013 IAB-SOEP Migration Sample. The report on the labor market integration of refugees and other migrants is based on SOEP data up to 2013 as well as the IAB-SOEP Migration Sample. The report on participation in voluntary educational programs is based on data from the SOEP of all first interviewees from 1994 onwards, as well as data from the IAB-SOEP Migration Sample. Data on "children" refer to individuals who met the corresponding age criterion between 2006 and 2014, while those on "adolescents" refer to those who met the corresponding age criterion between 2000 and 2014.

### Immigration year and regions of origin

The present studies are based on interviews with refugees who, for the most part, arrived in Germany between 1990 and 2010; these individuals are thus *not* part of the recent major immigrant influx that began in 2014 and peaked in 2015. No data are available yet for these years. Refugees who arrived in Germany after 2013 are currently taking part in a survey conducted by the IAB and the SOEP in cooperation with the Federal Office for Migration and Refugees (*Bundesamt für Migration und Flüchtlinge*, or BAMF). The purpose of this issue of the *Economic Bulletin* is to provide insight into the integration process of past refugees and migrants, which can be used to help the migrants of today as well as in the future.

More than half of the refugees surveyed here immigrated in the 1990s (Table 2). 8 percent of the other migrants have been living in Germany for several decades. Hence, the analyses are based on individuals who immigrated to Germany and remained long-term.

The refugees of the 1990s came primarily from civil war-torn regions such as the former Yugoslavia. There is also a higher percentage of individuals from Arab and Muslim countries (30 percent) in the group of refugees than in the group of other migrants. Refugees and other migrants reported, on average, similar ages at the time of the survey (43 years old) as well as at the time of entry (23 years old). The percentage of women was lower among refugees (44 percent) than among other migrants (56 percent).

Even though the survey did not include refugees who have arrived to Germany since 2014, many of the 2013 survey respondents came from comparable countries of origin (Western Balkans as well as Arab and Muslim countries).

Table 1

### Respondents in SOEP and the IAB-SOEP Migration Survey

	Refugees <sup>1</sup>	Other migrants <sup>2</sup>
<b>Adult migrants</b>		
Cumulative number of respondents (1994-2014)	751	5,612
<i>Of that:</i> Respondents in 2013	578	4,520
<b>Children and adults with refugee background</b>		
Cumulative number of respondents (1994-2014)	806	6,370

<sup>1</sup> Persons who report having entered Germany as asylum-seeker or refugee.

<sup>2</sup> Persons who report having entered Germany as immigrants, labor migrants, and EU citizens, as well as dependents of migrants.

Source: SOEP.v31

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Table 2

### Age, gender, and migration experience

	All respondents 1994-2014 Refugees		All respondents 1994-2014 Other migrants	
		<i>Of that:</i> respondents 2013		<i>Of that:</i> respondents 2013
<b>Women (in percent)</b>	44	44	54	56
<b>Age (average in years)</b>				
Age of respondents 2013	-	43	-	42
Age at immigration	-	23	-	24
<b>Immigration period (share in percent)</b>	100	100	100	100
1949-1979	2	2	8	8
1980-1989	10	9	10	10
1990-1999	55	59	37	38
2000-2009	30	28	40	39
2010-2014	3	2	5	5
<b>Region of origin (in percent)</b>	100	100	100	100
EU-28	6	6	37	37
South-east Europe <sup>1</sup>	39	42	16	16
Post-Soviet States <sup>2</sup>	17	17	36	37
Arab/Muslim countries <sup>3</sup>	33	30	4	4
Other countries	6	6	6	6

<sup>1</sup> Albania, Bosnia-Herzegovina, Macedonia, Montenegro, Serbia, Turkey.

<sup>2</sup> Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Ukraine, Uzbekistan, Tajikistan, Turkmenistan, Belarus.

<sup>3</sup> Afghanistan, Egypt, Algeria, Bangladesh, Burkina Faso, Gambia, Guinea, Yemen, Iraq, Iran, Indonesia, Kuwait, Lebanon, Libya, Morocco, Malaysia, Mali, Pakistan, Palestine, Senegal, Somalia, Syria, Chad, Tunisia.

Source: SOEP.v31 (unweighted analyses).

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Half of the refugees in the sample found their first job in Germany informally through friends, acquaintances, and relatives (see the fourth report in this issue).<sup>4</sup> This was particularly the case for refugees who already had contacts in Germany but spoke no German upon arrival. But overall, those refugees who were working in Germany were somewhat more likely than other migrants to have found their job through formal means like job advertisements or job agencies.

Children of refugees, as well as children and adolescents who were refugees themselves, took advantage of voluntary educational programs as often, or more often than did other children—primarily when it came to extracurricular school activities (see the fifth report in this issue).<sup>5</sup>

However, refugee children under the age of three were less likely to attend day care centers and were in later ages significantly less likely to take part in some of the non-formal educational activities held outside of school. This appears to indicate that voluntary educational programs outside of school and non-formal offerings for toddlers and preschoolers are not yet being utilized by refugee children as extensively as they could be. To promote wider use of these programs, it would be helpful to expand intercultural exchange through training and increased recruitment of volunteer and full-time staff with migrant or refugee backgrounds.

<sup>4</sup> Eisnecker, P., Schacht, D. (2016): Half of refugees in Germany found their first job through social contacts. DIW Economic Bulletin 35/2016, 414–421.

<sup>5</sup> Spiess, C. K. et al. (2016): Children and adolescents with refugee background less likely to participate in voluntary educational programs—with exception of extracurricular school activities. DIW Economic Bulletin 35/2016, 422–430.

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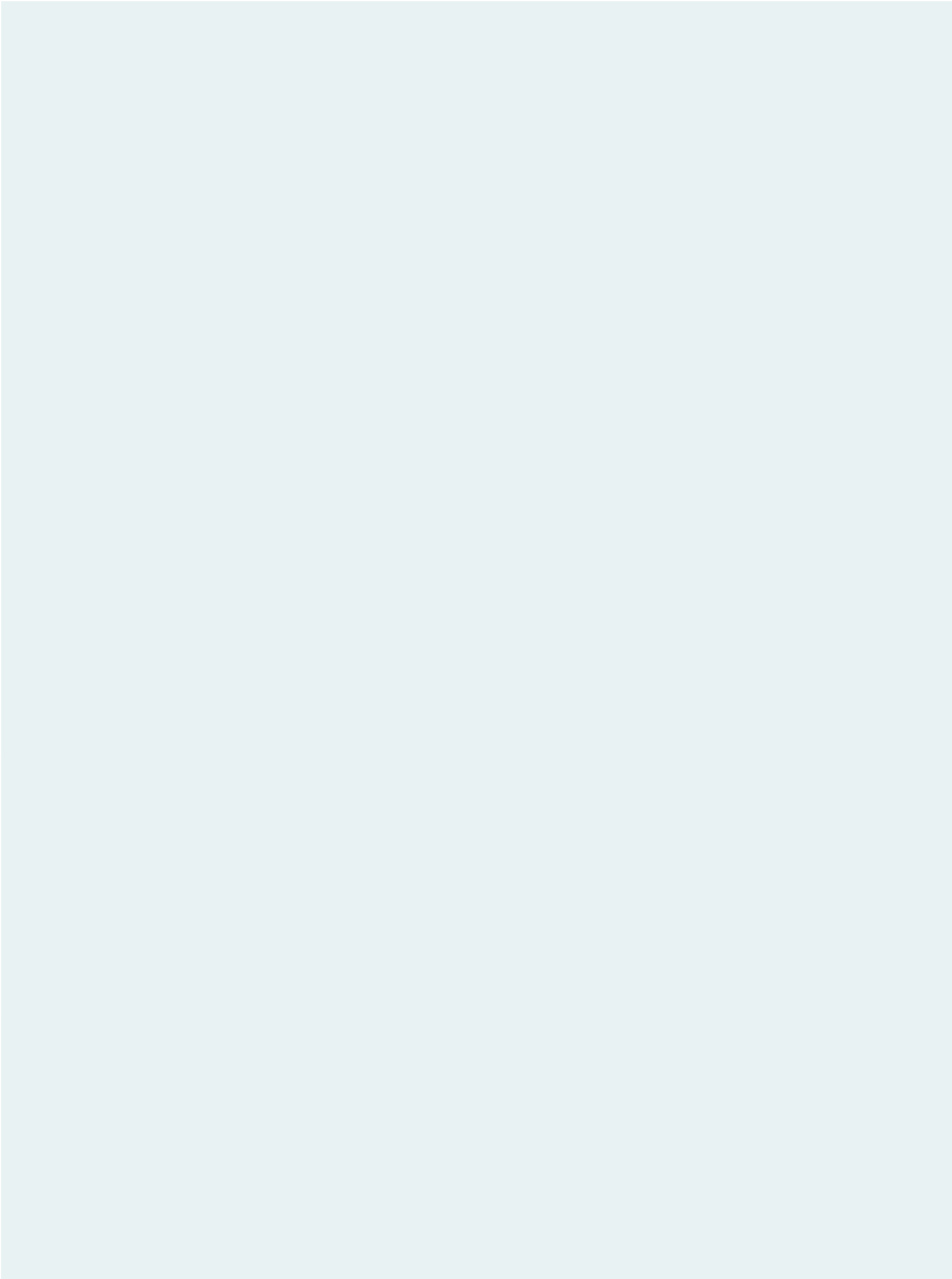
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# Many Refugees Have Work Experience but a Smaller Share Possess Formal Vocational Qualifications

By Elisabeth Liebau and Zerrin Salikutluk

Academic and vocational qualifications play a crucial role when it comes to successfully integrating refugees and other migrants into society. What qualifications did migrants already acquire in their country of origin and which did they obtain in Germany? And to what extent are qualifications gained abroad recognized in Germany? The IAB-SOEP Migration Sample shows that the majority of the migrant groups studied in the present report completed their schooling abroad and already gained professional experience there. However, only a smaller share possess formal vocational qualifications. One-third of refugees and other migrants applied for foreign qualifications to be recognized in Germany. However, the recognition rate is low for refugees.

For migrants to find work in Germany, it is crucial that the qualifications they bring with them are in demand on the German labor market. On the one hand, it is important that they learn German and invest in further training programs, and on the other, they should seek recognition of their academic and vocational certificates in Germany.

Age and planned or permitted duration of stay are key factors when making educational decisions. Unlike other migrants, asylum-seekers may be less motivated to invest in further qualifications in Germany because their prospects of staying there and the duration of their stay is uncertain until their status is clarified.

There are currently no empirically reliable data that enable us to make comprehensive statements about individuals who came to Germany during the recent wave of refugee migration.<sup>1</sup> In the public discourse on the qualification levels of refugees, predictions have ranged from very pessimistic<sup>2</sup> to extremely optimistic,<sup>3</sup> with some experts forecasting that refugees will help to counter the shortage of skilled workers in some sectors. Studying migrants who have been living in Germany for a longer period offers insights into the opportunities for and obstacles to successful integration of refugees and other migrants. Based on the findings, social policy can be tailored to address these challenges.

The present report considers in more detail the qualification levels of refugees and other migrants who have lived in Germany for an average of 18 and 16 years, respectively, based on the joint migration sample from the Socio-Economic Panel (SOEP) study and the Institute for Employment Research (IAB) (see box). The IAB-SOEP Migration Sample examines both qualifications that migrants had *prior* to their arrival in Germany and qualifications acquired *after* migrating to Germany. Finally, the data provide detailed information on the extent to which applications have been submitted to have foreign qualifications recognized and to what extent these applications have been successful.

<sup>1</sup> For an exception, see the German Federal Employment Agency, "Geflüchtete Menschen in den Arbeitsmarktstatistiken – Erste Ergebnisse," *Statistik/Arbeitsmarktberichterstattung* (Nuremberg: 2016).

<sup>2</sup> See, for example, "Zwei Drittel können kaum lesen und schreiben," *Die Zeit*, December 3, 2015, <http://www.zeit.de/2015/47/integration-fluechtlinge-schule-bildung-herausforderung>.

<sup>3</sup> See for example, "DGB sieht Flüchtlinge als „große Chance“ für den Osten," *Die Welt*, December 28, 2015, <http://www.welt.de/politik/deutschland/article150371564/DGB-sieht-Fluechtlinge-als-grosse-Chance-fuer-den-Osten.html>.

Box

### Data basis

The data basis for the analyses is the IAB-SOEP Migration Sample. It was conducted in 2013 as a joint project between the Socio-Economic Panel (SOEP) study and the Institute for Employment Research (IAB).<sup>1</sup> It is one of the many subsamples of the SOEP, a longitudinal survey of households in Germany conducted annually since 1984.<sup>2</sup>

The in-depth survey of educational biographies in the Migration Sample enables differentiated analyses of school and vocational qualifications acquired abroad and in Germany. It also makes it possible to study whether respondents have applied to have foreign qualifications recognized in Germany,

<sup>1</sup> For details, see H. Brücker, M. Kroh, et al., "The New IAB-SOEP Migration Sample: An Introduction into the Methodology and the Contents," *SOEP Survey Papers* (2014): 216 and M. Kroh, S. Kühne, et al., "The 2013 IAB-SOEP Migration Sample (M1): Sampling Design and Weighting Adjustment," *SOEP Survey Papers* (2015): 271.

<sup>2</sup> See also the term "Sozio-oekonomisches Panel (SOEP)" in DIW Berlin's glossary: [http://diw.de/de/diw\\_01.c.412809.de/presse/diw\\_glossar/sozio\\_oekonomisches\\_panel\\_soep.html](http://diw.de/de/diw_01.c.412809.de/presse/diw_glossar/sozio_oekonomisches_panel_soep.html) (in German only).

what the recognition rates are, and what reasons respondents give for not seeking recognition of foreign qualifications.

According to information about entry status, there were 446 refugees in this sample who had already lived in Germany for an average of 18 years when they were surveyed. This longer period of stay enables us to take a more in-depth look both at qualifications earned abroad and at those earned in Germany. Due to the small sample sizes in many analyses of refugees, however, the findings should be treated with caution.

Furthermore, it must be emphasized that the educational trajectories of refugees who have lived in Germany for many years may differ, in some cases significantly, from those of refugees who have come to Germany very recently. These latter individuals may have very different prospects of being able to stay, which affects their efforts to attain educational qualifications in Germany or apply for recognition of foreign qualifications. Some recent refugees may also want to return to their countries of origin as soon as possible after conflicts end or security conditions improve.

## Majority of migrants completed their school education abroad

Most refugees and other migrants completed their schooling abroad before coming to Germany<sup>4</sup> (see Table 1). One-fifth of adult refugees and one-quarter of other migrants living in Germany in 2013 reported having attended school most recently in Germany. In both groups, only two percent of respondents were attending school at the time of the survey.

## What qualifications did migrants acquire abroad?

To be able to use qualifications obtained abroad, migrants need to acquire further skills, including proficiency in German and an understanding of the German labor market.<sup>5</sup> If, however, they are still in school after arriving in Germany, they can learn German and

<sup>4</sup> For the majority of respondents, abroad refers to their native country. However, it cannot be ruled out that some individuals had already migrated to third countries prior to their arrival in Germany and acquired academic and vocational qualifications there.

<sup>5</sup> Cf. Frank Kalter, "Ethnische Ungleichheit auf dem Arbeitsmarkt," in *Arbeitsmarktsoziologie*, eds. M. Abraham and T. Hinz (Wiesbaden: 2005), 303–332.

Table 1

### Country in Which Respondent Last Attended School

Share in percent

	Total		At least 16 at immigration		Younger than 16 at immigration	
	Refugees	Other migrants	Refugees	Other migrants	Refugees	Other migrants
Currently attending school	2	2	1*	0	6	6
Outside Germany	78*	73	94	93	1	5
In Germany	20*	25	5	7	93	89
N	418	3 177	332	2 501	86	676

Case numbers below 30 are in italics. T-test comparison between refugees and other migrants, \* $p < 0.05$ .

Source: IAB-SOEP Migration Sample (2013) of SOEP, v31, weighted; estimations by DIW Berlin.

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The large majority of refugees and other migrants attended school abroad.

get to know how the the German education system and labor market work as part of their education.

Table 2

**Duration and level of schooling abroad**

	Total		Refugees		Other migrants	
	Refugees	Other migrants	Men	Women	Men	Women
Average duration in years	9.9	10.0	9.8	10.1	10.0	10.0
N	300	2,318	186	114	1,000	1,318
<b>Share in percent</b>						
Dropped out of school	20*	10	18	24	9*	11
Completed compulsory schooling	32*	40	36*	24	44*	37
Completed upper secondary schooling	48	50	46	52	47*	52
N	310	2,350	194	116	1,013	1,337

Case numbers below 30 are in italics. T-test comparison between refugees and other migrants, \* $p < 0.05$ .

Source: IAB-SOEP Migration Sample (2013) of SOEP.v31, weighted; estimations by DIW Berlin.

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Around half of all refugees and other migrants completed formal education beyond compulsory schooling.

Table 3

**Vocational qualifications obtained abroad**

In percent

	24 years or older at immigration					
	Total		Refugees		Other migrants	
	Refugees	Other migrants	Men	Women	Men	Women
No qualification	55*	41	55	55	40	42
Other qualification	7	2	2	0	3	7
Apprenticeship	15	15	18	11	17*	13
Attended vocational school	9*	17	8	10	17	16
Attended university	20*	25	17	24	23*	28
N	261	1,821	151	110	804	1,017

Case numbers below 30 are in italics. T-test comparison between refugees and other migrants, \* $p < 0.05$ .

Source: IAB-SOEP Migration Sample (2013) of SOEP.v31, weighted; estimations by DIW Berlin.

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The majority of refugees did not possess formal vocational qualifications.

### Non-refugee migrants have higher levels of schooling attained abroad

Refugees and other migrants living in Germany attended an average of ten years of general schooling abroad before coming to Germany (see Table 2).<sup>6</sup> When differentiating by level of educational qualification, other migrants tended to be more qualified than refugees: 40 percent of the former group completed compulsory

<sup>6</sup> The median in both migrant groups was also ten years.

education and 50 percent went on to complete higher levels of education. The share of refugees was slightly lower, with 32 percent completing compulsory education and 48 percent graduating from upper secondary school.<sup>7</sup> Conversely, the proportion with no educational qualifications was higher among refugees (20 percent) than other migrants (10 percent). In both groups, a larger share of women than men graduated from upper secondary school (52 to 46 and 47 percent, respectively).

### Only a minority of refugees attained formal vocational qualifications in their country of origin

The model of dual vocational education and training (VET) that links learning professions in companies and vocational schools is not widespread outside of Central Europe. This may be one reason why the share of those with no formal vocational certificate is relatively high in both groups (see Table 3). If we look at migrants who were aged 24 years or older when they arrived and therefore able to complete their vocational training before migrating to Germany, 55 percent of refugees and 41 percent of other migrants had no formal vocational qualification at all. One fifth of refugees and one fourth of other migrants earned a university degree abroad. As a result, other migrants were more likely than refugees to have higher vocational qualifications from their country of origin. In both groups, more women had university degrees than men.

### Majority of migrants gained work experience abroad

Besides formal academic and vocational qualifications, which play a significant role on the German labor market, migrants also bring vocational qualifications, often acquired through on-the-job training in their countries of origin.

Overall, 86 percent of refugees and 89 percent of other migrants in the sample aged 24 years or older on arrival attained vocational experience abroad (see Table 4). In both groups, women had less work experience than men, but the gender difference was greater among refugees than among other migrants.<sup>8</sup>

<sup>7</sup> In both groups of migrants, the median of the duration of relevant school attendance for those who successfully completed compulsory education was nine years, and 12 years for those with a further education qualification to which we refer to as upper secondary education.

<sup>8</sup> See A. K. Rich, "Asylerantragsteller in Deutschland im Jahr 2015: Sozialstruktur, Qualifikationsniveau und Berufstätigkeit," *BAMF-Kurzanalysen*, no. 3 (2016). The reported shares of those with employment experience from abroad, particularly among women, are considerably higher than in the *BAMF-Kurzanalyse* by Rich. In addition to considering very different migration years and age groups, the different pictures can be explained by Rich's report asking about their latest employment status as opposed to the present report

The average work experience was around 14 years in both groups.<sup>9</sup> Men were employed abroad longer than women. Again, the gender difference was greater among refugees than in the group of other migrants.

### What qualifications did migrants earn in Germany?

One-fifth of refugees and one-quarter of other migrants attended school in Germany (see Table 1). This is especially the case for those who were of school age upon arrival. Those who were older tended more to go into vocational training. Here, migrants can earn the qualifications they are missing or build on qualifications already attained (abroad) with further qualifications.<sup>10</sup>

### Refugees achieved higher academic qualifications in Germany than other migrants

Compared to other migrants, refugees are more likely to graduate from upper secondary school (36 percent versus 26 percent). Women were more likely to graduate from upper secondary school (*Abitur*) than men and less likely to graduate from lower secondary school (*Hauptschulabschluss*) or to leave school without graduating.

### Young migrants in particular earned vocational qualifications

In 2013, almost one-sixth of refugees and one-third of other migrants acquired vocational qualifications in Germany or were still in training (see Table 6), whereby no gender difference were apparent. Migrants who did not obtain vocational training in their country of origin could increase their chances of getting a more highly qualified jobs by completing vocational education and training in Germany: This was true for 18 percent of refugees and 38 percent of other migrants. However, age appears to be a much more decisive factor in the completion of vocational education and training than making up for a lack of qualifications.

When focusing on those aged 24 or younger<sup>11</sup> on immigration to Germany, the share that had completed vocational education in Germany or were still in training in the survey year was 26 percent for refugees and 47 per-

which analyzes whether migrants have gained any employment experience abroad at all.

<sup>9</sup> The average age at migration of those in the subpopulation who were aged 24 years and older on arrival in Germany is 35 years.

<sup>10</sup> A detailed description of access to training at educational facilities for refugees can be found in Robert Bosch Stiftung (pub.), "Chancen erkennen – Perspektiven schaffen – Integration ermöglichen," *Bericht der Robert Bosch Expertenkommission zur Neuausrichtung der Flüchtlingspolitik* (Stuttgart: Robert Bosch Stiftung GmbH, 2016): 129ff.

<sup>11</sup> The average age at migration in both groups of migrants in this subpopulation was 16 years.

Table 4

### Work experience abroad

	Total		Refugees		Other migrants	
	Refugees	Other migrants	Men	Women	Men	Women
<b>24 or older at immigration</b>						
Percentage with work experience abroad	86	89	94*	75	94*	84
N	256	1,804	149	107	795	1,009
<b>24 or older at immigration and at least 1 year work experience abroad</b>						
Average work duration in years	14.2	13.9	15.1*	12.4	14.5*	13.4
N	210	1,568	140	70	739	829

*T-test comparison between refugees and other migrants and between men and women within migrant groups, \*p < 0.05.*

Source: IAB-SOEP Migration Sample (2013) of SOEP v31, weighted; estimations by DIW Berlin.

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Most refugees and other migrants gained work experience before migrating to Germany abroad.

Table 5

### School attendance in Germany by refugees and other migrants

In percent

	Total		Refugees		Other migrants	
	Refugees	Other migrants	Men	Women	Men	Women
Dropped out of school	5	4	9	2	5	3
Other educational certificate	2	2	1	2	2	2
Lower secondary school	35	39	37	33	44*	34
Intermediate secondary school	22	29	14	30	25	32
Technical secondary school	16	10	24*	8	10	11
Upper secondary school	20	16	15	25	14	18
N	90	695	43	47	346	349

*Case numbers below 30 are in italics. T-test comparison between refugees and other migrants and between men and women within migrant groups, \*p < 0.05.*

Source: IAB-SOEP Migration Sample (2013) of SOEP v31, weighted; estimations by DIW Berlin.

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Refugees graduated from technical or upper secondary school more often than other migrants.

cent for other migrants. Among those under the age of 24 in 2013, 45 percent of refugees and 60 percent of other migrants had completed or were still attending vocational education and training. In the age group of 24 to 34 year olds, it was 46 and 51 percent, respectively. Participation rates declined substantially among those aged 34 or older. Here, 20 percent of other migrants had completed or were attending vocational education, while this was the case for only 7 percent of refugees.

Table 6

**Participation in vocational training in Germany among refugees and other migrants**

In percent

	Total		Refugees		Other migrants		No vocational qualification from abroad		Already attended school in Germany	
	Refugees	Other migrants	Men	Women	Men	Women	Refugees	Other migrants	Refugees	Other migrants
No participation in vocational training in Germany to date	85*	70	84	87	69	71	82*	62	45*	34
Currently in vocational training	5	7	5	5	6*	8	7	9	24*	13
Completed vocational training in Germany	10*	23	11	8	25*	21	11*	29	31*	53
N	446	3,199	254	192	1,421	1,778	308	1,800	92	718
By age groups	Under 24 years old at immigration		under 24 years		24 to 34 years		34 years or older			
	Refugees	Other migrants	Refugees	Other migrants	Refugees	Other migrants	Refugees	Other migrants		
No participation in vocational training in Germany to date	74*	53	55*	40	56	49	93*	80		
Currently in vocational training	11	11	37	46	18	12	0*	2		
Completed vocational training in Germany	15*	36	8	14	26*	39	7*	18		
N	201	1,504	44	318	65	746	337	2,135		

Case numbers below 30 are in italics. T-test comparison between refugees and other migrants, \* $p < 0.05$ .

Source: IAB-SOEP Migration Sample (2013) of SOEP.v31, weighted; estimations by DIW Berlin.

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Other migrants completed more often vocational training than refugees.

Refugees and other migrants were especially likely to complete vocational education and training in Germany if they had attended school in Germany. In this group, the share with vocational qualifications or those in training at the time of the survey rose to around 55 percent among refugees and 66 percent among other migrants.

If refugees had completed their vocational training in Germany, they were more likely than other migrants

Table 7

**Percentage of vocational training completed in Germany**

In percent

	Refugees	Other migrants
Other degree	5	3
Apprenticeship	55	51
Vocational school	29*	17
University	11*	29
N	52	640

Case numbers below 30 are in italics. T-test comparison between refugees and other migrants, \* $p < 0.05$ .

Source: IAB-SOEP Migration Sample (2013) of SOEP.v31, weighted; estimations by DIW Berlin.

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Refugees completed apprenticeships or vocational school at a higher rate than other migrant groups.

to complete an apprenticeship, but less likely to attain a university degree (see Table 7).

**Refugees' qualification levels vary by region of origin**

Qualification levels can also be considered using the internationally comparable CASMIN classification, which combines the highest educational and vocational qualifications.<sup>12</sup> Using this classification reveals some key differences between refugees and other migrants. The share of individuals with no academic or vocational qualification at all was 15 percent among refugees, almost twice as high as among other migrants (eight percent, see Table 8). Refugees were more likely to have attended school but have no further vocational qualifications. Finally, other migrants are better qualified than refugees overall—not least due to the higher share of university graduates in this group.

Separating migrants by region of origin reveals further distinctions. For example, qualification levels are higher among refugees from the territory of the former Soviet

<sup>12</sup> See W. Müller, P. Lüttinger, W. König, and W. Karle, "Class and Education in Industrial Nations," *International Journal of Sociology*, no. 19 (1989): 3–39.

Table 8

**Highest level of academic or vocational qualification<sup>1</sup>**

In percent

	Total		Refugees			Other migrants		
	Refugees	Other migrants	South-east Europe	Post-Soviet States	Arab/Muslim countries	South-east Europe	Post-Soviet States	Arab/Muslim countries
No degree/diploma	15*	8	12	0*	21*	14	5*	13
Lower secondary diploma without vocational training	22	20						
Lower secondary diploma with vocational training	12*	17						
Intermediate secondary diploma without vocational training	16*	12						
Intermediate secondary diploma with vocational training	13*	17	82	45*	68*	79	75	56*
Advanced technical / upper secondary diploma without vocational training	5*	2						
Advanced technical / upper secondary diploma with vocational training	7	3						
Technical college degree	7	1						
University degree	15*	20	6	55*	11	7	20*	31*
N	402	3,057	165	83	120	565	1,122	116

<sup>1</sup> Categories according to CASMIN educational classification.

Case numbers below 30 are in italics. T-test comparison between refugees and other migrants and between men and women within migrant groups, \* $p < 0.05$ .

Source: IAB-SOEP Migration Sample (2013) of SOEP.v31, weighted; estimations by DIW Berlin.

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On average, other groups of migrants show higher levels of qualification than refugees.

Union than among other migrants from this region. Given the recent wave of refugee migration, it is particularly interesting to look at the average qualification levels of earlier refugees from Arab and Muslim countries. When refugees from these countries are compared with those from Southeastern Europe, the share of people from Arab or Muslim countries with no qualifications at all is higher, but so is the share of those who had already attained a university degree. This considerable difference by country of origin can also be expected for migrants from the most recent refugee migration. While a relatively large share of asylum-seekers from Syria and Iran have completed higher education, this applies to a lower share of refugees from Serbia and Macedonia.<sup>13</sup>

These findings refer to the self-reported highest level of education, without distinguishing by the country in which it was obtained. Consequently, it should be taken into account that an individual with high qualifications from abroad may not benefit from them fully in Germany, for example, if the qualification is not recognized.

### Refugees and other migrants equally unlikely to apply to have their foreign qualifications recognized

Recognition processes have two primary functions. First, if the outcome is successful, they ensure that migrants meet the formal requirements for certain occupations. Second, they allow employers to assess the vocational skills and experience of potential employees with qualifications acquired abroad.

In 2013, the vast majority of respondents (87 percent of refugees and 89 percent of other migrants with a foreign vocational qualification) had a certificate they could submit for official recognition (see Table 9). However, only one-third of both refugees and other migrants had attempted to obtain recognition of a formal qualification. While refugees stated that administrative barriers were the reason they had not yet attempted to have their qualifications recognized (33 percent), this played a comparatively minor role for other migrants, at 17 percent. In particular, refugees reported that a lack of information about where and how to apply for recognition and missing documents held them back from submitting an application (not shown in the table).

<sup>13</sup> A. K. Rich, "Asylerantragsteller in Deutschland im Jahr 2015: Sozialstruktur, Qualifikationsniveau und Berufstätigkeit," *BAMF-Kurzanalysen*, no. 3 (2016).



Table 9

### Recognition procedure

In percent

	Refugees	Other migrants
<b>Of those with foreign vocational qualifications</b>		
Percentage with certificate	87	89
N	137	1,397
<b>Of those with certificate</b>		
Percentage that applied for recognition	32	34
N	116	1,263
<b>Of those that did not apply for recognition</b>		
Not important for me	20*	38
Administrative hurdles	33*	17
No prospect of recognition	12	17
Other reasons	35	28
N	68	840
<b>Of those that did apply for recognition</b>		
Percent rejected	35	16
N	48	431

Case numbers below 30 are in italics. T-test comparison between refugees and other migrants and between men and women within migrant groups. \* $p < 0.05$ .

Source: IAB-SOEP Migration Sample (2013) of SOEP.v31, weighted; estimations by DIW Berlin.

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Refugees' applications for recognition of foreign vocational qualifications were rejected more frequently than those of other migrants.

### Refugees' applications for recognition of qualifications much more likely to be rejected than those of other migrants

German authorities were much more likely to reject applications by refugees to have their qualifications recognized (35 percent) than those by other migrants (16 percent). It can therefore be assumed that, as a result, refugees took jobs that were below their skill level.

It is important to note, however, that none of the migrants in this report were able to make use of the Federal Recognition Act (*Anerkennungsgesetz*), adopted in 2012 to revise the recognition process. The introduction of this law increased access to information about the prospects of and opportunities for having foreign qualifications recognized—which has since resulted in a considerable increase in applications. The number of recognized equivalent qualifications from abroad has risen while, at the same time, rejection rates have fallen.<sup>14</sup> Since the recognition of foreign qualifications improves migrants' employment prospects, allowing them to achieve their

<sup>14</sup> German Federal Cabinet, *Bericht zum Anerkennungsgesetz* (2016).

potential, the developments of recent years can be seen as positive in this respect.<sup>15</sup>

### Conclusion

Compared to other migrants, refugees bring a lower level of qualifications from abroad and they also attain lower qualifications in Germany. However, refugees who attend school in Germany are at an advantage. Here they complete upper secondary schools at a higher rate than other migrants. This applies to the refugees and other migrants studied in this report, who came to Germany before the recent wave of refugee migration. However, since more young refugees are likely to have migrated in the recent wave of migration, and given the early indications that a relatively large share of asylum-seekers attended secondary school or university in their country of origin,<sup>16</sup> the differences could be smaller in the future.

A considerable share of migrants considered in the present report had no formal vocational qualifications from abroad. This was particularly true for refugees. Recent efforts to establish whether migrants have informal qualifications (see Projekt ValiKom)<sup>17</sup> should therefore be welcomed and expanded. Positive developments in recognition rates since the introduction of the Federal Recognition Act of 2012 suggest that migrants who have not attempted to have their qualifications recognized to date, or have had them rejected and since acquired further qualifications or relevant work experience should (re) submit an application. Academic and vocational training is crucial, both for migrants and for those without a migration background. Furthermore, training provides crucial opportunities on the German labor market that can improve migrants' long-term social inclusion and life chances. The Integration Act has also created more legal certainty for asylum-seekers and those with leave to remain (*Duldung*) who are commencing vocational training in Germany. Since the prospects of these individuals staying in Germany are dependent on the duration of the training course and subsequent employment, asylum-seekers may be even more motivated to take up a vocational training.

In particular, a lack of knowledge about the recognition process in the past seems to have prevented refugees from applying to have their qualifications recognized. Despite the more comprehensive information now provided, refugees who have migrated recently are proba-

<sup>15</sup> I. Kogan, "Potenziale nutzen! Determinanten und Konsequenzen der Anerkennung von Bildungsabschlüssen bei MigrantInnen aus der ehemaligen Sowjetunion in Deutschland," *Kölner Zeitschrift für Soziologie und Sozialpsychologie*, no. 64(1) (2012): 67–89.

<sup>16</sup> A. K. Rich, "Asylerstantragsteller in Deutschland im Jahr 2015: Sozialstruktur, Qualifikationsniveau und Berufstätigkeit," *BAMF-Kurzanalysen*, no. 3 (2016).

<sup>17</sup> German Federal Cabinet, *Bericht zum Anerkennungsgesetz*: 65ff.



bly not sufficiently aware that they need to have certain qualifications recognized to practice their professions in Germany.<sup>18</sup> Consequently, expanding access to the

relevant sources of information is necessary for those who want to work in regulated professions (as medical or legal professionals or teachers in public schools).<sup>19</sup>

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**18** Brücker et al., "Geflüchtete Menschen in Deutschland. Warum sie kommen, was sie mitbringen und welche Erfahrungen sie machen," *IAB-Kurzbericht*, no. 15 (2016).

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**19** For an overview of all regulated professions in the individual EU countries, see the European Commission's regulated professions database, <http://ec.europa.eu/growth/tools-databases/regprof/> (2016).

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# Language Acquisition: Refugees Nearly Achieve Proficiency Level of Other Migrants

By Elisabeth Liebau and Diana Schacht

Whether they're looking to participate in social life, enter the German labor market, or obtain relevant training certificates, learning German is a critical part of integration for the majority of refugees—and yet only a handful of studies have examined their language acquisition patterns and skill levels. The IAB-SOEP Migration Sample, which was collected by the Institute for Employment Research (Institut für Arbeitsmarkt- und Berufsforschung) and the German Socio-Economic Panel (SOEP), offers new findings on German language acquisition among refugees; the present analysis, conducted by DIW Berlin, identifies factors that have been positively correlated with German language acquisition among refugees as well as non-refugee migrants.

According to the survey, most refugees did not speak any German upon their arrival in Germany—but with time, they approximated the German language proficiency of Germany's non-refugee migrants. Positively correlated factors include the refugee's age at the time of immigration as well as his or her prior educational background. Once they were in Germany, refugees' fluency improved with time, participation in the German education system, and frequent usage of the language, especially in the workplace.

Language skills are of paramount importance in the integration process of all migrants,<sup>1</sup> including refugees – proficiency is essential for social purposes as well as job market participation.<sup>2</sup> Nonetheless, few empirical findings on this topic are available when it comes to refugees in Germany.<sup>3</sup> It is unclear to what extent comparable studies in other countries—for example, on the language acquisition of refugees in the Netherlands—or on other migrant groups within Germany can be applied to Germany's refugee population.<sup>4</sup> Since refugees' biographical backgrounds and the situations in their respective host countries can differ from those of other migrants, their language acquisition processes may also follow different patterns. For example, refugees rarely prepare for their move to the host country, and for the most part have neither the time nor the opportunity to learn a new language in advance.<sup>5</sup> Moreover, unlike other migrants, refugees' participation in language and integration courses depends on their obtention and the limitations of a residence permit, which can lead to certain disadvantages compared to non-refugees.

The IAB-SOEP Migration Sample<sup>6</sup> allows us to evaluate which circumstances factor into the language acquisition of Germany's refugees, and to what extent these circumstances differ from those of other migrants. It is important to note, however, that the survey was conducted in 2013 and thus the data do not necessarily ap-

<sup>1</sup> Portes, A., Rumbaut, R. G. (2006): *Immigrant America: A Portrait*. Los Angeles: University of California Press.

<sup>2</sup> Van Tubergen, F. (2010): Determinants of second language proficiency among refugees in the Netherlands. *Social Forces*, 89 (2), 515-534.

<sup>3</sup> See, for example: Geis, W., Orth, A. K. (2015): *Flüchtlinge – Herausforderung und Chance für Deutschland*, IW Policy 26/2015 or Brücker, H., Fendel, T., et al. (2016): *Geflüchtete Menschen in Deutschland: Warum sie kommen, was sie mitbringen und welche Erfahrungen sie machen*. IAB-Kurzbericht 15/2016. Nürnberg.

<sup>4</sup> Van Tubergen, F. (2010), *supra*. For an international comparative study that includes Germany, see Kristen, C., Mühlau, P., et al. (2016): *Language acquisition of recently arrived immigrants in England, Germany, Ireland, and the Netherlands*. *Ethnicities*, 16 (2), 180-212.

<sup>5</sup> Brücker, H., Fendel, T., et al. (2016), *supra*.

<sup>6</sup> Socio-Economic Panel (SOEP), data from 1984–2014, Version 31, SOEP, 2015. Doi: 10.5684/soep.v31.

## Box 1

**Data and operationalization**

The Socio-Economic Panel (SOEP) is a longitudinal survey of Germany's private households that has been being conducted since 1984. The present analysis is based on the IAB-SOEP Migration Sample, which was gathered in 2013 within a cooperative project between SOEP and the Institute for Employment Research (Institut für Arbeitsmarkt und Berufsforschung).<sup>1</sup>

The survey solicited data on respondents' biographical backgrounds, respective integration indicators, and social participation. Using information on each respondent's entry status, roughly 400 refugees were identified among the sample. On average, they had been living in Germany for 18 years

<sup>1</sup> For details, see Brücker, H., Kroh, M., et al. (2014): The New IAB-SOEP Migration Sample: An Introduction into the Methodology and the Contents. SOEP Survey Papers, 216, and Kroh, M., Kühne, S., et al. (2015): The 2013 IAB-SOEP Migration Sample (M1): Sampling Design and Weighting Adjustment. SOEP Survey Papers, 271.

at the time of the survey. Due to the small sample size, further differentiations among the refugees—by country of origin, for example—is not possible.

The study participants were asked to rate their German skills in speaking, reading, and writing at two points in time: upon their arrival in Germany, and at the time of the survey. Each skill was self-assessed by the respondents using a Likert scale ranging from excellent (5), good (4), sufficient (3), poor (2), and none (1). Since the individual dimensions of German language skills are highly correlated (Cronbach's alpha  $\alpha = 0.97$  upon arrival, and  $\alpha = 0.94$  in 2013), they have been combined into one index, the average of all three dimensions. The difference between the German proficiency at the time of the influx and at the time of the survey in 2013 is interchangeably referred to as "language acquisition" or "language development."

ply to the recent influx of refugees that began mid-2015. Respondents had spent an average of 17 years in Germany at the time of the survey, which means that the sample is primarily made up of refugees and other migrants who came to Germany in the 1990s.

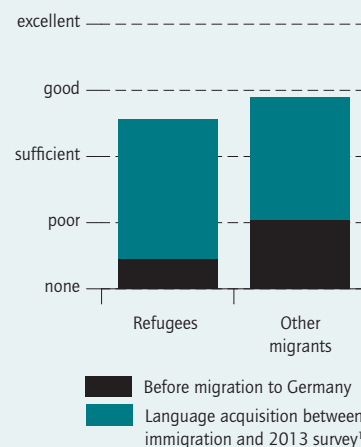
Due to many changes in the legal framework conditions and the respondents' countries of origin over time, the survey results represent a heterogeneous group. As well, because data are based on information provided by a relatively small sample size—just over 400 refugees—the results are subject to statistical uncertainties. Lastly, the retrospective survey of some biographical data can also lead to distortions. Nonetheless, the deep insight into the language acquisition of past refugees can help identify potential factors that may promote successful language acquisition among current and future refugees.

### Refugees arrive with weaker language skills—but nearly catch up with other migrants over time

For the IAB-SOEP Migration Sample, respondents were asked about their German proficiency both prior to immigration and at the time of the survey. Using this information, the language development of two groups—"refugees" and "other migrants"—can be mapped between these two points in time. Before arriving, the German skills of refugees were lower than those of other migrants (Figure 1): most refugees indicated that they had absolutely no German skills before moving to Ger-

Figure 1

### Language proficiency and language acquisition among refugees and other migrants in Germany



<sup>1</sup> Controlling for differences between groups with different durations of stay in Germany.

Source: IAB-SOEP Migration Sample (2013) of SOEP.v31, weighted; estimations by DIW Berlin.

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The language proficiency of refugees approached that of other migrants over time

## Box 2

**Methods**

First, the language skills level at two points in time and the corresponding development controlling for length of stay are determined (Figure 1). In addition, the relationships between theoretically influential factors and language acquisition are analyzed both bivariately (Table 1) as well as multivariately (Table 2). The multivariate regression analysis makes it possible to investigate the respective relationships between several individual factors and language development. As well, the influence of all other factors considered relevant and available in the dataset is controlled for, thus reducing distortions resulting from spurious correlations to a certain extent.

In further robustness checks, all individuals for whom no language development was observed as well as those who already had upon arrival an “excellent” knowledge of German—the highest possible language proficiency level—are excluded. As well, a model was estimated in which the language level upon arrival is included in the analysis. These sensitivity

analyses confirmed the findings of the main analysis; the few exceptions are discussed in the respective footnotes.

In cross-sectional analyses, however, certain statistical problems—such as self-selection—cannot be ruled out, which means that questions about causal relationships cannot be answered using the multivariate methods. As well, both the self-assessment of one’s own language skills<sup>1</sup> as well as the retrospective survey can lead to distortions.

Nevertheless, the analysis of the refugees in Germany as a specific immigrant group offers fresh and deep insight into their language acquisition as well as the possibility of identifying corresponding success factors that can help other refugees, now and in the future.

<sup>1</sup> Edele, A., Seuring, J., et al. (2015): Why bother with testing? The validity of immigrants’ self-assessed language proficiency. *Social Science Research*, 52, 99–123.

many, while other migrants reported at least a “poor” language proficiency, on average.

By 2013, of course, the language skills of both groups had improved significantly: on average, refugees and other migrants now described their German skills as “good.” This implies that the German skills of refugees had almost approached the language level of other migrants in a comparable time span, even though refugees started out with no German skills on average. This is confirmed by the multivariate analysis (Table 2, refugees coefficient in column 2).<sup>7</sup>

In principle, the language acquisition of refugees and other migrants is related to their length of stay. This is more apparent in the “other migrants” group (Table 1, column 5). Refugees were able to develop their language skills more strongly than were other migrants, primarily within the first 19 years after arriving in Germany (Table 1, column 6). The results of the multivariate regression analysis, however, show no statistically significant effects that indicate a differing correlation between lan-

guage acquisition and the length of stay across groups (Table 2, column 3).

In general, refugees’ pre-immigration German-language skills were poorer compared to those of other migrants. With time, however, this difference virtually disappears—and in fact, the refugees were able to improve their German skills faster than other migrants, on average. It is worth mentioning that no statistically significant differences between the groups were observable regarding a correlation between their language acquisition and their duration of stay in Germany.

**Younger refugees learn German better**

Apart from duration of stay, the age of the refugees has been confirmed by other studies as an important factor in language acquisition, with the consensus that it is usually easier for younger refugees to learn the language of their host country.<sup>8</sup> In the present study, this factor was examined based on the IAB-SOEP Migration Sample.

<sup>7</sup> When language skills of the immigrants upon their arrival in Germany are taken into account, however, no statistically significant differences in language acquisition between the groups are found. The limitations of the survey—such as the small sample size and the fact that respondents were required to provide information about a much earlier time period—could affect the results.

<sup>8</sup> See, for example: Chiswick, B. R., Miller, P. W. (2001): A model of destination-language acquisition: Application to male immigrants in Canada. *Demography*, 38 (3), 391–409, or Hou, F., Beiser, M. (2006): Learning the Language of a New Country: A Ten-year Study of English Acquisition by South-East Asian Refugees in Canada. *International Migration*, 44 (1), 135–165.

Table 1

**Language proficiency and language acquisition among refugees and other migrants in Germany**

## Bivariate Findings

	German proficiency at immigration			German language acquisition in Germany		
	Refugees	Other migrants	Difference	Refugees	Other migrants	Difference
Duration of stay						
0 to 9 years	-	-	-	1.79	1.46***	-0.33*
10 to 19 years (reference)	-	-	-	2.11	1.85	-0.26**
20 years and more	-	-	-	2.08	2.16***	0.08
Age at immigration						
Under 16 years	1.22	1.78***	0.56***	3.27***	2.76***	-0.51**
16 to 24 years	1.54	2.11***	0.57***	2.28***	1.81***	-0.47***
24 to 44 years	1.49	2.07***	0.58***	1.64	1.57***	-0.07
44 years and older (reference)	1.57	2.45	0.88***	1.34	0.75	-0.59***
Highest educational qualification obtained abroad or later in the German educational system						
No/elementary education abroad (reference)	1.40	1.67	0.27**	1.54	1.46	-0.08
Secondary education abroad	1.53	2.09***	0.56***	1.81**	1.52	-0.29**
Tertiary education abroad	1.84	2.43***	0.59**	1.92	1.47	-0.45**
Later participation in German educational system	1.29	2.11	0.82***	3.13***	2.35***	-0.78***
Participation in German Language Integration Course						
No (reference)	-	-	-	2.04	1.81	-0.23*
Yes	-	-	-	2.09	1.86	-0.23*
Language used with family mainly German						
No (reference)	-	-	-	2.00	1.76	-0.24**
Yes	-	-	-	2.31*	2.1***	-0.21
Language used with friends mainly German						
No (reference)	-	-	-	1.85	1.67	-0.18*
Yes	-	-	-	2.46***	2.14***	-0.32*
Language used at work mainly German						
No (reference)	-	-	-	1.55	1.53	-0.02
Yes	-	-	-	2.30***	2.00***	-0.30***
Not employed	-	-	-	1.82	1.50	-0.32*
Number of respondents (N)	411	2,894		411	2,894	

Significance level: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

The findings in the table are based on self-assessed language proficiency at the time of arrival in Germany and language acquisition up to the point of the survey in 2013. Also shown are results of various t-tests. The comparison across groups is shown in the difference column (\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ ). The comparison within the two groups of migrants is shown for each variable in relation to the respective reference group. For refugees who completed secondary education abroad, the results show a significant difference in language acquisition compared to refugees with either completed or no primary elementary education abroad (1.81\*\* vs. 1.54). At the same time, there is a significant difference with respect to other migrants (-0.29\*\*).

Source: IAB-SOEP Migration Sample (2013) of SOEP.v31, weighted; estimations by DIW Berlin.

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As expected, strong differences arise between the age groups both with regard to the German language skills they arrived with as well as their language development (Table 1). For the most part, refugees and other migrants who belonged to a higher age group had better knowledge of German upon arrival. However, younger refugees and other migrants experienced greater improvements in their German skills on average than did older groups. While refugees who arrived in Germany before age 16 increased their language skills from “none” to “good” between their arrival and 2013—that is, an increase of three possible answer categories—the language competence of most refugees aged 44 and over only in-

creased from “poor” to “sufficient”. This pattern is also found among other migrants, but the bivariate analysis suggests a slightly slower language development in each age group.

The results of the multivariate regression analysis, however, show that the differences between refugees and other migrants with regard to their language development over time are not statistically significant (Table 2, column 3), which indicates that a younger age at the time of immigration is beneficial for the language development of refugees and other migrants in a similar manner.

Table 2

### Language acquisition among refugees and other migrants in Germany

Multivariate Analysis<sup>1</sup>

	Refugees <sup>2</sup>	Interaction model <sup>3</sup>	
		Main model	Interaction
Group of migrants (reference: other)			
Refugees	-	0.21*	-
Duration of stay in Germany (reference: 10 to 19 years)			
0 to 9	-0.06	-0.13*	0.07
20 and more	0.03	-0.01	0.04
Age at immigration (reference: 44 years or older)			
Under 16	1.15**	1.46***	-0.36
16 to 24	0.75*	0.80***	-0.08
24 to 44	0.27	0.59***	-0.38
Highest educational qualification obtained abroad or later in the German educational system (reference: no / primary education abroad)			
Secondary education abroad	0.23	0.17*	0.09
Tertiary education abroad	0.54*	0.33**	0.28
Participation in German educational system	0.90***	0.40***	0.57*
Attendance of language courses in Germany	-0.01	0.09	-0.10
Language used with family mainly German	-0.31	0.00	-0.35
Language used with friends mainly German	0.16	0.12	0.04
Language used at work mainly German (reference: no)			
Language used at work mainly German	0.39*	0.27**	0.14
Not employed	0.18	-0.05	0.26
Constant	0.93*	0.62**	0.58**
Adjusted R <sup>2</sup>	0.34	0.30	0.30
Number of respondents (N)	411	3,305	

Significance level: +  $p < 0.1$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

<sup>1</sup> OLS with robust standard errors. Dependent variable: language acquisition of refugees and other migrants. Additional control variables in all models: gender, migration background of partner in the household, presence of children below the age of 16 in the household, health restrictions, surroundings of residence (urban/rural), attendance of German classes abroad, region of country of origin, and illiteracy in relation to language of country of origin.

<sup>2</sup> The first model contains only refugees.

<sup>3</sup> Interaction model containing all migrants. Here, each explanatory variable and the constant is interacted with a dummy variable indicating whether the migrant is a refugee or not. The main model therefore contains the results for all other migrants, and the interaction column gives the difference between refugees and other migrants.

Source: IAB-SOEP Migration Sample (2013) of SOEP.v31, weighted; estimations by DIW Berlin.

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### Refugees with a background in higher education or participation in the German education system experienced more significant improvements in their language skills

According to current research, individuals who have achieved higher levels of education have an easier time acquiring a new language,<sup>9</sup> and this can also be observed in the data used here.<sup>10</sup> Refugees and other migrants with backgrounds in higher education usually arrive with better German skills (Table 1, columns 1 and 2). As well,

<sup>9</sup> For studies on migrants, see Chiswick, B. R., Miller, P. W. (2001), loc. cit., or Dustmann, C., Fabbri, F. (2003): Language proficiency and labour market performance of immigrants in the UK, *The Economic Journal*, 113: 695-717. For a study on refugees, see: Hou, F., Beiser, M. (2006), loc. cit.

<sup>10</sup> The survey solicited data on the highest level of education or training that each respondent had acquired abroad. All respondents who obtained or were in the process of obtaining educational or vocational qualifications in Germany are summarized in another category.

better-educated refugees also experienced larger improvements in their language development over time (Table 1, column 4).

For other migrants, the bivariate analysis indicates no statistically significant differences in the average language development patterns associated with their respective educational backgrounds (Table 1, column 5). But the results of the multivariate regression analysis, which takes other factors into account, indicate that a higher level of education goes hand in hand with stronger language development among other migrants (Table 2, column 2). In that respect, the highest level of education from abroad plays a critical role in the language development in the host country for both refugees and other migrants alike.<sup>11</sup>

<sup>11</sup> Since we are unable to differentiate between formal education and actual skills based on the given data, we must assume that refugees with both higher cognitive skills as well as higher levels of education have an easier time learning German.

Previous studies have shown that refugees' participation in the host country's education system facilitates language development.<sup>12</sup> Correspondingly, the German language skills of the sample respondents who were studying or had already studied in Germany significantly improved. This pattern is observable in both the bivariate results (Table 1, columns 4 and 5) as well as in the broader multivariate regression analyses in comparison to individuals who had acquired a primary education (Table 2, columns 1 and 2) or—as demonstrated in an additional model calculation—a secondary education from abroad.

In this respect, obtaining an educational or vocational qualification and/or attending school in Germany was associated with a positive language development for both groups. This is especially true for refugees: if they participated in the German education system, their language skills improved more than did those of other migrants (Table 2, column 3).<sup>13</sup>

Overall, language skills experienced larger improvements among refugees and other immigrants who had acquired a higher education abroad. The same applies to individuals from both groups who were participating or had participated in the German education system.

### Refugees' participation in German courses and language development

The language development of refugees and other migrants can also be influenced by support measures in the host country. Political and public discourse in Germany has centered on whether participation in language and integration courses helps promote successful integration.<sup>14</sup> Using the IAB-SOEP migration sample, it was investigated to what extent past participation in a German language course was associated with refugees' language development. It is important to note, however, that it is impossible to differentiate which specific course the respondents participated in—that is, whether it was an integration course or a language course, how long it lasted, and what subjects it covered.<sup>15</sup>

<sup>12</sup> Van Tubergen, F. (2010), loc. cit., Hou, F., Beiser, M. (2006), loc. cit., Dustmann, C., Fabbri, F. (2003), loc. cit.

<sup>13</sup> If refugees who did not improve their German skills are excluded from the analysis (see Box 2), no further statistical significance can be detected. This may indicate that refugees who had acquired good German skills before arriving in Germany may have been more motivated to participate in the German education system after their immigration.

<sup>14</sup> Robert Bosch Stiftung (Hrsg.) (2016) Chancen erkennen – Perspektiven schaffen – Integration ermöglichen. Report from the Robert Bosch Expert Commission to Consider a Realignment of Refugee Policy. Robert Bosch Foundation GmbH, Stuttgart, p. 113 et seqq.

<sup>15</sup> In the past, only foreigners with a residence permit were entitled to partake in integration courses. Such courses comprise both language instruction as well as an orientation—for example, a discussion of the German legal system (see also the Integration Course Ordinance, IntV). It wasn't until

The bivariate analysis shows that the refugees benefited only slightly from participation in a language or integration course: their skills improved somewhat more on average compared to refugees who hadn't participated in such a course. However, the results of both the bivariate (Table 1, column 4) and multivariate regression analysis (Table 2, column 1) indicate no statistically significant effects. The same is true for other migrants (Table 1, column 5 and Table 2, column 2). It must be noted that the lack of differentiation in the types of courses taken—that is, between integration courses and other offerings—as well as the content and the duration of the courses may have led to the statistical insignificance of these findings. It thus cannot be ruled out that participation in a German language course has a positive impact on refugees and other migrants—especially when the findings of other studies are taken into account.<sup>16</sup>

### German usage at work associated with language development among refugees

Previous studies have shown that frequent German usage in diverse contexts plays an important role in language acquisition among refugees and other migrants.<sup>17</sup> In this report, three social contexts—family, friends, and the workplace—are examined using the IAB-SOEP Migration Sample.<sup>18</sup>

The bivariate analysis indicates that refugees who spoke mostly German with family, friends, or at work were able to improve their German language skills more than those who did not (Table 1, column 4). This finding is most pronounced among refugees who spoke German at work, followed by those who spoke German with friends and lastly, those who spoke it with their families. These findings are observable among other migrants, but not to the same extent (Table 1, column 5). The multivariate regression analyses confirm that the predominant use of German at work is statistically significantly associated with positive language development among refugees and

October 2015 that asylum seekers and tolerated persons were allowed to participate (§ 44 IV Residence Act), though they are not entitled to admission to such a course. The Federal Office for Migration and Refugees leads integration courses in cooperation with foreigners' registration offices, the Federal Administration Office, municipalities, migration services, and job seekers' assistance programs. There are also a number of other language courses on offer within different federal states and municipalities, in addition to those given by welfare organizations and volunteers.

<sup>16</sup> Van Tubergen, F. (2010), loc. cit., Van Tubergen, F., Wierenga, M. (2011): The language acquisition of male immigrants in a multilingual destination: Turks and Moroccans in Belgium. *Journal of Ethnic and Migration Studies*, 37(7), 1039–1057, Hou, F., Beiser, M. (2006), loc. cit. In recent studies, however, no statistically significant effects were observable.

<sup>17</sup> Van Tubergen, F. (2010), loc. cit., Chiswick, B. R., Miller, P. W. (2001), loc. cit., Kristen, C., Mühlau, P., et al. (2016), loc. cit.

<sup>18</sup> The survey took into account whether a respondent speaks mostly German with his or her family members, with friends, or at work. The other multivariate regression analyses factor in whether a respondent is employed, has children under 16, or has a partner (see footnote, Table 2).



other migrants<sup>19</sup>—but when it comes to speaking German with family or friends, no statistically significant positive effect is observable (Table 2, columns 1 and 2).<sup>20</sup>

Overall, the use of German was positively correlated with language development among refugees in Germany, and more frequent use of German—especially in the workplace—was associated with better knowledge of the language.

## Conclusion

With the exception of highly educated or older refugees, the majority of the refugee respondents to the 2013 IAB-SOEP Migration Sample had no German language skills upon their arrival in Germany. This stood in contrast to non-refugee migrants, who reported better language skills upon arrival. Over time, however, the refugees' language skills improved to a larger extent than did those of other migrants, and by the time the survey was given—roughly 18 years after the mid-'90s influx—the refugees' German skills almost matched those of the non-refugee migrants. Younger refugees and those who had already obtained a higher education in their country of origin saw the biggest improvements in their German skills. As well, a longer duration of stay and a predominant usage of German at the workplace were positively associated with better language skills; these findings were also observed in the responses of other migrants. Note that the findings must be viewed in light of the fact that the survey has certain limitations—as previously discussed—and cannot encompass every detail, such as possible self-selection among particularly motivated refugees or the fact that some of them had to learn German for professional reasons.

**19** Refugees may, however, obtain employment under certain circumstances. This is usually dependent on their residence permit (§4 para. 3 of the Residence Act), while asylum applicants without a permit are only allowed to obtain employment in exceptional cases (§61 of the Asylum Act). In the past, refugees' access to the German labor market was more restrictively regulated. See in this issue: Salikutluk, Z., Giesecke, J., et al. (2016): Refugees entered the labor market later than other migrants. Therefore, the refugees who were legally working in Germany may have been an especially positively selected group, and this may lead to distortions in the present results.

**20** It must be kept in mind that in order for migrants and refugees to have the opportunity to use German with their friends and family, these social contacts must also speak the language. If only the individuals who indicated improvements in their language skills are taken into account, there exists a statistically significantly positive correlation between the use of German with friends and family and language development.

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The findings related to the language skills and acquisition of Germany's refugee population help to identify the areas with the most potential for developing political measures related to integration, education, and labor market policy. Firstly, participating in the German education system is positively correlated with refugees' language development, and thus access to schools and vocational training should be provided as soon as possible after the refugees' arrival in Germany.

Secondly, the actual use of German while in Germany makes a difference—especially when it is spoken at the workplace. Since the legal requirements for access to the labor market are dependent on special regulations or the refugees' respective residence permits, such processes could be expedited to facilitate a correspondingly swift entry.

Thirdly, even though the results from the present study did not indicate any statistically significant effects of German language courses on refugees' language development, studies from other countries have shown a positive effect.<sup>21</sup> Refugees themselves,<sup>22</sup> as well as the job placement officers who supervise and advise them,<sup>23</sup> emphasize the importance of such language courses. Insofar, the limitations of this study should be taken into consideration, since these data do not provide information about what kinds of German courses the respondents had taken. The extent to which participation in integration and other language courses promotes language development, and whether certain kinds of such courses are especially helpful, can be analyzed in the future using the IAB-BAMF-SOEP refugee survey conducted by the Institute for Employment Research (Institut für Arbeitsmarkt- und Berufsforschung), the Federal Office for Migration and Refugees (Bundesamt für Migration und Flüchtlinge), and the German Socio-Economic Panel Sozio-ökonomisches Panel.<sup>24</sup>

**21** Van Tubergen, F. (2010), loc. cit., Chiswick, B. R., Miller, P. W. (2001), loc. cit.

**22** Brücker, H., Fendel, T., et al. (2016), loc. cit.

**23** Daumann, V., Dietz, M., et al. (2015): Early Intervention – Modellprojekt zur frühzeitigen Arbeitsmarktintegration von Asylbewerberinnen und Asylbewerbern. Results of accompanying qualitative research. IAB research report, 3/2015, Nürnberg: 13.

**24** The IAB-BAMF-SOEP refugee sample was drawn from the central registry of foreigners, and covers refugees who came to Germany between 2013 and 2015 and have already filed for asylum. The sample comprises roughly 2,000 adult refugees who are being surveyed for the first time in 2016.

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**Keywords:** Language acquisition, language proficiency, refugees, Germany

# Refugees Entered the Labor Market Later than Other Migrants

By Zerrin Salikutluk, Johannes Giesecke, and Martin Kroh

It has taken longer for refugees who have been living in Germany for some time, particularly those who arrived between 1990 and 2010, to take up gainful employment than other migrants. These findings are based on data from the Socio-Economic Panel (SOEP) and the IAB-SOEP Migration Sample. In addition, these refugees show a higher rate of unemployment and earn lower incomes by comparison even years after arriving in Germany. Refugees from different regions also show a tendency to work in certain occupations and in jobs that are below their skill levels. These findings indicate the importance of targeted educational and labor market measures to facilitate the best possible integration of refugees into the German labor market—and thereby also into German society.

The entry of refugees as well as other migrants into the German labor market is influenced by a range of factors. The other reports in this issue of *DIW Economic Bulletin* show, for example, that the level of formal qualifications among refugees is lower than that of other migrants. At the same time, qualifications obtained by refugees abroad are less likely to be recognized than those of other migrants<sup>1</sup>. Furthermore, refugees are more likely to find a job through informal channels<sup>2</sup>. Seeking refuge is different from other forms of migration such as labor migration because it is less planned and prepared and therefore refugees have, for instance, poorer language skills when they arrive in the host countries<sup>3</sup>. As a result, it can be that refugees are less likely to be as well integrated into the labor market as other migrants.

Besides these factors, legal access to the labor market also determines refugees' level of integration. A prerequisite for the immigration of non-EU citizens via the "EU Blue Card" is a specific offer of employment and therefore immediate labor market inclusion. EU citizens can also take up employment in Germany immediately or become self-employed due to laws governing freedom of movement. Asylum seekers, however, are excluded from immediately entering the labor market. For asylum seekers and persons with leave to remain in Germany (*Duldung*), the process of acquiring a work permit has undergone numerous changes since the 1970s, at times involving long waiting periods and prohibitions on working.<sup>4</sup>

Currently, access to the labor market is determined by residency status which, in turn, is dependent on the status of the asylum application.<sup>5</sup> In very simple terms, dur-

<sup>1</sup> See report by Liebau/Salikutluk in this issue of *DIW Economic Bulletin*.

<sup>2</sup> See report by Eisnecker/Schacht in this issue of *DIW Economic Bulletin*.

<sup>3</sup> See report by Liebau/Schacht in this issue of *DIW Economic Bulletin*.

<sup>4</sup> For an overview, see Wolfgang Seifert, *Geschlossene Grenzen, offene Gesellschaften? Migrations- und Integrationsprozesse in westlichen Industrienationen* (Frankfurt/New York: 2000).

<sup>5</sup> In addition to the duration of the asylum procedure after an application is submitted, which often takes many months, the waiting period until an application can be submitted is a problem for asylum seekers wishing to enter

Box

### Definitions

Individuals are subdivided into three categories defined by the International Labour Organization (ILO): *employed, unemployed, and economically inactive persons*. According to these definitions, an employed person is one aged between 15 and 74 who has had paid employment in the last seven days. This definition does not depend on the existence of an employment contract and therefore also includes people in irregular employment. Unemployed persons are those aged between 15 and 74 who stated in the survey that they were currently looking for a job and were available for work even at short notice. All remaining people of working age are categorized as economically inactive. This category consists mainly of people who are (1) neither in work nor looking for work, (2) still in

education or vocational training, (3) homemakers, or (4) on parental leave.

The group of economically inactive persons is not considered for the calculation of the *unemployment rate*. The unemployment rate is the share of unemployed in the total workforce.

A job (see Table 1) is counted as *adequate to qualifications* one in which an individual's educational and professional qualifications meet the stated requirements of their employment. Accordingly, those who stated that their level of education was higher than that required to do their job are considered over-qualified in the present study.

ing the ongoing process (temporary residence permit) and when the application has been rejected but that person has leave to remain in Germany (*Duldung*), the work permit of people from unsafe countries depends on the length of their stay and authorization from the immigration office. The latter is subject to a priority check (*Vorrangprüfung*) by the Federal Employment Agency which reviews the impact on the labor market of employing a refugee and ensures that the position could not be filled by higher-priority job seekers, such as a citizen of Germany or another EU country. In a comparability test, the working conditions of the specific job are then assessed to ensure that the conditions are no different than for equivalent positions held by German citizens.<sup>6</sup> Occupations in certain sectors, such as care or technical professions, that appear on the Federal Employment Agency's positive list do not require the individual check, as is the case with vocational training or an internship. However, in regions with strong economies, the priority check has (temporarily) been suspended for the next three years in accordance with recently passed provisions contained in the Integration Act.

Labor market access (including self-employment) ultimately becomes unrestricted when, in the process of granting temporary residency, an application for asylum or refugee status is approved. It is therefore primarily the duration of stay and outcome of the asylum application that are essential in determining whether and when refugees might enter the labor market.

the labor market quickly. Asylum procedures for many asylum seekers who came to Germany in 2015 had still not been formally commenced by mid-2016.

<sup>6</sup> German Bundestag, *Entwurf der Verordnung zum Integrationsgesetz*, German Bundesrat printed paper no. 285/16 (May 26, 2016).

Previous research shows that migrants in Germany are generally in a worse position on the labor market than those without a migrant background. They have fewer opportunities to obtain skilled jobs,<sup>7</sup> lower incomes,<sup>8</sup> and are at greater risk of becoming unemployed.<sup>9</sup> Since refugees have a relatively low level of skills and access to the German labor market is delayed due to legal processes, these risks are particularly relevant to them.

### Refugees take up gainful employment later than other migrants

Figures 1 and 2 show the time it takes for men and women to obtain their first full- or part-time job after arriving in Germany. The study only considers individuals aged between 18 and 55 upon arrival.<sup>10</sup> The maximum observation period therefore distinguishes between recent arrivals and those who have already been Germany for some time. For this reason, we have restricted our graph to a maximum of ten years after migration.

Around half of men in the group of other migrants (e.g., EU migrants, labor migrants, repatriates, family mi-

<sup>7</sup> Frank Kalter, "Ethnische Ungleichheit auf dem Arbeitsmarkt," in Martin Abraham and Thomas Hinz, eds., *Arbeitsmarktsoziologie* (Wiesbaden: 2005), 303–332.

<sup>8</sup> A. Constant and D. S. Massey, "Self-selection, earnings, and out-migration: A longitudinal study of immigrants to Germany," *Journal of Population Economics* 16, no. 4 (2003): 631–653; F. Büchel and J. R. Frick, "Immigrants in the UK and in West Germany—Relative income position, income portfolio, and redistribution effects," *Journal of Population Economics* 17, no. 3 (2004): 553–581.

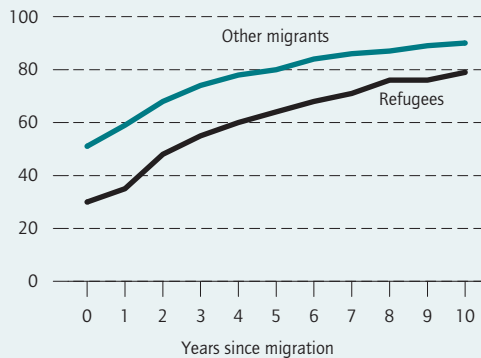
<sup>9</sup> I. Kogan, "Last Hired, First Fired? The Unemployment Dynamics of Male Immigrants in Germany," *European Sociological Review* 20, no. 5 (2004): 445–461.

<sup>10</sup> In the past, there were different requirements for awarding work permits to refugees, which could not be taken into account in the following analysis.

Figure 1

### Labor market entry among men since year of migration

Cumulative probability (hazard rates) of entering employment<sup>1</sup>



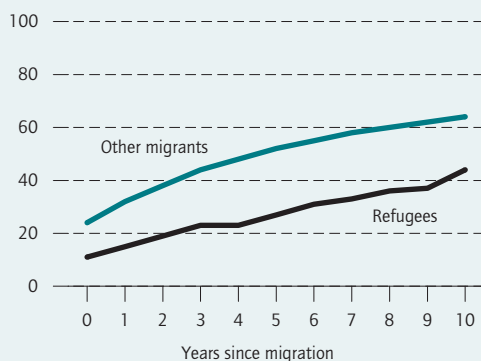
Source: SOEP.v31, weighted; estimations by DIW Berlin.

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Figure 2

### Labor market entry among women since year of migration

Cumulative probability (hazard rates) of entering employment<sup>1</sup>



<sup>1</sup> Based on retrospective annual (calendar) data. Under examination is the first year of full- or part-time employment in Germany. The analysis is limited to individuals who migrated between the ages of 18 and 55. The finding of delayed labor market entry among refugees also holds when controlling for the effects of the year of migration and region of the country of origin (Cox regressions).

Source: SOEP.v31, weighted; estimations by DIW Berlin.

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On average, refugees enter the labor market later than other migrants.

grants) is employed in the first year after migration (see Figure 1), while this share is smaller among male refugees (30 percent). This could be due to legal restrictions on access to the labor market in the first year after arriv-

al in Germany or due to other factors mentioned above, such as their lower qualification levels and their tendency to use informal job search methods.

In both groups, the share of those taking up employment grows steadily over the subsequent years. In the fifth year after arriving, around 80 percent of other migrants have managed to enter the labor market, which equates to an increase compared to the first year of around 30 percentage points. In the tenth year, this figure even rises to 90 percent of males who came to Germany as “other migrants.”

Male refugees have been able, to a certain extent, to reduce the gap between them and other male migrants: around two-thirds of all male refugees in the observation group arriving in Germany between the age of 18 and 55 were in employment by the fifth year after entry; after ten years, this figure was 80 percent.

The time it took female migrants in Germany to enter the labor market was considerably longer (see Figure 2). Almost ten percent of female refugees were employed in the first year after entry but one in four of other female migrants. Over half of other female migrants had found a job by the fifth year and nearly two-thirds were in employment by the tenth year. For female refugees, however, this share is still below 50 percent even after ten years. Hence there is evidence of a growing disparity between female refugees and other female migrants.<sup>11</sup>

### Employment levels among refugees lower than among migrants even years after arrival

At the time of the survey in 2013, an average of 20 years after entry into Germany, 59 percent of 15-to-74 year olds surveyed in the sample, who had entered as asylum seekers had a job. The corresponding figure was 67 percent for other migrants and 68 percent for non-migrants (see Figure 3).<sup>12</sup> This difference is solely due to the fact that a comparatively large number of refugees are unemployed; for them, the corresponding figure was 16 percent, for other migrants it was eight percent, and for non-migrants it was four percent.<sup>13</sup> In contrast, the share of economically inactive persons is similar in all three groups (approximately every fourth respondent). The unemployment rate among refugees is 21 percent and ten percent among other migrants.

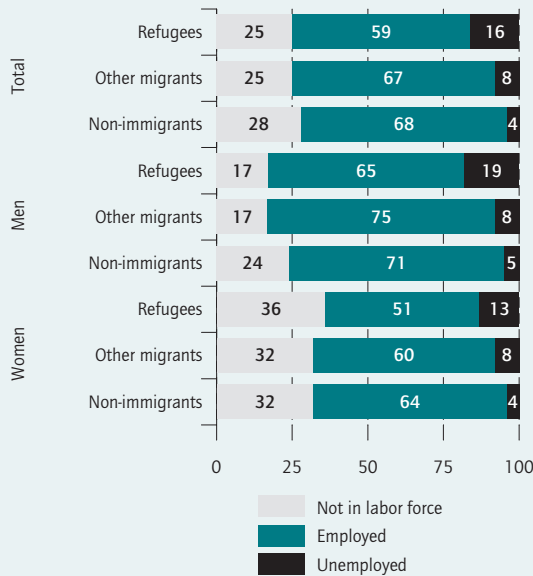
<sup>11</sup> The gap between female refugees and other female migrants varies strongly by the region of origin.

<sup>12</sup> In all groups, the majority of the workforce is in full-time employment (63 percent of refugees, 65 percent of other immigrants, and 69 percent of those born in Germany).

<sup>13</sup> The difference between refugees and the other two groups is statistically significant when comparing both the shares of employment and unemployment at the one-percent level.

Figure 3

**Labor market status in 2013  
by country of origin and gender**  
In percent



Source: SOEP:v31, weighted; estimations by DIW Berlin.

© DIW Berlin

Unemployment is higher among refugees than among other migrants.

In general, the same patterns are evident if we conduct a gender-specific analysis. Approximately one in three women across all the groups is economically inactive. The share of unemployed is also highest among female refugees—13 percent of all female refugees were classified as unemployed in 2013.

The share of economically inactive persons among male migrants (17 percent) is below that of men born in Germany (24 percent) in the sample used here. The share of employed persons in the group of other migrants (75 percent) is similar to that of men born in Germany (71 percent). Lastly, as with female refugees, the share of unemployed among male refugees is also the highest.

**Migrants often in jobs below their education level**

Migrants who have acquired their education and professional training mainly in their country of origin must expect that these qualifications will only be accepted in the German labor market to a limited degree. This is particularly true if no certificates are available for these

qualifications or if they are not recognized. Since the recognition procedure for foreign qualifications has, in the past, differed between the migrant groups depending on the country of origin, it can be assumed that some groups are more likely to have the formal qualifications they gained abroad successfully recognized in Germany. Moreover, there is evidence that refugees have to overcome higher institutional hurdles than other migrants in the recognition process<sup>14</sup>.

This suggests that a lot of migrants in Germany are employed in a job that is below their (vocational) qualifications. Table 1 confirms this assumption: Of those workers born in Germany, almost 20 percent are employed in a job that they themselves state is below their skill level. The corresponding figure for refugees is 26 percent and for other migrants it is 30 percent. Thus, the assumption that there is a higher over-qualification rate among refugees cannot be confirmed.

The phenomenon of over-qualification affects migrants differently depending on their region of origin. Especially migrants from the successor states of the former Soviet Union appear to have difficulties in finding jobs that meet their qualifications. Every third person in this group is employed below their skill level; more than half of the refugees surveyed from this region are affected.<sup>15</sup>

When looking at the share of people who are employed below their education level, it is worth noting that over-qualification can only apply to individuals who have actually undergone vocational and educational training. By definition, people with no qualifications cannot be over-qualified. However, if we only consider those individuals (not shown here) that have at least medium-level qualifications, the reported findings are confirmed: Overall, migrants are at greater risk of being employed below their skill level and this is particularly true for individuals from the former Soviet Union.<sup>16</sup>

**Industries and companies in which refugees work**

One possible explanation for migrants' greater risk of over-qualification might be found in the structure and regulation of the German labor market (see Table 2). Some occupational segments are more regulated than

<sup>14</sup> See report by Liebau/Salikutluk in this issue of DIW Economic Bulletin.  
<sup>15</sup> Due to the small sample size of the group of refugees from the former Soviet Union, this finding has a high degree of statistical uncertainty however.  
<sup>16</sup> See report by Liebau/Salikutluk in this issue of DIW Economic Bulletin.

Table 1

### Employment below qualifications in 2013 by status and region of origin

In percent

	Refugees	Other migrants	Non-immigrants
Total (N)	282	2,872	14,404
Adequate to qualifications	73	70	80**
Overqualified	27	30	20**
From Southeast Europe (N)	127	397	
Adequate to qualifications	78	74	
Overqualified	22	26	
From Post-Soviet countries (N)	47	1,049	
Adequate to qualifications	47	67**	
Overqualified	53	33**	
From Arab/Muslim countries (N)	73	76	
Adequate to qualifications	81	71	
Overqualified	19	29	

Differences between refugees and other groups \*\*\* significant at the 1 percent level, \*\* significant at the 5 percent level, \* significant at the 10 percent level; case numbers below 50 are in italics.

Source: SOEP.v31, weighted; estimations by DIW Berlin.

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Refugees and other migrants are more often employed below their education levels—especially refugees from Post-Soviet countries.

others, such as the civil service, making it more difficult for migrants to access these sectors.<sup>17</sup>

Manufacturing industries are an important economic sector for immigrants, employing 31 percent of refugees and 26 percent of other migrants. In 2013, a relatively high proportion of refugees worked in the hospitality industry (16 percent), which is considerably more than corresponding shares among other migrants or non-migrants (eight and three percent respectively). Another difference between refugees and the other two groups considered here is that they are relatively rarely employed in the health sector (seven percent compared to 13 and 14 percent respectively). Although in absolute terms, the sector “other services” plays an important role in all groups, its relative importance is greater for those born in Germany (37 percent) than for refugees (19 percent) working in the service industry.

Refugees are less likely to be employed in the civil service (9 percent) than other migrants (17 percent) and than non-migrants (26 percent). The share of self-em-

<sup>17</sup> Whether or not professions included in the positive list really are more frequently taken up by refugees cannot be determined from the available data because the list was created in 2013 under new employment regulations.

Table 2

### Refugees and other migrants by economic sector, public sector, and self-employment in 2013

In percent

	Refugees	Other migrants	Non-immigrants
Total cases (N)	293	2,906	14,796
Industry, manufacturing	31	26*	20***
Construction	7	5	5
Trade	10	10	12
Hospitality	16	8***	3***
Other services	19	28**	37***
Health	7	13**	14**
Other	10	10	9
Total cases (N)	271	2,702	13,641
In public sector	9	17**	27***
Total cases (N)	297	2,913	14,839
Self-employed	8	9	10

Differences between refugees and other groups \*\*\* significant at the 1 percent level, \*\* significant at the 5 percent level, \* significant at the 10 percent level; case numbers below 50 are in italics.

Source: SOEP.v31, weighted; estimations by DIW Berlin.

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Refugees are employed in hotels and restaurants at a higher rate than other migrants and at a lower rate in service occupations.

ployed in all three groups, however, is very similar (between eight and ten percent).

Finally, Table 3 compares the sizes of companies employing workers in 2013. While people born in Germany and other migrants are relatively evenly distributed among small, medium, and large enterprises (see Table 3), the refugees surveyed are mainly employed at smaller companies with fewer than 20 employees (41 percent).

Thus, small businesses and the manufacturing and hospitality industries in particular seem to play an important role for the labor market integration of refugees who came to Germany between 1990 and 2010.

### Refugees earn less than other migrants

An obvious consequence of the employment structure for refugees is lower earnings compared to other groups. Table 4 shows average gross hourly wages, calculated according to actual time worked, and gross monthly income. On average, refugees generally earn less, regardless which of the two indicators is considered. In 2013, refugees earned an average gross hourly wage of around 12 euros. Other migrants did slightly better with an average hourly wage of around 15 euros, whereas non-migrants earned an average hourly wage of around 17 eu-



Table 3

### Refugees and other migrants by company size categories 2013

In percent

	Refugees	Other migrants	Non-immigrants
Total cases (N)	264	2,636	13,981
Under 20 employees	41	28***	27***
20 to 199 employees	26	28	27
200 to 1,999 employees	15	20*	21**
2,000 or more employees	18	24*	25**

Differences between refugees and other groups \*\*\* significant at the 1 percent level, \*\* significant at the 5 percent level, \* significant at the 10 percent level; case numbers below 50 are in italics.

Source: SOEP.v31, weighted; estimations by DIW Berlin.

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A large percentage of refugees work in smaller companies.

ros. As a result, on average, refugees earned only 70 percent of the hourly rate of people born in Germany. In monthly terms, this is an average net income for refugees of around 1,630 euros which is around 500 euros less than the average net income of other migrants, and around 950 euros less than that of people born in Germany.

## Conclusion

The rapid integration of refugees has become a key sociopolitical issue in the wake of recent migration to Germany. The analysis of longitudinal data from the Socio-Economic Panel (SOEP) and from the IAB-SOEP Migration Sample, which primarily focused on those asylum seekers arriving in Germany in the 1990s, shows that refugees used to take longer than other migrants to establish themselves in the German labor market.

Consequently, the planned Integration Act aimed specifically at rapidly opening up the labor market for refugees is to be welcomed. In particular, the suspension of priority checks in regions with low unemployment rates should speed up the labor market entry process of refugees.

Labor market policy measures such as the creation of voluntary jobs for asylum-seekers and those with leave to remain in Germany (*Duldung*) during the ongoing asylum process can promote integration into working life.<sup>18</sup> However, opportunities for rapid employment do not necessarily guarantee successful integration into

<sup>18</sup> Voluntary job opportunities are similar to one-euro jobs but pay 80 cents.

Table 4

### Average gross hourly wages and gross monthly income 2013

In euros

	Refugees	Other migrants	Non-immigrants
Total cases (N)	293	2,873	14,672
Gross hourly wages <sup>1</sup>	11.8	14.8**	16.6***
Gross monthly income	1,632	2,147***	2,597***

Differences between refugees and other groups \*\*\* significant at the 1 percent level, \*\* significant at the 5 percent level, \* significant at the 10 percent level; case numbers below 50 are in italics.

<sup>1</sup> Based on the actual and not the contracted working hours.

Source: SOEP.v31, weighted; estimations by DIW Berlin.

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Refugees have the lowest average income.

the labor market. Job prospects for refugees may be unfavorable even if legislation allows them to swiftly enter employment. In particular, integration into the labor market through measures such as voluntary jobs carries the risk of refugees remaining in the low-wage sector in the long term. Conversely, the negative effects associated with a job opportunity or (long-term) unemployment are offset by the positive impact of these labor measures on refugees. Integrating them into the labor market can, for example, improve their language skills, help them make contact with the native population, and prevent any loss in working capacity.

In general, less favorable labor market positioning might also be caused by uncertainty on the part of the refugees and employers. The willingness to take up employment, for example by investing in skills training, might be lower among those whose residency status is (at least temporarily) uncertain than among those who have the prospect of remaining in Germany. We would therefore advocate a quick decision on residency status.

Moreover, to the government should provide employers with comprehensive information about support options. The findings shown here seem to suggest that smaller companies in particular are bearing the responsibility of the higher recruitment costs and more intensive supervision requirements of hiring refugees. The use of government funding, for example through integration grants, can lower barriers to recruiting refugees and relieve employers of high training costs.

Further support measures such as attending language courses and better recognition of foreign qualifica-



tions are key factors in improving refugees' prospects of obtaining skilled work. The high share of people in employment that does not match their qualifications shows that action is still needed here to fully unlock the potential of migrants and give them opportunities to work in jobs for which they are qualified. The problem of unsuitable employment was countered in part by the Recognition Act 2012 (*Gesetz zur Verbesserung der Feststellung und Anerkennung im Ausland erworbener Berufsqualifikationen*), which is why we can expect the risk of over-qualification for new migrants to be lower than for migrants in the past. Equally, we recommend developing specific measures to encourage female refugees to join the labor market, by expanding day care facilities for children for instance.<sup>19</sup> Although compared

to men, women are sometimes better qualified,<sup>20</sup> they seem to have particular difficulty finding employment.

With the introduction of the new Integration Act, the granting of a residence permit is linked to the individual's language skills and ability to support themselves and is issued (depending on language skills) after three years (level C1) or after five years (level A2). The fact that the right to remain is linked to the progress of integration provides refugees with powerful incentives to invest in language skills and take up employment as soon as possible. At the same time, efforts to integrate refugees could have a positive impact on their intention to remain in Germany. This makes the successful integration of refugees into the German labor market, in the long run, even more important.

<sup>19</sup> See report by Spieß et al. in this issue of DIW Economic Bulletin.

<sup>20</sup> See report by Liebau/Salikutluk in this issue of DIW Economic Bulletin.

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JEL: J01, J15, J6

# Half of the Refugees in Germany Found Their First Job through Social Contacts

By Philipp Eisnecker and Diana Schacht

In Germany, the majority of people tend to find work through friends, acquaintances, and relatives when they first enter the labor market or switch jobs. The same applies to immigrants and their offspring. Integrating refugees into the labor market is considered crucial to their overall integration into society, yet little is known about how they land their first jobs. The present paper attempts to bridge this gap by analyzing IAB-SOEP Migration Sample data on two reference groups comprised of individuals that came to Germany for different reasons: labor migrants and family migrants.

The analyses show that roughly half of the refugees found their first job through friends, relatives, or acquaintances. Formal channels such as job advertisements and the Federal Employment Agency also played a key role. Refugees who found employment through personal contacts were generally less likely to have any knowledge of German and more likely to have had contacts in Germany prior to immigration. The findings also show that refugees who acquired work through informal channels found their first job faster and were more likely to work full-time compared to those who found their first job through formal channels.

The integration of immigrants into the labor market of their host country is considered to be of critical importance for successful integration.<sup>1</sup> Employment allows them to be financially independent, benefit from daily interaction with colleagues, and integrate into other areas of society. Yet there are very few studies to date examining how refugees find their first job and what kinds of consequences their job-acquiring methods have.<sup>2</sup>

The available literature shows that at the turn of the millennium, roughly half of all immigrants found their first job in Germany through social networks: for instance, family members, friends, or acquaintances.<sup>3</sup> Those with higher levels of education were less likely to resort to these informal means of finding work, relying more on formal channels such as the Federal Employment Agency or job advertisements.<sup>4</sup> The IAB-SOEP Migration Sample<sup>5</sup> from 2013 is used to examine whether the same applies to refugees, and how the full-time employment rates and average length of time before entering the labor market differ between those who found work through formal and informal channels. For this purpose, refugees are compared with labor migrants and family migrants (see box).

**1** See, for example, Organisation for Economic Co-operation and Development (OECD), *Die Arbeitsmarktintegration von Zuwanderern in Deutschland* (2005) or Research Group of the Federal Office for Migration and Refugees (BAMF), "Migranten am Arbeitsmarkt in Deutschland," *Working Paper* 36 (2011).

**2** For a study from the Netherlands, see F. van Tubergen, "Job Search Methods of Refugees in the Netherlands: Determinants and Consequences," *Journal of Immigrant and Refugee Studies* 9(2) (2011): 179–195.

**3** A. Drever and O. Hoffmeister, "Immigrants and Social Networks in a Job-Scarce Environment: The Case of Germany," *International Migration Review* 42(2) (2008): 425–448. A. Drever and K. Spieß, "Netzwerke sind bei der Stellenfindung von Migranten bedeutend," *DIW Weekly Report*, no. 22 (2006). Individuals without migrant backgrounds were also more likely to find employment in Germany through social networks than they were through other channels; see K. Brenke and K. Zimmermann, "Erfolgreiche Arbeitssuche weiterhin meist über informelle Kontakte und Anzeigen," *DIW Weekly Report*, no. 20 (2007).

**4** H. Brücker, E. Liebau et al., "Anerkannte Abschlüsse und Deutschkenntnisse lohnen sich," *DIW Weekly Report*, no. 43 (2014).

**5** H. Brücker, M. Kroh, et al., "The New IAB-SOEP Migration Sample: An Introduction into the Methodology and the Contents," *SOEP Survey Papers* 216 (2014).

Three limitations of the present study should be noted. First, immigrants in the IAB-SOEP Migration Sample were surveyed in 2013 after already having lived in Germany for an average of 17 years,<sup>6</sup> and thus it is not possible to draw direct conclusions about refugees who came to Germany over the course of the past two years.

Second, only 283 Germany-employed refugees were surveyed. This means that the findings reported here have a high degree of statistical uncertainty. The 95-percent confidence intervals of the findings are given in the tables and figures below to illustrate this uncertainty.<sup>7</sup> In addition, the study investigates whether the differences between the groups are statistically significant (t-test). Finally, the small sample size means it is not possible to break the refugee sample down into narrower groups—for instance, by country of origin or gender (see box).

### Half of refugees found their first job through social networks

Participants in the 2013 IAB-SOEP Migration Sample were asked how they found their first job in Germany. Here, respondents could indicate multiple methods for finding a job: for instance, if they found a job both with the help of a family member as well as through the Federal Employment Agency. Only between one and six percent of the respondents<sup>8</sup> gave this kind of multiple answer—normally, only one job-search method was used successfully. The analyses do not include self-employed persons or those who had never been employed in Germany.

Around half of the refugees surveyed, i.e., between 47 and 59 percent, found their first job through family members, friends, or acquaintances (see Table 1). At 56 to 64 percent and 60 to 66 percent, respectively, labor migrants and family migrants were significantly more likely to have found a job through informal means than were refugees. It should be noted that between four and eight percent of the labor migrants had already found employment in Germany through existing business connections before they immigrated; understandably, it was rare for refugees to find work this way.

Between 37 and 49 percent of the refugees surveyed found their first job in Germany through formal chan-

#### Box

##### Data basis and observation group

Data from the IAB-SOEP Migration Sample from 2013 (v31) were used for the analyses in the present issue of *DIW Economic Bulletin*. The survey was conducted by the Institute for Employment Research (IAB) and the Socio-Economic Panel (SOEP) study and includes information on immigrants and their descendants in Germany.<sup>1</sup>

The present study analyses information on the job acquiring method of respondents in Germany. All respondents who were not born in Germany were asked this question. The self-employed and individuals who have never been in employment in Germany were not included in the analysis. Overall, no statements can be made about the job search but only about how respondents successfully found jobs.<sup>2</sup>

Also, only certain groups of migrants are studied: 283 respondents came to Germany as asylum-seekers or refugees, 557 labor migrants came as jobseekers or already had a firm job offer before immigration and 958 respondents were family migrants, i.e., spouses, children, or other family members. It should be noted that these types of immigration do not necessarily correspond to the legal entry status. Furthermore, it should be taken into account for the following group comparisons that refugees attempting to integrate into the labor market faced legal obstacles other immigrants—particularly those from the European Union—mostly did not encounter.<sup>3</sup>

<sup>1</sup> See also H. Brücker, M. Kroh, et al., "The New IAB-SOEP Migration Sample: An Introduction into the Methodology and the Contents," *SOEP Survey Papers* 216 (2014).

<sup>2</sup> Access to the German labor market for recognized refugees and those granted asylum is dependent on their residence permit (Section 4, para. 3 of the German Residence Act (AufenthG)). In exceptional circumstances, asylum-seekers may also be employed (Section 61 of the German Asylum Procedure Act (AsylG)). For more information about the job search methods used by immigrants in Germany, see, for example, Nivorozhkin, A., Romeu Gordo, L. et al. (2006) "Arbeitssuche von Migranten. Deutschkenntnisse beeinflussen Suchintensität und Suchwege," *IAB Briefly report*, no. 25 (2006).

<sup>3</sup> For a more detailed account, see Z. Salikutluk, J. Giesecke, et al., (2016) "Refugees entered the labor market later than other migrants" *DIW Economic Bulletin*, no. 35 (2016).

<sup>6</sup> The average length of stay of the respondents in the present study is slightly longer than in the other reports in this issue of *DIW Economic Bulletin*.

<sup>7</sup> These can be interpreted as follows: if a large number of samples were drawn under identical conditions, 95 percent of the estimated confidence intervals would contain the true value. Hence a large confidence interval indicates an uncertain estimate; conversely, a small confidence interval indicates a more reliable one.

<sup>8</sup> The two values denote the upper and lower limits of the confidence interval, which reflects the uncertainty of the data; see also footnote 7.

nels. Here, the Federal Employment Agency and the Employment Office played a role for seven to 15 percent of the refugees surveyed; private employment agencies for seven to 14 percent; and direct applications in response to newspaper job advertisements for nine to 16 percent. Refugees and other immigrants rarely found their first

Table

**Job acquisition methods of refugees and other migrants<sup>1</sup>**

In percent

	Refugees		Labor migrants		Family migrants	
		95% CI		95% CI		95% CI
<b>Formal channels only</b>	<b>43</b>	<b>37-49</b>	<b>38</b>	<b>34-42</b>	<b>36</b>	<b>33-39</b>
Through the Federal Employment Agency/Employment Office (Bundesagentur für Arbeit/Arbeitsamt)	11	7-15	8	6-11	11	9-13
Through an employment office/agency in my home country	4	2-6	2	1-4	1	0-2
Through an employment agency for foreigners	4	1-6	5	3-7	1	0-1
Through a private job agency	11	7-14	5	4-7	5	3-6
Through a job advertisement in the newspaper	12	9-16	10	8-13	14	12-16
Through a job advertisement on the Internet	2	0-3	6	4-8	5	3-6
<b>Informal channels only</b>	<b>53</b>	<b>47-59</b>	<b>60</b>	<b>56-64</b>	<b>63</b>	<b>60-66</b>
Through friends, acquaintances, relatives	53	47-59	55	50-59	62	59-65
Through business in Germany	0	0-0	6	4-8	1	0-1
<b>Only multiple means (total)</b>	<b>4</b>	<b>1-6</b>	<b>2</b>	<b>1-3</b>	<b>1</b>	<b>1-2</b>
Also formal channels	3	1-6	1	0-2	1	1-2
Informal channels only	0	0-1	0	0-1	0	0-0
N	283		557		958	

<sup>1</sup> Results on the first position held by migrants who have already been working in Germany.

Question: What about before you moved to Germany: How did you find your first job?

Source: IAB-SOEP Migration Sample 2013, wave 1; own calculations, N = 1,798, weighted (v31).

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Around half of all refugees found their first job in Germany through friends, acquaintances, or relatives.

job in Germany through other formal channels, including employment offices and -agencies in their home countries, special employment services for foreigners, and online job advertisements.<sup>9-10</sup>

### Refugees who found a job through informal channels often had social ties in Germany before immigrating

Theoretically, the methods refugees use to land a job in Germany depends on whether jobseekers have access to social networks; the composition of these networks; and whether these networks can be used to find work.<sup>11</sup> It is assumed that a jobseeker is more likely to look for and find a job through social networks if his or her network is bigger.<sup>12</sup> Empirical evidence for this assumption

already exists for immigrants in Germany.<sup>13</sup> In the IAB-SOEP Migration Sample, immigrants were asked whether they received help from relatives or friends who were already living in Germany. This type of social ties might also have affected the refugees' actual job acquisition.

The pattern turned out as expected for all three immigrants groups (see Figure 1): the refugees and other immigrants who already had social ties in Germany prior to immigration found their first jobs more often through informal channels than they did through formal channels. These differences are particularly pronounced for labor migrants and family migrants. Conversely, the difference is smaller for refugees and is statistically only weakly significant. Between 51 and 68 percent of the refugees who had social ties in Germany before immigrating found a job through informal channels.

### Finding work through social networks: no differences between refugees with higher and lower levels of education

The fact that refugees were slightly more likely to have found their first job in Germany through formal channels than were other immigrants could theoretically have

<sup>9</sup> Searching for jobs online was most probably not as common for the respondents in this sample - most of whom came to Germany in the 1990s - than it is today; for more on this, see Pischner et al., "Arbeitsvermittlung durch das Arbeitsamt: Reform des Berichtsystems dringend erforderlich," *DIW Weekly Report*, no. 9 (2002): 150.

<sup>10</sup> A further distinction between labor migrants who had already found their first job before immigrating (job confirmation) and those who began searching for work once they were already in Germany (job search) shows certain differences (analysis available on request).

<sup>11</sup> N. Lin, *Social Capital: A Theory of Social Structure and Action* (Cambridge: 2001).

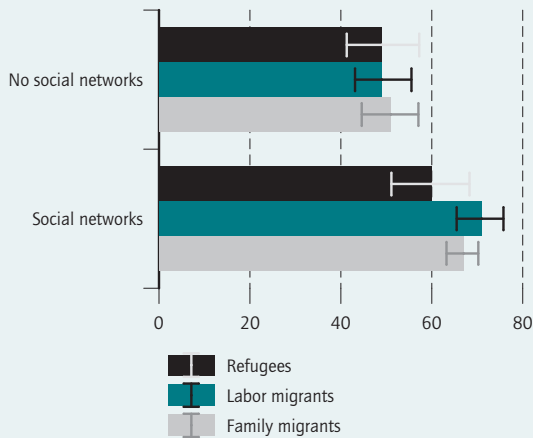
<sup>12</sup> T. Mouw, "Social capital and finding a job: do contacts matter?," *American Sociological Review* 68 (2003): 868-898.

<sup>13</sup> A. Drever and O. Hoffmeister, "Immigrants and Social Networks in a Job-Scarce Environment: The Case of Germany," *International Migration Review* 42(2) (2008): 425-448.

Figure 1

### Pre-migration social ties in Germany among refugees and other migrants who found their first job through social networks<sup>1</sup>

In percent



<sup>1</sup> Results on the first position held by migrants who have already been working in Germany. Question: When you moved to Germany, did you have the help of any relatives or friends who already lived in Germany?

Source: IAB-SOEP Migration Sample 2013, wave 1; own calculations, N = 1,798, weighted (v31).

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Refugees with social ties in Germany found their first job more often informally than refugees without these ties.

been due to the differing educational backgrounds of the groups in question. It is often presumed that better-educated individuals are less likely to search for jobs through social networks and more likely to do so through formal channels.<sup>14</sup> At the same time, it is assumed that labor market positions requiring higher qualification levels are more likely to be advertised officially and less likely to be filled through personal contacts—and a similar pattern can also be observed in Germany.<sup>15</sup> This applies not only to the indigenous population, but also to immigrants in Germany and other countries as well.<sup>16</sup>

Surprisingly, the situation is different for the refugees in the present study. The share of those with a university degree who found their first job through informal

<sup>14</sup> See Mouw, "Social capital:" 868–898.

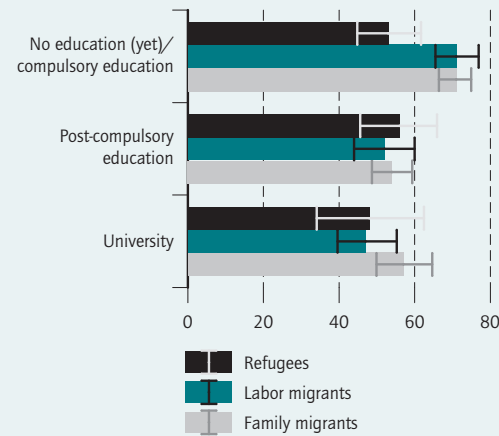
<sup>15</sup> H. Brenzel, J. Czepek, et al., "Neueinstellungen im Jahr 2015. Stellen werden häufig über persönliche Kontakte besetzt," *IAB Brief Report*, no. 4 (2016).

<sup>16</sup> Three years ago, for example, researchers from the IAB and the SOEP at DIW Berlin reported that immigrants with a higher level of education were less likely to find their first job in Germany through social networks (see Brücker, Liebau, et al., "Anerkannte Abschlüsse"). Similar patterns were observed in other scientific studies: for instance, on immigrants in Sweden (see A. Behtoui, "Informal Recruitment Methods and Disadvantages of Immigrants in the Swedish Labour Market," *Journal of Ethnic and Migration Studies* 34(3) (2008): 411–430) and on refugees in the Netherlands (see van Tubergen, "Job Search Methods").

Figure 2

### Educational levels among refugees and other migrants who found their first job through social networks<sup>1</sup>

In percent



<sup>1</sup> Results on the first position held by migrants who have already been working in Germany. Educational level refers to the highest educational degree or diploma obtained in Germany or abroad.

Source: IAB-SOEP Migration Sample 2013, wave 1; own calculations, N = 1,798, weighted (v31).

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Refugees with lower levels of education found their first jobs through informal channels at around the same rate as refugees with higher levels of education.

channels amounted to 34 to 62 percent, with an average of 48 percent (see Figure 2).<sup>17</sup> Similar shares can also be observed for refugees with other levels of education: between 46 and 66 percent of refugees who had completed a post-compulsory education, and between 45 and 62 percent of those with no qualifications at all or only a mandatory school-leaving certificate. Thus no statistically significant differences can be observed between refugees with higher and lower levels of education in terms of their job acquiring methods.

Conversely, other immigrants who had completed a post-compulsory education or held a university degree were significantly less likely to find work through informal channels than were immigrants with a mandatory school-leaving certificate or no qualifications at all.<sup>18</sup>

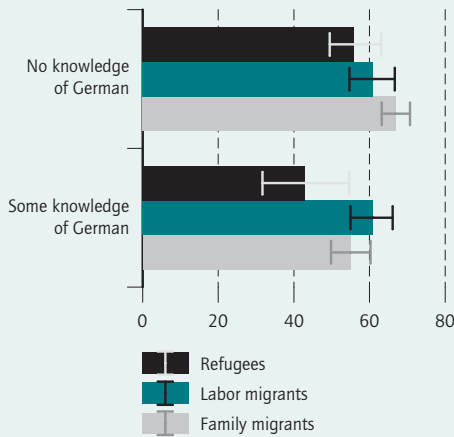
<sup>17</sup> Respondents who found a job through both formal and informal channels (one to six percent for the refugees surveyed) were categorized under "formal channels" in the following analyses.

<sup>18</sup> Another important differentiation could be made between immigrants who received all of their education outside of Germany and those who also invested in education while living in Germany. In order to verify this, individuals who had studied or attended (evening) classes in the period of time between arriving and landing their first job were included in a separate analysis as a different educational group. The findings reported here remained generally stable.

Figure 3

**Pre-immigration knowledge of German among refugees and migrants who found their first job through social networks<sup>1</sup>**

In percent



<sup>1</sup> Results on the first position held by migrants who have already been working in Germany. Pre-immigration knowledge of German refers to self-assessed speaking proficiency of migrants before they moved to Germany (none vs. some). Question: How well did you know German before moving to Germany?

Source: IAB-SOEP Migration Sample 2013, wave 1; own calculations, N = 1,798, weighted (v31).

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Refugees with pre-immigration knowledge of German found their first job less often informally than refugees without this knowledge.

**Relatively poorer command of German language among refugees who found a job through informal channels**

In order to successfully apply for a job, a certain level of German is often required: for example, applicants must be able to read job advertisements, participate in job interviews, or interact with job agents, especially when it comes to formal methods of finding work.<sup>19</sup> In contrast, relatives, friends and acquaintances with a better command of German can act as intermediaries for job searches through social networks.<sup>20</sup> Jobs could also be acquired through social networks where knowledge of German plays a more minor role. For refugees as well, the level of German proficiency might have been crucial to their successfully finding work through a particular channel.

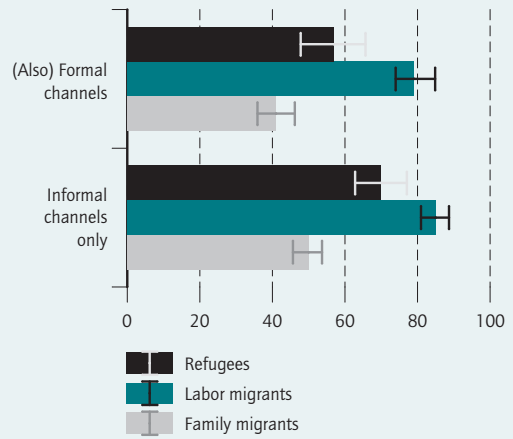
<sup>19</sup> Van Tubergen, "Job Search Methods."

<sup>20</sup> In previous studies on immigrants in Germany, it was possible to show, for instance, that immigrants with a poorer command of the German language use social networks more intensively for their job search; on this, see Nivorozhkin et al., "Arbeitssuche von Migranten. Deutschkenntnisse beeinflussen Suchintensität und Suchwege," *IAB Briefly Report*, no. 25 (2006).

Figure 4

**Job-acquisition method of refugees and migrants, who started their first employment in full-time<sup>1</sup>**

In percent



<sup>1</sup> Results on the first position held by migrants who have already been working in Germany.

Source: IAB-SOEP Migration Sample 2013, wave 1; own calculations, N = 1,798, weighted (v31).

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Full-time work was more prevalent among refugees who found their first jobs through informal channels than among those who (also) used formal channels.

In the IAB-SOEP Migration Sample, respondents were also asked to subjectively rate their German proficiency prior to immigration. Since most refugees did not know any German upon arrival,<sup>21</sup> the only distinction here is between whether respondents reported their level of German as "existent" or as "non-existent."

When it came to landing their first job, with 49 to 63 percent, the refugees who rated their pre-immigration knowledge of German as non-existent made use of informal channels more often than did those who arrived with German skills (see Figure 3). The same applies to family migrants (between 63 and 70 percent). No differences were evident among the labor migrants, however.

<sup>21</sup> On this, see the report in this issue by E. Liebau and D. Schacht, "Language acquisition: refugees nearly achieve proficiency level of other migrants" *DIW Weekly Report*, no. 35 (2016).



## Full-, part-time, and marginal employment and job-acquiring methods among refugees

The fact that social networks are crucial to job searches tells us little about whether refugees and other immigrants were able to find a suitable job through social networks. Sometimes immigrants who have found work through informal channels have a lower occupational status.<sup>22</sup> This was also observed for refugees.<sup>23</sup> Based on the IAB-SOEP Migration Sample, this study examined whether immigrants who were successful through different job-acquiring methods worked more or less often in full-time positions or in something else, including part-time positions, in marginal employment, or as a trainee.<sup>24</sup>

The forms of employment of refugees and other immigrants are closely correlated with their job-acquiring method (see Figure 4). Refugees who found their first job through social networks were more often employed in full-time positions (between 63 and 77 percent) than were refugees who did so through formal channels (between 48 and 66 percent). Family migrants were also more likely to find full-time employment through informal channels, whereas there were no statistically significant differences for labor migrants.

## Refugees found their first job in Germany faster through informal channels

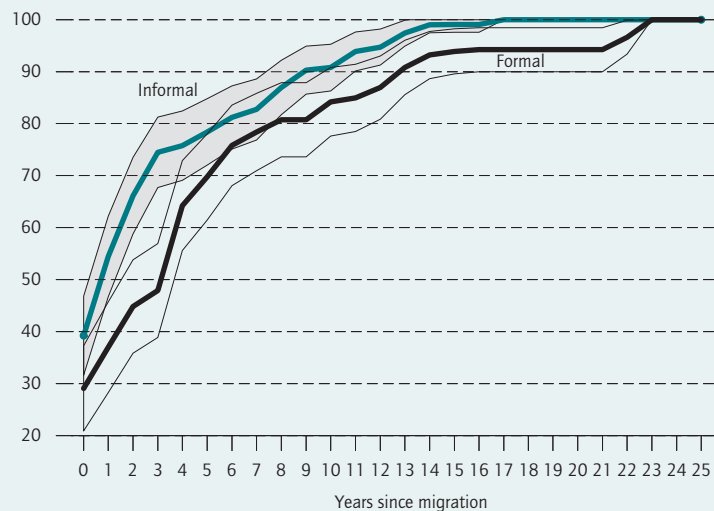
The job-acquiring methods of refugees and other immigrants might also have been linked to the length of time they took to find their first job in Germany. Our study analyzed what percentage of respondents found their first job in Germany within a certain number of years after immigration (see Figures 5 to 8). Here, a distinction is drawn between *formal* and *informal* job-acquiring methods.

For the most part, refugees who found their first job through social networks also did so more quickly than those who acquired a job through formal methods (see Figure 5). For instance, between 68 and 81 percent of

Figure 5

### Job search duration of refugees who found their first job through social networks or other channels<sup>1</sup>

Cumulative share in percent



<sup>1</sup> Results on the first position held by migrants who have already been working in Germany. Later job-losses are not taken into consideration, which necessarily cumulates up to 100 percent.

Source: IAB-SOEP Migration Sample 2013, wave 1; own calculations, weighted (v31).

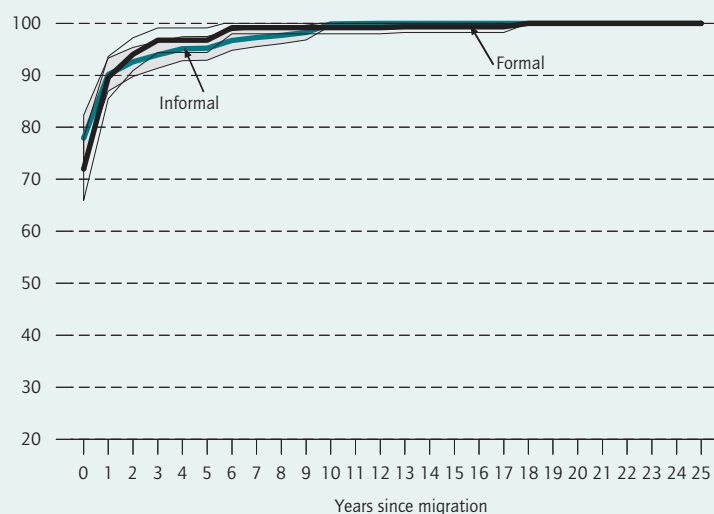
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Refugees who found their first job through informal channels usually found work faster than those who (also) used formal channels.

Figure 6

### Job search duration of labor migrants who found their first job through social networks or other channels<sup>1</sup>

Cumulative share in percent



<sup>1</sup> Results on the first position held by migrants who have already been working in Germany. Later job-losses are not taken into consideration, which necessarily cumulates up to 100 percent.

Source: IAB-SOEP Migration Sample 2013, wave 1; own calculations, weighted (v31).

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Results showed no differences for labor migrants by job acquisition method.

<sup>22</sup> For empirical evidence from the US, see Mouw, "Social capital."

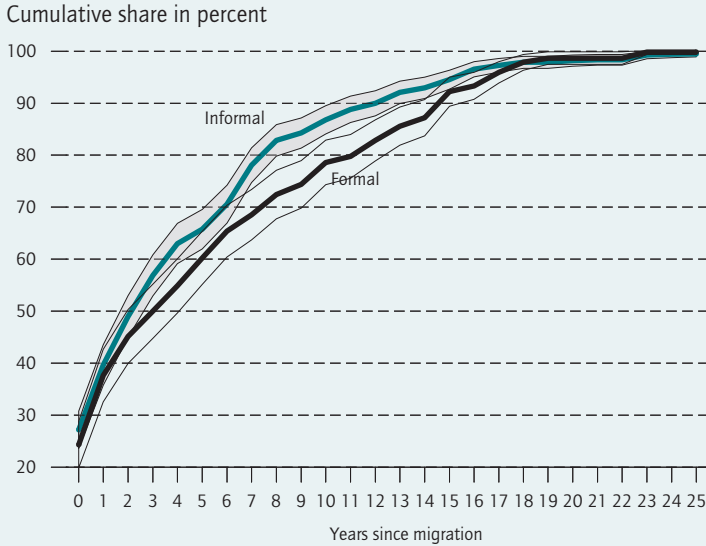
<sup>23</sup> For the Netherlands, see van Tubergen, "Job Search Methods:" 179-195.

<sup>24</sup> Findings from the 2014 study on refugees by the Federal Office for Migration and Refugees (BAMF) also indicated high full-time employment rates among refugees from countries in crisis; see S. Worbs and E. Bund, "Asylberechtigte und anerkannte Flüchtlinge in Deutschland: Qualifikationsstruktur, Arbeitsmarktbeteiligung und Zukunftsorientierungen," short analyses by the Research Centre on Migration, Integration, and Asylum of the Federal Office for Migration and Refugees (BAMF-FZ), no. 1 (Nuremberg: 2016).



Figure 7

**Job search duration of family migrants who found their first job through social networks or other channels<sup>1</sup>**



<sup>1</sup> Results on the first position held by migrants who have already been working in Germany. Later job-losses are not taken into consideration, which necessarily cumulates up to 100 percent.

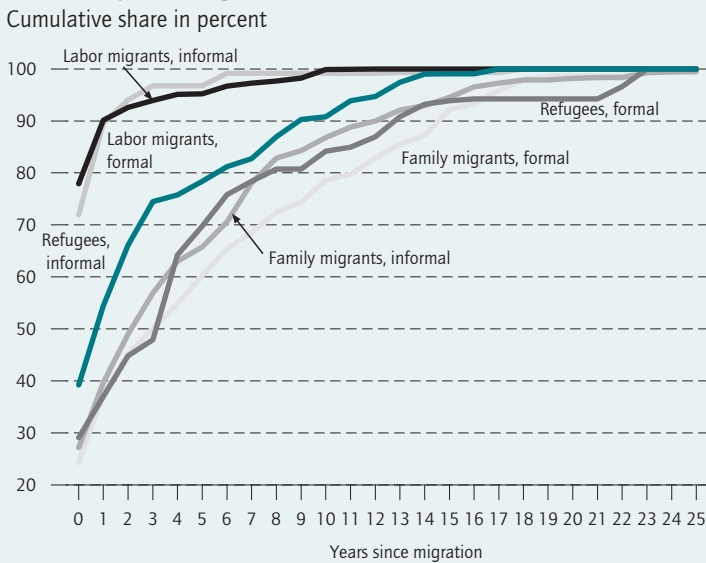
Source: IAB-SOEP Migration Sample 2013, wave 1; own calculations, weighted (v31).

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Family migrants who found their first job through informal channels also usually found work faster than those who (also) used formal channels.

Figure 8

**Job search duration of refugees and other migrants who found their first job through social networks or other channels<sup>1</sup>**



<sup>1</sup> Results on the first position held by migrants who have already been working in Germany. Later job-losses are not taken into consideration, which necessarily cumulates up to 100 percent.

Source: IAB-SOEP Migration Sample 2013, wave 1; own calculations, N = 1,798, weighted (v31).

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Labor migrants found their first job faster than refugees and family migrants.

those who found a job through informal channels were employed after three years, while this only applied to 39 to 57 percent of those who found a job through formal channels. The descriptive difference is considerable here, and even after ten years, there were still statistically significant differences in the employment rates between these groups.<sup>25</sup>

A similar pattern emerges for family migrants (see Figure 6). Labor migrants entered the German market particularly quickly, however (see Figures 7 and 8); this is not surprising, since many of them had probably already received a job offer prior to moving, and these individuals were generally close to the labor market. For labor migrants, it was irrelevant through which job-acquiring method they found their first job (see Figure 7).

**Conclusions**

Around half of all refugees in the IAB-SOEP Migration Sample found their first job through friends, relatives, and acquaintances. Formal channels such as the Federal Employment Agency and job advertisements presumably played a slightly more important role for refugees in finding work than they did for other immigrants. There were no differences in the job-acquiring methods between refugees who had higher or lower levels of education. A prior knowledge of German was more likely to go hand in hand with the use of formal job-acquiring methods. Refugees were also more likely to find a job through social networks if they already had contacts in Germany upon arrival. Furthermore, refugees who found work through informal channels were more likely to be in full-time employment. As well, they were more likely to find employment in a shorter period of time after their arrival in Germany.

The labor market integration of refugees has frequently been facilitated by social networks.<sup>26</sup> The initial implications of this finding for the German labor market and for integration policy is that effectively integrating refugees into social networks is probably crucial to their

<sup>25</sup> However, it is not possible to determine here to what extent job searches by respondents who found work through informal and formal channels also vary; on this, see for example, Nivorozhkin et al. "Arbeitsuche von Migranten."

<sup>26</sup> As is also the case for other immigrants on this, see, for example, Brücker, Liebau, et al., "Anerkannte Abschlüsse": 1147.

labor market success. At the same time, other studies<sup>27</sup> have shown that social ties with persons without migration background—that is, mixed social networks—have positive and long-term effects for immigrants. Consequently, a high degree of ethnic segregation should be avoided, a factor to be taken into account in future urban planning and neighborhood management. An adequate command of German is a prerequisite for devel-

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**27** B. Lancee, "Job search methods and immigrant earnings: A longitudinal analysis of the role of bridging social capital," *Ethnicities* 16(3) (2016): 1–19.

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**JEL:** J60, J61

**Keywords:** job search methods, refugees, Germany, labor market incorporation

oping social ties between immigrants and Germans.<sup>28</sup> Since this probably also applies to refugees, comprehensive language and integration courses may make it easier for them to establish these essential social networks.<sup>29</sup>

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**28** D. Schacht, C. Kristen, et al., "Interethnische Freundschaften in Deutschland," *Kölner Zeitschrift für Soziologie und Sozialpsychologie*, 66(3) (2014): 445–458.

**29** For more on this, see the report in this issue by E. Liebau and D. Schacht, "Language acquisition: refugees nearly achieve proficiency level of other migrants" *DIW Weekly Report*, no. 35 (2016).

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# Forced Migration, Arrival in Germany, and First Steps toward Integration

By Herbert Brücker, Nina Rother, Jürgen Schupp, Christian Babka von Gostomski, Axel Böhm, Tanja Fendel, Martin Friedrich, Marco Giesselmann, Yuliya Kosyakova, Martin Kroh, Simon Kühne, Elisabeth Liebau, David Richter, Agnese Romiti, Diana Schacht, Jana A. Scheible, Paul Schmelzer, Manuel Siegert, Steffen Sirries, Parvati Trübswetter, and Ehsan Vallizadeh

A new representative survey of a total of 4,500 recently arrived refugees to Germany conducted by the Institute for Employment Research (IAB), the Research Centre of the Federal Office for Migration and Refugees (BAMF-FZ), and the German Socio-Economic Panel (SOEP) at the German Institute for Economic Research (DIW Berlin) has generated an entirely new database for analyzing forced migration and the integration of refugees into German society. The findings we present here are based on the first part of the survey, in which over 2,300 people were interviewed. In addition to the causes of forced migration, the survey captures data on escape routes and educational and vocational biographies. Respondents also answered questions about their values, attitudes, and personality traits, as well as their integration into the German job market and education system. The results show that the threats of war, violence, and persecution were their primary reasons for migration, and that the costs and risks of migration are high. The refugees show extreme heterogeneity in educational backgrounds. The share of respondents who arrived in Germany with vocational or university degrees is low. However, these refugees have high aspirations when it comes to education. And in terms of values, they have more in common with the German population than with the populations of their respective countries of origin. The integration of refugees into the job market and education system has just begun, but Germany's integration policy measures are starting to have a perceptible impact.

Germany experienced an influx of 890,000 refugees in 2015 and an additional 210,000 by the end of September 2016.<sup>1</sup> The country has not experienced this level of immigration since the Federal Republic was founded in 1949. The upsurge in migration for humanitarian reasons since the beginning of the present decade poses major challenges to policymakers, administrative agencies, and civil society organizations. All these actors need reliable data to master the challenges at hand, and up to now, a representative database on the refugees who have come to Germany in recent years has been lacking.

To meet this pressing need, the IAB, BAMF-FZ, and SOEP have forged a partnership to create a comprehensive, representative database on refugees to Germany.<sup>2</sup> The first part of the longitudinal study surveyed over 2,300 refugees to Germany and is the basis for the findings in this report. In the second part, the random sample will be expanded to include at least 4,500 respondents. The approximately 450 survey questions capture data on refugees' personality traits, attitudes, health, and indicators of subjective well-being in addition to their educational and occupational biographies, the causes of their forced migration, and the escape routes they used. The survey also asked about their accommodations, the asylum process, integration into the job market, and other areas of society, and their participation in specific policy measures (Boxes 1 and 2).

In this short report, we present preliminary results from the first part of the IAB-BAMF-SOEP Refugee Survey. Simultaneously, a more detailed presentation of the results has been published in a longer report (in German).<sup>3</sup>

<sup>1</sup> See: Federal Ministry of the Interior (BMI), "890.000 Asylsuchende im Jahr 2015," press release dated Sept. 30, 2016.

<sup>2</sup> The first part of the random sample upon which this report is based was financed with funds from the research budget of the Federal Employment Agency (BA) allocated to the IAB. The Federal Ministry of Education and Research is financing the second part. The Federal Ministry of Labor and Social Affairs commissioned the IAB to conduct analyses on the basis of these data, which will offer increased opportunities for analysis. Furthermore, all three research institutes have allocated personnel resources to the project.

<sup>3</sup> See Herbert Brücker, Nina Rother and Jürgen Schupp, "IAB-BAMF-SOEP-Befragung von Geflüchteten: Überblick und erste Ergebnisse," *IAB Research Reports* no. 14 (2016).

## Migration to Germany: reasons and costs

### Threats of war and persecution are the primary causes of forced migration

In migration theory, forced migration is understood as a complex decision in which war and persecution as well as economic, political, and institutional factors in the countries of origin and destination all play a role.<sup>4</sup> This is why the adult refugees interviewed in this study were

<sup>4</sup> Timothy J. Hatton, "Seeking asylum in Europe," *Economic Policy* 19 (38) (2004): 5–62; Timothy J. Hatton, "Refugees, Asylum Seekers, and Policy in OECD Countries," *American Economic Review* 106 (5) (2016): 441–45.

not only asked why they left their countries of origin and transit countries, but also why they chose Germany as their destination. The survey allowed multiple answers in order to decipher the complex motivators that culminate in the decision to migrate.<sup>5</sup>

The threat of violent conflicts and war was by far the most frequently stated cause of forced migration (70 percent). Other important political reasons were persecution (44 percent), discrimination (38 percent), and forced conscription (36 percent). Poor personal living

<sup>5</sup> The interviewers clearly explained that the answers would play no role in the respondent's asylum process and would remain completely anonymous.

#### Box 1

### The IAB-BAMF-SOEP Refugee Survey

The IAB-BAMF-SOEP Refugee Survey is a representative longitudinal study of more than 4,500 people in Germany aged 18 and older. In the first phase, 2,349 people living in 1,766 households were surveyed from June to October 2016. The results in the present report are based on that survey. The second part of the study is currently in progress. An additional 2,300 people are expected to respond to the survey by the end of 2016. The study provides the basis for general statements about the statistical population of refugees who are registered in the Central Register of Foreign Nationals; who entered Germany between January 1, 2013, and January 31, 2016; and who applied for asylum (regardless of their current legal status).

The term "refugee" is not used in the legal sense here, but must be understood as a collective term for the group of adults described above and in Box 2.

Key features of the survey:

- It provides comprehensive information on the respondents' reasons for forced migration, escape routes, individual cognitive abilities, personality traits, values, health, educational and employment-related biographies, language proficiency, earnings and assets, and family contexts and social networks. It also includes data on registration, asylum procedure status, accommodations, and use of integration and job market policy measures and career counseling programs. To the best of the authors' knowledge, the survey represents the most extensive collection of data for the analysis of forced migration and the integration of refugees worldwide.
- It was conducted in person by trained interviewers from KANTAR Public (formerly TNS Infratest Sozialforschung) with the assistance of computers. The questionnaire was

available in seven languages: Arabic, Kurmanji, Persian, Urdu, Pashto, German, and English. It was important to ensure that people unable to read well participated in the survey, so the company developed innovative audio-visual survey instruments, making the questionnaire available both in writing and verbally. Interpreters were available to provide support as required.

- The catalog of questions was harmonized with that of the IAB-SOEP migration sample and the basic catalog of questions used in the SOEP study "Leben in Deutschland" (Life in Germany). This allowed the results of the survey to be compared with data on immigrants and non-immigrants living in Germany. The survey was integrated into the SOEP as a special sub-sample so that can be used by the research community for analysis.
- With the written consent of respondents, the results are linked to the data from the IAB Integrated Employment Biographies (IEB), adding the precise job market data of the BA, which include data on earnings and episodes of employment, unemployment, and receipt of unemployment benefits, to the Refugee Survey data. This provides a detailed picture of the employment biographies of refugees in Germany.
- Respondents are closely tracked to ensure that as many as possible can be located to participate in further waves of the survey.

As a whole, the study provides a data set that is unique worldwide for research on refugee migration and integration. The data from the first wave will be available for research in fall 2017 at the IAB and SOEP Research Data Centers. For reasons of data confidentiality, the data sets linked to the IEB can only be used by guest researchers at the IAB or via remote access.

conditions (39 percent) and the economic situation in the country of origin (32 percent) were also frequently mentioned reasons (Figure 1a). Refugees from Syria, Afghanistan, Iraq, and Iran cited war and persecution as reasons for migration, while refugees from Eritrea cited forced conscription. By contrast, many refugees from the Western Balkans reported precarious living conditions, discrimination, and poor economic situations in their countries of origin as their reasons for migration. Before coming to Germany, over two-fifths of refugees spent three months or longer in a transit country, although around 60 percent of them were planning to continue on to a different destination country. Many refugees reported that they did not leave the transit country voluntarily but due to precarious living situations (53 percent), persecution (25 percent), expulsion (19 percent), and discrimination (18 percent). The most frequently cited transit countries were Turkey, Iran, Lebanon, and Sudan, countries that bordered the respondents' respective countries of origin.<sup>6</sup>

### Respect for human rights is the main reason for migrating to Germany

The respondents' need for protection played the central role in their choice of Germany as their destination country. The respect for human rights in Germany was cited most frequently on average (73 percent), particularly among respondents from Iraq (85 percent) and Syria (81 percent) and refugees from other conflict regions. The German education system (43 percent) and the feeling of being welcome in Germany (42 percent) were cited less frequently. Almost one-quarter of respondents stated Germany's economic situation or the national social welfare system as reasons for their choice (Figure 1b).

Personal networks played a minor role in the decisions to leave the country of origin. However, these networks were slightly more important as reasons for choosing Germany as a destination. While only nine percent of respondents stated that family members had already left the country as their reason for migrating, 19 percent indicated that they decided to come to Germany because family members were already living there.

### Forced migration means high costs and risks

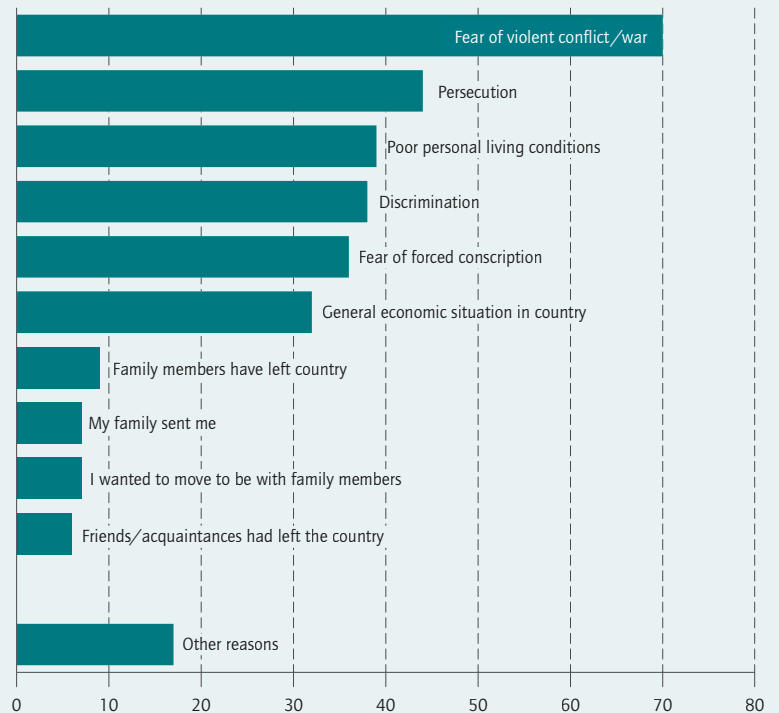
Forced migration is different from other forms of migration in that it entails higher costs and risks. Little has been reported on the level and structure of these costs or on the individual risks of forced migration.

According to the respondents who came to Germany as refugees between January 2013 and January 2016, the

Figure 1a

### Reasons for leaving country of origin

Multiple answers possible, weighted percentage value



Basis: Respondents who gave at least one reason.

Source: IAB-BAMF-SOEP Refugee Survey 2016; weighted values.

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mean cost of travel from their home country to Germany was around €7,100 and the median cost<sup>7</sup> was €5,000 (Table 1). The mean cost of travel from a transit country was lower: approximately €5,200 (the median cost was €3,550). The extremely large sums of money spent by some respondents to reach Germany explain the large difference between mean and median costs.

With regard to the average costs of forced migration, refugees spent the most on travel from their country of origin (€3,949; €2,912 from a transit country), followed by smugglers' fees (€3,103; €2,440 from a transit country), and accommodations (€459; €626 from a transit country, Table 1). People were most likely to pay out of their own savings (50 percent) or by selling assets (39 percent) or doing odd jobs (34 percent). Some borrowed the money from family members (15 percent) or friends (15 percent), or took out loans (seven percent).

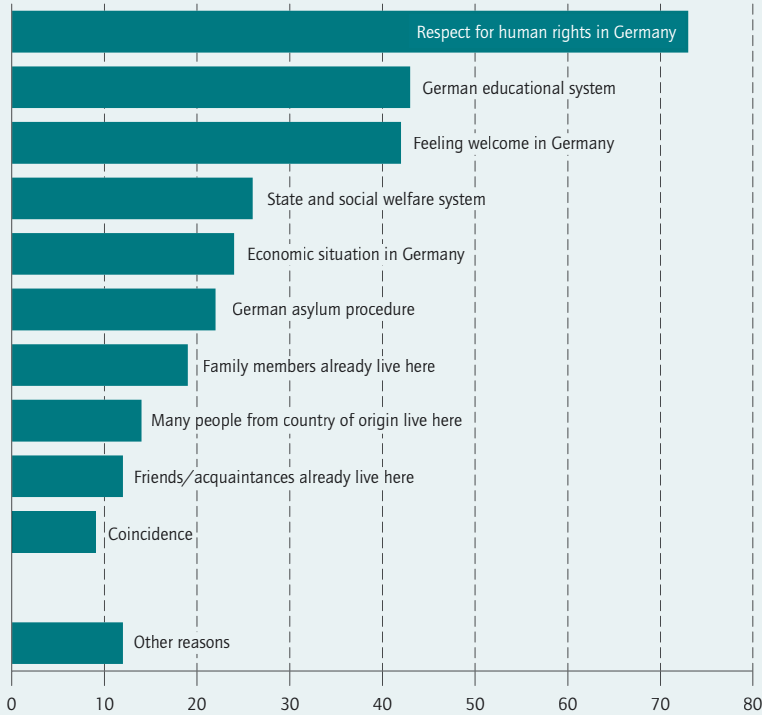
<sup>7</sup> The median value is derived by dividing the random sample into upper and lower halves. Extreme values at the upper and lower ends of the distribution cannot influence the results here, in contrast to the calculation of average costs.

<sup>6</sup> See Herbert Brücker et al., (2016a), *ibid.*

Figure 1b

**Reasons for choosing Germany**

Multiple answers possible, weighted percentage value



Basis: Respondents who gave at least one reason.

Source: IAB-BAMF-SOEP Refugee Survey 2016; weighted values.

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Table 1

**Costs of forced migration to Germany**

In euros<sup>1</sup>

Cost category	Travel to Germany			
	Directly from country of origin		Directly from transit country	
	Mean	Median <sup>3</sup>	Mean	Median <sup>3</sup>
Costs of transportation	3,949	2,500	2,912	1,800
Costs of room and board	459	0	626	0
Costs of border crossing assistance/smuggling	3,103	1,500	2,440	1,000
Total costs <sup>2</sup>	7,137	5,000	5,231	3,550

<sup>1</sup> Covers departures from January 1, 2013, to December 31, 2015.

<sup>2</sup> The total costs were calculated as the sum of all costs for transportation, lodging, and border crossing assistance/smuggling. If respondents answered "don't know" to questions about the particular costs, their responses were not calculated into the total.

<sup>3</sup> Values of 0 appear for the median value when more than half of respondents did not state any costs in that cost category.

Source: IAB-BAMF-SOEP Refugee Survey 2016, weighted values.

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Box 2

**Sampling procedure, sample size, and weighting**

The sample was taken from the Central Register of Foreign Nationals, which contains information on the legal status of all those registered, thus allowing refugees to be identified. The study includes three groups classified by legal status: 1) asylum seekers whose asylum procedures are still ongoing; 2) refugees who have already been granted protection, in particular, asylum seekers whose asylum claim has been approved, refugees recognized under the 1951 Geneva Convention, and refugees who have been granted subsidiary protection<sup>1</sup>; and 3) individuals whose asylum claims have been rejected but who are permitted to remain in the country temporarily with the status of Duldung ("toleration", a temporary stay of deportation).

Refugees who were not yet registered as asylum seekers were not included in the sample design because statistical information on this population is lacking, making it impossible to draw general conclusions about this group as a whole.

Overall, the Central Register of Foreign Nationals recorded 529,078 adult refugees<sup>2</sup> who entered Germany between January 1, 2013, and January 31, 2016, and submitted an application for asylum. Two-thirds of them (337,445) entered the country in 2015. Those who entered the country in 2016 were added retrospectively by BAMF. To mitigate the bias resulting from individuals who were not registered in 2015, the sample was drawn in three phases.

Of the newcomers who entered Germany in the aforementioned period, 55 percent (289,705) still had ongoing asylum procedures, 36 percent had been granted protection (191,481), and nine percent (47,892) had "tolerated" status (Duldung) or another status.

Because the sample is designed to be repeated every year, it includes an above-average number of people with better chances of remaining in Germany. And a higher proportion of women were included to enable general conclusions to be drawn about this group. The other groups are also represented in proportions smaller than that of the statistical population. The appropriate weighting procedures were used to assure that the sample is representative of the population in question.

<sup>1</sup> This also includes people who were accepted as part of a resettlement program, as well as "contingent refugees".

<sup>2</sup> Plus 205,932 minors.



The average costs of forced migration varied widely by country of origin. Respondents from Afghanistan and Pakistan reported the highest costs (€12,040), followed by Iraq, Iran, Lebanon, Palestine (€11,363), and Syria (€5,556). The costs for people from the countries of northern Africa (€1,398), the Western Balkan states (€1,638), the rest of Africa (€2,578) and the post-Soviet states (€2,644) are at the lower end of the distribution.

Forced migration entails not only monetary costs but also significant risks and hazards to physical and emotional well-being. For example, one-quarter of respondents said they had survived shipwrecks. Many also reported other health risks and threats to their physical well-being. Two-fifths of the respondents had been victims of physical assault, one-fifth had been robbed, and 15 percent of female refugees reported having been sexually assaulted. More than half had fallen victim to fraud and more than one-quarter had been blackmailed.

### Duration and costs of travel have fallen over time

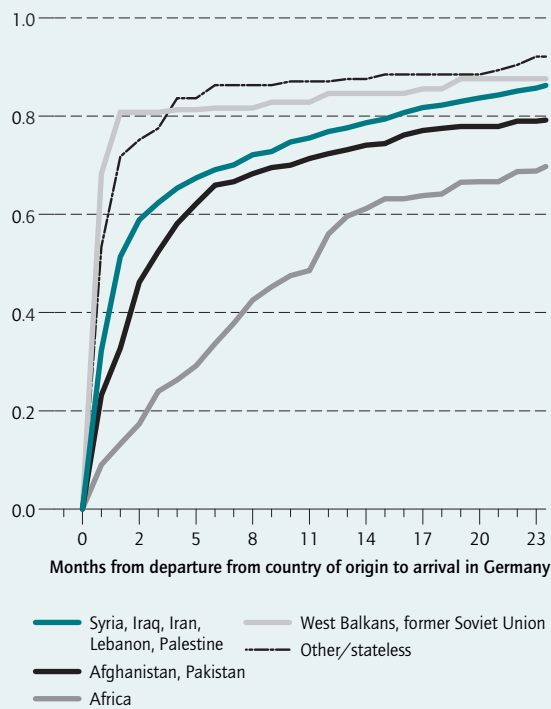
For respondents who traveled from their countries of origin directly to Germany, the trip took an average of 35 days. Travel from transit countries where the respondents had stayed for more than three months took an average of 49 days.<sup>8</sup> The total duration of the journey from the country of origin to Germany (including stays in transit countries) varied by region of origin (Figure 2). For example, within one month of their departure, 81 percent of refugees from the Western Balkan and post-Soviet states and half of refugees from Syria and other Middle Eastern countries had arrived in Germany. However, this was true for only one-tenth of refugees from Africa. The geographical locations of the countries of origin do not account for all of these differences. Respondents' options for passage through transit countries and personal financial situations could also be significant factors.

Over time, the financial costs and duration of travel to Germany have fallen. While refugees who left their country of origin or transit country during the first six months of 2013 spent an average of €7,229 to reach Germany, those who left during the first six months of 2015 spent only around €6,900. By the second half of 2015, the average cost was only €5,232. At the same time, the time spent in transit decreased from an average of 79 days to 38 days for those traveling directly to Germany and 22 days for those traveling through a transit country

Figure 2

### Length of time from departure from country of origin to arrival in Germany

Cumulative share of the people who entered Germany



Notes: We used an inverted Kaplan-Meier estimator to calculate the probability of arriving in Germany at a specific point in time.

Example: The probability of arriving in Germany one month after leaving their respective country of origin is 52 percent for people from Syria, Iraq, Iran, Lebanon, and Palestine, 33 percent for people from Afghanistan and Pakistan, 13 percent for people from Africa, and 81 percent for people from West Balkan and former Soviet states.

Source: IAB-BAMF-SOEP Refugee Survey 2016; weighted values.

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(Figure 3).<sup>9</sup> When interpreting the values for the second half of 2015, it should be kept in mind that people with long journeys to Germany are under-represented at the end of the sampling period because they had not yet arrived in Germany at the time of the survey.

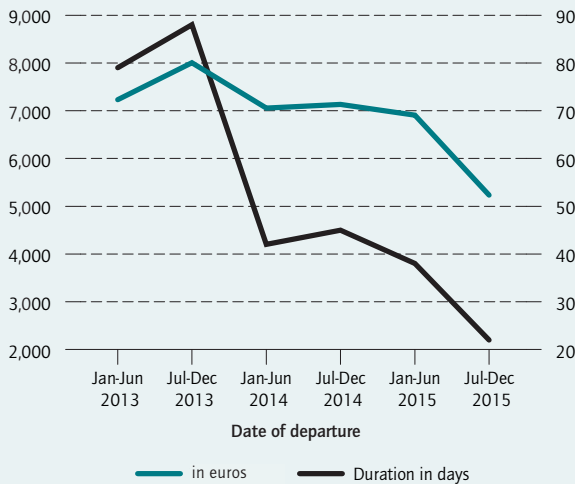
<sup>8</sup> "Duration" is defined as the period from departing the last place of residence in the country of origin or transit country until arriving in Germany. Duration and costs are both based on the date of departure. Only departures between January 2013 and January 2016 were taken into account.

<sup>9</sup> The findings are also robust when changes in the composition of countries of origin are considered. The results of a multivariate analysis controlling for the effects of the country of origin are available upon request.

Figure 3

### Travel time to destination country and costs of travel for refugees

First half of 2013 to second half of 2015



Notes: Answers given in dollars were converted into euros according to annual exchange rates.

Source: IAB-BAMF-SOEP Refugee Survey 2016; weighted values.

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Table 2

### School attendance, graduation, and years of attendance by school type

School type	Percentage of respondents aged 18 and older		Years of attendance	
	School attendance	Graduation	All school attendees	With graduation
No school	9	-	-	-
No response	7	-	10	-
Still in school <sup>1</sup>	1	-	6	-
Primary school	10	-	6	-
Middle school	31	22	9	10
Secondary school	37	32	12	12
Other school	5	3	10	11
Total	100	58	10	11

<sup>1</sup> "Still in school" refers to respondents who are attending school in Germany but did not attend school in their country of origin or did not provide a response to the respective question. – "School attendance" was modified to "School attendance with graduation" when the level of school completed was higher than the response to the question about highest level of school attendance.

Source: IAB-BAMF-SOEP Refugee Survey 2016, weighted.

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## Educational backgrounds and professional skills

### Diverse levels of formal education

Levels of formal education vary widely in our sample of refugees. Around 37 percent of adult respondents attended secondary school in their country of origin and 32 percent graduated (Table 2). The vast majority of secondary school graduates had general diplomas that are approximately equivalent to a university entrance qualification. On average, those who attended and/or graduated from secondary school completed 12 years of schooling.

A total of 31 percent of respondents attended and 22 percent completed middle school. Those who attended middle school completed nine years of school on average, and middle school graduates completed ten. A further five percent attended other types of schools, and three percent received certificates of completion. On average, those who graduated spent 11 years in school and those who did not, ten years.

On the other end of the spectrum, ten percent of respondents had only primary school education (attending for six years on average) and nine percent did not have any formal education. In total, 26 percent of the school attendees in the random sample had dropped out of school. Only one percent of respondents had graduated from a school in Germany and one percent were currently enrolled in school in Germany (Table 2). This low percentage is likely due first to the fact that most of the respondents are adults and second to the short time they have lived in Germany.

A total of 55 percent of respondents have spent a minimum of ten years in formal schooling, achieving what is considered the minimum level of education in Europe. Whereas 58 percent of refugees have spent ten or more years in formal schooling, vocational training or colleges and universities this is true for 88 percent of the German population at present. We must remember that war, persecution, and forced migration have disrupted many refugees' educations. Due to the differences in education systems, comparing school types across countries is only possible to a limited extent. The 2014 SOEP findings indicate that 36 percent of the German resident population aged 18 and older had completed upper or technical secondary schools (Gymnasium, Fachoberschule), while 56 percent had completed intermediate or lower secondary school (Realschule, Hauptschule). Accordingly, the educational structure of the refugee population differs less from that of the German resident population at the upper end of the educational spectrum, but shows a much smaller percentage of the population in the middle of the spectrum and a significantly greater percentage at the lower end.

Among refugees from countries long plagued by war and civil war such as Afghanistan, areas bordering Pakistan, Somalia, and Sudan, the percentage of respondents who dropped out of school or never started school is especially high. Eritrea is a special case, because educational certificates are not issued there until people have completed military service, which often lasts for ten years. That means the number of school attendees in the country is relatively high, but the percentage with diplomas or certificates is very low.<sup>10</sup> Ethnic minorities, such as Roma from the Western Balkan states or Yazidi from Iraq and Syria, have relatively low educational levels. Discrimination in access to educational institutions is likely to have played a key role in this. Syrian nationals have a relatively high level of education because access to educational institutions was guaranteed there up to start of the civil war there in 2011. Refugees from Iran and the post-Soviet states appear to have similarly high or even higher educational levels.

### Low percentage of refugees with higher education or vocational training

A total of 19 percent of respondents have attended a university or other institution of higher education, while 13 percent have a university degree. A further 12 percent have participated in an on-the-job training program or other vocational training program, and six percent have vocational qualifications (Table 3). On average, university graduates have spent five years at universities, and respondents with vocational training qualifications completed three-year programs. In comparison, the 2014 SOEP findings show that 21 percent of the German population have a university degree and 59 percent have vocational training qualifications.

This large disparity in vocational training is due only in part to the level of economic development and war-related circumstances in the countries of origin. Most of these countries do not have an educational system that is comparable to the German vocational training system. Many people work in trades and technical or commercial professions that do not require a formal education. Therefore, many refugees may have vocational skills that they acquired through on-the-job training or other educational programs that would be useful in Germany but for which they have no educational diplomas or certificates.<sup>11</sup>

<sup>10</sup> See Susanne Worbs, Eva Bund and Axel Böhm, "Asyl – und dann? Die Lebenssituation von Asylberechtigten und anerkannten Flüchtlingen in Deutschland. BAMF-Flüchtlingsstudie 2014," *Research Report 28* (2016).

<sup>11</sup> See Marie-Claire von Radetzky and Kristina Stoewe, "Bildungsstand syrischer Flüchtlinge – 5 Gerüchte auf dem Prüfstand", *Cologne Institute for Economic Research Study 20*, 1–3 (2016); and bq portal, *Berufsbildungssysteme, Syrien* (2016), <https://www.bq-portal.de/de/printpdf/5077> (accessed on October 20, 2016).

Table 3

#### Vocational training and university education: Attendance and graduation

Percentage of persons aged 18 and over, and average number of years in vocational training and university education

	Percentage of respondents aged 18 and older		Average number of years in education	
	Attendance	With graduation <sup>1</sup>	All attendees	Persons with graduation
No response	1	–	–	2
None	69	–	–	–
Company-based training/vocational school	9	6	3	3
Company-based training/vocational school (current) <sup>2</sup>	3	–	not available	–
Universities/technical colleges	19	13	4	5
Total	100	19	4	4

<sup>1</sup> Only graduation from vocational training programs and universities abroad.

<sup>2</sup> Attendance/graduation in Germany.

Source: IAB-BAMF-SOEP Refugee Survey 2016, weighted.

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The results also showed differences in the educational levels of men and women: 37 percent of women and 32 percent of men had not completed formal schooling, while 71 percent of women and 68 percent of men had not completed a university degree or vocational training. When comparing childless women to childless men, however, the percentage of women who had not completed formal schooling was lower than that of men (29 percent against 31 percent). The gender gap in vocational education disappeared entirely when considering only childless women and men.

### Refugees have high educational ambitions

The survey results provide evidence of respondents' educational aspirations: A total of 46 percent of the adult refugees intended to complete secondary school in Germany and 66 percent planned to obtain vocational qualifications or university degrees. And at 23 percent, slightly more than one-third of the latter group wanted to obtain a university degree.

These results indicate that the educational structure of the refugee population is likely to change dramatically in the years to come. However, it would be premature to draw conclusions about the extent to which these refugees will actually attend and graduate from educational institutions in Germany based on their current educational plans. Furthermore, these individuals do not have fixed timetables: many want to work first and invest in education and training later.

Measured against their aspirations, these refugees still show a relatively low level of participation in the German educational system. During the survey period, five percent of the adult refugees were attending German schools and universities or participating in a training program. But here it should be taken into account that around 55 percent of respondents were still in the asylum process and nine percent had been granted “tolerated” status (Duldung), meaning that their asylum application has been rejected but that they have been granted a temporary stay. In many cases, these refugees’ proficiency in German is still too low to attend an educational institution. Taking all of these factors into account, it seems likely that participation in the education system will increase among this group of refugees.

### German language proficiency initially low but improving

Around 90 percent of respondents reported that they did not know any German before migrating to Germany, but almost 30 percent rated their English speaking and reading skills at the time of the survey as good or very good. During the survey period, respondents reported that their German had improved significantly since they arrived. A total of 18 percent of respondents who had spent less than two years in Germany rated their German proficiency as good or very good; 35 percent said it was satisfactory, and 47 percent indicated that they had little or no knowledge of German. Of those who had been in Germany for more than two years, 32 percent reported having good or excellent German skills and 37 percent reported having satisfactory German skills.

Growing numbers of refugees have taken part in language learning programs since 2015. The BAMF integration courses are an important publicly funded language learning program (Box 3). There are also a series of other language programs, including the ESF-BAMF courses in German for professional purposes, introductory German and other language learning programs sponsored by the Federal Employment Agency (BA), as well as programs organized by individual federal states and municipalities, charitable organizations, and volunteers.

Almost no data are available on the scope of language programs available and participation in these programs. At the time of the survey, one-third of respondents had attended integration courses. An additional five percent had participated in the ESF-BAMF German courses and eight percent in the BA’s<sup>12</sup> introductory courses or similar language learning programs. Many more attended lan-

<sup>12</sup> Some of the respondents who said they had participated in a BA introductory German course may actually have participated in a different BA language learning program.

#### Box 3

### Legal framework for attendance of integration courses

Integration courses are Germany’s key publicly funded language support program. They include comprehensive language teaching consisting of an average of 600 lesson units and an orientation course that now has 100 units. Learners complete the course with knowledge of German at the B1 level of the Common European Framework of Reference for Languages, and are given regular language tests throughout the course to monitor their progress. Until November 2015, “tolerated” refugees and people with ongoing asylum procedures were not allowed to participate in an integration course. Since November 2015, however, “tolerated” refugees and asylum applicants expected to receive legal permanent residency in Germany—which currently applies to refugees from Eritrea, Iran, Iraq, Somalia, and Syria—can apply for permission to take a BAMF integration course. And as in the past, refugees who have recognized protection status also have the right to apply. There is no legal right to language courses. Since the Integration Act came into effect in August 2016, participation in an integration course is binding and non-attendance can be penalized.

guage courses offered by federal states, municipalities, charities, and other organizations. In total, two-thirds of respondents had attended one type of language course or another. Of those who were attending or had attended a language course, 22 percent have participated in more than one program.<sup>13</sup>

Refugees not only participate in formal language learning programs but also utilize other opportunities for learning German. A large majority (71 percent) of respondents reported using media such as the Internet, television, newspapers, and radio to learn the language. Almost one-third were learning German from relatives, friends, or acquaintance, and around 30 percent were using language-learning CDs, Internet courses, and other multimedia learning aids.

A multivariate analysis of the determinants of refugees’ German skills showed a strong, statistically significant relationship between language course attendance and improvement in language proficiency. It also showed significant positive correlations between gains in language proficiency and duration of stay, recognition of claims for

<sup>13</sup> See Herbert Brücker et al. (2016a), *Ibid.*

refugee protection, educational levels, and living in private accommodations rather than refugee shelters. The correlations are negative, however, for women as well as for refugees from safe countries of origin.<sup>14</sup>

## First steps: integration into the job market and education system

### Many refugees come to Germany with work experience

Refugees' integration into the job market is likely to depend not only on their education, German proficiency, and other skills, but also on the work experience they acquired in their respective countries of origin. Of the 18- to 65-year-old respondents, 73 percent reported having worked before coming to Germany. However, there was a significant gap between the men and women surveyed: 81 percent of male respondents but only 50 percent of female refugees had work experience.

The refugees' job structures in their respective countries of origin provide initial insights into their occupational skills. On average, 27 percent were self-employed, 30 percent were non-salaried employees, 25 percent were salaried employees in non-management positions, and 13 percent were salaried employees in management positions.

### Most refugees want to work

Survey results showed that respondents are highly motivated to work: 78 percent of unemployed respondents reported that they were "definitely" and another 15 percent "probably" planning to work in the future. The results also reveal gender differences: 97 percent of men and 85 percent of women reported that they "definitely" or "probably" wanted to work. This shows that women have a strong desire to work, even though their employment rate is still low.

### Job market integration just beginning

During the survey period, 14 percent of respondents had jobs. The majority of these respondents can be classified into the following groups: full-time employees (32 percent), part-time employees (21 percent), and participants in internships or vocational training programs (24 percent). Employment was nine percent among refugees who came to Germany in 2015 and 2016, 22 percent among those who arrived in 2014, and 31 percent among those who arrived in 2013 or earlier.<sup>15</sup>

<sup>14</sup> See Herbert Brücker et al. (2016a), *Ibid.*

<sup>15</sup> Due to the low number of cases, these values can only be interpreted as preliminary. For those who migrated to Germany before 2013, these were

Patterns of job market integration among recently arrived refugees correspond closely to the process and timing of job market entry for past waves of refugees.<sup>16</sup> To understand this development, it is important to keep in mind that 55 percent of the respondents were still awaiting a decision on their asylum claim at the time of the survey and only had limited access to the job market.<sup>17</sup> In many cases, they were also still lacking the necessary German skills.

A large share (42 percent) of respondents with work experience found their first jobs in Germany through personal contacts: family members, friends, or acquaintances. However, this percentage is significantly higher among other migrant groups, 55 percent of whom found their first jobs in Germany through social contacts.<sup>18</sup> A higher percentage (60 percent) of refugees without vocational or university degrees found their first jobs through personal contacts, while refugees with vocational or university degrees had more success finding a job through employment agencies or job centers (33 percent), newspapers, and the Internet (ten percent).

### Career counseling programs still used relatively little

Twenty-two percent of the respondents had taken advantage of the BA career counseling programs and 19 percent had used the services of a job center, while some had used several of the available programs.<sup>19</sup> An additional 20 percent knew of the programs offered by the BA and 19 percent were aware of job center services but had not used them (yet). The longer respondents had stayed in Germany, the more likely they were to be aware of these counseling programs. Around one-fifth of re-

relatives and other people in the household surveyed.

<sup>16</sup> Herbert Brücker et al., "Geflüchtete Menschen in Deutschland – eine qualitative Befragung," *IAB Forschungsbericht* no. 9 (2016b); Zerrin Salikutluk, Johannes Giesecke and Martin Kroh, "Geflüchtete nehmen in Deutschland später eine Erwerbstätigkeit auf als andere MigrantInnen," *DIW Wochenbericht* no. 35 (2016): 749–56.

<sup>17</sup> Asylum applicants cannot pursue gainful employment until three months after registering. Asylum-seekers from safe countries of origin who submitted their asylum application after August 31, 2015, are not allowed to work at all. Hurdles refugees must overcome in order to work include the BA verification of the comparability of working conditions, approval from the immigration authorities, and the priority checks that the BA still conducts in some regions. However, the main hurdle are the legal uncertainties about their future residency status during the asylum procedure.

<sup>18</sup> See Herbert Brücker et al., "Arbeitsmarktintegration von Migranten in Deutschland: Anerkannte Abschlüsse und Deutschkenntnisse lohnen sich," *Die IAB-SOEP-Migrationsstichprobe: Leben, lernen, arbeiten – wie es Migranten in Deutschland geht: IAB-Kurzbericht* no. 21.3 (2014): 21–8; Philipp Eisnecker and Diana Schacht, "Die Hälfte der Geflüchteten in Deutschland findet ihre erste Stelle über soziale Kontakte," *DIW Wochenbericht* no. 35 (2016): 757–64.

<sup>19</sup> The Federal Employment Offices (BAs) are responsible for asylum-seekers looking for work during their asylum procedures and for people with a temporary suspension of the deportation (Duldung), if their asylum claims have been rejected. Job centers are responsible for people whose asylum applications have been approved and who receive benefits to cover their basic costs in cases of need.



Table 4

### Connection between employment and integration measures or advisory services

Estimated impact on employment probabilities

Language courses <sup>1</sup>						
BAMF integration course	0.100** (0.024)					
ESF-BAMF language courses <sup>2</sup>	0.304** (0.061)					
BA introductory language program <sup>3</sup>	0.084** (0.032)					
Career counseling and other advisory services of the BA <sup>4</sup>						
BA Perspectives for Refugees <sup>5</sup>	0.155** (0.050)					
General job counseling	0.084** (0.020)					
Career counseling	0.075** (0.024)					
Observations	1,776	2,107	2,079	2,128	2,131	2,135
R <sup>2</sup>	0.261	0.251	0.232	0.236	0.233	0.232

Notes: Significances at 1 or 5 percent level are denoted by \*\* and \* respectively. The standard deviation is given in parentheses.-- The dependent variable in each case is a dummy variable that has the value of 1 if a person was employed at the time of the interview (full-time, part-time, in marginal employment, in company-based training, or in an internship) and 0 if not. -- The model is estimated using the method of Ordinary Least Squares (OLS) regression.-- As additional control variables, we used sex, age, age squared, age on arrival, educational degrees before immigration, region of origin, duration of stay, duration of stay squared, children, employment prior to immigration, housing, current language knowledge, language knowledge before immigration, health status, and fixed effects for the month of the interview, municipal size classes, general job search assistance, German courses, other integration measures, residency status, and federal state.

1 The reference group consists of persons who did not take part in the respective language course. Individuals who are expected to have dropped out of a language course are not considered in the estimations.

2 The course is designed to teach occupation-specific language skills.

3 Respondents were asked about their participation in introductory language courses offered by the BA. Since many respondents stated participation in these language courses at a point in time when they were not yet or no longer being provided, one must assume that this variable also includes other language programs offered by the BA.

4 The reference group consists of persons who had not yet received advice or counseling or who were not aware of advisory centers.

5 This is a labor market measure designed by the Federal Employment Agency to assess refugees' vocational skills.

Example: For a person who received general job counseling, the probability of being employed is 8.4 percent higher than for a person who did not receive general job counseling or who is not yet familiar with the job counseling centers.

Source: Own estimates based on the IAB-BAMF-SOEP Refugee Survey 2016.

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cently arrived refugees reported that they needed and received help finding a job; two-fifths said they needed help but had not received any. These findings indicate that the BA counseling programs are not being utilized fully despite growing awareness of their existence.

### Language and counseling program effectiveness

Many programs support the integration of refugees into the German job market. In order to acquire an initial impression of how effective these programs are, we ex-

amined the relationship between employment and various programs. The results should be understood as a statistical correlation between participation in a program and participation in the job market, and not as a causal relationship.

We initially examined three language programs. The first were the integration courses offered by the Federal Office for Migration and Refugees (BAMF). Second, we examined the ESF-BAMF courses in German for professional purposes, which are also offered by BAMF. These courses are designed to teach advanced language skills with practical application to specific occupations, meaning that those who complete the program leave with more advanced language skills than participants in integration courses and with a knowledge of the specific vocabulary used in their occupation. Third, we examined the introductory-level language course the BA offered in 2015 as well as other BA language programs that were designed to teach both basic and occupation-related language skills.<sup>20</sup>

In the estimates (Table 4), respondents who had not (yet) participated in the relevant language courses are the comparison group. The estimates show that those who had completed a language course have a significantly higher probability of employment than people who had not participated in one. The effects are the greatest for the ESF-BAMF language courses. This could be because the ESF-BAMF language courses teach a higher level of occupation-related language proficiency.

The second part of the regressions (Table 4) examine the extent to which participation in the BA's "Perspektive für Flüchtlinge" (perspectives for refugees) program, which is designed to build on refugees' existing occupational competencies and skills, and in the BA's job market and vocational counseling programs is correlated with the refugees' employment. As the results of the estimate show, all of the programs have a statistically significant correlation with the refugees' likelihood of being employed. Since those with greater proximity to the job market and skills that are relevant for job market integration are also more likely to participate in these types of programs, the effects cannot be interpreted as causal proof of their effectiveness. Future research is needed to provide more answers here.

<sup>20</sup> The survey asked about participation in the introductory BA course that took place from October to December 2015. However, many of the respondents said they had attended the course outside of that period. This may be due to respondents confusing the introductory BA course with the other language-learning programs the BA offers (e.g., occupation-related language courses offered under the Social Insurance Code III sect. 45). Due to this possible measurement error, in a wider sense this variable not only encompasses the introductory BA courses but other BA language-learning programs as well.

Table 5

**Attitudes about forms of government and democracy (agreement in percentages)<sup>7</sup>**

Database	IAB-BAMF-SOEP	World Values Survey (WVS)			Difference	
	Refugees <sup>1</sup>	Population with German citizenship <sup>2,3</sup>	Countries in crisis <sup>2,4</sup>	Column A and B <sup>5</sup>	Column A and C <sup>5</sup>	
	Column A	Column B	Column C			
<b>Attitudes about forms of government</b>						
There should be a democratic system.	96	95	91	(1)	5	
You need a strong leader who does not have to be concerned with a Parliament or elections.	21	22	46	(-1)	-25	
Experts, not the government, should decide what is best for the country.	55	59	70	(-4)	-15	
<b>Attitudes about democracy</b>						
The people choose their government in free elections.	96	92	89	4	7	
Women have the same rights as men.	92	92	67	(0)	25	
Civil rights protect the people from government oppression.	93	83	80	10	13	
The government taxes the rich and supports the poor.	81	71	63	10	18	
Religious leaders ultimately determine the interpretation of laws.	13	8	55	5	-42	

1 The response scale for the IAB-BAMF-SOEP survey in the questions on forms of government, which ranges from 1 (totally disagree) to 7 (totally agree), was condensed into disagreement (responses 1 to 4) and agreement (responses 5 to 7). The response options in WVS do not contain a neutral middle category, in contrast to the IAB-BAMF-SOEP survey. The responses in the IAB-BAMF-SOEP survey on the middle category (value of 4) are considered here "rejection." An alternative approach that treats the middle category as "no response" generates substantially similar findings. --In attitudes toward democracy, the response scale, which runs from 0 (should definitely not happen in a democracy) to 11 (should definitely happen in a democracy), was condensed into disagreement (responses 0 to 5) and agreement (responses 6 to 10).

2 The WVS response scale for the questions on forms of government, which range from 1 (totally disagree) to 4 (totally agree) were condensed into disagreement (responses 1 to 2) and agreement (responses 3 to 4).-- The response scale, which ranges from 1 (should definitely not happen in a democracy) to 10 (should definitely happen in a democracy) was condensed into disagreement (responses 1 to 5) and agreement (responses 6 to 10).

3 For Germany, only persons with German citizenship were included.

4 Not included in the WVS are Syria, Afghanistan, and Eritrea. Countries defined as countries in crisis were: Algeria, Palestine, Iraq, Libya, Egypt, and Yemen.

5 Differences in percentage points. Estimates that suggest a statistically non-significant difference (Adjusted Wald Test, 99 percent level of significance) are in italics.

6 In Germany, the percentage of missing answers on questions about the form of government (don't know, no answer) is between one and four percent (WVS), in countries in crisis (WVS) between six and eight percent, and among refugees (IAB-BAMF-SOEP Survey) between 13 and 26 percent. It is impossible to determine from the data at hand to what extent these differences are due to differences in the survey instruments and situation, to language problems or social desirability bias. -- In Germany, the percentage of missing answers on questions about attitudes toward democracy (don't know, no answer) is two percent or below (WVS), in countries in crisis (WVS) between six and ten percent, and among refugees (IAB-BAMF-SOEP Survey) between 11 and 20 percent. It is impossible to determine from the data at hand to what extent these differences are due to differences in the survey instruments and situation, to language problems or social desirability bias.

Sources: IAB-BAMF Refugee Survey 2016; World Values Survey, Wave 6, 2010–2014.

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## Much in common: Comparing refugees with the German population

### Democratic values

Refugees' social and cultural as well as economic participation in Germany will depend to a great extent on their personal values and how these values continue to develop and change. Many respondents come from countries under dictatorships, in which democratic traditions and the civil society structures are poorly developed or have been destroyed in recent years. To what extent refugees' experience living under dictatorial regimes is expressed in either lower or higher levels of support for democracy has been measured here based on the respondents' levels of agreement with various statements dealing with forms of government and democratic principles.

To this end, we examined respondents' attitudes about forms of government in the survey, as well as their understanding of democracy and the roles of men and women in society. Most of the questions are based on the World Values Survey (WVS), which enables a comparison between the German population and—with some limitations—the populations of the countries of origin.

Ninety-six percent of respondents expressed support for the statement, "There should be a democratic system" (Table 5, Column A). Respondents' answers almost completely matched those of the Germans who responded to the WVS (Column B). However, around one-fifth of the refugees surveyed agreed partially or completely with the statement, "You need a strong leader who does not have to be concerned with a Parliament or elections." And 55 percent agreed partially or completely with the



statement, “Experts, not the Government, should decide what is best for the country.” These two statements are problematic from a democratic political viewpoint, but the refugees did not report a higher level of agreement with them than German respondents, 22 percent of whom supported the idea of a strong leader and 59 percent of whom were in favor of rule by experts.

However, significantly more of the WVS respondents in crisis regions agreed with these anti-democratic statements. In Egypt, Algeria, Iraq, Yemen, Libya, and Palestine, almost one in two respondents supported the idea of a strong leader, and 70 percent thought that experts are more competent policymakers than the government (Table 5, Column C).

The survey respondents also gave similar answers to the German respondents on questions of “what should happen” in a democracy: 96 percent of refugees and 92 percent of Germans believed “The people [should] choose their government in free elections.” Both refugees and Germans supported equal rights for women: 92 percent of both groups agreed with the statement, “Women [should] have the same rights as men.”

In addition to freedom and equality, a particularly high percentage of refugees agreed with two statements dealing with the protection of civil rights and respect for the weak. Ninety-three percent of the refugees (compared to 83 percent of Germans) agreed that “Civil rights protect the people from government oppression”, and 81 percent of refugees (compared to 71 percent of Germans) supported the idea that “The government taxes the rich and supports the poor”. The refugees’ agreement with these two statements was thus around ten percentage points higher than that of the German respondents to the WVS.

The question of whether “Religious leaders [should] ultimately determine the interpretation of laws” probed respondents’ support for the separation of church and state. Only a minority of refugees (13 percent) agreed with this statement. Although this percentage is higher than that of German respondents to the WVS by a statistically significant amount (eight percent), it is 40 percentage points lower than the agreement rate that this statement receives in Egypt, Algeria, Iraq, Yemen, Libya, and Palestine (approximately 55 percent).

Thus, although many refugees come from regions in which over half the population supports the role of religious leaders in lawmaking and the idea of a strong government leader, their responses to questions about democratic principles in the IAB-BAMF-SOEP survey are much more similar to answers given by German respondents than they are to the responses of people in their countries of origin. With regard to these views, the refugees

clearly represent a select group that differs vastly from the population of their countries of origin.

### Gender role conceptions

In order to examine the similarities and differences in gender roles conceptions between refugees and the resident population of Germany, we compared levels of agreement with three statements. They dealt with the role of women in the working world and in the family context, and the value of education for girls as opposed to boys. Since the answer categories in the WVS were different from those in the IAB-BAMF-SOEP survey, we combined categories here as a means of harmonizing the surveys.<sup>21</sup>

The portion of German respondents who agreed with the statement, “Having a job is the best way for a woman to be independent,” is, at 71 percent, statistically significant and lower than that of refugees (86 percent, Table 6). There were statistically significant differences between refugees and the German population overall as well as within the gender groups. A comparison of the effect sizes (Box 4) reveals a medium overall effect size (0.34) and a larger effect size among men (0.46) than among women (0.21). The difference in the effect sizes for men and women is also statistically significant.

As for the statement, “If a woman earns more money than her partner, this inevitably leads to problems,” the German respondents in 2013 were more strongly for gender equality than the refugees: 29 percent of refugees and 18 percent of German respondents agreed with this statement. Among women, the difference was 30 percent to 20 percent and among men, 28 percent to 18 percent. Here, the differences among all groups were statistically significant. However, the effect sizes are relatively small and the differences are not statistically significant. For the overall random sample, the value is 0.25. For women it is also 0.25, and for men it is 0.32.

Eighteen percent of refugees and 14 percent of Germans agreed with the statement, “For parents, vocational training or higher education for their sons should be more important than vocational training or higher education for their daughters.” While female refugees agreed more strongly with this statement than German women (14 percent compared to 11 percent), there was hardly any difference between the respective groups of men

<sup>21</sup> The WVS contains three categories of answers to the question on the aspect of independent gainful employment and earnings (“agree,” “neither,” and “do not agree”). Here, we combined answers 5–7 in the IAB-BAMF-SOEP survey and assigned them to the “agree” answer in the WVS. The WVS contained four answer categories to the question about the education of sons and daughters (“completely agree,” “agree,” “do not agree,” and “completely disagree”). Here, we combined WVS answers 1 and 2 and categories 6 and 7 in the IAB-BAMF-SOEP survey into the “agree” category.

Table 6

### Comparison of gender role conceptions between refugees and Germans

Agreement in percent

	Refugees <sup>1</sup>	Germans <sup>2,3</sup>	Standardized difference <sup>4,5</sup>
<i>Having a job is the best way for a woman to be independent.</i>			
Total	86	72	0.34**
Women	88	81	0.21*
Men	85	62	0.46**
N	2,123	1,914	
<i>If a woman earns more money than her partner, this inevitably leads to problems.</i>			
Total	29	18	0.25**
Women	30	20	0.25**
Men	29	18	0.32**
N	2,074	1,906	
<i>For parents, vocational training or higher education for their sons should be more important than vocational training or higher education for their daughters.</i>			
Total	18	14	0.10
Women	14	11	0.11
Men	19	20	0.02
N	2,121	1,922	

Notes: \*\*, \*: significant at the one and five percent level. The results were also calculated based on an alternative coding which in the SOEP considers only the categories 6 and 7 to represent "agreement." Based on this more conservative definition, none of the questions produced statistically significant differences between refugees and Germans.

1 The response scale in the IAB-BAMF-SOEP Refugee Survey, which ranges from 1 (totally disagree) to 7 (totally agree) was condensed into disagreement (responses 1 to 4) and agreement (responses 5 to 7).

2 The WVS response scale, which ranges from 1 (totally disagree) to 4 (totally agree) was condensed into disagreement (responses 1 to 2) and agreement (responses 3 to 4).

3 Only persons with German citizenship were considered in the estimations.

4 Adjusted Wald test.

5 Measure of the effect size based on standardized mean values.

Sources: IAB-BAMF-SOEP Refugee Survey (2016) and World Values Survey (2010-2014).

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(19 percent compared to 18 percent). For this statement, the differences were not statistically significant in any group, and we can ignore any differences in the already low effect sizes (Table 6).

Therefore, depending on the statement in question and the gender of the respondent, differences in the understanding of gender roles between the refugees in our sample and the German population exist in both directions and to varying degrees.<sup>22</sup>

<sup>22</sup> For an in-depth analysis of the refugees' ideas on gender roles, see the qualitative preliminary study to this study (Herbert Brückner et al., (2016b, 2016c). See also Herbert Brückner et al., "Geflüchtete Menschen in Deutschland: Warum sie kommen, was sie mitbringen und welche Erfahrungen sie machen," IAB Kurzbericht no. 15 (2016).

Box 4

### Calculation of effect sizes for differences between different groups

The significance of differences between two groups does not say anything about the size of the effects. The larger the sample, the lower the standard deviation, and the greater the probability that small differences are also statistically significant. In order to make the sizes of the differences in different samples comparable, Cohen (1988) proposed a procedure in which the difference of the average values is divided by the weighted standard deviation in the respective samples (Cohen's *d*).<sup>1</sup> Using this method, we can calculate the effect sizes of the differences in average values independently of size. Values in the range of 0.1 to 0.3 are considered small differences, 0.3 to 0.8 are medium differences, and 0.8 or greater are large differences.

<sup>1</sup> See Jacob Cohen, *Statistical power analysis for the behavioral sciences* (2nd edition). Hillsdale, NJ: Erlbaum, 1988.

When interpreting these statistics, it should be kept in mind that levels of agreement with fairly abstract norms may differ substantially from lived, everyday values.

## Social participation and life satisfaction

### Social contacts

Most of the refugees in the survey had only been in Germany for a short time. Social contacts and social networks play a key role in their participation in social life and integration into the job market and education system. Not only contacts to the German population but also to other newcomers can provide them with a source of information and facilitate their integration into the job market. On average, respondents to our survey had three new German contacts and five new contacts from their countries of origin (excluding relatives).

Not only the number of new contacts but also the frequency of contact is relevant for measuring social participation. In total, 60 percent of refugees have contact with Germans at least once a week, and 67 percent have weekly contact with people from their countries of origin. Both the number of new contacts and the frequency of contact with Germans increase with the level of education. Refugees living in a private apartment or home have more frequent contact with Germans than those living in refugee shelters, and refugees living in smaller municipalities have somewhat more frequent contact with Germans than those living in large cities. For the

frequency of contact with people from the same country of origin, these trends are reversed.

### Experiences with discrimination

Prejudice and resentments can create burdens that make it difficult for refugees to integrate into German society and that impede their participation in all areas of social life. Only ten percent of refugees report having experienced discrimination frequently, and another 36 percent report having seldom experienced discrimination. The respondents in our sample have encountered discrimination at a somewhat above-average rate relative to the migrant population in Germany as a whole (32 percent in 2015).

The self-reported experience of discrimination fluctuates only slightly among refugees from different educational groups. A higher share of those living in refugee shelters have encountered discrimination frequently than those living in private apartments or homes (12 percent and seven percent, respectively). Refugees who are married or in a relationship and those whose asylum application has been approved feel discriminated against less often; those with a better grasp of German feel discriminated against more often. With regard to the size of the municipality, there is no uniform pattern.<sup>23</sup>

### Life satisfaction

A key measure of quality of life is subjective life satisfaction. This can be understood as a comprehensive indicator of well-being, providing an initial idea of the extent to which the refugees' quality of life matches that of the German resident population. The comparison group here is that of non-immigrant SOEP respondents.

Their general evaluation of life satisfaction shows that refugees are less satisfied than non-immigrants overall, but the difference is relatively small—a finding that can be partially explained by the younger age structure of the refugee population. Greater differences appear when we examine satisfaction with individual areas of life. As expected, there is a large difference between refugees and people without an immigrant background when it comes to satisfaction with their living situation and a moderately large difference in satisfaction with income (Table 7).

<sup>23</sup> For an in-depth analysis, see Herbert Brücker et al., (2016a), *Ibid.*

Table 7

### Life satisfaction of refugees and individuals without a migration background

Indicator	No migration background	Refugees	Standardized difference
Age in years <sup>1</sup>	52.0 (18.9)	31.2 (10.8)	-1.14*
Sex <sup>1</sup> (% female)	51.3	27.4	-
Life satisfaction <sup>1,a</sup>	7.25 (1.75)	6.86 (2.55)	-0.21*
LS Lodging <sup>1,a</sup>	7.92 (1.82)	6.28 (3.08)	-0.83*
LS Income <sup>1,a</sup>	6.38 (2.47)	5.64 (3.06)	-0.29*
LS Health <sup>1,a</sup>	6.56 (2.24)	7.72 (2.65)	0.51*
State of health <sup>1,c</sup>	3.31 (0.98)	3.92 (1.15)	0.61*
Health, concerns <sup>1,e</sup>	1.90 (0.68)	1.61 (0.76)	-0.42*
Loneliness <sup>2,c</sup>	2.03 (0.74)	2.71 (1.15)	0.86*
Depression <sup>3,d</sup>	1.56 (0.56)	1.85 (0.73)	0.50*
N	20,548	2,349	

Notes: \*\*, \*: significant at the 1 to 5 percent level.—Means, standard deviations in parentheses.—LS—current overall life satisfaction. Higher values in columns 5 and 6 represent larger effect sizes. According to Cohen (1992), a standardized difference of between 0.2 and 0.5 represents a small effect size, between 0.5 and 0.8 a medium effect size, and greater than 0.8 a large effect size.

<sup>1</sup> Surveyed in 2015.

<sup>2</sup> Surveyed in 2013.

<sup>3</sup> Surveyed in 2016.

<sup>a</sup> Scale range from 0 to 10.

<sup>b</sup> Scale range from 1 to 7.

<sup>c</sup> Scale range from 1 to 5.

<sup>d</sup> Scale range from 1 to 4.

<sup>e</sup> Scale range from 1 to 3.

Sources: IAB-BAMF-SOEP Refugee Survey 2016, weighted; SOEP.v31, years 2000–2014.

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### Health

Overall, refugees are more satisfied with their health than non-immigrants; they rate their health status higher and are not as worried about their health (Table 7). While this result may be surprising, one possible explanation is the relatively young average age of the refugees. A multivariate analysis that controls for age found no significant differences between refugees and non-immigrants.<sup>24</sup> Another plausible explanation is that only relatively healthy people embarked on the long, often strenuous journey to Germany and actually arrived here.

<sup>24</sup> The results are available upon request.

Other survey results qualify the finding of a comparatively good self-reported health: refugees suffer much more from loneliness and depression than non-immigrants.

## Conclusion

The survey of recently arrived refugees to Germany confirms some existing findings but also provides a much fuller picture. Most of the refugees indicated that they left their countries of origin, and in some cases also transit countries, due to the threats of war, violence, and persecution. Precarious personal living conditions were another commonly cited factor in the decision to migrate. Respondents reported having chosen Germany as their destination country primarily because of the high level of protection granted to refugees. The costs and risks of the journey are high, but have fallen over time.

The refugees in our sample differ widely in educational levels: On the one hand, a comparatively large percentage have attended secondary school or higher, and on the other hand, another large group have only attended primary school or no school at all. Sixty-one percent have attended school for at least ten years, which is the minimum standard in Europe. Only around 30 percent have attended a university or vocational school, and less than 20 percent graduated with a degree or certificate of completion. However, around two-thirds of the refugees plan to pursue university or vocational education in Germany, so we can assume that their level of education will rise—particularly since this report does not take children and their schooling into account. Upon arriving in Germany, most refugees do not know any German, but a significant increase in language proficiency is noticeable over time.

The integration of refugees into the job market is just beginning, but the longer these individuals stay in Germany, the more likely they are to find jobs. The initial results correspond to the patterns of integration observed in past waves of refugees and the process and timing of their labor market entry.

Only a relatively small percentage of respondents are aware of or have been able to take advantage of existing career counseling and integration programs available to refugees, including some just launched in 2015. Around one-third of the refugees represented in the sample have participated in integration courses; two-thirds have attended other language courses. A minority of refugees have taken advantage of the many advisory programs and job placement services available, for instance career counseling to foster refugees' job market integration. The initial results indicate that systematic integration measures are capable of significantly increasing refugees' job market participation.

Participation and inclusion do not only depend on integration into the job market and education system. A high level of shared values between refugee and the German population will also play an important role. A comparison of values shows that the refugees hold very similar basic convictions about democracy and the rule of law to the resident German population, and differ significantly in these values from the populations of their respective countries of origin. When it comes to beliefs about gender roles, Germans and refugees show both similarities and differences.

As expected, the refugees are less satisfied with their living and income situations than the non-immigrant German population. However, the differences in life satisfaction are few. Surprisingly, refugees report higher satisfaction with health than the comparison group—a finding that may be related to the low average age of the refugees in the sample.

The initial results of the IAB-BAMF-SOEP survey indicate a great deal of heterogeneity among refugees with regard to their biographies, educational backgrounds, values, and personality traits. Considering their low average age and high aspirations for education and employment, they hold enormous potential. Their integration into the job market, the education system, and other areas of society is just beginning, we can expect to see significant progress in the future. The IAB-BAMF-SOEP Refugee Survey will continue to track these developments over the years to come.

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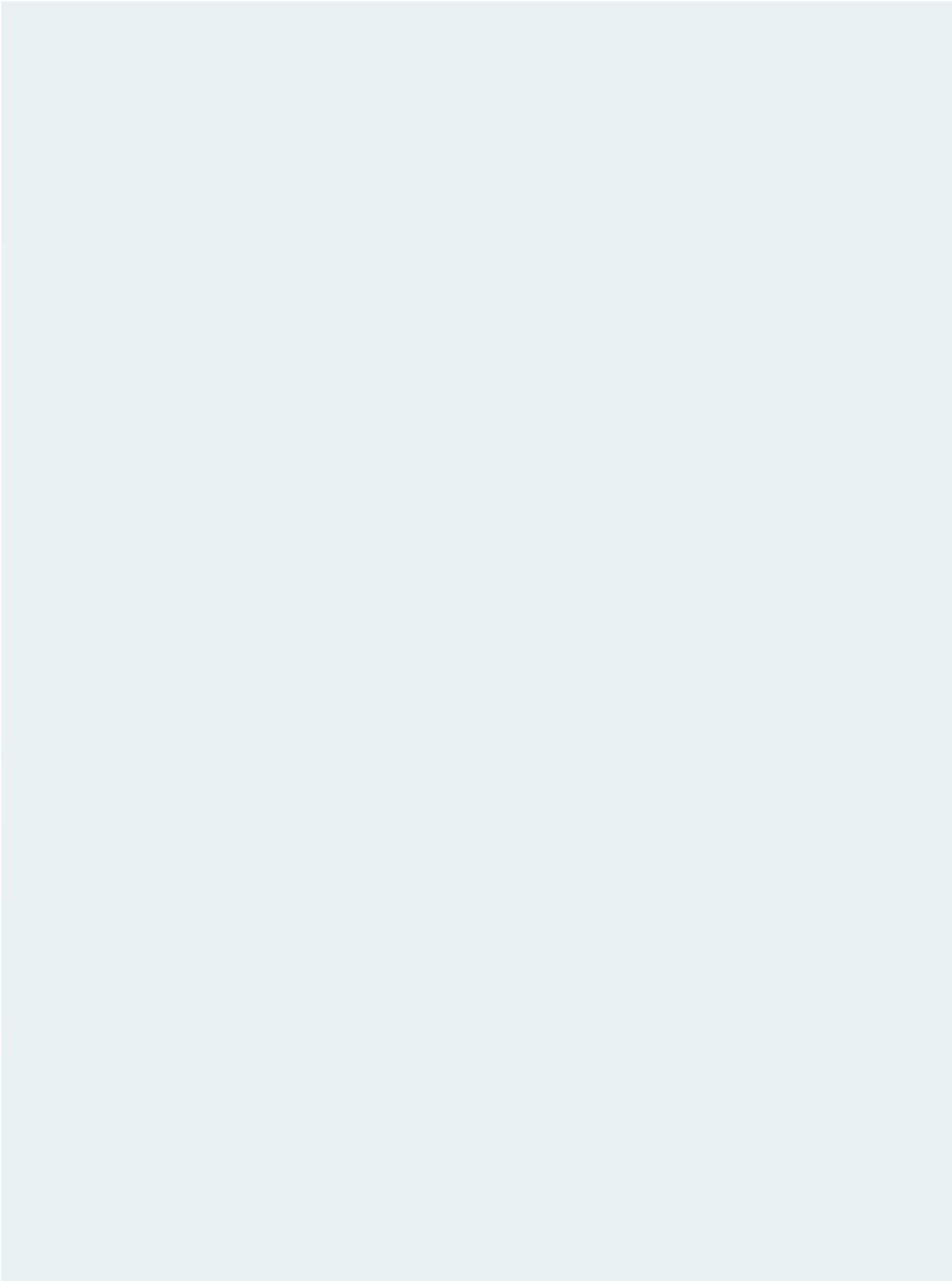
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# IT and Communication Technologies Dominate Adolescent Downtime

By Sandra Bohmann and Jürgen Schupp

Today's teenagers spend their free time very differently than they did 15 years ago: engagement with IT and communications technologies is now their most significant leisure activity. Representative statistics based on data from the Socio-Economic Panel (SOEP) longitudinal study indicate that Internet and computer-based recreation plays a major role for more than 95 percent of all 17-year-olds in Germany, regardless of gender. Even though access to the Internet and computer-based technologies is now widespread across all social classes, usage patterns differ according to certain socio-demographic characteristics. While lower household income is associated with higher Internet activity, it is not a factor in social networking or gaming. The latter remains a male domain, but boys' and girls' Internet usage and social network engagement do not differ: here the type of high school plays a *determining* role. Students in academically oriented German high schools (Gymnasien) are more likely to be active on social media on a daily basis than are students in secondary schools (Realschulen and Hauptschulen), which are less academically oriented. Education policymakers have started acknowledging the pivotal role that technology plays in young people's lives and have announced a campaign targeted to adolescents of all social segments and at all types of high schools. It aims to strengthen students' command of technology while discussing the risks of digital communication, and investigate how education can leverage more of the new opportunities in digital media.

## The importance of computer-based and Internet activities is growing

It is hard to miss the extent to which digitalization and technology in general permeate teenagers' lives in public spaces, schools, and the family. No other way of spending leisure time has experienced such a rapid dynamic development as electronic entertainment media—the Internet above all, followed by Internet-based chats, gaming, and engagement with social networks. Based on the SOEP data on teenagers for the period 2000–2014, the report at hand demonstrates the extent to which technological progress has changed everyday life for teenagers. It also looks at how structural differences in the use of modern information and communication technologies have emerged and the way their use has changed over time.

## Computer-based and Internet leisure activities are at the top with teenagers

Almost all of the 17-year-olds who were surveyed between 2012 and 2014 stated that they engaged in at least one IT-related leisure activity on a daily or weekly basis (Figure 1). At the beginning of the 2000s, slightly more than half of the 17-year-olds gave this answer. A close-up view of the IT-related activities with which teens spend their leisure time shows that the explosive increase in this leisure area is based on the increased use of the Internet for surfing and chatting, and engagement with social networks. On the other hand, the proportion of those who play computer games at least once a week has remained relatively steady at approximately 50 percent of teenagers since the early 2000s. It has even dropped slightly of late.

The trend presented above is primarily driven by the fact that more and more young people spend time with IT- and communication-based leisure activities on a daily basis. This underlines the predominantly high everyday relevance of computer and Internet technology. Fifteen years ago, less than 30 percent of young people spent time with computers on a daily basis. Of the respondents who were surveyed between 2012 and 2014, 85 percent said they spent time on the computer or In-

## Box 1

**Baseline data**

The baseline data are provided by the Socio-Economic Panel (SOEP)<sup>1</sup> and its survey of young people in particular. For the longitudinal study, DIW has commissioned KANTAR Public (formerly TNS Infratest Sozialforschung) to survey an annual representative sample of households in Germany. Currently, over 20,000 persons in over 11,000 households are participating in the survey.

**Data on 17-year-olds**

Since 2000, 17-year-olds have received annual questionnaires requesting information on their leisure activities and use of information and communication technologies. Overall, 6,081 of the 17-year-olds born in the period 1984–2014 completed the in the year when they turned 17. Around 5,930 of them provided information on how they spend their downtime. This report uses all the available years in order to map trends over time. For this purpose, several birth years have been combined into cohorts (Table 1). Extrapolation factors make it possible

<sup>1</sup> For information on the SOEP, see Gert G. Wagner et al.: The German Socio-Economic Panel Study (SOEP) – Scope, Evolution and Enhancements. Schmollers Jahrbuch 127 (1) (2007), 161–191.

Table 1

**Pooling of cohorts by birthcohorts and survey-years**

	Survey years			
	Cohort 1	Cohort 2	Cohort 3	Cohort 4
Birthcohorts	2001–2003	2004–2007	2008–2011	2012–2014
Cohort 1: 1984 to 1986	1,027			
Cohort 2: 1987 to 1990		1,386		
Cohort 3: 1991 to 1995			1,434	
Cohort 4: 1995 to 1997				1,673

Source: SOEP v.31, 17-year-olds.

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Pooling cohorts allows investigating time-trends while keeping enough observations for statistical inference.

to weight the data to make them representative, which allows for generalizing upon the information the young people from each birth year give to the interviewers.

Internet every day. While television dominated teenagers' daily leisure activities for years, they have now come to prefer engaging in social networks or surfing and chatting online as ways of spending their downtime. Watching television is a leisure time activity that is increasingly done weekly rather than daily.<sup>1</sup>

The data captured in the SOEP only provide information on the portion of daily use, but the most recent German Federal Statistical Office time use survey, which was conducted in 2012 and 2013, provides more precise data on the amount of time spent with IT-related activities per day. A comparison with data from the previous time use survey from 2001/2002 (Table 1) shows that not only the portion of children and teenagers who spend their free time with IT and communication technologies has increased, but the length of time they spend with the technologies every day has also risen.

<sup>1</sup> The SOEP data do not permit any statements about the extent to which teenagers have replaced "classical television" with watching television shows on the Internet.

The average time spent with these technologies has increased by approximately 30 minutes since the last survey in 2001/2002 and now stands at around four hours for boys and three hours for girls.<sup>2</sup> The time-use survey also confirms that other media, such as television, are used less often than they used to be.

**Classic leisure activities down for the first time**

Since the first survey of teenagers in the SOEP<sup>3</sup> in 2000, their participation in athletic, musical, and cultural activities has risen continuously. The most recent cohort, whose data were captured 2012–2014, shows a slight drop in the participation in classic leisure activities, but the level is still much higher than what was observed at

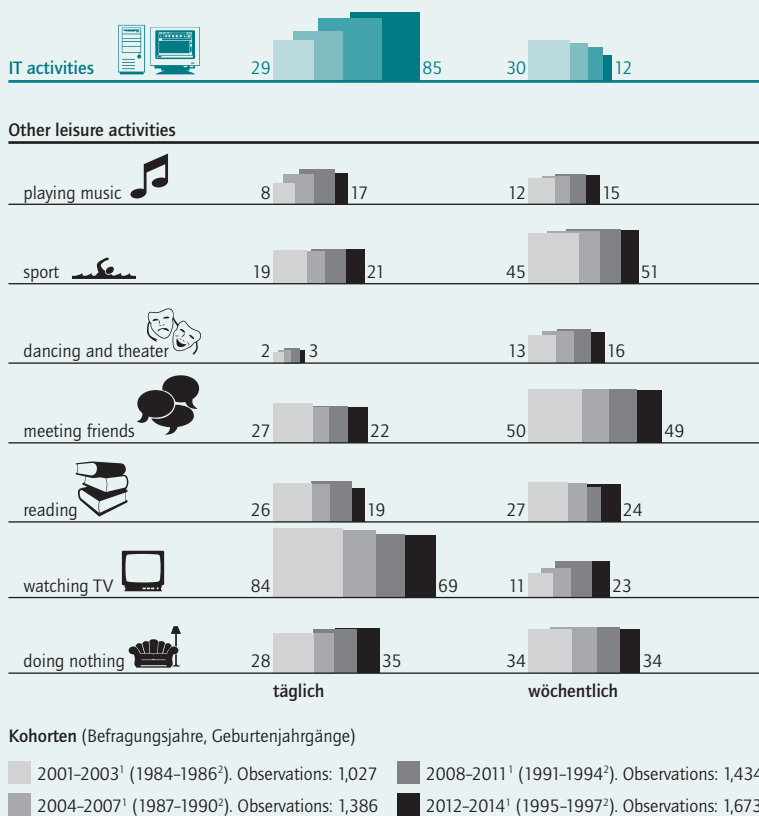
<sup>2</sup> However, when comparing this to the information in the SOEP, always consider that the age group in the time use study inherently has a greater age variation among ten- to 17-year-olds.

<sup>3</sup> See Adrian Hille, Annegret Arnold and Jürgen Schupp, "Freizeitverhalten Jugendlicher: Bildungsorientierte Aktivitäten spielen eine immer größere Rolle," *DIW Wochenbericht* Nr. 40 (2013): 15–25.

Figure 1

### Share of 17-year-olds who practice the listed leisure activities on a daily (left) or weekly (right) basis

Results by cohorts, in percentages



Results are presented separately for four cohorts surveyed in 2001-2003 (years of birth 1984-1986), 2004-2007 (years of birth 1987-1989), 2007-2010 (years of birth 1990-1993) und 2011-2014 (years of birth 1994-1997).

<sup>1</sup> consists of different survey questions: frequency of surfing and chatting on the Internet (for 2006-2013), other surfing on the Internet (since 2014)  
<sup>2</sup> (since 2013).

Source: SOEP v.31, 17-year-olds, weighted, calculations by DIW Berlin.

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Classical hobbies such as sports, music and dancing appear to suffer slightly from the dominance of IT-related leisure activities.

the very beginning of the survey. The portion of 17-year-olds who played music rose from about one-fifth in the period 2001-2003 to almost one-third from 2012 to 2014. Young people's athletic activity has also increased: now almost three out of four teenagers play sports at least once a week.<sup>4</sup>

<sup>4</sup> Charlotte Cabane, Adrian Hille and Michael Lechner, "Mozart or Pelé? The effects of adolescents' participation in music and sports," *Labour Economics* 41 (2016): 90-103.

Of course the analyses presented here do not permit any inferences as to whether this trend is related to the increase in Internet-based leisure activities. However, since the portion of young people who said the time they spend "just hanging out" every day has also gone up in tandem with musical and athletic activities, further analyses are needed to determine exactly which changes underlie the phenomenon of "teenage overload."<sup>5</sup>

### Fewer and fewer teenagers read in their downtime

The SOEP data also indicate that fewer and fewer teenagers read when they have free time. Reading on both a daily and weekly basis decreased during the survey period. Fifty-three percent of the 17-year-olds in the oldest cohort, born between 1984 and 1986, read at least once a week. In the 1995-97 birth cohort the percentage dropped to 43 percent. It is entirely possible that today's teenagers read more online, but the simultaneous growth in the portion of those who said they never read indicates that overall, fewer young people are reading. The data in the time use survey, which also covers reading on electronic media, confirm the decline in the rate of reading. They also show that the young people who did read in 2012 and 2013 spent on average one hour a day reading—the same amount of time reported ten years ago.

### Personal social contact in leisure time trending downward

Since the beginning of the survey, the portion of teenagers who meet friends (or their best friend) on a daily, or at least weekly, basis has slightly fallen. From 2001-2003, this was still a daily leisure activity for 27 percent (39 percent) of 17-year-olds. In the period 2012-2014, it was still the case for only 22 percent (26 percent).

However, one cannot conclude that the increasing digitalization of leisure time goes hand in hand with social isolation. After all, three-quarters of the latest cohort said they chatted, surfed the Internet, and engaged in social networks every day. This suggests that young people now interact with each other more via the Internet. It remains unclear however whether the social networks are really used for interaction or solely for the purpose of user-oriented self-presentation. Even if teenagers are in contact with each other more frequently via the Internet, the nature and quality of these screen-mediated relationships might differ rather dramatically from the kind of relationships that develop in personal interac-

<sup>5</sup> See Nils Minkmar, "Die Überforderung der Kindheit," *Frankfurter Allgemeine Zeitung*, July 10, 2013.

Table 1

**Average time-use of 10- to 17-year-olds for selected leisure activities, per day**

Results by sex, comparison between 2001/2002 and 2012/2013

	Male						Female					
	All		Practicing		Participation rate		All		Practicing		Participation rate	
	2001/ 2002	2012/ 2013	2001/ 2002	2012/ 2013	2001/ 2002	2012/ 2013	2001/ 2002	2012/ 2013	2001/ 2002	2012/ 2013	2001/ 2002	2012/ 2013
	hh : mm		hh : mm		Percent		hh : mm		hh : mm		Percent	
<b>PC und smartphone use</b>	<b>01:12</b>	<b>01:26</b>	<b>04:07</b>	<b>04:31</b>	<b>29,1</b>	<b>31,7</b>	<b>00:33</b>	<b>00:47</b>	<b>03:07</b>	<b>03:21</b>	<b>17,6</b>	<b>23,4</b>
Playing computer games	0:56	0:58	2:06	2:17	44,4	42,5	0:16	0:15	1:18	1:20	20,0	18,5
Computer and smartphone	0:13	0:24	1:38	1:38	13,3	24,8	0:09	0:25	1:12	1:21	12,8	30,1
Amongst these:												
Information purposes	0:05	0:08	1:29	1:22	6,1	9,4	0:04	0:08	1:03	1:13	6,0	10,7
Communication purposes	(0:01)	0:06	(1:08)	1:15	(1,2)	8,5	(0:01)	0:08	(0:40)	1:04	(3,0)	12,4
Phone calls <sup>1</sup> and text messages	0:03	0:04	0:23	0:36	12,7	11,2	0:08	0:07	0:37	0:40	22,5	17,8
<b>Reading (including reading on electronic devices)</b>	<b>0:20</b>	<b>0:16</b>	<b>1:01</b>	<b>1:04</b>	<b>32,4</b>	<b>25,9</b>	<b>0:28</b>	<b>0:26</b>	<b>1:06</b>	<b>1:12</b>	<b>42,9</b>	<b>35,6</b>
<b>Use of other media (TV, video, DVD, radio, music)</b>	<b>02:08</b>	<b>01:51</b>	<b>03:23</b>	<b>03:15</b>	<b>63,1</b>	<b>56,9</b>	<b>02:08</b>	<b>01:46</b>	<b>03:18</b>	<b>03:07</b>	<b>64,6</b>	<b>56,7</b>
Amongst these:												
watching TV, videos and DVDs	1:58	1:42	2:30	2:17	78,3	73,9	1:54	1:36	2:23	2:11	79,7	73,3
listening to music and radio	0:10	0:09	0:53	0:58	18,2	15,2	0:14	0:10	0:55	0:56	24,7	17,8
<b>Sports and physical activities</b>	<b>0:47</b>	<b>0:44</b>	<b>2:04</b>	<b>2:04</b>	<b>37,7</b>	<b>35,8</b>	<b>0:33</b>	<b>0:29</b>	<b>1:43</b>	<b>1:46</b>	<b>31,7</b>	<b>26,9</b>
<b>Conversations</b>	<b>0:23</b>	<b>0:26</b>	<b>0:55</b>	<b>0:58</b>	<b>41,4</b>	<b>45,5</b>	<b>0:34</b>	<b>0:37</b>	<b>1:05</b>	<b>1:06</b>	<b>52,5</b>	<b>55,6</b>
<b>Volunteering</b>	<b>(0:03)</b>	<b>(0:03)</b>	<b>(2:25)</b>	<b>(2:17)</b>	<b>(1,9)</b>	<b>(2,4)</b>	<b>(0:03)</b>	<b>(0:03)</b>	<b>(2:10)</b>	<b>(2:03)</b>	<b>(2,0)</b>	<b>(2,3)</b>

The table is based upon a large time-use study and indicates the time young people aged ten to 17 spend on average per day with the respective leisure activities in Germany, separately for both sexes. The first column (all) provides total averages for the respective activity, while the second column (practicing) shows the average amount of time spent with the respective activity per day by those who actually practice it. The third column (participation rate) indicates the share of girls and boys that practice that activity.

<sup>1</sup> Phone calls include also calls via landline.

( ) = restricted validity due to small number of diary entries (50 to under 200 entries)

Source: Zeitverwendungserhebung 2012/2013 Statistisches Bundesamt Wiesbaden, Tabellenwerk (Tabelle 9.8), <https://www.destatis.de/DE/Publikationen/Thematisch/EinkommenKonsumLebensbedingungen/Zeitbudgeterhebung/Zeitverwendung5639102139005.xlsx>.

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10- to 17-year-olds spend more and more time with PCs and smartphones while the use of other media declines.

tion.<sup>6</sup> As the portion of young people who said that they never met up with friends has remained constant under two percent throughout the entire period of observation, there is no indication for the assumption that new technologies have completely superseded social contact.<sup>7</sup>

<sup>6</sup> For a critical discussion of the effects of screen-mediated social interaction on social relationships, see Chapter III.2 in Hartmut Rosa, *Resonanz: Eine Soziologie der Weltbeziehung*, Berlin: Suhrkamp Verlag, 2016.

<sup>7</sup> A SOEP study did not find evidence for teenagers in Germany without access to the Internet immediately after German Reunification having more social contacts than others. See Stefan Bauernschuster, Oliver Falck and Ludger Woessmann, "Surfing alone? The internet and social capital: Evidence from an unforeseeable technological mistake," *Journal of Public Economics* 117(C) (2011): 73–89.

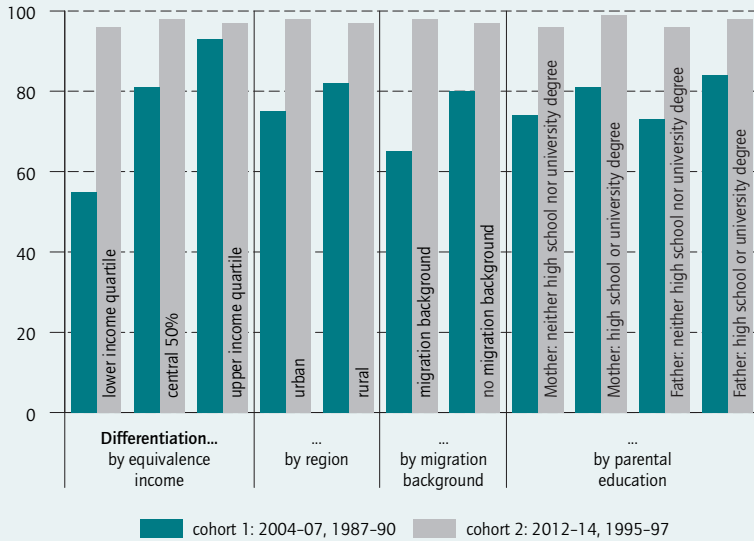
## The digital divide in use persists

Until 15 years ago the digital divide, in the sense of "inequality in access to private computers and the Internet," was the focus of the debate on structural differences in the use of modern information and communication technologies. At the beginning of the 2000s, adults and teenagers with lower household income and a low level of education owned their own computers and Internet access less frequently than others.<sup>8</sup> But the dig-

<sup>8</sup> See John P. Haisken-DeNew, Rainer Pischner and Gert G. Wagner, "Computer- und Internetnutzung hängen stark von Einkommen und Bildung ab: Geschlechtsspezifische Nutzungsunterschiede in der Freizeit besonders ausgeprägt," *DIW Wochenbericht Nr. 67* (2000): 670–75 and John P. Haisken-DeNew, Rainer Pischner and Gert G. Wagner, "Private Internet-Nutzung: Bildung und

Figure 2

**Share of 17-year-olds with internet access at home**  
Results in percentages



Digital divide then and now: comparing Internet access at home for the second cohort (surveyed 2004–2007, years of birth 1987–1990) and the last cohort (surveyed 2012–2014, years of birth 1995–1997), (data for the first cohort not available).

Source: SOEP v.31, 17-year-olds, weighted, calculations by DIW Berlin.

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Over the last ten years, the digital divide has almost been overcome.

ital divide as a gap in access,—at least as far as teenagers are concerned—has been largely closed in the past two decades and is no longer relevant.

Statistically significant differences by household income, parental educational level, and immigrant background that could still be observed in the second cohort are barely perceptible in the latest cohort (Figure 2). Almost all teenagers today have domestic Internet access. However, in the latest cohort of 17-year-olds, surveyed from 2012 to 2014, a slightly greater number of young people from lower-income households lacked access to the Internet than those from the three upper income quartiles.<sup>9</sup> Young people whose mothers graduated from high school or university have a particularly high rate of ac-

Einkommen auch bei Jugendlichen von großer Bedeutung, "DIW Wochenbericht Nr. 68 (2001): 619-23.

**9** To create income quartiles, equivalent incomes have to be calculated first. This is done by calculating the total household income and adjusting it for household structure, using a needs scale that takes the number of persons living in the household and their ages into consideration. This creates a basis of comparison for the income situations of households of varying sizes and compositions. Next, the households are assigned to one of four quartiles according to their equivalent incomes (top quartile with the highest equivalent income, the two middle quartiles—which we combined to create a "central

cess. The 2015 *Shell Jugendstudie*, a longitudinal survey of German teenagers initiated in 1953,<sup>10</sup> showed that social background remains statistically significant when not only access to the Internet but also the number of means to access the Internet are observed. The more affluent children and teenagers are, the more means to access the Internet are available to them. Even if a divide in access continues to exist on a very high level, the digital divide in form of an access divide is in general considered to be overcome.<sup>11</sup>

In recent years, the debate focused on "digital inequality instead." Digital inequality describes the phenomenon in which the frequency and purpose of digital media use, as well as the type of skills users acquire in the process, vary systematically across demographic groups. As early as ten years ago, the SOEP data for adults showed that computer and Internet use varied strongly with the level of education.<sup>12</sup>

Taking the portion of teenagers who engage daily in at least one IT-related leisure activity<sup>13</sup> differentiated according to socio-demographic characteristics, and comparing them across cohorts shows that structural differences in use have changed significantly in the past two decades (Table 2).

**Gender makes no difference when it comes to using the Internet**

While boys still spend a much larger portion of their leisure time on IT-related activities in the oldest and second-oldest cohorts studied here, the gender difference in daily use of information and communication technologies is no longer statistically significant in the latest cohort. This is primarily because girls and boys surf the Internet, chat, and engage in social networks with equal frequency. As for computer games, the boys have the lead (see Box 2). This finding is particularly relevant because the desire to learn a profession in the IT

middle" here, and the lowest income quartile with the lowest equivalent incomes).

**10** Shell, *Jugend 2015: 17th Shell Jugendstudie*, Berlin: S. Fischer Verlag, 2015.

**11** See Nadia Kutscher and Hans-Uwe Otto, "Digitale Ungleichheit – Implikationen für die Betrachtung digitaler Jugendkulturen," in Kai-Uwe Hugger, *Digitale Jugendkulturen*, Wiesbaden: VS Verlag für Sozialwissenschaften, (2010): 73–87, and Chapter 5 in Nicole Zillien, *Digitale Ungleichheit – Neue Technologien und alte Ungleichheiten in der Informations- und Wissensgesellschaft*, Wiesbaden: VS Verlag für Sozialwissenschaften, 2009.

**12** Adults with higher levels of education adopted new technologies faster and used them for educational and informational purposes rather than as leisure activities. See Sylvia E. Korupp, Harald Künemund and Jürgen Schupp, "Digitale Spaltung in Deutschland: geringere Bildung – seltener am PC," *DIW Wochenbericht* Nr. 73 (2006): 289–94.

**13** Gaming, surfing the Internet, chatting, and engaging in social networks are some of the IT-related leisure activities measured here. However, some of these activities were not part of the survey until later survey years. Also see the footnote to Table 2.

Table 2

### Share of young people who practice at least one IT-related activity a day, sorted according to social origin and birth years

In percent

Survey years	2000-2003 <sup>a</sup>			2004-2007 <sup>b</sup>			2012-2014 <sup>c</sup>		
Birthyears	1984-1986			1987-1990			1994-1997		
	%	N	sign	%	N	sign	%	N	sign
Total	29	990		43	1,358		85	1,655	
<b>Sex</b>									
Girls	8	504	***	25	671	***	84	840	
Boys	48	486		59	687		86	815	
<b>Parent education</b>									
Mother has neither high school nor university degree	28	709		41	934	*	86	1,004	
Mother has high school or university degree	30	281		46	424		83	651	
Father has neither high school nor university degree	30	648		43	848		87	870	*
Father has high school or university degree	26	342		42	510		83	785	
<b>School type</b>									
Secondary school (Hauptschule/Realschule)	27	320		43	448		86	457	***
Vocational school (Berufsschule)	27	206		39	230		78	270	
High school (Gymnasium)	30	333		44	518		88	664	***
<b>Equivalence income</b>									
Lower income quartile	21	239	**	39	314	*	86	353	
Central mean	30	500	***	43	632		88	813	*
Upper income quartile	36	251	*	46	412		81	489	***
<b>Migration background</b>									
Migration background	23	209	**	40	284		85	444	
No migration background	31	781		43	1074		85	1,208	

Shows the share of young people who practice at least one IT-related leisure activity a day, respectively for the first cohort (birthyears 1984-1986), the second cohort (birthyears 1987-1990) and the last cohort (birthyears 1994-1997).

The survey was conducted on the following IT-activities:

a computer games, technical work and programming

b computer games, technical work and programming, surfing the Internet and chatting

c computer games, technical work and programming, surfing the Internet and chatting (2012 and 2013); surfing on social networks (from 2013 onwards), other Internet surfing (from 2014 onwards)

Cohort 3 is not indicated separately because the activities surveyed were the same as for cohort 2.

Significance: \*  $p < 0.10$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$  ( $p$ -values in brackets)

SOEP v.31, 17-year-olds; weighted, calculations by DIW Berlin.

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There is almost no difference anymore between boys and girls.

sector correlates with the frequency of playing computer games but not with the frequency of other Internet-based leisure activities.

### What counts is how affluent the parents are

The relationship between household income and the use of modern media has also undergone a marked change. In the older cohorts, the portion of young people who engaged in computer- and Internet-related leisure activities every day rose with household income. However, in the most recent cohorts, the highest participation rate is situated in the middle of the income distribution. In addition, significantly fewer teenagers from the top income quartile in the latest cohort said they spent their

downtime with new media every day in comparison to the teenagers in the lower three quartiles. At the beginning of the 2000s, the lower level of participation of the teenagers in lower-income households was probably primarily due to financial constraints: in general, lower-income households were slower to adopt modern technologies.<sup>14</sup> In the higher-income households of today, teen-

<sup>14</sup> John P. Haisken-DeNew et al., *DIW Wochenbericht* 67 (2000), Ibid. It should also be kept in mind that many computer games went hand in hand with relatively rigorous hardware and software requirements at the beginning of the 2000s. Gaming as a hobby could quickly become rather expensive. Whereas many of the computer (or smartphone) activities surveyed in the more recent cohorts, such as chatting and engaging in social networks, can be pursued with almost any end device.



## Box 2

**Excessive computer and online use as a means of stress reduction**

Command of modern information and communication media is an essential prerequisite for social participation and professional success today. Various studies have confirmed the multiple positive consequences of reasonable use<sup>1</sup>. Excessive use of these technologies may nevertheless affect people's lives negatively. In addition to the sheer physical symptoms that result from long periods of screen-time, scientific studies have found correlations between excessive computer/Internet use and poor concentration, lower school-related motivation, poor grades, higher levels of aggression, and riskier behavior in general.<sup>2</sup> Potential negative consequences of the dominance of digital media in the everyday life of children and teenagers are also a topic of public discussion.<sup>3</sup> Warnings about the effects of excessive use of computers, the Internet, and smartphones on the brain, physical and mental health,

and social relationships are myriad.<sup>4</sup> How to define appropriate, excessive, and problematic use is, however, still part of the academic debate.<sup>5</sup> The absolute duration of use does not determine whether a case of use behavior is problematic or not. Instead, criteria borrowed from the definitions of pathological gambling or substance dependence are used, for example: whether the use behavior can still be controlled, the existence of withdrawal symptoms, and the extent to which the use behavior has a negative impact on other areas of life.<sup>6</sup> Varying definitions and instruments of measuring problematic usage pattern often yield very different results. In an international study conducted in 2014, for example, 0.9 percent of German teenagers exhibited explicit addiction traits and ten

**1** See Mario Fiorini, "The effect of home computer use on children's cognitive and non-cognitive skills," *Economics of Education Review* 29(1) (2010): 55-72 or Kevin Durkin and Bonnie Barber, "Not so doomed: Computer game play and positive adolescent development," *Journal of Applied Developmental Psychology* 23(4) (2002): 373-92.

**2** Leslie M. Alexander and Candace Currie, "Young people's computer use: implications for health education," *Health Education* 104(4) (2004): 254-61; Teena Willoughby, "A short-term longitudinal study of Internet and computer game use by adolescent boys and girls: prevalence, frequency of use, and psychosocial predictors," *Developmental Psychology* 44(1) (2008): 195; Valerie Carson, William Pickett and Ian Janssen, "Screen time and risk behaviors in 10- to 16-year-old Canadian youth," *Preventive Medicine* 52(2) (2011): 99-103 and Michael Dreier, Klaus Wölfling and Klaus Beutel, "Internetsucht bei Jugendlichen," *Monatsschrift Kinderheilkunde* 162nd year, 6 (2014): 496-502.

**3** See "Wie viel Smartphone ist gut für Kinder?" *Focus* title story, September 3, 2016.

**4** See Manfred Spitzer, *Cyberkrank! Wie das digitalisierte Leben unsere Gesundheit ruiniert*, Munich: Droemer Knauer (2015) and Manfred Spitzer, *Digitale Demenz. Wie wir uns und unsere Kinder um den Verstand bringen*, Munich: Droemer Knauer (2012).

**5** To date, Internet/computer addiction has not been included in the latest version of the American Psychiatric Society's *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5). However, the "Internet gaming disorder [IGD]" has been accepted into the "Emerging Measures and Models" section in which disorder symptoms that have not been adequately researched are listed until they can be officially accepted as part of the manual. See Mark D.Griffiths, Daniel Luke King and Zsolt Demetrovics, "DSM-5 internet gaming disorder needs a unified approach to assessment," *Neuropsychiatry* 4th year, 1 (2014): 1-4.

**6** Currently, there are at least 18 different measurement methods for and definitions of pathological Internet and gaming behavior. Some scientists have used the criteria for pathological gambling while other authors use the criteria that the DSM defines for addiction to psychotropic substances. For a brief overview and detailed information on the relevant literature, see Sabine Meixner, "Exzessive Internetnutzung im Jugendalter," *Kinder und Jugendschutz in Wissenschaft und Praxis*, 55th year, 1 (2010): 3-7.

agers' lower level of participation is more likely due to the fact that they have especially high rates of participation in more structured and education-oriented leisure activities. They simply have less time to surf, chat, and engage every day.<sup>15</sup> In a slightly different form, the results of the latest *Shell Jugendstudie* confirm this assertion. While 26 percent of young people in the two lower income quartiles indicated that they do not have time for other things due to their Internet activities, only ten percent of the young people in the upper two income quartiles agreed with the statement. Another indication for the hypothesis that parents in households with a higher

socio-economic status make sure that young people do not spend too much time with new media, or that the young people themselves have internalized such thinking, is that young people whose parents graduated from high school or university also have lower daily participation levels in Internet surfing and computer games. Yet looking at the young people's own education, it appears that the ones who attend academically oriented high schools have the highest participation levels. As expected, fewer young people already taking part in vocational training programs (and therefore with less free time) are online on a daily basis than other high school students. There were no perceivable differences in overall use between the young people with and without an immigrant background.

**15** Adrian Hille et al., (2013), *Ibid.* Another study in England was unable to find a causal relationship between access to the Internet and communication technologies at home and school performance, see Benjamin Faber, Rosa Sanchis-Guarnier and Felix Weinhardt, "ICT and Education: Evidence from Student Home Addresses," *NBER Working Paper* 21306 (2015).

percent were classified as being “at risk.”<sup>7</sup> Another representative German study from 2013 came to the conclusion that 12.5 percent of the 14- to 17-year-olds surveyed exhibited pathological Internet behavior.<sup>8</sup> For effective and efficient prevention, it is important to know which children and young people are especially at risk of developing an excessive or pathological pattern of Internet and computer use. Various studies have shown that psycho-emotional stress—such as a troublesome family atmosphere<sup>9</sup>—is one of the key risk factors and that excessive, pathological Internet and computer use often serve as (inadequate) stress reduction strategies.<sup>10</sup> We used the SOEP data to check the extent to which daily use of the Internet and computers depends on emotional and social stress factors. For this purpose, the probability of engaging in specific IT-related leisure activities on a daily basis was estimated as a function of symptoms and causes of psychosocial stress (Table 3). Three SOEP questions asking the young people to indicate how often they felt sad, angry or anxious in the past four weeks were used as an instrument

for measuring socioemotional stress.<sup>11</sup> We further controlled for level of satisfaction with grades and frequency of fighting with parents in order to directly test two possible causes of psychosocial stress.

The SOEP data confirm that teenagers who responded that they are often or very often sad, worried, or angry have a 20 percent higher likelihood of surfing and chatting on the Internet every day than those who are less often angry, worried, and sad. The likelihood of them pursuing any IT-related leisure activity is 12.5 percent higher. Contrary to expectations, the likelihood of playing computer games every day is not linked to emotional stress factors.

Young people who often or very often fight with at least one parent exhibit an eight percent higher probability of pursuing an IT-related leisure activity every day. Low satisfaction with grades is also linked to a significantly higher probability of engaging with social networks on a daily basis.

Overall, the SOEP data confirm that there is a positive relationship between psycho-emotional stress factors and the probability of pursuing IT-related leisure activities on a daily basis. What the data do not explain is why certain forms of digital media use are linked to certain stress factors but not others. These questions are left open for in-depth qualitative and quantitative studies in the future.

<sup>7</sup> Michael Dreier et al., *Ibid.*

<sup>8</sup> Moritz Rosenkranz et al., “Risikofaktoren für Probleme mit exzessiver Computer- und Internetnutzung von 14- bis 17-jährigen Jugendlichen in Deutschland: Ergebnisse einer deutschlandweiten Repräsentativerhebung,” *Diskurs Kindheits- und Jugendforschung* 8(1) (2013).

<sup>9</sup> For Germany, see Moritz Rosenkranz et al. (2013), *Ibid.* and a further study for Taiwan: Ju-Yu Yen et al., “Family factors of internet addiction and substance use experience in Taiwanese adolescents,” *CyberPsychology & Behavior* 10(3) (2007): 323–29.

<sup>10</sup> Sabine Grüsser et al., “Exzessive Computernutzung im Kindesalter: Ergebnisse einer psychometrischen Erhebung,” *Wiener klinische Wochenschrift – The Central European Journal of Medicine* 117(5–6) (2005): 188–95.

<sup>11</sup> See footnote to Table 3.

### Who engages in which IT-related leisure activities depends on a variety of socio-demographic traits

Alongside the temporal changes in the use structure of digital media over time, the SOEP data allow for a glimpse at the structural differences in use content (Table 3).

Since the relationship to some of the demographic characteristics has markedly changed over time, the multivariate analysis was restricted to the most recent cohorts of 17-year-olds born from 1994–1997. We examined the probability of engaging in a specific IT-related leisure activity on a daily basis, depending on membership in certain socio-demographic groups.

### Teenagers from affluent households invest less leisure time in IT-based activities

The multivariate analyses confirmed the negative relationship between household income and engaging in IT-based leisure activities. Teenagers in households in the upper income segment have a probability of engaging in any IT-based leisure activity on a daily basis that is nine percent lower than that of teenagers from middle-income families. Their likelihood of being active in social networks on a daily basis is even 15 percent lower. With regard to surfing and chatting, the children of high earners are not different from those in the middle-income segment. However, young people in the lowest income quartile have a 15 percent lower probability of surfing and chatting on the Internet than the reference group from middle-income households.

Table 3

### Relevance of different socio-demographic characteristics for the probability to practice specific IT activities on a daily basis

	Probability of daily practice of ...			
	At least one of the following IT-activities	Playing computer games	Surfing on the internet	Being active on social networks
Male	0.024 (0.509)	0.257*** (0.000)	-0.013 (0.781)	0.034 (0.607)
Lowest income quartile (reference category: central 50 percent)	-0.034 (0.464)	0.086 (0.277)	-0.146* (0.066)	0.021 (0.801)
Highest income quartile (reference category: central 50 percent)	-0.089* (0.083)	0.012 (0.818)	-0.071 (0.230)	-0.147* (0.065)
Mother's education in years	-0.005 (0.579)	0.015 (0.176)	-0.002 (0.885)	-0.007 (0.624)
Migration background (dummy)	-0.002 (0.964)	-0.090* (0.093)	-0.015 (0.773)	-0.097 (0.202)
Vocational training (reference category: Real- or Hauptschule)	-0.096 (0.275)	-0.037 (0.606)	-0.091 (0.266)	-0.099 (0.340)
Gymnasium (reference category: Real- or Hauptschule)	0.091* (0.082)	-0.086 (0.129)	0.036 (0.550)	0.235*** (0.005)
Reading (at least weekly)	-0.077** (0.043)	0.002 (0.968)	-0.098** (0.036)	-0.063 (0.367)
Meeting friends (at least weekly)	-0.037 (0.454)	-0.057 (0.441)	-0.012 (0.856)	-0.130 (0.200)
Emotional and psychological strain <sup>1</sup>	0.125* (0.062)	0.086 (0.415)	0.203*** (0.010)	0.228* (0.075)
Fighting with mother and father (frequently and very frequently)	0.083* (0.057)	0.023 (0.653)	0.069 (0.196)	0.042 (0.586)
Low satisfaction with school grades (3 and less on a scale from 0-10)	-0.029 (0.738)	-0.010 (0.912)	0.044 (0.724)	0.234* (0.063)
Observations	803	801	802	541

The coefficients of the logistic regression analysis above show changes in the probability of conducting the respective IT-related activities given a change in the respective predictor variable if all other predictor variables are held constant at their mean.

<sup>1</sup> A person is assumed to experience emotional and psychological strain if at least two out of the three following criteria apply: often or very often felt a) sad, b) worried or c) angry in the four weeks before the survey.

significance: \*  $p < 0.10$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$  ( $p$ -values in brackets)

Source: SOEP v.31, 17-year-olds, weighted, calculations by DIW Berlin.

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Young people aiming at a high school degree or those who are not satisfied with their school grades have a higher probability to be active on social networks.

Teenagers with an immigrant background do not differ from those without an immigration background concerning their Internet activities and engaging in social networks, but they show a lower probability of gaming on a daily basis.

And teenagers who attend academically oriented high schools continue to be much more likely to engage in social networks than those who attend secondary schools.

### Teenagers who read regularly spend less time online; social contacts do not influence online activity

Whether or not young people meet friends at least once a week has no influence on their daily activities in social networks or surfing and chatting online. However, young people who reported reading on a weekly or daily basis had a ten percent lower likelihood of surfing and chatting online on a daily basis. Equally the likelihood of pursuing an IT-related activity during their daily downtime was lower for young people who read regularly.

## Conclusion and outlook

In the past two decades, the digital divide manifested as a social Internet access gap and has almost completely closed—at least for teenagers. Digital media's increasing availability, portability, and interconnection have established these technologies as young people's most frequently used leisure activity. Although the majority of socio-demographic differences in the use of total IT-related leisure activity have disappeared, there is a new digital divide along socio-demographic traits concerning the specific purpose for which the new media is used. For example, young people from the lower income quartile surf and chat online less frequently than those from households in the middle-income segment. Teenagers who attend secondary schools engage in social networks much less frequently than those who attend academically oriented high schools.

### Participation in social discourse not only requires access to Internet-based medial content, but also the ability to encounter it critically.

Educational policy and policymakers in general are reacting slowly to many of these trends. On the one hand, there is a large gap between young people's media presence in their leisure time—and the IT skills they acquire in the process of using it—and the use of digital media

in schools. On the other hand, schools should function as the place where young people discuss and learn to use new media responsibly. Training teenagers on how to use the new media—which now dominate their down-time activities—in a responsible and powerful way, and formulating educational goals has become a key pedagogical task for educators. Educational policymakers have finally recognized that they must react to the ongoing technological and media-related changes in the living environment of our youth. A recently announced government program<sup>16</sup> aims to strengthen young people's command of technology and the risks associated with digital communication and learning with the new opportunities digital media offer. The German government plans to make €5 billion available for digital tools in schools in the next five years. Merely expanding digital technology in schools will probably not be enough. As the government is well aware, the key is teaching young people how to use digital media as a new primary cultural technology.<sup>17</sup>

<sup>16</sup> <https://www.bmbf.de/de/sprung-nach-vorn-in-derdigitalen-bildung-3430.html>

<sup>17</sup> See German Bundestag, "Technikfolgenabschätzung (TA) Digitale Medien in der Bildung. Bericht des Ausschusses für Bildung, Forschung und Technikfolgenabschätzung," Bundestagsdrucksache 18/9606 (2016): 10.

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JEL: J13, J22, Z13

Keywords: Youth, Time Use, SOEP



## PART 4

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# SOEP Service Activities & Knowledge Transfer in 2016

2016



# SOEP in the Media 2016

What roles do books and computers play as part of teenagers' leisure activities? How does part-time work affect the careers of fathers? And what about the health of single parents? Since the beginning of the SOEP study in 1984, researchers from around the world have been using SOEP data to analyze the living conditions and circumstances of various population groups on SOEP data, and journalists have reported on their findings to the general public.

In 2016, the journalistic articles on SOEP research focused on two topics in particular: the gap between the poor and the rich, and integrating refugees.

For example, German daily newspaper *Frankfurter Allgemeine Zeitung* based its investigation of where the rich get their wealth on a DIW Berlin Economic Bulletin article. Around 40 percent of SOEP respondents indicated that the main source of wealth was high-paying work as entrepreneurs or freelancers. Another 35 percent received their wealth from inheritances or gifts.

For the IAB-BAMF-SOEP Refugee Sample launched at the beginning of 2016, specially trained interviewers survey refugees on an annual basis. *Der Tagesspiegel* in Berlin was one of the daily newspapers that reported on the initial results of the study: "The newcomers have more in common with their destination country than with the society in their respective countries of origin."

"Intergenerational mobility," which was the focus of the 2016 SOEP User Conference, was also frequently the subject of articles about the SOEP. How do family circumstances affect children's opportunities in life? What role does education play in upward social mobility? Which part of society is upwardly mobile and which is not? The conclusion of the *Tagesspiegel* article on the SOEP conference: "German society is becoming more stratified and less just."

For a selection of media reports on SOEP, click: <http://www.diw.de/soep-in-den-medien> (in German only). And we've also posted them on the SOEP Facebook page <http://www.facebook.com/soepnet.de>.

# New SOEP Brochure: Leben in Deutschland (Living in Germany)



Our new brochure, *Leben in Deutschland*, is designed to provide a compact source of information to readers who would like to know what topics are being studied using SOEP data and what types of findings the data can yield. We use it to present a selection of the most important results from the more than 7,000 publications based on SOEP data and introduce some of the researchers from around the world who are conducting research with the SOEP data. The SOEP itself—its development over time and its future—is also one of the brochure's themes. The brochure, which replaces the previous brochure published almost ten years ago to mark the occasion of our 25th anniversary, is now available online in PDF and ePub versions (in German only). We would be pleased to send you a printed copy upon request (to [soepmail@diw.de](mailto:soepmail@diw.de)). An English version of the brochure will be available by June 2017.

[PDF](#)

[ePub](#)

# Twelfth International German Socio-Economic Panel User Conference (SOEP 2016, June 22–23)



The twelfth International SOEP User Conference (SOEP 2016), with Jan Goebel, Carsten Schröder, and Christine Kurka as the team of local organizers, focused this year on “intergenerational mobility”. It took place from June 22–23 and was held for the fifth time at the Berlin Social Science Center (WZB). Of the 123 papers submitted by researchers, the Scientific Committee (Reinhard Pollak, Anette Fasang, Jan Goebel, Jürgen Schupp, and Carsten Schröder) accepted more than 60 submissions for presentation and 18 for the poster sessions. The keynote speeches by Berkay Özcan (LSE) on “Parental Family Dynamics and Children’s Life Chances” and Richard Breen (University of Oxford) on “Education and Social Mobility” were special highlights.

The conference ended with an award ceremony. First, the Felix Büchel Award was presented to Rainer Winkelmann. The award is dedicated to the memory of Felix Büchel, an eminent researcher who passed away in 2004 at the age of 47. Every two years since 2006, the award has been granted to the SOEP user who best exemplifies the qualities of excellence in scholarship that Felix embodied. It goes to researchers who are engaged in interdisciplinary longitudi-

nal research, as Felix was, often from a comparative perspective and situated in a national and international context. His impressive record of publication in renowned international journals as well as policy papers offers a model for future award winners to follow. Jennifer Hunt, winner of the fifth Felix Büchel Award in 2014, gave a speech recognizing Rainer Winkelmann and his work. She highlighted his education spanning three countries, his visits to universities around the world, and his work as an econometrician, analyst of happiness, health economist, and scholar of training and the apprenticeship system. The prizes for the best presentations at the SOEP Conference went to three researchers. The first Joachim R. Frick Memorial Prize 2016 went to Markus Pannenberg from the University of Bielefeld. His paper “Let bygones be bygones? Socialist regimes and personalities in Germany” with co-authors Tim Friehe and Michael Wedow makes an original contribution to the literature on the role of political regimes in personality. In it, Markus treats the separation and reunification of the GDR and FRG as natural experiments. His analysis shows that the GDR’s socialist regime had a long-lasting impact on personality: experience with this regime



From left to right:  
Jennifer Hunt,  
Rainer Winkelmann,  
and Jürgen Schupp

is associated with higher conscientiousness and a lower internal locus of control. These differences in personality also have implications for individual labor market outcomes. In sum, the presentation was clear and effective and provided a convincing empirical identification strategy, and the paper makes a valuable contribution to the literature.

The second Joachim R. Frick Memorial Prize 2016 went to Mathias Schumann from the University of Hamburg for his paper “Unlucky to be young? The long-run effects of school starting age on smoking behavior and health” with co-author Michael Bahrs. The paper addresses the causal long-run effects of early smoking using exogenous school entry rules as an identification tool. The authors report that raising the school-starting age reduces the risk of smoking and increases the likelihood of reporting good health in adulthood. The scientific committee is confident that the paper will be published in a prestigious international journal.

The third Joachim R. Frick Memorial Prize 2016 went to Janina Nemitz from the University of Zurich for the paper “Increasing life expectancy and life satisfaction: Are longer lives worth it?”. Her answer was that both life satisfaction prior to death and the proportion of satisfied life expectancy to total life expectancy at age 60 have decreased over time. Increases in variability of mortality offer one possible explanation. Janina provided an outstanding presentation from a convincing new perspective, and her research is of high relevance in the context of demographic ageing.

The 2016 Joachim R. Frick Best Poster Prize went to Claudia Boscher for her poster “Gender-specific effects of perceived income injustice on stress-related diseases.” The jury was unanimous in awarding this prize. She and her co-authors (Laura Arnold, Andreas Lange, and Bertram Szagun) showed that women may attach more value to justice than men, and further, that perceived income injustice is a risk factor for stress-related diseases. In times of rising inequalities, her findings make a valuable empirical contribution to the public and scientific debate.



# Panel Survey Methods Workshop 2016



The International Panel Survey Methods Workshop (PSMW) took place in Berlin on June 20 and 21. The scientific committee responsible for workshop planning and selection of papers consisted of Martin Kroh, Mick Couper, Annette Jäckle, Peter Lynn, and Nicole Watson. The workshop was organized by a local team consisting of Martin Kroh and Jürgen Schupp with support from Christine Kurka and Svenja Linnemann. It was held at the Humboldt-Universität zu Berlin. The 26 presentations and posters by international participants dealt with questions of non-response and missing data, responsive designs, data

linkage, modes of data collection, response behavior, and interviewer effects in panel studies. The Panel Survey Methods Workshop is held every two years. This was the sixth time that the workshop was organized by a household panel study. As in previous years, all of the CNEF PIs were in attendance. Along with lectures on survey methodological questions arising in panel studies, the workshop provides an opportunity for exchange between the participating panel studies.

# SOEP at the 30th Annual Conference of the European Society for Population Economics



From June 15 to June 18, 2016, the SOEP/DIW Berlin organized the 30th annual conference of the European Society for Population Economics (ESPE) in Berlin. We were very happy to welcome 310 researchers from 32 countries around the world at the Harnack Haus in Berlin Dahlem. Our keynote speakers were Marianne Bitler from the University of California at Davis and David Figlio from Northwestern University. Marianne Bitler spoke about “Marriage Markets and Family Formation: The Role of the Vietnam Draft” and David Figlio about “Culture and the intergenerational transmission of human capital,” two subjects that were closely related to the core research topics of the SOEP. The current president of the ESPE, Arthur van Soest (Tilburg University), gave a presidential address on “Experimental Survey Data.”

This year, ESPE celebrated its 30th anniversary by hosting special sessions and inviting all of the past presidents of the society to take part. We were very happy that 14 of the 30 previous presidents of ESPE attended this year’s conference and gave interesting presentations about their current research at the special sessions. Over the three days, a total of 283 papers were presented in 76 parallel sessions. For ESPE 2016, Marco Francesconi (University of Essex) served as program chair and Daniel Schnitzlein (DIW Berlin, Leibniz University Hannover) headed the local organizing team. Christine Kurka, Frauke Peter, and Svenja Linnemann were responsible for key aspects of conference organization.



# Report of the DIW Berlin Scientific Advisory Board (Audit SAB, July 4, 2016)

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The success of a research-based longitudinal study and a research infrastructure for the social and behavioral sciences like the SOEP is undoubtedly in no small part the result of its scientifically robust, socially relevant, and cutting-edge research agenda. The SOEP's high quality standards are ensured through regular evaluations and critical input and advice from advisory boards and other bodies, and are continually being subjected to new and rigorous examination. One of the bodies entrusted with the evaluation of the SOEP is the DIW Berlin Scientific Advisory Board (SAB). On July 4, 2016, the SAB visited the SOEP as part of its regular audit of DIW Berlin to monitor progress made since the last evaluation in 2012. That evaluation had resulted in top scores for the SOEP and an overall rating of "excellent."

Infrastructure provision is carried out primarily by the SOEP at DIW Berlin. The SOEP is a unique research infrastructure that continuously develops its strengths through innovation (i.e., the setup of the experimental panel) and methodological advance-

ments (i.e., envisaged linkage to process data). The SAB acknowledges the very positive development of the SOEP since the last evaluation, especially its establishment of innovative new datasets (e.g., SOEP-IS, BAMF-IAB-SOEP migration sample, EVA-MIN) and its advances in internationalization. The SAB recommends to further pursue the internationalization in order to allow for international comparative research. In addition, the SAB suggests that the SOEP should improve the linkage of SOEP data to administrative data, which are most often used by researchers. A better linkage of the data would significantly enlarge the possibilities for academic analyses.

The next regular evaluation is scheduled for early 2019. Just a few months ago, the SOEP Survey Committee approved our medium-term concept for the future of the SOEP, and the SAB found in its recent audit that the SOEP has been performing very well since its last evaluation.

# SOEP Service

## SOEP-in-Residence 2016

The SOEP provides data users with a range of services around the SOEP data, from the standard Scientific Use File, a special mode of online access (via SOEPremote), to assistance over the SOEP Hotline. Users may also avail themselves of the opportunity to conduct research during a stay in the SOEP department at DIW Berlin as part of the “SOEP-in-Residence program.” A visit to the SOEP allows visiting researchers all the benefits of the SOEP research environment, including input and support from staff experts and the logistical infrastructure of the SOEP Research Data Center. Research visits can be arranged to work on ongoing research projects or to address special research questions and topics. For researchers interested in using small-scale coded geodata, there is no getting around a research stay at the SOEP—the data are only available for use on site at the SOEP Research Data Center. Research visits to the SOEP’s fieldwork organization, Kantar Public, may also be arranged.

In recent years, an increasing number of SOEP’s data users have been taking advantage of the service in Berlin, and the demand for visiting scholar posts is constantly rising. Since the beginning of the SOEP-in-Residence Program in 2009, the SOEP team has hosted some 400 guests from different countries, including the UK, the US, France, Italy, Spain, the Netherlands, Luxembourg, Sweden, South Korea, Australia, and Germany. The vast majority of visitors are from other German cities, who come to work with the geodata. For example, in 2016, we had some 60 visiting researchers, 70% of whom used the SOEP geodata (**Figure 1**). Classifying the guests by subject area, the following picture emerges: sociology has the largest proportion at 46%, followed by economics (37%). The remaining subject areas of political science, urban planning, psychology, and “other” are represented at below 10 percent each.

Figure 1

Number of guests per year and type of data used



## SOEPcampus 2016

The SOEP provides methodological training in the use of SOEP data to students in the fields of sociology, economics, and psychology. As an additional service, we offer introductory workshops on the use of the SOEP data and particular issues of data use. In 2016, the SOEP held a total of nine SOEP-campus workshops in Berlin, Bielefeld, Bochum, Mannheim, Duisburg, Köln, Dortmund, Sankelmark and Tübingen.

The SOEP is also part of the Doctoral Study Network for Ph.D. Courses, a group of several northern German universities and research institutes that have joined together to improve doctoral-level education and training.

## SOEP User Survey 2016

During the last two months of 2016 a number of SOEP users were kind enough to participate in the user survey. In addition to the classical questions on our services and infrastructure work, we were highly interested in finding out the level of user awareness about our various studies and how SOEP data are used. Approximately 30 percent of the 713 total respondents were new users who worked with the SOEP data for the first time in 2016. For the sixth year in a row, our survey was targeted to all SOEP data users and contracting parties.

## Awareness Level of the Studies

This year, our questionnaire contained a larger group of topics on the awareness of and interest in our SOEP-based studies and their strengths and weaknesses. As a result, we were able to determine that around half of the respondents were not aware of the options that SOEP-IS offers, but found them interesting and would probably use them in the future (see **Figures 2 and 3**). This included the option of proposing questions and experiments for SOEP-IS, or evaluating other researchers' questions and experiments after a suitable hiatus period. The survey also showed that many respondents are interested in the IAB-BAMF-SOEP Refugee Survey and using the dataset available in fall 2017 (see **Figure 4**).

## Use of the Data

With regard to the use of our data, we also wanted to find out what statistical software researchers use and with which frequency (see **Figure 4**). Stata is now used by 75 percent of users and has established itself as the most frequently used program. And R is gaining in frequency of use.

Thanks to the very detailed feedback from our respondents, we have also received valuable suggestions on how to make our work and the services we offer even better. Based on their suggestions, we will be working to improve our documentation and make it clearer and more user-friendly. We are aware that the "landscape of SOEP studies" is filling up, and providing suitable aids is essential for beginning or continuing to work with SOEP data. For this reason, in addition to restructuring the `paneldata.org` metadata portal, we plan to completely revise the SOEPlong documentation. When integrating the IAB-BAMF-SOEP Refugee Survey, we will update the existing SOEP data structure and provide additional separate variables generated purely for migration. They will be documented in an understandable manner. Using our familiar channels (the SOEPnewsletter and SOEP website), we will keep you informed on the status of these activities.

We would again like to express our gratitude to all 2016 user survey respondents!

Figure 2

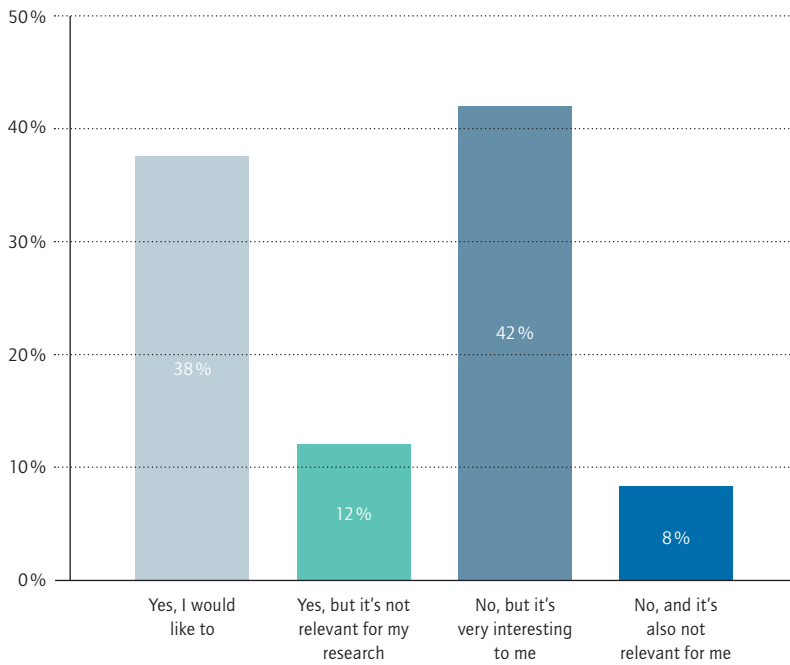
**Awareness of the possibility to propose own questions and experiments  
(n = 655), in percent**

Figure 3

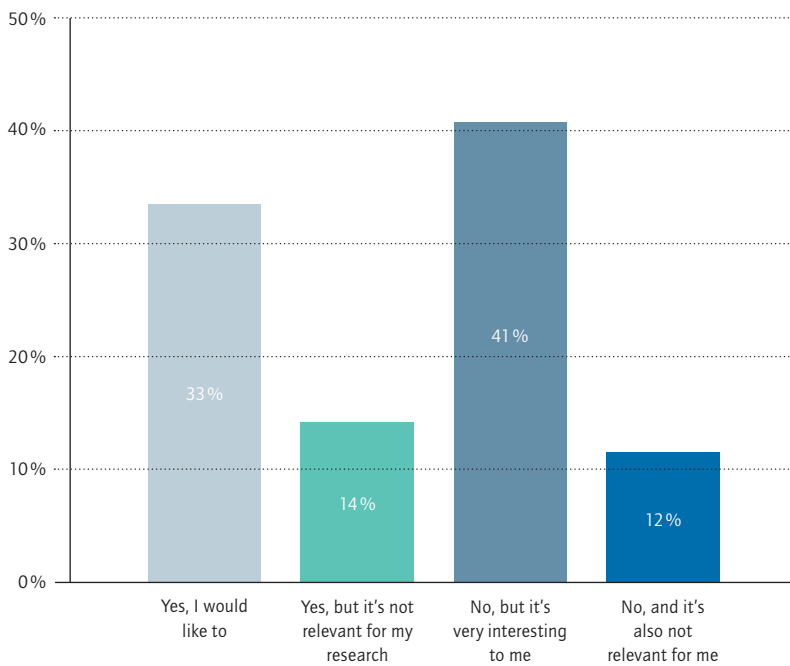
**Awareness of the possibility to use the data from questions and experiments  
of other researchers after an embargo (n=648), in percent**

Figure 4

Interested in the data from the IAB-BAMF-SOEP Refugee Survey (n=669), in percent

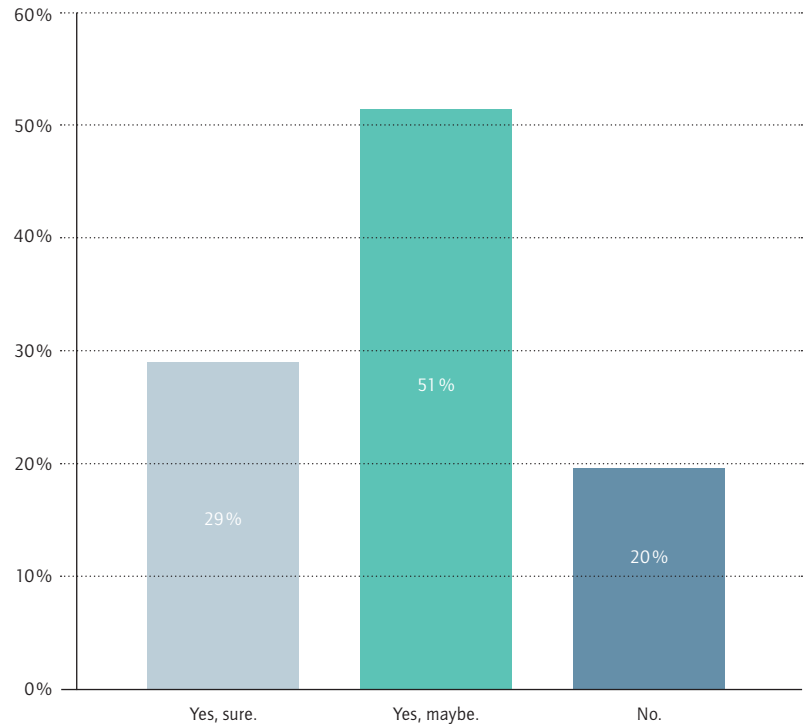
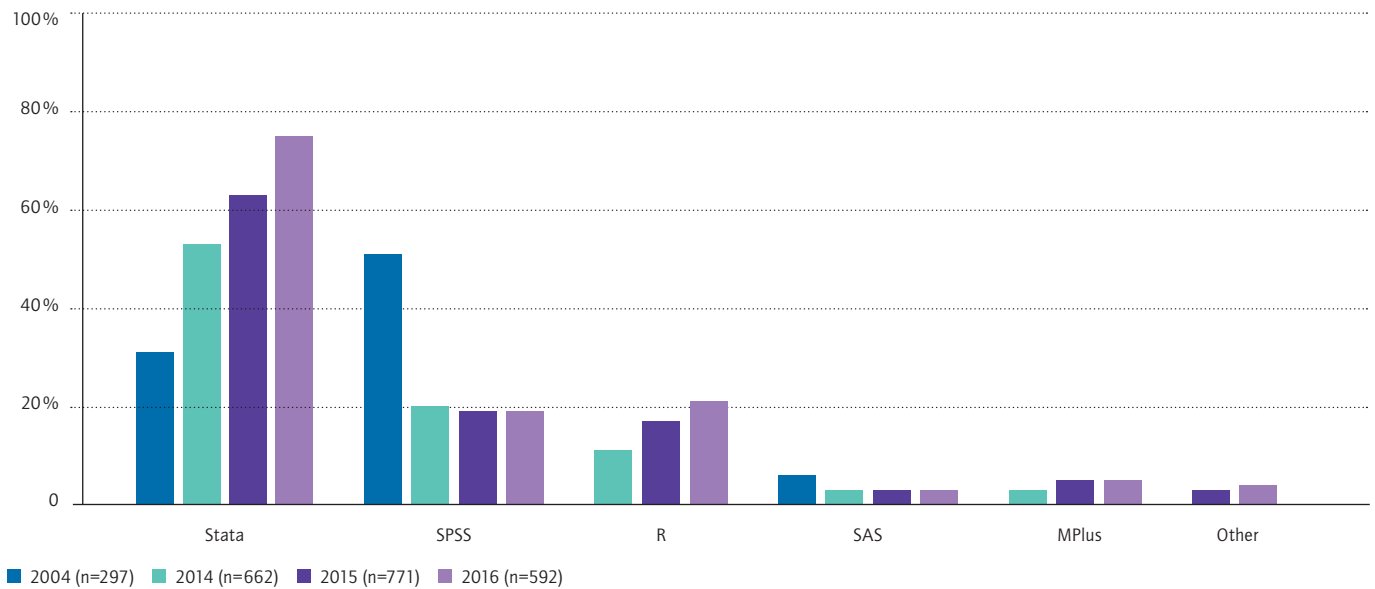


Figure 5

Which statistical packages do you use for your work with the SOEP data?, in percent



# SOEP Staff & Community News

- **Anja Bahr** joined the SOEP on January 2, 2016, as a project coordinator. She is providing organizational and administrative support for ongoing projects carried out in the SOEP with external funding. Anja Bahr is an administrative economist and worked previously in project administration in the Leibniz Institute for Plant Biochemistry in Halle (Saale) and most recently at the Berlin University of the Arts.
- On January 2, **Diana Schacht** joined the SOEP team as a research associate in the field of empirical migration and integration research. Diana Schacht holds a Diplom degree as a social scientist and is currently completing her doctoral thesis on “Social networks of migrants and their children” at the University of Bamberg.
- **Jürgen Schupp** was appointed to the Rat für Kulturelle Bildung (Council for Cultural Education) as an expert for the period of 2016–2018. The Rat für Kulturelle Bildung is an independent advisory board that analyzes the situation and quality of cultural education in Germany and makes recommendations based on exposés and studies for policy makers, researchers, and practical applications.
- **Jürgen Schupp** and **Gert G. Wagner** were appointed as members of the research group “Genetic and Social Causes of Life Chances” at the Center for Interdisciplinary Research (ZiF) at the University of Bielefeld (2015 and 2016). Jürgen Schupp will make a month-long research visit at the Center in Bielefeld in March 2016.
- **Sarah Dahmann**, doctoral student at the SOEP, was awarded the “Sir Alec Cairncross Award” for her paper “How Does Education Improve Cognitive Skills? Instructional Time versus Timing of Instruction” at the 2016 Annual Conference of the Scottish Economic Society. The award was presented to Sarah by Nobel Laureate Sir Christopher Pissarides.
- **Marcel Hebing** successfully defended his dissertation at the University of Bamberg, Faculty of Social Sciences, Economics, and Business Administration, on May 17, 2016. In his dissertation entitled “A Metadata-Driven Approach to Panel Data Management and its Application in DDI on Rails,” he presents a generic framework for the development of a metadata-driven infrastructure for panel studies that he developed for the SOEP. His dissertation was evaluated by Susanne Rässler, University of Bamberg, Klaus Tochtermann, University of Kiel and Silke Anger, University of Bamberg.
- **Anita Kottwitz**, SOEP research associate, left DIW Berlin on June 15, 2016. She will continue her research at the Zittau/Görlitz University of Applied Sciences, Institute for Transformation, Habitation, and Social Space Development.
- **Marvin Petrenz** passed his final exam as Specialist in Market and Social Research (FAMS) on July 11, 2016. He will continue working on the SOEP team in the area of data management.
- **Nina Vogel** successfully defended her dissertation on “Contextual Effects on Individual Development of Subjective Well-being in the Second Half of Life” on July 10, 2016 at the Humboldt-Universität zu Berlin (Advisor: Denis Gerstorf). Nina had been working in the SOEP up to April 2016 under a scholarship from the International Max Planck Research School on the Life Course (LIFE).
- **Elisabeth Bügelmayer** worked in the SOEP up to April 2015 and was part of the DIW Graduate Center. She defended her dissertation, entitled “Survey and Experimental Evidence on the Development of Children’s Preferences and Skills” on June 3, 2016. Her advisor was C. Katharina Spieß (Freie Universität Berlin).



- **Adrian Hille**, who joined the DIW Graduate Center in October 2011, defended his dissertation “Developing skills through non-formal learning activities: four essays in the economics of education” on July 19, 2016, at Freie Universität Berlin (Advisors: C. Katharina Spieß and Silke Anger). His recent work in the SOEP was part of the German Research Foundation (DFG) Collaborative Research Center SFB 882, “From Heterogeneities to Inequalities,” subproject A1 “Social Closure and Hierarchization,” based at the University of Bielefeld. He has been working since February 2016 as a research associate with the Federal Ministry of Labour and Social Affairs in the Directorate “Basic income support for jobseekers.”
- **Max von Ungern-Sternberg** supported the SOEP team in the documentation of data generation processes. This includes SOEPcore and SOEPlong. He has finished his Master of Science in Economics at the Freie Universität in April (Master thesis: The effect of tuition fees on study duration) and will be part of our team until the end of the year.
- **Gert G. Wagner** was selected as a member of a 2016 discussion group on pension reform (“Dialog zur Alterssicherung”) by the Federal Minister for Labour and Social Affairs, Andrea Nahles.
- **Simone Bartsch** has left the SOEP to embark on a new (non-academic) career path. Simone took over survey management while Elisabeth Liebau was on maternity leave, and then took on the same responsibilities for the SOEP-Related Study PIAAC-L.
- Her successor in PIAAC-L is **Luise Burkhardt**. Luise studied sociology at the Technische Universität Dresden and at the University of Potsdam. Her master’s thesis examined the role of volunteer work in retirement based on an empirical investigation of retirees’ volunteer activities in the health field. Prior to accepting this position, Luise worked as a student assistant in the SOEP since 2013.
- **Patrick Burauel** and **Daniel Graeber**, doctoral students at the DIW Berlin Graduate Center, have joined the SOEP. Patrick studied economics at an undergraduate level at Maastricht University with an exchange semester in Hong Kong. In 2015 he graduated with a master’s degree from the Paris School of Economics and Ecole Polytechnique. In his master’s thesis he analyzed the evolution of inequality of opportunity over the lifecycle. Daniel studied Socioeconomics as well as Economics in Hamburg, Växjö, Sweden, and Kiel. He earned his B.A. in Socioeconomics from Hamburg University and his M.Sc. in Quantitative Economics from the Christian-Albrechts-University Kiel. His master’s thesis empirically studied the effect of labor income uncertainty on subjective well-being using the SOEP.
- **Christian Krekel**, PhD student at the Paris School of Economics, left the SOEP group to work as a Research Officer at the Centre for Economic Performance at the London School of Economics.
- **Philipp Kaminsky** began training as a Specialist in Market and Social Research (FAMS) at the SOEP in early October. The SOEP is in its sixth year of offering training for FAMS, and five SOEP trainees have already successfully graduated from the program.
- **Andrea Hense** was awarded one of the two dissertation prizes at the 38th Congress of the German Sociological Association at the Otto-Friedrich-Universität Bamberg in the amount of €1,000. Her dissertation is entitled “Perceptions of one’s own precarity: Foundations of a theory for social explanation of inequality perceptions” and was selected from among 24 submissions this year. For the empirical part of the work, studying social influences on perceptions of precarity and testing her theoretical explanatory model, Andrea Hense used the SOEP data. Over the last few years she came to Berlin numerous times for guest stays in the SOEP Research Data Center at DIW Berlin. She completed her doctoral work at the University of Bielefeld and is now working at the Sociological Research Institute at the University of Göttingen (SOFI).

- **Sarah Dahmann** successfully defended her dissertation on “Human Capital Returns to Education—Three Essays on the Causal Effects of Schooling on Skills and Health” at Freie Universität Berlin. Sarah has left the SOEP to start a postdoctoral position at the University of Sydney as of March.
- **Jannes Jacobsen, Jana Jaworski, and Lisa Pagel** joined the SOEP in November 2016 as part of the project “Refugee Families in Germany” (GeFam). Jannes completed his master’s degree in Sociology at the Freie Universität Berlin in early 2016. His master’s thesis deals with antisemitism and racism, examining these issues in different religions from a comparative perspective. His research interests also include migration. At the SOEP, he will be responsible for documentation and aspects of data weighting for the GeFam project. Jana completed her master’s in Economics at the University of Potsdam in October 2016. Her master’s thesis used SOEPlong v31 data to test the existence of an urban wage premium in Germany. At the SOEP, she is responsible for preparing the data from samples M3 and M4 (GeFam), and also for aspects of questionnaire development, in particular for addressing the interests of external researchers. Lisa completed her master’s degree in Psychology at the Humboldt Universität zu Berlin in September 2016. In her master’s thesis, she looks for evidence of whether the “traditional” survey question of how many books a family has in their household is still a good proxy for a young person’s cultural capital. Her work in the GeFam project will also deal with educational questions, focusing in particular on the individual and institutional factors that help adolescent refugees to assimilate successfully into the German educational system.
- **Hannes Kröger** joined the SOEP group in December 2016. He holds a PhD in Sociology from Humboldt-Universität zu Berlin. His dissertation investigated health selection effects on the German labor market. After his dissertation, Hannes worked at the European University Institute (EUI), Florence, investigating health inequalities in a life course perspective. At the SOEP, he works in the BRISE (Bremer Interventionsstudie zur Stärkung der frühkindlichen Entwicklung) project. His research interests are in the fields of health inequalities and applied statistical methods in the Social Sciences.

# The SOEP People Video Series



Since 2014, our video series SOEP People has been spotlighting some of the many interesting people who make up the SOEP community. Right now, there are over 500 researchers around the world working with SOEP data. In our short video portraits, members of the SOEP community give a personal perspective on their work, telling us what drives their research interests, what first led them to work on these subjects, and how their research affects their lives.

So far, the following scientists have been featured in our series: Jule Specht, John P. Haisken-DeNew, Elke Holst, Thorsten Schneider, and Matthias Pollmann-Schult, Katharina Mahne, and Jennifer Hunt.

In 2016, we produced video portraits of two researchers as part of the SOEP People series: Katharina Mahne, Director of the German Aging Survey (DEAS) at the German Centre of Gerontology (DZA)

in Berlin, worked at the beginning of her career as a student assistant at the SOEP. In her SOEP People video, she talked about studying old age and the relationships between grandparents and their grandchildren. Jennifer Hunt, Professor of Economics at Rutgers University, talked to us about her work as a researcher and also a high-level policy advisor. She was one of the first US researchers to begin working with the SOEP data in 1989, and her publications played a significant role in making the SOEP known to the international research community.

The videos can be found in the Media Center of the DIW Berlin at <http://www.diw.de/soepeople>, on YouTube at <https://www.youtube.com/user/SOEPstudie>, and are announced on the SOEP Facebook page at <https://www.facebook.com/SOEPnet.de/>. The interviews are also published in written form in our quarterly SOEP Newsletter under the heading “Five questions to...”.



## SOEP People: A Conversation with Katharina Mahne

Katharina Mahne is a Sociologist and Director of the German Aging Survey (DEAS) at the German Centre of Gerontology (DZA) in Berlin. She began her research career as a student assistant in the SOEP over 10 years ago. Since then, she has been doing research on social relationships within families. Her current focus is on the relationship between grandparents and grandchildren. She is one of the few researchers in Germany to investigate this relationship on the basis of representative panel data.  
<https://www.youtube.com/watch?v=CToxP39UTX0>

### **1. What is it about studying old age that's interesting to you as a young researcher?**

There is a widespread preconception that nothing happens anymore when you reach old age. What makes gerontological research so interesting to me is that that's not the case at all. There are numerous factors ranging from personal living conditions to social environments that affect how people develop over the course of their lives. You can only understand old age by looking at the entire course of life leading up to it. To a certain extent, old age is the outcome of the life lived prior to it.

### **2. Since working at the SOEP, you've been using panel data sets like the SOEP and the German Aging Survey. What makes panel data special?**

What's special about panel data is that they allow you to trace developments. You can follow individuals over time and gain a picture of society over a historic period, which you can't do with cross-sectional data. I like to fiddle around with data, so I can get enjoyment out of writing an elegant syntax. Actually, I'm interested in everything about survey research, from interacting with the survey institute to developing the questionnaire.

### **3. During your time in the SOEP you worked on developing the mother-child questionnaires...**

I had a young child of my own at the time, and when the questionnaires were being developed Jürgen Schupp asked me to take a look at them. He said, "Do they work for you? Do you see your living situation reflected in this questionnaire?" I thought it was interesting that you can't develop something like that in an office at a desk, but that you have to engage in discussions with others to capture reality with a questionnaire.

### **4. You've used the SOEP data to look at how the birth of a first child affects mothers' life satisfaction. What did you find out?**

On average, women are more satisfied the year after birth than before, but after that, they end up below their original level of life satisfaction. But that's just half the story. In my analysis, I found that the number of women who react extremely negatively is much higher than the number of women who react extremely positively. Women who experience the birth of a first child as difficult also take much longer to recover and to have their satisfaction return to its original level. I thought that was intriguing since motherhood is a very normatively framed subject and women are expected to be happy when they have children. But that's just not the case for everyone.

### **5. Since coming to the DZA, your research has dealt with relationships between grandparents and their grandchildren. What influence do grandchildren have on their grandparents' life satisfaction?**

There's a connection between grandparents' subjective wellbeing and the kind of relationships they have to their grandchildren. When grandparents have frequent contact and close relationships with their grandchildren, they are more satisfied, they have positive feelings more often and negative feelings less often, and they are also less often lonely. One could also say that being a grandparent is good for subjective well-being.

### **6. When you think back to the start of your research career: Is there any advice you would like to pass on to young researchers today?**

What's important is to think while you're still a student about whether you want to go into research and to look into research operations and then maybe get a job as a student assistant. That will give you a realistic idea of how research works. And you learn a lot of practical things that are useful when it comes time to apply for your first job.





## SOEP People: A Conversation with Jennifer Hunt

Jennifer Hunt is a Professor of Economics at Rutgers University. Born in Australia and raised in Switzerland, she has held teaching and research posts in Germany, Italy, Spain, Canada, and the USA. She served in the Obama Administration as Chief Economist in the US Department of Labor from 2013–14 and as Deputy Assistant Secretary for Microeconomic Analysis in the US Department of the Treasury from 2014–2015. Jenny Hunt was one of the first US researchers to begin working with the SOEP data in 1989, and her publications played a significant role in making the SOEP known to the international research community. Her research focuses on themes of immigration and wage inequality, unemployment, the science and engineering workforce, the transition from communism, and crime and corruption.

<https://www.youtube.com/watch?v=DayJOUjoa34>

### **1. Your career spans work as both a researcher and high-level policy advisor. What's exciting to you about research?**

You're trying to find general rules for how things work: How is this system, which is the economy, working? And then I always have as a motivation that I want to help people [through] my research. That's why I've been focused on the labor market. I've been interested in unemployment because the unemployed are so unhappy, and also in equality, in seeing how you can help people who may be working but are only earning poor wages. Then there's the excitement: You get your data set and you can immediately start doing a few statistics, you can see what's going on and ask new questions. And then you have the flexibility to investigate whatever you would like.

### **2. How important is it to you that your research has a policy impact?**

I was excited to work in the Obama administration for precisely that reason: I do policy-relevant research because I hope that it will influence policy. Of course, the best way to influence policy is to actually go to the government yourself. I was excited in particular because when I went to the Department of Labor, I knew the immigration reform discussions were just beginning, and I wanted to be involved in those. I had some ideas from my research, and other ideas came up there and in my work at the Department of Treasury as well. One resulted in a joint Treasury and White House report on occupational licensing. That was one particularly exciting topic.

### **3. One major area of your research has been unemployment. What motivated you to begin looking at unemployment, and what first led you to the SOEP data?**

I started reading newspapers as a young person in the early/ mid-1980s, when unemployment became a big topic in Europe where I was growing up. So I had this interest in unemployment that I began to pursue after finishing my undergraduate degree in engineering and changing to economics. My research since then has tried to get at the question: Why is unemployment higher than one would expect? Why does it go up so much in recessions? Perhaps because of my interest in unemployment, I became interested in the labor market more generally—in what people earn and why, including men versus women and the gender differences in the labor market.

I first found out about the SOEP data when I went to the Luxembourg Income Study workshop and met Professor Richard Hauser, who was developing the project at the time. That was 1989. My first paper with the SOEP data, written as part of my dissertation, “The Effect of Unemployment Compensation on Unemployment Duration in Germany”, was on disincentive effects of extending Arbeitslosengeld in West Germany and comparing the effects to the US. Surprisingly, I found the disincentives were similar in the two countries.

### **4. As a SOEP user for over 25 years, what do you find special about the SOEP data?**

The SOEP data are just marvelous. They have been from the beginning, because the SOEP was able to learn from the PSID and improve a lot of things. Right from the beginning, it was a well-organized set of data with an excellent set of questions. What really makes it stand out, though, is how innovative the SOEP group has been. It was amazing how quickly they got into East Germany and got the first set of surveys before the monetary union, when things

were essentially under the communist system, with retrospective information about communism. And more recently there have been all of these innovations like putting in psychological questions, having experiments, allowing people to design parts of the survey themselves in SOEPIS. These things are very, very unusual. Now more countries have surveys like the SOEP, but I don't think many of them are nearly this innovative in new questions and new methods.

**5. *What would you recommend to young people today who are just embarking on a career in economics?***

I have a couple of recommendations. One recommendation that one of my professors gave me is: When thinking about what to do in your dissertation, do something you think is interesting. You need to be fascinated by the topic. On the other hand, if your advisor tells you there are 2,500 papers on the topic, and when you go on the job market nobody is

going to be interested in the 2,501st, you should pay attention and maybe do I have a couple of recommendations. One recommendation that one of my professors gave me is: When thinking about what to do in your dissertation, do something you think is interesting. You need to be fascinated by the topic. On the other hand, if your advisor tells you there are 2,500 papers on the topic, and when you go on the job market nobody is going to be interested in the 2,501st, you should pay attention and maybe do something related but save up that topic for when you have tenure. Also, you should realize you need to be someone that sets your own deadlines—that other people won't do that for you so you need to do that yourself. And you need to like research in general.



# SOEP Glossary

## SOEP-Core

The German Socio-Economic Panel (SOEP) is a wide-ranging representative longitudinal study of private households, located at the German Institute for Economic Research, DIW Berlin. Every year, nearly 11,000 households and more than 20,000 persons are surveyed by the fieldwork organization Kantar Public Germany.

The SOEP study is available in the two formats “SOEP-Core” and “SOEPlong.”

### Contents of SOEP-Core

The SOEP started in 1984 as a longitudinal survey of private households in the Federal Republic of Germany. The central aim has always been to collect representative microdata to measure stability and change in living conditions by following a microeconomic approach enriched with variables from sociology and political science. The central survey instruments are a household questionnaire, to which the head of household responds, and an individual questionnaire, which is given to all adult household members. Furthermore, since 1997, retrospective biographical information has been collected for every new respondent. Based on the information from these questionnaires, userfriendly BIO\$\$ datafiles are constructed (e.g., BIOBIRTH). A relatively stable set of core questions are included in the questionnaire every year covering the essential areas of interest for the SOEP:

- population and demography
- education, training, and qualification
- labor market and occupational dynamics
- earnings, income and social security
- housing

- health
- household production
- preferences and values
- satisfaction with life in general and certain aspects of life.

Additionally, yearly topical modules enhance the basic information in (at least) one of these areas by asking detailed questions as documented in the following table. These modules in the main part appear in the personal questionnaires; only some of them are additions to the household questionnaire. Starting in the year 2001, the data have become even richer by including several different health measures and well-known psychological concepts as well as age-specific questionnaires.

### SOEPlong

SOEPlong is a highly compressed, easily analyzable version of the SOEP data that is much simpler to handle than the usual SOEP-Core version. It contains a significantly reduced number of datasets and number of variables. The data are no longer provided as wave-specific individual files but rather pooled across all available years (in “long” format). In some cases, variables are harmonized to ensure that they are defined consistently over time. For example, the income information up to 2001 is provided in euros, and categories are modified over time when versions of the questionnaire have changed. All these modifications are clearly documented and described for ease of understanding. In the case of recoding or integration of data (for example, datasets specific to East German or foreign populations), documentation is generated automatically and all modified variables are provided in their original form as well. SOEPlong thus provides a well-documented compilation of all variables and data that is consistent over time.

<https://ddionrails.soep.de/soep-long>

Table 1

## SOEP-Core Topics

Year	Wave number	Wave letter	Topic
1986	3	C	Residential environment and neighborhood
1987	4	D	Social security, transition to retirement
1988	5	E	Household finances and wealth
1989	6	F	Further occupational training and professional qualifications
1990	7	G	Time use and time preferences; Labor market and subjective indicators
1991	8	H	Family and social networks
1992	9	I	Social security (2nd measurement)
1993	10	J	Further occupational training (2nd)
1994	11	K	Residential environment and neighborhood (2nd); Working conditions; Expectations for the future
1995	12	L	Time use (2nd)
1996	13	M	Family and social networks (2nd)
1997	14	N	Social security (3rd)
1998	15	O	Transportation and energy use; Time use (3rd)
1999	16	P	Residential environment and neighborhood (3rd); Expectations for the future (2nd)
2000	17	Q	Further occupational training (3rd)
2001	18	R	Family and social networks (3rd)
2002	19	S	Wealth and assets (2nd); Social security (4th); Health (SF12, BMI)
2003	20	T	Transportation and energy use (2nd); Trust; Time use (4th)
2004	21	U	Residential environment and neighborhood (4th); Further occupational training (4th); Risk aversion; Health (2nd)
2005	22	V	Expectations for the future (3rd); Big Five; Reciprocity
2006	23	W	Family and social networks (4th); Working conditions (ERI); Health (3rd); Grip strength
2007	24	X	Wealth and assets (3rd); Social security (5th)
2008	25	Y	Further occupational training (5th); Health (4th); Grip strength (2nd); Trust (2nd); Time use (5th)
2009	26	Z	Residential environment and neighborhood (5th); Risk aversion (2nd); Big Five (2nd); Globalization and transnationalization; Diseases
2010	27	Ba	Consumption and saving; Reciprocity (2nd); Health (5th); Grip strength (3rd)
2011	28	BB	Family and social networks (5th); Working conditions (ERI) (2nd); Diseases (2nd)
2012	29	BC	Wealth and assets (4th); Social security (6th); Health (6th); Grip strength (4th)
2013	30	BD	Big Five (3rd); Trust (3rd); Loneliness; Working conditions (ERI) (3rd); Diseases (3rd)
2014	31	BE	Health (7th); Risk aversion (3rd); Globalization and transnationalization (2nd); Residential environment and neighborhood (6th);
2015	32	BF	Minimum wage, Reciprocity (3rd), Transportation and energy use (3rd)
2016	33	BG	Minimum wage (2nd); Family and social networks (6th); Working conditions (ERI); Activities and attitudes towards migration issues

## SOEPregio

SOEP offers diverse possibilities for regional and spatial analysis. With the anonymized regional information on the residences of SOEP respondents (households and individuals), it is possible to link numerous regional indicators on the levels of the states (Bundesländer), spatial planning regions, dis-

tricts, and postal codes with the SOEP data on these households. However, specific security provisions must be observed due to the sensitivity of the data under data protection law (see overview). Accordingly, users are not allowed to make statements on, e.g., place of residence or administrative district in their analyses, but the data do provide valuable background information.

## SOEP Pretests

Within the framework of SOEP, the questionnaires are pretested before being fielded each year. The aim of the pretests is to test new sets of questions or modifications to certain questions. Furthermore, behavioral experiments are prepared and tested and sometimes even included in the main SOEP survey. A pretest in the SOEP usually includes about 1,000 respondents. The samples are representative by approximation for the population aged 16 years and older in Germany. Data are collected by Kantar Public and passed on to the SOEP, which makes the data available to external users. Since 2012, pretests have been fielded to subsamples of SOEP-IS.

<https://ddionrails.soep.de/soep-pretest>

## SOEP-LEE

There is increasing consensus in the economic and social sciences that the workplace plays a crucial role in individual life outcomes. This is true in the economic and sociological labor market research, network and social capital research, health research, the research on educational and competency acquisition processes, wage information, and the work-life interface, as well as in the inequality research as a whole. For this reason, there has been increasing interest in what are known as “linked employer-employee” (LEE) datasets, in which employees’ individual data are linked with information on their employers. The workplace data collected in the framework of the project SOEP-LEE will substantially expand the information on the work contexts and working conditions of respondents to the SOEP survey. The project has been implemented by asking all dependent employees in all of the SOEP samples to provide local contact information to their employer in 2011. The employer contact data then formed the basis for a standardized employer survey conducted separately from the rest of the SOEP survey. This employer information can be linked with the individual and household data from the SOEP study. The new linked employer-employee dataset opens up new opportunities for wide-ranging forms of secondary analysis with innovative questions from wide range of disciplines in the social and economic sciences. An additional unique feature of SOEP-LEE is the analysis of employer survey data quality, carried out through the measurement of meta- and paradata over the course of data collection. As a result, this project also contributes to the ongoing development and refinement of survey methodology in the field of organizational studies.

[http://www.diw.de/soeplee\\_en](http://www.diw.de/soeplee_en)

## CNEF—Cross-National Equivalent File of the SOEP

The International Scientific Use Version of the SOEP (95% version) can be used worldwide. The Research Data Center of the SOEP is providing it upon request for free via secure download. CNEF data are no longer distributed by Cornell University, but by Ohio State University. At the moment, an order form is not available, but the conditions are unchanged: \$125 one-time charge at first order. More information is given here: Cross-National Equivalent File Project <http://cnef.ehe.osu.edu/>

## LIS

LIS, the cross-national data center in Luxembourg—formerly known as the Luxembourg Income Study—will soon turn 34 years old. While LIS’ mission and core work have not changed since its inception—that is, to acquire and harmonize high-quality micro-datasets and to make them available to researchers around the world—LIS is constantly evolving and growing, as is its user community, which currently numbers in the thousands. LIS’ data holdings are organized into two databases. The longstanding Luxembourg Income Study (LIS) Database, which is focused on income data, will soon contain over 300 datasets from more than 50 high- and middle-income countries. The smaller and newer Luxembourg Wealth Study (LWS) Database contains microdata on assets and debt; LWS now includes 20 datasets from 12 countries. (Germany was one of the earliest participating countries; the LIS and LWS Databases contain 11 and 2 datasets from Germany, respectively.) <http://www.lisdatacenter.org>

## SOEP-IS

The research infrastructure SOEP at DIW Berlin established a longitudinal Innovation Sample (SOEP-IS) in 2012 for particularly innovative research projects. The SOEP-IS is primarily available for methodical and thematic research that involves too high a risk of non-response for the long-term SOEP study.

### SOEP-IS

- is based on an evaluation conducted by the German Council of Science and Humanities.
- is a longitudinal sample for particularly innovative survey methods and behavioral experiments.
- will be further developed in the period from 2012 to 2017 and should be fully developed by 2017.

The annual fieldwork runs from September to December of each year. The first wave of the first subsample of the SOEP-IS started in September 2011, with a newly developed core questionnaire “SOEP Innovations” and new methods to measure gender stereotypes. The overall volume and costs of the surveys conducted in the SOEP-IS are lower than if “fresh” samples were used: central household and individual characteristics, invariant over time, are already available and do not have to be collected again. A two-step governance module is established to regulate topics and question modules: first, the SOEP survey management runs a basic methodological test to establish whether the size, format, and survey mode outlined in a proposal seem appropriate for implementation in the SOEP-IS. The SOEP Survey Committee then checks the content of proposals received and prioritizes these for selection purposes. Information about SOEP-IS in general and about the application process is published in: SOEP-Innovation Sample (SOEP-IS)—Description, Structure and Documentation by David Richter and Jürgen Schupp (Schmollers Jahrbuch 135 (3), 389–399 (doi: 10.3790/schm.135.3.389)). <https://ddionrails.soep.de/soep-is> and <http://www.diw.de/soep-is> (See pages 55–68 of this report)

## SOEP-RS

### FiD (Families in Germany)

The project *Familien in Deutschland* (Families in Germany)—is a longitudinal panel study financed by the German Federal Ministry for Family Affairs, Senior Citizens, Women and Youth (BMFSFJ) and the German Federal Ministry of Finance (BMF). Its main purpose is to provide researchers with new and improved data on specific groups in the German population: low-income families, families with more than two children, single-parent families, as well as families with young children. The data are the backbone of the first large-scale evaluation of family policy measures in Germany carried out on behalf of the two involved ministries. In 2014 FiD was fully integrated into SOEP-Core.

### BASE II (Berlin Aging Study II)

The Berlin Aging Study II (BASE-II) is an extension and expansion of the Berlin Aging Study (BASE). This study, with more than 2,200 participants of different ages, aims to complement the analysis of cognitive development across the lifespan by including socio-economic and biological factors such as living conditions, health, and genetic preconditions. The study was funded by the Federal Ministry of Education and Research up to December 2015. Participants are involved in the annual survey of the German Socio-Economic Panel (SOEP) and provide information about their life situation and living conditions. <https://ddionrails.soep.de/soep-base>

### PIAAC-L

The Programme for the International Assessment of Adult Competencies (PIAAC), carried out on behalf of the OECD, examines the basic skills that are necessary for adults to participate successfully in society and working life. Findings from the 2011/2012 wave of the PIAAC study were released in October 2013. Around 98% of the approximately 5,400 PIAAC survey respondents in Germany agreed to participate in further surveys. PIAAC-L is a cooperative project of GESIS, the National Educational Panel Survey (NEPS) at the Leibniz Institute for Educational Trajectories (LifBi), and the Socio-Economic Panel (SOEP) at DIW Berlin, whose aim is to convert the PIAAC study into a longitudinal study with three

waves. This will create one of the world's first internationally comparable longitudinal studies on competencies and their significance across the life course.

[http://www.diw.de/piaac-l\\_en](http://www.diw.de/piaac-l_en)

## SOEP-ECEC Quality (K2ID-SOEP)

Are some groups of parents in Germany more likely to choose high-quality early childhood education and care (ECEC) institutions for their children than others, e.g.,—whether due to a lack of information or varying preferences? Are mothers whose children attend high-quality ECEC more satisfied and more likely to be employed? These are some of the questions studied as part of the project “Early childhood education and care quality in the Socio-Economic Panel (K2ID-SOEP)—direct and indirect effects on child development, socio-economic selection and information asymmetries.” The three-year project launched in September 2013 is funded by the Jacobs Foundation: <http://www.k2id.de>

## IAB-SOEP Migration Sample

The IAB-SOEP Migration Sample is a joint project of the Institute for Employment Research (IAB) and the Socio-Economic Panel (SOEP) at the German Institute for Economic Research (DIW Berlin). The project attempts to overcome limitations of previous datasets through a sample that takes into account changes in the structure of migration to Germany since 1995. The dataset is an additional sample for the SOEP-Core study and therefore completely harmonized with the SOEP and integrated into SOEP v30 (identical questionnaire with additional questions on the respondent's migration situation). The study opens up new perspectives for migration research and gives insights on the living situations of new immigrants to Germany. Data collection: Kantar Public Germany. <https://ddionrails.soep.de/iab-soep-mig>

## Bonn Intervention Panel (BIP)

The Bonn Intervention Panel (BIP) investigates the development of personality and preferences of children starting at primary school age up to age 25 and beyond. At age 25, the personality is largely developed and critical transitions in life have been accomplished. The main focus of the BIP is the impact of early childhood environments.

<http://www.diw.de/Bonn-Intervention-Panel>

## TwinLife (Cooperation Study)

TwinLife is a 12-year representative behavioral genetic study investigating the development of social inequality. The long-term project began in 2014 and will survey more than 4,000 pairs of twins and their families on different stages of their lives on a yearly basis. All of the subjects reside in Germany. Not only social, but also genetic mechanisms as well as covariations and interactions between these two parameters can be examined with the help of identical and fraternal twins. In order to document the individual development of different parameters it is important to examine a family extensively over the course of several years. The focus is on five important contextual points: Education and academic performance, career and labor market attainment, integration and participation in social, cultural and political life. <http://www.twin-life.de/en>

## GeFam

The project “Refugee Families in Germany” (GeFam) was designed as a panel study to be conducted in the years 2016, 2017, and 2018 with the aim of substantially improving the data infrastructure for social and economic research on the living situations of refugees in Germany. The Research Centre on Migration, Integration, and Asylum of the Federal Office for Migration and Refugees (BAMF-FZ) will obtain the sample by random selection from the Central Register of Foreigners (AZR). The target population for the survey consists of all individuals who came to Germany seeking asylum between January 2013 and January 2016. The survey covers topics including the refugees' living situations; their schooling, higher education, and vocational training; and their current occupational situations and social participation. Participation in the survey is voluntary. The study is designed around the SOEP household concept, with the “anchor” respondent drawn from the AZR being surveyed along with his or her family members. The survey is conducted by specially trained interviewers from the fieldwork organization Kantar Public with support from interpreters when needed.

The first round of the IAB-BAMF-SOEP survey covering 1,600 “anchor” respondents and their family members has been in the field since June 2016. The survey has been made possible through financing from the Federal Employment Agency. The application for the project “Conception, Implementation, Preparation, Register Linkage, Analysis, and Data Provision/Distribution of a Representative Sample of Refugee Families (GeFam)” recently approved by



the BMBF envisions that this sample be doubled by another 1,600 “anchor” respondents along with their families. The GeFam boost sample was designed to increase the number of individuals in the sample who came to Germany with their children or with other underage family members. Fieldwork for the boost sample is set to begin in August 2016. At present, around one-third of all refugees arriving in Germany are minors, and about 90% are accompanied by their parents or other adult family members. [http://www.diw.de/Gefam\\_en](http://www.diw.de/Gefam_en)

## BRISE

The Bremen initiative for reinforcing early childhood development (Bremer Initiative zur Stärkung frühkindlicher Entwicklung, BRISE) is a long-term study that examines the systematic effects of early childhood care and education.

BRISE will monitor around 1,000 mothers from Bremen who are expecting a child between spring 2017 and the end of 2018 and their families. One-quarter of the mothers will be selected to participate in an intervention in the form of a chain of measures (*Maßnahmekette*) linking the programs on early childhood and pre-school care and education that are integrated into everyday life and already generally available in Bremen in families and daycare centers. With initial funding from the Federal Ministry of Education and Research (Bundesministerium für Bildung und Forschung, BMBF) for four years, the BRISE research project will examine the cumulative effects that a coordinated care and education program has on the cognitive, social, and emotional development of children. The program planning includes a second four-year funding phase. In addition to the Socio-Economic Panel (SOEP) at the German Institute for Economic Research (DIW Berlin), the Leibniz Institute for Science and Mathematics Education at the University of Kiel (IPN), the University of Bremen, the University of Bamberg, the Leibniz Institute for Educational Trajectories (LifBi), Freie Universität Berlin, and Heidelberg University are consortium members. For more details, visit the BRISE website:

<http://www.brise-bremen.de> (in German only).

## SOEP Service

### SOEPnewsletter

Above and beyond the comprehensive documentation and the various user support programs, the SOEP Research Data Center publishes the quarterly SOEPnewsletter, containing the latest news and updates on data, conferences, and related information, and distributes it by email to the constantly growing international SOEP user community.

[http://www.diw.de/SOEPnewsletter\\_en](http://www.diw.de/SOEPnewsletter_en)

### SOEPlit

Many of the research findings and publications based on SOEP data are archived at DIW Berlin. You will find the bibliographic descriptions in our SOEPlit database. In addition, we collect publications based on the European Community Household Panel (ECHP) and the Luxembourg Income Study (LIS), as the data on Germany contained within these internationally comparative datasets are partly generated from SOEP data. To keep this service up to date, we ask all authors to send us copies of all of their publications based on SOEP data by e-mail to: [soeplit@diw.de](mailto:soeplit@diw.de)

<http://www.diw.de/SOEPlit>

### SOEPPapers

Beginning in 2007, we launched our discussion paper series SOEPPapers on Multidisciplinary Panel Data Research. This series publishes papers based on SOEP data either directly or as part of an internationally comparative dataset (for example CNEF, LIS, LWS). In line with SOEP’s multidisciplinary design, we welcome research from all scholarly disciplines within the social sciences: Sociology, psychology and behavioral genetics, survey methodology, economics, econometrics and advanced statistics, demography, educational science, political science, public health, geography, and sport science. SOEPPapers are published on a non-exclusive basis, so there is nothing to prevent an author from publishing elsewhere as well. All SOEP users are invited to use SOEPPapers as a platform for their SOEP-based research. The series is designed to open up ongoing research work to an international audience for discussion and debate. To submit paper, please write to: [soeppapers@diw.de](mailto:soeppapers@diw.de) [http://www.diw.de/soeppapers\\_en](http://www.diw.de/soeppapers_en)



## SOEPCampus

The SOEP is working to strengthen methodological training in the use of SOEP data—especially for young scholars in the disciplines of sociology, economics, and psychology. In addition to holding workshops at universities, we list workshops and lectures providing introductions to the use of the SOEP data or dealing with particular issues of data use on our website at: [http://www.diw.de/soepcampus\\_en](http://www.diw.de/soepcampus_en).

## SOEPmonitor

The SOEPmonitor compiles time series since the mid 1990s for chosen indicators, calculated on the basis of the SOEP data. The most important function of the SOEPmonitor—aside from reporting detailed information on the situations of individuals and households—is to give SOEP users a benchmark for their own studies. With the figures contained in the SOEPmonitor, we offer an important reference point to evaluate the results of users' own research. Simultaneously the numerical series of the SOEPmonitor represent social indicators. With every issue of the SOEPmonitor, we provide data series for the years 1984 to the current wave disaggregated for East and West Germany since 1990 on households and individuals. Since 2007, SOEPmonitor tables are in English as well.

[http://www.diw.de/SOEPmonitor\\_en](http://www.diw.de/SOEPmonitor_en)

## SOEP-in-Residence

In addition to offering SOEP users the standard Scientific Use File (via secured download), a special mode of online access (via SOEPreMOTE), and advice over the SOEP Hotline, we also provide the opportunity to conduct research during a stay in the SOEP Department at DIW Berlin. Direct discussion with SOEP team members and our user-friendly environment provide fruitful input and support, enabling visiting scholars to work effectively on research projects and bring them to successful completion. For the use of small-scale coded geodata, a research stay at the SOEP Data Research Center located at DIW Berlin is mandatory. SOEP also provides research stays to address special research questions and topics. Furthermore, research visit to SOEP's field organization, Kantar Public Germany, are also possible.

<http://www.diw.de/soep-in-residence>

## SOEP Re-Analysis

Data protection issues are of utmost importance to SOEP and CNEF users as well. First, data protection comprises part of the (implicit) contract between the survey and the respondent. Second, in order to access the data, users are required to address data protection issues thoroughly. Ultimately, all these precautions are crucial to ensure future participation by panel respondents. As such, making SOEP and CNEF data available for re-analysis while maintaining the highest levels of data protection can present a major challenge. Whenever such a microdata set is not considered completely anonymous from a legal point of view, we—as data producers—are not permitted to allow archiving without setting and guaranteeing adherence to clear-cut access regulations.

<http://www.diw.de/soep-re-analysis>

## Digital Object Identifiers (DOI)

The need for replicability of findings makes it necessary to be able to identify and cite the particular SOEP data used in research. One way of doing this is through the system of Digital Object Identifiers (DOI), which is already being used for numerous publications. It is also well-suited for research data, and is therefore now being used for the SOEP data as well. Digital identifiers provide a form of permanent identification for digital objects and thus guarantee that they can be found again on the Internet. They are a basic requirement for citing and finding research data on the Internet, even when the location (URL) has changed. A series of metadata are linked with each DOI (defined in the “metadata schema”) in order to guarantee improved description and recognition of the data. The SOEP RDC, as a publication agent, will be assigned the prefix 5684 in each DOI registered via da|ra. It is important for SOEP users to know that this does not change anything about our proposed mode of citation for the SOEP data. Rather, this provides you with the additional possibility to add a unique DOI to your citations. Because precise references to data sources are becoming increasingly important in the scientific research community, the SOEP group recommends citing the SOEP data as follows.

**English:** Socio-Economic Panel (SOEP), data for years 1984–2015, version 32, SOEP, 2016, doi:10.5684/soep.v32.

**German:** Sozio-oekonomisches Panel (SOEP), Daten für die Jahre 1984–2015, Version 32, SOEP, 2016, doi:10.5684/soep.v32.

**Short Version:** SOEP v32

## PART 5

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# SOEP-Based Publications 2016

2016

# SOEP-Based Publications over the Last Decade

Figure 1  
SOEP-based (S)SCI publications over the last decade

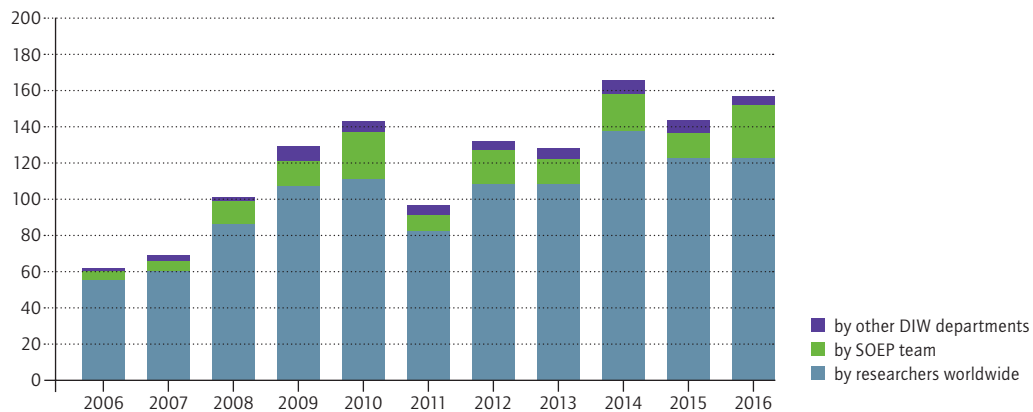
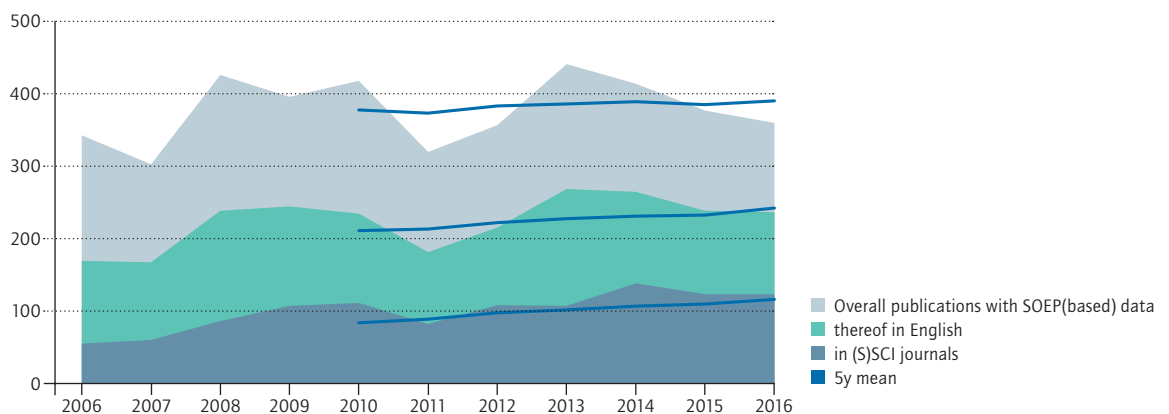


Figure 2  
Overall publications with SOEP (-based) data



# (S)SCI Publications in 2016 by SOEP Staff

## B

**Barban, Nicola, et al.** 2016. Genome-wide analysis identifies 12 loci influencing human reproductive behavior. *Nature Genetics* 48, 1462-1472. (<http://doi.org/10.1038/ng.3698>).

**Bartels, Charlotte and Nico Pestel.** 2016. Short- and Long-Term Participation Tax Rates and Their Impact on Labor Supply. *International Tax and Public Finance* 23, No. 6, 1126-1159. (<http://doi.org/10.1007/s10797-016-9400-9>).

## C

**Cabane, Charlotte, Adrian Hille, and Michael Lechner.** 2016. Mozart or Pelé? The effects of teenagers' participation in music and sports. *Labour Economics* 41, 90-103. (<http://doi.org/10.1016/j.labeco.2016.05.012>).

## E

**Eibich, Peter, Nikolaus Buchmann, Martin Kroh, Gert G. Wagner, Elisabeth Steinhagen-Thiessen, Ilja Demuth, and Kristina Norman.** 2016. Exercise at Different Ages and Appendicular Lean Mass and Strength in Later Life: Results from the Berlin Aging Study II. *The Journals of Gerontology: Series A, Medical Sciences* 71, No. 4, 515-520. (<http://doi.org/10.1093/gerona/glv171>).

**Eibich, Peter, Christian Krekel, Ilja Demuth, and Gert G. Wagner.** 2016. Associations between Neighborhood Characteristics, Well-Being and Health Vary over the Life Course. *Gerontology* 62, No. 3, 362-370. (<http://doi.org/10.1159/000438700>).

## G

**Gerstorff, Denis, Christiane A. Hoppmann, Corinna E. Löckenhoff, Frank J. Infurna, Jürgen Schupp, and Gert G. Wagner.** 2016. Terminal Decline in Well-Being: The Role of Social Orientation. *Psychology and Aging* 31, No. 2, 149-165. (<http://doi.org/10.1037/pag0000072>).

## H

**Hilgert, Luisa, Martin Kroh, and David Richter.** 2016. The Effect of Face-to-Face Interviewing on Personality Measurement: Brief Report. *Journal of Research in Personality* 63, 133-136. (<http://doi.org/10.1016/j.jrp.2016.05.006>).

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## I

**Infurna, Frank J., Denis Gerstorff, Nilam Ram, Jürgen Schupp, Gert G. Wagner, and Jutta Heckhausen.** 2016. Maintaining Perceived Control with Unemployment Facilitates Future Adjustment. *Journal of Vocational Behavior* 93, 103-119. (<http://doi.org/10.1016/j.jvb.2016.01.006>).

## J

**Josef, Anika K., David Richter, Gregory R. Samanez-Larkin, Gert G. Wagner, Ralph Hertwig, and Rui Mata.** 2016. Stability and Change in Risk-Taking Propensity across the Adult Life Span. *Journal of Personality and Social Psychology* 111, No. 3, 430-450. (<http://doi.org/10.1037/pspp0000090>; [10.1037/pspp0000090.supp](http://doi.org/10.1037/pspp0000090.supp)).

**K**

**Kottwitz, Anita, Anja Oppermann, and C. Katharina Spieß.** 2016. Parental Leave Benefits and Breastfeeding in Germany: Effects of the 2007 Reform. *Review of Economics of the Household* 14, No. 4, 859–890. (<http://doi.org/10.1007/s11150-015-9299-4>).

**Krekel, Christian, Jens Kolbe, and Henry Wüstemann.** 2016. The Greener, the Happier? The Effect of Urban Land Use on Residential Well-Being. *Ecological Economics* 121, 117–127. (<http://doi.org/10.1016/j.ecolecon.2015.11.005>).

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**Okbay, Arsu, Jonathan P. Beauchamp, ... Mark Alan Fontana, Peter Eibich, Martin Kroh, ... Peter M. Visscher, Philipp D. Köllinger, David Cesarini, and Daniel J. Benjamin.** 2016. Genome-Wide Association Study Identifies 74 Loci Associated with Educational Attainment. *Nature* 533, No. 7604, 437–572. (<http://doi.org/10.1038/nature17671>).

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**Riphahn, Regina T. and Daniel D. Schnitzlein.** 2016. Wage Mobility in East and West Germany. *Labour Economics* 39, 11–34. (<http://doi.org/10.1016/j.labeco.2016.01.003>).

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**Schnitzlein, Daniel D.** 2016. A New Look at Intergenerational Mobility in Germany Compared to the U.S. *The Review of Income and Wealth* 62, No. 4, 650–667. (<http://doi.org/10.1111/roiw.12191>).

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**Barban, Nicola, et al.** 2016. Genome-wide analysis identifies 12 loci influencing human reproductive behavior. *Nature Genetics* 48, 1462-1472. (<http://doi.org/10.1038/ng.3698>).

**Bartels, Charlotte and Nico Pestel.** 2016. Short- and long-term participation tax rates and their impact on labor supply. *International Tax and Public Finance* 23, No. 6, 1126-1159. (<http://doi.org/10.1007/s10797-016-9400-9>).

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**Brülle, Jan.** 2016. Demographic Trends and the Changing Ability of Households to Buffer Poverty Risks in Germany. *European Sociological Review* 32, No. 6, 766–778. (<http://doi.org/10.1093/esr/jcw033>).

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## E

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## F

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**G**

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**H**

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**I**

**Infurna, Frank J., Denis Gerstorf, Nilam Ram, Jürgen Schupp, Gert G. Wagner, and Jutta Heckhausen.** 2016. Maintaining perceived control with unemployment facilitates future adjustment. *Journal of Vocational Behavior* 93, April 2016, 103–116. (<http://doi.org/10.1016/j.jvb.2016.01.006>).

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**J**

**Josef, Anika K., David Richter, Gregory R. Samanez-Larkin, Gert G. Wagner, Ralph Hertwig, and Rui Mata.** 2016. Stability and Change in Risk-Taking Propensity Across the Adult Life Span. *Journal of Personality and Social Psychology* 111, No. 3, 430–450. (<http://doi.org/10.1037/pspp0000090>).

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<https://www.econstor.eu/handle/10419/56390>.

816

**Anika K. Josef, David Richter,  
Gregory R. Samanez-Larkin, Gert  
G. Wagner, Ralph Hertwig, Rui  
Mata**

Stability and Change in Risk-  
Taking Propensity Across the Adult  
Lifespan

817

**Malte Sandner, Tanja Jungmann**  
How Much Can We Trust Maternal  
Ratings of Early Child Development  
in Disadvantaged Samples?

818

**Marco Caliendo, Deborah A.  
Cobb-Clark, Juliane Hennecke,  
Arne Uhlenдорff**

Job Search, Locus of Control, and  
Internal Migration

819

**Rui Dang**  
A Decomposition Analysis of  
Cigarette Consumption Differences  
between Male Turkish Immigrants  
and Germans in West Germany  
2002–2012

820

**Maria Kleverbeck, Michael Kind**  
Does Parental Unemployment  
Affect the Quality of their  
Children's First Job?

821

**Denis Gerstorf, Christiane  
A. Hoppmann, Corinna E.  
Löckenhoff, Frank J. Infurna,  
Jürgen Schupp, Gert G. Wagner,  
Nilam Ram**

Terminal Decline in Well-Being:  
The Role of Social Orientation

822

**Bernd Fitzenberger, Benjamin  
Fuchs**

The Residency Discount for Rents  
in Germany and the Tenancy Law  
Reform Act 2001: Evidence from  
Quantile Regressions

823

**Ralf Werner Koßmann**  
Effectiveness of Social Capital in  
the Job Search Process

824

**Franziska Tausch, Maria  
Zumbuehl**  
Stability of risk attitudes and media  
coverage of economic news

825

**Michael C. Knaus, Steffen  
Otterbach**  
Work Hour Mismatch and Job  
Mobility: Adjustment Channels and  
Resolution Rates

826

**Sara Hassan Hosney**  
Factors Influencing Female Labor  
Force Participation in Egypt and  
Germany: A Comparative Study

827

**Peter Pütz, Thomas Kneib**  
A Penalized Spline Estimator for  
Fixed Effects Panel Data Models

828

**Marie S. C. Böhm, Simone Freitag**  
Untersuchung zum Zusammenhang  
zwischen Heimtierbesitz und  
menschlicher Gesundheit bei  
älteren Personen in Deutschland

829

**Michael Weinhardt, Alexia  
Meyermann, Stefan Liebig, Jürgen  
Schupp**  
The Linked Employer–Employee  
Study of the Socio-Economic Panel  
(SOEP-LEE): Project Report

830

**Patrick Keller**  
Alcohol: Does it make you  
successful? A longitudinal analysis

831

**Stefan Liebig, Sebastian Hülle, Meike May**

Principles of the Just Distribution of Benefits and Burdens: The "Basic Social Justice Orientations" Scale for Measuring Order-Related Social Justice Attitudes

832

**René Petilliot**

How Important is the Type of Working Contract for Job Satisfaction of Agency Workers?

833

**Philipp Eisnecker, Jürgen Schupp**

Stimmungsbarometer zu Geflüchteten in Deutschland: Stabil hohes Engagement in der Gesellschaft für Geflüchtete bei weiterhin überwiegend negativer Einschätzung der Auswirkungen der Flüchtlingszuwanderung

834

**Silke Anger, Daniel D. Schnitzlein**

Cognitive Skills, Non-Cognitive Skills, and Family Background: Evidence from Sibling Correlations

835

**Liliya Leopold, Thomas Leopold**

Education and Health Across Lives and Cohorts: A Study of Cumulative Advantage in Germany

836

**Liliya Leopold, Thomas Leopold**

Maternal Education, Divorce, and Changes in Economic Resources: Evidence from Germany

837

**Thomas Leopold, Jan Skopek**

Retirement and Changes in Housework: A Panel Study of Dual Earner Couples

838

**Michael Müller**

Der Zusammenhang zwischen sportlicher (Wettkampf-)Aktivität und kognitiver Leistung

839

**Benedikt Fecher, Mathis Fräßdorf, Gert G. Wagner**

Perceptions and Practices of Replication by Social and Behavioral Scientists – Making replications a mandatory element of curricula would be useful

840

**Fabian Kosse, Thomas Deckers, Hannah Schildberg-Hörisch, Armin Falk**

The Formation of Prosociality: Causal Evidence on the Role of Social Environment

841

**Thomas Leopold**

Gender Differences in the Consequences of Divorce: A Multiple-Outcome Comparison of Former Spouses

842

**Liliya Leopold, Thomas Leopold, Clemens M. Lechner**

Do Immigrants Suffer More From Job Loss? Unemployment and Subjective Well-Being in Germany

843

**Steffen Otterbach, Mark Wooden, Yin King Fok**

Working-Time Mismatch and Mental Health

844

**Stefanie P. Herber, Michael Kalinowski**

Non-take-up of Student Financial Aid: A Microsimulation for Germany

845

**Alexandra Avdeenko, Thomas Siedler**

Intergenerational Correlations of Extreme Right-Wing Party Preferences and Attitudes toward Immigration

846

**Raphael Studer, Rainer Winkelmann**

Econometric Analysis of Ratings – with an Application to Health and Wellbeing

847

**Benjamin Held, Hans Diefenbacher, Dorothee Rodenhäuser**

Leben in Nordrhein-Westfalen – subjektive Einschätzungen als Teil der Wohlfahrtsmessung

848

**Thomas K. Bauer, Rui Dang**

Do Welfare Dependent Neighbors Matter for Individual Welfare Dependency?

849

**Sven Schreiber, Miriam Beblo**

Leisure and Housing Consumption after Retirement: New Evidence on the Life-Cycle Hypothesis

850

**Robin Jessen, Davud Rostam-Afschar, Sebastian Schmitz**

How Important is Precautionary Labor Supply?

851

**Joachim Merz, Tim Rathjen**

Entrepreneurs and Freelancers: Are They Time and Income Multidimensional Poor? – The German Case

852

**C. Katharina Spieß, Johanna Storck**

Fachkräfte in der frühen Bildung – Erwerbssituation, Einstellungen und Änderungswünsche

853

**Timm Bönke, Markus M. Grabka, Carsten Schröder, Edward N. Wolff, Lennard Zyska**

The joint distribution of net worth and pension wealth in Germany

854

**Friederike von Haaren-Giebel**

Naturalisation and Investments in Children's Human Capital: Evidence from a Natural Experiment

855

**Simon Kühne, Martin Kroh**

Using Personalized Feedback to Increase Data Quality and Respondents' Motivation in Web Surveys?

856

**Corrado Giulietti, Enrico Rettore, Sara Tonini**

The chips are down: The influence of family on children's trust formation

857

**Theresa Köhler**

Income and Wealth Poverty in Germany

858

**Paul Dolan, Georgios Kavetsos, Christian Krekel, Dimitris Mavridis, Robert Metcalfe, Claudia Senik, Stefan Szymanski, Nicolas R. Ziebarth**

The Host with the Most? The Effects of the Olympic Games on Happiness

859

**Elke Holst, Julia Bringmann**

Arbeitszeitrealitäten und Arbeitszeitwünsche in Deutschland Methodische Unterschiede ihrer Erfassung im SOEP und Mikrozensus

860

**Lars Thiel**

Caring alone? Social capital and the mental health of caregivers

861

**Daniel Fackler, Lisa Rippe**

Losing work, moving away? Regional mobility after job loss

862

**Holger Lengfeld, Jessica Ordemann**

Die Angst der Mittelschicht vor dem sozialen Abstieg revisited. Eine Längsschnittanalyse 1984–2014

863

**Daniel Fackler, Eva Hank**

Who buffers income losses after job displacement? The role of alternative income sources, the family, and the state

864

**Ruud Muffels**

Towards a Theory of Life Satisfaction: Accounting for Stability, Change and Volatility in 25-Year Life Trajectories in Germany Bruce Headey

865

**Andreas Lichter, Max Löffler, Sebastian Siegloch**

The Long-Term Costs of Government Surveillance: Insights from Stasi Spying in East Germany

866

**Patric Diriwächter, Elena Shvartsman**

The anticipation and adaptation effects of intra- and interpersonal wage changes on job satisfaction

867

**Konrad C. Schäfer**

The Influence of Personality Traits on Private Retirement Savings in Germany

868

**Paul Anand, Laurence Roope**

The Development and Happiness of Very Young Children

869

**Luisa Hilgert, Martin Kroh, David Richter**

The Effect of Face-to-Face Interviewing on Personality Measurement

870

**Armin Falk, Fabian Kosse, Ingo Menrath, Pablo E. Verde, Johannes Siegrist**

Unfair Pay and Health

871

**Sabine Hommelhoff, David Richter**

Refuting the Cliché of the Distrustful Manager

872

**Nicolas Legewie, Ingrid Tucci**  
Panel-basierte Mixed-Methods-Studien

873

**Katrin Huber, Erwin Winkler**

All We Need is Love? Trade-Adjustment, Inequality, and the Role of the Partner

874

**Gert G. Wagner**

Methodenmix hilft beim Finden und Auswählen von sozialen Indikatoren: Anmerkungen zur Methodik des Regierungsprojektes „Gut leben in Deutschland“

875

**Eckhardt Bode, Stephan Brunow, Ingrid Ott, Alina Sorgner**

Worker Personality: Another Skill Bias beyond Education in the Digital Age

876

**John Eric Humphries, Fabian Kosse**

On the interpretation of non-cognitive skills – what is being measured and why it matters

877

**Hendrik Schmitz, Reinhard Madlener**

Heterogeneity in Price Responsiveness for Residential Space Heating in Germany

878

**Johannes S. Kunz, Kevin E. Staub**

Subjective completion beliefs and the demand for post-secondary education

879

**Robin Jessen**

Why has Income Inequality in Germany Increased from 2002 to 2011? A Behavioral Microsimulation Decomposition

880

**Simon Lange, Marten von Werder**

Tracking and the Intergenerational Transmission of Education: Evidence from a Natural Experiment

881

**Eric Schuss**

Between Life Cycle Model, Labor Market Integration and Discrimination: An Econometric Analysis of the Determinants of Return Migration

882

**Armin Falk, Fabian Kosse**

Early childhood environment, breastfeeding and the formation of preferences

883

**Verena Lauber, Johanna Storck**

Helping with the Kids? How Family-Friendly Workplaces Affect Parental Well-Being and Behavior

884

**Marius Leckelt, et al.**

Validation of the Narcissistic Admiration and Rivalry Questionnaire short scale (NARQ-S) in convenience and representative samples

885

**Heinz Welsch, Philipp Biermann**

Poverty is a Public Bad: Panel Evidence from Subjective Well-being Data

886

**Marius Leckelt, Mitja D. Back, Joshua D. Foster, Roos Hutteman, Garrett Jaeger, Jessica McCain, Jean M. Twenge, W. Keith Campbell**

Entering adulthood in a recession tempers later narcissism – But only in men

887

**Eva M. Berger, Luke Haywood**

Locus of Control and Mothers' Return to Employment

888

**Martin Kroh, Denise Lüdtke, Sandra Düzel, Florin Winter**

Response Error in a Web Survey and a Mailed Questionnaire: The Role of Cognitive Functioning

889

**Martin Biewen, Martin Ungerer, Max Löffler**

Trends in the German Income Distribution: 2005/06 to 2010/11

890

**Marco Caliendo, Deborah A. Cobb-Clark, Helke Seitz, Arne Uhlendorff**

Locus of Control and Investment in Training

891

**Milena Nikolova, Sinem Ayhan**

Your spouse is fired! How much do you care?

# Complete Listing of 2016 SOEP Survey Papers

[http://www.diw.de/soepsurveypapers\\_en](http://www.diw.de/soepsurveypapers_en)

The full texts of the SOEP papers can be downloaded free of charge from the publication database EconStor:  
<https://www.econstor.eu/handle/10419/61517>.

## Series A

### Survey Instruments (Erhebungsinstrumente)

304

SOEP-LEE Betriebsbefragung – Erhebungsinstrumente und Datenkodierung der Betriebsbefragung des Sozio-oekonomischen Panels

322

SOEP-FiD – ‚Familien in Deutschland‘ 2013: Haushaltsfragebogen (mit Verweis auf Variablen)

329

SOEP-FiD – ‚Familien in Deutschland‘ 2013: Jugendfragebogen (mit Verweis auf Variablen)

330

SOEP-FiD – ‚Familien in Deutschland‘ 2013: Nachbefragung (mit Verweis auf Variablen)

331

SOEP-IS 2014 – Fragebogen für die SOEP-Innovations-Stichprobe

332

SOEP-IS 2014 – Fragebogen für die SOEP-Innovations-Stichprobe (Aufwuchsstichprobe)

333

SOEP-IS 2013 – Fragebogen für die SOEP-Innovations-Stichprobe

334

SOEP-IS 2013 – Fragebogen für die SOEP-Innovations-Stichprobe (Aufwuchsstichprobe)

335

SOEP-IS 2012 – Fragebogen für die SOEP-Innovations-Stichprobe

336

SOEP-IS 2012 – Fragebogen für die SOEP-Innovations-Stichprobe (Aufwuchsstichprobe)

337

SOEP-IS 2011 – Fragebogen für die SOEP-Innovations-Stichprobe

342

SOEP 2002 – Erhebungsinstrumente 2002 (Welle 19) des Sozio-oekonomischen Panels: Hocheinkommensstichprobe Haushalts- und Personenfragebogen, Erstbefragte

344

SOEP 2016 – Erhebungsinstrumente 2016 (Welle 33) des Sozio-oekonomischen Panels: Haushaltsfragebogen, Stichproben A–L3

345

SOEP 2016 – Erhebungsinstrumente 2016 (Welle 33) des Sozio-oekonomischen Panels: Personenfragebogen, Stichproben A–L3

346

SOEP 2016 – Erhebungsinstrumente 2016 (Welle 33) des Sozio-oekonomischen Panels: Jugendfragebogen, Stichproben A–L3

347

SOEP 2016 – Erhebungsinstrumente 2016 (Welle 33) des Sozio-oekonomischen Panels: Lebenslauffragebogen, Stichproben A–L3

348

**SOEP 2016 –**  
Erhebungsinstrumente 2016  
(Welle 33) des Sozio-  
oekonomischen Panels:  
Schülerinnen und Schüler (11–12  
Jahre), Altstichproben

349

**SOEP 2016 –**  
Erhebungsinstrumente 2016  
(Welle 33) des Sozio-  
oekonomischen Panels: Mutter und  
Kind (Neugeborenen), Altstichproben

350

**SOEP 2016 –**  
Erhebungsinstrumente 2016  
(Welle 33) des Sozio-  
oekonomischen Panels: Mutter und  
Kind (2–3 Jahre), Altstichproben

351

**SOEP 2016 –**  
Erhebungsinstrumente 2016  
(Welle 33) des Sozio-  
oekonomischen Panels: Mutter und  
Kind (5–6 Jahre), Altstichproben

352

**SOEP 2016 –**  
Erhebungsinstrumente 2016 (Welle  
33) des Sozio-oekonomischen  
Panels: Eltern und Kind (7–8 Jahre),  
Altstichproben

353

**SOEP 2016 –**  
Erhebungsinstrumente 2016  
(Welle 33) des Sozio-  
oekonomischen Panels: Mutter und  
Kind (9–10 Jahre), Altstichproben

354

**SOEP 2016 –**  
Erhebungsinstrumente 2016  
(Welle 33) des Sozio-  
oekonomischen Panels: Die  
verstorbene Person, Altstichproben

355

**SOEP 2016 –**  
Erhebungsinstrumente 2016  
(Welle 33) des Sozio-  
oekonomischen Panels:  
Personenfragebogen Kurzfassung  
(Lücke), Altstichproben

356

**SOEP 2016 –**  
Erhebungsinstrumente 2016  
(Welle 33) des Sozio-  
oekonomischen Panels:  
Frühe Jugend (13–14 Jahre),  
Altstichproben

357

Erhebungsinstrumente des IAB-  
SOEP-Migrationssamples 2016:  
Haushaltsfragebogen, Stichproben  
M1–M2

358

Erhebungsinstrumente des  
IAB-SOEP-Migrationssamples  
2016: Personenfragebogen  
(Wiederbefragte), Stichproben  
M1–M2

359

Erhebungsinstrumente des IAB-  
SOEP-Migrationssamples 2016:  
Jugendfragebogen, Stichproben  
M1–M2

360

Erhebungsinstrumente des IAB-  
SOEP-Migrationssamples 2016:  
Integrierter Personen- und  
Biografiefragebogen (Erstbefragte  
2016), Stichproben M1–M2

363

**SOEP 2016 –**  
Erhebungsinstrumente 2016  
(Welle 33) des Sozio-  
oekonomischen Panels:  
Greifkrafttest, Stichproben A–L3

366

Erhebungsinstrumente des  
IAB-SOEP-Migrationssamples  
2015: Integrierter Personen-  
Biografiefragebogen, Stichprobe  
M1, Erstbefragte

367

Erhebungsinstrumente des IAB-  
SOEP-Migrationssamples 2015:  
Haushaltsfragebogen, Stichprobe  
M1

368

Erhebungsinstrumente des  
IAB-SOEP-Migrationssamples  
2015: Integrierter Personen-  
Biografiefragebogen, Stichprobe  
M2, Erstbefragte

369

Erhebungsinstrumente des IAB-  
SOEP-Migrationssamples 2015:  
Haushaltsfragebogen, Stichprobe  
M2

370

Erhebungsinstrumente des IAB-  
SOEP-Migrationssamples 2015:  
Jugendfragebogen, Stichprobe M1

## Series B

### Survey Reports (Methodenberichte)

299

**SOEP 2014 –**  
Methodenbericht zum  
Befragungsjahr 2014 (Welle 31) des  
Sozio-oekonomischen Panels

301

**SOEP 2014 –**  
Methodenbericht zum  
Befragungsjahr 2014 (Welle 2) des  
IAB-SOEP-Migrationssamples 2013  
(M1)

305

SOEP-LEE Betriebsbefragung –  
Methodenbericht der  
Betriebsbefragung des Sozio-  
oekonomischen Panels

338

SOEP-IS 2013 – Methodenbericht  
zum Befragungsjahr 2013/2014  
des SOEP-Innovationssamples



339

SOEP-IS 2014 – Methodenbericht zum Befragungsjahr 2014 des SOEP-Innovationssamples

340

SOEP-IS 2015 – Methodenbericht zum Befragungsjahr 2015 des SOEP-Innovationssamples

## Series C

### Data Documentations (Datendokumentationen)

313

Geflüchtete Menschen in Deutschland – eine qualitative Befragung

364

Das DIW-IAB-RWI-Nachbarschaftspanel: Ein Scientific-Use-File mit lokalen Aggregatdaten und dessen Verknüpfung mit dem deutschen Sozio-oekonomischen Panel

365

Das Studiendesign der IAB-BAMF-SOEP-Befragung von Geflüchteten

## Series D

### Variable Descriptions and Coding

300

SOEP 2014 – Codebook for the \$PEQUIV File 1984–2014: CNEF Variables with Extended Income Information for the SOEP

302

SOEP 2014 – Documentation of Person-related Variables on Children in BEKIND for SOEP v31.1

303

SOEP 2014 – Documentation of the Pooled Dataset on Children in KIDLONG for SOEP v31.1

306

SOEP-LEE Betriebsbefragung – Datenhandbuch der Betriebsbefragung des Sozio-oekonomischen Panels

307

SOEP 2014 – Documentation of Person-related Status and Generated Variables in \$PGEN for SOEP v31.1

308

SOEP 2014 – Documentation of the Person-related Meta-dataset PPFAD for SOEP v31.1

309

SOEP 2014 – Documentation of the Household-related Meta-dataset HPFAD for SOEP v31.1

310

SOEP 2014 – Documentation of the Person-related Meta-dataset HEALTH for SOEP v31.1

311

SOEP 2014 – Documentation of Household-related Status and Generated Variables in \$HGEN for SOEP v31.1

312

SOEP 2014 – Documentation on Biography and Life History Data for SOEP v31 and v31.1

314

SOEP-IS 2014–BIO: Variables from the Life Course Question Module

315

SOEP-IS 2014–IDRM: Person-related Data from Innovative DRM Module

**316**

SOEP-IS 2014–BIOBIRTH: Birth Biography of Female and Male Respondents

**317**

SOEP-IS 2014–BIOPAREN: Biography Information on the Parents

**318**

SOEP-IS 2014–COGNIT: Cognitive Achievement Potentials

**319**

SOEP-IS 2014–H: Variables from the Household Question Module

**320**

SOEP-IS 2014–HBRUTTO: Household-related Gross File

**321**

SOEP-IS 2014–HGEN: Household-related Status and Generated Variables

**323**

SOEP-IS 2014–INNO: Variables from the Innovation Modules

**324**

SOEP-IS 2014–KID: Pooled Dataset on Children

**325**

SOEP-IS 2014–P: Variables from the Individual Question Module

**326**

SOEP-IS 2014–PBRUTTO: Person-related Gross File

**327**

SOEP-IS 2014–PGEN: Person-related Status and Generated Variables

**328**

SOEP-IS 2014–PPFAD: Person-related Meta-dataset

**341**

SOEP FiD – 'Familien in Deutschland', Data Documentation Release FiDv4.0

**343**

**SOEP 2015** – Codebook for the \$PEQUIV File 1984–2015: CNEF Variables with Extended Income Information for the SOEP

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