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**Article**

## SOEP Wave Report 2015

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Sandra Gerstorf, Jürgen Schupp (Editors)

# SOEP Wave Report



Sandra Gerstorf, Jürgen Schupp (Editors)

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# SOEP Wave Report 2015

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







# Contents

<b>EDITORIAL</b> .....	5	<b>PART 3</b>	
<b>PART 1</b>		<b>A Selection of SOEP-Based</b>	
<b>Overview of the Infrastructure SOEP</b>		<b>DIW Economic Bulletin and</b>	
<b>at DIW Berlin</b> .....	7	<b>DIW Wochenbericht</b> .....	77
SOEP Mission & Vision .....	8	Political Culture Still Divided 25 Years After	
SOEP Structure .....	11	Reunification? .....	78
SOEP Directorship and Management .....	12	Is Working on Weekends a Source of Dissatisfaction? .....	90
Division 1: Survey Methodology .....	14	Changes in the Demand for Culture in Germany .....	96
Division 2: Data Operation and Research		Income Inequality Remains High in Germany:	
Data Center (RDC) .....	16	Young Singles and Career Entrants Increasingly	
Division 3: Applied Panel Analysis and		At Risk of Poverty .....	108
Knowledge Transfer .....	18	Significant Statistical Uncertainty over Share of	
SOEP Staff at DIW Berlin .....	20	High Net Worth Households .....	124
		Aircraft Noise in Berlin Affects Quality of Life Even	
		Outside the Airport .....	136
<b>PART 2</b>		<b>PART 4</b>	
<b>SOEP Data and Fieldwork</b> .....	23	<b>SOEP Service Activities &amp;</b>	
The Landscape of SOEP Studies .....	24	<b>Knowledge Transfer in 2015</b> .....	145
Organization of SOEP Fieldwork by TNS Infratest .....	26	SOEP in the Media .....	146
An Overview of the SOEP Samples		Citizens' Dialogue with Chancellor Angela Merkel .....	147
Fieldwork Report from TNS Infratest .....	28	Celebrating DIW Berlin's Ninetieth Anniversary .....	148
The SOEP Screening Samples		SOEP at the European Survey Research Association .....	149
Fieldwork Report from TNS Infratest .....	37	SOEP Service	
The SOEP Migration Survey		SOEPcampus 2015 .....	150
Report from the SOEP .....	41	SOEPin-Residence 2015 .....	150
Fieldwork Report from TNS Infratest .....	44	SOEP User Survey 2015 .....	151
The SOEP-Innovation Sample		SOEP Staff & Community News .....	154
Report from the SOEP .....	53	SOEPPeople Video Series .....	158
Fieldwork Report from TNS Infratest .....	56	Elke Holst .....	159
The Bonn Intervention Panel: A SOEP-Related Study .....	65	Thorsten Schneider .....	160
Fieldwork Report from TNS Infratest .....	69	Matthias Pollmann-Schult .....	161
The New SOEP Metadata Documentation System:		SOEP Glossary .....	162
Paneldata.org .....	71	<b>PART 5</b>	
Report from the SOEP Research Data Center .....	73	<b>SOEP-Based Publications in 2015</b> .....	169
		SOEP-Based SSCI Publications over the Last Decade .....	170
		(S)SCI Publications by the SOEP Staff .....	171
		(S)SCI Publications by the SOEP User Community .....	173
		SOEPpapers .....	181
		SOEP Survey Papers .....	185
		<b>IMPRINT</b> .....	188



# Editorial

**Jürgen Schupp**

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



We are pleased to present the sixth Wave Report of the SOEP longitudinal study, offering a glimpse of our work over the last year. In 2015, we interviewed our respondents in West Germany for the 32nd wave of the study and distributed a total of 31 waves of SOEP data to over 500 users worldwide, providing faster and more efficient data access and eliminating shipping and handling costs by allowing users to download the encrypted data from our secure server.

In the last year, the central focus of our work has remained on SOEP-Core. We use this term to refer to the original SOEP study, including all of the subsamples and refresher samples that have been added over the years. When the study was launched in 1984, its aim was to provide a representative picture of all private households in Germany from both a cross-sectional and longitudinal perspective, and this is still the aim of SOEP-Core today. At the same time, some of the more recent studies to join the SOEP “family” (see part 2) are of growing importance to our data users, and are therefore another crucial area of our work.

One of the important developments in 2015 has been the growing importance of the SOEP in migration research (see pp. 44). In December 2015, shortly before Christmas, the IAB-BAMF-SOEP Migration Sample was launched. In it, we ask: What kind of qualifications are refugees bringing with them to Germany? How quickly can they be integrated into the German labor market? Do they want to return to their home country? With the data from this study and a new set of questions in SOEP-Core about Germans’ attitudes towards refugees, we will be able to offer answers to these and related questions that have been dominating the political debate in Germany since 2015.

The SOEP has been in the public spotlight on several occasions over the last year, but perhaps most prominently when around 60 randomly selected SOEP respondents met with Chancellor Angela Merkel for a town hall style Citizens’ Dialogue to

discuss what “living well” in Germany means to them. On the subject of health, several participants expressed the desire to see the distinction between public and private health insurance eliminated. One university student pursuing a degree in education called for a change in adoption legislation. And a young woman from the region of Franken wanted more funding for her hometown so that town residents would not have to pay for a new fire department vehicle themselves. The dialogue gave SOEP respondents a unique opportunity to express their desires, but also their concerns and criticisms, to the highest ranking political decision maker in the country. And what it signifies for SOEP research is also significant: It reflects the expansion of standardized, quantitatively oriented survey research in the direction of qualitative, mixed methods research. And in June 2015, DIW Berlin celebrated its 90th anniversary. The theme of the festivities was the 25th anniversary of the introduction of the Germany’s economic, monetary, and social union in 1990. For the SOEP, June 1990 marked the start of Sample C in East Germany.

This Wave Report contains reports on migration research, on the Citizens’ Dialogue with Angela Merkel, and on other innovative research work currently being done with the SOEP data, as well as an overview of the fieldwork conducted by TNS Infratest. You’ll also find 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 development of political culture in Germany over the 25 years since reunification to the effects of aircraft noise on Berlin residents. The publication list is a compilation of the most important SOEP-based papers published in the last year.



## PART 1

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# Overview of the SOEP Research Infrastructure at DIW Berlin

2015

# SOEP Mission & Vision

The SOEP adopted a new mission and vision statement in 2015 after receiving feedback and improvements from the SOEP Survey Committee.

## Our Mission

The German Socio-Economic Panel (SOEP) is an independent, non-partisan research-driven infrastructure unit that serves the international scientific community by providing nationally representative longitudinal data (the SOEP study) and related datasets on private households in Germany. SOEP members (the SOEP group) are recognized for their high-level scientific research ranging from survey methodology to applied and policy-oriented topics.

The SOEP study is designed from a multidisciplinary perspective to provide data for basic, applied, and policy-relevant research that will improve our understanding of human behavior in general, of economic decisions in detail, and of the mechanisms of social change embedded in the household context, the neighborhood, and different institutional settings and policy regimes. Research questions and survey contents are solely determined by scientific criteria. The SOEP group's panel data expertise and high-level scientific research output, as exemplified by its outstanding publication record, are the foundation for its work in providing the SOEP household panel data to the scientific community.

## Cornerstones of our work

The SOEP data are provided in user-friendly form to researchers in a wide range of disciplines: the social and behavioral sciences, including economics, sociology, demography, psychology, public health, political science, and contemporary history, but also the life sciences (in particular genetics) and medicine. The data from the SOEP and Related Studies are made available through an innovative metadata portal designed to international standards using open-source software.

The SOEP study is unique in that it covers thousands of households in Germany and has been collecting important information every year since 1984 on the economic and social circumstances, behavior, and subjective well-being of individuals from an inter-generational life-course perspective. The SOEP is constantly introducing new areas and methods of measurement (e.g., biomarkers, physical measures, “qualitative measures” such as written answers to open-ended survey questions, and georeferenced context data) to improve and develop survey methodologies for assessing the determinants of human behavior. In this area, an important tool introduced recently is the SOEP-Innovation Sample (SOEP-IS). It offers the international research community a unique platform for cutting-edge research, providing additional information to complement the data from the core SOEP sample.

Members of the SOEP group are engaged in conceptually advanced and methodologically sophisticated scientific research in economics, sociology, psychology, and other areas of the social sciences, as well as in applied (policy-oriented) research and policy advice (social monitoring) beyond descriptive research. Their research generates findings that are of crucial interest not only to the scientific community but also to policy-makers and the broader public.



The SOEP is engaged in numerous collaborations and joint projects with scholars worldwide, whose expertise in a variety of disciplines adds to the depth and diversity of the SOEP research. The SOEP is an international leader in the provision of cross-national equivalent household panel data.

Members of the SOEP group provide high-quality training and teaching to support and facilitate knowledge transfer to the next generation of researchers. The SOEP group strives to make the research conducted with the survey data accessible and understandable to a broad audience through the German and international media.

## Vision

The SOEP is setting new national and international standards in the conception, design, implementation, and user-friendly preparation and distribution of household panel data and related data, and it strives to lead the field internationally in the quality, originality, significance, and rigor of its work.





# SOEP Structure



SOEP director Jürgen Schupp together with his three division heads Martin Kroh, Jan Goebel, and Carsten Schröder represent a participatory leadership style.

Please find on the following pages an overview of the three sub-divisions and the work of the SOEP directorship and management team.

SOEP Directorship and Management  
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

Jürgen Schupp, Martin  
Kroh, Carsten Schröder  
and Jan Goebel

# SOEP Directorship and Management

Prof. Dr. Jürgen Schupp  
Director

Patricia Axt  
Team Assistance

Christiane Nitsche (on leave)  
Team Assistance

Michaela von Schwarzenstein  
Team Assistance

Dr. Sandra Gerstorf  
Research Management

Monika Wimmer  
SOEP Communications Management

Deborah Anne Bowen  
German-English Translation  
and Editing

Janina Britzke  
Documentation and Social Media

Uta Rahmann  
Documentation and Reporting

Anja Bahr  
Project Management

Christine Kurka  
Guests and Event Management

Selin Kara  
Specialist in Market and Social  
Research (in training)

Marvin Petrenz  
Specialist in market and social  
research (in training)

Stefan Zimmermann  
Specialist in Market and Social  
Research (in training)



The SOEP Administrative and Management team is responsible for around 50 staff members, as well as trainees, doctoral students, grant holders, and about 45 student assistants in the year 2015. The team provides a range of research and administrative support services to the entire SOEP, including, to an increasing degree, translation and editing.

One key area of the team's 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 the financial management units at DIW Berlin.

Another key area is the planning and coordination of press and public relations activities to promote news and findings from the SOEP through both traditional and social media outlets. This also includes maintenance and development of the SOEP website. A third key area of the administrative and management team's work is coordination of the SOEP's international contacts. The SOEP has contractual partnerships with numerous institutions worldwide, and maintains close contacts 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.

Deborah Anne Bowen, Anja Bahr, Michaela von Schwarzenstein, Patricia Axt, Christine Kurka, Uta Rahmann, Jürgen Schupp, Janina Britzke, Selin Kara, Stefan Zimmermann, Sandra Gerstorf



# Division 1: Survey Methodology

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Division Head Survey Methodology

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Survey Management  
Research Project: PIAAC-L

Luise Burckhardt  
PhD Scholarship recipient  
Sociology

Florian Griesse  
Survey Management

Dr. Elisabeth Liebau  
Survey Management  
Research Focus: Migration

Katharina Poschmann  
Doctoral Student Sociology

Dr. David Richter  
SOEP-Innovation Sample (SOEP-IS)  
Research Focus: Psychology

Philipp Eisnecker  
Doctoral Student Research  
Project: REC-LINK

Simon Kühne  
Doctoral Student  
Research Project: REC-LINK

Diana Schacht  
Survey Methodology  
Research Focus: Integration

Rainer Siegers  
Sampling, Weighting, and  
Imputation

Sybille Luhmann  
PhD Scholarship recipient  
Sociology

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 TNS Infratest Sozialforschung in Munich, the survey research institute in charge of the SOEP fieldwork, which covers both interviews and all direct contacts 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 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 the fieldwork on a large-scale study.

Philipp Eisnecker, Martin Kroh, Simon Kühne, Simone Bartsch, Luise Burckhardt, David Richter, Rainer Siegers, Diana Schacht, Katharina Poschmann, Florian Gries

## Division 2: Data Operation and Research Data Center (RDC)

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Division Head RDC  
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Dr. Peter Krause  
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Research Focus: Quality of Life

Knut Wenzig  
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Dr. Markus M. Grabka  
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Dr. Christian Schmitt  
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Research Focus: Demography



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 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 forms the precondition for use of the SOEP's scientific use files. The means 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 provid-

ed through a personal download link sent to users. More sensitive data, such as regional data are made available to users by remote execution, remote access, at a guest research workstation at DIW Berlin.

The anonymized data sent by TNS Infratest Sozialforschung in Munich to DIW Berlin are processed in such a way that they can be used in scientific research, for both longitudinal and cross-sectional analyses. 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 on key research findings, most of which is available on the SOEP Research Data Center website. Members of the team have also developed a web-based tool ([paneldata.org](http://paneldata.org)) oriented toward the DDI standard for the documentation of scientific studies in order 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 through methodological lectures and workshops at universities. A guest program enables users to access the data on site at the SOEP Research Data Center—particularly for 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 analyses.

Paul Schmelzer, Marcel Hebing, Jan Goebel, Michaela Engemann, Peter Krause, Markus Grabka, Klaudia Erhardt, Knut Wenzig, Janine Napieraj



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In the SOEP, we not only provide data infrastructure as a public good; we also carry out our own research on a wide range of topics using the SOEP data. On the one hand, the published research results increase the visibility of the SOEP in the international research landscape. On the other hand, the ongoing research conducted in the SOEP 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 evaluations, 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, successful supervision of doctoral dissertations, as well as a series of externally funded projects. Funding bodies include the German Research Foundation, the Leibniz Association, and various foundations and federal ministries.



Sandra Bohmann, Christian Westermeier, Alexandra Fedorets, Christian Krekel, Maria Metzing, Nicolas Legewie, Julia Sander, Carsten Schröder, Charlotte Bartels

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## Division 3: Applied Panel Analysis and Knowledge Transfer

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Based at the SOEP but  
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## PART 2

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# SOEP Data and Fieldwork

2015

# The Landscape of SOEP Studies

## SOEP-Core

The 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, TNS Infratest Sozialforschung. 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 ("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 starting in 2016, BRISE.

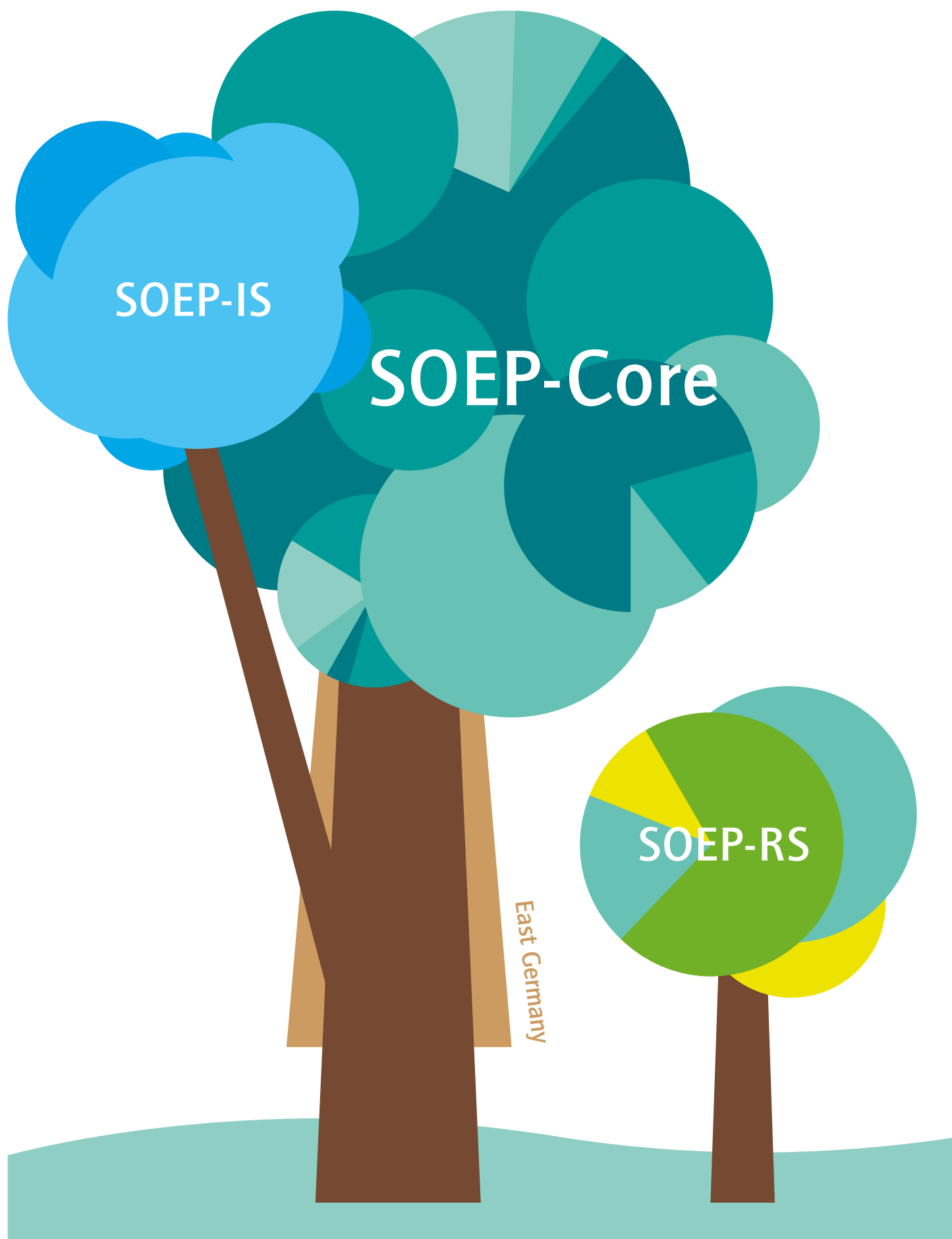
today



2011

1990

1984





# The Organization of SOEP Fieldwork

## TNS Infratest

TNS Infratest, headquartered in Munich, is one of the most prestigious institutes for market, political, and social research in Germany. It is the German member of the TNS Group, which in turn is part of the Kantar Group, in which WPP (London) has bundled its research activities. As a member of a leading global network, the institute provides its clients research data of the highest quality, strategic knowledge, and scientific advice for decisions in business and society; for large nationally or globally active companies and medium-sized businesses; as well as for numerous ministries, agencies, and scientific institutions. TNS Infratest uses systems for quality assurance and total quality management processes in all areas and at all levels of its organization. TNS Infratest has 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 today is the leading commercial research institute in the field of social science surveys in Germany. In recent years, TNS Infratest Sozialforschung has worked closely with the contracting institutes to design and conduct a number of empirical studies and project types that have made national and international scientific history. Foremost among these is the German Socio-Economic Panel (SOEP) study, which is also known to respondents under the title “Living in Germany” (LiD). TNS Infratest has been responsible for collecting data since the beginning of the SOEP in 1984. Range of tasks covers the entire process of data collection, from the conceptual design, through the sampling, the implementation of the survey instruments, up to the cross-sectional weighting, data processing, and methodical field reporting. These activities are coordinated in a separate business area of TNS Infratest Sozialforschung.

## SOEP Team at TNS Infratest Sozialforschung

For the SOEP, TNS Infratest has created a “tailor-made” business area that reflects the specific requirements of the project in terms of its composition and structure. The tasks of the SOEP team can be divided into three areas: first, methodological and conceptual, science-based and science-oriented advice and guidance; second, panel management; and third, comprehensive data processing, in particular data acquisition, verification, and editing.

The first aspect includes general project management and project control, analysis, and documentation for methodological field reports as well as consulting services for the SOEP group at DIW Berlin on issues of sample design, the design and implementation of data collection methods, and consulting for innovative survey methods as used in SOEP tests, pilots, and the SOEP-Innovation Sample. With regard to panel management, several individual tasks are especially noteworthy: assignment and telecare of interviewers and coordination of the interface to the field organization. Further key tasks include organization and mailing of survey documents to interviewers and respondents, including ordering and handling of incentives, the “central administration” of households that participate exclusively in the survey in the mail mode, the coding of the response results in the panel database and the hotline for respondents on issues related to data collection and privacy information, etc. In the context of data processing, data from paper questionnaires are registered and comprehensive, partly automatic data checks are carried out along with individual checkups as well as longitudinal consistency checks. Moreover, occupation and industry classifications of respondents’ statements are coded.

Overall, the SOEP team includes 19 permanent employees (some part-time) as well as some additional assistants. More employees are continuously involved in the processing of the project from several data production units of TNS Infratest. These include the project managers responsible for organizing face-to-face fieldwork, the professionals in questionnaire programming, as well as experts from the department of statistics, who are responsible for sampling and cross-sectional weighting.

## Face-to-Face Capabilities

TNS Infratest conducts all of the face-to-face interviews for ambitious surveys with interviewers trained and managed in-house by TNS, and thus does not follow the common practice of other institutes of outsourcing parts of the fieldwork to third-party institutions. The reasons for the exclusive use of in-house expertise for demanding surveys like the SOEP are obvious. In-house interviewers are fundamental for (a) effective communication between project leader and interviewer during the fieldwork phase, (b) efficient fieldwork management with a view to response-oriented processing of the sample, and (c) effective quality control of the fieldwork. For panel studies, it is especially important to maintain the use of 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.

TNS Infratest 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 those are available for assignment to demanding surveys like the SOEP. These interviewers are experienced in the implementation of sophisticated social research projects in general and are also experienced in working with the SOEP.

To provide additional support in data collection for the SOEP, there are around 140 interviewers on the “special staff” of “Living in Germany” (LiD). Most of these special LiD-interviewers have extensive SOEP experience and work exclusively with the conventional paper-and-pencil method (PAPI).

The large number of interviewers from the various interviewer staffs of TNS Infratest guarantees a nationwide infrastructure for face-to-face interviews in Germany. Through a rigorous selection process with requirements for a minimum level of experience and volume of work on the interviewer staff, the selection of the SOEP interviewers is handled through professional recruitment management.

The so-called “Face-to-Face Line” located in Munich is in charge of the central control of the interviewer fieldwork for TNS Infratest. It is responsible for the complete organization of the interviewer staff. This includes complex recruitment processes, establishing and maintaining database-driven information systems for the management and monitoring of the interviewer staff, monitoring and control of the samples in the fieldwork, and preparation of response statistics. In cooperation with the 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 together with project management.

With the support of 33 regionally based “contact interviewers,” the Face-to-Face Line guarantees optimal coordination of the complete interviewer staff. The contact interviewers have extensive experience and outstanding contact and leadership abilities. Thus, each interviewer, in addition to having an in-house contact at TNS Infratest, also has a permanent local contact available to him or her. The contact interviewers play an important role in local recruitment and training processes. They regularly take part in the central events training activities of the field organization (in-house or online events) or project-specific training, and thus serve as multipliers for the distribution of important information and knowledge to the interviewers.

# An Overview of the SOEP Samples

## Fieldwork Report 2015 from TNS Infratest

The data set for a given SOEP wave is made available to users by the SOEP Research Data Center as an integrated “cross-sectional sample”. To prepare the data for distribution to users, TNS Infratest delivers the various data files (gross and net sample files, question-item-variable correspondence lists, all documentation) to the SOEP team at DIW Berlin. The SOEP uses a complex sampling system, comprised of various subsamples that have been integrated into the household panel at different times since the SOEP was launched in 1984. The various sub-sam-

ples were based on different target populations and were therefore drawn using different random sampling techniques. **Table 1** provides an overview of the sample sizes of the various subsamples for the year 2015. In **Tables 2** and **3** the trend in absolute sample sizes at the household level covering all major SOEP subsamples since 1984 is displayed.

Table 1

### Sample Sizes in the Sub-Samples in 2015

Sample	Households	Adults	Youths <sup>1</sup>	Children <sup>2</sup>	Total Individual questionnaires
A+B	2,028	3,443	54	219	3,716
C	1,131	1,840	13	136	1,989
D	193	336	1	23	360
E	70	109	1	5	115
F	2,273	3,726	47	219	3,992
G	606	1,077	12	36	1,125
H	684	1,150	12	69	1,231
J	1,983	3,240	39	237	3,516
K	1,108	1,790	25	117	1,932
KH	1,184	2,176	35	1,039	3,250
SC	1,968	3,526	244	815	4,585
M1	1,667	3,081	55	487	3,623
M2	1,096	1,689	22	-	1,711
I <sub>E</sub>	282	461	-	80	541
I <sub>1</sub>	741	1,170	-	234	1,404
I <sub>2</sub>	710	1,151	-	244	1,395
I <sub>3</sub>	840	1,326	-	287	1,613
I <sub>4</sub>	672	1,023	-	194	1,217
<b>Total</b>	<b>19,236</b>	<b>32,314</b>	<b>560</b>	<b>4,441</b>	<b>37,315</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

Table 2

## SOEP Sub-Samples 1984–2015 – Number of Waves

Sample	Year/wave	1984	'90	'95	'98	'00	'02	'06	'09	'10	'11	'12	'13	'14	'15
A+B	"SOEP West" and main groups of foreign nationalities 1984	1	7	12	15	17	19	23	26	27	28	29	30	31	32
C	"SOEP East" general population sample GDR 1990	-	1	6	9	11	13	17	20	21	22	23	24	25	26
D	Immigration sample 1995	-	-	1	4	6	8	12	15	16	17	18	19	20	21
E	Boost sample 1998 (general population)	-	-	-	1	3	5	9	12	13	14	15	16	17	18
F	Boost sample 2000 (general population)	-	-	-	-	1	3	7	10	11	12	13	14	15	16
G	High income sample 2002	-	-	-	-	-	1	5	8	9	10	11	12	13	14
H	Boost sample 2006 (general population)	-	-	-	-	-	-	1	4	5	6	7	8	9	10
J	Boost sample 2011 (general population)	-	-	-	-	-	-	-	-	-	1	2	3	4	5
K	Boost sample 2012 (general population)	-	-	-	-	-	-	-	-	-	-	1	2	3	4
KH	Cohort samples: est. in 2010 (FiD) and integrated in 2014 <sup>1</sup>	-	-	-	-	-	-	-	-	-	-	-	-	1/5	2/6 <sup>1</sup>
SC	Screening samples: est. in 2010 (FiD) and integrated in 2014 <sup>1</sup>	-	-	-	-	-	-	-	-	-	-	-	-	1/5	2/6 <sup>1</sup>
M1	Migration sample 2013	-	-	-	-	-	-	-	-	-	-	-	1	2	3
M2	Migration sample 2015	-	-	-	-	-	-	-	-	-	-	-	-	-	1
I <sub>E</sub>	Innovation sample 1998 (SOEP E) <sup>2</sup>	-	-	-	1	3	5	9	12	13	14	1/15	2/16	3/17	4/18 <sup>2</sup>
I <sub>1</sub>	Innovation sample 2009	-	-	-	-	-	-	-	1	2	3	4	5	6	7
I <sub>2</sub>	Innovation sample 2012	-	-	-	-	-	-	-	-	-	-	1	2	3	4
I <sub>3</sub>	Innovation sample 2013	-	-	-	-	-	-	-	-	-	-	-	1	2	3
I <sub>4</sub>	Innovation sample 2014	-	-	-	-	-	-	-	-	-	-	-	-	1	2

<sup>1</sup> The households of the former FiD ("Families in Germany") samples were interviewed for the sixth time in 2015 but for the second time in SOEP-Core.

<sup>2</sup> Households from SOEP sample E that were surveyed face to face were transferred into the SOEP-IS in 2012. In 2015, they were interviewed for the eighteenth time with SOEP questionnaires.

Table 3

## SOEP Sub-Samples 1984–2015 – Number of Households per Sample

Sample	Year/wave	1984	'90	'95	'98	'00	'02	'06	'09	'10	'11	'12	'13	'14	'15
A+B	"SOEP West" and main groups of foreign nationalities 1984	5,921	4,640	4,508	4,285	4,060	3,889	3,476	2,923	2,685	2,538	2,379	2,270	2,176	2,028
C	"SOEP East" general population sample GDR 1990	–	2,179	1,938	1,886	1,879	1,818	1,717	1,535	1,437	1,355	1,312	1,250	1,212	1,131
D	Immigration sample 1995	–	–	522	441	425	402	360	306	278	266	251	232	213	193
E	Boost sample 1998 (general population)	–	–	–	1,056	842	773	686	574	554	546	92	82	78	70
F	Boost sample 2000 (general population)	–	–	–	–	6,043	4,586	3,895	3,033	3,055	2,885	2,702	2,567	2,414	2,273
G	High income sample 2002	–	–	–	–	–	1,224	859	757	743	706	687	677	641	606
H	Boost sample 2006 (general population)	–	–	–	–	–	–	1,506	996	913	858	818	783	732	684
J	Boost sample 2011 (general population)	–	–	–	–	–	–	–	–	–	3,136	2,555	2,305	2,110	1,983
K	Boost sample 2012 (general population)	–	–	–	–	–	–	–	–	–	–	1,526	1,281	1,187	1,108
KH	Cohort samples: est. in 2010 (FiD) and integrated in 2014 <sup>1</sup>	–	–	–	–	–	–	–	–	–	–	–	–	1,247	1,184
SC	Screening samples: est. in 2010 (FiD) and integrated in 2014 <sup>1</sup>	–	–	–	–	–	–	–	–	–	–	–	–	2,015	1,968
M1	Migration sample 2013	–	–	–	–	–	–	–	–	–	–	–	2,723	2,012	1,667
M2	Migration sample 2015	–	–	–	–	–	–	–	–	–	–	–	–	–	1,096
I <sub>E</sub>	Innovation sample 1998 (SOEP E) <sup>2</sup>	See sample E										339	311	298	282
I <sub>1</sub>	Innovation sample 2009	–	–	–	–	–	–	–	1,531	1,175	1,040	928	863	798	741
I <sub>2</sub>	Innovation sample 2012	–	–	–	–	–	–	–	–	–	–	1,010	833	772	710
I <sub>3</sub>	Innovation sample 2013	–	–	–	–	–	–	–	–	–	–	–	1,166	929	840
I <sub>4</sub>	Innovation sample 2014	–	–	–	–	–	–	–	–	–	–	–	–	924	672
Total		5,921	6,819	6,968	7,668	13,249	12,692	12,499	11,655	10,840	13,330	14,599	17,343	19,758	19,236

<sup>1</sup> The households of the former FiD ("Families in Germany") samples were interviewed for the sixth time in 2015 but for the second time in SOEP-Core

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

Households and individuals with the longest history of (continuous) panel participation took part for the 32nd time in 2015 (samples A and B). The following samples have been added to the core sample since the year 2009:

- **Sample I1** started with more than 1,500 households in 2009 and served as the core sample of the SOEP-Innovation Sample when it was established in 2011. Since then, the SOEP-IS has been expanded with refresher samples in 2012 (sample I2), 2013 (sample I3), and 2014 (sample I4). 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 SC** (screening samples) and **KH** (cohort samples) were established in 2010 and originate from the former study “Families in Germany” (FiD), a longitudinal SOEP-equivalent sample system for the evaluation of German family policies on behalf of two German governmental departments (BMF/BMFSFJ). The evaluation ended in 2013. The FiD samples were transferred into 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 analytic potential for integration research and migration dynamics. A second migration sample (**Sample M2**) of almost 1,100 households was integrated in 2015.

## 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) as modes, depending on the sub-sample 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.

In the year 2015, 13 different questionnaires were used in the households of the SOEP-Core samples. Most of them were processed with PAPI as well as CAPI:

1. **Household questionnaire**, answered by the person living in the household who is most familiar with household matters overall.
2. **Individual questionnaires** for all persons born in 1997 or earlier.
3. Supplementary **“life history”** questionnaire for all new respondents joining a panel household born in 1997 or earlier.
4. **Youth questionnaire** for all household members born in 1998.
5. Additional **cognitive competency tests** for all persons with a completed youth questionnaire (interviewer-assisted modes only).
6. Supplementary questionnaire **“Mother and Child A”** for mothers of children who were born in 2015 (or born in 2014 if the child was born after the previous year’s fieldwork was completed).
7. Supplementary questionnaire **“Mother and Child B”** for mothers of children born in 2012. In households where the father is the main caregiver, fathers are asked to provide the interview.
8. Supplementary questionnaire **“Mother and Child C”** for mothers (or fathers) of children born in 2009.
9. Supplementary questionnaire **“Parents D”**, for mothers and fathers of children born in 2007. In contrast to the mother and child questionnaires, both parents are asked to provide an interview if they live in the same SOEP household as the child.
10. Supplementary questionnaire **“Mother and Child E”** for mothers (or fathers) of children born in 2005. In households where the father is the main caregiver, fathers are asked to provide the interview.

Table 4

**Questionnaires: Sample Size, Interviews, and Response Rates, Samples A–KH**

	Gross sample/ reference value <sup>1</sup>	Number of interviews	Response Rate/Coverage Rate
Individual questionnaire	20,557	18,880	91.8
Youth questionnaire	279	239	85.7
Cognitive competence tests <sup>2</sup>	198	176	88.9
Mother and child questionnaire A	225	197	87.6
Mother and child questionnaire B	266	259	97.4
Mother and child questionnaire C	495	485	98.0
Questionnaire for parents D <sup>3</sup>	549/1098	539/908	98.2/82.7
Mother and child questionnaire E	331	327	98.8
Pre-teen questionnaire	301	279	92.7

<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> 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=198) is different from the sample for the youth questionnaire (n=279).

<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 539 (98.2%) of 549 children born 2007 and living in households that participated in 2015, at least one questionnaire has been completed. In total, 908 questionnaires were completed.

11. **Pre-teen questionnaire** for all individuals born in 2003.
12. **Supplementary questionnaire for temporary drop-outs** from the previous wave to minimize “gaps” in longitudinal data on panel members. This questionnaire is a short version of the previous year’s questionnaire.
13. **Supplementary questionnaire for panel members who experienced a death in their household or family in 2014 or 2015: “The deceased person.”**

**Table 4** provides an overview of the number of interviews provided for the various questionnaires types and the respective response rates (or coverage rates).

The mean interview length for the main questionnaires in 2015 was 17 minutes for the household questionnaire and 35 minutes for the individual questionnaire. The time taken up for a model household consisting of two adults is therefore 87 minutes plus the time needed for any supplementary questionnaires. This is a notable increase from the last wave, when total interview time in a model household was at 75 minutes.

In 2015, we pretested another addition to the range of SOEP questionnaires covering early life from birth to first time participating as an adult respondent by completing an individual questionnaire. A number of young people born in 2001 were interviewed with the new “early youth questionnaire” that will be fielded in the total sample for the first time in 2016 and which fills the gap between the “pre-teen questionnaire” for 12-year-olds and the “youth questionnaire” for 17-year-old respondents.

In addition to the questionnaires, respondents and interviewers are provided with several other survey instruments. The most important of these in terms of data provision is the household grid that provides basic information about every household member and allows us to track whether persons entered or left the household since the last wave. In 2015, a new electronic version of this grid was employed in all households whose interviewers were equipped with a laptop.

At the end of January, all households received a letter announcing the beginning of the new wave. For almost all households from samples A–H, this letter also included a lottery ticket as an unconditional incentive. The participants in the newer samples J–KH and some households from A–H receive a cash incentive from the interviewer at the end of the interview. Households in the centrally administered sample that return their questionnaires by mail are sent a check. The cash incentive for the individual questionnaire is 10 euros and participants receive 5 euros for the shorter household questionnaire. Teenagers and children receive a small gift for completing their respective questionnaires. Furthermore, the interviewer brings a small present to the household as a whole and presents this upon arrival.

Before starting the interview, the interviewer also presents a brochure and a data security information sheet. The brochure contains short summaries of selected scientific publications that are based on SOEP data and news about the study. The 2015 brochure included a short report on SOEP respondents who were invited to a celebration held by German Federal President Gauck to honor citizens who volunteer to improve the community.

## Fieldwork Characteristics and Key Fieldwork Indicators 2015

### Interview Modes

Since the foundation of the SOEP in 1984, the primary interview method has been face-to-face interviewing. Up to 2000, all face-to-face interviews were conducted by paper-and-pencil interviewing (PAPI). Since then, SOEP interviewers have gradually been equipped with laptops to conduct their interviews in CAPI (computer assisted personal interviewing). Since sample J in 2011, all respondents from refresher samples have been interviewed exclusively by CAPI. However, respondents from samples A–H are still interviewed in PAPI if they prefer or if their interviewer is not equipped with a laptop.

A second type of fieldwork processing that is exclusively used in core samples A–H is what 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 interview-

ers to participate for other reasons. As part of this process, households are contacted by telephone and urged to keep taking part in the study. If this “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 and therefore supports the stability of the long-term samples A–H.

Another method of interviewing is used in multi-person households from samples A–H. For individuals who were unable to provide an interview while the interviewer was present, the option of self-completion of a paper questionnaire can be offered to reduce partial unit non-response (PUNR). Furthermore, the possibility of interviewing more than one person simultaneously with the help of paper questionnaires can be a useful method to reduce the overall length of interviewer visits in households with many members and to thereby increase acceptance. This method is a mixture of face-to-face interviewing and self-administered interviewing. Although this option is supposed to be an exception, the longer a sample exists, the more this tends to become the only option to ensure low PUNR in larger households.

Table 5 shows the distribution of interview modes by subsample in 2015. 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 KH), 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

Table 5

### Interviewing Modes by Sub-Samples (in Percent of all Individual Interviews 2015)

	Interviewer-Based			Centrally Administered
	CAPI	PAPI	SELF	MAIL
A-D	25.6	13.1	35.2	26.1
E <sup>1</sup>	-	-	-	100
F	35.6	15.4	31.4	17.6
G	34.4	8.7	41.4	15.4
H	64.8	3.8	22.0	9.4
A-H	33.2	12.4	32.9	21.5
J/K	100	-	-	-
KH	100	-	-	-
<b>Total</b>	<b>58.7</b>	<b>7.7</b>	<b>20.4</b>	<b>13.3</b>

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



Table 6

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

	Sample A-H	Sample J/K	Sample KH
February	32.9	27.5	14.0
March	63.0	58.4	48.0
April	79.3	76.4	68.6
May	87.9	84.5	78.5
June	93.7	91.0	86.7
July	96.8	95.6	94.8
August	98.8	98.9	98.2
September	99.7	99.9	99.8
October	100.0	100.0	100.0

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

provided. This serves one of our main objectives in 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 such as cognitive tests or behavioral experiments that are not viable with paper based questionnaire administration.

**Fieldwork Progress**

Data collection in the SOEP-Core samples covers a period of nine months starting at the beginning of February and ending when the refusal conversion processes are completed in the fall. As indicated by the figures in **Table 6**, which shows fieldwork progress by month, in most samples about 60 percent of all household interviews are conducted during the first two months and almost 80 percent within the first three months. Thus, 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 address needs to be tracked or households where various refusal conversion strategies have to be used.

**Composition of the Gross Sample**

**Table 7** presents the composition of the gross sample 2015 by type of fieldwork procedures and type of households as well as the response rates and partial Unit non-response for samples A–H, J, K, and KH. The SOEP households from each wave are differentiated into three types of households: previous wave respondents (91.5 percent of gross sample in 2015) previous wave drop-outs that were re-contacted (5.8 percent), and “new” households that split off from established panel households (2.7 percent).

Interviewers make every effort to contact the households. But for the reasons stated above, if this is not possible, there are alternative ways of processing the households in samples A–H. In 2015, 72.2 percent of households in the gross sample in A–H were processed by interviewers, and 26.9 percent were administered centrally. The remaining 0.8 percent were households that are considered drop-outs based on information from the period between waves (e.g., final drop-outs; whole 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 rates and panel stability rates. Response rates reflect the simple relation between input (gross sample) and output (net sample) and therefore are an indicator for 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 92.8 percent. The response rate for the centrally administered households is naturally lower than the rate of household processed by interviewers. However, at 86.5 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.

Response rates for drop-outs from the previous wave and new households are significantly lower than for households that took part in the study the year before. However, a response rate of 29.1 percent among drop-outs in the previous wave that were processed by interviewers shows that contacting these households again does turn out successfully in about one-third of cases. Furthermore, about half of the new households that joined the sample when members of panel households formed a new household can be convinced by the interviewers to be part in the study (54.5 percent).

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 corresponding number from the previous year. Thus it reflects the net total effects of panel mortality on the one hand and panel growth (due to split-off households and participation of temporary drop-outs in the previous wave) on the other. This approach is particularly helpful in household surveys where split-off households are tracked. That means that if an individual from a participating household moves into a new household, the survey

Table 7

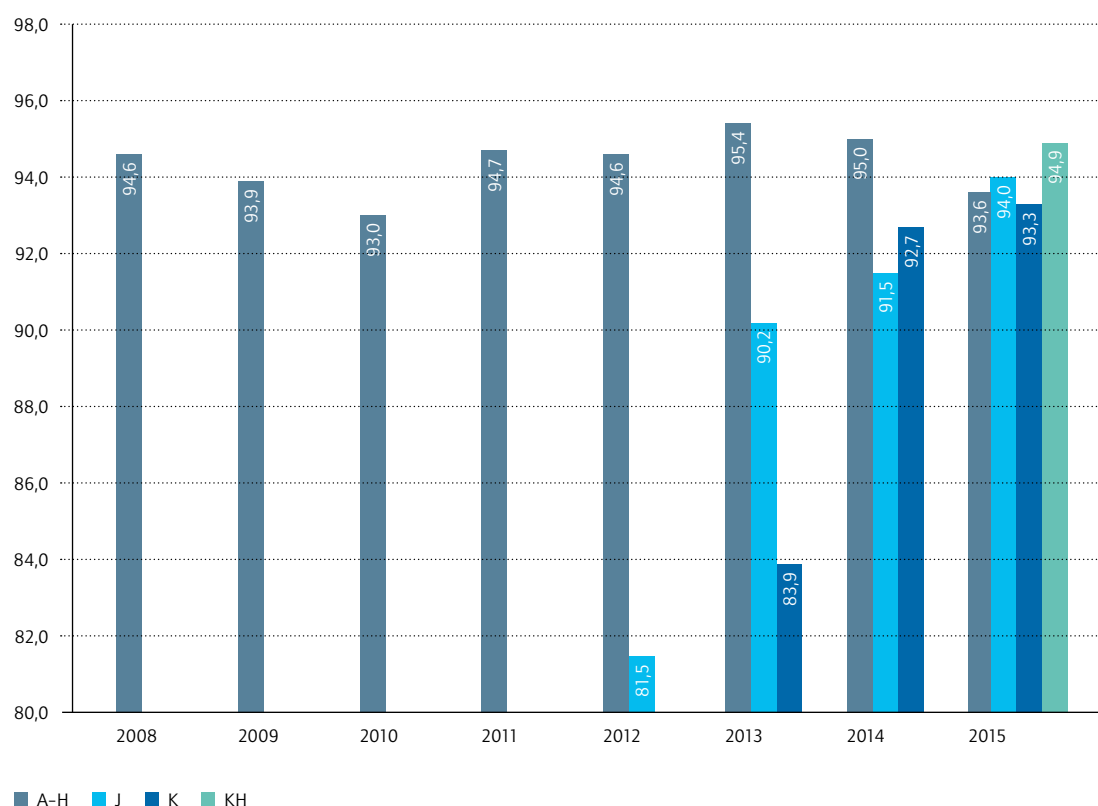
## Composition of Gross Sample and Response Rates by Type of Fieldwork

	Total		Samples A–H		Sample J		Sample K		Sample KH	
	Abs.	In %	Total	In %	Total	In %	Total	In %	Total	In %
<b>(1) Gross sample compositions by types of HH</b>										
	13,140	100.0	8,091	100.0	2,328	100.0	1,315	100.0	1,406	100.0
Respondents in previous wave	12,028	91.5	7,466	92.3	2,113	90.8	1,190	90.5	1,259	89.5
Drop-outs in previous wave	759	5.8	398	4.9	153	6.6	83	6.3	125	8.9
New households (split-off HH.s)	353	2.7	227	2.8	62	2.7	42	3.2	22	1.6
<b>(2) Gross sample composition by type of fieldwork</b>										
<b>No fieldwork<sup>1</sup></b>	100	0.8	68	0.8	13	0.6	5	0.4	14	1.0
<b>Interviewer-based</b>	10,861	82.7	5,844	72.2	2,315	99.4	1,310	99.6	1,392	99.0
Respondents in previous wave	10,116	77	5,586	69.0	2,100	90.2	1,185	90.1	1,245	88.5
Drop-outs in previous wave	446	3.4	87	1.1	153	6.6	83	6.2	125	8.9
New households	297	2.3	171	2.1	62	2.7	42	3.2	22	1.6
<b>Centrally administered (mail)</b>	2,179	16.6	2,179	26.9	–	–	–	–	–	–
Respondents in previous wave	1,695	12.9	1,695	20.9	–	–	–	–	–	–
Drop-outs in previous wave	311	2.4	311	3.8	–	–	–	–	–	–
Drop-outs during F2F, further processed by mail	117	0.9	117	1.4	–	–	–	–	–	–
New households	56	0.4	56	0.7	–	–	–	–	–	–
<b>(3) Response rates by type of fieldwork</b>										
<b>Interviewer-based</b>	9,682	89.1	5,407	92.5	1,983	85.7	1,108	84.6	1,184	85.1
Respondents in previous wave	9,390	92.8	5,275	94.4	1,916	91.2	1,070	90.3	1,129	90.7
Drop-outs in previous wave	130	29.1	35	40.2	31	20.3	19	23.5	45	36.0
New households	162	54.5	97	56.7	36	58.1	19	45.2	10	45.5
<b>Centrally administered</b>	1,578	72.4	1,578	72.4	–	–	–	–	–	–
Respondents in previous wave	1,466	86.5	1,466	86.5	–	–	–	–	–	–
Drop-outs in previous wave	74	23.8	74	23.8	–	–	–	–	–	–
Drop-outs during F2F, further processed by mail	19	16.2	19	16.2	–	–	–	–	–	–
New households	19	33.9	19	33.9	–	–	–	–	–	–
<b>(4) Panel stability<sup>2</sup></b>		93.8		93.6		94.0		93.3		94.9
<b>(5) Partial unit non-response<sup>3</sup></b>		19.9		20.7		22.9		21.3		11.7

<sup>1</sup> Between waves reported final drop-outs, 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 2008 to 2015



institute will try 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,” that is, households that could not be interviewed in the previous wave(s) (for various reasons) but that “re-joined” the panel in a given panel wave.

In order to meaningfully assess panel stability rates over the years, the various subsamples should be processed for at least five consecutive waves. After this period of time, the panel stability rates of samples are usually consolidated and therefore comparable. The mean value for panel stability across the established SOEP samples A-H achieved 93.6 percent in 2015, which is slightly lower than during the last waves (see **Figure 1**). However, the panel stability in the last two refresher samples J (fifth wave in 2015) and K (fourth wave in 2015) improved since 2014, reaching the level of A-H.

One 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 (PUNR). 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 an interesting measure to look at in addition to response rates and panel stability. In 2015, this share was at 19.9% in the samples A-KH (**Table 7**).

# The SOEP Screening Samples

## Fieldwork Report 2015 from TNS Infratest

### Interview Modes

Together with the SOEP sample KH (cohort samples), the screening samples (SC) 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 policies. In 2014, both samples were transferred into the core sample system of the Socio-Economic Panel, thereby switching the screening samples—which consisted of the subgroups of single parents, households with three or more children, and low-income households—from an exclusively interviewer-assisted mode to a CATI-assisted CAWI approach, followed by CAPI in 2014.

In 2015, the screening samples remained in this innovative multi-mode design. Again, the aim was to recruit as many households as possible for participation over the Internet in order to save costs in comparison to the face-to-face method. Therefore, all households that participated in CAPI mode in 2014 but did not refuse to do the interviews online were asked to complete the questionnaires in CAWI in 2015.

In order to reduce possible qualitative disadvantages as well as the negative effects on the response rate caused by CAWI compared to CAPI, CATI interviewers contacted each household to encourage them to participate online and to make a list of all household members so that the right set of CAWI questionnaires could be provided. The CATI interviewers also 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 offered CAPI.

Fieldwork in CAWI started in mid-June 2015 and the online questionnaires remained available to respondents until the end of November 2015. During this period, telephone interviewers contacted the households to gather information about the household structure and to encourage participation. Additionally, letters were sent to remind respondents about the study or to ask for missing individual CAWI questionnaires.

Table 1

Sample SC: 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>
June	204	20.6	–	–	204	10.4
July	639	85.1	90	9.2	729	47.4
August	112	96.4	208	30.5	320	63.7
September	25	98.9	327	64.0	352	81.6
October	9	99.8	296	94.3	305	97.1
November	2	100.0	56	100.0	58	100.0
<b>Total</b>	<b>991</b>		<b>977</b>		<b>1,968</b>	

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

Table 2

**Questionnaires: Volume and response rates Sample SC**

	Gross sample/reference value <sup>1</sup>	Number of interviews	Response Rate/Coverage Rate
Individual questionnaire	3,834	3,468	90.5
Youth questionnaire	276	239	86.6
Mother and child questionnaire A	41	27	65.9
Mother and child questionnaire B	46	45	97.8
Mother and child questionnaire C	115	108	93.9
Questionnaire for parents D <sup>2</sup>	186/372	172/279	92.5/75.0
Mother and child questionnaire E	204	195	95.6
Pre-teen questionnaire	268	252	94.0

<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 the participating households. The response rate for these questionnaires therefore indicates the number of children for whom a questionnaire has been completed by one parent (in most cases the mother).

<sup>2</sup> In contrast to the other child-related questionnaires, this questionnaire is supposed to be completed by not just one but by both parents. For 172 (92.5%) of 186 children born in 2007 and living in households which participated in 2015 at least one questionnaire has been completed. In total, 279 questionnaires were completed.

Fieldwork in CAPI began in mid-July with those households that either had no Internet connection or had refused to participate in CAWI in 2014. During the summer, households that had stated a preference for CAPI in their phone conversations with CATI interviewers were 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 September. **Table 1** shows the fieldwork progress for both interviewing modes by month.

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 expected to fill out. For every questionnaire, the household received 5 euros. It received an additional 10 euro bonus if all questionnaires required of the household were completed. In CAWI, the incentives were sent as vouchers in letters or e-mails, depending on the respondent's preference. In CAPI, the incentive was paid in cash by the interviewer.

## Questionnaires and Survey Instruments

Regarding data collection, all questionnaires from sample A–KH were used with the exception of the cognitive competence test that 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 2** provides the volumes and response rates of all implemented questionnaires.

## Fieldwork Results

The study design of sample SC consisted of three different modes implying a certain amount of complexity in process management. The first two modes, CATI and CAWI, operated simultaneously for the first few months and were joined by CAPI after one month. **Table 3** lists the three gross samples. These samples are not distinct; one household could be processed in two or even three modes up to the end of fieldwork in November. The overall gross sample consisted of 2,681 households, 2,244 of which were given the online access data (gross sample CAWI). Phone numbers were available for 2,136 households. These households formed the CATI gross sample. The CAPI gross sample consisted of 1,455 households.

Table 3

**Sample SC: Overview of the various gross samples**

	Total	in % gross sample
Total gross sample	2,681	100.0
Gross sample CAWI	2,244	83.7
Gross sample CATI	2,136	79.7
Gross sample CAPI <sup>1</sup>	1,455	54.3

<sup>1</sup> This sample consisted of households that had no Internet access or that had declined to use CAWI in the previous wave, that could not be reached during CATI fieldwork and did not participate online, that could be reached during CATI fieldwork and insisted on CAPI, that stated willingness to participate online but did not do so until early September, and households that were formed during the CAPI fieldwork process (split-off households).

Table 4

**Sample SC: Overview of the various gross samples**

	Total	In %
<b>(1) Gross sample compositions by types of HH</b>	<b>2,681</b>	<b>100.0</b>
Respondents in previous wave	2,018	75.3
Drop-outs in previous wave	541	20.2
New households (split-off HH.s)	122	4.6
<b>(2) Net sample composition by type of HH</b>	<b>1,968</b>	<b>100.0</b>
Respondents previous wave	1,695	86.1
Temporary drop-outs prev. wave(s)	241	12.2
New households (split-off HH)	32	1.6
<b>(3) Response rates by type of HH</b>		
Respondents previous wave		84.0
Drop-outs previous wave		44.5
New households		26.2
<b>(4) Panel stability<sup>1</sup></b>		<b>97.7</b>
<b>(5) Partial unit non-response<sup>2</sup></b>		<b>23.0</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 5

**Sample SC: Fieldwork results of the CATI process**

	Total	in % gross sample	In % contacted households
CATI gross sample	2,136	100.0	
Households that could not be contacted	546	25.6	
<b>Contacted households</b>	<b>1,590</b>	<b>74.5</b>	<b>100.0</b>
Permanent refusal (Both CAWI and CAPI)	54	2.5	3.4
Target person/household undecided whether to participate	128	6.0	8.1
Target person/household insists on CAPI participation (no internet or other reasons)	141	6.6	8.9
<b>Target person/household states intention to participate online</b>	<b>1,267</b>	<b>59.3</b>	<b>79.7</b>

Table 6

**Sample SC: Selected disposition groups of the CATI process and the resulting net interviews**

	Abs.	In % of sub-group
<b>Households that could not be contacted</b>	<b>546</b>	<b>100.0</b>
Of that number:		
– participated in CAWI	158	28.9
... – participated in CAPI	187	34.2
... – did not participate at all	201	36.8
<b>All contacted households</b>	<b>1,590</b>	<b>100.0</b>
Of that number:		
– participated in CAWI	815	51.3
... – participated in CAPI	427	26.9
... – did not participate at all	348	21.9
<b>Target person/household that stated intention to participate online</b>	<b>1,267</b>	<b>100.0</b>
Of that number:		
– participated in CAWI	789	62.3
... – participated in CAPI	254	20.0
... – did not participate at all	224	17.7

In total, 1,968 households were interviewed, 991 with CAWI and 977 with CAPI. The overall response rate for the screening samples was 84.0 percent in households that participated in the previous wave, 44.5 percent in households that did not participate in 2014, and 26.2 percent in split-off households that took part for the first time in 2015 (Table 4). The relatively high response rates in the latter two groups and the relatively large share of dropouts from the previous wave in the gross sample (20.2 percent, SOEP-Core: 5.8 percent) helped stabilize the panel, resulting in a very high panel stability rate of 97.7 percent. Another fieldwork indicator is the share of partially realized households with more than one adult target respondent (partial unit non-response or PUNR). As was expected due to the implementation in CAWI, the PUNR was comparatively high at 23.0 percent.

Tables 5 and 6 show the results of the CATI fieldwork process. 74.5 percent (1,590 households) of the CATI gross sample could be contacted by phone. 3.4 percent of these households declined to participate further in the study, whether online or face-to-face. 8.9 percent insisted on being interviewed face-to-face. As in 2014, a relatively high share of all contacted households (79.7 percent) stated the willingness to participate online.

Even though the households were reminded by mail to fill out the questionnaires, only 62.3 percent of those who had intended to participate online actually did so (Table 6). Households that had not filled out the online questionnaires by early September were transferred into CAPI, in which 20.0 percent (254 households) of the households that had stated the intention to participate online took part in the study.

# The SOEP Migration Survey

By Martin Kroh and Jürgen Schupp

## Report from the SOEP

### Migration Boosts of the SOEP in 2013, 2015, and 2016

The increased influx of refugees to Germany in the second half of 2015 poses a major challenge for the German 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 the willingness to provide help; and on processes of political polarization.

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. Three samples were created and interviewed in 2013, 2015, and 2016. The Federal Office of Migration and Refugees (BAMF) joined for the 2016 boost sample focusing on refugees.

**Table 1** provides an overview of the number of active adult respondents as well as children in the SOEP in 2014 distinguishing between persons with and without migration background<sup>1</sup> in the different subsamples. We distinguish between the existing “old” samples A through J (A/J)<sup>2</sup>, the recently integrated samples from the “Families in Germany Project” (L1, L2, L3)<sup>3</sup> as well as the 2013 migration boost (M1). The table shows that the 2013 migration boost almost doubled the number of adult respondents with a migration background. Moreover, integrating the samples L1, L2, and L3 as well as sample M1 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. The second IAB-SOEP migration boost (M2) in 2015 adds an additional 1,689 adult respondents and almost 1,000 children. The 2015 data including sample M2 will be released to the scientific community for secondary data analysis in late 2016 (SOEP.v32). Finally, in 2016 in the IAB-BAMF-SOEP-Migration Study, we plan to augment the SOEP data on migrants with (at least) another 2,000 adult respondents who arrived in Germany as refugees.

The three SOEP migration boosts not only increase the total number of observations on persons with a migration background but also function as necessary enlargements to the SOEP’s prospective design, compensating for migration-based changes in the underlying German population. Migration to Germany

1 According to the official German statistics, a person is considered to have migration background if he or she either migrated to Germany, has non-German citizenship, or if his or her parents migrated to Germany.

2 Also the old samples 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 (SOEP.v31). 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 1

### The Number of Active Respondents and Children in 2014 by Migration Background and Sample (SOEPv31)

2014 (Wave BE)	Samples			
	A/K	KH, SL	M1	Total
<b>Adults (18+)</b>				
No Migration Backg.	14,697	4,311	268	19,276
Migration Backg.	3,275	1,381	3,484	8,140
<b>Total</b>	<b>17,972</b>	<b>5,692</b>	<b>3,752</b>	<b>27,416</b>
<b>Children (-17)</b>				
No Migration Backg.	2,760	4,597	70	7,427
Migration Backg.	796	1,452	1,869	4,117
<b>Total</b>	<b>3,556</b>	<b>6,049</b>	<b>1,939</b>	<b>11,544</b>

Table 2

### 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 1984/1994-95	Ethnic German
2013	Sample M1	Migration to Germany 1995/2010	Mainly EU migrants
2015	Sample M2	Migration to Germany 2009/2013	Mainly EU migrants
2016	Sample M3	Migration to Germany 2013/2015	Refugees

has been increasing considerably in the past years with an annual figure of almost 1,000,000 immigrants. This development was driven by within-EU mobility from Southern and particularly Eastern Europe on the one hand, as well as by forced and refugee migration from third countries, especially the Middle East, on the other hand. Since existing longitudinal samples cannot represent these changes in the underlying population, we need to supplement the existing samples with new ones, targeting the recent migration influx in particular (Table 2). Hence, 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 targets households of refugees to Germany between 2013 and 2015.

The sampling frame for the 2016 refugee boost 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/survey-papers/diw\\_ssp0271.pdf](http://panel.gsoep.de/soep-docs/survey-papers/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 received benefits such as Unemployment Benefit I/II or other similar forms of government assistance. The selection procedure provides comprehensive representation of members of the labor force with an immigration background and their family members in Germany. For a randomized percentage of the households, we link the survey data—after obtaining consent from the individuals affected—with information from the Integrated Employment Biographies. This will create a new data base for scientific use that brings together 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 this

labor market information from the social insurance system in fully anonymized form. This additional project using innovations in survey methodology and entitled “SOEP-REC-LINK” has been granted three years of funding under the Leibniz Association’s Pact for Research and Innovation.

Questionnaires in the migration boost samples include questions that have been part of the SOEP-Core for the last three decades. In addition, the survey also covers each respondent’s complete migration history, education and training, and employment history in Germany and abroad, and numerous aspects of the cultural and living environments that are relevant to the social integration of migrants ([http://panel.gsoep.de/soep-docs/surveyspapers/diw\\_ssp0216.pdf](http://panel.gsoep.de/soep-docs/surveyspapers/diw_ssp0216.pdf)). Also in the case of the 2016 refugee boost, we ask questions specific to this population about the situation in their country of origin as well as their asylum application procedure and public housing.

The methodological challenges this refugee boost presents are significant in terms of both sample selection and survey implementation. It will require the involvement of translators and interpreters and the use of innovative technical solutions for some questions that respondents would like to have read out loud in their native language.

Furthermore, our efforts are not limited to the inclusion of immigrants and refugees in the SOEP longitudinal samples. Over the last few weeks, we have also been adding new questions on the influx of refugees to Germany to the 33rd wave of the SOEP-Core survey, which is set to go into the field in February 2016. We are particularly interested in whether people see the influx of refugees as more of an opportunity or a risk. And we will also be asking questions about respondents’ social and political involvement in activities relating to refugees and about their plans and intentions to get involved in such activities in the future.

We are convinced that with this data—together with our standard indicators on concerns with immigration to Germany and on xenophobia and hostility toward foreigners—the SOEP will soon offer a rich, diverse, and robust database for research on the impacts of the refugee influx to Germany, and one that will undoubtedly be of great interest to social scientists and economists worldwide.

# Fieldwork Report 2015 from TNS Infratest

## Migration Sample M1 – Questionnaires and Survey Instruments

For data collection in the third wave of sample M1 in 2015, all of the questionnaires from SOEP-Core were used. However, a specific biographical questionnaire that covered the migration history and other additional questions about migration and integration was used for adult household members that were participating in the study for the first time. **Table 1** shows the gross samples and net volumes of the different questionnaires.

As the target population consists of people 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 languages represent the nationalities that were overrepresented in the first wave's gross sample. The translated versions were not implemented in CAPI but printed on paper and given to the interviewer as an additional support tool to overcome language problems. **Table 2** displays different kinds of support the interviewers used when language problems occurred during the interview situation.

## Fieldwork Results

**Table 3** displays the fieldwork results from the most recent wave of respondents who took part between April and November 2015. Altogether 2,473 addresses formed the gross sample. 81.5 percent of all households were respondents in the previous wave, 14.3 percent were drop-outs in the previous wave, and 4.2 percent were split-off households. In total 1,667 households were interviewed. At 75.6 percent, the response rate in the subgroup of respondents from the previous wave was slightly higher than in 2014 (71.9 percent).

**Table 4** compares wave three response rates and panel stability rates for the most recent refresher samples J, K, and M1. Both fieldwork indicators in sample M1 are about ten percentage points lower than in samples J and K. Together with the relatively low response rate of 86.1 percent for the individual questionnaire (see **Table 1**) and the relatively high partial unit non-response (PUNR, see **Table 3**), this reflects well-known difficulties with processing migrant households. In a migration sample, the effort required by interviewers to contact households successfully on the one hand and to motivate every individual to take part in an interview on the other hand is higher 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, lower level of education, etc.).

Table 1

### Questionnaires: Volume and Response Rates Sample M1

	Gross sample/reference value <sup>1</sup>	Number of interviews	Response Rate/Coverage Rate
Individual questionnaire	3,565	3,071	86.1
Youth questionnaire	70	55	78.6
Cognitive competence tests <sup>2</sup>	55	50	90.9
Mother and child questionnaire A	89	77	86.5
Mother and child questionnaire B	81	76	93.8
Mother and child questionnaire C	91	83	91.2
Questionnaire for parents D <sup>3</sup>	95/190	90/146	94.7/76.8
Mother and child questionnaire E	96	91	94.8
Pre-teen questionnaire	85	67	78.8

<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 of the respective age group living in participating households. The response rate for these questionnaires thus indicates the number of children for whom a questionnaire has been completed by one parent (in most cases the mother).

<sup>2</sup> The tests can only be implemented if the youth questionnaire has been completed. Therefore the gross sample for the tests (n=55) is different from that for the youth questionnaire (n=70).

<sup>3</sup> In contrast to the other child-related questionnaire, this questionnaire is supposed to be completed by not just one but by both parents. For 90 (94.7%) of 95 children born in 2007 and living in households that participated in 2015, at least one questionnaire has been completed. In total, 146 questionnaires were completed.

Table 2

Language Problems and Usage of Translated Paper Questionnaires in M<sub>1</sub>

	Total	In % net sample
No language problems occurred/no need for assistance with language problems	2,708	87.9
Assistance with language problems needed	373	12.1
<i>Of that number:</i>		
German-speaking person in the same household	169	5.5
German-speaking person from outside the household	49	1.6
Professional interpreter	2	0.1
Paper questionnaire	153	5.0
<i>Of that number:</i>		
Russian	76	2.5
Turkish	34	1.1
Romanian	11	0.4
Polish	24	0.8
English	8	0.3

Table 3

Sample M<sub>1</sub>: Composition of Gross Sample and Response Rates

	Sample M1	
	Total	In %
(1) Gross sample compositions by types of HH	<b>2,473</b>	<b>100.0</b>
Respondents from previous wave	2,015	81.5
Drop-outs from previous wave	354	14.3
New households (split-off HH <sub>s</sub> )	104	4.2
(2) Net sample composition by type of HH	<b>1,667</b>	<b>100.0</b>
Respondents from previous wave	1,523	91.4
Drop-outs from previous wave	96	5.8
New households (split-off HH)	48	2.9
(3) Response rates by type of HH		
Respondents from previous wave	1,523	75.6
Drop-outs from previous wave	96	27.1
New households	48	46.2
(4) Panel stability <sup>1</sup>		82.9
(5) Partial unit non-response <sup>2</sup>		28.8

<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 4

## Wave 2 and 3 Panel Stability in Recent SOEP Samples

	J 2013	K 2014	M <sub>1</sub> 2015
Response rate of respondents from previous wave in wave 2	80.0%	82.0%	71.9%
Response rate of respondents from previous wave in wave 3	86.2%	88.4%	75.6%
Panel Stability in wave 2	81.5%	83.9%	73.9%
Panel Stability in wave 3	90.2%	92.7%	82.9%

Table 5

**Consent to Record Linkage: Response Rates**

	2013	2014	2015		
	Designated for record linkage in wave 1	Designated for record linkage in wave 2 + Refusal in Wave 1	Refusals from waves 1 + 2, new household members and prev. wave's drop-outs from households that were designated for record linkage	Total	
	In %	In %	In %	Abs.	In %
Approved	48.9	44.2	48.8	2,622	61.8
Declined	51.1	55.8	51.2	1,623	38.2
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>4,245</b>	<b>100.0</b>

A special feature of the migration sample's survey design is the linkage of respondents' survey data with register data from the Integrated Employment Biographies Sample (IEBS). As in the two previous waves, in 2015, a portion of the sample was asked to give their written consent to the record linkage at the end of the individual interview. In 2015, the target group designated for record linkage consisted of 873 participants, of whom 48.8 percent approved the data linkage. Since 2013, 4,245 respondents were asked for their consent to the record linkage up to two times, to which 2,622 agreed (61.8 percent, see **Table 5**).

## Refresher Sample M<sub>2</sub>

With the second SOEP migration sample M<sub>2</sub> that was created in 2015, the SOEP further improved the data on migration to Germany by adding a refresher sample of households that had migrated between 2009 and 2013. Overall, 1,096 households with at least one household member with a background of migration were interviewed between June and December. This sample will also improve the statistical power of analyses on immigrant and integration issues.

## Sampling Design and Distribution of Gross Sample

In order to implement an innovative sampling procedure to map recent migration and integration dynamics, research cooperation was established between the SOEP at DIW Berlin and the Institute for Employment Research (IAB Nuremberg) prior to the sampling process for M<sub>1</sub>, the predecessor sample to M<sub>2</sub>. The Integrated Employment Biographies Sample (IEBS) of the Federal Employment Agency (BA) could thus be used as sampling frame for both migration samples. The IEBS contain data on employment histories, unemployment benefits, job search, and participation in active labor market programs.

As the actual sampling was conducted by experts in the SOEP group at DIW Berlin, we will just provide general information on the sampling procedure. A multi-stage and a multi-stratification approach was used to draw the gross sample:

- The sampling frame was the IEBS (Version December 31, 2014).
- Each available dataset was flagged to indicate membership in the target group according to the information available at the BA. Migration background and recent immigration were operationalized by the criteria (a) first data record entry in the IEBS frame in the years 2009–2013 and (b) foreign nationality of the respective person.
- All datasets were assigned to primary sampling units (PSU) in accordance with regional strata of the German municipal boundary system.
- Sampling of 125 PSU, stratification by federal state and administrative district.
- Sampling of 80 addresses as “anchor persons” within the previously selected PSU, with stratification on the basis of selected criteria (age, gender, nationality and education).
- This procedure results in 9,999 cases in the gross sample of M<sub>2</sub>.

**Tables 6** and **7** show the distribution of the gross sample by federal state and community type. Compared to the distribution of all households in Germany, migrant households are located significantly more often in western states and in the center of metropolitan areas, and less often in eastern states, in the peripheries of the metropolitan areas, or in smaller cities.

Table 6

## Distribution of Sample Points by Federal State

Federal State	Number of sample points	Share of households in gross sample M <sub>2</sub>	Share of households in net sample M <sub>2</sub>	Share of all households in Germany <sup>1</sup>
Schleswig-Holstein	3	2.2 %	1.4%	3.5 %
Hamburg	4	3.3 %	2.1%	2.4 %
Lower Saxony	11	8.7 %	10.1%	9.6 %
Bremen	1	0.8 %	0.9%	0.9 %
North Rhine-Westphalia	27	21.9 %	21.8%	21.5 %
Hesse	12	9.8 %	10.8%	7.3 %
Rhineland Palatinate	6	4.3 %	5.2%	4.7 %
Saarland	1	0.8 %	0.7%	1.2 %
Baden-Wuerttemberg	20	16.1 %	13.9%	12.5 %
Bavaria	24	19.3 %	22.4%	15.1 %
Berlin	9	7.3 %	4.7%	4.9 %
Brandenburg	1	0.8 %	1.1%	3.1 %
Mecklenburg Western Pomerania	1	0.8 %	0.0%	2.1 %
Saxony	1	0.8 %	1.2%	5.4 %
Saxony-Anhalt	1	0.8 %	0.6%	2.9 %
Thuringia	3	2.4 %	3.1%	2.8 %
<b>Total</b>	<b>125</b>	<b>100.0 %</b>	<b>100.0 %</b>	<b>100.0 %</b>

<sup>1</sup> Gemeindedatei 2014.

Table 7

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

BIK-Type <sup>1</sup>	Share of households in gross sample M <sub>2</sub>	Share of households in net sample M <sub>2</sub>	Share of all households in Germany <sup>2</sup>
0 (more than 500,000 inhabitants/center)	43.6 %	40.9%	28.3 %
1 (more than 500,000 inh./periphery)	7.2 %	7.8%	9.0 %
2 (100,000 to 499,999 inh./center)	20.4 %	21.8%	15.8 %
3 (100,000 to 499,999 inh./periphery)	8.5 %	6.8%	14.1 %
4 (50,000 to 99,999 inh.(center)	0.8 %	0.8%	2.4 %
5 (50,000 to 99,999 inh./periphery)	4.6 %	4.8%	7.9 %
6 (20,000 to 49,999 inh.)	7.8 %	9.9%	10.3 %
7 (5,000 to 19,999 inh.)	5.3 %	5.6%	8.0 %
8 (2,000 to 4,999 inh.)	0.7 %	0.7%	2.5 %
9 (less than 2,000 inh.)	1.1 %	0.7%	1.7 %
<b>Total</b>	<b>100.0 %</b>	<b>100.0 %</b>	<b>100.0 %</b>

<sup>1</sup> Community type (BIK) groups regions into categories according to number of inhabitants and location.<sup>2</sup> Gemeindedatei 2014.

Table 8

Language Problems and Usage of translated Paper Questionnaires in M<sub>2</sub>

	Total	In % net sample
No language problems occurred/no need for assistance with language problems	1,015	60.1
Assistance with language problems needed	674	39.9
<i>Of that number:<sup>1</sup></i>		
German-speaking person in the same household	179	10.6
German-speaking person from outside the household	76	4.5
Professional interpreter	5	0.3
Paper questionnaire	414	24.5
<i>Of that number:</i>		
Russian	49	2.9
Turkish	41	2.4
Romanian	100	5.9
Polish	98	5.8
English	126	7.5

Another significant change from the standard sampling design that was employed for the most recent representative SOEP refresher samples J and K was the use of an “anchor person” concept, which was also in place when sample M1 was created in 2013. As the sampling of the migration survey was register-based (IEBS), the usual SOEP concept, where the household is the primary sampling unit, was not appropriate in wave one.

Instead, the anchor persons, sampled from the Integrated Employment Biographies database, were the primary sampling unit. Consequently, in a first step, a short screening questionnaire was conducted to validate the anchor person’s migration background. When the screening led to a negative result, not only the anchor person but also the entire household was excluded from the survey, even if other household members had a migration background. When the screening of the anchor person led to a positive result every person living in the household born prior to 1998 was asked to participate, whether these household members had a migration background or not. As a logical consequence of this procedure, the effort required from interviewers in wave one to contact and interview a household and its members was considerably higher than with the most recent refresher samples in SOEP-Core, in which any adult in the sampled household could be interviewed.

## Questionnaires and Survey Instruments

Fieldwork in M2 was conducted exclusively via CAPI interviewing. As with the previous new samples J (2011), K (2012), and M1 (2013), no paper-and-pencil interviews were conducted in sample M2. Several CAPI-scripts were fielded in the most recent migration sample: a short screening questionnaire, a questionnaire for adults, and a questionnaire for youths born in 1998. In addition, the interviewer completed a household information matrix by gathering information about household composition from the anchor person.

The screening questionnaire consisted of three questions to validate the anchor person’s migration background. If the anchor person was born in Germany, was staying in the country only temporarily (for example as a seasonal worker), or moved to Germany before the year 2009, the interview was ended and the anchor person was screened out. The numbers of screen-outs are presented in **Table 10**.

When the screening led to a negative result, not only the anchor person was excluded from the survey but the whole household, even if other members of the household had a migration background. When the screening led to a positive result, the anchor person stated the composition of the household by responding to questions in the household matrix. In most cases, the anchor person completed the individual questionnaire subsequently. Either the anchor person or another person in the household completed the household questionnaire. Generally, every per-

son living in the household born prior to 1998 was asked to complete the individual questionnaire, no matter whether they had a migration background or not. This questionnaire was a SOEP-M-specific version that included questions from the individual questionnaire from SOEP-Core and questions relating to the person's biography, especially relating to his or her migration history. Youths that were born in 1998 completed the "youth questionnaire" from SOEP-Core. Other supplementary questionnaires, for example, about children in the household, were not integrated into the wave-one survey program for adult respondents. The reason for focusing on the key questionnaires is to avoid overburdening respondents by a too lengthy first interview.

As it was the case in sample M1 since its beginning, the two main questionnaires "household" and "individual" were translated into English, Russian, Turkish, Romanian, and Polish. The translated versions were not implemented in CAPI but printed on paper and given to the interviewer as a tool to help overcome language problems. **Table 7** shows which kinds of support the interviewers used when language problems occurred during the interview.

## Fieldwork Results

The sampling design and the characteristics of the sample defined several challenges for processing the addresses by the interviewers in a response-maximizing way. The crucial distinction of the migration sample compared to the SOEP-Core samples is its use of the "anchor person concept". In the usual SOEP context, households are the primary sampling unit and all household members (of a certain age)

are supposed to take part in the survey. However, the household is considered as interviewed when the household questionnaire and at least one individual questionnaire are completed.

So in the first wave of the migration sample M2, not the household as a whole defined the primary sampling unit but the anchor person with a (presumed) migration background, who was sampled from the Integrated Employment Biographies Sample of the Federal Employment Agency. The recruitment of a household for the study therefore depended on a) the traceability of the anchor person, b) the willingness of the anchor person to participate in the survey, and c) his or her migration status according to the screening criteria.

The first consequence was a relatively high percentage of addresses that could not be processed or were not eligible. **Table 10** shows the fieldwork results for sample M2. In total, the percentage of anchor persons' addresses that were not processed because they did not live at the given address was 44.1 percent of the gross sample. This is the result of two major effects: At first, in light of the experiences from the first wave of sample M1, ex-ante address checks were agreed upon to provide more valid addresses to the field interviewers so that they could concentrate more on interviewing than on address verification. For this purpose, letters were sent to all addresses in the gross samples prior to interviewer assignment and start of fieldwork to announce the study. The feedback the German Post Office provided from this first mailing was used to exclude addresses that were marked as not deliverable. The second reason is that addresses of anchor persons who had moved and whose new address could not be determined despite

Table 9

### Fieldwork Progress by Month<sup>1</sup>

	M2 2015		M1 2013	
	Gross Sample in %	Net Sample in %	Gross Sample in %	Net Sample in %
May	12.3	–	10.9	9.7
June	19.7	8.8	32.6	35.3
July	37.4	25.3	46.9	51.1
August	60.7	48.4	63.0	66.1
September	76.6	71.5	82.4	86.4
October	86.7	87.7	92.4	94.9
November	98.8	99.5	99.8	99.9
December	100.0	100.0	100.0	100.0

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



Table 10

Fieldwork Results M<sub>2</sub> 2015 and M<sub>1</sub> 2013

	M <sub>2</sub> 2015		M <sub>1</sub> 2013	
	Total	in % gross sample	Total	in % gross sample
<b>Gross sample</b>	<b>9,999</b>	<b>100.0</b>	<b>12,992</b>	<b>100.0</b>
<b>Unknown eligibility</b>	<b>5,517</b>	<b>55.2</b>	<b>3,371</b>	<b>25.9</b>
– Not attempted (e.g., due to sickness of interviewer)	58	0.6	7	0.1
– Address marked as undeliverable by German Post Office	2,424	24.2	–	–
– Anchor person moved and unable to obtain address	1,992	19.9	2,114	16.3
– Unable to reach during fieldwork period	1,043	10.4	1,250	9.6
<b>Not eligible</b>	<b>1,232</b>	<b>12.3</b>	<b>1,487</b>	<b>11.4</b>
– Miscellaneous QNDs (e.g., business address, address does not exist)	369	3.7	342	2.6
– Screen-out (anchor person not in target population)	863	8.6	1,145	8.8
<b>Eligible, non-interview</b>	<b>2,154</b>	<b>21.5</b>	<b>5,411</b>	<b>41.6</b>
– Anchor person permanently living abroad	327	3.3	416	3.2
– Anchor person deceased	8	0.2	38	0.3
– Permanently physically or mentally unable/incompetent	20	0.2	54	0.4
– Language problems	239	2.4	208	1.6
– “Soft” refusal (currently not willing/capable)	750	7.5	258	2.0
– Permanent refusals	810	8.1	4,437	34.2
<b>Interview (household and individual interview completed by anchor person)</b>	<b>1,096</b>	<b>11.1</b>	<b>2,723</b>	<b>21.0</b>

intensive tracing efforts<sup>1</sup> have been excluded. On the one hand, this shows that addresses that originate from an official register are often not as up-to-date as addresses obtained through a random address procedure shortly before the survey. On the other hand, this shows the high mobility of the target population in combination with missing notifications of a change of address to the administrative bodies.

The second challenge arises from the anchor person concept itself. The anchor person was the key person to be contacted and interviewed. Thus, the efforts required of interviewers to make contact with target persons was considerably higher than with usual SOEP surveys, in which any adult in the sampled household can be interviewed. Nevertheless, the share of households that could not be reached during fieldwork—in the sense of “anchor persons who could not be contacted during fieldwork”—was 10.4 percent of the gross sample. Due to the screening process, another 8.6 percent of the gross sample turned out not to belong to the target population.

<sup>1</sup> The main sources of information on the new addresses of anchor persons were the local registration offices and post offices.

In total, 32.6 percent of the gross sample was eligible. Of these 3,250 eligible households, 66.0 percent resulted in non-interviews and 34.0 percent in interviewed anchor person households. The main reasons for a non-interview were permanent refusals (37.6 percent of all non-interviews). As was expected with this target population, the share of anchor persons permanently living abroad (15.2 percent of all non-interviews), and the share of language problems that prevented an interview from being conducted (11.1 percent of all non-interviews) was relatively high.

**Table 11** shows the fieldwork results and **Table 12** the different outcome rates. 48.4 percent of all addresses (gross sample I) could not be processed by the interviewers. That defines gross sample II as containing 5,156 processable addresses. After adjusting for deceased anchor persons and anchor persons who had moved abroad, 4,821 addresses remained (48.2 percent of gross sample I). Overall, 3,778 anchor persons could be contacted by the interviewers, that is, 37.8 percent of gross sample I.

Table 11

### Fieldwork Results in Different Gross Samples

	Total	In % gross sample I	In % gross sample II
<b>Gross sample I (all gross addresses)</b>	<b>9,999</b>	<b>100.0</b>	
<b>Non-processable addresses</b> (Not attempted; anchor person moved/ unable to obtain new address, QNDs, undeliverable)	4,843	48.4	
<b>Gross sample II (processable addresses)</b>	<b>5,156</b>	<b>51.6</b>	
Deceased or moved abroad	335	3.4	
<b>Gross sample II adjusted</b>	<b>4,821</b>	<b>48.2</b>	<b>100.0</b>
Unable to reach during fieldwork period	1,043	10.4	21.6
<b>Contacted processable addresses</b>	<b>3,778</b>	<b>37.8</b>	<b>78.4</b>
<b>Non-Cooperation</b> (Permanently unable/incompetent; language problems; soft and permanent refusals)	1,819	18.2	37.7
<b>Cooperation:</b>	1,959	19.6	40.6
– Screen-outs	863	8.6	17.9
<b>– Valid Interviews (net sample)</b>	<b>1,096</b>	<b>11.0</b>	<b>22.7</b>
– Household completely interviewed	762	7.6	15.8
– Household partially interviewed	334	3.4	6.9

Table 12

### Outcome Rates M<sub>2</sub> 2015 and M<sub>1</sub> 2013

	M <sub>2</sub> 2015		M <sub>1</sub> 2013	
	In % Gross sample I	In % Gross sample II <sup>1</sup>	In % Gross sample I	In % Gross sample II <sup>1</sup>
Contact Rate (contacted addresses/gross sample)	37.8	78.4	67.9	87.6
Cooperation Rate (cooperation/gross sample)	19.6	40.6	29.8	38.4
Screen-out Rate (screen-outs/gross sample)	8.6	17.9	8.8	11.4
Response Rate (interviews/gross sample)	11.0	22.7	21.0	27.0

<sup>1</sup> Adjusted by households in which the anchor person was deceased or had permanently moved abroad.

Compared to the recent refresher samples, the response rate of 22.7 percent, defined as the number of interviews divided by the adjusted gross sample, seems to be relatively low (sample J: 33.1 percent; sample K: 34.7 percent, M1: 27.0 percent). But to compare the response rate of sample M2 with the rates of samples J, K, and M1, one has to take into account the high number of screen-out interviews and the very high share of unprocessable addresses. Due to the screening procedure, 44.1 percent (n=863) of the anchor persons for whom the interviewers had received a positive response could not be surveyed further as they did not fulfil the screening criteria. Therefore, whereas the actual net sample amounts to 1,096 households, the interviewers would have been able to interview 1,959 households. This leads to a very good cooperation rate of 40.6 percent in M2 (M1 2013: 38.4 percent).

As for all SOEP samples, one of the major challenges of the refresher samples is that all household members aged 16 and older define the target population for the individual questionnaires. There are two key performance indicators that determine the extent to which the ambitious goal of interviewing all persons aged 16 years and older in participating households is met. The first indicator is the share of all households for which at least one person has not completed the individual interview, thereby producing gaps in the data, which are particularly problematic for all household indicators which can only be generated correctly if an individual interview has been provided (e.g., household income, assets, etc.). The share of multi-person households for which at least one person could not be interviewed despite belonging to the target population for the individual interview was 39.8 percent<sup>2</sup> (M1 2013: 30.5 percent).

Table 13

**Consent to Record Linkage: Response Rates M<sub>2</sub>**

	Total	In %
Approved	875	51.8
Declined	814	48.2
<b>Total</b>	<b>1,689</b>	<b>100.0</b>

**Declaration of consent to record linkage**

Like the participants in migration sample M1, the respondents to sample M2 were asked to give consent to link survey data with register data from the databases of BA/IAB. To this end, interviewers gave respondents a flyer at the end of the individual interview explaining the procedure and the purpose of the linkage and providing information on data protection. If the respondent consented to the data linkage, a signature was required. In M2, consent to the linkage was required from every respondent. All 1,689 adults that participated in the survey were therefore asked to give their consent, which 875 gave. This amounts to a response rate of 51.8 percent.

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

# The SOEP-Innovation Sample (SOEP-IS)

By David Richter

## Report from the SOEP

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 suitable to 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 SOEP-IS and assessed these submissions in an annual competitive refereed process to identify the "best" research questions and operationalizations.

In 2015, almost 6,000 individual respondents in more than 200 households participated in the SOEP-IS survey. Many of these women and men have been part of a boost sample to SOEP-Core since 1998, while others joined in 2009. These individuals provide a wealth of longitudinal data to SOEP-IS. Additional samples were added to SOEP-IS in 2012, 2013, and 2014 (Table 1).

In 2015, the SOEP-IS premiered the collection of saliva samples using self-collection saliva tubes in a sample of 500 participants. The project of Roland Weierstall (Medical School Hamburg) and Isabelle Mansuy (University of Zurich and ETH Zürich, Brain Research Institute) aims to investigate the reciprocal relations between socio-economic status (SES), psychological stress and epigenetic markers in a representative longitudinal multi-cohort study, the SOEP-IS, focusing on the most prominent SES factors, subclinical stress symptoms, and stress-related candidate genes. In this study, two saliva samples were collected from each subject. Saliva samples were sent to the laboratory of Professor Mansuy for DNA extraction and DNA methylation analyses. One sample will be used for DNA methylation analysis of selected candidate genes. The other sample will be

stored at -80°C for subsequent whole-genome methylation analysis. 972 respondents were asked to provide a sample and 568 completed the data collection process (response rate of 58.4%).

## 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 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, and 2014

The latest SOEP-IS data were released in late March 2016. The data release contained the core SOEP questions and additional SOEP modules included in the SOEP-IS in 2014, user-friendly generated SOEP variables for 2014, 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, and 2013, 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 2014 SOEP-IS modules will be under embargo until April 2017 and not available to users until then.

### Innovative Modules Surveyed in 2011

- Implicit Association Test of Gender Stereotypes and Explicit Measurement of Gender Stereotypes (Dietrich, Eagly, Garcia-Retamero, Holst, Kröger, Ortner, Schnabel)
- Justice Sensitivity (Liebig)
- Pension Claims (Grabka)

### Innovative Modules Surveyed in 2012

- Adaptive Test of Environmental Behavior (Otto & Kaiser)
- Control Strivings (Gerstorf & Heckhausen)
- Day Reconstruction Method (DRM; Lucas & Donnellan)
- Expected Financial Market Earnings (Schmidt & Weizsäcker)
- Explicit Measurement of Self-Esteem (Gebauer, Asendorpf & Bruder)
- Implicit Association Test of Self-Esteem (Gebauer, Asendorpf & Bruder)
- Fear of Dementia (Kessler)
- GeNECA (Just Sustainable Development Based on the Capability Approach; Gutwald, Krause, Leßmann, Masson, Mock, Omann, Rauschmayer, Volkert)
- Loneliness & Depression (Brähler & Zenger)

### Innovative Modules Surveyed in 2013

- Conspiracy Mentality (Haffke)
- Day Reconstruction Method (DRM; Lucas & Donnellan)
- Factorial Survey on Job Preferences and Job Offer Acceptance (Auspurg & Hinz)
- Job Task Survey (Görlich)
- Mobility & Identity (Neyer, Zimmermann & Schubach)
- Narcissism (Küffner, Hutteman, & Back)
- Assessment of Sleep Characteristics (Stang & Zinkhan)
- Socio-Economic Effects of Physical Activity (Lechner & Pawlowski)

### Innovative Modules Surveyed in 2014

- Cross-Cultural Study of Happiness and Personality (Uchida & Trommsdorff)
- Day Reconstruction Method (DRM; Lucas & Donnellan)
- 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)
- Individual & Age Differences in Decisions from Description and Experience (Mata, Richter, Josef, Frey, & Hertwig)
- Justice Sensitivity (Baumert, Schlösser, Beierlein, Liebig, Rammstedt, & Schmitt)
- Lottery Play: Expenditure, Frequency, and Explanatory Variables (Beckert & Lutter + Oswald)
- Major Life Events (Luhmann & Zimmermann)
- Measurement of Self-Evaluation and Overconfidence in Different Life Domains (Ziebarth, Arni, & Goette)
- Separating Systematic Measurement Error Components Using MTMM (Cernat & Obersky)
- Short Form of the “CHAOS” Scale (Rauch)

## Data Collection in 2015

Forty proposals were submitted for the 2015 wave of SOEP-IS data collection. We received 19 proposals from the field of economics, eight from the field of sociology, 11 from psychology, and one from medical and health sciences. Sixteen of these were accepted. Due to the limited testing time available, the remaining 26 proposals had to be rejected.

Furthermore we replicated innovative modules in 2015: the DRM-Module from the previous years, the questions on socio-economic effects of physical activity from 2013 and the questions on narcissism from 2013. In addition, for two SOEP-IS modules from 2014—the module on major life events and the module separating systematic measurement error components using MTMM—the second part of data collection was conducted in 2015.

## 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 Analyzer Smartphone Application (Ludwigs, Lucas, & Veenhoven)
- Impostor Phenomenon and Career Development (Neureiter)
- Narcissism (Küffner, Hutteman, & Back)
- Major Life Events (Luhmann & Zimmermann)
- Ostracism Short Scale (Rudert & Greifeneder)
- Outsourcing of Household Services (Schnell & Shire)
- 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)

Table 1

### SOEP-IS Samples since 1998

Sample/ Survey Year	1998-2008	2009	2010	2011	2012	2013	2014	2015
<b>Sample E</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
<b>Sample I</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
<b>Supplementary Sample 2012</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)
<b>Supplementary Sample 2013</b> (started in 2013 with 1,166 households and 2,256 individuals)						1,166 (2,256)	929 (1,788)	840 (1,617)
<b>Supplementary Sample 2014</b> (started in 2014 with 924 households and 1,667 individuals)							924 (1,667)	672 (1,226)
<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)



# Fieldwork Report 2015 from TNS Infratest

## Overview

The SOEP-IS (SOEP-Innovation Sample) is a relatively new longitudinal household survey that complements SOEP-Core by offering a survey framework for fielding innovative questionnaire modules and testing fieldwork procedures. Important features of sampling design and core fieldwork procedures are similar to those in the main sample, but the SOEP-IS also offers special design features that ease the piloting and testing of innovative survey modules. Sample I1, which was established as main SOEP sample I in 2009, served as the first SOEP-IS sample when the study was institutionalized officially in 2011. Since then, the Innovation Sample has been expanded in sample size with refresher samples in 2012 (sample I2), 2013 (sample I3), and 2014 (sample I4). Additionally, a subset of households from the main SOEP's sample E was transferred to the SOEP-IS in 2012 (sample IE). **Figure 1** provides a more detailed look at the development of sample size since 2009.

## Questionnaire

An integrated core questionnaire based on questionnaires from SOEP-Core sets the recurring framework for the collection of variables for the SOEP-IS. It consolidates the basic elements of the SOEP household and individual questionnaires, while including 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 SOEP-IS has one questionnaire for each respondent that has an integrated CAPI script. In order to provide a smooth and efficient interview situation, the script automatically routes to all of the question modules the target person is scheduled to answer in the given wave.

The SOEP-IS core questionnaire that was used in 2015 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 aged 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 1998 who participated in the panel for the first time)
- Three **mother-child modules** to be completed by:
  - Mothers of children up to 23 months old (mother-child module A)
  - Mothers of children between 24 and 47 months old (mother-child module B)
  - Mothers of children older than 48 months old (mother-child module C)

**Table 1** shows the gross samples and net volumes of the different questionnaire modules.

The rationale behind the integration of household and individual questionnaires into one shorter core interview is to allow for more time for innovative question modules and tests. Thus, as already mentioned in the previous section, on top of the core elements, 21 different innovative modules were integrated into the SOEP-IS questionnaire in 2015. 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 2** illustrates the distribution of the innovation modules over the subsamples. In the following section, we describe these modules in varying detail, depending on whether special aspects needed to be considered in their implementation in a large-scale face-to-face representative sample of Germany's population.

## Attitude Inferences and Interviewer Effects

The aim of this module was to examine the influence of the interviewers on respondents' answers. Therefore, respondents as well as interviewers were asked to give their own opinions and to guess the respective interviewer's or respondent's answers to a range of questions about political preferences, general sorrows and attitudes towards polarizing topics such as legalization of marijuana, gay adoption rights or medically assisted suicide.

Figure 1

## SOEP-IS: Household Sample Sizes 2009–2015

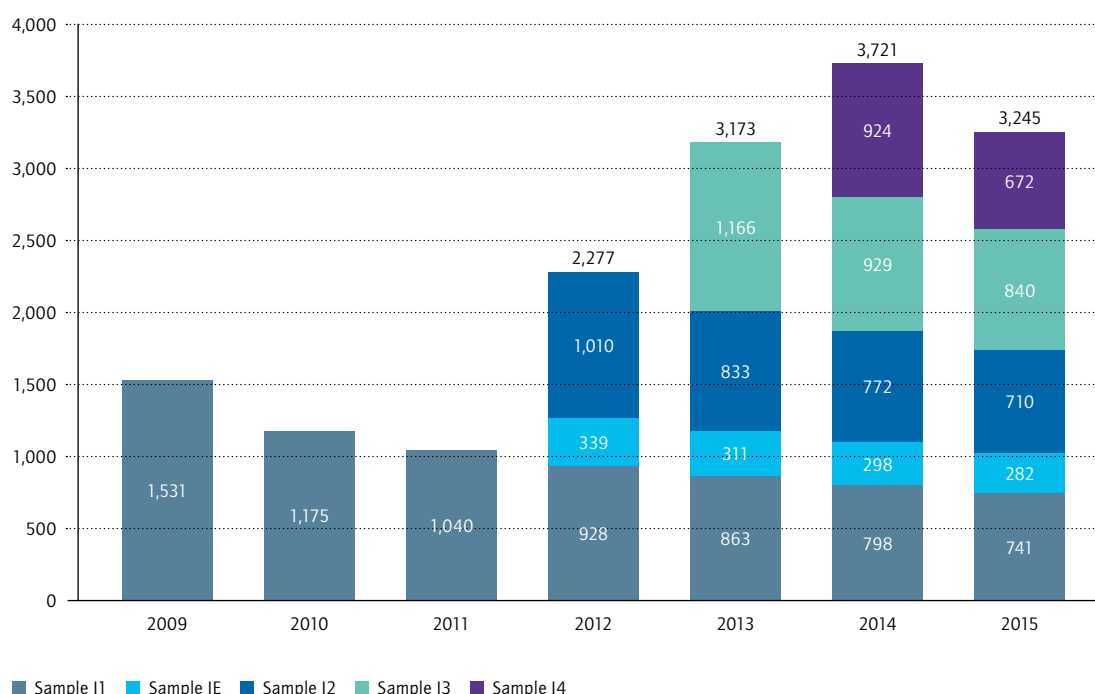


Table 1

## Questionnaires: Volume and Response Rates SOEP-IS

	Interviews	Response/Coverage Rate
Individual questionnaire <sup>1</sup>	5,126	94.9
Mother and child module A <sup>2</sup>	93	96.9
Mother and child module B <sup>3</sup>	122	97.6
Mother and child module C <sup>4</sup>	824	98.2

<sup>1</sup> Individual questionnaire from respondent in participating household

<sup>2</sup> Coverage rate for children up to 23 months old

<sup>3</sup> Coverage rate for children between 24 and 47 months old

<sup>4</sup> Coverage rate for children older than 48 months

The innovation module consisted of four different blocks:

1. Before fieldwork started, the interviewers selected for this module participated in a short survey that included the same questions the respondents would be asked to answer later on.
2. The second block was placed directly before the beginning of the personal interview. Here, the interviewer was asked to (discreetly) guess the answers to questions about political preferences, general concerns, and attitudes on polarizing topics the respondent would give later on in the interview.
3. The next block was located between other personal questions. Here, the respondent received the same questions as the interviewer in block one.
4. In block four, the respondent was asked to rate the interviewer's answers on the questions that were the focus of this innovative module. This block was executed in CASI mode (computer assisted self-interview) and embedded into other questions that needed to be answered in CASI. The interviewer handed over the laptop to the respondent so that he or she could fill out the questionnaire module without the interviewer seeing the answers.

## Day Reconstruction Method (DRM)

After having been included in four consecutive waves since 2012, the DRM module was part of the SOEP-IS questionnaire for the last time in 2015. It is an adaptation of the DRM as introduced by Kahneman and colleagues in 2004<sup>1</sup>. By asking respondents about their feelings at different times throughout the day, the DRM module data provide researchers an opportunity to create new measures of subjective well-being and examine the impacts of different activities on the quality of life. In 2014, the DRM was supplemented by a mobile study using the experience sampling method (ESM) that was described in further detail in the SOEP Wave Report 2014.

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

## Epigenetic Markers of Stress

Within the module Epigenetic Markers of Stress, saliva samples were collected from respondents for the first time in SOEP-IS history. The interviewers used special self-collection saliva tubes<sup>2</sup> to gather the samples at the end of the interview. With the help of the saliva samples, relations between socio-economic status, psychological stress, and epigenetic markers can be analyzed in a longitudinal study.

To guarantee an accurate sampling procedure in the household while minimizing possible negative effects on long-term panel stability, the interviewers received detailed instructions and were trained personally by their contact interviewer. All contact interviewers attended a training session approximately three weeks before start of fieldwork in which the two scientists responsible for the innovation module and the project lead at TNS Infratest provided information about the scientific background of the module and demonstrated the collection process with the tubes.

The whole recruitment and collection process contained several steps:

1. To enable respondents to make an informed decision, a brochure about the upcoming saliva sampling, its scientific background, and an additional incentive of 10 euros was enclosed with the letter announcing the study.
2. Before the interview started, target persons who showed interest in participating in the module were given a more detailed brochure. Interviewers were instructed not to put any pressure on hesitant participants in order to not jeopardize their willingness to participate in the SOEP-IS as a whole.
3. At the end of the interview, the interviewers handed over two consent forms that respondents needed to read and sign before the process could proceed. The document stated the basic information from the brochures again, including the fact that the data extracted from the samples would be matched with the respondents' data from the SOEP-IS.
4. Then the interviewers opened the first sampling kit and handed it over to the respondents who spit into the funnel that was attached to the top of every kit. This procedure took up to two to three minutes to complete.
5. Afterwards, interviewers inserted a liquid to conserve the sample by closing the funnel and shaking the kit, and then replacing the funnel with a lid. Then they attached a barcode with the respondents' study ID number to the tube and repeated the sampling process a second time to retrieve the second sample.
6. The interviewers collected the saliva tubes for two to three weeks before sending them back to TNS Infratest together with one of the signed consent forms.

1 Kahneman, D., Krueger, A. B., Schkade, D., Schwarz, N. & Stone, A. (2004). The Day Reconstruction Method (DRM): Instrument Documentation. Science Magazine website accessed on September 2, 2013: <http://www.sciencemag.org/cgi/content/full/306/5702/1776/DC1>.

2 Oragene 500.

Table 2

**Distribution of the Innovative Modules**

	$I_E/I_1$	$I_2$	$I_3$	$I_4$
<b>Attitude Inferences and Interviewer Effects</b>	✓	✓	✓	✓
Couples' Prediction Accuracy for Food Preferences	✓	✓	✓	✓
<b>Day Reconstruction Method (DRM)</b>	✓			
Diversity of Living-Apart-Together-Couples	✓	✓	✓	✓
Emotion Regulation	✓	✓		
<b>Epigenetic Markers of Stress</b>		✓	✓	
Fiscal Crisis in the EU and European Solidarity			✓	✓
Grit and Entrepreneurship	✓	✓		
<b>Happiness Analyzer Smartphone Application</b>		✓		✓
Impostor Phenomenon and Career Development	✓	✓		
Narcissism	✓			
Major Life Events	✓	✓	✓	✓
Ostracism Short Scale	✓	✓		
<b>Outsourcing of Household Services</b>	✓	✓	✓	✓
Preference for Leisure				✓
Private or Public Health Care: Evaluation, Attitudes, and Social Solidarity	✓		✓	
Self-Regulated Personality Development	✓	✓	✓	✓
Separating Systematic Measurement Error Components Using MTMM				✓
Sickness Presenteeism	✓	✓	✓	✓
Smartphone Usage	✓	✓	✓	✓
Socio-Economic Effects of Physical Activity		✓	✓	

**Happiness Analyzer Smartphone Application**

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 in Düsseldorf. The Happiness Research Organisation (HRO) is an independent research institute that specializes in the investigation of people's everyday lives and individual sense of happiness. To do so, 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 Day Reconstruction (DRM) and Experience Sampling (ESM) methods. To be able to analyze who downloads and uses such applications without any further incentive, the app was presented to SOEP-IS respondents.

At the end of the interview, all members of samples  $I_2$  and  $I_4$  who own a smartphone with either IOS or Android as an operating system 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 supposed 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. Afterwards 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 that was 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.

## Outsourcing of Household Services

The intention behind this module was to paint a clearer picture of the phenomenon of outsourcing in private households while testing the random-response technique in a relatively large representative sample of the population. In this study, outsourcing is defined as delegating housework to (commercial) service providers. The tasks that were covered by the innovation module were housework, childcare, care of the elderly, and maintenance work.

Of particular interest to the scientists that proposed the module was the amount of non-registered work that takes place in German households. Due to the fact that this type of question can be prone to social desirability bias, a randomly chosen set of respondents were asked about the registration status of the people they employ in their household using the random-response technique, which allows us to answer the precarious question indirectly without revealing personal information. Respondents were therefore asked to imagine the address of a person who does not live in the household. Then he or she was asked to state whether the house number they imagined started with the numbers one, two, three, or four and whether the answer to this first question matched the answer to the question “Is the household help employed officially?”. This way it remains possible to determine the percentage of households whose household help does not work under official contracts.

## Shorter modules

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

- In relationships, knowledge about one’s partner is meaningful for many areas of daily life. The module **Couples’ Prediction Accuracy for Food Preferences** examines the determinants of such knowledge to identify the consequences for the success of relationships by asking partners in participating households to guess each other’s preferences regarding a variety of foods.
- **Diversity of Living-Apart-Together-Couples:** In modern societies, the share of couples who are not living in the same household is growing. Through this module, these special relationships, their backgrounds, and intentions can be analyzed in more detail.
- Four statements about the respondent’s emotional behavior constitute the module about **Emotion Regulation**. It covers two aspects of special interest: emotional experiencing and emotional expression.
- **Fiscal Crisis in the EU and European Solidarity:** Over the course of the European financial crisis, politicians appealed to German population to show solidarity by supporting the provision of financial aid to indebted countries. The main goal of the module is to find out how willing respondents would be to give to indebted countries and what types of cost cuts such as pension reductions or federal employee layoffs they expect from recipient countries.
- The **Grit and Entrepreneurship** module provides data that can help to confirm or refute the research hypothesis that people who show more grit than others are much more successful as company founders. The scientists who proposed this module hypothesize that human personality characteristics have an important impact on the economic and administrative decisions taken in business life.
- **Impostor Phenomenon and Career Development:** Individuals affected by the impostor syndrome have the feeling that their work is not as good as other people’s work even though others perceive them as competent. They live in fear that others could discover that they are an impostor although their performance is completely normal. With this module, it will be possible to find out how widespread the impostor syndrome is in the German population.
- Implementing the **Narcissism** module in the SOEP-IS 2015 questionnaire is an important step towards a more precise prediction of the positive (i.e., higher self-respect, leadership position) and negative effects (i.e., dissatisfaction with the social and occupational environment, instability of the social relations) of the personality characteristic narcissism. The “Narcissistic Admiration and Rivalry Questionnaire”(NARQ-S) has therefore been included in the SOEP-IS questionnaire for a second time since 2014.

- **Major Life Events:** Since the beginning of the SOEP-IS, the questionnaire has ended with a question about certain major life events that have taken place since the last interview. In 2014, there was an additional question asking respondents to predict the incidence of these and some other major life events, such as spending time abroad or being promoted, in the following year. In 2015, this longer list of life events was included at the end of the interview to check whether the event took place. The scientists who proposed this module are interested in analyzing whether persons who expect something to happen might have an advantage in handling this event in the future.
- **Ostracism** refers to the phenomenon of feeling excluded and ignored by others. The scientists who proposed this module state that research needs to examine the concept more precisely and over a long-term period because of the lack of clarity regarding the far-reaching effects on the psychological health of the affected persons.
- The module **Preference for Leisure** presents several sets of possible weekly working times to employed respondents and asks them which monthly net income they would need to receive to be as content with this higher or lower amount of work as they are presently. Analyzing the outcome is expected to contribute to research on social- or tax policy decisions.
- **Private or Public Health Care: Evaluation, Attitudes, and Social Solidarity:** Attitudes towards health policies might play an important role in the dynamics surrounding health reforms. This module asks respondents about their satisfaction with certain aspects of the German health care system such as availability of medical specialists and the state's responsibility for offering sufficient health care.
- Using the generated data from the **Self-Regulated Personality Development** module, researchers will be able to find out more about processes that influence personality development in adults. Using the Big Five scale that has been employed in the SOEP for many years, respondents are asked who they would like to be in the 16 Big Five items. In another question, they are asked to state whether they believe personality characteristics can be changed.
- **Separating Systematic Measurement Error Components Using MTMM:** A common problem in quantitative research lies in questions that produce systematic measurement errors. Using the Multitrait-Multimethod-Design (MTMM), this module tries to examine different systematic measurement errors.
- **Sickness Presenteeism** describes the phenomenon that despite being sick, employees come to work, for example because of a fear of losing their job.
- With the module about **Smartphone Usage**, the SOEP-IS gathers information about the use of different smartphone features in the German population. The researchers are planning to connect this data with socio-economic panel data to examine the impact of smartphone usage in daily life.
- The results of the **Socio-Economic Effects of Physical Activity** module support research about the impact of sports on a variety of different aspects of social life such as health, education, personal job market chances, and personal well-being. In 2013, it was integrated for the first time into the SOEP-IS questionnaire.

## 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 then followed by an additional fieldwork period at the beginning of the next year. Households are assigned to the second fieldwork stage 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 it is indicated by the figures in **Table 3**, fieldwork for 91% of the households that participated in the study was completed by the end of December 2015. In the remaining households, some or all interviews were conducted in the year 2016.

**Table 4** presents the composition of the gross and net sample and response rates at the household level. The total gross sample consisted of 4,018 households. This includes previous wave respondents as well as temporary drop-outs from the previous wave and new households. Overall, 3,245 households took part in the SOEP-IS in 2015, that means at least one person in the household answered the individual and the household-related questions.



Table 3

**Fieldwork Progress: Processing of Household Interviews<sup>1</sup>**

	2014		2015	
	Gross Sample	Net Sample	Gross Sample	Net Sample
September <sup>2</sup>	19.8	20.5	22.3	23.5
October	63.4	68.7	54.3	59.6
November	82.0	88.0	72.8	80.0
December	87.3	92.7	83.3	90.6
January	92.5	96.5	91.4	96.1
February	98.7	99.9	98.8	99.9
March	100.0	100.0	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 4

**Composition of Gross Sample and Response Rates**

	Total		Sample I <sub>1/€</sub>		Sample I <sub>2</sub>		Sample I <sub>3</sub>		Sample I <sub>4</sub>	
	Num.	In %	Num.	In %	Num.	In %	Num.	In %	Num.	In %
<b>(1) Gross sample composition by type of HH</b>	4,018	100.0	1,182	100.0	843	100.0	1,045	100.0	948	100.0
Respondents in previous wave	3,772	92.6	1,096	92.7	772	91.6	930	89.0	924	97.5
Drop-outs in previous wave	202	5.0	55	4.7	51	6.0	96	9.2	0	0.0
New households	94	2.3	31	2.6	20	2.4	19	1.8	24	2.5
<b>(2) Net sample composition by type of HH</b>	3,245	100.0	1,023	100.0	710	100.0	840	100.0	672	100.0
Respondents in previous wave	3,119	96.1	985	96.3	675	95.1	799	95.1	660	98.2
Drop-outs in previous wave	75	2.3	23	2.2	22	3.1	30	3.6	0	0.0
New households	51	1.6	15	1.5	13	1.8	11	1.3	12	1.8
<b>(3) Response rates by type of HH<sup>1</sup></b>										
Respondents in previous wave		84.6		90.8		88.4		86.4		72.2
Drop-outs in previous wave		37.5		42.6		43.1		31.6		0.0
New households		54.3		48.4		65.0		57.9		50.0
<b>(4) Panel stability<sup>2</sup></b>		87.2		93.3		92.0		90.4		72.7
<b>(5) Partial unit non response<sup>3</sup></b>		26.8		28.0		28.8		24.1		26.1

<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.

Combining all subsamples, 3,772 (92.6%) households in the gross sample were respondents in the previous wave. There were 202 households (5.0%) that were temporary drop-outs from the previous wave and contacted again because there was some indication that participation in the next wave was still possible. 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 2015, 94 new households were integrated into the gross sample (2.3%).

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. Since panel stability is calculated as the number of participating households in the current wave divided by the corresponding number from the previous wave, panel mortality and panel growth (split-off households) or “regrowth” (dropouts from the previous wave who “rejoined” the sample) are taken into account. The second parameter for measuring fieldwork results is the longitudinal response rate. Response rates indicate the ratio between the number of interviews—in this case household interviews—and the number of units in the gross sample. In **Table 4**, the overall panel stability and response rates for all relevant subgroups are listed.

The panel stability of sample I1/E has remained stable since the last wave (2015: 93.3% 2014: 93.4%). Meanwhile, Sample I2 has achieved a value of 92.0% (2014: 92.7 %). Sample I3, which had its third panel wave in 2015, crossed the 90% mark to achieve 90.4% panel stability (2014: 79.7%). In the case of sample I4, which went through the challenging transition from a cross-sectional to a longitudinal survey in this wave, panel stability was 72.7%.

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 was 26.8% in 2015.

## Cooperation Rates in the Modules Epigenetic Markers of Stress and Happiness Analyzer Smartphone Application

The module Epigenetic Markers of Stress was one of the innovation modules in which a certain amount of non-cooperation was to be expected. Interviewers therefore needed to proceed very carefully in order to maximize response rates while never jeopardizing long-term participation of the household. **Table 5** examines cooperation rates and reasons for non-cooperation. Overall, the participants’ reactions to the request were quite positive, and 568 persons provided one or two saliva samples and signed the consent form, which amounts to a cooperation rate of 58.4%. Among respondents who did not want to provide a sample, the most frequently mentioned reasons were lack of interest and objections regarding data security or privacy.

One aspect of the process that limited the number of samples that could be collected was the fact that collection kits were available for only 600 persons due to the high cost of the kits. Because some interviewers were more successful than others in collecting samples and the ad hoc re-distribution of unused kits is time consuming and does not always perfectly match interviewers’ appointments with households chosen for the saliva sampling, many interviewers ran out of sampling kits during fieldwork. Almost a quarter of respondents in the gross sample could not be asked to provide a sample because no sampling kit was available.

With the module Happiness Analyzer Smartphone Application, the aim was to find out what share of respondents in a representative sample are interested in downloading the Happiness Analyzer app. On this basis, the group of people who have downloaded and used the app can also be compared to the total sample to be able to find out more about the specific group of people who use the application. The most important prerequisite for using the app is the availability of a smartphone with Android or IOS as operating system. 48.5% of the gross sample of 2,153 respondents who were selected for the module did not have such a phone available (**Table 6**). Of the remaining 1,108 respondents who were presented with the app, 196 were interested in downloading it and signed the consent form. The cooperation rate in the group of people with suitable smartphones was 17.7%. This equals a cooperation rate of 9.1% in the total gross sample. Common reasons for not wanting to download the app were no interest and time constraints.

Table 5

## Cooperation Rate Module Epigenetic Markers of Stress

	Num.	In % gross sample	In % kit available
<b>Gross sample<sup>1</sup></b>	<b>1,290</b>	<b>100.0</b>	
No kit available	318	24.7	
<b>Saliva sample given</b>	<b>568</b>	<b>44.0</b>	<b>58.4</b>
Two samples	519	40.2	53.4
One sample	49	3.8	5.0
<b>No saliva sample given</b>	<b>404</b>	<b>31.3</b>	<b>41.6</b>
Not interested/willing	237	18.4	24.4
Data security/privacy	65	5.0	6.7
Health-related reasons	26	2.0	2.7
Unpleasant	22	1.7	2.3
Wants to drink/smoke during the interview	8	0.6	0.8
Other reasons	39	3.0	4.0
Positive reaction during interview but no kit/ consent form available	7	0.5	0.7

<sup>1</sup> Selected for saliva collection and participated on SOEP-IS 2016

Table 6

## Cooperation Rate Module Happiness Analyzer Smartphone Application

	Num.	In % gross sample	In % smartphone available
<b>Gross sample<sup>1</sup></b>	<b>2,153</b>	<b>100.0</b>	
No suitable smartphone available	1,045	48.5	
<b>Interested in downloading the app (consent form signed)</b>	<b>196</b>	<b>9.1</b>	<b>17.7</b>
<b>Not interested in downloading the app</b>	<b>912</b>	<b>42.4</b>	<b>82.3</b>
Not interested/willing	517	24.0	46.7
Not enough time/too time consuming	232	10.8	20.9
Never uses apps/other technical objections	77	3.6	6.9
Data security/privacy	21	1.0	1.9
Not possible due to sickness or language reasons	9	0.4	0.8
Other reasons	35	1.6	3.2
<b>Positive reaction during interview but no consent form available</b>	<b>21</b>	<b>1.0</b>	<b>1.9</b>
Other reasons	39	3.0	4.0
<b>Positive reaction during interview but consent form available</b>	<b>7</b>	<b>0.5</b>	<b>0.7</b>

<sup>1</sup> Selected for happiness app module and participated in SOEP-IS 2016.

# The Bonn Intervention Panel: A SOEP-Related Study (SOEP-RS)

By Armin Falk

## Background

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 our study is the impact of early childhood environments. In particular, we *experimentally vary* the childhood environment in our sample by giving a randomly chosen subgroup of the sample the opportunity to take part in a mentoring program. The comparison of these children with the control group (i.e., those children who did not participate in the mentoring program) will provide information about the causal and long-term effects of social environment on the development of children and their later paths in life.

It is widely accepted that the formation of key personality traits and preferences starts in early childhood (Cunha et al., 2006, Cunha et al., 2010). Two important aspects are characteristic of personality formation (Cunha and Heckman, 2007): First, personality traits and abilities are self-reinforcing once they have been acquired. Second, personality traits and skills reinforce each other (cross-fertilization). A self-confident child, for example, tends to read out loud in class more often than other children. Hence, such a child will improve his or her reading skills, which in turn will have a positive effect on his or her self-confidence. These two aspects of the formation of personality, preferences, and abilities highlight the importance of studying environmental influences at a very early stage in life. Given the reinforcing nature of this process, early improvements will have the highest “return” on acquired skills and preferences. Moreover, the two described features suggest that it is vital to consider a long time horizon, i.e., to follow children into adulthood: Even if the effects of a change in social environment might appear to be small in the beginning, the complementary nature of the skill and preference formation process might lead to large differences in later stages of life.

## Bonn Intervention Panel: Overview, Wave 1 and intervention

The BIP was launched based on these considerations as a novel and unprecedented project in Germany. In it, we examine the causal effect of early childhood environment on the development of personality and preferences. Our base sample (wave 1) consists of 732 children from the cities of Bonn and Cologne who were in either second or third grade in autumn 2011 as well as their mothers. The majority of these children (590) have a low socio-economic status (SES) family background (low income and/or low educational attainment and/or single parents). Among the children with low SES, we randomly chose 212 children to form our treatment group. These children were selected to participate in an already existing mentoring program for a period of one year. In the mentoring program, child and mentor (usually a university student) spent time together once a week. Activities involved visiting the zoo, sports, going out for ice cream, or reading out aloud. The idea of the program is to positively change the environment of the child, substituting positive influences that are missing in the child’s normal life. Skills acquisition in this program occurs on an informal basis. For example, when taking the bus, the child learns to read a map, deal with money, and be on time. Additionally, the influence of another caregiver and new experiences broaden the child’s perspectives. The children who were not part of the treatment group form two kinds of comparison groups: The remaining low-SES children constitute the control group. By comparing control and treatment groups, we are able to infer causal effects of the intervention. 122 children from families with higher SES allow us to understand possible initial differences in personality and preferences between children from high and low-SES families and how these initial differences develop over time (convergence or divergence).

Table 1

## Completed interviews by wave and subsample

	Overall	High SES	Low SES, Treatment	Low SES, Control	Others
Wave 1	732	122	212	378	20
Wave 2	624	113	180	314	17
Wave 3	524	97	148	264	15

Note: The category "others" includes siblings of children in our sample whose parents insisted on having the siblings interviewed as well and families who withdrew their approval of mentoring (before our randomization in ITT and before the control group was created).

## Methods

The first part of the project, which was completed in the fall of 2011 in cooperation with *TNS Infratest Sozialforschung*, measured personality traits and preferences before the start of the intervention for all children and their mothers, providing very detailed measures of the status quo early in life. To obtain this data, the children were given incentivized *choice experiments*. The idea of these experiments was to study children's behavior in a controlled environment, i.e., a situation that is identical for all children. Among other things, we measured fluid and crystallized intelligence, attitudes towards risks, impatience, and the ability to defer immediate desires to have more later on (delayed gratification), social preferences (fairness, envy, status orientation), trust, empathy towards other children in need, overconfidence, emotional stability, behavior problems, self-efficacy, and life satisfaction.

While the children were taking part in the experiments, their mothers filled out a questionnaire. The questionnaire consisted of questions concerning the child's personality, health, school and child care situation, stress level, and leisure activities. Moreover, information was collected from mothers on the socio-economic background of the family, maternal personality, preferences, and stress level. This makes it possible to identify crucial factors in a child's environment. A dataset that includes both direct measures of the child's personality and preferences elicited in choice experiments and in-depth background information on the parents is extraordinarily rare. Moreover, such data will provide an outstanding basis for the study of long-term developments when the BIP is integrated into the SOEP. In anticipation of this, special attention was paid to using a large body of "SOEP-questions" to ensure comparability with regular SOEP participants.

## Wave 2

From January to March 2013, we interviewed all children and their parents after the mentoring program was completed, working with nearly the same set of choice experiments and questionnaires as in wave 1 to be able to causally attribute any change in the development of personality and preferences in the treatment and control groups to the intervention. One additional feature of the second wave was the use of hair samples to analyze the cortisol levels of children as well as mothers. This allowed us to study how exposure to stress affects important life outcomes and what role it plays in the development of personality and preferences. Moreover, it will make it possible to assess whether participation in the intervention reduced stress levels of child or mother.

For the collection of wave 2 data, we again worked with *TNS Infratest Sozialforschung*. **Table 1** provides an overview on the number of completed interviews by wave and subsample. Overall, we have 624 interviews with child and mother pairs, i.e., interviews with about 85% of our initial sample (among them 180 low-SES treatment group children, 314 low-SES control group children, and 113 high-SES children).

## Wave 3

From wave 3 on, the families in the BIP are being interviewed in the framework of the SOEP-IS. Data collection was conducted from September to December 2014<sup>1</sup> by *TNS Infratest Sozialforschung*. We made an effort to motivate our sample members to participate in the SOEP-IS interviews. 566 mothers said they would definitely (369) or probably (197) participate in the regular SOEP interviews, 43 mothers agreed to be contacted again, and only 15 mothers (2.4 %) declined to participate. Based on the addresses provided, 524 families were successfully integrated into the SOEP-IS and interviewed in their homes by *Infratest*. The interview program acted as a bridge between the first two waves of the BIP and the classic SOEP-IS<sup>2</sup>. The families completed the standard SOEP-IS<sup>3</sup> questionnaire and the BIP child questionnaire, and the main caregiver (mother) completed additional questionnaires. The BIP child took part in incentivized experiments on time use, risk, and social

1 Five additional families were interviewed in February 2015.

2 See Richter & Schupp (2012).

3 Due to time constraints, one questionnaire about relatives was not administered.

preferences and completed the pre-teen questionnaire from the core SOEP. The mothers answered addition question regarding her personality and parenting style.

## First results

### Wave 1 data

Randomization of children into low-SES treatment and low-SES control groups worked well. There are no initial statistically significant differences in personality and preference measures between those two groups.

Results based on wave 1 data show that SES is a powerful predictor of many facets of a child's personality such as time preferences, risk preferences, altruism as well as crystallized and fluid IQ. Children from families with higher SES are more patient, less likely to be risk-seeking, and score higher on IQ tests. We further observe that children from low-SES families live in fundamentally different environments than children from high-SES families. The environment differs in many respects: parenting style, quantity and quality of time parents spend with their children, the mother's IQ and economic preferences, the child's initial condition at birth, and family structure. Personality profiles that vary systematically with SES offer an explanation for social immobility. For details, see Deckers et al. (2015).

Furthermore, wave 1 data show large differences in educational success, emotional, mental, and behavioral problems, and general life satisfaction depending on SES.

### Wave 2 data

Comparing measures of personality, preferences, and other outcomes of the low-SES treatment and low-SES control groups in wave 2 makes it possible to draw causal inference about the effect of a randomly assigned variation in a child's social environment (mentoring) on personality or other outcomes. Our data reveal a significant increase in altruism, trust, and other-regarding behavior in the treatment relative to the control group. These findings provide evidence of a causal effect of social environment on the formation of prosociality. Our data additionally reveal that the intervention under examination substantially reduces the observed developmental gap in prosociality between low- and high-SES children. The intervention is most effective for children whose mothers score relatively low on prosociality. In combination with the fact that mentors are par-

ticularly prosocial, this suggests that the mentoring program serves as a substitute for intra-family prosocial stimuli.

Additionally, the intervention reduces the prevalence of overconfidence (i.e., overestimation of own abilities) in the treatment group. Empirical evidence on the consequences of overconfidence highlights diverse negative implications such as inefficient learning behavior and an unhealthy lifestyle. Also with respect to overconfidence, our data document that a mentoring intervention bears the potential to close the developmental gap between children from families with low SES and children with high SES who are less likely to display overconfident behavior.

Finally, there are some initial weaker indications that the intervention increases children's fluid IQ and reduces maternal exposure to stress.

### Wave 3 data

The focus of the analysis of the wave 3 data was on exploring the persistence of the previously identified effects. The analysis produced three important findings. First, over the time span of two years, we observe a general increase in prosociality among elementary school children. To the best of our knowledge, this was the first evidence of an increase in prosociality in children. Second, the high-low SES developmental gap in prosociality seen in wave 2 persists in wave 3. Third, and most importantly, the treatment effect found in wave 2 turns out to be remarkably robust over time. Two years after the end of the intervention, treated children display significantly higher levels of prosocial behavior than children from the control group. As a consequence, prosociality in wave 3 does not significantly differ between treated low-SES and high-SES children. In other words, the developmental gap that was closed in response to treatment remains closed more than two years after the intervention. The complete analysis is currently being finalized and will be published in the near future (Kosse et al., 2016).

Moreover, we are working on an analysis of secondary schooling decisions among the children in the study and their parents. The preliminary analysis shows a positive effect of the mentoring program on the probability of choosing the highest education track.

## Subsequent steps

All families that took part in the third wave were invited to take part in the fourth wave at the end of 2015. The interview program is closely related to that from wave 3.

## References

- **Cunha, Flavio, James J. Heckman, Lance J. Lochner & Dimitriy V. Masterov** (2006) “Interpreting the Evidence on Life Cycle Skill Formation”, In *Handbook of the Economics of Education*, ed. Eric A. Hanushek and Frank Welch, 697–812. Amsterdam: North-Holland: Elsevier.
- **Cunha, Flavio & James J. Heckman** (2007) “The Technology of Skill Formation”, *American Economic Review*, 97(2): 31–47.
- **Cunha, Flavio, James J. Heckman & Susanne M. Schennach** (2010) “Estimating the Technology of Cognitive and Noncognitive Skill Formation”, *Econometrica*, 78(3): 883–931.
- **Deckers, Thomas, Armin Falk, Fabian Kosse & Hannah Schildberg-Hörisch** (2015) “How Does Socio-Economic Status Shape a Child’s Personality?” *IZA Discussion Paper* No. 8977.
- **Kosse, Fabian, Thomas Deckers, Hannah Schildberg-Hörisch & Armin Falk** (2016) “Formation of Human Prosociality: Causal Evidence on the Role of Social Environment.” *IZA Discussion Paper* no. 9861.
- **Richter, David & Jürgen Schupp** (2012) “SOEP Innovation Panel (SOEP-IS) – Description, Structure and Documentation.” *SOEPpapers on Multidisciplinary Panel Data Research*, No. 463, Berlin.



# Fieldwork Report 2015 from TNS Infratest

## Overview

After the families in the Bonn Intervention Panel were interviewed in their homes using the SOEP-IS questionnaire for the first time in 2014, a very similar approach was taken in the fourth wave of the BIP in 2015. Again, fieldwork started in the beginning of September, and the last interviews took place at the end of February. This very long fieldwork period given the size of the sample allowed us to use a special small group of interviewers and to process all households very thoroughly, especially those that did not participate in the third wave of the BIP and those that had initially indicated that they would not have time to take part in the study in 2015. In the end, over 500 families were convinced to contribute to the fourth wave of the Bonn Intervention Panel.

The interviewers, many of whom had already been assigned to the project in 2014, were hand-picked based on their experience and their capabilities in interviewing young respondents as well as in handling extremely valuable panel households. In a one-day training session at the University of Bonn, Prof. Armin Falk and Dr. Fabian Kosse briefed them about the scientific background and high expectations regarding the study, and members of the project team at TNS Infratest Sozialforschung introduced them to the fieldwork processes and questionnaires.

## Questionnaire

The interview program was very similar to the previous wave with standard SOEP-IS or SOEP questionnaires plus additional instruments for the BIP children:

- All adults answered the **SOEP-IS core questionnaire 2015** with **household questions and life history questions** for the household head or new household members. In place of the innovation modules, several personality-related questions were included.
- The main caregiver (usually the mother) of the children was also asked to answer one of the three **mother-child modules** for all children in the household below the age of 17. In the mother-child section of the questionnaire, additional questions about the BIP child dealt with issues such as the transition from primary to secondary school.
- The BIP child took part in a set of **incentivized experiments** regarding time, risk, and social preferences that was very similar to 2014. However, in 2015, the amount of money the child could win in the “games” was slightly higher and the amount of time they needed to wait in the time preference experiment was extended from one to six weeks.
- The **pre-teen questionnaire** was also used again for BIP children with slight changes from the version used in the SOEP in 2015.
- Moreover, the BIP children completed two **ultra-short tests of cognitive ability that were used in the main SOEP** in the year 2012 and in the BIP in 2014 (a symbol correspondence test and a test that asked children to name animals).
- A new component of the interview program for the BIP children in 2015 was another **test of cognitive ability based on Raven’s Standard Progressive Matrices**.

## Fieldwork Results

Most households were interviewed in the main fieldwork phase between early September and the end of October (ca. 85%). Another 10% followed up to mid-December and the last 5% of household interviews were conducted during the last refusal conversion processes in January and February 2016.

**Table 1** presents the sample sizes and response rates at the household and BIP child level for waves three and four. Due to the special setup of the BIP, the working definition of a realized case differs from the usual SOEP definition, in which an interviewed household consists of the household and (at least) one individual questionnaire. In contrast, five components need to be available to complete an entire case in the BIP:

1. At least one individual questionnaire from an adult member of the household.
2. The incentivized experiments from the BIP child.
3. The pre-teen questionnaire.
4. The two ultra-short tests of cognitive ability that were used in the main SOEP.
5. The test of cognitive ability based on Raven's Standard Progressive Matrices (only 2015)

Within this definition, 507 household and 518 BIP child interviews could be completed in the BIP 2015. These numbers result in a high panel stability<sup>1</sup> of 100%, which could be achieved thanks to the relatively high number of temporary drop-outs from the previous wave who were convinced to participate in the study again in 2015.

Table 1

Sample Sizes and Response Rates BIP 2014 and 2015<sup>1</sup>

	Households	BIP Children
<b>2014</b>		
Gross Sample	598	610
Net Sample I (4 components available)	505	517
Response Rate	84%	85%
Net Sample II (1 component missing)	515	527
<b>2015</b>		
Gross Sample	560	572
Net Sample I (5 components available)	507	518
Response Rate	91%	91%
Panel Stability	100%	100%
Net Sample II (1 component missing)	511	523

<sup>1</sup> 2015: Preliminary Results

<sup>1</sup> Panel stability is calculated as the number of participating households in the current wave divided by the corresponding number from the previous wave. So panel mortality and panel "regrowth" (dropouts from the previous wave who "rejoined" the sample) are taken into account.

# The New SOEP Metadata Documentation System: Paneldata.org

By Marcel Hebing and Jan Goebel

## The History of SOEPinfo, DDI on Rails, and our latest Service paneldata.org

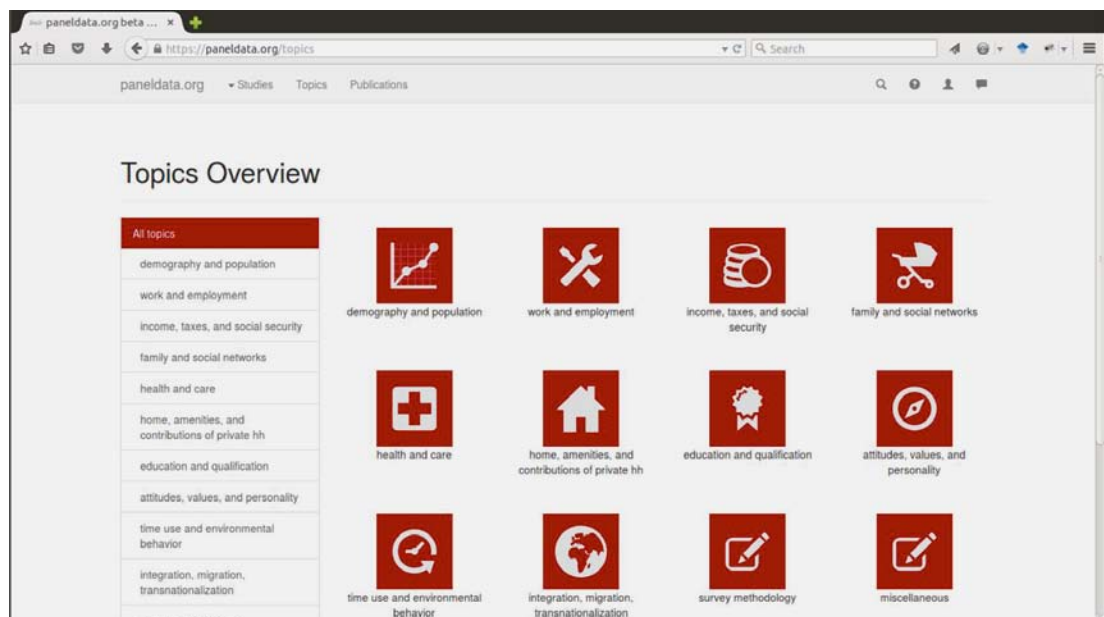
In order to provide comprehensive and user-friendly documentation on the increased diversity within the SOEP family of studies over the last several years, we have been working to develop a new documentation and metadata portal. Here we use the term “user-friendly” to describe documentation and data that can be easily understood by users and analyzed for a variety of research topics. This requires a clear description of the data and easy access to comprehensive 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 distributed in 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 has been developed continuously since then and is still in use today. 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 after a short introductory workshop.

While the first version of SOEPinfo was tailored to the SOEP data format, 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 combine similarly 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 began work developing 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 is able to link generated variables back to the original variables and even the underlying questions. This is used to provide a comprehensive documentation of our new SOEPlong data, which includes references to the original SOEP-Core variables. Besides 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. By the end of 2015, paneldata.org host our SOEP-Core study and its long version, SOEPlong, our Innovation Sample SOEP-IS, and SOEP-Related Studies like BASE II. More recently, Pairfam has joined paneldata.org to document their data. The integrated search interface makes it possible to explore multiple studies at the same time. We also 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 of the data (releases) 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 studies 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.

For future releases, we plan to extend the functionality to comparing and linking variables over time, across studies, and even with external data sources. The first step will be to compare and reuse baskets across studies. This will be useful when a new version of a study is published, but it will also enable researchers to reproduce previous research with new data sources. Furthermore, we intend to improve the link between the documentation system and statistical packages. Because the new basket stores variables online, Stata is able to execute the resulting scripts directly from the web application. But this is only the start. First tests in R, for example, suggest that it will soon be possible to access metadata-like question texts directly from the statistical package.

# Report from the SOEP Research Data Center

By Jan Goebel

## Overview of 2015

In 2015, the range of datasets the SOEP provides to our user community has continued to grow. The SOEP is no longer merely a single longitudinal study, but a constellation of different studies with SOEP-Core at its center.

Of course, our most important user service in 2015 was the release of Version 31 of the SOEP-Core data (1984–2014, 10.5684/soep.v31) and the integration of the longitudinal data from study Familien in Deutschland (Families in Germany, FiD, see below). This “classic” data release also included data from the SOEP-Innovation Sample (10.5684/soep.is.2013, see p. 56 for more on the SOEP-IS). An important addition to SOEP-Core was the IAB-SOEP Migration Sample, a special immigrant boost sample released in cooperation with the IAB. The second wave of data from this new sample will be released with Version 32 of the SOEP data.

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 the successor to SOEPinfo. A beta version of this new system has been publicly available since January 2013, and 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 this new documentation service, [paneldata.org](http://paneldata.org), for documenting various surveys and linking them together in one overarching system. Details can be found on p. 74.

Due to the differing demands of the various datasets depending on the size and depth of the data, we offer different forms of data access. First, we distribute the data as standard scientific use files, which we did for the first time in 2013 entirely via Internet (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 to the data through our remote execution system SOEPremote (through the LISSY system of the Luxembourg Income Study), which has been available for several years now, or on a guest research visit to the SOEP.

Over recent years we have added two additional modes of data access. First, we piloted our first real remote access from the Research Data Center at the Collaborative Research Center SFB 882 in Bielefeld to an internal server at DIW Berlin. This allows researchers at a specially protected terminal in Bielefeld to access regional data connected with the SOEP and FiD and data from SOEP-LEE. The second additional mode of data access was designed especially for the sensitive geocoded coordinates of the survey households, which are provided on specific computers on site at DIW Berlin, where researchers can use the data through 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 is only possible, however, under adherence to extremely strict 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 Jan Goebel and Bernd Pauer (2014): “Datenschutzkonzept zur Nutzung von SOEPgeo im Forschungsdatenzentrum SOEP am DIW Berlin,” *Zeitschrift für amtliche Statistik Berlin-Brandenburg* 8 (3), 42–47 ([https://www.statistik-berlin-brandenburg.de/produkte/zeitschrift/2014/HZ\\_201403.pdf](https://www.statistik-berlin-brandenburg.de/produkte/zeitschrift/2014/HZ_201403.pdf)).

## The Data in SOEP Version 31

### Integration of the study *Familien in Deutschland* (FiD) into SOEP-Core

Data release v31 includes the complete data from *Familien in Deutschland* (Families in Germany, FiD), which is being retrospectively integrated into the SOEP and made available in user-friendly form to all SOEP users. The survey was carried out in parallel to the SOEP as a “SOEP-Related Study” from 2010 to 2013.

### FiD: The original SOEP-Related Study

The idea of FiD was to evaluate the full range of public benefits in Germany for married people and families on behalf of the Federal Ministry for Family Affairs. The datasets available—including the SOEP—were not sufficient for differentiated analysis of the segments of the population targeted by family policies. Particularly problematic were the very small percentages of single parents, families with more than two children, low-income families, and families with very young children in the German population. These groups are of course included in the SOEP, but the number of observations is too small for sound statistical analysis. Since 2010, the SOEP Research Infrastructure at DIW Berlin has been working in collaboration with TNS Infratest Sozialforschung to survey more than 4,500 households every year. The FiD sample consists of the following subsamples:

- Families in “critical income brackets”
- Single parents
- Families with more than two children
- “Cohort samples” of the 2007, 2008, 2009, and 2010 (first quarter) birth cohorts.

A description of the original FiD study can be found in article “Familien in Deutschland – FiD” by Mathis Schröder, Rainer Siegers, and C. Katharina Spieß, *Schmollers Jahrbuch* 133 (4), 2013, 595–606. (<http://dx.doi.org/10.3790/schm.133.4.595>). (Pre-published 2013: SOEPpapers 556. Berlin: DIW Berlin).

Table 1

### Number of Integrated Variables

Year	Individual questionnaire	Household questionnaire
2010	314	274
2011	472	172
2012	350	188
2013	363	169
<b>Total</b>	<b>1499</b>	<b>803</b>

Table 2

### Missing Codes

Code	Meaning
-1	No answer / don't know
-2	Does not apply
-3	Implausible value
-4	Inadmissible multiple response
-5	Not included in this version of the questionnaire
-6	Version of questionnaire with modified filtering
-8	Question not part of the survey program this year*

\* Only applicable for datasets in long format.

## Integrating the data

Starting with Version 31 of the data, the FiD sample will be integrated completely into the SOEP-Core data as if it were a new sample drawn as part of SOEP-Core in 2010 and 2011. The integration of the FiD sample will result in a significant increase of almost one-third of the number of cases in SOEP-Core since 2010. **Figure 1** shows how the new FiD samples L1 to L3 have affected cross-sectional sample size since 2010. The retrospective integration meant that the sample variables had to be adjusted as other subsamples have been added to SOEP-Core since 2010.

In total, 14,166 variables from 64 datasets have been integrated into the various SOEP datasets, and the generated datasets or variables have been adjusted. Variables in the FiD survey instruments that were not contained in the corresponding SOEP survey instruments have been included in the respective datasets as additional variables (with the original FiD variable names). **Table 1** gives an overview of the number of variables in each of the two main questionnaires that could be integrated.

This means that from 2010 on, as shown in Figure 1, SOEP users have more cases in their study population without having to make any changes in scripts. Of course, it may be that certain variables were not collected in FiD and are therefore unavailable for these cases. Here, please refer to our conventional approach to missings, which makes this easy to see on the variable level (see Table 2).

### Cross-sectional weights in 2014

The Federal Statistical Office adjusted the already-released Microcensus data from 2011 and 2012 for the SOEP based on the 2011 census data. This means that in the present SOEP data release (v31), the weights for waves BB and BC will change due to the adjustment to the 2011 census data. Because v31 will include the data from the SOEP-Related Study FiD, the integration of these households into the SOEP will increase the overall case number by around one-third, and it will also affect the integrated weighting variables. This is due to the additional households as well as to the differentiated consideration of official information on family types in the weighting process. To allow users to test how

a new sample may affect their research using the SOEP data, we provide both integrated weights and also separate weights for the old and new samples in the year when a refresher sample was integrated into the SOEP.

### Pre-Teen Questionnaire (11–12 years old)

In 2014—for the first time in the history of the SOEP—a survey of young people aged 11–12 was conducted. After consent had been obtained from their parents, the pre-teens were asked about their perceptions of themselves, their families and friends, and their schools. These data can be found in the dataset BIOAGEL and the questionnaire is available as a SOEP Survey Paper: [http://panel.gsoep.de/soep-docs/surveyspapers/diw\\_ssp0244.pdf](http://panel.gsoep.de/soep-docs/surveyspapers/diw_ssp0244.pdf)

Figure 1

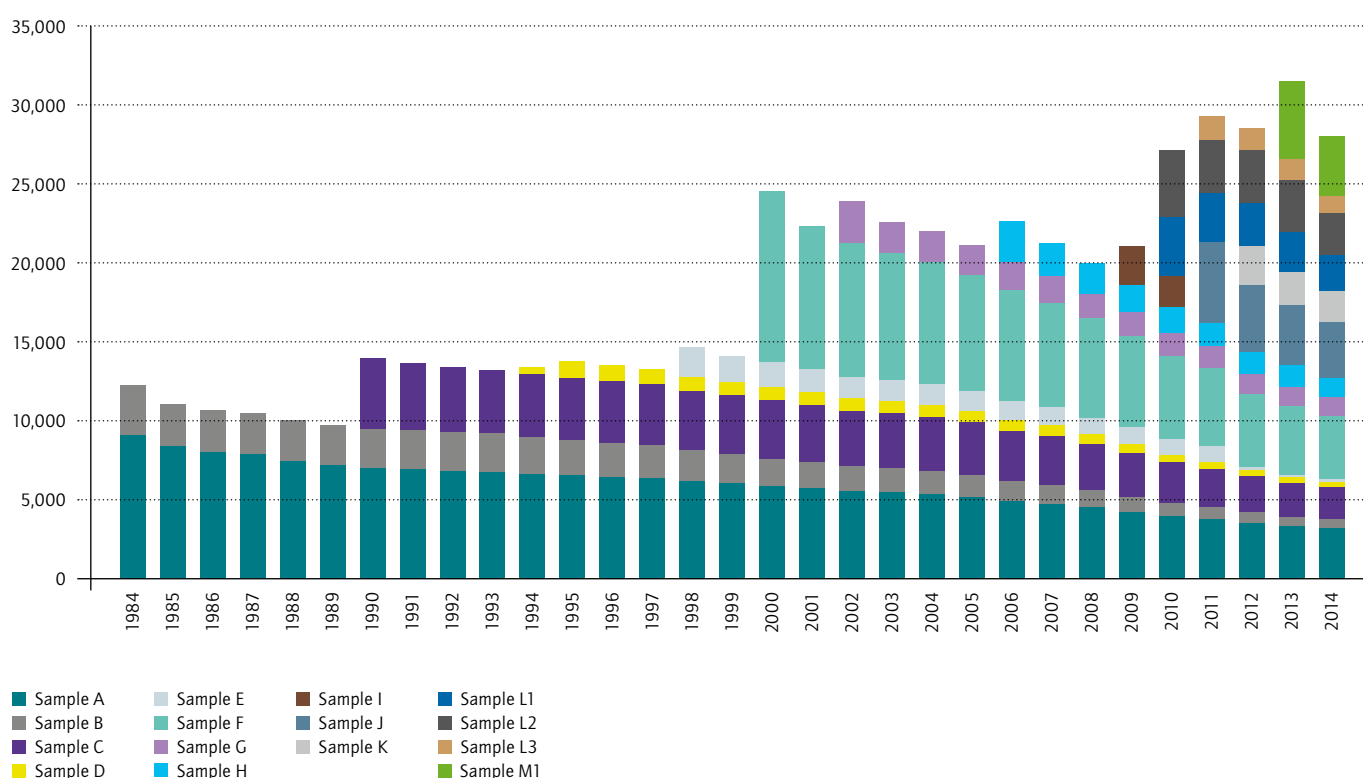




Figure 2

## New Data Distribution Contracts

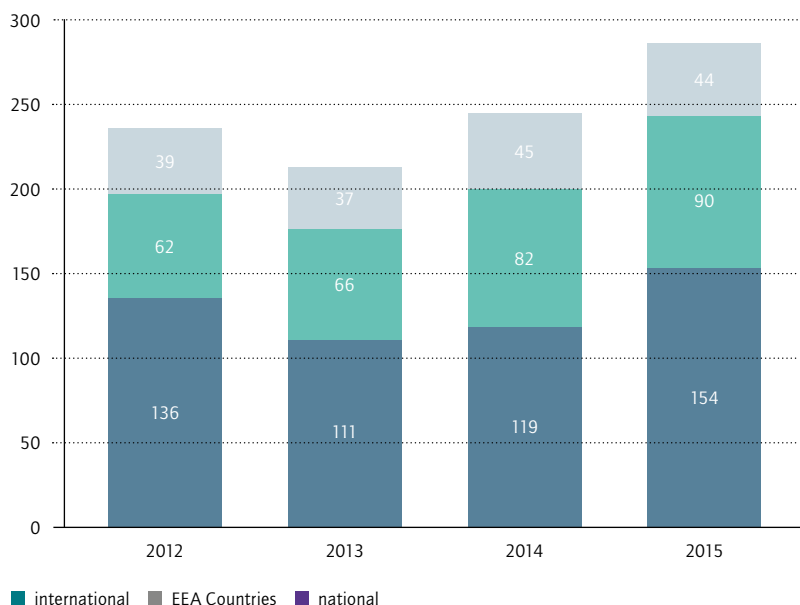


Table 3

## New Contracts 2015

Region	Contracts	Researchers
Germany	154	760
EU/EEA	90	155
International	44	61
Total	288	976

We are pleased that despite this contractual hurdle, the SOEP data are being used very widely within Germany and internationally. Every year, around 250 new data use contracts are signed, almost half of these by international users (see Figure 2).

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 in **Table 3** for 2015 shows that nearly 1,000 individual researchers were given access to the SOEP data in 2015. And around 800 researchers used our download service again to download the data from our server with an encrypted link.

Table 4

## Usage of SOEPremote by year

	2012	2013	2014	2015
Individual Users	55	54	65	69
Number of jobs > 5 sec.	4.219	6.170	5.815	8.237

## Changing patterns of data use

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) provides assistance in applying for data use. All the necessary forms are also available on our website (most importantly, the form to apply a data distribution contract). See: <http://www.diw.de/soepforms>

## Remote execution (SOEPremote)

The SOEP offers not only the possibility to use regional data on a visit to the SOEP Data Research Center (46 researchers in 2015), but also that of controlled remote execution, at least at the level of the district-level indicators. Using the thoroughly tested software LISSY 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 authorization and for unauthorized commands and runs the job. If all of the automatic checks are passed, the output file is sent out immediately. If not, a staff member of the SOEP-RDC checks the output by hand. **Table 4** shows that around 50 to 70 users are active every year. These users produce several thousand syntax jobs per year, counting only those with a processing time of over 5 seconds.

## PART 3

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# A Selection of SOEP-Based *DIW Economic Bulletin and DIW Wochenbericht*

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# Political culture still divided 25 years after reunification?

By Felix Arnold, Ronny Freier and Martin Kroh

In 1990, during reunification, West German democratic institutions and the existing political party system were expanded to the East German states. Even after 25 years, the people of eastern and western Germany still differ in their political engagement and attitudes.

However, these differences do not apply across the board by any means. A detailed analysis of survey data from the Socio-Economic Panel (SOEP) study shows that differences both in terms of general interest and active participation in politics cannot be identified statistically in many years. By contrast, there are considerable differences between eastern and western Germany in terms of party attachments and actual turnout in national and state elections. The gap in turnout at national elections is not only evident over the years but is also clearly recognizable across all age groups.

There are also still distinct differences in the political party systems of eastern and western Germany. In particular, the Left (*Die Linke*) plays a major role in eastern Germany but despite some electoral successes in some state parliaments, this party has not been able to establish itself to the same extent in the former West German states. What is more, according to our data, individuals' attitudes to the welfare state in the two parts of the country, which differed significantly at the beginning of the 1990s, have converged since.

Political unification through the accession of the German Democratic Republic to the Federal Republic of Germany 25 years ago on October 3, 1990 created unified government institutions in both parts of the country. The convergence of political attitudes and political participation of citizens in the two parts of the country is, by its nature, a long-term process due to their different past and present experiences and life situations.

The convergence process of life situations is not yet complete in many areas and this is frequently documented in the economy (unemployment, wealth, and productivity), in general attitudes (confidence, self-esteem, and anxiety about the future), and in social aspects (women in work and child daycare).<sup>1</sup>

While some of the differences are still considerable, in many areas of life a convergence between levels in eastern and western Germany can be observed—albeit in gradual steps. Unemployment in eastern Germany has fallen from its highest levels at the turn of the millennium to 9 percent in 2015 (compared to 5.7 percent in western Germany). Productivity in eastern Germany is increasing slowly (it currently stands at 71 percent of the western German level). Also in terms of women in work and child daycare, the two parts of the country are more closely aligned because western Germany is catching up with eastern Germany. On a positive note, general life satisfaction in the two parts of Germany has continuously converged over the past 25 years.<sup>2</sup>

<sup>1</sup> See for example, K. Brenke, M. Fratzscher, M. M. Grabka, E. Holst, S. Hülle, S. Liebig, M. Priem, A. Rasner, P. S. Schober, J. Schupp, J. F. Stahl, and A. Wieber, "Reunification: An Economic Success Story," *DIW Economic Bulletin*, no. 11 (2014); P. Krause, J. Goebel, M. Kroh, and G. G. Wagner, "20 Jahre Wiedervereinigung: Wie weit Ost- und Westdeutschland zusammengerückt sind," *DIW Wochenbericht*, no. 44 (2010); P. Krause and I. Ostner, eds., *Leben in Ost- und Westdeutschland: Eine sozialwissenschaftliche Bilanz der deutschen Einheit 1990–2010* (Campus, 2010); Alesina and Fuchs-Schuendeln (2007); Rainer and Siedler (2009); Ockenfels and Weimann (1999); Brosig-Koch et al. (2011).

<sup>2</sup> J. Schupp, J. Goebel, M. Kroh, and G. G. Wagner, "Life Satisfaction in Germany at Highest Levels since Reunification," *SOEP Wave Report* (2013).

On the occasion of the 25th anniversary of political unification, it is of general interest to examine differences in the political attitudes and political participation of individuals in eastern and western Germany and to document the development of a unified political culture.<sup>3</sup>

The country was divided for over 40 years and this has had a varying impact on the regions, also in terms of dealing with democracy. While individuals in western Germany had already had experience of a parliamentary democracy since 1949, people in eastern Germany were denied this opportunity up until 1989. Consistent differences in political participation, electoral behavior, and attitudes toward government and politics and their own role in the political system are therefore to be expected and—as our results show—these are clearly evident.

The following analyses examine the period from 1990 to 2014 and are based on official election data from the national and state election administrators, INFRATEST DIMAP, the latest data collected from the longitudinal Socio-Economic Panel (SOEP)<sup>4</sup> study by DIW Berlin in cooperation with the survey institute *TNS Infratest Sozialforschung* and the German General Social Survey (*Die allgemeine Bevölkerungsumfrage der Sozialwissenschaften, ALLBUS*) which is made available by the Leibniz Institute for the Social Sciences (*Leibniz-Institut für Sozialwissenschaften, GESIS*).<sup>5</sup> In the following trend analysis from 1990, we have distinguished between adults living in East or West Germany at the time of the survey or election. It should be noted that official election data refer to votes by eligible citizens,

however, the survey data comprise all adults living in Germany—including migrants not entitled to vote.<sup>6</sup>

## Importance of politics and political parties

Active participation in the political process presupposes that citizens consider politics to be relevant to them. Respondents to the SOEP survey, conducted on an annual basis, indicate how interested they are in politics,<sup>7</sup> whether political or social engagement is important to them personally,<sup>8</sup> and whether they feel they have a long-term attachment to a particular party.<sup>9</sup> The repeated survey, in which more than 25,000 adults currently participate, was established in 1984 in West Germany and first conducted in the former GDR in 1990, several months before political unity.<sup>10</sup>

The following section examines differences in political engagement between citizens in eastern and western Germany. We have used odds ratios to demonstrate these differences (see Box 1). These odds ratios summarize the differences in the shares in a single measure. An odds ratio value of one means the share of individuals in western Germany who are interested in politics is equal to the share of individuals in eastern Germany who are interested in politics. An odds ratio value higher than one means that the share of people interested in politics in western Germany is higher than in eastern Germany; a value of less than one means that the share of those interested in politics is higher in the east.

**3** See, for example, O. W. Gabriel, ed., *Politische Orientierungen und Verhaltensweisen im vereinigten Deutschland* (Opladen: Leske + Budrich, 1997); J. van Deth, H. Rattinger, and E. Roller, eds., *Die Republik auf dem Weg zur Normalität? Wahlverhalten und politische Einstellungen nach acht Jahren Einheit* (Opladen: Leske + Budrich, 2000); D. Fuchs, E. Roller, and B. Wessels, eds., *Bürger und Demokratie in Ost und West. Studien zur politischen Kultur und zum politischen Prozess* (Wiesbaden: Westdeutscher Verlag, 2002); O. W. Gabriel, J. W. Falter, and H. Rattinger, eds., *Wächst zusammen, was zusammengehört? Stabilität und Wandel politischer Einstellungen im wiedervereinigten Deutschland* (Baden-Baden: 2005); J. W. Falter, O. W. Gabriel, H. Rattinger, and H. Schoen, eds., *Sind wir ein Volk? Ost- und Westdeutschland im Vergleich* (Munich: 2006); M. Kroh, "Wertewandel: Immer mehr Ost- und Westdeutsche sind Postmaterialisten," *DIW Wochenbericht*, no. 34 (2008).

**4** 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. Göbel, 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)," *ASA Wirtschafts- und Sozialstatistisches Archiv*, 2 (4) (2008): 301–328.

**5** [www.bundeswahlleiter.de](http://www.bundeswahlleiter.de); [www.infratestdimap.de](http://www.infratestdimap.de); Socio-Economic Panel (SOEP) study, Daten für die Jahre 1984–2014, Version 31 beta, (SOEP, 2015); Leibniz Institute for the Social Sciences (GESIS), German General Social Survey (ALLBUS) 2014, ZA5240 Datenfile Version 2.0. (Cologne: GESIS Datenarchiv, 2015).

**6** The SOEP is able to distinguish between people who lived in West or East Germany in 1989 (abbreviated to: East and West Germans) as well as between those who lived in the territory of former West Germany and West Berlin or in East Germany and East Berlin (abbreviated to: persons in eastern and western Germany). Both definitions are not identical due to persistent migration between East and West Germany. Since in the German General Social Survey (ALLBUS) only the place of residence at the time of the survey is known, we consistently differentiated between people in eastern and western Germany when analyzing the survey data. In official election data, the distinction between eastern and western Germany is only possible up until the national election in 1994 after which the data only differentiate by state, with West Berlin being designated as one of the five former West German states (abbreviated to: people from the former West and former East German states).

**7** The question was, "Generally speaking, how interested are you in politics?" Possible answers were: *very interested*, *moderately interested*, *not interested*, and *disinterested*. In our analyses, we only differentiate between interested (*very* or *moderately interested*) and not interested (*not interested* or *disinterested*).

**8** The question was, "Is social or political engagement important to you personally?" Possible answers are: *very important*, *important*, *less important* and *quite unimportant*. We also summarized these answers into a binary indicator from important (less important or quite unimportant) or not important (very important or important).

**9** The question was, "Many people in Germany lean towards one party in the long term, even if they occasionally vote for another party. Do you lean towards a particular party?" Possible answers were *yes* and *no*.

**10** J. Schupp and G. Wagner, "Die DDR-Stichprobe des Sozio-oekonomischen Panels – Konzept und Durchführung der "Basiserhebung 1990" in der DDR," *Vierteljahreshfte zur Wirtschaftsforschung*, no. 2 (1990): 152–159.

## Box 1

**Odds-ratio**

The odds ratio is a statistical measure that determines the strength of an association between two characteristics.

The following example illustrates how odds ratios are calculated. The table below shows two characteristics: the rows show the number of votes cast for the Left Party and other parties registered in the national election in 2013. The columns show the regions (west/east, excluding Berlin). Seven million votes were cast in eastern Germany and 35 million in western Germany. The total number of 4 million people who voted for the Left Party is divided into 2 million in the east and 2 million in the west. 38 million German citizens voted for parties other than the Left Party.

The odds ratio now indicates how much higher (or lower) the chance of meeting an individual who voted for the Left Party is in western Germany than in eastern Germany.

The ratio is calculated as follows:

$$\text{odds ratio} = \frac{(\text{votes for the Left Party} \mid \text{west}) / (\text{does not vote for the Left Party} \mid \text{west})}{(\text{votes for the Left Party} \mid \text{east}) / (\text{does not vote for the Left Party} \mid \text{east})}$$

The chances (odds) are calculated for both groups.

Substituting the figures from the table gives the following value:

$$\text{odds ratio} = (2/33) / (2/5) = 0.15$$

Therefore, the chance of meeting someone who voted for the Left Party in eastern Germany is almost seven times (odds ratio:  $1/0.15 = 7$ ) higher than in western Germany. The correlation between "living in eastern Germany" and "voting for the Left Party" is therefore very strong.

Table 1

**Calculation of the Odds Ratio**

Example: Voting patterns in East and West Germany

	East	West	Sum
Voted for the Left Party	2	2	4
Did not vote for the Left Party	5	33	38
<b>Sum</b>	<b>7</b>	<b>35</b>	<b>42</b>

*The numbers represent the valid votes (in millions) in the recent federal election in 2013.*

*Source: [www.bundeswahlleiter.de](http://www.bundeswahlleiter.de)*

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Odds ratios have values between zero and infinity. An odds ratio value of precisely one means that the odds in both groups are identical. If the figure is greater than one, the odds are higher in the first group and if it is less than one, the odds are lower than in the first group. In our case, the odds ratio value is less than one so the chances of meeting someone who voted for the Left Party in eastern Germany (= the second group) are higher.

Since the data underlying the calculation of odds ratios are from survey data with a random-based sampling, estimates of the odds ratios are subject to statistical uncertainty. The confidence intervals of this statistical uncertainty are each shown in the figure as vertical lines around the odds ratio value. They specify the range in which the estimate falls with an error tolerance of five percent. If the confidence interval includes the value one, these are statistically insignificant differences between eastern and western Germany (i.e., parity).

There are no statistically significant differences between east and west in the share of politically interested citizens in most years from 1990 to 2014. While in June 1990 more people were interested in politics in eastern Germany than in western Germany, in some years, such as the national election years of 1998 and 2013, political interest in the west was slightly more pronounced than in the east. In 2013, for example, the share ratio of politically interested individuals to those less interested was around 20 percent higher than in the east (an odds ratio

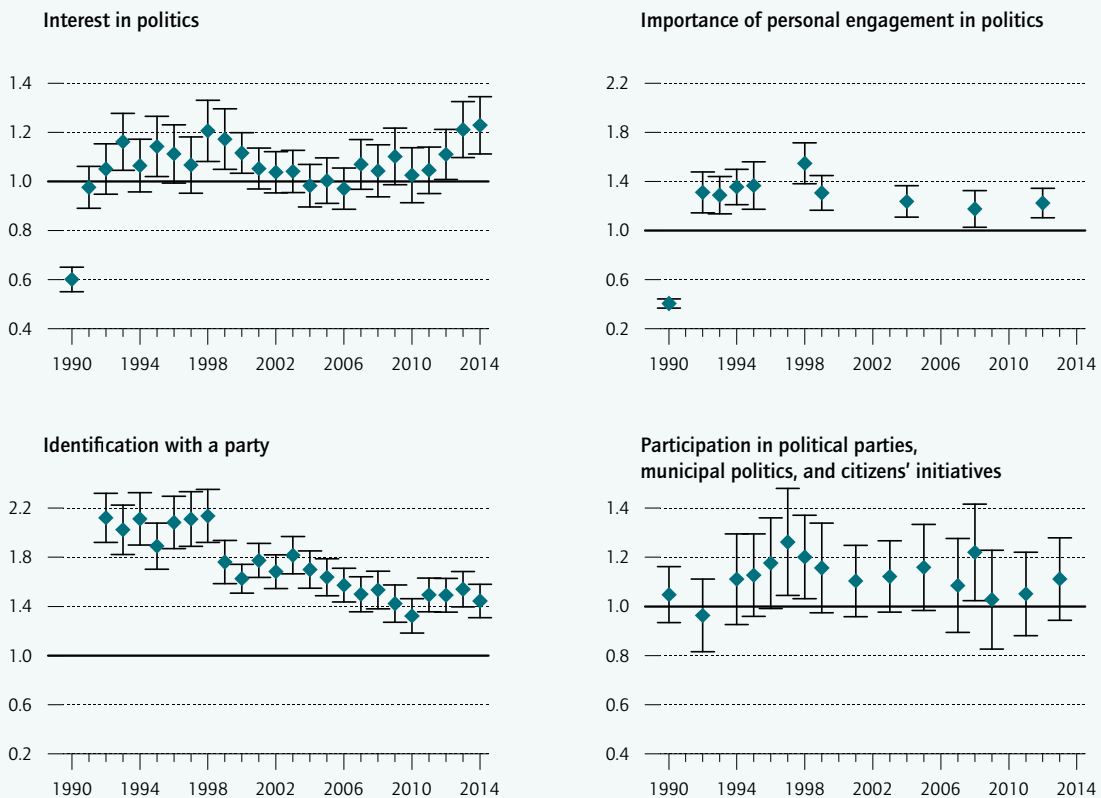
value of around 1.21). No clear trend can be observed as far as the question of political interest was concerned.

While differences in the share of politically interested individuals in eastern and western Germany mainly fall within the margins of statistical error and develop unsystematically, the east-west difference on the question of personal importance of political and social commitment is somewhat more pronounced. Then again, it appears that, as expected, during the period of reuni-

Figure 1

**Differences in the Personal Relevance of Politics**

Odds-ratios



Source: SOEP 1990–2014 (v31beta)

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Differences between East and West are marginal for interest in politics, however, sizable differences exist concerning the attachment to parties.

fication, political engagement was of greater personal importance to individuals in eastern Germany than those in western Germany. This changed in the ensuing years. Political and social engagement have since been rated personally more important in western than in eastern Germany. Over the entire observation period, statistically significant differences remained largely stable here (see Panel 2, Figure 1). At its peak, in the national election year of 1998, the ratio was 1.55 (in favor of the west).

The most considerable east-west differences were on the question of whether individuals felt a long attachment to a particular political party (see Panel 3, Figure 1). Although East Germans were often familiar with West German parties during the reunification period, as expected, they did not have the same links to these par-

ties as West Germans.<sup>11</sup> In this respect, it is not surprising that the share ratio of individuals with party attachment was higher in the west than in the east in the early 1990s. For example, the odds ratio value in 1992 was around two, which corresponds to 54 percent of long-term party identifiers (compared to 46 percent non-party identifiers) in western Germany and 36 percent party identifiers (compared to 64 percent non-party identifiers) in eastern Germany  $[(54/46)/(36/64) = 2.09]$ . The comparatively high number of east-west differences fell in subsequent years. This convergence is also partly due

<sup>11</sup> For a discussion on the transfer of the concept of party identification in the former East German states in the 1990s, see C. Bluck and H. Kreikenbom, "Die Wähler in der DDR. Nur issueorientiert oder auch parteigebunden?," *Zeitschrift für Parlamentsfragen*, no. 22 (1991): 495–502.



to a decline in party attachment in western Germany. Currently, the share ratio (odds ratio value) is around 1.5. In 2014, this represented share differences of 50 percent party identifiers in the west and 41 percent in the east.

Overall, the people of eastern and western Germany are very similar in terms of their fundamental interest in politics. Citizens in western Germany, however, consider political and social engagement to be slightly more important. Both findings have remained quite stable over the past 25 years since political unity. There used to be and still are considerable differences with respect to individuals' identification with political parties, with the shares of long-term party identifiers in both parts of the country slowly converging. This difference is often linked to the volatility of election results: the lower the long-term attachment of individuals to the established parties, the more willing they are to vote for different parties in elections or support new political parties (swing voters).

### Active political participation

Interest in politics, the perceived importance of political and social engagement, as well as long-term attachment to a party are indeed important factors that favor active participation in the political process but, as expected, these conditions alone are not sufficient. It is therefore important to shed light on the actual political participation of people in eastern and western Germany. To achieve this, the following section considers both participation in elections, the most common form of political participation in Germany, for which official figures are available from national and *Länder* election administrators, and participation in parties, in local politics, and in citizens' initiatives which we can identify through survey data from the SOEP.<sup>12</sup>

For each year, approximately ten percent of all adults stated that they actively participate in political parties, in local politics, and in citizens' initiatives. The odds ratio value, which expresses the difference in this share between western and eastern Germany, tends to be more than one, thus indicating that the share of politically active people is slightly higher in the west than in the east (see Panel 4, Figure 1). However, this difference fluctuates within the band of statistical uncertainty in most

of the years observed. No clear trend is evident in the time series either.

Signs of slight disparities in political participation between the two parts of Germany can be found in the survey data. How do these differences manifest themselves, however, in a measure such as voter turnout which is commonly perceived by citizens as a key instrument for articulating intention in representative democracies?

Figure 2 compares voter turnout in eastern and western Germany at four different election levels (national elections, European elections, state elections and local government elections).<sup>13</sup> First, it is clear that voter turnout has decreased over time in both parts of the country across all election levels (in line with trends in many other developed democracies). In national elections, voter turnout was still 82.2 percent in 1998, falling to 71.5 percent in the last election in 2013.

Voter turnout in eastern and western Germany indicates significant differences at almost all election levels. Participation in all national elections in eastern Germany (excluding Berlin) is between three and eight percentage points lower than in the western part of the country. There is also a discrepancy between eastern and western Germany in other elections but the differences are not always so clear. This is only surprising inasmuch as the public perceive national elections as the most important elections in Germany. In the European elections, voter turnout in the east was only lower than that of the west in the 1990s. Since 2004, it has fallen to below 50 percent in both parts of the country. In state elections, the picture in the first four electoral periods after 1990 is mixed: only in recent years has the gap in voter turnout opened considerably (at its height, this gap was 12 percentage points). The historically low participation rates in state elections in Saxony (49.1 percent in 2014), Brandenburg (47.9 percent in 2014), or Saxony-Anhalt (44.4 percent in 2006) give cause for concern.

While the sign of the gap in voter turnout is clear, we identify no clear trend for the differences in voter turnout between eastern and western Germany in the preceding analysis. The discrepancy in the national election remains stable over time. Results are mixed in the European and local government elections and only in the state elections does a trend emerge over time — here,

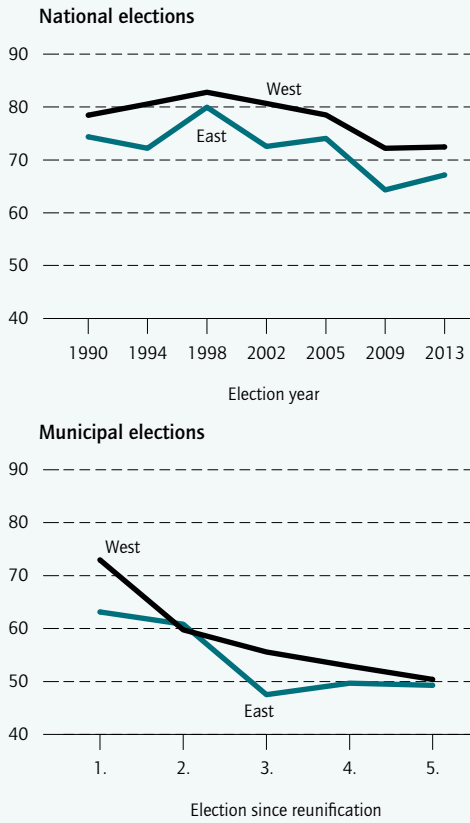
<sup>12</sup> In roughly every second year, SOEP participants are asked for detailed information about how they spend their time (question wording: "Please indicate how often you take part in each activity:" to which respondents could answer: *daily, at least once a week, at least once a month, seldom or never*) to the activity, "Participation in in political parties, municipal politics, and citizens' initiatives." We differentiate between those individuals who actively participated daily, weekly, monthly, or seldom and those that never did.

<sup>13</sup> In national and European elections, describing voter turnout over time is not a problem since elections in eastern and western Germany took place simultaneously. The timing is not as easy to depict in *Länder* and local government elections as state-specific election periods and election dates make it more complex. We decided to allocate the elections here according to election periods (regardless of the specific election year).

Figure 2

### Voter turnout

In percent



Source: State election offices.

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East-West gap in voter turnout is especially evident in federal elections.

the gap between eastern and western Germany has widened considerably in recent years.

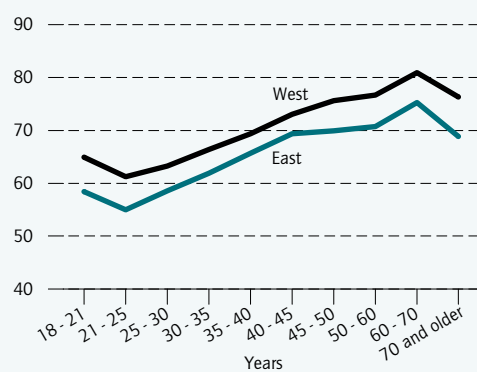
In order to be able to draw a conclusion about the future development of voter turnout, it is worth examining voter turnout across the different age groups (see Figure 3). Here we have used representative electoral statistics from the national election in 2013. Voter turnout across all age cohorts was 67.2 percent in the east and 72.4 percent in the west. The figure clearly shows that the discrepancy in voter turnout is evident across all age cohorts. In fact, the differences are most evident among the oldest (over 70 years) and the youngest (18–21 years) with 7.4 and 6.5 percentage points, respectively. Given this clear picture across all age groups, it is not expected that the gap in turnout in national elections between east and west will close in the foreseeable future.

Democratic forms of direct participation have been introduced in many federal states since around the mid-1990s. In addition to elections, this alternative form of political expression is now available to citizens in all

Figure 3

### Voter turnout in the national election 2013 by age groups

In percent



Source: Representative election statistics.

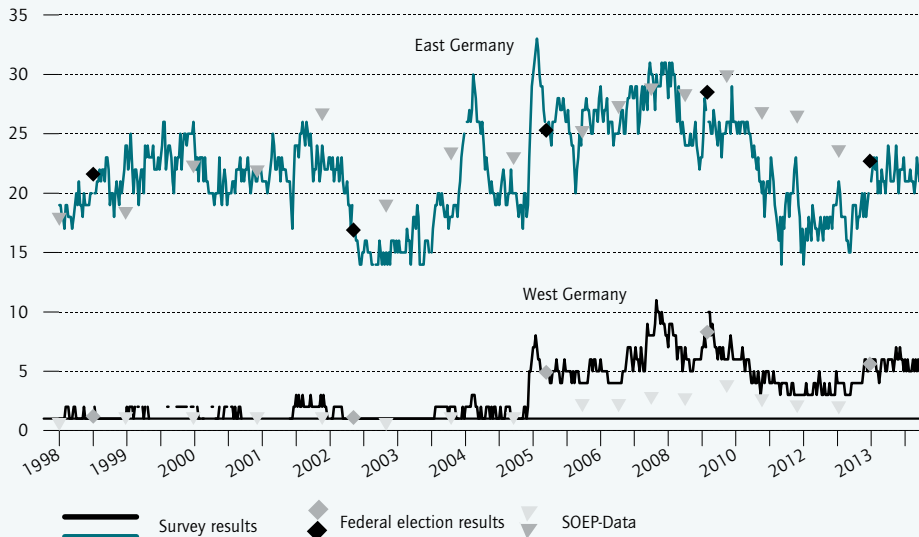
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All age groups show similar gap in voter turnout.

Figure 4

**Survey and elections results for the party "The Left" (PDS until 2007)**

In percent



Sources: Infratest/Dimap; Federal election office, SOEP (1998–2014, v31beta)

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"The Left" is major political player only in the East.

federal states. The number of citizens' initiatives actually implemented is also suggestive of differences in the culture of political participation. More than 5,000 citizens' initiatives have been launched all over Germany since 1990 (5,189 by 2011).<sup>14</sup> Only 741 directly democratic measures were introduced in eastern Germany (around 4.5 initiatives per 100,000 inhabitants), while 4,448 citizens' initiatives were launched in the west (6.7 initiatives per 100,000 inhabitants).<sup>15</sup> These figures also reveal a discrepancy in political participation between eastern and western Germany, bearing in mind that obstacles to implementing<sup>16</sup> citizens' initiatives through quorums or similar instruments varied from state to state in the observation period and tended to be greater in eastern than in western Germany.

In summary, there are east-west differences in turnout in national elections and, increasingly, also in state elections as well as in the number of citizens' initiatives implemented. Alongside these more institutionalized forms of participation, there are considerably few-

er east-west differences in locally organized political party engagement, in local government politics, and in citizens' initiatives. There is a lack of long-term survey data to draw any conclusions on the extent to which any east-west differences have developed in unconventional forms of participation such as willingness to take part in a political protest.<sup>17</sup>

### "The Left" – Major player in the East but of less importance in the West

The differences in voter turnout are all the more significant, the more political preferences of individuals in eastern and western Germany differ. In particular, the strength of the Left (formerly the Party of Democratic Socialism, PDS) highlights differences in political attitudes.<sup>18</sup>

<sup>14</sup> Calculated with data from *Mehr Demokratie e.V.*

<sup>15</sup> These figures refer to local government level and also include council initiatives originating from the municipal council. In contrast, referenda at state level are not included.

<sup>16</sup> To avoid misuse of initiatives, the law prescribes multiple hurdles for direct democracy such as quora, signature requirements and negative lists. See Arnold and Freier (2015): Signature requirements and citizen initiatives, *Public Choice*, Vol. 162(1), 43–56.

<sup>17</sup> Current data from the European Social Survey of 2012 and the German General Social Survey (ALLBUS) 2014 indicate a balanced relationship between eastern and western Germany or even that respondents in eastern Germany, by their own account, take part more frequently in demonstrations than those in western Germany.

<sup>18</sup> The political party known as "The Left" was founded in June 2007 through a merger of the WASG (a union-affiliated party which was largely active in the west) and the PDS (the successor to the Socialist Unity Party of Germany (SED)) which achieved substantial electoral support in elections in the east but which was also represented in the west). In the following analysis, we refer to the Left or the Left Party for the sake of simplicity although the party was actually called the PDS up until 2007.

Figure 4 shows the results of an opinion poll conducted by infratest dimap, the national election results for the relevant period, and information on party identification from the SOEP.<sup>19</sup> All three sources paint a unified picture of the strength of the Left in eastern and western Germany.<sup>20</sup>

In the opinion poll, support for the Left Party varied in eastern Germany between 14 percent in 2003 and 32 percent in 2005. The collapse around 2002 coincided with the resignation of Gregor Gysi as the Senator for Economics in the Berlin state government. Then, between June 2004 and mid-2005, there was a rapid resurgence in two waves, which was closely linked to the Social Democratic Party (SPD)'s Agenda 2010, the protests of large sections of the labor unions, and the Left Party against these reforms and the political merger of the PDS and the west German Labour and Social Justice – The Electoral Alternative (*Wahlalternative Arbeit und soziale Gerechtigkeit*, WASG) (and with Oskar Lafontaine). Essentially, the time series here hovers around 20 to 25 percent. As a result, the Left can be seen as a major party in eastern Germany.

In western Germany, however, support for the Left Party remained considerably under five percent until mid-2005. When the announcement of a collaboration between the PDS and the WASG was announced in spring 2005, there was a significant rise in the opinion polls. At its height (around the time of the financial crisis in 2008), the figure reached 11 percent. In general, approval in western Germany never exceeds five percent; the Left Party remains on the fringes here.

Figure 5 outlines, by region, differences in election results of the former PDS and later the Left Party in the 16 German federal states. It shows results in the most recent elections for each state and a comparison with previous elections in parentheses. The figure clearly shows that the Left reported strong results across the board at all election levels. The variation here is minimal (with a few exceptions in state and local government elections). The success of the Left in the eastern federal states is also reflected in the number of representatives they have in government. Bodo Ramelow was the first member of the Left Party to be elected Minister-President of Thuringia, a position he has held since 2014.

<sup>19</sup> In the SOEP, the question is divided into two parts. The first part asks whether respondents are generally inclined toward a particular party in Germany (see Figure 1). The second part asks respondents which party they feel affiliated to. We calculate the share of those with a party preference for the Left Party to respondents who generally indicated a long-term party attachment.

<sup>20</sup> M. Kroh and T. Siedler, "Die Anhänger der Linken: Rückhalt quer durch alle Einkommensschichten," *DIW Wochenbericht*, no. 41 (2008).

As indicated above, the Left Party has much less support in western Germany. In addition, there are considerable regional disparities. The Left Party's strongest support in the west comes from Saarland and Bremen but the party also achieves high approval ratings in Hamburg, North Rhine-Westphalia, and Hesse.

### Convergence in attitudes toward the welfare state

The successes of the Left in eastern Germany are often attributed to the perception of the party as the representative of eastern German regional interests, and to the greater political orientation of the people of eastern Germany to the left. In fact, a number of previous studies show that issues of equality and redistribution of incomes are more pronounced in eastern Germany than in western Germany.<sup>21</sup>

As part of the German General Social Survey (ALLBUS), respondents have been asked the following four questions repeatedly since 1991:

- "On the whole, do you consider the social differences in our country just."
- "On the whole, are economic gains in Germany distributed justly today?"
- "Do you think the state must ensure that people receive a decent income even in illness, hardship, unemployment and old age?"
- "Should social benefits be cut in the future, should things stay as they are, or should social benefits be extended"

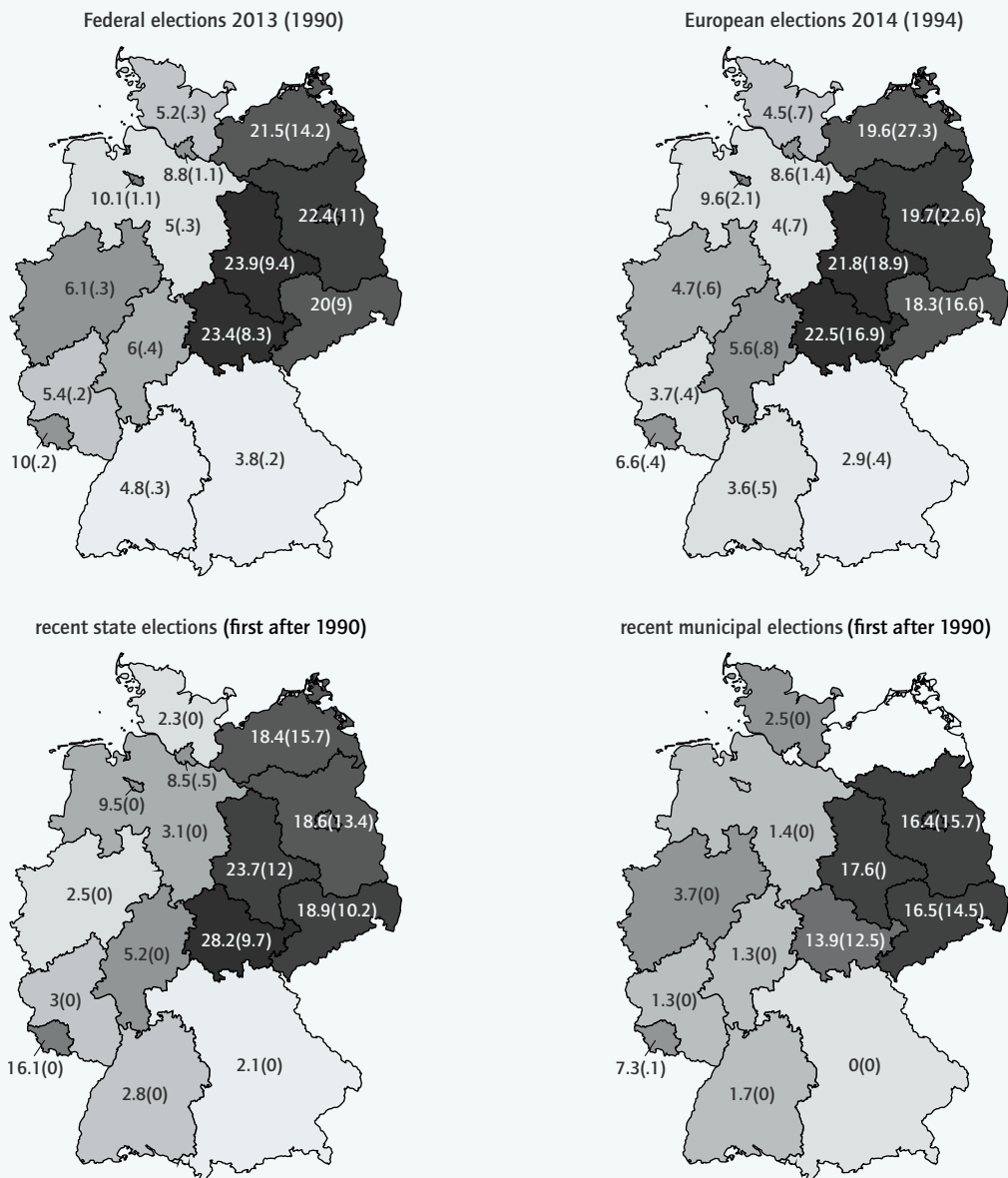
Approximately 66 percent of respondents consider social differences to be unjust on the whole (completely agree/tend to agree/tend to disagree/completely disagree), 79 percent think the distribution of economic gains is unjust (completely agree/tend to agree/tend to disagree/completely disagree), 88 percent believe the state has a responsibility in cases of illness, hardship, unemployment, and old age (completely agree/tend to agree/tend to disagree/completely disagree), and, finally,

<sup>21</sup> E. Roller, "Kürzungen von Sozialleistungen aus der Sicht der Bundesbürger," *Zeitschrift für Sozialreform*, no. 42 (1996): 777-788; B. Wegener and S. Liebig, "Is the 'Inner Wall' Here to Stay? Justice Ideologies in Unified Germany," *Social Justice Research*, no. 13, (2000): 177-197; S. Svallfors, "Policy Feedback, Generational Replacement, and Attitudes to State Intervention: Eastern and Western Germany, 1990-2006," *European Political Science Review*, no. 2 (2010): 119-135; E. Roller, "Sozialstaatsvorstellungen im Wandel? Stabilität, Anpassungsprozesse und Anspruchszunahme zwischen 1976 und 2010," in *Bürger und Wähler im Wandel der Zeit. 25 Jahre Wahl- und Einstellungsforschung in Deutschland*, eds. S. Roßteutscher, T. Faas, and U. Rosar (Wiesbaden: VS Verlag für Sozialwissenschaften).

Figure 5

**Vote shares of "The Left" by elections and states**

In percent



Source: State election offices.

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Significant differences in vote shares throughout all levels of elections.

32 percent are in favor of extending social benefits (compared to reducing them or maintaining the *status quo*).

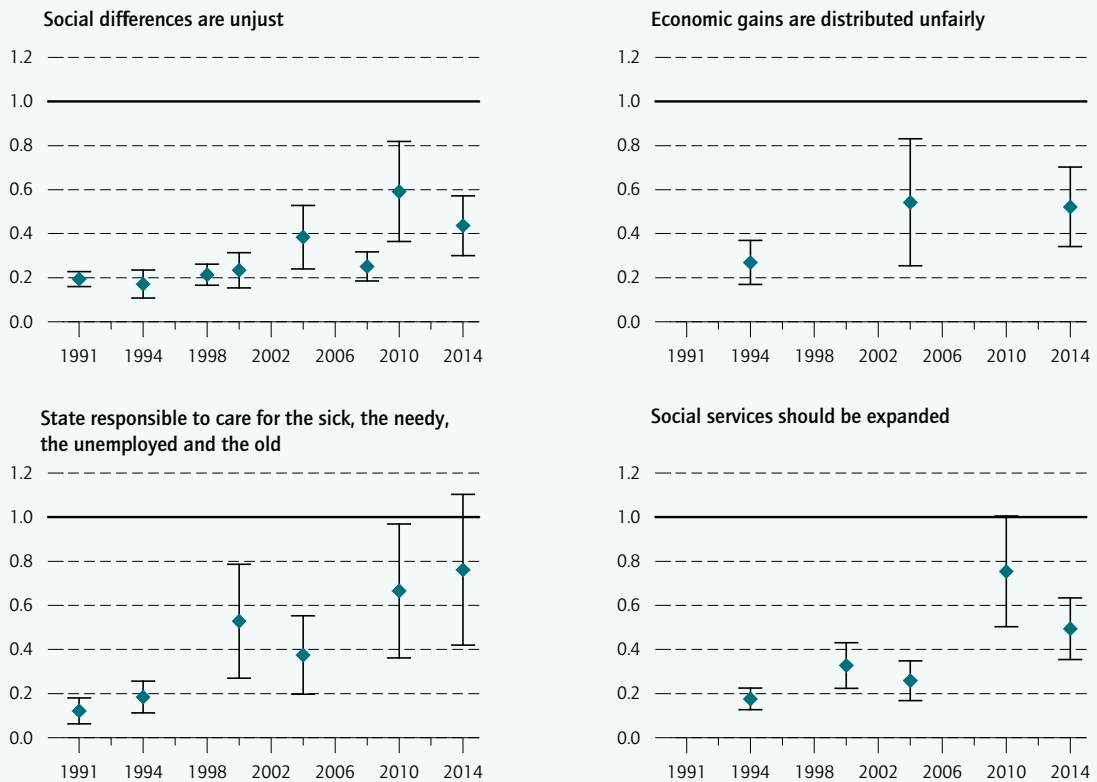
Figure 6 outlines the differences in attitudes to the welfare state between western and eastern Germany based on odds ratio values. The share of respondents from

eastern Germany who believe there are injustices and are in favor of a strong welfare state was higher than in western Germany. (The odds ratio values are consistently lower than one.)

Figure 6

**East-West differences in attitudes towards the welfare state**

Odds-ratios west to east



Source: Allbus (1991–2014).

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East Germans view social inequalities more often as unjust.

Panel 1 shows that in the first ten years after reunification the odds ratio value remained relatively stable at a very low 0.2. This corresponds to approximately 85 percent of respondents from eastern Germany who perceive injustices compared to around 55 percent in western Germany [ $(55/45)/(85/15) = 0.22$ ]. After 2000, however, there was a slow convergence of the views of people in eastern and western Germany on the issue of justice and social differences resulting in the odds ratio value rising to approximately 0.45 in 2014. A similar picture emerges with regard to the question of whether economic gains are unjustly distributed (see Figure 6, Panel 2). Despite the slow increase, the difference is still clear and statistically significantly different from one. This shows that 25 years after unification, people in eastern and western Germany still have different perceptions of what is fair.

Panel 3 indicates that the odds ratio values on the question whether the government should provide for individuals in cases of illness, hardship, unemployment, and old age are initially much less than one. However, the differences between eastern and western Germany have reduced considerably over time. The odds ratio value at the beginning of the 2000s was 0.5. In 2014, the ratio is no longer significantly different from one (i.e., parity). This implies that preferences are now largely aligned and both western and eastern Germans have similar views on the tasks of government. It should be noted that there was a broad consensus throughout the observation period that it was the government's responsibility to help in cases of illness, hardship, unemployment, and old age: in 1991, almost 99 percent of eastern Germans thought it was one of the tasks of government, compared to 91 percent of western Germans. In 2014, the corresponding figures were 91 percent in the

east and 88 percent in the west. Eventually, the shares of those in favor of expanding social services also converged, although the share in eastern Germany is still higher than in western Germany.

In contrast to political engagement and voter turnout in elections—the most profound differences overall between eastern and western Germany were found in attitudes to the welfare state; however, in these attitudes we also found the strongest alignment in political culture.

## Conclusion

Although German Chancellor Angela Merkel and Federal President Joachim Gauck are both from East Germany and hold the top political offices in Germany, political unity has not occurred in the attitudes of citizens toward politics and participation in the political process.

In terms of general interest in politics and active participation in local politics (working for political parties, in local government politics, and citizens' initiatives), the differences are often slight and statistically insignificant. Individuals from eastern and western Germany are politically engaged to a very similar degree.

There are, however, disparities in party attachment and voter turnout. Although the population in eastern Germany was quite familiar with the political system of the West at the time of reunification, attachment to specific parties is still considerably less pronounced in eastern Germany. There is, however, a slow convergence between people of eastern and western Germany. Today, there are

virtually no differences in willingness to have a long-term attachment to a political party among the generation of citizens who were children and adolescents during the period of reunification.<sup>22</sup> There is, however, an alarming discrepancy in voter turnout, especially in national elections, which has remained constant for many years and across all age groups. Even more dramatic is the trend in participation in state elections, where the 50 percent threshold in voter turnout was often missed in recent years.

Clear differences can be identified between eastern and western Germany in terms of political preferences (in addition to people in eastern Germany supporting the Left Party) and attitudes to the welfare state: individuals in eastern Germany would like a stronger welfare state to provide support in social emergencies and would like to expand social benefits accordingly. In addition, social inequality and the distribution of economic gains are perceived as far more unjust than in western Germany. However, it is worth noting that after 2002 attitudes toward the welfare state—despite continuing differences—slowly began to converge between east and west.

**22** As part of the analyses conducted for the present article, all east-west differences were also calculated for those born after 1975, i.e., who were children or adolescents during the period of reunification. The pattern of east-west differences for this generation who grew up in a unified Germany mostly coincides with those of the entire population. One exception is the difference between east and west in long-term attachment to political parties. See also M. Kroh and H. Schoen, "Politisches Engagement," in *Leben in Ost- und Westdeutschland: Eine sozialwissenschaftliche Bilanz der deutschen Einheit 1990–2010*, eds. P. Krause and I. Ostner (Campus, 2010).

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# Is Working on Weekends a Source of Dissatisfaction?

By Maria Metzing and David Richter

Over 40 percent of the working population in Germany work not only from Monday to Friday but also on Saturdays, with one-quarter even regularly going to work on Sundays. There was a slight increase in the share of people working weekends between 1996 and 2014. However, little is known about how working weekends impacts on the sleep and life satisfaction of the individuals concerned. The present analysis shows that, on average, individuals working weekends are less satisfied with their health, family life, and sleep, as well as with their life in general than those who do not work on Saturdays and/or Sundays. The crucial factor here, however, is not the weekend work per se. If we look at people who initially do not work on weekends and then start working Saturdays and Sundays at a later point, it becomes clear that their satisfaction in most areas remains unchanged; there is only a slight decrease in job satisfaction when individuals begin working on Sundays.

Carrying out paid work on Sundays and state holidays is generally prohibited in Germany and exceptions are highly regulated. For instance, the Basic Law states: “Sunday and other state holidays are designated as days of rest from work and [of] spiritual collection and are, as such, protected by law.”<sup>1</sup> There is a long list of exceptions, however: in accordance with the German Act on Working Hours (Arbeitszeitgesetz, ArbZG), those working in hospitals, for energy providers, or for the police are also permitted to work on Sundays and state holidays, for example.<sup>2</sup>

Prior to 2014, exceptions were also made for call centers, state libraries, video rental stores, and lottery and sports betting companies. This legislation was revised in 2014, however, since the Federal Constitutional Court of Germany did not see any particular need for Sunday opening here. The court argues that if Sundays and state holidays are recognized as days of rest reserved for recreation, then the majority of the population should be able to use these days for enjoying leisure activities and relaxing with friends and family.

Very little research has been conducted to date on how working on weekends affects the satisfaction of those in paid employment; the focus has tended to be on working shifts or nights. Hence, using data from the Socio-Economic Panel (SOEP) study,<sup>3</sup> the present article examines satisfaction patterns among individuals who do not initially work weekends and then begin to do so.

<sup>1</sup> Article 140 of the Basic Law in conjunction with Article 139 of the Weimar Constitution (WRV).

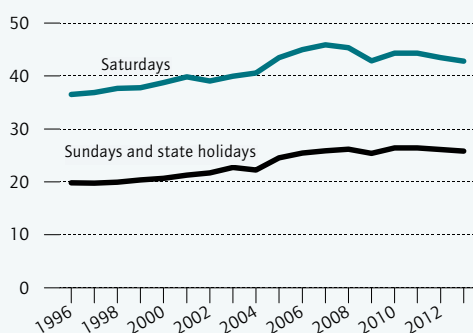
<sup>2</sup> Section 10 of the German Act on Working Hours (ArbZG).

<sup>3</sup> The SOEP is an annual representative follow-up survey of households which has been conducted in West Germany since 1984 and in eastern Germany since 1990; see G. G. Wagner, J. Göbel, 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 Economic and Social Statistical Archive* 2 (4) (2008): 301–328.

Figure 1

**Persons working weekends**

In percent



Source: German microcensus; calculations by DIW Berlin

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The percentage of those who work weekends increased slightly between 1996 and 2014.

**Weekend work in Germany**

In 2014, 55 percent of the total working population in Germany “never” worked on Saturdays and 74 percent “never” worked on Sundays.<sup>4</sup> This ranks Germany around the European average of 56 percent and 75 percent, respectively.

The German microcensus has been providing data about weekend work in Germany since 1991. According to these figures, there has been a slight increase in weekend work since 1996 (see figure 1).<sup>5</sup> In 1996, 37 percent of those in paid employment indicated they worked on Saturdays, 20 percent also worked on Sundays. In 2013 by comparison, 43 and 26 percent of respondents reported working on Saturdays and Sundays, respectively. Apparently, little has changed here in the past ten years. Back in 2003, 40 percent of the labor force worked on Saturdays; 23 percent also went to work on Sundays. The fact that weekend work has barely increased in recent years can also be partly attributed to the recent rather restrictive rulings of the German courts on Sunday work.

In an industry comparison, particularly those employed in agriculture, in the service sector, in the transport industry, and in retail and hospitality often work weekends (see Table 1). In agriculture, the share of people working weekends increased by over 30 percent between 2003 and 2013. During the same period, the number of people working in this industry almost halved, meaning that in absolute terms, fewer employees in this branch of industry actually work weekends.

In the service sector and real estate, the share of employees who work weekends rose slightly between 2003 and 2013. Conversely, there was a slight decrease in weekend work in the transport industry. This is the only industry where fewer people worked both on Saturdays and Sundays than in 2003.

Almost no change in the share of weekend work was observed in the construction industry and public administration. Overall, the share of employees working weekends changed only slightly between 2003 and 2013.

Table 1

**Weekend work in different industries**

In percent

Industry	Employees		No. working Saturdays		No. working Sundays	
	2003	2013	2003	2013	2003	2013
Construction industry	6.57	6.03	30.44	31.95	8.72	9.31
Mining and manufacturing	24.94	21.05	35.03	38.05	16.21	19.75
Gas and water supply	0.95	1.57	32.41	35.66	24.83	21.32
Real estate, leasing, and business support service activities	7.98	9.58	28.29	32.80	17.59	19.06
Retail and hospitality	16.17	17.86	61.03	63.15	22.13	27.39
Credit granting and insurance	3.82	3.23	13.20	15.52	5.91	6.89
Agriculture and forestry, fisheries	1.35	0.76	47.70	64.06	28.81	47.27
Public and private services (not incl. public administration)	22.66	23.84	43.35	46.23	35.82	38.66
Public administration, and similar	9.63	8.10	27.50	27.12	23.73	22.94
Total (absolute figure in thousands)	30 556	33 679				

Source: German microcensus; calculations by DIW Berlin

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<sup>4</sup> As far as the German data is concerned, Eurostat's European Union Labor Force Survey is a subsample of the German microcensus and captures data on employment.

<sup>5</sup> Prior to 1996, trainees were also included in the statistics. For this reason, only the years after 1995 are compared with one another.

Table 2

**Average levels of satisfaction and Saturday, Sunday, and weekend work**

On a scale of 0 (not at all satisfied) to 10 (very satisfied)

	Saturdays			Sundays			Weekends (Saturdays and Sundays)		
	No	Yes	Difference	No	Yes	Difference	No	Yes	Difference
General life satisfaction	7.31	7.22	-0.09**	7.32	7.17	-0.15***	7.32	7.15	-0.17***
Employment	7.06	7.04	-0.02	7.06	7.08	0.02	7.06	7.07	0.01
Health	6.92	6.88	-0.05	6.95	6.78	-0.17**	6.95	6.77	-0.18***
Family	7.90	7.65	-0.25***	7.90	7.59	-0.31***	7.89	7.57	-0.32***
Sleep	6.96	6.70	-0.26***	6.93	6.64	-0.30***	6.93	6.61	-0.33***

Note: all persons between the ages of 18 and 65 in 2013 who were working full- or part-time and were not on parental leave, weighted.

\*\*\*  $p < 0,1\%$ ; \*\*  $p < 1\%$ .

Source: SOEP V30 (2013).

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**Satisfaction and weekend work in Germany**

A study conducted by the Confederation of German Trade Unions (DGB) in 2012 shows that people who work weekends more frequently feel pressured at work.<sup>6</sup> Similar results are presented in a fact sheet compiled by the Federal Institute for Occupational Safety and Health (BAuA) in 2014, based on data from an employment survey of the working population from 2012.<sup>7</sup> According to this fact sheet, people who work weekends are less likely to have a very good to excellent general state of health. Furthermore, they more often suffer from physical and emotional exhaustion and report sleep disorders. The data also indicate that job satisfaction is lower among persons who work weekends. Consequently, weekend work is associated with higher stress levels and lower life satisfaction. It is not clear, however, whether these results can in fact be attributed to weekend work per se or whether other factors related to the living and work environment of those concerned are responsible.

Another study only finds a drop in job satisfaction for part-time workers with children after starting to work Sundays.<sup>8</sup> No significant effect is evident for full-time

workers both with and without children or for part-time workers with no children. However, this study only focuses on job satisfaction and fails to factor in other satisfaction scales which might be affected such as general life satisfaction or satisfaction with family life.

**Those who work weekends are less satisfied ...**

As long ago as 2001, DIW Berlin published a study on the subject of Sunday work.<sup>9</sup> The findings showed that as far as general life satisfaction is concerned, employees who regularly work on Sundays are more frequently dissatisfied, while employees who occasionally work on Sundays are in fact more satisfied than employees who never work on Sundays. The present study, based on SOEP data from 2013 covering almost 9,000 individuals in gainful employment, largely confirms the findings of the previous study (see Table 2). Here, the relationship between weekend work and people's satisfaction with their health, sleep, job, and family life is also examined as well as general life satisfaction.

Individuals who work on Saturdays report a slightly lower general life satisfaction of 7.22 (compared with 7.31) on a scale of 0 (not at all satisfied) to 10 (very satisfied) and lower satisfaction with their family life (7.65 versus 7.90) and their sleep (6.70 as opposed to 6.96) than individuals who do not work on Saturdays (see Table 2, col-

<sup>6</sup> DGB-Index Gute Arbeit GmbH, Stressfaktor Wochenend-Arbeit (2012), accessed on August 21, 2015, <http://www.dgb.de/++co++dee159fa-abff11e1-5298-00188b4dc422/Sonderauswertung-Index-Gute-Arbeit-Stressfaktor-Wochenendarbeit.pdf>

<sup>7</sup> Federal Institute for Occupational Safety and Health, "Arbeiten, wenn Andere frei haben – Wochenendarbeit bei abhängig Beschäftigten," Factsheet 07 (July 2014).

<sup>8</sup> Dominik Hanglberger, "Arbeitszeiten außerhalb der Normalarbeitszeit nehmen weiter zu: eine Analyse zu Arbeitszeitarangements und Arbeitszufriedenheit," Informationsdienst Soziale Indikatoren 46 (2011): 12–16.

<sup>9</sup> Jürgen Schupp, "Wandel zur Dienstleistungs- und Informationsgesellschaft fördert Ausweitung der Sonntagsarbeit," DIW Wochenbericht, no. 27 (2001): 410–419.

## Box 1

**Empirical methods**

The present analysis uses SOEP data from 2005, 2007, 2009, 2011, and 2013 because questions about weekend work were included in these years.<sup>1</sup> Respondents were aged at least 18 in 2005 and no older than 65 in 2013 and continually employed full- or part-time in the same job throughout the entire period from 2005 to 2013. Individuals who took maternity or parental leave during the observation period were not included in the analysis.

The questions in the survey about working on Saturdays and Sundays are multiple choice with five possible answers.<sup>2</sup> The responses "no" and "rarely" were combined in categories called "generally no Saturday work" or "generally no Sunday work" for the present analysis. The responses "every week," "every two weeks," and "every three to four weeks" were coded as "regular Saturday work" or "regular Sunday work." In order to verify whether combining the possible responses makes sense, the results of this analysis were also calculated using all five possible answers. The findings were comparable.

<sup>1</sup> Since respondents were not asked about family and sleep satisfaction every year, the analyses are limited to the period from 2007 to 2013 in the case of family satisfaction and from 2009 to 2013 in the case of sleep satisfaction.

<sup>2</sup> The exact wording of the question is: "Do you have to work weekends? If so, how often?"

A fixed-effects regression model<sup>3</sup> is used to examine the correlation between weekend work and satisfaction. Using this approach, we were able to take advantage of the longitudinal nature of the available data, i.e., the fact that the survey captured the same information over several years. The fixed-effects model allows us to analyze the correlation between changes in weekend work and changes in satisfaction. The variables for Saturday and Sunday work were combined into one variable for this purpose. The switch to working on Saturdays or Sundays was also tested separately.

Therefore, the fixed-effects model only takes into account the satisfaction of those who have switched from not working on weekends to working on weekends (or vice versa). In addition, individual fixed effects are controlled for here, that is, stable and time-invariant characteristics of the respondents such as genetic predisposition, personality, or aspects of their profession. Thus, the statistics ignore the effect of the time-invariant characteristics of the respondents that might also be linked to satisfaction.

<sup>3</sup> Paul D. Allison, *Fixed Effects Regression Models* (Thousand Oaks: Sage, 2009).

umns 2 and 3). Those who work Sundays are also less satisfied with their lives in general as well as with their family lives, sleep, and their own health. These descriptive analyses confirm the 2001 findings<sup>10</sup>: people who work weekends tend to be somewhat less satisfied with their lives and also report lower satisfaction with their sleep, health, and family lives.

However, many of the professions involving weekend work are accompanied by other pressures, such as working different day and night shifts. For instance, nurses work both weekends and nights and they also work constantly changing shifts. This could have an additional adverse effect on the satisfaction levels of those con-

cerned. Consequently, solely comparing groups of individuals who do and do not work weekends does not enable us to deduce whether weekend work is the true cause of lower satisfaction among these people. One possible way of establishing this would be by means of a longitudinal analysis with the aid of a fixed-effects estimator. This method can be used to control for both time-constant characteristics of the professions and also specific individual characteristics such as general amount of sleep needed as influencing factors.

<sup>10</sup> Schupp, "Wandel zur Dienstleistungs- und Informationsgesellschaft."

### ...but this is not due to weekend work per se

Does a switch from non-weekend work to weekend work in fact make a negative contribution to life satisfaction and satisfaction in other areas? In order to answer this question, 1,400 participants in the SOEP were considered who were continually employed in the same job in the period from 2005 to 2013. A total of 345 individuals from this group switched to Saturday work and 211 to Sunday work. Additionally, 211 persons in gainful employment who had never worked weekends previously switched to weekend work on both days. A fixed-effects estimator can be used to show how the satisfaction of these individuals has changed over time (see box 1)—i.e., whether beginning to work weekends did in fact have an adverse effect on the level of satisfaction. Here, the switch from no weekend work at all to weekend work on both days and the switch to Saturday or Sunday work are considered separately.

The results show no statistically significant relationship between shifting the working days to the weekend on the one hand and changes in general life satisfaction and satisfaction with health, family life, and sleep on the other.<sup>11</sup> The findings show that those who initially do not work on weekends and then change their working days are no less satisfied in these areas than before they began working weekends.

This is not the case, however, as far as job satisfaction is concerned<sup>12</sup>: a statistically significant (albeit relatively small) drop in job satisfaction is associated with the switch to weekend work. However, this only applies to people who have switched to Sunday work (see Table 3). This finding is consistent with the analyses from a 2011 study which also establishes a decrease in job satisfaction following the switch to Sunday work at least for part-time employees with children.<sup>13</sup>

<sup>11</sup> This applies to all three models: the switch to Saturday work, the switch to Sunday work, and the switch to weekend work on both days.

<sup>12</sup> See also the general overview of the development of job satisfaction in Germany in the study by Karl Brenke: Karl Brenke, "The Vast Majority of Employees in Germany Are Satisfied with Their Jobs," DIW Economic Bulletin, no. 32/33 (2015): 429–436.

<sup>13</sup> Hanglberger, "Arbeitszeiten außerhalb der Normalarbeitszeit."

Table 3

#### Satisfaction and Sunday work plus other control variables

	General life satisfaction	Employment	Health	Family	Sleep
Saturday	0.00	−0.13	0.08	−0.04	−0.04
Sunday	−0.03	−0.25**	0.08	−0.03	0.08
Observations	7 040	7 040	7 040	5 516	4 221
Individuals	1 408	1 408	1 408	1 379	1 407

\*\* 1 %, \*\*\* 0,1 %.

The coefficients shown are „working on Saturdays“ and „working on Sundays.“ The following variables are also controlled for in the calculated models: logarithmic income (centered), age (centered), number of visits to the doctor (centered), length of employment (centered), agreed working time (centered), marital status (single), senior position in civil service, managerial position, and company size (0–199, 200–1999, over 2000).

Source: SOEP V30.

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Therefore, the conclusions of the longitudinal analysis are different to the descriptive findings of the cross-sectional analysis in the first part of the present study. One possible explanation for this is that general life satisfaction and satisfaction with sleep and family life among respondents in professions involving weekend work is lower in general than among respondents in a profession with no weekend work. The decisive factor here is not whether someone works weekends. Instead, other aspects of these professions presumably have an adverse effect on the general life satisfaction of the respondents as well as their satisfaction with their health, family lives, and sleep.

### Conclusion

People in gainful employment who work weekends are, on average, less satisfied with life in general, their health, family lives, and sleep than those who do not carry out paid work at weekends. There is a direct negative correlation but only between job satisfaction and working on Sundays. Hence, it is not the switch to weekend work per se which has an adverse effect on people's general life satisfaction and satisfaction with their health, family lives, and sleep. It is more a case that professions requiring weekend working are associated with a lower level of satisfaction due to other characteristics. These might include, for instance, shift or night work, a regular occurrence for nurses, inter alia.



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# Changes in the Demand for Culture in Germany

By Maximilian Priem and Jürgen Schupp

In 2009, public cultural spending amounted to a little over 9 billion euros, which breaks down to 111 euros per person. In 2011, private households spent an average of around 144 euros on cultural events and activities, totaling 5.7 billion euros. According to data from the Socio-Economic Panel (SOEP) study for the year 2013, 58% of adults in Germany were found to engage in high-culture activities occasionally or frequently, compared to 64% for popular culture activities. This constitutes a significant increase over 1995.

In Germany's major cities—Berlin in particular—the demand for cultural events and activities is greater than in other regions. In recent years, however, demand in Berlin has declined. When examining the regional differences in demand for cultural activities, it is important to bear in mind the individual factors that affect this demand, such as education, income, and employment status, as well as the specifics of the place of residence, such as regional tax revenues and cultural spending. If all of these factors are factored into the estimates, differences in demand for culture between Germany's major cities and other regions cease to be statistically significant.

In the wake of structural changes underway throughout the industrialized world, creative activities and experiences are taking on an increasingly important role in society. Cities have become hotbeds of creativity and magnets for a new “creative class” that is often instrumental in boosting regional economic growth.<sup>1</sup> In addition, what a town or city has to offer in the way of theaters, opera, concerts, and museums, as well as diverse music and arts scenes are important “soft location factors” that can give a town or city an all-important edge when it comes to attracting a qualified workforce. What a region offers in terms of cultural experiences also plays a major role in how locals choose to spend their leisure time, and can transform a region into a magnet for tourism.

Government subsidies for the promotion of cultural events and activities therefore do not just fulfill cultural and education policy goals but can also have major implications for the economy. In the present study, we analyze government cultural spending at the federal state level based on official statistical data. We then compare the demand for culture in Germany by region over the period 1995 to 2013, thus updating and expanding on a previous study by DIW Berlin.<sup>2</sup> Our data source is the long-term Socio-Economic Panel (SOEP) study<sup>3</sup> carried out by DIW Berlin in cooperation with the survey institute TNS Infratest Sozialforschung.

<sup>1</sup> R. Florida, *The Rise of the Creative Class* (New York: Basic Books, 2002).

<sup>2</sup> T. Schneider and J. Schupp, “Berliner sind Kulturliebhaber – Die Nutzung des Kulturangebots in Berlin im bundesdeutschen Vergleich,” DIW Berlin Wochenbericht, no. 4 (2002): 63–7.

<sup>3</sup> The SOEP is an annual representative household survey conducted in West Germany since 1984 and in eastern Germany since 1990; see G. G. Wagner, J. Göbel, 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),” *StA Economic and Social Statistical Archive* 2 (4) (2008): 301–328.

Table 1

**Public Spending on Culture 1995 to 2009<sup>1</sup>**

	1995	2000	2005	2009
<b>million euros</b>				
Total	7 468	8 206	8 003	9 127
Federal government	966	1 011	1 018	1 225
Western territorial states	3 977	4 557	4 639	5 271
Eastern territorial states	1 553	1 695	1 500	1 629
City states	973	944	846	1 002
Berlin	690	656	498	604
Bremen	75	83	98	97
Hamburg	209	205	250	301
<i>For information purposes:</i>				
Public spending on culture per capita (in euros)	91	100	97	111
<b>Change over 1995 (in percent)</b>				
Total	100	110	107	122
Federal government	100	105	105	127
Western territorial states	100	115	117	133
Eastern territorial states	100	109	97	105
City states	100	97	87	103
Berlin	100	95	72	88
Bremen	100	111	131	131
Hamburg	100	98	120	144
<i>For information purposes:</i>				
Public spending on culture per capita (in euros)	100	109	106	122

1 Basic funding including expenditure of local authorities and special-purpose organizations.

Sources: Federal Statistical Office and the Statistical Offices of the Länder—2012 Report on Government Expenditure on Culture; calculations by DIW Berlin.

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## The Structure of Public Cultural Spending in Germany

To date there is a lack of standardized, comprehensive cultural statistics for Germany. The Statistical Offices of the German Federation and the 2012 report by the federal states on government cultural spending does provide an overview of public cultural expenditures.<sup>4</sup> This database and the thoroughly revised statistical variables allow us to trace the development of public cultural spending over the period 1995 to 2009.

Our findings show that in 2009, German federal, state, and local governments spent a total of 9.1 billion euros on culture. This was 1.6 billion euros or 22% more than in 1995 (see Table 1). Per capita government cultural spending has increased by 22% as well, taking it from

91 euros to 111 euros annually. What must be borne in mind here, however, is that overall price levels rose by 23% in the same period. In real terms, therefore, government spending on culture has in fact stagnated.<sup>5</sup>

The majority of funding for culture comes from the individual German states and municipal authorities. Indeed, in 2009, German government spending on culture amounted to 1.2 billion euros, which equates to 13.4% of total cultural spending.

Public funding for cultural activities has varied widely between western and eastern Germany over time. Due to differences in population development as well as in the existing infrastructure for cultural events and recreational activities, spending on culture went up by one third from 1995 to 2009 in the western states, compared with just 5% in the eastern states. Developments in the city-states of Berlin, Hamburg, and Bremen were mixed as well. While Hamburg and Bremen increased spending on culture between 1995 and 2009 by 44 and 31%, respectively, the state of Berlin cut its cultural spending by 12%.<sup>6</sup> Despite this reduction, Berlin's cultural spending in 2009 of 176 euros per capita was still higher than that of any other state in Germany.

More than one third (3.2 billion euros) of total cultural spending in 2009 was spent on theater and music, with the three city-states allocating higher proportions (around 50%) of their total cultural spending to these areas compared to the remaining German states.

In 2009, a good 1% of total public spending on culture in Berlin went to culture and arts administration (as opposed to 2% in 2001), compared with over 10% in Hesse, Mecklenburg Pomerania, and Thuringia. When making such comparisons, however, it should be kept in mind that cost reductions will often lead to higher costs for administrative work outsourced to external organizations.

<sup>5</sup> German Federal Statistical Office, Verbraucherpreisindizes für Deutschland – Lange Reihe ab 1948 (Wiesbaden: March 2015).

<sup>6</sup> The spending cuts in Berlin were made very soon after the city was reunified and had three opera houses to finance. One consequence of this, for example, was the closure of the Schiller Theater in 1993 based on a decision by the Berlin Senate following a long battle to keep the theater running. The financial situation in Berlin is also marked by the fact that the city receives around 3 billion euros per year as part of the fiscal equalization schemes across the Länder; see M. Bickmann and K. van Deuverden, "Länderfinanzausgleich vor der Reform: eine Bestandsaufnahme," DIW Wochenbericht, no. 28 (2014): 671–682.

<sup>4</sup> Statistical Offices of the German Federation and the Länder (Statistische Ämter des Bundes und der Länder): Kulturfinanzbericht 2012.

## Household Spending on Culture

Household spending on culture contributes to the financing of cultural activities and institutions. How much households contribute can also be quantified in a time-series analysis of official statistical data. The ongoing German household budget survey contains income and consumer spending data from approximately 8,000 private households collected monthly, divided into various spending groups, and transformed into annual time series.<sup>7</sup>

In 2011, private households spent an average of 144 euros on cultural events and activities. This was around one-quarter more than in 2003 (see Table 3). The majority of this (108 euros) was spent on theater, music, film, and circus shows. In 2011, households spent a total of 5.7 billion euros on cultural events and activities.<sup>8</sup> This accounted for around 5% of their total spending on recreation, entertainment, and culture, and a good 0.5% of their overall consumer spending.

## Cultural Activities of Private Households

Household demand for cultural events and activities can be analyzed using data from the Socio-Economic Panel (SOEP) study,<sup>9</sup> a longitudinal survey that includes a number of questions on recreational activities (see Box 1).<sup>10</sup>

Different population groups take advantage of the various cultural activities that are available to them to differing degrees. This applies to both publicly funded and purely commercial events and activities. This heterogeneity is quantified below using econometric estimation. On the basis of these analyses, it is also possible to esti-

Table 2

### 2009 Public Spending<sup>1</sup> on Culture by State

	Total		Theater and music	Other cultural spending	Arts and culture administration
	million euros	per capita euros	Percentage		
Baden-Württemberg	1 046.0	97.33	42.0	54.8	3.2
Bavaria	1 194.3	95.51	38.7	54.6	6.7
Berlin	604.0	175.86	48.6	50.3	1.1
Brandenburg	219.4	87.18	18.3	77.5	4.2
Bremen	97.4	147.44	49.0	51.3	-0.3
Hamburg	301.0	169.28	57.6	40.8	1.6
Hesse	588.2	97.02	38.7	51.2	10.1
Mecklenburg-Western-Pomerania	147.5	89.01	46.5	42.2	11.3
Lower Saxony	488.0	61.47	40.4	56.6	3.0
North Rhine Westphalia	1 460.5	81.61	42.8	57.0	0.2
Rhineland-Palatinate	243.6	60.61	35.8	63.5	0.7
Saarland	75.6	73.66	4.3	89.0	6.7
Saxony	706.5	169.08	35.3	60.7	4.0
Saxony-Anhalt	275.8	116.45	42.7	53.9	3.4
Schleswig-Holstein	174.8	61.75	42.5	56.8	0.7
Thuringia	280.2	124.13	40.9	44.6	14.5
<b>Total spending at Länder level</b>	<b>7 902.6</b>	<b>96.52</b>	<b>40.7</b>	<b>55.3</b>	<b>4.0</b>
Federal government	1 224.7	14.96	1.3	98.7	0.0
<b>Total</b>	<b>9 127.3</b>	<b>111.48</b>	<b>35.4</b>	<b>61.2</b>	<b>3.4</b>

1 Basic funding including expenditure of local authorities and special-purpose organizations

Sources: Federal Statistical Office and the Statistical Offices of the Länder—2012 Report on Government Expenditure on Culture.

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Table 3

### Household Spending on Arts and Culture

	2003	2005	2007	2009	2011
<b>Euros per household and year</b>					
Participation in theater, music, movie, circus etc. events	89	91	93	102	108
Trips to museums, zoos, botanical gardens, etc.	24	26	28	28	36
<b>Percent</b>					
Share of spending on culture...					
of overall spending on leisure time activities, entertainment, and culture	4.3	4.2	4.4	4.7	4.9
of overall private consumer spending	0.48	0.49	0.49	0.50	0.53

Sources: Current economic calculations, Destatis; calculations by DIW Berlin.

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7 H. Alter, C. Finke, K. Kott, and S. Touil, "Einnahmen, Ausgaben und Ausstattung privater Haushalte, private Überschuldung," in Datenreport 2013, eds. Federal Statistical Office (Destatis) in cooperation with the Berlin Social Science Center (WZB) (Bonn: German Federal Agency for Civic Education, 2013), 141-158.

8 See <https://www.destatis.de/DE/ZahlenFakten/Indikatoren/LangeReihen/Bevoelkerung/lrbev05.html>.

9 For specifics on the data source, see J. Schupp, "Paneldaten für die Sozialforschung," in Handbuch Methoden der empirischen Sozialforschung eds. N. Baur and J. Blasius (Wiesbaden: Springer VS, 2014), 925-939.

10 For a more detailed analysis of all the recreational and leisure activities surveyed in the SOEP study, see B. Isengard, "Freizeitverhalten als Ausdruck sozialer Ungleichheiten oder Ergebnis individualisierter Lebensführung? Zur Bedeutung von Einkommen und Bildung im Zeitverlauf," Kölner Zeitschrift für Soziologie und Sozialpsychologie (KZfSS), 57 (2) (2005): 254-277. See Also A. Spellerberg, "Kultur in der Stadt - Autopfleger auf dem Land. Eine Analyse sozialräumlicher Differenzierungen des Freizeitverhaltens auf Basis des SOEP 1998-2008," in Lebensstilforschung, eds. Jörg Rösseel and Gunnar Otte (Wiesbaden: VS Verlag für Sozialwissenschaften, 2011), 316-338.

## Box 1

**Data Source and Analysis Methods**

In the Socio-Economic Panel (SOEP) study, people aged 17 years and over are asked what type of leisure activities they take part in and how often. They are asked at regular intervals (in 1995, 1998, 2003, 2008, and, most recently, 2013) about their leisure activities, and are given a list of 18 or 19 different leisure activities to choose from in their answer options.

The independent variables in the regression analysis are respondents' answers to questions about high-culture activities ("Going to cultural events such as opera, classical concerts, theater, exhibitions") and popular culture activities ("Going to the movies, pop or jazz concerts, and dance clubs"). The respective question is worded as follows: "Please indicate how often you take part in each activity: daily, at least once per week, at least once per month, seldom, or never?" If a respondent states that he/she takes part in an activity at all, the independent variable takes on the value of 1.<sup>1</sup>

In addition to cross-sectional analyses for the years 1998 and 2013 and longitudinal analysis for the period 1998 to 2013, a multi-level model with additional local-level information (for 403 districts) was estimated for the years 1998 and 2013. Here, too, estimations were performed as logistic regressions of random intercept models with individual and context variables. An important parameter in these models is the statistical correlation coefficient *rho*—the residual intraclass correlation at district level. *Rho* can be interpreted as the share of variation that is attributable to district-specific features. Based on this, the effect of the individual and district levels can be determined.

<sup>1</sup> This study thus does not differentiate by frequency of participation in cultural events and activities.

mate whether the populations of certain regions or cities tend to be more culture-oriented than others after adjusting for the specific socio-economic structure.<sup>11</sup>

<sup>11</sup> See Schneider and Schupp, "Berliner sind Kulturliebhaber."

The econometric analyses are conducted in three stages: (1) cross-sectional regressions for the years 1998 and 2013, (2) a longitudinal regression for the period 1998 to 2013, and (3) a multi-level model for the years 1998 and 2013. In all cases, attendance of cultural events—divided into high culture and popular culture—was taken as the independent variable (see Box 1).

**Cross-Sectional Regressions for 1998 and 2013**

The estimated "marginal effects" of the logistic cross-sectional regressions indicate the probability of a person participating in a cultural event relative to a reference group (see Table 4). These estimations are carried out for the various population groups, which are categorized according to specific socio-economic properties. According to the results, in both 1998 and 2013, women—adjusted for differences in age and education structure—were 6% more likely to attend high culture events than men. Female attendance of popular-culture activities, on the other hand, was 3% lower in 1998, while no gender-specific differences were observed in 2013.

In households with children under 16, the adults attended high and popular culture events less frequently. Marital status has a similar effect on cultural participation, although here, too, changes can be seen over time. In 1998, for example, married persons were two percent less likely to participate in high-culture events. They also attended popular culture events 4% less frequently than unmarried persons. For 2013, no differences in attendance of high-culture activities were observed between these two groups, and the gap in culture consumption between married and unmarried individuals had narrowed to 3%.

The 45 to 59-year-old age group participates in high-culture activities significantly more often than the under-30s group. The 60 to 75-year-old population group also attends cultural events and activities relatively frequently. A clear age effect can also be seen in the area of popular-culture activities, albeit with the reverse outcome: older people attend popular-culture events far less often.

Despite the heavy subsidizing of cultural events and activities, they still cost the consumer money. It is therefore not surprising that the household financial situation will clearly affect the extent to which people attend cultural events. In 1998, those in the bottom quarter of the income distribution attended popular culture events 5% less often than those in the two middle income quartiles. In 2013, this income effect amounted to as much as 8%. A similar picture emerges for high culture. Those

Table 4

**Determinants of Participation in Cultural Events 1998 and 2013 <sup>1</sup>**

Logistic regression—cross-sections

	1998		2013	
	High culture <sup>2</sup>	Popular culture <sup>3</sup>	High culture <sup>2</sup>	Popular culture <sup>3</sup>
<b>Personal variables</b>				
Women (reference group: men)	0.061***	-0.032***	0.061***	0.001
Households with child(ren) under 16 years (reference group: households without children)	-0.057***	-0.041***	-0.055***	-0.013
Married and living together (reference group: unmarried, single, and separated people)	-0.020*	-0.042***	-0.001	-0.032***
Age groups (reference group: 16 to 29 years)				
30 to 44 years	0.082***	-0.290***	0.066***	-0.235***
45 to 59 years	0.117***	-0.390***	0.159***	-0.327***
60 to 74 years	-0.048	-0.587***	0.048**	-0.509***
75 years and above				
Household income <sup>4</sup> (reference group: middle income quartiles)				
Bottom income quartile	-0.049***	-0.049***	-0.095***	-0.079***
Top income quartile	0.082***	0.042***	0.083***	0.054***
School qualification obtained to date (reference group: lower secondary school qualification)				
No school qualification	-0.152***	-0.063***	-0.085***	-0.080***
Intermediate-track secondary school qualification	0.112***	0.090***	0.118***	0.099***
Academic-track secondary school qualification	0.309***	0.125***	0.246***	0.156***
University qualification	0.310***	0.088***	0.328***	0.171***
Other qualification	-0.13***	-0.108***	-0.046***	-0.053***
Qualification not yet obtained	0.177***	0.226***	0.215***	0.218***
Employment status (reference group: full-time employment)				
School or vocational training	0.034	0.124***	-0.085***	0.011
In part-time employment	0.071***	0.023*	0.059***	0.015
Unemployed	-0.073***	-0.073***	-0.155***	-0.155***
Senior citizen	-0.103***	-0.153***	-0.009	-0.092***
Nationality				
Foreigner (reference group: German)	-0.113***	-0.100***	-0.080***	-0.054***
<b>Location variables</b>				
Type of location <sup>5</sup> (reference group: independent big cities)				
City districts	-0.039***	-0.042***	-0.031***	-0.050***
Rural districts	-0.011	-0.016	-0.010	-0.033***
Sparsely populated rural districts	-0.042***	-0.037***	-0.046***	-0.046***
Hamburg, Munich, and Frankfurt	0.047*	0.011	0.054***	-0.005
Berlin <sup>6</sup>	0.096***	0.105***	0.054***	0.048***
Constants	-0.22**	2.51***	-0.52***	2.37***
Pseudo R <sup>2</sup>	0.12	0.30	0.13	0.24
Log likelihood	-6 220	-4 855	-9 457	-8 000
Wald chi <sup>2</sup> (25)	1 756	4 220	2 738	4 967
N	10 264	10 257	16 108	16 091

Statistical significance: \*\*\* = one percent, \*\* = five percent, \* = ten percent

<sup>1</sup> Wording of questions on leisure time activities such as cultural participation: "Please indicate how often you take part in each activity: daily, at least once per week, at least once per month, seldom or never?"<sup>2</sup> High culture: opera, classical concerts, theater, exhibitions.<sup>3</sup> Popular culture: movies, pop concerts, dance events, clubs.<sup>4</sup> Net household income with imputations for missing values<sup>5</sup> For a definition of the district types, see [http://www.bbsr.bund.de/cln\\_032/nn\\_1067638/BBSR/DE/Raumbeobachtung/Raumabgrenzungen/Kreistypen4/kreistypen.html](http://www.bbsr.bund.de/cln_032/nn_1067638/BBSR/DE/Raumbeobachtung/Raumabgrenzungen/Kreistypen4/kreistypen.html)<sup>6</sup> The estimated BLUP of Berlin is located in the confidence interval of the systematically specified coefficient, meaning it shows how robust the Berlin coefficient is in comparison to what was a rather conservative estimate of district-specific effects.

Sources: SOEP.v30; calculations by DIW Berlin.

with a university degree are a good 30% more likely to attend high-culture events and, in 2013, 17% more likely to attend popular-culture events than those with only a lower secondary school leaving qualification.

Irrespective of all the other factors, employment status also affects whether or not people participate in cultural activities. In 1998, for example, registered job-seekers went to cultural events 7% less often than those in full-time employment; by 2013 this difference had grown to around 16%.

In 1998, people with non-German nationality attended high culture events and popular culture events less frequently than Germans (11 and 10%, respectively). In 2013, the differences had diminished to 8% for high culture and 5% for popular culture events.

Attendance of cultural events and activities also differs significantly by geographical location. After correcting for the influence of observable individual characteristics, we found that the population of rural districts attended cultural events far less often than the population of urban districts with at least 100,000 inhabitants. The populations of cities with more than 700,000 inhabitants such as Berlin, Hamburg, Munich, and Frankfurt are more culture-oriented than those of other cities. This is especially true of high culture events. Berlin ranks particularly high among Germany's big cities in culture consumption, although the gap between Berlin and other cities narrowed significantly from 1998 to 2013 (see Box 2).

### Longitudinal Analysis of the Period 1998 to 2013

The relationships identified in the cross-sectional regressions do not necessarily represent causal effects on attendance of cultural events and activities. This is due to the possible existence of unobserved respondent characteristics that are not contained in the data and that also affect attendance of cultural events.<sup>12</sup> For this reason, we conducted a longitudinal analysis of the data for the survey years 1998, 2003, 2008, and 2013 for all respondents who participated in the SOEP at least twice. A fixed-effects model of this kind takes into account the unobserved heterogeneity between individuals and allows us to see how this correlates with the other explan-

atory variables included in the model.<sup>13</sup> Since time-constant individual characteristics such as gender do not vary over time, they cannot be included in this analysis (see Table 5).

If children under the age of 16 living in the respondents' household were also included, this would result in a clear decrease in attendance of cultural events and activities. The case is similar for those whose marital status changed because they married and moved in with their spouse during the course of the study.

In pure cross-sectional observations, it is virtually impossible to distinguish between age and birth cohort effects. The longitudinal panel model, on the other hand, provides greater possibilities for analysis and makes it possible to separate the effects. We find, for instance, that the only group of people who display a significant decrease in demand for high-culture events and activities after moving into the next age group was the 75 and over age cohort. It is therefore likely that the effects identified in the cross-sectional models are cohort rather than age effects as cohorts do not vary over time. In contrast to this, as expected, aging has a clear negative effect on attendance of pop culture events. This negative effect becomes more pronounced with increasing age, suggesting that here, too, the youngest birth cohort is driving the overall increase in attendance of popular-culture events observed in the study.

Changes in income situation also affect demand for cultural and recreational activities. Moving from one of the two middle income quartiles into the top income bracket, for example, results in an increase in attendance of both high- and popular-culture events. Moving into the lowest income quartile has a significant negative effect on attendance of popular-culture events, but no significant effect on attendance of high-culture events.

An increase in the level of education during the period under observation does not lead to any change in demand for culture. The same is true of a change in employment status, for instance, going from full-time employment into vocational training or secondary education. Only for high culture do we find a significant but weak positive effect among those who moved from full- to part-time employment. In contrast, when applying the longitudinal model alone, entering unemployment causes a decline in attendance of popular culture events. Thus, a change in employment status does not have as strong an effect as the results of the cross-sectional regressions for 1998 and 2013 would suggest.

<sup>12</sup> See J. Brüderl, "Kausalanalyse mit Paneldaten," in Handbuch der sozialwissenschaftlichen Datenanalyse Christof Wolf and Henning Best, eds. (Wiesbaden: VS Verlag für Sozialwissenschaften, 2010): 963–994.

<sup>13</sup> See M. Giesselmann and M. Windzio, *Regressionsmodelle zur Analyse von Paneldaten* (Wiesbaden: Springer VS, 2012), 142ff.



## Box 2

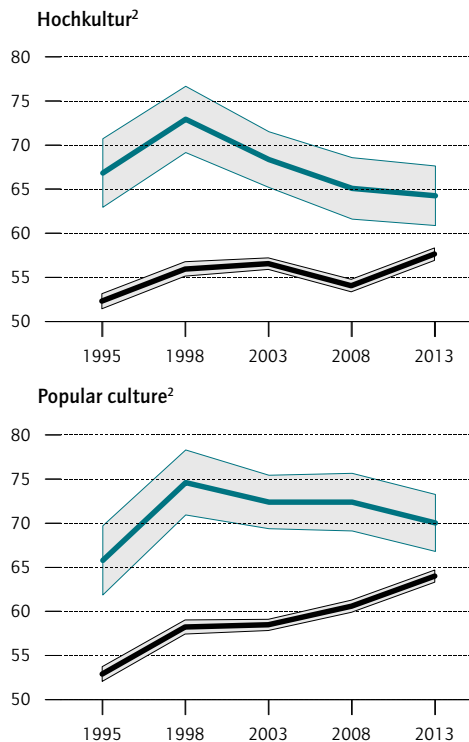
**Does Berlin have an above-average demand for culture?**

According to the Socio-Economic Panel (SOEP) study data, the percentage of adults living in Berlin who participate in high-culture activities (concerts and visits to the theater, opera, and museums) in their leisure time, whether occasionally or frequently, increased from 67 percent in 1995 to 73 percent in 1998. The percentage declined thereafter, reaching 64 percent in 2013 (see figure 1).<sup>1</sup> Berlin therefore still shows an above-average demand for culture, but the gap between it and other cities and regions of Germany is narrowing. In Germany overall, the percentage of adults who participate in high cultural activities went from 52 percent in 1995 to 58 percent in 2013. The case is similar for popular culture (going to the movies, pop and jazz concerts, and dance clubs).

Regional differences in cultural demand may be rooted in differences in the respective populations in terms of education, employment status, and income. Such regional disparities may also be related to specific regional factors that are unrelated to social structures. An earlier study by DIW Berlin that controlled for structural differences to the extent possible found that the population of Berlin had the highest cultural demand in Germany. According to the study's findings, Berlin showed an above-average interest not only in high-culture activities but also in popular culture.<sup>2</sup> The present study confirms these results. However, the "Berlin effect" has weakened considerably since 1998: While Berlin residents were around 10 percent more likely to participate in high-culture and popular-culture activities than residents of any other major German city in 1998, they were only around 5 percent more likely 15 years later (see Table 4).

If regional factors such as public spending on culture and tax revenues are included in the analysis along with individual-specific factors, the "Berlin effect" disappears entirely.<sup>3</sup> Furthermore, when these factors are taken into account, the populations of other major cities such as Hamburg, Munich, and Frankfurt also do not show an above-average demand for culture.

Figure 1

**Percentage of Adults Participating in Cultural Events**  
 Percentage<sup>1</sup>


<sup>1</sup> Those who participate in cultural events occasionally or relatively frequently.

<sup>2</sup> High culture: opera, classical concerts, theater, exhibitions.

<sup>3</sup> Popular culture: movies, pop concerts, dance events, clubs.

The 95-percent confidence intervals were specified in addition to the average values.

Source: SOEP.v30.

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**1** These changes between 1995 and 2013 are within the margin of error, meaning they are not statistically significant. Berlin's financial consolidation policy, which was also associated with cuts in public cultural spending, did not result in the same decline in participation in high-culture activities.

**2** Schneider and Schupp, "Berliner sind Kulturliebhaber."

**3** In order to check whether it is possible to ensure that the coefficient of the Berlin dummy is significant under stricter conditions too (i.e., in the event of uncertainty-based convergence toward the average district effect; see Giesselmann and Windzio, "Regressionsmodelle," the BLUP (Best Linear Unbiased Predictor) of the Berlin effect was estimated using a multilevel model with no systematic specification of the Berlin dummy. In the multilevel model for 2013 as well as for earlier years, the estimated BLUP for Berlin was found in the confidence band of the systematically specified coefficient. The insignificant Berlin coefficients have proven to be rather robust in comparison to what was a more conservative estimation in the case of district-based effects.



Table 5

**Determinants of Participation in Cultural Events from 1998 to 2013**

Logistic regression—longitudinal with values for the years  
1998, 2003, 2008, and 2013

	High culture <sup>2</sup>	Popular culture <sup>3</sup>
<b>Personal Variables</b>		
Households with child(ren) under 16 years (reference group: households without children)	–0.227***	–0.206***
Married and living together (Reference group: unmarried, single people, and separated people)	–0.433***	–0.612***
Age groups (reference group: 16 to 29 years)		
30 to 44 years	0.088	–0.349***
45 to 59 years	0.016	–0.625***
60 to 74 years	–0.001	–0.915***
75 years and above	–0.551***	–1.430***
Household income <sup>1</sup> (reference group: middle income quartiles)		
Bottom income quartile	–0.052	–0.120*
Top income quartile	0.160***	0.216***
School qualification obtained to date (reference group: lower secondary school qualification)		
No school qualification	–0.145	–0.195
Intermediate-track secondary school qualification	0.135	–0.323*
Academic-track secondary school qualification	0.073	–0.021
University qualification	–0.114	–0.412
Other qualification	0.095	–0.101
Qualification pending /not yet obtained	0.021	0.716
Employment status (reference group: full-time employment)		
School or vocational training	–0.110	0.385
In parttime employment	0.120*	0.127
Unemployed	–0.108	–0.163*
Senior citizen	–0.280	–0.082
Nationality		
Foreigner (reference group: German)	–0.088	0.413
<b>Location Variables</b>		
Type of location 2 (reference group: independent big cities)	0.022	–0.336**
City districts	0.016	–0.412
Rural districts	0.210	0.114
Sparsely populated rural districts	–0.049	0.129
Hamburg, Munich, and Frankfurt	0.343	0.238
Berlin	0.428***	0.859***
State spending on culture per capita (logarithmized)	0.428***	0.859
Log likelihood	–5 563	–4 682
Wald chi <sup>2</sup> (26) /LR chi(25)	146	254
N	15 434	13 152

Statistical significance: \*\*\* = one percent, \*\* = five percent, \* = ten percent

1 Wording of questions on leisure time activities such as cultural participation: "Please indicate how often you take part in each activity: daily, at least once per week, at least once per month, seldom or never?"

2 High culture: opera, classical concerts, theater, exhibitions.

3 Popular culture: movies, pop concerts, dance events, clubs.

4 Net household income with imputations for missing values.

5 For a definition on the district types see [http://www.bbsr.bund.de/cln\\_032/nn\\_1067638/BBSR/DE/Raumbeobachtung/Raumabgrenzungen/Kreistypen4/kreistypen.html](http://www.bbsr.bund.de/cln_032/nn_1067638/BBSR/DE/Raumbeobachtung/Raumabgrenzungen/Kreistypen4/kreistypen.html)

Sources: SOEP.v30; calculations by DIW Berlin.

This implies that the somewhat lower demand for high culture among those who entered unemployment was not a direct result of the change in employment status but that the demand in this group was already lower before their job loss.

Those who moved to the cities of Hamburg, Munich, Frankfurt, or Berlin from another region of Germany during the period under examination did not attend cultural events any more often than in the region they had come from. This does not rule out the possibility that some individuals with an affinity for arts and culture chose to move to one of these big cities precisely because of the greater variety of arts and cultural activities to choose from there.

The lowest coefficient in the longitudinal model in Table 5 is a positive coefficient, which suggests that the demand for high and popular culture events and activities could be boosted if the individual states increased their per capita spending on culture.

**Multi-Level Model for 1998 and 2013**

In the dataset used here, regional data were linked with the individual data from the panel survey. In the resulting dataset, the individual respondents are nested by place of residence. Thus, the independent variable (attendance of cultural events) can be explained on both an individual and a higher level—in this case, the district level. To estimate this multi-level model, we used a cross-sectional database.<sup>14</sup>

Of the approximately 600 regional statistical indicators in the INKAR dataset,<sup>15</sup> we took the following district-specific variables that could be related to attendance of cultural events into account: tax revenue, gross domestic product (GDP) per capita,<sup>16</sup> proportion of older people over the age of 50 in the population, proportion of younger people between the ages of 6 and 30 in the population, and nights spent in hotels and similar tourist accommodations per capita. Figures for expenditures on culture in the individual German states and municipalities were taken from the federal state reports on public cultural spending and integrated into the model at the federal state level.

<sup>14</sup> We refrained from estimating a separate multilevel analysis with time as an additional hierarchical level.

<sup>15</sup> Regional Standards task force, ed., Regionale Standards – Ausgabe 2013 (Cologne: GESIS, 2013), 283f. For the 2013 sample, we had to use regional data (INKAR data) from the years 2011 and 2010.

<sup>16</sup> This variable was not factored into the 2013 estimations due to the lack of data on GDP per capita for 2013.

The results of this estimation show a number of significant effects on the attendance of cultural events that cannot be attributed to specific characteristics of survey respondents. For example, the district-specific share of total cultural spending makes a positive—

and, at least for 2013, significant—contribution to explaining attendance of high culture activities. In other words, districts that spend more on culture also show a higher demand for high-culture activities (see Table 6). The same cannot be said of popular culture events, al-

Table 6

### Determinants of Cultural Event Attendance<sup>1</sup> between 1998 and 2013

Logistic multilevel regression at district level<sup>2</sup>

	1998		2013	
	High culture <sup>3</sup>	Popular culture <sup>4</sup>	High culture <sup>3</sup>	Popular culture <sup>4</sup>
<b>Fixed effects</b>				
<b>Personal variables</b>				
Women (reference group: men)	0.293***	-0.202***	0.296***	-0.027
Households with child(ren) under 16 years (reference group: households without children)	-0.291***	-0.299***	-0.259***	-0.188***
Married and living together (reference group: unmarried, single, and separated people)	-0.131**	-0.316***	0.068	-0.158***
Age groups (reference group: 16 to 29 years)				
30 to 44 years	0.131*	-0.791***	0.030	-0.969***
45 to 59 years	0.447***	-1.830***	0.279***	-1.510***
60 to 74 years	0.571***	-2.550***	0.703***	-2.140***
75 years and above	-0.296**	-3.880***	0.134	-3.260***
Household income <sup>5</sup> (reference group: middle income quartiles)				
Bottom income quartile	-0.241***	-0.386***	-0.377***	-0.459***
Top income quartile	0.407***	0.319***	0.410***	0.321***
Highest level of education completed to date (Reference group: lower secondary school)				
Left school without graduating	-1.160***	-0.808***	0.573***	-0.519***
Intermediate-track secondary school	0.650***	0.666***	0.625***	0.635***
Academic-track secondary school	1.450***	0.849***	1.280***	0.971***
University	1.510***	0.581***	1.640***	1.050***
Other	-0.848***	-0.839***	0.327***	-0.433***
Schooling not yet completed	0.944***	2.130***	1.010***	0.739***
Employment status (Reference group: full-time employment)				
School or vocational training	-0.025	0.771***	0.447***	0.273
In part-time employment	0.334***	0.121	0.270***	0.096
Unemployed	-0.368***	-0.540***	0.668***	-0.824***
Senior citizens	-0.395***	-0.941***	0.018	-0.528***
<b>Place of residence variables</b>				
Location type <sup>6</sup> (reference group: independent big cities)				
City districts	-0.075	-0.244**	-0.120	-0.268***
Rural districts	0.153	-0.022	-0.013	-0.142
Sparsely populated rural districts	0.096	-0.243	-0.158	-0.244**
Hamburg, Munich, and Frankfurt	-0.043	-0.221	-0.168	-0.318
Berlin <sup>7</sup>	0.340	0.476	0.086	0.172
<b>Variables at district level</b>				
Tax revenue (logarithmized)	-0.105	-0.266	0.422***	0.243
Share of population over the age of 50 years	-0.036	-0.060*	-0.003	-0.035
Share of population aged 6 to 30 years	-0.117**	-0.111**	0.015	-0.031
Overnight stays in tourist accommodation per inhabitant	0.016**	0.003	0.008*	0.004
Gross domestic product (logarithmized)	0.284	0.101		
Cultural expenditure of the Länder and local authorities per capita (logarithmized)	0.222	0.074	0.216**	0.032
Constants	2.83	8.62***	-4.52*	2.93

Table 6

	1998		2013	
	High culture <sup>3</sup>	Popular culture <sup>4</sup>	High culture <sup>3</sup>	Popular culture <sup>4</sup>
<b>Random effects</b>				
Random intercept districts	0.205***	0.186***	0.138***	0.173***
Number of districts	392	392	403	403
Sigma_u	0.4525	0.4308	0.3715	0.4161
rho (residual intraclass correlation at district level)	0.093	0.049	0.0778	0.0544
Share of explained variance at district level	0.17	0.10	0.17	0.12
Maddala-R <sup>2</sup>	0.1356	0.3289	0.1373	0.2581
Log likelihood	-6 126	-4 831	-8 657	-7 425
Wald chi <sup>2</sup> (29)	1 249	2 402	1 819	2 962
N	10 221	10 211	14 851	14 839

Statistical significance: \*\*\* = one percent, \*\* = five percent, \* = ten percent

1 Wording of questions on leisure time activities such as cultural participation: "Please indicate how often you take part in each activity: daily, at least once per week, at least once per month, seldom or never?"

2 All the regressions were estimated as random intercept models with individual and context variables (see S. Hans, "Die Analyse gepoolter Daten mit Mehrebenenmodellen. Einstellungen zu Zuwanderern im europäischen Vergleich," BSEE-Arbeitspapier, no. 6. (Berlin: Freie Universität, 2006). For the 2013 sample, district data for the year 2010 were used.

3 High culture: opera, classical concerts, theater, exhibitions.

4 Popular culture: movies, pop concerts, dance events, clubs.

5 Net household income with imputations for missing values.

6 For a definition of the district types, see [http://www.bbsr.bund.de/cln\\_032/nn\\_1067638/BBSR/DE/Raumbeobachtung/Raumabgrenzungen/Kreistypen4/kreistypen.html](http://www.bbsr.bund.de/cln_032/nn_1067638/BBSR/DE/Raumbeobachtung/Raumabgrenzungen/Kreistypen4/kreistypen.html)

7 The estimated BLUP of Berlin is located in the confidence interval of the systematically specified coefficient, meaning it shows how robust the Berlin coefficient is in comparison to what was a rather conservative estimation of district-specific effects.

Sources: SOEP.v30; calculations by DIW Berlin.

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though this is hardly surprising since the venues that are typically used for these activities—movie theaters, dance clubs, or jazz clubs—do not tend to receive government funding.

In 2013, we found a similarly significant positive correlation between the tax revenue in a district and attendance of high-culture activities. The remaining district indicators used in the model display weak or no statistical significance, despite the fact that district-specific data play a major role in explaining attendance of high cultural events: 17% of the explained variance in high culture and 12% in pop culture can be accounted for by district-specific factors.

Unlike in the cross-sectional regressions that do not include additional regional data, no specific effect could be found for the cities in the multi-level model. Cultural demand may be higher in Berlin, Hamburg, Munich, or Frankfurt than in the German population overall. This can be fully explained, however, by personal characteristics such as education, income, and employment status, as well as location-specific factors such as tax revenues and public cultural spending.

## Conclusion

In 2009, German federal, state, and local governments provided a total of 9.1 billion euros (111 euro per person) in funding for culture. This is equivalent to a 20% increase in public spending on culture from 1995 to 2009. Price levels rose over the same period, however, meaning that in reality, public spending on culture stagnated. In 2011, households in Germany spent an average of 144 euros on cultural events and activities, totaling 5.7 billion euros for all households.

The share of adults who attend high-culture activities (opera, classical music concerts, theater, and museums) occasionally or relatively frequently museumsally or relatively frequently rose from 52% in 1995 to 58% in 2013. In the area of popular culture (movies, pop or jazz concerts, and dance clubs) the corresponding figure increased from 53% to 64.

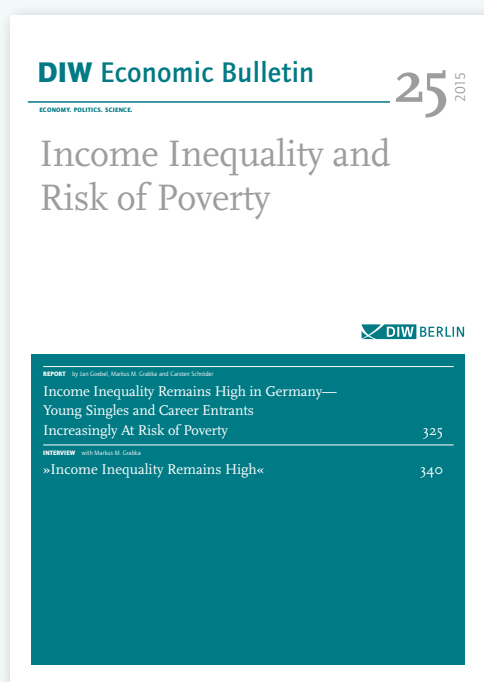
In major cities, Berlin in particular, the demand for cultural events and activities is above-average. Demand in Berlin has declined, however, over recent years. While in 1998 its population was around 10% more likely to

participate in high- and popular-culture activities than the populations of other major cities in Germany, by 2013 this difference had declined by half to just under 5%. Furthermore, our results show that at the individual level, attendance of cultural activities is affected by both personal characteristics such as education, income, and

employment status and location-related specifics such as regional tax revenue and spending on culture. If all of these aspects are factored into the analysis, no significant differences in cultural demand can be found between Germany's major cities and other regions.

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# Income Inequality Remains High in Germany—Young Singles and Career Entrants Increasingly At Risk of Poverty

By Markus M. Grabka, Jan Goebel and Carsten Schröder

According to calculations based on the Socio-Economic Panel (SOEP) study, average disposable household income rose by five percent in real terms between 2000 and 2012. Only the highest earners have benefited from this development. While real income in the top ten percent rose by more than 15 percent, the earnings of the middle income groups stagnated, and even fell in the lower income groups. As a result, the inequality of disposable household income in Germany climbed sharply up until 2005 and has remained at the same high level ever since.

At the same time, the risk of poverty in Germany increased significantly between 2000 and 2009, and is currently at approximately 14 percent. The risk of poverty has risen significantly for young singles (up to the age of 35) in particular. Their at-risk-of-poverty rate increased by 12 percentage points since 2000 to just under 40 percent in 2012. Even being in gainful employment does not necessarily protect them from poverty: in particular, young adults (aged 25 to 35) who are just starting out in their careers are increasingly at risk of poverty.

Not only are income inequality and poverty socio-politically relevant but they are also economically relevant. A recent report by the OECD shows that increasing income inequality may affect a country's economic development. According to the OECD simulations, GDP in OECD countries could have been almost five percentage points higher from 1970 to 2010 if there had not been such a considerable rise in income equality observed over the same period.<sup>1</sup>

The present study updates previous studies by DIW Berlin on personal income inequality in Germany up to 2012 and extends them to include analyses of relative income poverty and material deprivation (see Box 1). These analyses of personal income distribution is complemented by a functional distributional analysis of income on the production factors (labor and capital).<sup>2</sup> The empirical basis for the personal distribution analysis is data from the longitudinal Socio-Economic Panel (SOEP) study collected by DIW Berlin in cooperation with the fieldwork organization TNS Infratest Sozialforschung.<sup>3</sup> The annual repetition of the study allows the estimation of consistent time series on the development of personal income distribution.<sup>4</sup> The functional income analy-

<sup>1</sup> OECD, *In It Together: Why Less Inequality Benefits All*, (Paris: OECD Publishing, 2015), <http://dx.doi.org/10.1787/9789264235120-en>

<sup>2</sup> See M. M. Grabka and J. Goebel, "Reduction in Income Inequality Faltering," *DIW Economic Bulletin*, no. 1 (2014).

<sup>3</sup> SOEP is an annual representative longitudinal survey of individual households conducted in West Germany since 1984 and also in eastern Germany since 1990, 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)," *ASA Wirtschafts- und Sozialstatistisches Archiv* 2 (4) (2008): 301–328.

<sup>4</sup> In accordance with the first governmental Report on Poverty and Wealth (Federal Ministry of Labour and Social Affairs *Lebenslagen in Deutschland* (Life Situations in Germany) (2013) and a report by the Advisory Council assessing overall economic development (last annual report for 2014/2015: *Mehr Vertrauen in Marktprozesse* (More Confidence in Market Processes)) the present report indicates the respective income year. In the SOEP, annual incomes are retrospectively collected for the preceding calendar year but weighted according to the population structure on the survey date. Hence, the data for 2012 presented here were recorded in the 2013 survey wave.

sis is based on data from the German Federal Statistical Office's national accounts.

### Earnings Grow at Slower Rate than Corporate and Investment Incomes

The development of the two core production factors, labor (compensation of employees) and capital (corporate earnings and investment income), are analyzed in the functional income distribution. From 2000 to 2007, compensation of employees declined in real terms by just over five percent, while corporate earnings and investment income increased by more than 40 percent over the same period (see Figure 1). In the wake of the financial crisis of 2008/2009, corporate earnings and investment income fell markedly, however, and were still 13 percentage points below the 2007 level in 2014. Compensation of employees has developed positively, particularly since the end of the financial crisis and, in 2014, it was 6.6 percentage points above its 2000 level. Overall, real investment and corporate income has risen by about 30 percentage points since 2000—and is therefore four times higher than compensation of employees in the same period.

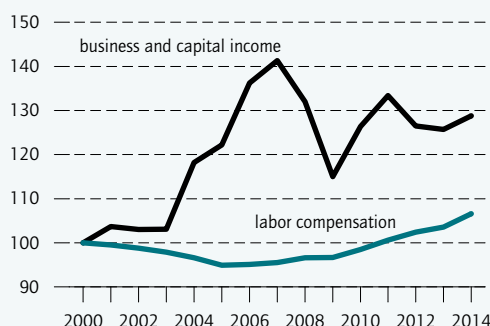
Another key indicator of the functional distribution analysis is the wage ratio.<sup>5</sup> This shows the ratio of employee compensation to total national income. It reached its

<sup>5</sup> The figure shown here is the uncorrected wage ratio. The corrected wage ratio takes into account changes in the employment structure.

Figure 1

#### Labour Compensation and Business and Capital Income

Index 2000 = 100



Source: Federal statistical office 2015, calculations of DIW Berlin  
<https://www.destatis.de/DE/ZahlenFakten/Indikatoren/LangeReihen/VolkswirtschaftlicheGesamtrechnungen/lrvgr04.html>

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#### Box 1

#### Selected Alternative Concepts for Measuring Poverty

The concept of a relative poverty risk threshold (currently 60 percent of median income) has been criticized by various parties.<sup>1</sup> One major criticism is that the same percentage change in all income has no effect on the risk of poverty: for example, if the income of all households were to double, the risk of poverty would remain unaffected.

##### 1. At-Risk-Of-Poverty Rate with Fixed Poverty Risk Threshold

Some experts suggest<sup>2</sup> continuing to determine the risk of poverty threshold in a given year relatively but to adjust for inflation in subsequent years. The idea behind this approach is that the shopping cart, which corresponds to the risk of poverty threshold, remains unchanged. In this approach, if the real incomes of the lower income groups rise, relative poverty falls. If a fixed poverty risk threshold is used,<sup>3</sup> the risk of poverty in the mid-2000s would have been a good one percentage point higher and it has only decreased slightly since then (see figure 2).<sup>4</sup> In 2012, the risk of poverty with a fixed poverty threshold would have been approximately 0.6 percentage points lower than without a fixed poverty threshold. This is because the real level of income has increased only minimally in the lower income groups over that period.<sup>5</sup>

##### 2. Material Deprivation

The relative poverty concept has been repeatedly criticized because the everyday understanding of poverty corresponds more to a concept of absolute requirement. In recent years, therefore, an alternative poverty concept has gained ground, in particular as part of European social reporting, which attempts to measure the material deprivation of the popula-

<sup>1</sup> See Hans-Werner Sinn, "Der bedarfsgewichtete Käse und die neue Armut," *ifo Schnelldienst* 10 (2008): 14–16.

<sup>2</sup> The at-risk-of-poverty rate anchored at a fixed moment in time is one of Eurostat's standard indicators to describe poverty and social exclusion in the EU.

<sup>3</sup> The poverty risk threshold from 2000 is used here.

<sup>4</sup> The increase in poverty risk with a fixed threshold value is explained by the fact that the median, used as a reference figure, fell in the mid-2000s (see Figure 3).

<sup>5</sup> This was accompanied by a deviation in income, as shown in Figure 4, according to which the real income of the majority of the population has stagnated or even fallen since 2000.



Table 1

**Single Indicators for the Measurement of Material Deprivation<sup>1</sup>**

In Percent

	Cannot meet unexpected financial expenses	Cannot afford a week's holiday away from home	Cannot afford new furniture	Cannot afford inviting friends for dinner at least once a month	Cannot afford a car	house is not in good condition	no good residential area	Cannot afford a warm meal at least once in two days	Cannot afford a color TV	Share of materially deprived persons	For information only: Unable to save money
2001	17.2	18.7	16.8	8.9	6.3	4.3	3.2	1.3	0.2	12.9	36
2003	25.1	23.9	21.2	11.1	6.6	5.5	3.4	1.5	0.2	17.1	41
2005	27.5	26.6	24.5	12.3	7.5	5.4	3.7	2.3	0.2	19.8	40
2007	29.7	28.3	26.2	13.2	7.7	4.8	3.3	2.2	0.3	21.0	41
2011	23.9	22.0	20.7	11.2	5.7	4	2.6	1.4	0.2	15.9	36
2013	24.8	22.4	19.4	10.9	6.8	4.5	2.5	1.2	0.2	16.1	38

<sup>1</sup> Persons living in private households.

Source: SOEPv30, calculations of DIW Berlin.

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tion.<sup>6</sup> According to the convention of European Social Reporting, material deprivation occurs when three of nine everyday goods considered to be necessities cannot be purchased for financial reasons (see table 1).<sup>7</sup>

This was the case for 16 percent of all households in 2013. Between 2000 and 2007, material deprivation increased significantly in Germany and has only recently begun declining again. The long-term trend of the at-risk-of-poverty rate is therefore similar when using either concept.

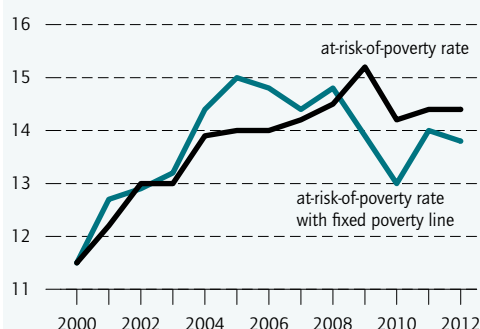
**6** See also Silvia Deckl, "Armut und soziale Ausgrenzung in Deutschland und der Europäischen Union," *Wirtschaft und Statistik* 12 (2013): 893–906 and Silvia Deckl, "Einkommen, Armut und Lebensbedingungen in Deutschland und der Europäischen Union," *Wirtschaft und Statistik* 3 (2013): 212–227. The content of some items used in the SOEP differs from that of the Federal Statistical Office because in the SOEP individuals did not ask about the financial problem of being able to heat their apartments adequately, or the lack of a washing machine or a telephone.

**7** One major problem with the concept of material deprivation is selecting items to be surveyed and their weighting. Ultimately, these are normative decisions, whether, for example, a television set can be regarded as a necessary everyday object and whether it has the same importance as, for instance, being able to afford a hot meal. Non-material resources such as an adequate level of education are not included in the concept.

Figure 2

**At-Risk-Of-Poverty Rate with a Fixed Poverty Line<sup>1</sup>**

In Percent



<sup>1</sup> Persons living in private households; equivalized annual incomes surveyed the following year, equivalized with the modified OECD-scales; share of persons with less than 60% of median net household income

Source: SOEPv30, calculations of DIW Berlin

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highest level for the period under observation here (2000 to 2012) in 2000 at 72.1 percent. As a result of wage restraints in the 2000s, it had fallen to below 64 percent by 2007.<sup>6</sup> Since then, the number of employed individuals has increased considerably and consequently—apart from during the financial crisis—the wage ratio stabilized again somewhat in 2014 at 68.1 percent.

The information content for the personal distribution analysis of developments in the aforementioned components (compensation of employees, corporate earnings and investment income, and wage ratio) is, however, limited. This is partly because households generate income from paid employment, entrepreneurial activities, capital investments, and government transfers. Households are also taxed differently on the various types of income (including income tax), so they only receive part of that income which, in turn, depends on the individual average tax rate. Furthermore, the shares of the various income types will depend on the level of household income. For instance, the share of transfer income in the lower band of the income distribution is considerably higher than in the upper band. The reverse applies, for example, to investment income or even to the tax and social security contributions of the individual household groups. Therefore, the findings of the personal income distribution are based on the SOEP micro data.

### High Incomes Outperform Low Incomes

The average needs-weighted<sup>7</sup> and inflation-adjusted market income<sup>8</sup> of individuals in households from 2000 to 2005 declined slightly (see Figure 3), which can be explained by the particularly high unemployment in Germany throughout this period (see Box 2 for a definition and measurement of income). Since then, both employment and real wages<sup>9</sup> have increased considerably contributed to a turnaround in personal income growth. From 2005 to 2012, the market incomes of households rose markedly by 7.5 percent. Overall, average market income has risen in real terms by around 1,000 euros since 2000 to 25,000 euros in 2012.

<sup>6</sup> Karl Brenke and Markus M. Grabka, "Schwache Lohnentwicklung im letzten Jahrzehnt," *DIW Wochenbericht*, no. 45 (2011): 3–15.

<sup>7</sup> See also the term "equivalent income" in the DIW glossary (in German only), [http://www.diw.de/de/diw\\_01.c.411605.de/presse\\_glossar/diw\\_glossar/aequivalenzeinkommen.html](http://www.diw.de/de/diw_01.c.411605.de/presse_glossar/diw_glossar/aequivalenzeinkommen.html)

<sup>8</sup> Market incomes are the sum of capital and earned income, including private transfers and private pensions.

<sup>9</sup> The real wage index shows an increase between 2007 and 2013 of 3.4 percentage points. This was preceded from the mid-1990s onwards by a long period of stagnating or even declining real wages (Federal Statistical Office, *Verdienste und Arbeitskosten*, 4. Vierteljahr 2014 (Fourth Quarter of 2014) (2015).

#### Box 2

### Definitions, Methods, and Assumptions for Measuring Income

The analyses presented in this report are based on data from the longitudinal household survey the Socio-Economic Panel (SOEP) study and primarily based on annual incomes. In the survey year ( $t$ ), all the income components affecting a surveyed household as a whole, and all the individual gross incomes of the current members of the surveyed household are added together (market income from the sum of capital income and earned income, including private transfer payments and private pensions), all of these referring to the previous calendar year ( $t-1$ ). In addition, income from statutory pensions as well as social transfer payments (income support, housing assistance, child benefits, unemployment benefits, and others) are taken into account, and finally, annual net incomes are calculated employing a simulation of taxes and social security contributions—including one-off special payments such as a 13th or 14th month's salary for a given year, a Christmas bonus, and a vacation bonus.

The calculation of the annual burden of income taxes and social security contributions is based on a micro-simulation model<sup>1</sup> which generates a tax assessment incorporating all types of income in accordance with the Income Tax Act (*Einkommensteuergesetz, EStG*) as well as tax exemptions, income-related expenses, and extraordinary expenses. Since this model cannot simulate all the complexity of German tax law because of its numerous special provisions, income inequality measured in the SOEP is assumed to be underestimated.

Following the international literature,<sup>2</sup> fictitious (net) income components from owner-occupied housing (imputed rent) are added to income. In addition, non-monetary income components from subsidized rental housing (government-subsidized housing, housing with rents reduced by private owners or employers, households that do not pay rent) are taken into account in the following—as required by the EU Commission for EU-wide income distribution calculations based on EU-SILC as well.

<sup>1</sup> See J. Schwarze, "Simulating German income and social security tax payments using the GSOEP. Cross-national studies in aging," Program project paper no. 19 (Syracuse University, US, 1995).

<sup>2</sup> See J. R. Frick, J. Goebel, and M. M. Grabka, "Assessing the distributional impact of "imputed rent" and "non-cash employee income" in micro-data, in European Communities, ed., *Comparative EU statistics on Income and Living Conditions: Issues and Challenges*. Proceedings of the EU-SILC Conference, Helsinki, November 6–8, 2006, EUROSTAT 2006: 116–142.

The income situations of households of different sizes and compositions are made comparable by converting a household's entire income into equivalent incomes (per capita incomes modified according to needs) in accordance with international standards. Household incomes are thereby converted employing a scale proposed by the Organisation for Economic Co-operation and Development (OECD) and generally accepted in Europe. The calculated equivalent income is allocated to each household member on the assumption that all household members benefit from the joint income equally. The head of household is given a needs weighting of 1; additional adults each have a weighting of 0.5, and children up to 14 years of age weightings of 0.3.<sup>3</sup> In other words, cost degression is assumed in larger households. That means, for example, that household income for a four-person household (parents, a 16-year-old, and a 13-year-old) is not divided by four as is the case in a per-capita calculation ( $= 1 + 1 + 1 + 1$ ), but by 2.3 ( $= 1 + 0.5 + 0.5 + 0.3$ ).

In all population surveys, a particular challenge is how to take proper account of missing values for individual people surveyed, especially concerning questions considered sensitive, such as those about income. The incidence of missing values is often selective, with households with incomes far above or below the average refusing to respond.

In the SOEP data analyzed here, missing values are replaced using an elaborate imputation procedure that is both cross-sectional and longitudinal.<sup>4</sup> This also applies to missing values for individual household members refusing to answer any questions in households otherwise willing to participate in the survey. In these cases, a multi-stage statistical procedure is applied to six individual gross income components (earned income, pensions and transfer payments in case of unemployment, vocational training/tertiary-level study, maternity benefits/child-raising allowance/parental leave benefits, and private transfer payments).<sup>5</sup> For each new data collection, all missing values are always imputed again retrospectively

because new information from the surveys can be used to impute missing data from the previous year. This can result in changes to earlier evaluations. As a rule, however, these changes are minor.

In order to avoid methods-based effects in the time series of calculated indicators, the first survey wave of the individual SOEP samples was excluded from the calculations. Studies show that there are more changes in response behavior which cannot be attributed to differences in willingness to participate in the survey.<sup>6</sup>

After taking weighting factors into account, the SOEP micro-data on which these analyses are based (version v30 based on the 30th survey wave in 2013) show a representative picture of the population in households and thus permit inferences about the entire population. The weighting factors allow for differences in the sampling designs of the various SOEP samples as well as in the respondents' participation behavior. Populations living in institutions (for example, in retirement homes) are generally not taken into account.

Besides updates in the context of adjusted imputation of missing values for income in the previous year, a targeted revision of weighting factors was carried out. In order to increase compatibility with official statistics, these factors are adjusted to currently available framework data from the official microcensus. This is the first time new information about population structure from the 2011 census will be included in the 2013 survey year. These data were first adjusted for the SOEP in the 2013 survey year as there is still no revised information from the German Federal Statistical Office for previous years.

Further revisions are expected in the upcoming data version SOEPv31, first because revised framework data from the 2010 to 2012 microcensuses will then be available and, second, a large additional SOEP sample of Families in Germany (FiD) will then be retrospectively integrated into user-friendly processed data structures. This also requires a fundamental revision of the weighting variables from 2010—also differentiating according to the migrants' year of immigration.

<sup>3</sup> See B. Buhmann, L. Rainwater, G. Schmaus, and T. Smeeding, "Equivalence Scales, Well-Being, Inequality and Poverty," *Review of Income and Wealth* 34 (1998): 115–142.

<sup>4</sup> J. R. Frick and M. M. Grabka, "Item Non-response on Income Questions in Panel Surveys: Incidence, Imputation and the Impact on Inequality and Mobility," *Allgemeines Statistisches Archiv* 89 (1) (2005): 49–61.

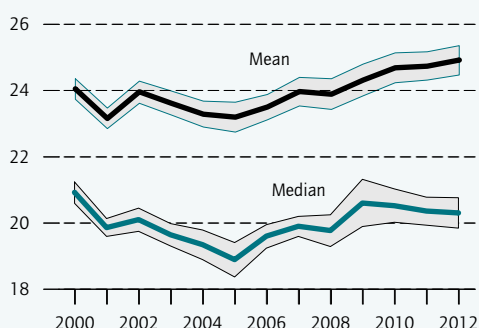
<sup>5</sup> J. R. Frick, M. M. Grabka, and O. Groh-Samberg, "Dealing with incomplete household panel data in inequality research," *Sociological Methods & Research* 41 (1) (2012): 89–123.

<sup>6</sup> J. R. Frick, J. Goebel, E. Schechtman, G. G. Wagner, and S. Yitzhaki, "Using Analysis of Gini (ANOGI) for Detecting Whether Two Subsamples Represent the Same Universe. The German Socio-Economic Panel study (SOEP) Experience," *Sociological Methods & Research* 34 (4) (2006): 427–468, doi: 10.1177/0049124105283109.

Figure 3

**Real Household Market Income<sup>1</sup>**

In 1,000 Euros



<sup>1</sup> Persons living in private households; equivalized annual income surveyed the following year; real incomes in prices of 2010, market household income including a fictitious employer's contributions for civil servants; Lower/upper bound indicate a 95-percent confidence band.

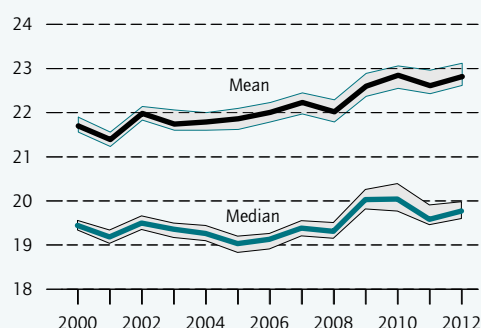
Source: SOEPv30, calculations of DIW Berlin.

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Figure 4

**Real Household Net Income<sup>1</sup>**

In 1,000 Euros



<sup>1</sup> Persons living in private households; real incomes in prices of 2010, equivalized annual incomes surveyed the following year, equivalized with the modified OECD-scale; Lower/upper bound indicate a 95-percent confidence band.

Source: SOEPv30, calculations of DIW Berlin.

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However, this positive trend does not apply to median real market income.<sup>10</sup> The median household income declined between 2000 and 2005 from approximately 21,000 euros per annum to around 18,900 euros per annum. Despite a subsequent increase, this figure was only 20,300 euros in 2012, still below its level at the turn of the millennium.

The development of disposable household income has been more positive overall (see Figure 4).<sup>11</sup> Measured against the arithmetic mean, households had 1,100 euros more real income in 2012 than at turn of the millennium. This represents a percentage increase of approximately five percent. However, using the median, the increase is considerably weaker at a little over 300 euros (1.7 percent).<sup>12</sup>

<sup>10</sup> The median of the income distribution is the value that separates the richer half of the population from the poorer half. See also the term "median income" in DIW Berlin's glossary (in German only), [http://www.diw.de/de/diw\\_01.c.413351.de/presse\\_glossar/diw\\_glossar/medianeinkommen.html](http://www.diw.de/de/diw_01.c.413351.de/presse_glossar/diw_glossar/medianeinkommen.html)

<sup>11</sup> Disposable household income comprises market income, statutory pensions, and government transfers such as child benefit, housing benefit, and unemployment benefit, less direct taxes and social security contributions.

<sup>12</sup> One reason for the poor growth of household income measured using the median is the weak development of pensions in statutory pension insurance because these were not adjusted for inflation throughout the 2000s so there was no pension increase in 2010 and an increase of only 0.99 percent in 2011. Therefore, income has fallen when adjusted for inflation. Looking at the trends in eastern and western Germany, real household income as a share of the median has increased by approximately 1.5 percent in both parts of the country

The positive trend in mean compared to median household disposable income indicates that not all income groups have benefited equally from this development. If the income groups are divided into deciles<sup>13</sup> and the average income of each decile in 2000 indexed, this shows that income growth was highest in the upper income range and lowest or negative in the lower income range (see Figure 5). Real disposable income in the highest income group (top decile) rose by almost 17 percent from 2000 to 2012<sup>14</sup> while the eighth and ninth deciles increased by five and seven percent, respectively. Real disposable income in the fifth decile stagnated and in the lowest four deciles declined by up to four percent compared to 2000.<sup>15</sup>

since 2000. Household incomes in eastern Germany were only 85 percent of their western German counterparts.

<sup>13</sup> Deciles are calculated by sorting the population according to level of income and then dividing these data into ten equal groups. The bottom (top) decile shows the income situation of the poorest (richest) ten percent of the population. It should be noted that individuals can change their income position over time due to income mobility and do not always remain in the same decile. Therefore, the statements relate to average changes in the ten income groups.

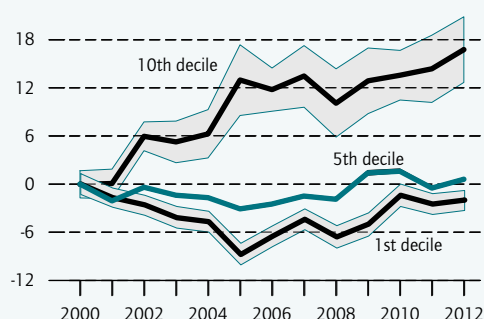
<sup>14</sup> In the SOEP surveys, the top income earners are under-represented. The actual development of these incomes is most likely underestimated here (see Bach and Stefan; Giacomo Corneo and Viktor Steiner, "From bottom to top: The Entire Income distribution in Germany, 1992–2003," *Review of Income and Wealth* 55 (2009): 303–330.)

<sup>15</sup> This structural change is also evident in the majority of other OECD countries, see OECD, *In it together*.

Figure 5

### Net Household Income<sup>1</sup> by Income Deciles

Changes Compared to 2000 in Percent



<sup>1</sup> Persons living in private households; real incomes in prices of 2010, equalized annual incomes surveyed the following year, equalized with the modified OECD-scale; Lower/upper bound indicate a 95-percent confidence band.

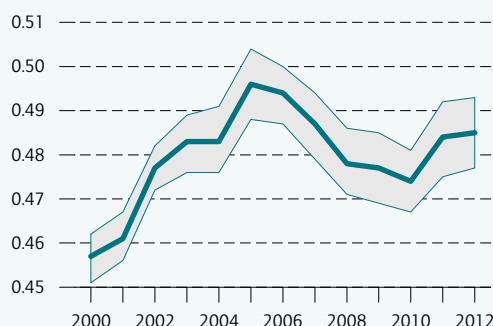
Source: SOEPv30, calculations of DIW Berlin.

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Figure 6

### Inequality of Household Market Income<sup>1</sup>

Gini Coefficient



<sup>1</sup> Persons living in private households; equalized annual income surveyed the following year; market household income including a fictitious employer's contributions for civil servants; Lower/upper bound indicate a 95-percent confidence band.

Source: SOEPv30, calculations of DIW Berlin.

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The expansion of the low-wage sector,<sup>16</sup> the insufficient adjustment of social benefits to inflation,<sup>17</sup> and the weak development of retirement income, among other things, are likely to be responsible for the real loss of income in the lowest income groups. At the same time, rising incomes, especially in the top decile, from investment and self-employment have led to rises in income (see Figure 1). In addition, labor force participation is particularly relevant: not only has the share of individuals receiving income from employment increased across the income deciles, but the participation rate in the upper income groups has developed more dynamically over time. While the participation rate in the lowest decile remained almost constant at about 32 percent between 2005 and 2012, it rose again from 69 percent to 74 percent in the top decile.<sup>18</sup> The high real income losses in the first decile of more than 10 percent in 2005 have subsequently decreased considerably.

<sup>16</sup> T. Kalina and C. Weinkopf, "Niedriglohnbeschäftigung 2012 und was ein gesetzlicher Mindestlohn von 8,50 € verändern könnte," *IAQ Report 2014-02*, University of Duisburg-Essen (2014). Differing effects are noticeable here because, on the one hand, more (additional) employment can be created by expanding the low-wage sector but, on the other hand, it can also lead to displacement processes if, for instance, a full-time job is converted into a number of temporary jobs.

<sup>17</sup> One example of this is child benefit. Child benefit remained the same from 2010 to 2014, resulting in a loss of value in real terms of more than six percent.

<sup>18</sup> In addition to poverty in old age, the problem of long-term unemployment is also likely to be a relevant aspect in the first decile.

## High Inequality in Household Disposable Income Since 2005

The most commonly used measure of income inequality is the Gini coefficient. It can have values between 0 and 1.<sup>19</sup> The higher the value, the greater the inequality. The development of the Gini coefficient shows that inequality in market incomes increased considerably between 2000 and 2005 and then fell markedly by 2010 (see Figure 6). This decline was probably mainly due to significant improvements in the labor market situation.<sup>20</sup> Since then, measured inequality stagnated and is slightly below the level seen in the mid-2000s.

The inequality of disposable household income increased considerably between 2000 and 2005, as did market income (see Figure 7), with the Gini coefficient rising from 0.255 in 2000 to 0.288 in 2005. In contrast to market income, however, the inequality of household

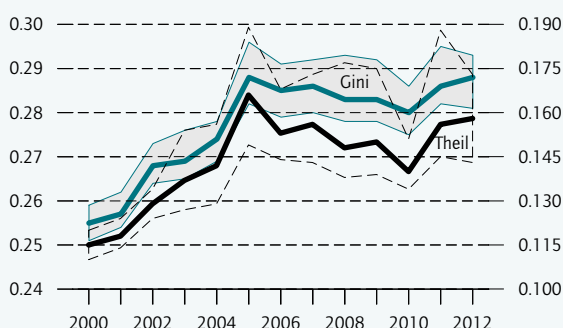
<sup>19</sup> See also the term Gini coefficient in DIW Berlin's glossary (in German only), [http://www.diw.de/de/diw\\_01.c.413334.de/presse\\_glossar/diw\\_glossar/gini\\_koeffizient.html](http://www.diw.de/de/diw_01.c.413334.de/presse_glossar/diw_glossar/gini_koeffizient.html). In addition, two inequality indicators from the generalized entropy index, the Theil index and mean log deviation (MLD) are also shown. MLD responds, in particular, to changes in the lower half of the income distribution, while the Theil index responds more to changes in the middle of the distribution, similar to the Gini coefficient.

<sup>20</sup> The average annual number of employed rose by 3.3 million to 42.6 million from 2005 to 2014 (Federal Statistical Office (2015)), <https://www.destatis.de/DE/ZahlenFakten/Indikatoren/Konjunkturindikatoren/Arbeitsmarkt/karb811.html>.

Figure 7

### Inequality of Net Household Income<sup>1</sup>

Coefficients



<sup>1</sup> Persons living in private households; equivalized annual incomes surveyed the following year, equivalized with the modified OECD-scale; Lower/upper bound indicate a 95-percent confidence band.

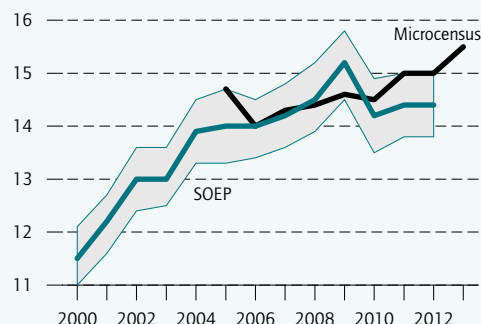
Source: SOEPv30, calculations of DIW Berlin.

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Figure 8

### At-Risk-Of-Poverty rate<sup>1</sup>

In Percent



<sup>1</sup> Persons living in private households; equivalized annual incomes surveyed the following year, equivalized with the modified OECD-scale; share of persons with less than 60% of median net household income; Lower/upper bound indicate a 95-percent confidence band.

Source: SOEPv30. Data for microcensus: Federal statistical office (2015): Sozialberichterstattung der amtlichen Statistik. [http://www.amtliche-sozialberichterstattung.de/Tabellen\\_Excel/tabelleA11.xls](http://www.amtliche-sozialberichterstattung.de/Tabellen_Excel/tabelleA11.xls), calculations of DIW Berlin.

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incomes has not declined since 2005.<sup>21</sup> In addition, the last two years under review indicate a renewed increase in inequality, but this is not statistically significant.

### At-Risk-of-Poverty Rate Has Stagnated at around 14 Percent

The following sections of the present study consider individuals whose incomes are below the poverty risk threshold and are therefore of particular socio-political significance.<sup>22</sup> This threshold is defined as 60 percent of the median net household income of the total population.<sup>23</sup>

<sup>21</sup> Only the Theil index showed a statistically significant decline (confidence intervals with 90 percent certainty). The Gini coefficient and MLD (more sensitive to changes in the lower half of the distribution) show no significant decline, however. Against the background of the financial crisis and the largest economic downturn in terms of GDP in Germany since World War II, it can be considered positive that inequality has not increased markedly. Since then, in other OECD countries, inequality has increased considerably in the wake of the financial crisis and subsequent reforms, see OECD, *In it together*.

<sup>22</sup> See also the term "poverty," in DIW Berlin's glossary (in German only), [http://www.diw.de/de/diw\\_01.c.411565.de/presse\\_glossar/diw\\_glossar/armut.html](http://www.diw.de/de/diw_01.c.411565.de/presse_glossar/diw_glossar/armut.html)

<sup>23</sup> The at-risk-of-poverty threshold is relative. This key figure for poverty risk describes the share of the population below the at-risk-of-poverty threshold. In contrast, the term absolute poverty is used in terms of individuals claiming basic social security benefits such as social assistance or unemployment benefit II (*Arbeitslosengeld II*). However, the size of the population living in poverty is usually underestimated due to individuals not claiming the basic social security they are entitled to, also known as hidden poverty (see Irene Becker, "Der Einfluss verdeckter Armut auf das Grundsicherungsniveau," *Hans Böckler Foundation Working Paper*, no. 309 (Düsseldorf: 2015).

In 2012, the threshold was 1,029 euros per month based on the SOEP sample for a single-person household.<sup>24</sup>

Since the turn of the millennium, the risk of poverty has increased considerably among the German population (see Figure 8). While around 12 percent were at risk of poverty in 2000, this figure had grown to around 15 percent by 2009; this represents an increase of more than 2.8 million to 12.25 million individuals affected. In subsequent years (2010 to 2012), the risk of poverty stabilized at just over 14 percent—around 11.5 million individuals. The findings based on the German Microcensus conducted by the Federal Statistical Office indicate that the risk of poverty has recently increased further: the figure for 2013 is 15.5 percent.<sup>25</sup>

Considerable differences in the risk of poverty can be found between the former West and East German states: at 13 percent, the at-risk-of-poverty rate in western Germany is around seven percentage points lower than in eastern Germany, where over 20 percent of the popula-

<sup>24</sup> Compared to social figures reported by the Federal Statistical Office which are based on the microcensus (see [www.amtliche-sozialberichterstattung.de](http://www.amtliche-sozialberichterstattung.de)), the figures shown here indicate a higher at-risk-of-poverty threshold because, as is common practice internationally, the rental value of owner-occupied housing is taken into account when calculating income. For other methodological differences to official social reports, see Markus Grabka, Jan Goebel, and Jürgen Schupp: "Höhepunkt der Einkommensungleichheit in Deutschland überschritten?", DIW Wochenbericht no. 43 (2012): 3–15.

<sup>25</sup> See [www.amtliche-sozialberichterstattung.de](http://www.amtliche-sozialberichterstattung.de).



Table 2

**At-Risk-Of-Poverty Rate<sup>1</sup> by Age Group**

In Percent

	< 10 yrs.	10–18 yrs.	18–25 yrs.	25–35 yrs.	35–45 yrs.	45–55 yrs.	55–65 yrs.	65–75 yrs.	75 yrs. and more	Total
2000	14.7	15.0	17.7	12.6	8.2	6.9	10.9	11.4	13.2	11.6
2006	15.2	17.2	23.5	17.2	11.0	11.1	12.2	11.7	13.1	14.0
2012	17.0	17.4	21.6	17.8	10.5	10.1	14.1	13.6	14.1	14.4
Difference 2000/12	2.3	2.4	3.9	5.3	2.3	3.1	3.2	2.2	0.9	2.8
2000										
with labor income	–	–	15.4	9.6	5.6	3.9	4.2	8.6	3.9	7.1
without labor income	–	–	25.3	28.0	27.6	24.2	18.7	11.7	13.4	16.3
2012										
with labor income	–	–	17.0	13.2	7.2	5.8	7.5	6.0	3.5	8.9
without labor income	–	–	33.6	46.5	39.4	43.2	32.7	15.2	14.5	21.0

<sup>1</sup> Persons living in private households; equivalized annual incomes surveyed the following year, equivalized with the modified OECD-scale; share of persons with less than 60% of median net household income.

Source: SOEPv30, calculations of DIW Berlin.

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tion are at risk of poverty. This is particularly remarkable given that the labor market in eastern Germany has developed positively since 2009.<sup>26</sup> One possible explanation could be that it is households above the at-risk-of-poverty threshold that have mainly benefited from the improved labor market situation in eastern Germany. Indeed, there is a strong increase in employment among individuals aged between 55 and 65 years (also in western Germany). This group, in particular, has a below-average risk of poverty.<sup>27</sup>

**Young Adults Most At Risk of Poverty**

The at-risk-of-poverty rate for children under the age of ten is 17 percent. Those who are most at risk of poverty in Germany, however, are young adults aged 18 to 25 (see Table 1). Their at-risk-of-poverty rate in 2012 was

over 21 percent because at least half of the individuals in this group were in vocational training or studying. This shows that even socially desirable developments, such as increased efforts to take up education, can have a negative impact on poverty statistics.<sup>28</sup>

Adults aged 25 to 35 are equally at risk of poverty, with a rate of almost 18 percent. This is surprising inasmuch as these individuals are of working age and should benefit from the favorable employment situation. As a general rule, the risk of poverty among individuals with earned income is well below the average for the total population. While 86 percent of 25- to 35-year-olds in 2012 had a job, nevertheless, the at-risk-of-poverty rate of these career entrants—if they were employed—was just over 13 percent. One reason for this is likely to be the typically low wages at the start of their working lives which usually increase by at least the second third of the employment phase.<sup>29</sup>

<sup>26</sup> Consequently, employment subject to compulsory social security contributions in eastern Germany rose by 5.4 percent between December 2009 and December 2013. Even more remarkable is the decline in registered unemployment which fell by almost 60 percent in eastern Germany between February 2005 and June 2015. See IAB, *Arbeitsmarkt in Zeitreihen* (2015).

<sup>27</sup> However, employment subject to social security contributions in western Germany also increased during the same period (December 2010 to December 2013) by more than 1.7 million (7.7 percent) without the at-risk-of-poverty rate declining sustainably (Federal Employment Agency 2015, *Länderreport über Beschäftigte – Deutschland, Länder*, [http://statistik.arbeitsagentur.de/nn\\_31966/SiteGlobals/Forms/Rubrikensuche/Rubrikensuche\\_Suchergebnis\\_Form.html?view=processForm&resourcelid=210358&input\\_=&pageLocale=de&opicId=17362&ion=&year\\_month=201312&year\\_month.GROUP=1&search=Suchen](http://statistik.arbeitsagentur.de/nn_31966/SiteGlobals/Forms/Rubrikensuche/Rubrikensuche_Suchergebnis_Form.html?view=processForm&resourcelid=210358&input_=&pageLocale=de&opicId=17362&ion=&year_month=201312&year_month.GROUP=1&search=Suchen)).

<sup>28</sup> In the current cross-sectional analysis, most trainees and students are poor if they do not live in their parents' home, although later in life this is rarely the case.

<sup>29</sup> Another reason may be the increase in atypical employment, which is particularly common among young workers: <https://www.destatis.de/DE/ZahlenFakten/GesamtwirtschaftUmwelt/Arbeitsmarkt/Erwerbsstaetigkeit/TabellenArbeitskraefteerhebung/AtypKernerwerbErwerbsformZR.html>. However, the share of 25- to 35-year-olds teaching, studying, or in vocational training has increased considerably by seven percentage points to 16 percent since 2000.



Table 3

**At-Risk-Of-Poverty Rate<sup>1</sup> by Household Type**

In Percent

	1 person household < 35 yrs.	1 person household 35–59 yrs.	1 person household 60 yrs. and older	couple without children	Lone par- ent 1 child	Lone parent 2 and more children	Couple with 1 child	Couple with 2 children	Couple with 3 and more children	Other house- holds
2000	27.1	13.8	20.2	7.0	25.6	44.1	6.4	6.5	15.3	9.2
2006	36.2	19.4	18.4	8.5	32.1	43.2	10.2	6.9	16.5	15.3
2012	39.1	20.9	21.9	8.4	27.3	41.0	6.2	8.5	21.9	12.4
<b>Difference 2000/12</b>	<b>12.0</b>	<b>7.1</b>	<b>1.7</b>	<b>1.4</b>	<b>1.7</b>	<b>–3.1</b>	<b>–0.2</b>	<b>2.1</b>	<b>6.6</b>	<b>3.2</b>

<sup>1</sup> Persons living in private households; equivalized annual incomes surveyed the following year, equivalized with the modified OECD-scale; share of persons with less than 60% of median net household income.

Source: SOEPv30, calculations of DIW Berlin.

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Table 4

**Correlates of Poverty-Risk<sup>1</sup> in Germany, Selected Years**

	2000, 2006, 2012		2006, 2012	
	Marginal Effect	Standard Error	Marginal Effect	Standard Error
<b>Main Variables</b>				
Sex: Women	0.2699	0.1035***	0.1595	0.2368
Household type (Reference group: couple without children < 65 yrs.)				
Single ≤ 25 yrs.	2.4722	0.3257***	3.4287	0.8313***
Single 26–64 yrs.	1.6702	0.1657***	1.9196	0.4082***
Single 65 yrs. and more	–1.1849	0.2975***	–1.8089	0.7294**
Couple 65 yrs. and more without children	–1.5408	0.2806***	–2.2365	0.7032***
Couple with children > 16 yrs.	0.2217	0.1948	0.8428	0.4585
Couple with 1 child ≤ 16 yrs.	0.5447	0.2185**	0.4468	0.5682
Couple with 2 children ≤ 16 yrs.	0.7368	0.2059***	–0.0097	0.5526
Couple with 3 children ≤ 16 yrs.	1.5242	0.2298***	0.1600	0.6346
Lone parent	3.0371	0.2236***	2.5166	0.5478***
Other households	0.2148	0.3311	1.0471	0.8818
Age of household head (Reference group < 25 yrs.)				
26–65 yrs.	–0.9904	0.2129***	–0.7866	0.5470
65 yrs. and more	–0.3238	0.2604	–0.5926	0.6281
Work intensity index (Reference group: not employed)				
1–49%	–0.1401	0.1481	–0.7192	0.3599**
50%	–1.9832	0.1578***	–2.0587	0.4147***
51–99%	–3.1751	0.1792***	–4.0161	0.4720***
100% employed	–4.6401	0.2003***	–5.5574	0.4907***
Highest educational level in household	–1.1618	0.0835***	–1.3221	0.1910***
Household with migrants	0.9396	0.1276***	1.2139	0.3137***
Living in East Germany	0.7812	0.1086***	1.2338	0.2499***
Municipal size 100,000 inhabitants and more	–0.1320	0.0981	–0.1868	0.2337
Household head with bad health	0.3248	0.1068***	0.1665	0.2596
Home owner	–1.8091	0.1176***	–1.2304	0.2633***
Household with a person in need of care	–0.7084	0.2291***	–0.8262	0.5491
Income year (Reference group: 2000)				
2006	0.0805	0.1782		
2012	0.1775	0.3401	0.0402	0.3714

It is also notable that the number of 55- to 65-year-olds at risk of poverty has fallen by 3.2 percentage points since 2000. This is surprising since labor market participation in this age group has risen considerably since the turn of the millennium—by 20 percentage points.<sup>30</sup>

Nevertheless, gainful employment typically lowers the risk of poverty. Those with no earned income in 2012 had an at-risk-of-poverty rate of 21 percent—five percentage points higher than in 2000.<sup>31</sup> The at-risk-of-poverty rate for those in gainful employment was nine percent in 2012. Not every job protects against poverty, however, particularly in the low-wage sector. In addition to

**30** The participation rate of older workers (aged 55 to 65) has risen 20 percentage points from 54 percent in 2000 to 74 percent in 2012. This is most likely due to incentives to take early retirement having been discontinued in the wake of pension reforms.

**31** There are a growing number of non-recipients of unemployment benefit. In 2013, 234,692 of the 969,598 unemployed individuals covered by statutory unemployment insurance received no benefits—this represents a share of one-quarter (DGB, *Arbeitsmarkt aktuell*, no. 4 (July 2014)). Non-recipients are individuals registered as unemployed but not entitled to Unemployment Benefit I or II.

Table 3 Continuation

	2000, 2006, 2012		2006, 2012	
	Marginal Effect	Standard Error	Marginal Effect	Standard Error
<b>Interactions</b>				
Sex: Women	-0.1181	0.0670	-0.0526	0.1374
Household type (Reference group: couple without children < 65 yrs.)				
Single ≤ 25 yrs.	-0.3835	0.2315	-0.8721	0.4981
Single 26–64 yrs.	-0.0646	0.1120	-0.1245	0.2391
Single 65 yrs. and more	0.4701	0.2133**	0.7860	0.4455
Couple 65 yrs. and more without children	0.3559	0.2040	0.7158	0.4303
Couple with children > 16 yrs.	-0.0175	0.1344	-0.3676	0.2756
Couple with 1 child ≤ 16 yrs.	-0.3328	0.1507**	-0.2815	0.3326
Couple with 2 children ≤ 16 yrs.	-0.1507	0.1383	0.2915	0.3168
Couple with 3 children ≤ 16 yrs.	-0.1088	0.1545	0.6969	0.3631
Lone parent	-0.3352	0.1519**	0.0735	0.3227
Other households	0.0459	0.2074	-0.3726	0.4884
Age of household head (Reference group < 25 yrs.)				
26–65 yrs.	0.0660	0.1477	-0.1029	0.3235
65 yrs. and more	-0.2183	0.1892	-0.1213	0.3889
Work intensity index (Reference group: not employed)				
1–49%	0.2076	0.1060**	0.5599	0.2206**
50%	0.3324	0.1141***	0.3186	0.2539
51–99%	0.4002	0.1245***	0.7762	0.2777***
100% employed	0.4519	0.1329***	0.8068	0.2833***
Highest educational level in household	-0.0211	0.0515	0.0114	0.1075
Household with migrants	-0.1608	0.0814**	-0.2718	0.1779
Living in East Germany	0.1333	0.0724	-0.0762	0.1470
Municipal size 100,000 inhabitants and more	-0.0323	0.0649	-0.0119	0.1363
Household head with bad health	0.0373	0.0736	0.1531	0.1546
Home owner	-0.1872	0.0770**	-0.6214	0.1579***
Household with a person in need of care	0.2501	0.1547	0.3063	0.3230
Number of observations		36,684		25,068
Pseudo R <sup>2</sup>		0.3429		0.3333

\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.

1 Private households; equivalized annual incomes surveyed the following year, equivalized with the modified OECD-scale; share of persons with less than 60% of median net household income.

Source: SOEPv30, calculations of DIW Berlin, pooled information of income years 2000, 2006 and 2012.

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## Box 3

**Effect of a New Additional Sample of Immigrants**

Net migration in Germany has been positive since 2010, meaning that the number of immigrants exceeds that of emigrants (see figure). In particular, many immigrants came to Germany at the beginning of the 1990s, shortly after the fall of the Berlin Wall. From the mid-1990s, their number fell sharply and only since 2010 did considerably more migrants decide to come to Germany again. As a result of EU eastward enlargement, the composition of immigrants has changed in the last decade. Panel studies such as the SOEP are faced

with the global challenge that migration can only be adequately considered in the design of the study if immigrants move into households already being surveyed (for example, in reunited families), or if additional samples are drawn to survey newly arrived immigrants and to complement existing samples. In 2013, an additional SOEP sample was taken again in cooperation with the Institute for Employment Research (Institut für Arbeitsmarkt und Berufsforschung, IAB) after 1994/95 to allow for the increased numbers of immigrants.<sup>1</sup> In total, an additional 4,964 migrants with 2,481 children from approximately 2,700 households were surveyed in 2013. No new additional sample was drawn for the analyses of income levels and inequality presented in this report because individuals often do not answer all the questions in an initial survey. This is partly because respondents are familiar with neither the content of the study nor the interviewer. From the second wave of the survey, these methodological problems are reduced so that the additional samples in the SOEP are also used in the trend analyses on income (see Box 2).

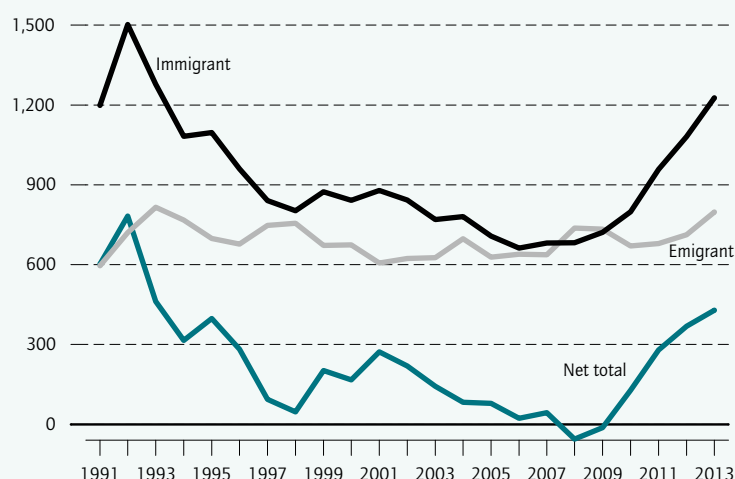
Initial analyses of the new SOEP subsample confirm the assumption that newly surveyed migrants have below-average incomes compared to the overall population (see table). If this additional sample is taken into account in the analysis, the median of household disposable income in the general population falls by around 1.1 percent. With the mean value, this difference is 1.4 percent. At the same time, the risk of

<sup>1</sup> In the past, there was a large additional sample in the SOEP from the beginning of the study which surveyed particular migrants. In 1994/95, there was a special sample in order to adequately simulate, in particular, the influx of ethnic German repatriates in the SOEP. In addition, random samples have been taken in recent years where attempts have been made to include in the survey households with foreign names disproportionately to account for the migration phenomenon.

Figure 9

**Migration to Germany and Abroad<sup>1</sup> 1991 to 2013**

In 1,000 Persons



Source: Federal statistical office 2015, <https://www.destatis.de/DE/ZahlenFakten/GesellschaftStaat/Bevoelkerung/Wanderungen/Tabellen/WanderungenAlle.html>.

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hourly wages and number of hours worked, it also depends on the household constellation as to whether the level of income is sufficient to exceed the at-risk-of-poverty threshold.<sup>32</sup>

<sup>32</sup> A regional analysis of poverty cannot be conducted using SOEP data due to the limited number of cases. This can only be done using data from the microcensus. This shows, among other things, that the at-risk-of-poverty rate of individuals aged 65 and over (as in the SOEP) is also below average overall. However, there are notable regional differences. For example, the risk of poverty in old age in Bavaria is 17 percent, well above the average for the total population (see [www.amtliche-sozialberichterstattung.de](http://www.amtliche-sozialberichterstattung.de)).

**Couple Households Are Rarely Affected by Poverty**

The at-risk-of-poverty rate of couples without children is far below the average for the population as a whole (see Table 3). The same applies to couples with one or two children. Children per se are therefore not a poverty risk. What matters is the overall household constellation: The at-risk-of-poverty rate for both single parents and couples with three or more children is frequently above average. In general, the more children living in a household, the more it is at risk of poverty. Consequently, in 2012, single parents with one child had an

Table 5

**Impact of a New Sub-Sample on Income and Poverty-Risk<sup>1</sup> by Country of Origin**

	lower bound	born in Germany	upper bound	lower bound	born abroad	upper bound	lower bound	Total population	upper bound
<b>Median in Euro</b>									
SOEP 2012	19,975	20,178	20,380	15,407	15,877	16,348	19,602	19,766	19,980
SOEP 2012 with sub-Sample M	19,917	20,139	20,361	15,232	15,589	15,947	19,365	19,543	19,722
<b>Mean in Euro</b>									
SOEP 2012	23,059	23,343	23,627	18,048	18,623	19,197	22,621	22,822	23,117
SOEP 2012 with sub-Sample M	23,004	23,284	23,565	17,685	18,219	18,753	22,255	22,510	22,765
<b>At-Risk-Of-Poverty rate in Percent</b>									
SOEP 2012	12.5	13.1	13.8	21.7	25.0	28.4	13.8	14.4	15.0
SOEP 2012 with sub-Sample M	12.9	13.4	13.9	26.3	28.3	30.4	14.9	15.5	16.1
<b>Population in Million</b>									
SOEP 2012		70.465			8.600				
SOEP 2012 with sub-Sample M		67.501			11.095				
<b>Population Share in Percent</b>									
SOEP 2012		88.46			10.80				
SOEP 2012 with sub-Sample M		84.74			13.93				

<sup>1</sup> Persons living in private households; equivalized annual incomes surveyed the following year, equivalized with the modified OECD-scale; share of persons with less than 60% of median net household income.

Source: SOEPv30, calculations of DIW Berlin.

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poverty rises markedly from 14.4 to 15.5 percent. This is due in particular to the lower income of the new migrants compared to the old sample: although the poverty line falls slightly, the income of many migrants lies below this threshold (especially in the new sample). The poverty risk of migrants increases from 25 to 28.3 percent. Also, the risk of poverty for individuals born in Germany increased slightly when the additional sample was taken into account.

The fall in the poverty threshold would have led to a lower risk of poverty in itself. Of course, the weighting scheme in the SOEP had to be modified to include the additional sam-

ple. This means that the projected number of individuals born outside Germany will vary. The modified weighting scheme, which, for the first time, takes into account the results of the 2011 Census, assumes a total of approximately 11.1 million migrants instead of the current 8.6 million. Correspondingly, the number of those born in Germany falls from approximately 70.5 million to 67.5 million. All longer-term trend series, which include migration-related issues, are affected by this revision. A retrospective revision from 2010 will take this aspect into account in the next data version of SOEPv31 (see Box 2).

at-risk-of-poverty rate of 27 percent. When they had two or more children, the rate rose to more than 40 percent.

For young people living alone (up to the age of 35), in particular, the risk of living below the poverty line has increased significantly in recent years. Twenty-seven percent of single-person households were at risk of poverty in 2000, but this rate rose significantly to 39 percent in 2012.<sup>33</sup>

<sup>33</sup> This development has contributed to the share of young adults living alone increasing by five percentage points to 22 percent since 2000.

## What Factors Affect the Risk of Poverty?

The determinants of poverty risk can be established using a multivariate regression analysis (see Table 3). Three income years (2000, 2006, and 2012) were included in the logistic model in order to identify changes in the at-risk-of-poverty rate over time.<sup>34</sup> This occurs

<sup>34</sup> A pooled logit model is used as a regression method. The dependent variable is a dummy. This is set at 1 when people are classified as at risk of poverty.

with the relevant interaction effects of the explanatory variables with a time variable.

The Table reports marginal effects. The marginal effects for binary variables (such as gender) indicate how the probability of being at risk of poverty varies if the binary variable is 1 (female) instead of 0 (male)—assuming that the values of all other explanatory variables remain constant. Accordingly, the risk of poverty is 26 percentage points higher if the head of the household is female rather than male (see column 1 in Table 3). Consequently, the marginal effects for continuous variables (such as income) indicate the immediate impact on the risk of poverty.<sup>35</sup>

Broken down by household types, younger people living alone (aged up to 35), single parents, and couples with children under the age of 16 are significantly more at risk of poverty than couples with no children of working age. Both older people living alone and couples of retirement age have a lower risk of poverty. The risk of poverty among single parents is, as expected, particularly high, more than three times higher than that of the reference group.

As previously mentioned, the risk of poverty depends, inter alia, on labor force participation (see Table 1).<sup>36</sup> The higher the participation rate of the household, the lower the risk of poverty. For households that have spent only six months of a potential working year in employment, the risk of poverty declines sharply compared to jobless households, and the effect is more pronounced if they are in full-time employment. As expected, there is also a negative correlation between the level of education and the risk of poverty: the higher the education level, the lower the risk of poverty. In contrast, all households with at least one person born outside Germany (see Box 3) and eastern German households have a considerably greater risk of poverty. If the head of the household suffers from a medical condition (and receives a disability pension, for example), the risk of poverty increases by 32 percent. Real estate owners generally have a lower risk of poverty compared to tenants because the income

advantage of owner-occupied housing protects against poverty. Even in households with care recipients, the poverty risk is reduced since they frequently receive financial transfers from nursing care funds.

The interaction effects<sup>37</sup> of the analysis also show that the risk of poverty has increased markedly for retired people living alone. This probably reflects the weak performance of retirement income in Germany. Fortunately, the risk of poverty has declined both in single-parent families and in those with a child aged under the age of 16. There is a need for further analyses to show whether parental allowance was able to, at least partially, compensate for the loss of income from the birth of a child. It is striking that the risk of poverty increased during the observation period despite rising employment in all four work intensity groups.<sup>38</sup>

The risk of poverty for migrant households has decreased in the past few years, with recent migrants having different characteristics than those from the traditional guest-worker countries who have lived in Germany for some time. These include different procedures for recognizing educational qualifications acquired abroad.<sup>39</sup> The risk of poverty for real estate owners has declined further. This is probably due to their financial status being better than that of tenant households.<sup>40</sup>

In addition, the model was reduced to the income years 2006 and 2012 to verify whether, in particular, the improved labor market situation since the mid-2000s had affected the determinants of poverty risk (see column 2 in Table 3). The key findings of this analysis are similar. However, in contrast, the risk of falling below the poverty risk threshold despite (full-time) employment has increased over time. The reason for this is likely to be, among other things, the poorer wages of low-skilled occupations rather than the change in household structures.<sup>41</sup>

<sup>35</sup> They are only meaningful for small changes in the explanatory variables (for example, changes by one percentage point) because the relationships are often nonlinear. Therefore, it is also possible that the absolute value of the marginal effect is greater than 1, although the probability of being at risk of poverty cannot be above 1 (i.e., 100 percent).

<sup>36</sup> The labor market participation of a household is measured here as the proportion of time spent working in the previous year to the potential number of working hours of all those of working age living in the household. People in households in which all employed persons were in full-time employment for the whole of the previous year received an index score of 100, with part-time employment being weighted at 50 percent. In extreme cases, when none of the potential labor force participants are in fact working, the index assumes a value of 0.

<sup>37</sup> The interaction effects were created by multiplying the annual dummies in 2012 by the covariate values.

<sup>38</sup> Two alternative models were estimated to check the robustness of these findings: the first was a simple pooled logistic model (with cluster effects to control for individuals being surveyed multiple times) and the other was a fixed effects model. The first confirmed the findings from the random effects model. In the fixed effects model, the effects are no longer significant. One possible explanation for this is that there are only three instances where the intrapersonal variation is relatively small.

<sup>39</sup> See Herbert Brücker, Ingrid Tucci, Simone Bartsch, Martin Kroh, Parvati Trübshwetter, and Jürgen Schupp, "Neue Muster der Migration," *DIW Wochenbericht*, no. 43 (2014): 1126–1135.

<sup>40</sup> However, this important economic factor cannot be considered here since it was not surveyed every year in the SOEP.

<sup>41</sup> See M. Biewen and A. Juhasz, "Understanding Rising Inequality in Germany, 1999/2000–2005/06," *Review of Income and Wealth*, vol. 58 (2012): 62–647.

## Conclusion

Real disposable household incomes have risen in Germany by an average of five percent since 2000. At the same time, the gap between rich and poor has widened. Real incomes in the top decile of income distribution increased by more than 15 percent between 2000 and 2012, while income in the middle of the distribution stagnated and, in the lowest 40 percent, incomes fell in real terms. In sum, the inequality of disposable household income remains unchanged since 2005.

The risk of poverty among the population grew considerably from 2000 to 2009 and has stagnated since then at around 14 percent. Young people aged 25 to 35 and living alone, in particular, are increasingly at risk of poverty. Their at-risk-of-poverty rate rose by 12 percentage

points to just under 40 percent in 2012. This is especially remarkable considering the majority of these people are in work—a factor that, in the past, would have protected them from income poverty. In other age groups, too, the risk of poverty in households with labor force participation has increased since 2000. This might explain why the risk of poverty has stagnated for several years, although employment reached record highs during the same period. Whether the minimum wage introduced in 2015 can help reduce the risk of poverty for the employed depends, in particular, on how targeted its effects are (whether individuals with low hourly wages tend to be more in the lower deciles of the income distribution) and how the number of paid hours worked by these individuals develop.

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# Significant Statistical Uncertainty over Share of High Net Worth Households

By Christian Westermeier and Markus M. Grabka

The analyses of wealth inequality based on survey data usually suffer from undercoverage of the upper percentiles of the very wealthy. Yet given this group's substantial share of total net worth, it is of particular relevance. As no tax data are available in Germany, the largest fortunes can only be simulated using "rich lists." For example, combining the *Forbes* list, with its approximately 50 German US dollar billionaires, with survey data results in an increased aggregate total net worth for all households in Germany in 2012 of between one-third and 50 percent, depending on the scenario. Moreover, the share of the richest one percent of the population (about 400,000 households) rises from approximately one-fifth to one-third. After reassessment, the richest ten percent of the population's share of total net worth is estimated to be between 64 and 74 percent, depending on the scenario. These reassessments are characterized by a high degree of uncertainty which eventually can only be reduced by improving the base data.

Typically, individuals' net worth, the sum of all their assets, is far more unequally distributed than current income. This is evident, for instance, from the fact that only a relatively small proportion of the population accounts for a considerable share of the entire net worth.<sup>1</sup> Given that the exact figures on the percentage of the richer social strata and the precise distribution of wealth provide an important basis for tax and social policies, there is significant public interest in the status quo and developments in wealth distribution in Germany. However, the existing data bases have a significant flaw in terms of representing high net worth individuals sufficiently (see Box 1 on the general problem of measuring wealth). Using econometric estimation techniques, the aim of the present study is to simulate the upper margin of wealth distribution to obtain an improved data base for the entire distribution of wealth as well as key distribution ratios.

The findings presented in this report are based on a research project funded by the Hans Böckler Foundation to analyze wealth distribution in Germany<sup>2</sup> and extended analyses by DIW Berlin on describing the amount, composition, and distribution of private net worth from 2002 to 2012.<sup>3</sup> The empirical basis is the data from the Socio-Economic Panel (SOEP) longitudinal study of households collected by DIW Berlin together with the field-work organization *Infratest Sozialforschung*.<sup>4</sup> Every five years since 2002, a series of focused interviews have been conducted to gather data on net worth (2002, 2007,

<sup>1</sup> See M. M. Grabka and C. Westermeier, "Persistently High Wealth Inequality in Germany," DIW Economic Bulletin, no. 6 (2014).

<sup>2</sup> "Vermögen in Deutschland- Status-quo-Analysen und Perspektiven," Project number: S-2012-610-4; project management: Markus M. Grabka.

<sup>3</sup> See Grabka and Westermeier, "Persistently High Wealth Inequality."

<sup>4</sup> The SOEP is a representative longitudinal study of households conducted every year since 1984 in western Germany and since 1990 in eastern Germany, see G. G. Wagner, J. Göbel, P. Krause, R. Pischner, and I. Sieber, "Das Sozio-ökonomische Panel (SOEP): Multidisziplinäres Haushaltspanel und Kohortenstudie für Deutschland – Eine Einführung (für neue Datennutzer) mit einem Ausblick (für erfahrene Anwender)," *ASTA Wirtschafts- und Sozialstatistisches Archiv*, vol. 2, no. 4 (2008): 301–328.

Table 1

**Raw Distribution of Household Net Worth<sup>1</sup> in SOEP and PHF**

In euros

	<i>PHF (2010/11)</i>		<i>SOEP (2012)</i>	
Mean	195,170		154,380	
Median	51,358		46,680	
90th percentile	442,320		380,740	
95th percentile	661,240		563,100	
99th percentile	1,929,344		1,349,640	
Share of top one percent of total net worth in percent	24.3		18.2	
Share of top five percent of total net worth in percent	45.7		39.0	
Maximum value in millions	76.3		45.5	
Total net worth in trillions	7.742		6.278	
<i>Base data:</i>				
Number of households with net worth of ...	Unweighted	Projection for the entire population	Unweighted	Projection for the entire population
Over 500,000 euro	654	3,261,599	862	2,516,656
Over 1,000,000 euro	246	1,051,254	270	708,424
Over 3,000,000 euro	45	239,407	42	108,366
Total of all households	3,565	39,672,983	10,711	40,657,024

<sup>1</sup> Households (excluding the institutional population).

Sources: SOEPv29; "Private Haushalte und ihre Finanzen" study.

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High net worth individuals tend to be underrepresented in survey random samples.

and 2012). Although the SOEP study establishes available assets on a personal level, the data are then aggregated on the household level for the purpose of analysis. This dataset is thus comparable with the panel study "Households and their finances" (*Private Haushalte und ihre Finanzen, PHF*) conducted by the Deutsche Bundesbank in 2010/2011,<sup>5</sup> which comprised a slightly more comprehensive portfolio of questions on current net worth.<sup>6</sup>

### Multimillionaires Underreported in Population Surveys

In 2012, according to the SOEP survey, total net worth in Germany amounted to just under 6.3 trillion euros (see Table 1), approximately 1.5 trillion euros less than the figures reported in the *PHF* for 2010/2011. However, the comparability of the two surveys is limited, not only due to the different times of the surveys and the components of individual net worth taken as parameters (see also Box 1), but also since the *PHF* study made particular efforts to identify high net worth households and include them

disproportionately in interviews.<sup>7</sup> This approach leads to enhanced estimates on the upper margin of wealth distribution and, in addition, after projections to the entire population, shows a higher aggregate of net worth.

The improved coverage of wealthy households has virtually no effect on the median<sup>8</sup> of the household net worth. In the *PHF* study, this value was equivalent to approximately 51,000 euros, while it was just under 47,000 in the SOEP study. However, the mean of the distribution of wealth is sensitive to the improved representation of wealthy households. While the SOEP reports a figure of almost 155,000 euros per household in 2012 (not adjusted for inflation), the *PHF* records an equivalent amount of 195,000 euros, a good 40,000 euros more. Moreover, looking at the percentiles on the upper margin of distribution, it becomes evident that the estimates from the *PHF* lead to significantly higher figures. Here, for instance, the cut-off for the 95th percentile (661,000 euros) is slightly over 100,000 euros above

<sup>5</sup> U. von Kalkreuth and H. Hermann, "Vermögen und Finanzen privater Haushalte in Deutschland: Ergebnisse der Bundesbankstudie," Deutsche Bundesbank Monthly Reports (6) (2013): 25–51.

<sup>6</sup> HFCN, "The Eurosystem Household Finance and Consumption Survey: Methodological report for the first wave," ECB Statistical Paper Series, no. 1 (2013).

<sup>7</sup> In the *PHF*, this oversampling of high-income households is based on a regional oversampling in areas with high income and high net worth households. Although the SOEP also utilizes oversampling from the 2002 survey year, this only comprises households with an above-average income. However, rather than there being a perfect correlation between income and net worth, high-income households may also only have a low net worth.

<sup>8</sup> The median is the value separating the wealthier 50 percent of the population from the poorer half and is robust against distortions on the upper distribution margin.

## Box 1

**Data Sources on the Distribution of Wealth**

Not only does the national accounts approach face a number of methodological and statistical problems, but so too does the analysis of the distribution of wealth based on microdata representative of the population.

Neither approach takes into account—as is common the world over—the entitlements to statutory pension insurance. Accumulated pension-related claims are converted into personal earning points which do not unequivocally indicate social security assets and therefore are hardly directly ascertainable in a survey; this applies equally to occupational pension entitlements. However, since the majority of the working population is subject to compulsory pension insurance or has pension-related claims, for example, in the form of training or childrearing periods, social security assets in the statutory pension scheme in particular can be assumed to represent the most frequent component in household net worth. Pension insurance data analyses have shown that 91 percent of men and 87 percent of women aged 65 or over have statutory pension entitlements. (In eastern Germany, the corresponding figures are even higher at 99 percent.)

Other components of net worth are also commonly not addressed in population surveys since they are particularly difficult to record, such as household effects, including the value of vehicles. Neither of these two asset components flow into the concept of net worth underlying this analysis. Thus, due to these limitations, in comparison to the national accounts approach, the net worth in these figures is, all other things being equal, underestimated.

In population surveys, assets are usually recorded at the household level. In this context, the SOEP methodology has a special feature since it records the individual assets of each respondent aged 17 or over. In contrast to only recording household assets, this approach can show differences within households and partnerships while it still allows the individual worth to be added to obtain a result for a particular household. Hence, the present analyses refer to the net worth of households. The data collection methods do not gather information on the assets held by children, so this, too, is underestimated.

A comparison of aggregated assets based on the SOEP and the sectoral and overall economic balance sheets of the German Federal Statistical Office (FSO) is complicated by a number of differences in distinctions and definitions. The following reasons for this are germane in this context. First, the FSO categorizes households together with private non-profit organizations. Second, in addition to durable consumer goods, other types of assets are also included which are not recorded in the SOEP, including cash, the value of livestock and crops, equipment, intangible fixed assets, claims against private health insurance companies, commercial loans, and commercial holdings in residential buildings. Third, the SOEP generally records the current market value of real estate while the FSO calculates its replacement value. However, market value differs significantly from the replacement value of portfolio properties. As a result, the SOEP's 2002 calculation for net worth on this basis totaled almost 90 percent of the balance sheet figure arrived at by the FSO, but it was only 64 percent in 2012. In the case of residential buildings, the quantitatively most important asset component, the coverage rate fell from

SOEP estimates; in the 99th percentile, this gap has already increased to almost 580,000 euros (approximately 1.9 million in comparison to 1.35 million).

Accordingly, the *PHF* records a higher number of households with a net worth of one million euros. The extrapolated *PHF* figure amounts to just over one million households, while the SOEP equivalent is around 700,000 households.<sup>9</sup> In the *PHF*, the estimated num-

ber of households with a net worth of more than three million euros is also almost twice as high.

The improved data on wealthy households is important at the upper margin of the wealth distribution. Despite both surveys making particular efforts to recruit wealthy households for interviews, both random samples here share the problem that they hardly include any multi-millionaires with a net worth of over five million euros and no billionaires at all.<sup>10</sup>

<sup>9</sup> In the SOEP, the last additional random sample to improve the statistical force of wealthy households was taken in 2002. Here, high-income households were overrepresented in the random sample. Due to "panel mortality," the number of households and individuals in the panel decrease over time because of respondents' refusal to participate or demographic processes, such as migration or death. As a result, solely in terms of the upper margin of wealth distribution, this sample's cover is constantly eroded. On this, see J. Schupp, J. R. Frick, J. Goebel, M. M. Grabka, O. Groh-Samberg, and G. G. Wagner, "Zur

verbesserten Erfassung von Haushaltsnettoeinkommen und Vermögen in Haushaltssurveys," in *Reichtum und Vermögen – Zur gesellschaftlichen Bedeutung der Reichtums- und Vermögensforschung*, eds. T. Drüyen, W. Lauterbach, and M. Grundmann (Wiesbaden: 2009), 85–96.

<sup>10</sup> The Federal Statistical Office's cross-sectional Income and Consumption Survey (Einkommens- und Verbrauchsstichprobe, EVS) is conducted every five years to establish the net worth situation of private households. However, the

## Box 1 Continuation

129 percent in 2002 to slightly under 103 percent in 2012. Here, liabilities are recorded at 73 percent. With aggregate gross monetary assets at 33 percent, the SOEP, as in all other wealth surveys worldwide, has significantly underestimated their value.

A comparison with the wealth survey conducted by the German Federal Bank in 2010/11 (*Private Haushalte und ihre Finanzen, PHF*) shows that the SOEP slightly underestimated per capita net worth at 86,000 euros, compared to the PHF's 95,000 euros. Here, it should also be taken into account that the PHF conducts a far more detailed survey of the asset situation, for example, also explicitly taking into account the value of vehicles.

Since 2002, the SOEP has included a subsample of "high-income households" in a concerted effort to counter the widespread problem in population surveys of not having a statistically significant subgroup of higher incomes and assets. In the context of high inequality in personal wealth distribution, this subsample and the sufficiently large number of wealthy households in the SOEP is especially important. In particular, the relationship between income and wealth distribution for all groups, and above all for the group of high-income earners, can also be shown in greater detail, since assets, asset income, and savings depend to a large extent on disposable income. Nevertheless, despite this dedicated subsample, the problem remains that surveys such as the SOEP effectively do not contain top high net worth individuals. This applies in particular to billionaires as well as multi-millionaires with a net worth in the triple-digits million range. As a result, the true extent of wealth inequality is underestimated. Germany pres-

ently has no available external statistics, for instance, wealth tax statistics, to validate this potential underestimation.

The need to provide fair market value of assets also presents such surveys with a fundamental problem. Estimating fair market value in a survey is difficult, especially when the object was inherited or purchased a long time ago and respondents do not have sufficient knowledge of the current market. As is well known, valuing business assets is also particularly difficult. In contrast to regular income, asset values can be very volatile and this further complicates their evaluation. Aside from the overall sensitivity of this issue, this in turn increasingly results in refusals to answer asset-related questions.

Not only does the SOEP conduct extensive consistency checks on the individual data, but it also uses multiple imputations to replace all missing asset values. Due to the use of longitudinal data from the repeated wealth surveys in 2002, 2007, and 2012, the quality of the imputation is better than in the case of a single survey.

After extrapolation and weighting factors are applied, the SOEP microdata underlying these analyses give a representative picture of the sample in households and thus allow conclusions to be drawn about the entire population. Members of the population in institutions (for example, in nursing homes) were not taken into account. The weighting factors correct differences in the designs of the various SOEP samples as well as the participation behavior of respondents after the first interview. The framework data of the microcensus is adjusted to increase its compatibility with official statistics.

In the research presented here, external information on billionaires in Germany from the *Forbes* list was included to correct the continuing underrepresentation of high net worth individuals.<sup>11</sup> Unfortunately, with few exact details provided on how these lists are compiled, the estimates are likely to be highly imprecise. On the basis of

the assumptions explained below, the upper margin of the distribution of wealth follows a Pareto distribution which can then be used to simulate the upper margin of the survey data (see Box 2). To estimate the Pareto distribution parameters, the data at the SOEP survey's top level have been taken together with information from the US *Forbes* magazine on German billionaires and, using this information, the top section in the SOEP survey's distribution of wealth has been simulated. On the basis of the resulting distribution, more precise estimates can be calculated to show, for example, the shares of the top one or top 0.1 percent of the distribution of wealth.

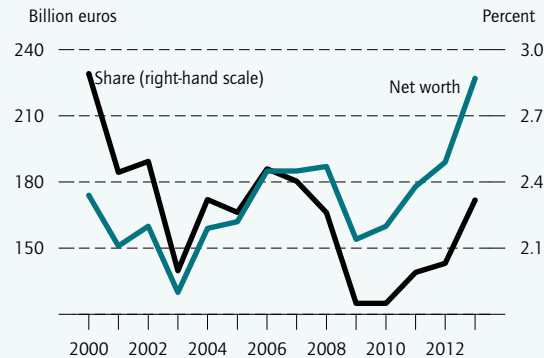
Since applying the Pareto method to simulate the top net worth households results in estimates with a considerable degree of uncertainty, two scenarios, each with an upper and lower limit, are presented for all three years

EVS uses a cut-off threshold so that households above a certain income threshold are excluded from the sample. In 2008, this point was set at a net household income of 18,000 euros. Since income and net worth are related, this resulted in the undercoverage especially of high-income households in the EVS.

<sup>11</sup> Alternatively, information on high net worth individuals in Germany is available in the manager magazin "rich list." However, since the less detailed estimates in the triple-digit million area result in heaping effects, it was decided to use the *Forbes* list. On this basis, an estimate of the top high net worth individuals for 2007 using the SOEP data has already been published; S. Bach, M. Beznoska, and V. Steiner, "A Wealth Tax on the Rich to Bring Down Public Debt? Revenue and Distributional Effects of a Capital Levy in Germany," *Fiscal Studies*, vol. 35 (1) (2014): 67–89.

Figure 1

### Net Worth of German Citizens in the *Forbes* List and Their Share of Total Net Worth<sup>1</sup>



<sup>1</sup> Net worth in the *Forbes* list related to net worth in the Federal Statistical Office's national accounts.

Sources: Destatis 2013; *Forbes* magazine, *The World's Billionaires List*.

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According to *Forbes* magazine, the wealth of dollar billionaires is rising again since the end of the financial crisis.

of the SOEP surveys (2002, 2007, and 2012). These reflect the maximum and minimum values based on different assumptions regarding the parameters of the Pareto distribution itself.

### In 2013, According to *Forbes* Magazine, Net Worth of Germany's Dollar Billionaires Amounted to Just Under 230 Billion

*Forbes* magazine<sup>12</sup> compiles a global list of billionaires with a personal net worth of over one billion dollars. In 2002, approximately 34 individuals (or families) in Germany fell into this category (see Table 2), this number rose to 55 by 2007, and then remained on this level until 2012.<sup>13</sup> Figure 1 shows the total net worth of Germany's US dollar billionaires according to the *Forbes* list, as well as the share of the total assets of those dollar billionaires and the net wealth of households in Germany<sup>14</sup> for 2000 to 2013. Since 2001, this proportion has varied between approximately 1.8 and 2.5 percent, and thus only changed minimally. The total net worth

Table 2

### German Citizens in the *Forbes* List of Dollar Billionaires

In billion euros

	2002	2007	2010	2012
Number of entries	34	55	53	55
Total net worth	159.8	185.4	159.5	188.7
Maximum	30.9	15.1	17.2	19.1
Net worth of households from FSO national accounts	6,409	7,709	8,621	9,286
Proportion of high net worth individuals and FSO aggregate in percent	2.49	2.40	1.85	2.03

Sources: Destatis 2013; *Forbes* magazine, *The World's Billionaires List*.

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According to *Forbes* magazine, 55 German US dollar billionaires had a net worth of nearly 190 billion euros in 2012.

of German dollar billionaires reached its absolute minimum of just under 130 billion euros in 2003 after the new economy bubble burst. The maximum over this period was slightly under 230 billion euros, recorded in 2013. Hence, according to the *Forbes* list, the total net worth of German dollar billionaires has increased by 30 percent since 2000.<sup>15</sup>

### The Total Net Worth of Households Rose Sharply from 2002 to 2007...

Taking into account the reassessed top levels of net worth in the SOEP, total net worth rose from 5.8 trillion euros in 2002 to 7.8 trillion euros (see Figure 2) in Scenario 1 (see below and Box 2 on the differences between Scenarios 1 and 2). This represents an increase of over one-third of the total net worth, and so emphatically underscores the extreme relevance of very high net worth individuals for wealth distribution.

Here, the variation on the basis of diverse assumptions for 2002 and 2007 is less than in 2012, since the parameters are within a narrower band of variance. Moreover, the sample quality on the upper margin of distribution is better in these years.<sup>16</sup>

<sup>12</sup> [www.forbes.com/billionaires/list/#tab:overall\\_country:Germany](http://www.forbes.com/billionaires/list/#tab:overall_country:Germany), accessed November 3, 2014.

<sup>13</sup> The reduction of the maximum shown in Table 2 from 30.9 billion euros to 15.1 billion euros from 2002 to 2007 is due to the *Forbes* list separating Karl and Theodor Albrecht's assets into two individual households after 2002.

<sup>14</sup> The data on the development of total net worth are taken from the national accounts, Federal Statistical Office, *Sektorale und Gesamtwirtschaftliche Vermögensbilanzen 1991–2012* (2013).

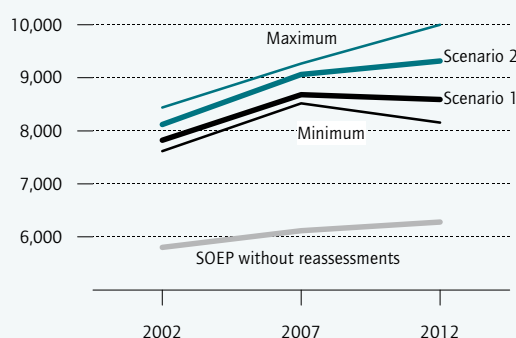
<sup>15</sup> However, among other things, this growth is based on a changed dollareuro exchange rate. The conversion into euros was based on the exchange rate on March 1 of the year in question, since this is always close to the publication date of the annual *Forbes* list.

<sup>16</sup> An indicator of the quality of the sample on the upper margin of distribution is, for example, the quotient from the actual sample size  $n$  versus the weighted number of households  $N$ , which exceed a certain wealth threshold.

Figure 2

### Total Net Worth of Households<sup>1</sup> with Reassessment of the Top Margin of Wealth

In billion euros



<sup>1</sup> Households, excluding the institutional population.

Sources: SOEPv29; Forbes magazine; own calculations.

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The simulation of the highest net worth individuals had a significant effect on the estimated total net worth of households.

On the basis of this expanded dataset, aggregated total net worth increased by just under ten percent between 2002 and 2012 (Scenario 1) but continued to remain behind the growth recorded by the German Federal Statistical Office's (FSO's) aggregated national wealth.<sup>17</sup>

### ...and Only Changed Minimally in the Years of the Financial Crisis

For a number of reasons, in comparison to 2002 and 2007, estimates of the volume of private net worth in 2012 are subject to considerable statistical uncertainty. First, the parameters of the Pareto distribution are difficult to identify, and broader intervals have to be estimated. Second, in comparison to the other years, a scaling parameter in the model was varied more robustly to compress net worth. This corrected the number of observations on the upper margin of the base sample in the SOEP survey which had fallen sharply between 2002 and 2012. Hence, the inequality of the distribution among the top high net worth individuals may well be substantially overestimated in Scenario 1 (without the scaling

In addition, a regression estimator is used to estimate the parameters for the Pareto distribution which takes into account the weighting of the cases.

**17** On the basis of the Federal Statistical Office's national accounts, the net worth of private households and non-profit private organizations has grown by 50 percent. This growth, far larger than in the survey data, may be primarily due to different methods of valuation, since real estate is listed at replacement cost in the national accounts but at market prices in the surveys.

parameter).<sup>18</sup> As a result, the inequality in wealth distribution on the upper margin in Scenario 1 is probably overestimated, while total net worth is underestimated.

Scenario 2 takes this situation into account by correcting the distribution on the assumption that the sample might be distorted toward the middle class (middle class bias).<sup>19</sup> Consequently, Scenario 2 records higher total net worth overall. Depending on the year in question, this raises the aggregated total net worth by 40 to 48 percent over the SOEP sample without reassessment of the top high net worth individuals. Moreover, this Scenario not only shows an increase in wealth from 2002 to 2007, but this growth also continued in 2012 so that the total net worth in 2012 amounted to approximately 9.3 trillion euros. According to this estimate, aggregated net worth grew by just under 15 percent in comparison to 2002.

Due to the lack of external data—for example, wealth tax statistics—as well as valid samples on the assets of high net worth individuals, the estimates of aggregated total net worth are associated with a high degree of uncertainty—evident, *inter alia*, in the significant difference between Scenarios 1 and 2. In 2012, this difference amounted to over 700 billion euros, or over eight percent in relation to Scenario 1.

### The Richest One Percent Own between 31 and 34 Percent of Total Net Worth

The expanded dataset also facilitates an estimate of the share of wealth owned by the richest one percent in the distribution of wealth (see Figure 3). In 2012, according to this data, the top one percent owned over 30 percent of the total net worth (Scenario 1).<sup>20</sup> Compared to the base SOEP scenario without reassessment, this represents growth of over two-thirds (18 percent). The growth is even stronger in Scenario 2, with the top one percent estimated to own 34 percent of total net worth, a figure

**18** The Pareto distribution estimates clearly indicate the inequality in the distribution of Pareto-distributed top net worth individuals. The lower the coefficient, the higher the inequality. Thinning out the observations on the survey's upper margin leads to underestimating the parameter; at the same time, the number of persons on the upper margin is similarly underestimated, which reduces total assets as well as the top net worth individuals and the value overall.

**19** For selective non-response in wealth surveys in the USA, see A. Kennickell and R. L. Woodburn, "Consistent Weight Design for the 1989, 1992, and 1995 SCFs, and the Distribution of Wealth," Federal Reserve Board, Survey of Consumer Finances Working Papers (1997).

**20** For the period of 2010/2011, depending on the assumptions, comparable estimates for top high net worth individuals based on HFCS and Forbes data show the top five percent owning 51 to 53 percent of total net worth; see P. Vermeulen (2014), "How fat is the top tail of the wealth distribution?," Working Paper Series 1692, European Central Bank. Estimates using the SOEP and Forbes data result in a share owned by top five percent of 52 percent (Scenario 1) to 57 percent (Scenario 2).



## Box 2

### Methodological Aspects of Estimating the Assets of High Net Worth Individuals

In the upper part of the distribution, a Pareto distribution can be used to estimate the distribution of income and assets. The distribution's probability density is then given by

$$f(x) = \frac{\alpha}{w_{min}} \left( \frac{w_{min}}{x} \right)^{\alpha+1}$$

where  $\alpha$  is a constant parameter, also known as the Pareto coefficient, and  $w_{min}$  describes the threshold from which a particular distribution can be approximated using a Pareto distribution.

The model used here to estimate the upper margin of wealth distribution is based on a combination of survey data and data on the absolute peak of distribution derived from all those with German citizenship on the list of billionaires published annually by the US *Forbes* magazine. However, the *Forbes* lists do not provide sufficient details every year to be able to determine whether these individuals are also living in Germany.<sup>1</sup>

To estimate the assets of high net worth individuals, it is necessary to combine survey datasets and the *Forbes* list, since there is no alternative source of data which provides a near adequate picture of their real wealth.

The method applied here started by estimating the Pareto distribution parameters on the basis of the net worth of households in the surveys and the data on the high net worth individuals. In this process, it was assumed that the individuals on the *Forbes* list each represent a single household.<sup>2</sup> Afterwards, the empirically observed cases between  $w_{min}$  and the billionaires known from the *Forbes* list were deleted, and this part simulated in the dataset to match the estimated Pareto distribution. As a result, the inequality statistics and the percentages of the richer strata were recalculated. These then convey a more realistic picture of the associations than the original survey data.

Since the *Forbes* list gives the net worth of individuals in US dollars, the exchange rate on March 1 of the year in question was taken to convert the amounts into euros. March 1 is always close to the publication date of the *Forbes* list in spring.

This process, though, is connected to additional assumptions which lead to an increased degree of uncertainty in the estimates, as explained below.

(1) For example, no statistical tests are applicable to determine or falsify a selected  $\alpha$  or  $w_{min}$  when working with data from different sources. Here,  $w_{min}$  is determined graphically; simulations, however, show that the estimated value of  $\alpha$  relative to  $w_{min}$  exhibits a robustly regular shape, i.e., at least one range of values can be given which, with a very high probability, also includes the real value of  $w_{min}$ . Setting  $w_{min}$  too low leads to results underestimating the concentration of wealth on the upper margin; if the figure is set too high, the concentration is overestimated. For these calculations,  $w_{min}$  represented a band from 900,000 to 1,350,000 euros. The variation effect results in a "minimum" and a "maximum" (see below).

(2) Surveys suffer from a differential nonresponse on the upper margins of wealth distribution. Studies in the US have shown that the probability of taking part in such a survey is negatively correlated to an individual's net worth.<sup>3</sup> Since extrapolation factors are allowed for when calculating the Pareto parameter with a regression estimator,<sup>4</sup> these should, as far as possible, take into account the structure of the differential nonresponse. Should this either not be possible or only partially since, as in reality, the structure is simply unknown, the concentration of net worth on the upper margin will be overestimated, as can be demonstrated accordingly in simulations.

(3) The problems in estimating  $\alpha$  described in (2) are also connected to the question of exactly how many households lie above the value of  $w_{min}$ . If one assumes a typical distortion toward the middle class in the sample data, i.e., including a disproportionate number of persons from the middle or upper middle class, the figure for households in the Pareto distribution estimated on the basis of the survey will be too

<sup>1</sup> Moreover, there may also be individuals living in Germany who are not German nationals but should be classified together with other private households.

<sup>2</sup> It is not possible to tell from the *Forbes* list whether the households of these individuals include other members or not.

<sup>3</sup> See A. Kennickell and R. L. Woodburn, "Consistent Weight Design for the 1989, 1992, and 1995 SCFs, and the Distribution of Wealth," Federal Reserve Board, Survey of Consumer Finances Working Papers (1997).

<sup>4</sup> It is not possible to determine the  $w_{min}$  parameter using the alternative of maximum-likelihood estimation if the observations are taken from two different datasets, see P. Vermeulen (2014).

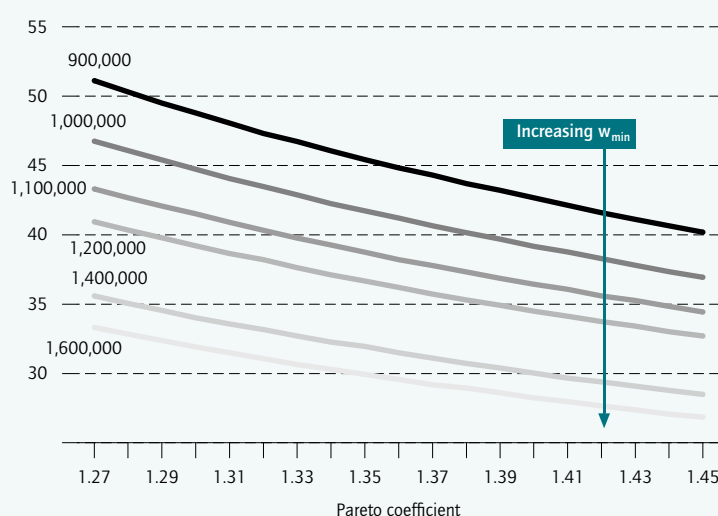


## Box 2 Continuation

Figure

### Changes to Total Net Worth<sup>1</sup> by Reassessment in Relation to $\alpha$ and $w_{min}$

In percent



<sup>1</sup> Households, excluding the institutional population.

Sources: SOEPv29; Forbes magazine; own calculations.

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low, while the inequality within the group of the top high net worth individuals will be overestimated (see (2)). Hence, one can observe here two contrary effects for inequality and the concentration of wealth on the upper margin.

(4) The issue of the reliability of the data in "rich lists" published in such magazines as *Forbes* also remains unresolved. Assuming that mistakes in the details are merely coincidental would have a negligible effect on the estimated assessments here. However, should the estimates be structurally too high or too low, this would have a significant impact on the estimations. Admittedly, since neither the sources of data nor the method of obtaining the information are made public, the details in the list ultimately cannot be verified.<sup>5</sup>

<sup>5</sup> When US federal tax authority researchers compared the tax data of deceased persons and the Forbes list, they discovered that the list

### Two Scenarios to Determine the Distribution of High Net Worth Individuals

Here, the parameter  $w_{min}$  is calculated both graphically and empirically since  $\alpha$  follows a regular path relative to  $w_{min}$  and so the two parameters can be determined simultaneously. Determining  $w_{min}$  using other methods or expert previous knowledge can distort the calculations. For example, the illustration shows how the total net worth in 2012 after reassessing the high net worth sector varies relative to  $\alpha$  and  $w_{min}$ . The lower  $w_{min}$  is, the higher the reassessed amount of wealth. A similar pattern can be observed with the Pareto coefficient  $\alpha$ . If  $w_{min}$  is set too low for a particular calculation, this results, in this empirical case, in a more severe distortion in the estimation of total net worth than setting  $\alpha$  too low.

In order to remedy (2) and (3) we have introduced an additional scaling parameter which serves to compress the observed distribution on the upper margin to counter the potential underestimation of  $\alpha$  (inequality too high) as well as produce variations in the number of households above  $w_{min}$  (increasing total net worth, smaller gaps between survey and external data). In the simulation, the scaling parameter variation amounted to a minimum value of 0.95 and a maximum of 1.2.

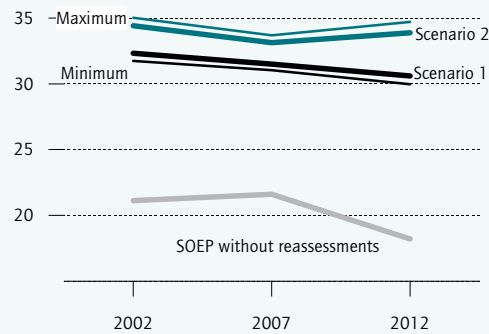
As a result, this facilitated a scenario with least compression ("Scenario 1") as well as a scenario with maximum compression ("Scenario 2"). Additional variations within Scenarios 1 and 2 result from estimating different values for  $w_{min}$  and  $\alpha$  in line with the uncertain identification of parameters (particularly in 2012) due to the lower number of observations on the upper margin of distribution in the SOEP survey. Following the parameter  $w_{min}$  as determined by the graph, the regression estimates of the  $\alpha$  parameter fluctuate between 1.33 and 1.38 (in 2002 and 2012) as well as 1.35 and 1.40 (in 2007). In the graphs, the minimum and maximum values of the estimations from varying this parameter are clearly labeled "minimum" and "maximum."

overestimated net worth by approximately 50 percent, primarily due to assessment difficulties, fiscal distinctions, and poor assessment of liabilities, see B. Raub, B. Johnson, and J. Newcomb: "A Comparison of Wealth Estimates for America's Wealthiest Descendants Using Tax Data and Data from the Forbes 400," National Tax Association Proceedings, 103rd Annual Conference on Taxation (2010): 128–135.

Figure 3

### Share of the Top One Percent of Total Net Worth<sup>1</sup>

In percent



<sup>1</sup> Households, excluding the institutional population.

Sources: SOEPv29; Forbes magazine; own calculations.

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The simulation shows an estimated share of the top one percent of approximately 30 to 35 percent.

almost twice as high as that in the SOEP survey without the requisite reassessment.

In addition, over time, the base scenario shows different trends from the expanded dataset. While a slight reduction in the share of the top one percent can be identified in the base scenario between 2002 and 2012 (21 percent to 18 percent), no significant change is evident in the estimates using the expanded dataset, even with the financial market crisis during this period.

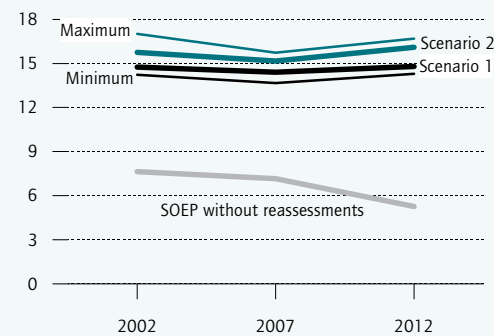
With the same variation in assumptions and parameters, the share of the richest 0.1 percent of households in Germany is between 14 and 16 percent (see Figure 4). Hence, in comparison to the SOEP survey without reassessment, the wealth share of these top high net worth households has tripled (five percent in 2012).

We define the wealthy as the richest ten percent of households minus the top one percent, i.e., all those households between the 90th and 99th percentile of wealth distribution (see Figure 5). According to the estimates of total net worth using base scenario data, their share from 2002 to 2012 was approximately 36 percent. The expanded dataset allows the extrapolation of various trends. In Scenario 2, between 2002 and 2012, this group's share of wealth increased by four percentage points to 38 percent. In Scenario 1, the share of the wealthy also rose initially by around four percent between 2002 and 2007 but declined slightly again in the

Figure 4

### Share of the Top 0.1 Percent of Total Net Worth<sup>1</sup>

In percent



<sup>1</sup> Households, excluding the institutional population.

Sources: SOEPv29; Forbes magazine; own calculations.

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In 2012, reassessment tripled the share of the top 0.1 percent.

following years. However, in comparison to the SOEP survey without reassessments, the reassessment at the upper margin resulted in virtually no change in the net worth share of the wealthy.

Overall, on the basis of these figures, the richest ten percent of the wealth distribution accounts for 74 percent (Scenario 2) of total net worth in 2012. This value is substantially higher than the previously published figure of over 60 percent based on sheer population surveys.<sup>21</sup>

## Conclusion

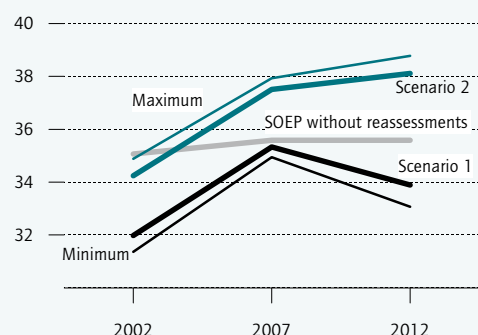
In recent years, the targeted surveys by the SOEP and the Bundesbank's *PHF* study have considerably improved the data available on the distribution of private wealth in Germany, although the situation is still not entirely satisfactory. However, this only applies to the sector of high net worth individuals. Despite considerable efforts to include the very wealthy in the random sample interviews, this has only had limited success in surveys since hardly any multimillionaires participate and—also due to their very low numbers—no billionaires are in the samples. However, given that wealth distribution shows far greater inequality than current income—as is known in prin-

<sup>21</sup> See for example J. R. Frick and M. M. Grabka, "Gestiegene Vermögensungleichheit in Deutschland," Wochenbericht des DIW Berlin, no. 4 (2009): 54–67.

Figure 5

**Share of the Wealthy of Total Net Worth<sup>1</sup>**

In percent



1 Households 90th to 99th percentiles, households, excluding the institutional population.

Sources: SOEPv29; Forbes magazine; own calculations.

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Reassessment has relatively little impact on the wealthy's share of net worth.

ciple from other studies—the very wealthy are more important for statistically determining inequality ratios in such random samples. Including the very wealthy in a reassessment of the figures can lead to improved estimates for the sum of aggregate wealth as well as wealth inequality overall. The validity of such a reassessment is, however, based on a number of assumptions which generate a greater level of insecurity in the estimated re-

sults. In particular, there is a lack of valid external statistics or official lists<sup>22</sup> to calibrate estimates and increase their accuracy. In other countries, for example in Spain, wealth tax details provide data that are considerably more precise. In Germany, although this problem cannot be completely resolved by targeted and more comprehensive surveys, it can be substantially reduced.

Although the estimates presented here are calculated from an expanded SOEP dataset based on a variety of assumptions, they do tend to indicate there is, in all probability, considerably higher wealth inequality in Germany than the standard survey data could have feasibly described previously. For example, the top one percent may well account for over 30 percent of the total net worth, and the top 0.1 percent for as much as approximately 14 to 17 percent. As a result, in comparison to the estimates solely based on surveys, the top 0.1 percent's share of total net worth tripled in 2012.

The uncertainty of the estimates shows that improving the possible methods for acquiring statistical data on the net worth of households continues to be an important task. Here, policymakers also have to play their part and work together with the research community on projects to improve the insufficiency of the existing datasets.

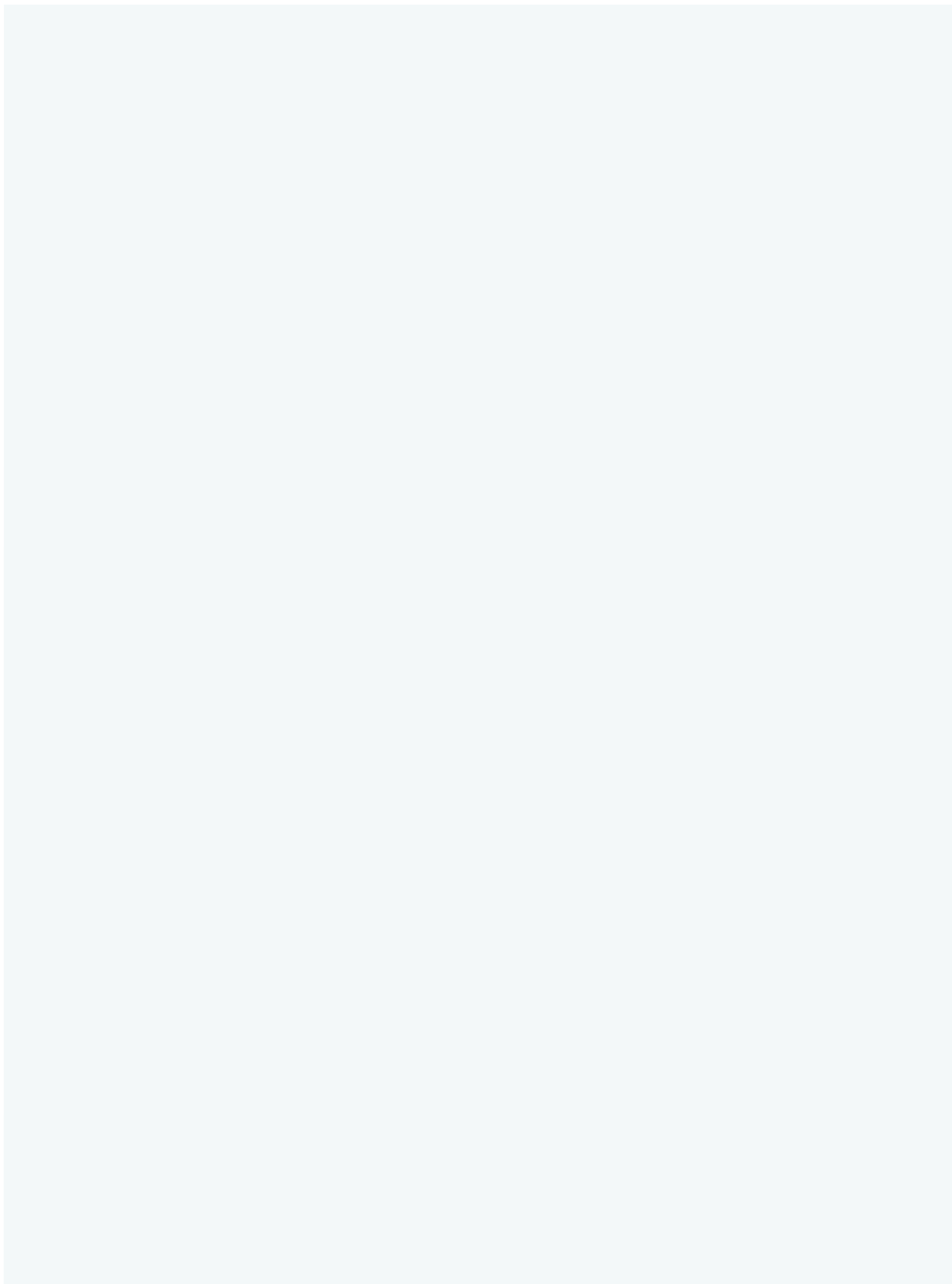
**22** Sweden, for example, has compiled a register for decades of all persons subject to a wealth tax. The data from these censuses allow valid statements on the distribution of wealth and national wealth overall. However, recently Sweden suspended its wealth tax so that now this country also has difficulties in making valid statements on wealth distribution.

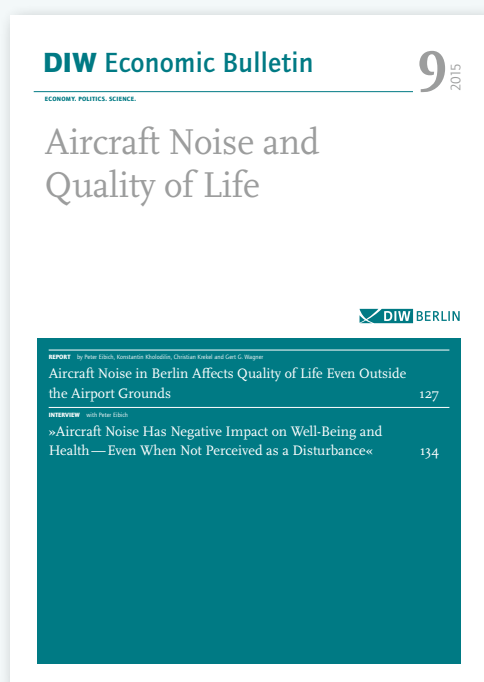
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# Aircraft Noise in Berlin Affects Quality of Life Even Outside the Airport Grounds

By Peter Eibich, Konstantin Kholodilin, Christian Krekel and Gert G. Wagner

Aircraft noise is a particularly problematic source of noise as many airports are located in or near major cities and, as a result, densely populated areas are affected. Data from the Berlin Aging Study II (Berliner Altersstudie II, BASE-II), whose socio-economic module is based on the longitudinal Socio-Economic Panel (SOEP) study which has been conducted since 1984, allows us to examine the effect of different levels of aircraft noise on the subjective well-being and health of the older residents of a major city, in this case Berlin. The findings show that the presence of aircraft noise, also measured using objective aircraft noise data, is associated with significantly reduced well-being, lower satisfaction with one's living environment, and poorer health. The association between well-being and a crossing altitude reduced by 100 meters is *given certain assumptions* – for crossing altitudes of between 1,000 and 2,500m – comparable to an income loss of between 30 and 117 euros per month.

Publicly and in the media, aircraft noise is often associated with restrictions on well-being and lasting damage to health. Fears of the impacts on individuals' health are reflected *inter alia* in discussions on future flight paths for the Berlin Brandenburg International Airport (BER).<sup>1</sup> Additionally, aircraft noise is associated with negative material consequences empirically evidenced through falling property and land prices.<sup>2</sup> The health effects of aircraft noise have already been analyzed in several medical research studies. The findings suggest that aircraft noise *inter alia* is also associated with an increased risk of cardiovascular diseases, sleep disorders in adults, and impaired cognitive development in children.<sup>3</sup> There are few studies in the economic literature that deal with the effects of aircraft noise.<sup>4</sup> For example, Van Praag and Baarsma (2005) studied whether the low cost of housing in the vicinity of Amsterdam airport offset the negative impact of the aircraft noise. They have found evidence leading them to conclude that loss of

<sup>1</sup> See P. Neumann, "So macht der Fluglärm Anwohner krank," Berliner Zeitung, March 23, 2014, available online at <http://www.berlinerzeitung.de/hauptstadtflughafen/klage-gegen-flughafen-tegel-so-macht-der-fluglaerm-anwohner-krank,11546166,26635970.html>, last accessed on December 16, 2014; and R. Kotsch, "Ungerecht, aber unausweichlich," Frankfurter Rundschau, January 26, 2012, available online at <http://www.fr-online.de/politik/aerger-um-flugrouten-ueber-berlin-ungerecht-aber-unausweichlich,1472596,11513756.html>, last accessed on December 16, 2014.

<sup>2</sup> Andreas Mense and Konstantin Kholodilin, "Noise expectations and house prices: the reaction of property prices to an airport expansion," The Annals of Regional Science, vol. 52(3) (2013): 763–797.

<sup>3</sup> See A. Hansell et al., "Aircraft noise and cardiovascular disease near Heathrow airport in London: small area study," British Medical Journal, vol. 347 (2013): 5432; S. Perron et al., "Review of the effect of aircraft noise on sleep disturbance in adults," Noise & Health, vol. 14, no. 57 (2012): 58–67; S.A. Stansfeld et al., "Aircraft and road traffic noise and children's cognition and health: a cross-national study," The Lancet, vol. 365, no. 9475 (2005): 1942–1949.

<sup>4</sup> See D.A. Black et al., "Aircraft noise exposure and resident's stress and hypertension: A public health perspective for airport environmental management," Journal of Air Transport Management, vol. 13, no. 5 (2007): 264–275; S. Boes et al., "Aircraft Noise, Health, And Residential Sorting: Evidence From Two Quasi-Experiments," Health Economics, vol. 22, no. 9 (2013): 1037–1051; and B.M.S. van Praag and B.E. Baarsma, "Using Happiness Surveys to Value Intangibles: The Case of Airport Noise," Economic Journal, vol. 115 (2005): 224–246.

satisfaction through aircraft noise heavily outweighs the positive effect of low housing costs. There are currently no reliable empirical analyses for Berlin. Data from the Berlin Aging Study II (*BASE-II*) has allowed us to examine the effects of aircraft noise in Berlin on a sample of primarily elderly residents.<sup>5</sup>

### Methodological Challenges in Analyzing the Impact of Aircraft Noise

The key methodological problem inherent in the analysis of aircraft noise is that affected residential areas are not readily comparable with non-affected areas. For example, housing costs are often lower because affected neighborhoods are more likely to be located in the suburbs; accordingly, the socio-economic status of the residents in these districts is not generally representative of the entire population of the city. In addition, individuals perceive the same objective noise pollution very differently. Consequently, it is to be expected that individuals who are particularly sensitive to noise would not move to affected residential areas or would move away from a newly affected area. This selective mobility can lead to greater depreciation of housing prices and therefore the neighborhood as a whole.<sup>6</sup>

A simple comparison of well-being and health in affected and non-affected areas would, therefore, only give a distorted picture of the causal impact of aircraft noise because residents living in affected areas are frequently “resistant” individuals.<sup>7</sup>

### Berlin Districts Affected by Aircraft Noise to Varying Degrees

The Berlin Aging Study II (*Berliner Altersstudie II, BASE-II*) is a multidisciplinary study on the determinants of successful aging. The sample (see Box 1) is comprised of a young subsample (aged between 20 and 35) and an old subsample (aged between 60 and 85). Of course, this means the sample cannot be considered representative of the Berlin population, neither in terms of geographical distribution nor in terms of the age structure of the residents. Nevertheless, the data provide a number of advantages that allow us to examine, using

examples, the possible effects of aircraft noise to varying degrees on the subjective well-being and health of the Berlin population.

In particular, the data clearly indicate whether or not an individual lives in an area affected by noise<sup>8</sup> and whether or not that person is disturbed by the aircraft noise.<sup>9</sup> Accordingly, the empirical analysis can determine whether perceived aircraft noise has a negative effect on well-being and health in general) or whether the noise only affects sensitive residents. Nonetheless, despite it being possible to make this distinction, it is still difficult to draw conclusions about the residents of areas newly affected by aircraft noise since it is not known how many noise-sensitive people have moved away from the area near the airport, or have never moved there in the first place.

Figure 1 shows the extent of aircraft noise levels predicted in 60 areas of Berlin and the share of respondents who indicated they were disturbed by the presence of aircraft noise. The degree of aircraft noise was measured as the reciprocal value of the mean crossing altitude, i.e., the objective noise level is lower in areas with a high crossing altitude (shown as light gray shading) than in areas with a low crossing altitude (shown as dark gray shading). The figures indicate the percentage of respondents who stated they had been affected by aircraft noise and were disturbed by it.<sup>10</sup>

Of the 2,099 participants in the socio-economic module of the Berlin Aging Study II in the 2012 survey year, 728 people (about one-third) stated there was aircraft noise where they lived. Of these 728 survey participants, only 275 indicated they were disturbed by this aircraft noise. This represents about 35 percent of all individuals affected by aircraft noise and around 13 percent of the total sample. However, it should be noted that the geographical distribution of survey participants cannot be considered representative of the overall population of Berlin.

In areas exposed to higher levels of aircraft noise, this is more frequently perceived as disturbing (see Figure 1). Nevertheless, there are a number of areas set to be exposed to increased aircraft noise where only a few

<sup>5</sup> For more information on the Berliner Altersstudie II (*BASE-II*) largely funded by the Federal Ministry for Education and Research (Bundesministerium für Bildung und Forschung, BMBF), see Lars Bertram et al., “Cohort Profile: The Berlin Aging Study II (*BASE-II*),” *International Journal of Epidemiology*, vol. 43, no. 3 (2014): 703–712 (the economic module based on the Socio-Economic Panel (SOEP) study is subsidized under the BMBF funding code 16SV5537).

<sup>6</sup> See T. Winke, “Der Einfluss von erwartetem und tatsächlichem Fluglärm auf Wohnungspreise” (mimeo).

<sup>7</sup> This effect was proven *inter alia* in the analyses by Boes et al., “Aircraft Noise.”

<sup>8</sup> The question was, “Is there aircraft noise where you live?”

<sup>9</sup> The question was, “Does the aircraft noise in your area disturb you?”

<sup>10</sup> For data protection reasons, areas with fewer than 20 observations were not included in this diagram. This affects the following areas, Gesundbrunnen, Kreuzberg Nord, Kreuzberg Süd, Kreuzberg Ost, Buch, Nördliches Weissensee, Südliches Weissensee, Südlicher Prenzlauer Berg, Charlottenburg-Wilmersdorf 1, Spandau 3, Schöneberg Nord, Lichtenrade, Gropiusstadt, Treptow-Köpenick 3, Hellersdorf, Biesdorf, Hohenschönhausen Nord, Hohenschönhausen Süd, Reinickendorf Ost, and Tegel. In the regression analyses, however, these areas were included, albeit with a smaller weight.



## Box 1

**BASE-II and SOEP**

*BASE-II* is a joint multidisciplinary project involving the *Geriatrics* Research Group at the Charité, the Max Planck Institute for Human Development, the Max Planck Institute for Molecular Genetics, the Center for Medical Research at the University of Tübingen, and the research infrastructure Socio-Economic Panel (SOEP) at DIW Berlin. *BASE-II* is funded by the Ministry of Education and Research (VDI/VDE grant nos.: 16V5837, 16SV5537, 16SV5536K, and 16SV5538).

The aim of *BASE-II* is to research the determinants of successful aging. While in the previous study, *BASE-I*, the focus was on individuals aged 70 to 100, *BASE-II* focuses on the "young old," i.e., people aged 60 to 80. The sample comprised approximately 1,600 elderly people and a younger control group of approximately 600 individuals aged between 20 and 35.

Data collection included two medical studies at the Charité and two sessions of psychological and cognitive tests at the Max Planck Institute for Human Development. Participants also answered a questionnaire about their life circumstances and their biographies, similar to questionnaires used in the Germany-wide representative household survey SOEP.<sup>1</sup>

Table 1 describes the data used in the present study. The figures given are mean values for respondents affected and unaffected by aircraft noise. Respondents were asked to appraise their satisfaction with various aspects of life using an 11-point scale between 0 and 10, with 10 indicating the highest level of satisfaction. "Fatigue" indicates how often participants, by their own account, felt tired in the past four weeks. The response options ranged from "1-very rarely" to "5-very often." "Healthy eating" indicates to what degree respondents focused on eating a healthy diet; the value 1 stands for "very much" and the value of 4 for "not at all." For the "poor health" variable, participants assessed their current health on a scale from 1 ("very good") to 5 ("bad"); hence, the higher the value, the poorer the health. The migraine, hypertension, depression, and sleep disturbance variables are either "1" if respondents indicated they had been given the corresponding diagnosis in the past, or "0" if the respective condition had not been diagnosed. Similarly, the smoking variable is either "1" if a participant smokes or "0" if he/she does not. Risk appetite is

measured on an 11-point scale from 0 ("not at all willing to take risks") to 10 ("very willing to take risks"). For the "political views" variable, respondents were asked to classify their political views on an 11-point scale from 0 ("far left") to 10 ("far right").

Table 1

### Differences between Affected and Non-Affected Participants in the Sample Means

Variable	Mean	Number of individuals	Mean	Number of individuals
Are you affected by aircraft noise?	no		yes	
Life satisfaction	7.6	1 368	7.4	726
Health satisfaction	6.9	1 368	6.5	728
Sleep satisfaction	6.8	1 365	6.5	727
Satisfaction with friends	7.5	1 355	7.3	725
Satisfaction with dwelling	7.8	1 349	7.9	724
Satisfaction with residential area	8.3	1 362	7.9	722
Satisfaction with living environment	8.0	1 363	7.6	722
Poor health	2.5	1 368	2.7	727
Fatigue	3.0	1 371	3.0	724
Sleep duration on weekdays	7.2	1 369	7.1	725
Sleep duration on weekends	7.6	1 366	7.3	728
Sleep disturbance	0.08	1 371	0.13	728
Healthy eating	2.3	1 371	2.3	727
Smoking	0.13	1 368	0.11	726
Migraine	0.06	1 371	0.07	728
Hypertension	0.36	1 371	0.42	728
Depression	0.11	1 371	0.15	728
Risk appetite	5.1	1 348	5.1	717
Political views	4.0	1 328	4.0	716
Age	58.9	1 358	63.1	726
Share of men	0.54	1 371	0.52	728
Employed	0.23	1 371	0.17	728
Number of children	1.2	1 371	1.5	728
Married	0.50	1 371	0.62	728
Net household income	2 445.13	1 272	2 514.20	678
Years of education	13.5	1 371	13.8	728

Sources: *BASE-II*, *Deutsche Flugsicherung*, calculations by DIW Berlin.

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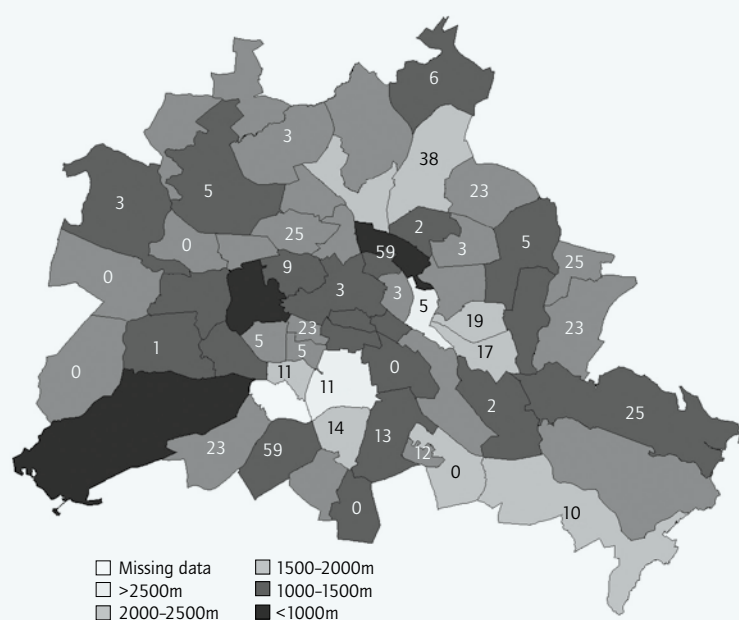
<sup>1</sup> A. Boeckenhoff, "The Socio-Economic Module of the Berlin Aging Study II (SOEP-BASE): Description, Structure, and Questionnaire," SOEPpapers on Multidisciplinary Panel Data Research 568 (Berlin: 2013).

Participants affected by aircraft noise are on average less satisfied, are older and have a higher income than non-affected participants.

Figure 1

### Average crossing altitude and self-reported disturbance by aircraft noise in Berlin

Units: altitude in meters and fractions of disturbance in percent



Sources: BASE-II, Deutsche Flugsicherung; calculations by DIW Berlin.

© DIW Berlin

A low crossing altitude is associated with higher noise pollution in districts

respondents are disturbed by it and vice versa. Equally, it is clear that both the objective aircraft noise and the subjectively perceived noise pollution are not only restricted to areas in close proximity to Berlin's two current airports.

### Aircraft Noise Affects Subjective Well-Being and Satisfaction with Housing

The present study examines the impact of aircraft noise on individuals' well-being and satisfaction with their housing. In addition, the effect on sleep and health is then measured according to various health indicators (see Table). To achieve this, a linear regression model is estimated to indicate the average impact of aircraft noise on the dependent variable. Aircraft noise is first measured with a binary variable, which is given the value "1" if a respondent claims to be affected by aircraft noise; otherwise it is given a value of "0." As mentioned above, since residents of areas affected by aircraft noise also differ from those in non-affected areas in terms of their noise sensitivity, and these differences even affect

the dependent variable, additional control variables are used in the models to statistically control for systematic differences in age, marital status, income, employment status, education, and number of children of respondents in different regions.

The findings of the first model, in which the effect of the presence of aircraft noise is estimated, are shown in Figure 2. The various dependent variables are indicated on the vertical axis. The horizontal axis represents the extent of the influence of aircraft noise. The dots show the estimated impact on the relevant variable, after systematic differences in the control variables have been eliminated. The horizontal line represents the 95-percent confidence interval which indicates the degree of statistical accuracy of the estimate.

To allow a comparison of the different domains of well-being and health, the variables were scaled to a mean of zero and a standard deviation of one. This type of standardization ensures that the magnitude of the effects, which were measured on different scales, can be compared directly with one another (in standard deviations). If the confidence interval includes the value zero (vertical red line), there is a 95-percent probability that the estimated effect cannot be differentiated from zero, i. e., no effect. This means that the hypothesis "aircraft noise has no effect" cannot be dismissed.

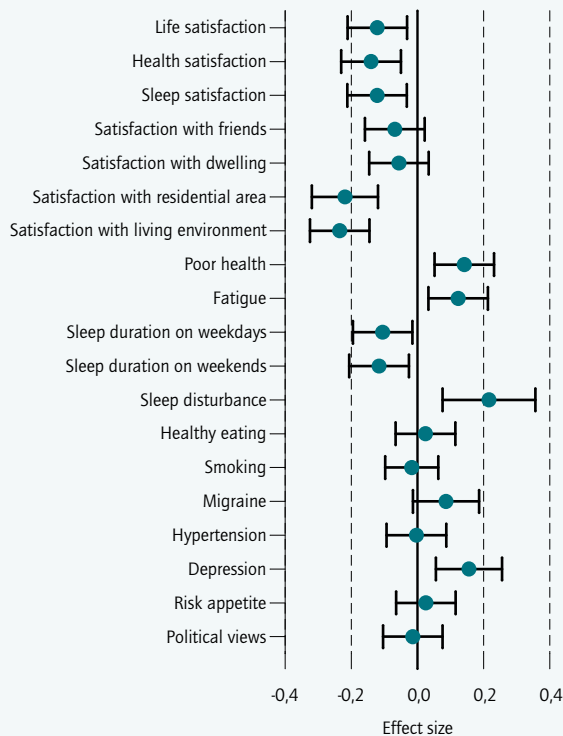
It is clear from Figure 2 that individuals affected by aircraft noise have below-average satisfaction with their living conditions. Aircraft noise is negatively associated with general life satisfaction, satisfaction with own health, with the residential area, and the living environment (parks, noise levels, and cleanliness). Additionally, those affected consider their health to be poor and frequently report sleep disorders or depression.

These findings cannot be interpreted as causal effects of aircraft noise on well-being and health without further assumptions. First, there is the issue mentioned above related to the selection of people in certain neighborhoods. Indeed, in such cases, the true impact of aircraft noise would be even greater than the effect estimated here because the potential negative impact on those who have moved away or never moved to the area in the first place cannot be taken into account. Second, other residential areas affected by aircraft noise are not readily comparable with neighborhoods unaffected by aircraft noise. For example, lower rents and housing prices might lead to individuals with a lower socio-economic status moving to those areas, meaning that unemployment or low income are the real causes of the reduced life satisfaction. Therefore, in the analyses, we statistically controlled for differences in age, marital status, income, employment

Figure 2

### Association between perceived aircraft noise and well-being and health

Unit: in standard deviations



Source: BASE-II, calculations by DIW Berlin.

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Perceived aircraft noise is associated with reduced well-being and a lower satisfaction with the living environment

status, education, and number of children of the respondents. Despite all this, unobserved selection bias cannot be completely ruled out.

Another methodological limitation is that the residents themselves provided information about the noise pollution. This is particularly problematic if dissatisfied people more frequently state they are affected by aircraft noise than those who are satisfied. To exclude this possibility, objective data about crossing altitudes was used as a measure of aircraft noise (see Box 2). The findings confirm these conclusions based on the self-assessment of aircraft noise (see Figure 3). Thus, a lower crossing al-

#### Box 2

##### Small-Scale Geo-Referencing

The survey data from the Berlin Aging Study II (BASE-II) and the Socio-Economic Panel (SOEP) study were anonymously linked to small-scale neighborhood information (e.g., regional unemployment rate, average income, and green space provision), allowing statistical analyses of the effect of neighborhood and contextual factors on a single individual. In order to establish the link, the survey data were given geo-references (e.g., zip codes or geo-coordinates). The geo-reference also allows other geo-referenced data (e.g., flight path data, as used in this study) to be linked to the survey data.

The respondents' addresses are converted into geographic coordinates at the fieldwork organization *TNS Sozialforschung*, directly. It stores the address but does not pass them on. The geographic coordinates of the addresses are randomly "blurred" within a certain radius so that, for example, only sections of road can be identified within densely populated areas but not precise addresses.<sup>1</sup> Further technical and organizational data protection measures assure the anonymity of participants at all times.<sup>2</sup>

<sup>1</sup> For more information, see G. Knies and C. K. Spieß, "Regional Data in the German Socio-Economic Panel study (SOEP)," DIW Data Documentation 17 (Berlin: 2007). Available online at [http://www.diw.de/documents/publikationen/73/55738/diw\\_datadoc\\_2007-017.pdf](http://www.diw.de/documents/publikationen/73/55738/diw_datadoc_2007-017.pdf), last accessed on August 14, 2014.

<sup>2</sup> See J. Göbel and B. Pauer, "Datenschutzkonzept zur Nutzung von SOEPgeo im Forschungsdatenzentrum SOEP am DIW Berlin," Journal of Official Statistics Berlin-Brandenburg, issue 3 (2014): 42–47.

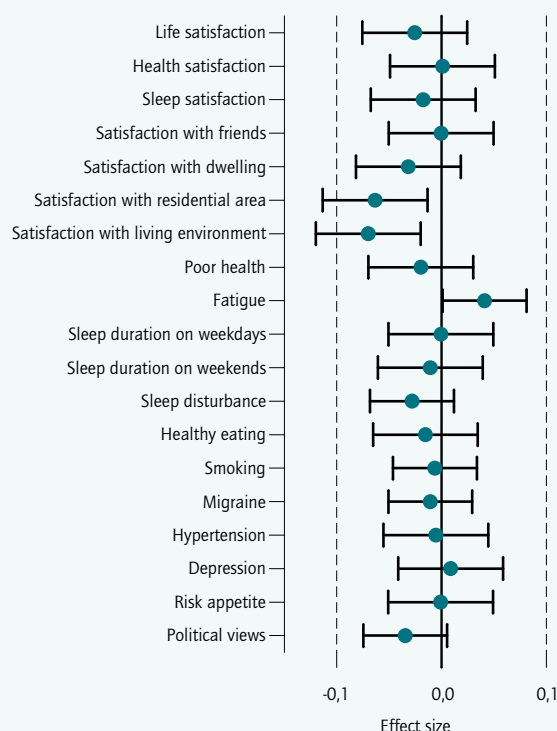
titude is associated with reduced general life satisfaction and satisfaction with housing and the residential area. In addition, residents more frequently reported suffering from depression and fatigue.

The empirical models take into account differences in the monthly household income of survey respondents. This allows us to compare the correlation between crossing altitude and well-being with the correlation between household income and well-being. This method can be used to calculate the (hypothetical) amount of money that heavily affected households would have to receive monthly to achieve the same level of life satisfaction as

Figure 3

### Associations between inverse crossing altitude and well-being and health

Unit: in standard deviations



Sources: BASE-II, Deutsche Flugsicherung, calculations by DIW Berlin.

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A lower crossing altitude is associated with reduced well-being, a lower satisfaction with the living environment and more frequent feelings of fatigue.

less severely affected households.<sup>11</sup> The amount for a crossing altitude reduced by 100 meters is between 30 and 117 euros per month (depending on the affected domain). With regard to the differences in crossing altitude outlined in Figure 1, this means that households in strongly affected areas would have to earn 450 euros more each month to achieve a level of life satisfaction comparable with those households in areas hardly affected by aircraft noise. Of course, this sample calculation refers to an extreme case in which all assumptions of the underlying regression model hold, but neverthe-

<sup>11</sup> This procedure was used, for example, by Stutzer and Frey (2008) to estimate the hypothetical compensation sum that commuters would have to receive. Van Praag and Baarsma (2005) use a similar method to quantify the cost of aircraft noise. See Stutzer, A. and Frey, B.S. "Stress that Doesn't Pay: The Commuting Paradox," *Scandinavian Journal of Economics*, vol. 110, no. 2 (2008): 339-366; Van Praag, B.M.S. and Baarsma, B.E., "Using Happiness Surveys" (2005).

### Box 3

#### Objective Aircraft Noise Data

The objective aircraft noise data are sourced from the German company responsible for air traffic control, *Deutsche Flugsicherung GmbH (DFS)*. They cover the period May 1 through October 31, 2012. The dataset contains the coordinates and crossing altitudes of all aircraft taking off from or landing at Berlin's Schönefeld and Tegel airports. There are several observations for each flight, measured every four seconds, usually stopping after a flight time of four minutes. The dataset consists of over 16 million observations corresponding to 130,063 flights. In order to determine the average crossing altitude for various neighborhoods, the total area of Berlin was represented as a 50×50 grid. The average crossing altitude was then calculated for each grid cell using the individual observations associated with that cell. The inverse average crossing altitude is used as a measure of flight intensity and, therefore, of aircraft noise in the respective grid cell.

less it illustrates the extent to which aircraft noise can affect quality of life.

In practice, a form of monetary compensation already occurs since rents and land prices are often lower in strongly affected areas.<sup>12</sup> The findings of a previous analysis show that even expectations of future noise pollution can cause substantial price falls in the local real estate market.<sup>13</sup> For every kilometer a flight corridor moves closer, a price decrease of 187 euros per square meter was observed. This means, for instance, a house located just 1.5 kilometers (linear distance) from the flight corridor will cost 561 euros per square meter less than an identical house over 4.5 kilometers away. A property with 80 square meters would therefore cost about 15,000 euros less if it were located one kilometer closer to a flight corridor. These examples suggest that the losses in life satisfaction caused by aircraft noise and described in this study have already been partly reflected in the housing market.

<sup>12</sup> Where noise pollution has been established, those moving to one of the affected areas are partly compensated for the noise pollution by lower rents and house prices. However, this argument does not hold true if there is a change to the noise pollution because then the residents affected do not benefit from falling real estate prices but will be additionally burdened.

<sup>13</sup> See A. Mense and K. Kholodilin, "Erwartete Lärmbelastung durch Großflughafen mindert Immobilienpreise im Berliner Süden," *DIW Wochenbericht*, no. 37 (2012): 3-9; Winke, "Der Einfluss" for the Frankfurt am Main region.

## Conclusion

Cross-sectional analyzes alone do not allow any causal statements to be made. Based on the empirical findings presented in this report for a non-representative sample of primarily elderly residents of Berlin, it can be tentatively concluded that the presence of aircraft noise is associated with both reduced well-being and impaired health of those affected. The real extent of the negative

impact of aircraft noise is underestimated as a result of particularly noise-sensitive people moving to quieter neighborhoods. However, moving is not always possible or reasonable in all circumstances. Furthermore, (short-term) changes to flight paths might affect residents in previously unaffected neighborhoods. In both cases, there is a need for policy-makers to take steps to mitigate the negative effects of aircraft noise at local levels.

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**JEL:** JEL: I31, R41, I12

**Keywords:** Aircraft noise, well-being, health, BASE-II, SOEP



## PART 4

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# SOEP Service Activities & Knowledge Transfer in 2015

2015



# SOEP in the Media 2015

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The topic of immigration has dominated not only the German media over the last year but also the research based on SOEP data. In 2015, the IAB-SOEP Migration Sample launched in 2013 added another 1,200 households to the sample to provide an even clearer picture of the situation of migration to Germany. Shortly before Christmas 2015, the SOEP signed an agreement with the Institute for Employment Research (IAB), the Federal Office for Migration and Refugees (BAMF) to survey around 2,000 refugees over the next three years in the framework of the IAB-BAMF-SOEP refugee sample. And initial findings from a recent study using SOEP data show that people who are bitter about their own living situation are more concerned about immigration than others.

Another topic of SOEP research that attracted a great deal of media interest in 2015 was the question of intergenerational mobility. How does it affect children's personality development when their fathers are unemployed? And how does divorce affect children's educational outcomes—especially for children from socially disadvantaged family backgrounds?

Numerous media reports were published in 2015 on SOEP-based analyses of the distribution of income and wealth in Germany. In one interview for Frankfurter Rundschau, SOEP income distribution expert Markus M. Grabka discussed the problem of poverty in Germany and its scientific predictability.

Reports on the SOEP in the media are posted on our SOEP Facebook page at:  
[www.facebook.com/soepnet.de](http://www.facebook.com/soepnet.de)

# Citizens' Dialog with Chancellor Angela Merkel



What is it that defines a “good life” in Germany? This was the topic of a discussion between Chancellor Angela Merkel and 60 randomly selected SOEP respondents at a Citizens’ Dialog held on June 1, 2015. The discussion focused on issues of social security, health, and education—topics that have been researched with SOEP data for more than 30 years. The Citizens’ Dialog with the Chancellor is also exemplary of a new direction in survey research in which

the traditional quantitative survey research is being enhanced by the additional use of qualitative survey methods (mixed methods). There are currently five research projects being conducted with the SOEP data where randomly selected respondents not only answer questionnaires but also speak directly with researchers.

# Celebrating DIW Berlin's Ninetieth Anniversary

## A Conversation with SOEP Director Jürgen Schupp

DIW Berlin celebrated its ninetieth birthday in 2015. We talked with SOEP Director Jürgen Schupp about the special role the Socio-Economic Panel plays in one of the leading economic research institutes in Germany and Europe.

***DIW Berlin was founded ninety years ago as an economic research institute focused primarily on business cycle analysis. Where do you see the institute's strengths in the year 2015?***

When I started at the DIW as a young research associate 30 years ago, our microanalytical project group, which was funded by the German Research Foundation (DFG), was fairly exotic within the more macroeconomically oriented DIW. Today, when you look at the research being done by the most recent graduates of the DIW Graduate Center, you see a balance between micro and macro analysis. In my view, this methodological diversity and the connection between macro and micro analysis is the defining strength of DIW Berlin today.

***What role does the Socio-Economic Panel (SOEP) play within DIW Berlin?***

It plays a very special role. As one of the world's leading long-term household panel studies, the SOEP provides the material for cutting-edge research, not only in economics but also in a wide range of other social scientific disciplines including psychology. The longitudinally structured data also offer a current, representative basis for evidence-based policy advice by the DIW itself, by the member institutes of the Leibniz Association, but also by many other research institutes worldwide. The SOEP has received outstanding ratings in numerous evaluations over the last 20 years both for its research output and for the quality of its infrastructure services.

***Over the past 90 years, the DIW has gone through some stormy times as well. What role do controversies play within the institute?***

Controversies provide the raw material for new ways of explaining and solving problems. In economics, but in all other research areas as well, competition for the best explanations and unbiased, evidence-based analysis is far superior to "official positions" or ideologically driven positions on issues.

***What social developments do you see as key challenges facing our society in the coming decade?***

The refugee issue will be one of the most important challenges. We will have to grapple with questions of how to foster successful integration and how to maintain social harmony and a tolerant, civil, and free and democratic society. These, along with the classic, primarily economic questions, will be the key themes in the next ten years.

***What do you personally wish the DIW Berlin on its ninetieth anniversary?***

I wish the DIW unbroken support from its funding bodies. And I wish it success and a modicum of luck in its applications for competitively awarded funding. Both of these will benefit the institute's freedom to set its own priorities and focal points in providing outstanding research, relevant policy advice, user-friendly infrastructure, and sustainable knowledge transfer, and will raise the institute's visibility at both the national and international level.

# SOEP at the European Survey Research Association (ESRA)



The SOEP had an exhibition stand at the sixth conference of the European Survey Research Association (ESRA) at the University of Iceland in Reykjavik from July 13-17, 2015, where information was provided to conference visitors on the wide range of analyses that are possible with the SOEP data. Conference attendees had the opportunity to try the grip strength test, a recognized tool used in the SOEP to measure respondents' general health status, and to compare their test results to those from the UK Household Longitudinal Study (Understanding Society) at ISER (University of Essex), which uses the same instrument in its survey. SOEP and UKHLS had their stands side by side in the exhibition area. There was also a presentation of our new data platform, [paneldata.org](http://paneldata.org), which is the relaunched version of SOEPinfo.

Twelve SOEP staff members were in Reykjavik to present recent findings and new survey methodologies based on research using the different SOEP (sub)samples, and several also chaired sessions. One of the presentations at the conference was on experiments run in the SOEP-Innovation Sample (SOEP-IS) such as the SOEP-IS Risk Module, which consists of two incentive-compatible behavioral risk-taking tasks involving described and experienced risk. It extends the SOEP by providing an assessment of individual differences that may predict real-world outcomes, such as employment, financial, and health decisions that are partly guided by individuals' risk tendencies.

Philipp Eisnecker,  
Simon Kühne, Christian  
Westermeier, Luisa  
Hilgert at ESRA 2015.

# SOEP Service

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## SOEPcampus 2015

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 2015, the SOEP held a total of eight SOEPcampus workshops in Berlin, Bochum, Mannheim, Bamberg, Köln, Sankelmark and Tübingen. And in August 2015, we also held a SOEP User Workshop at the American Sociological Association (ASA) Conference in Chicago.

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-in-Residence 2015

Since 2009, the SOEP has been offering visiting scholars the opportunity to make research visits to the SOEP in the framework of the SOEP-in-Residence program, coordinated by Christine Kurka. 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, a research stay at the SOEP is mandatory—the data are only available for use on site at the SOEP Research Data Center. Research visits to the SOEP's fieldwork organization, TNS Infratest Sozialforschung, are also possible. In 2015, the SOEP hosted a total of 46 guests from eight countries: Germany, Egypt, Italy, Canada, the USA, Belgium, the UK, and Spain. The majority of visiting researchers came from other cities within Germany.



# Results of the SOEP User Survey 2015

In winter 2015, 771 SOEP users again took part in the SOEP user survey. This year's survey covered classic questions about SOEP service and infrastructure as well as the new topics of data sharing in academia and re-analysis of data. To ensure the highest possible participation in our survey, we sent the invitation to an integrated mailing list consisting of longtime SOEP users with a data distribution contract, new users who signed a sub-contract for data use within the last year, users who download the SOEP data, and members of the SOEP mailing list. We are proud to report that we achieved the highest response rate of any year since the start of our user survey. Participation increased 13% over 2014 (see Figure 1). We are very grateful to everyone who participated in the survey.

We do not know the characteristics of our entire user community. In the following we use the term “user community” to refer to those who participated in our user survey. The results show that in 2015, our user community was 41% women and 59% men: an 8 percentage point increase in female users and the highest number of female users since the beginning of the survey in 2004.

Research staff and post-doctoral students made up one third of all respondents to the user survey, while percentage of professors has declined since last year. This is accompanied by a decline in the use of SOEP data in teaching (from 69% in 2014 to 61% in 2015). The research fields represented by SOEP users have not changed in a significant manner since the last user survey. The proportion of users from the field of economics has declined to 45% since the last survey. Around 41% of our users are from the social sciences or sociology.

## Data distribution

In this year's user survey, we wanted to find out our users' preferences for data distribution. The increasing complexity of the SOEP sample means an increasing amount of effort to generate the data. To meet this challenge, the SOEP is constantly working to improve the process of data preparation and generation. We want to give you—our users—the opportunity to tell us your preferences so that we can meet your needs as well as possible. In the survey, respondents were asked to drag and drop the aspects

of “advance data access”, “quality of data checking and testing” and “completeness of the data” into their own order of importance (see Figure 2). The results show that for our users, “advance data access” is less important than data quality checking or data completeness. Based on this, we have concluded that we should put more weight on completeness and data checking procedures, even if this means delays in data provision.

## Data documentation

We use our annual survey to evaluate the various services we provide. Respondents were asked to rate on a scale from 0 to 10 how satisfied they were with SOEP contract management, data, data downloads, and documentation. In all of these areas, the overwhelming majority of users were very satisfied with our services. And in some areas, respondents rated us even higher this year than in 2014. The importance of data documentation is also evident from the critiques and suggestions provided by respondents, which confirm the need to continue improving our work in this area. An important step in this direction has been taken with the introduction of our new metadata portal, [paneldata.org](http://paneldata.org). The difficulties entailed by learning a new way of working are evident in Figure 3. Many of our users continue to use our old metadata portal, [SOEPinfo](http://SOEPinfo), which continues to run parallel to [paneldata.org](http://paneldata.org). Almost half of all respondents were not yet aware of [paneldata.org](http://paneldata.org), at least not under this new name that we introduced instead of [SOEPinfo](http://SOEPinfo) v.2. Thanks to our respondents' extensive feedback, we have valuable ideas for facilitating the transition to [paneldata.org](http://paneldata.org).

We are working hard to optimize [paneldata.org](http://paneldata.org) and to make it as user-friendly as possible. We encourage all users to take the leap and switch over, since [paneldata.org](http://paneldata.org) contains documentation not only on SOEP-Core but also on the practical new SOEPlong, as well as the SOEP-Innovation Sample (SOEP-IS) and other studies.

Thank you again to everyone who participated in our 2015 SOEP User Survey!

Figure 1  
Number of Participants in Previous User Surveys

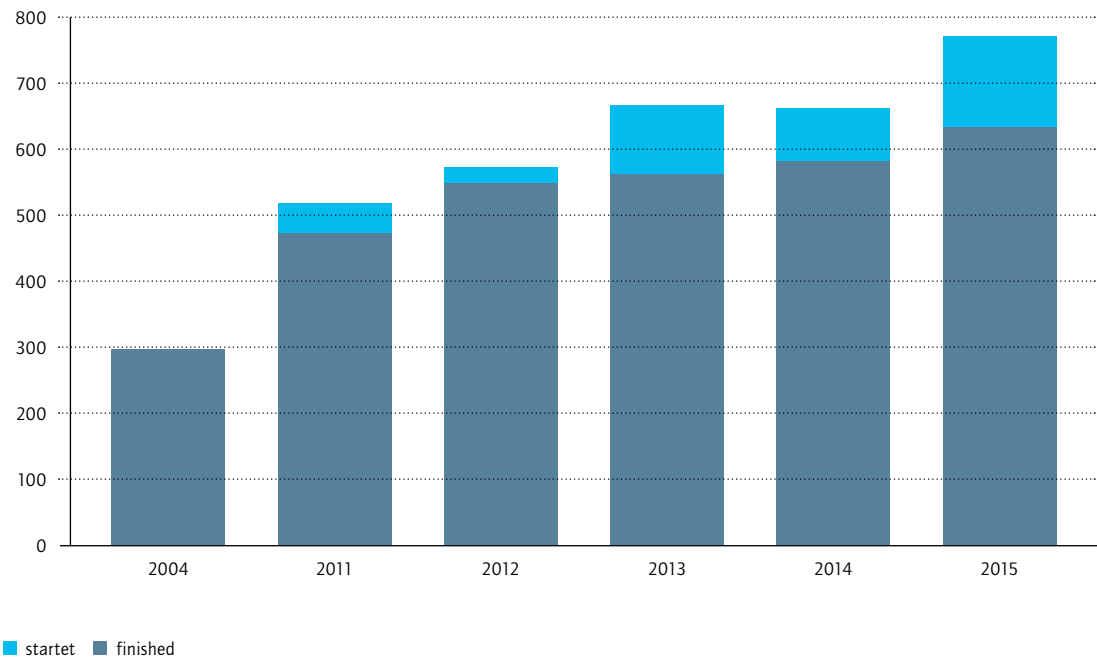


Figure 2  
Priorities for Data Transfer (n=586)

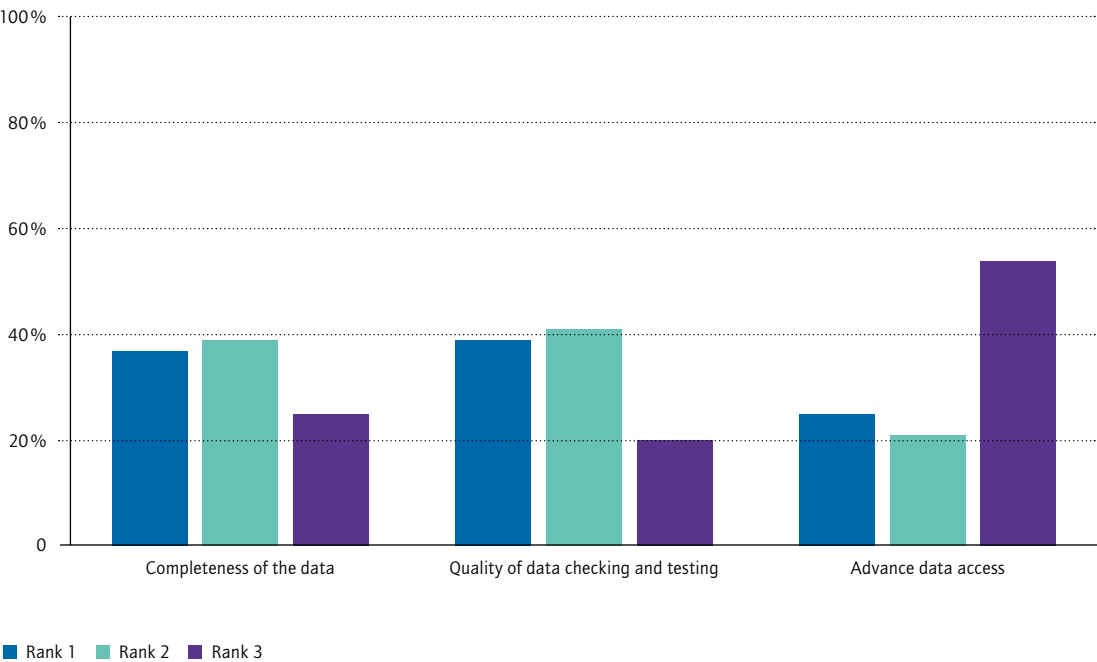
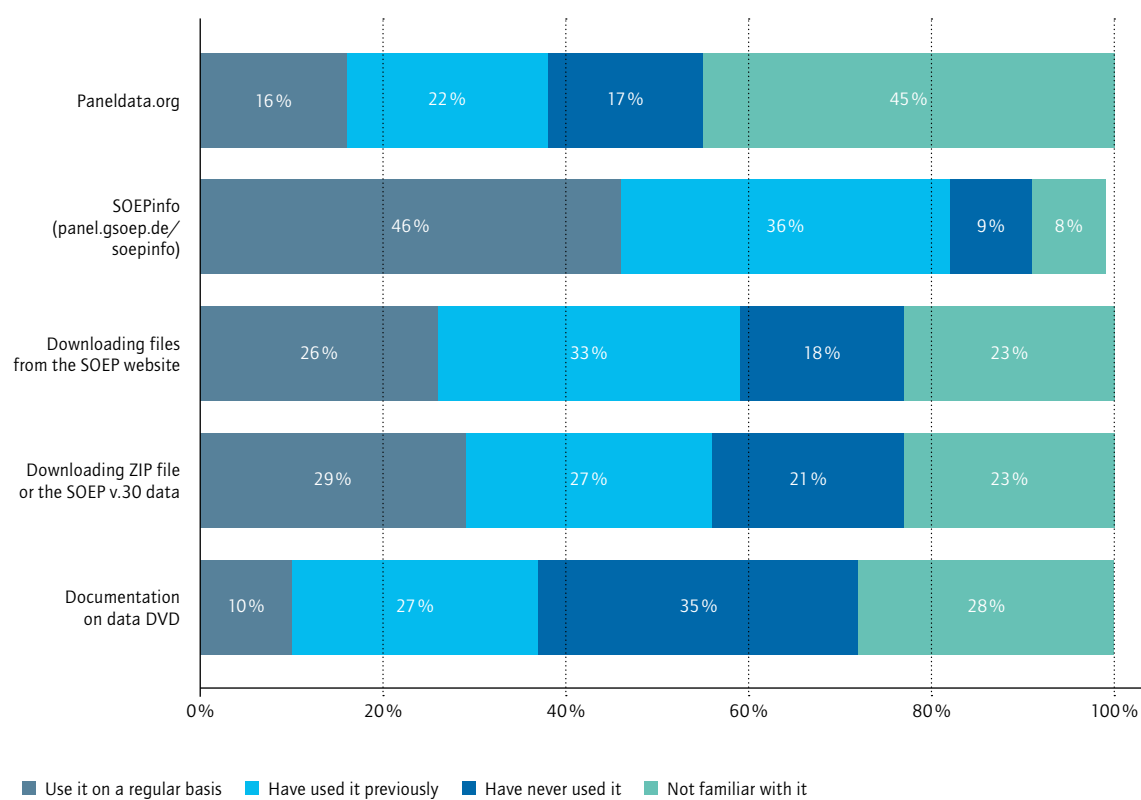




Figure 2

Which metadata portals are you familiar with and what SOEP data documentation do you use?



# SOEP Staff & Community News in 2015

- SOEP Director **Jürgen Schupp** was appointed to the advisory board of the ZBW Leibniz Information Centre for Economics. As a service infrastructure of the Leibniz Association, the ZBW runs the German National Library of Economics, the world's largest information center for economic literature, online as well as offline at its locations in Kiel and Hamburg. Jürgen Schupp will be advising the ZBW on expanding and improving its services for the 2015–2017 appointment period.
- SOEP trainee **Carolin Stolpe** completed an internship at the Institute for Social and Economic Research (ISER) in Essex as part of her studies. Her internship was supervised by Gundi Knies, a past scholarship holder at DIW Berlin and organizer of the ISER-SOEP Exchange Program.
- At an awards ceremony held on January 20, 2015, at Berlin City Hall, **Julie Specht**, Assistant Professor at the Freie Universität Berlin and Research Fellow at the SOEP, was awarded the 2014 Berliner Wissenschaftspreis (Berlin Science Prize) for young scholars. According to Governing Mayor Klaus Wowereit, this year's young scholars Wissenschaftspreis recipients "stand for the excellence of Berlin as a locus for research and clearly demonstrate the breadth of their research fields."
- **Gert G. Wagner**, SOEP Representative on the Executive Board of DIW Berlin, was appointed by the Federal Ministry of Justice and Consumer Protection to the newly established Expert Council for Consumer Policy. The nine-member body, which includes scholars from various disciplines as well as representatives from the business community and consumer associations, will advise the German government on important consumer questions and make recommendations. He was also appointed by Chancellor Angela Merkel and Federal Economics Minister Sigmar Gabriel to a scientific advisory board on the government strategy "Living well in Germany: What's important to us" ("Gut leben in Deutschland – was uns wichtig ist"). Citizen dialogues are planned to take place in the framework of the government strategy, and the results of the dialogues will be used as the basis for developing a system of social indicators. Gert Wagner will contribute his methodological experiences to this project. By lucky coincidence, the title of this government strategy is very similar to the "field name" of SOEP: "Living in Germany."
- **Michael Weinhardt** (DIW Graduate Center, now University of Bielefeld) successfully completed his dissertation (summa cum laude) in October. His advisor was SOEP Director Jürgen Schupp. The topic of his dissertation is "The influence of values on choice of occupation and intergenerational transmission of social inequality—Microanalyses for Germany". Michael completed his doctoral studies in the DIW Berlin Graduate Center of Economic and Social Research and is currently working on the European Social Survey at the University of Bielefeld.
- **Sandra Bohmann** joined the SOEP team in mid-February as a doctoral student. After completing a degree in European Business Studies at the University of Applied Sciences Regensburg and a BA in International Business Management at Oxford Brookes University, she shifted her focus slightly and completed an MA in Philosophy and Economics at the University of Bayreuth. Her thesis was entitled "The role of redistributive preferences and beliefs about the origin of social inequality in the Inequality – Growth Nexus." She has been a member of the BGSS since 2014 and is conducting research on socioeconomic determination of non-cognitive skills and their role in reproducing social inequality.

- **Peter Eibich** left the SOEP on March 1. He is now working as a Senior Researcher at the Health Economics Research Centre, Nuffield Department for Population Health, University of Oxford. His work there will focus initially on the ACHE study and the cost-effectiveness of knee and hip replacements.
- **Jan Goebel** and **Daniel D. Schnitzlein** were appointed by Federal Labor Minister Andrea Nahles to the Scientific Advisory Board for the German federal government's Fifth Poverty and Wealth Report (Armuts- und Reichtumsbericht der Bundesregierung). Every four years, the German government submits a poverty and wealth report to the Bundestag. The report is produced under the oversight of the Federal Ministry of Labor and Social Affairs with scientific advice from the advisory board as an instrument to monitor policy measures and obtain suggestions for new measures. The SOEP was also an important source of information for the German government's Poverty and Wealth Reports in past legislative periods. The fifth Poverty and Wealth Report is scheduled to appear in 2016.
- **Lukas Hoppe** joined the SOEP team in mid-February to work on the project "Socio-Spatial Segregation in Germany: Scope and Trends," which is financed by the BMAS in the framework of the government's Poverty and Wealth Report. The project will analyze additional microm data in combination with SOEP data. In his dissertation at the Bremen International Graduate School for the Social Sciences (BIGSSS), Lukas Hoppe is using SOEP and microm data to explore how the co-occurrence of social and ethnic segregation produce differential effects on the integration of immigrants and their children in Germany.
- **Simon Kühne** won a 7,050 USD award from the Charles Cannell Fund in Survey Methodology for his research project "Attitude Inferences and Interviewer Effects: The Role of Interpersonal Perceptions in Face-to-Face Interviews." The project is part of Simon's dissertation on "Determinants of Interviewer Effects in Face-to-Face Surveys" and is being supervised at the BGSS by Martin Kroh. The Charles Cannell Fund in Survey Methodology is based at the Institute for Social Research at the University of Michigan.
- **Maximilian Priem** started work in the SOEP in March. His responsibilities will include integrating the FID data into the data released to SOEP users. He just completed his MSc in Public Economics at the FU Berlin with an analysis of income trends in East and West Germany.
- **Marius Pahl** successfully completed his exam as a Specialist in Social and Market Research.
- **Anika Rasner** left the SOEP team to take a new position in the Federal Chancellery on March 1. She joined a project group responsible for organizing and evaluating the Citizens' Dialog with Chancellor Merkel plans to hold.
- The SOEP welcomed **Charlotte Bartels**, who is studying inequality and poverty across different countries and analyzing the role institutions play in contributing to inequality and social welfare. Before coming to DIW Berlin, Charlotte coordinated the PhD program "Public Economics and Inequality" at the Free University of Berlin. She did her PhD in "Insurance and incentives in the German welfare state" at the FU from 2009 to 2013. She is working as a Post-Doc in the SOEP in the area of international comparative distribution analysis.
- **Frederike Esche**, graduate student at the Berlin Graduate School of Social Sciences (BGSS) and member of the SOEP team from 2010 to 2013, successfully defended her dissertation "Mine, yours or our problem? Does unemployment affect the life satisfaction within couples and does it increase the risk of partnership dissolutions?" on September 17 at the Humboldt University, Berlin.
- SOEP researchers **Nicolas Legewie** and **Christian Schmitt** were invited to speak to various members of German parliament about aspects of demographic change as part of the event "Leibniz im Bundestag 2015" this April. Nicolas Legewie met personally with Members of Parliament Oliver Kaczmarek and Dr. Philipp Lengsfeld, as well as Helmut Uwer from Martin Patzelt's office. They discussed issues of education, migration, and upward social mobility. Christian Schmitt spoke personally with Members of Parliament Johannes Singhammer, Sven Schulz, and Kerstin Radomski and discussed topics related to population development, childlessness, and fertility behavior.

- On October 1, **Michaela von Schwarzenstein** started working in the SOEP administrative office, replacing Christiane Nitsche for one year while Christiane is on maternity leave.
- **Carsten Schröder**, FU Berlin and Deputy Head of the Research Infrastructure SOEP, was elected to the International Board of Directors of the LIS Cross National Data Center in Luxembourg. He follows Gert G. Wagner, who took the position of the late Joachim R. Frick on the Board three years ago. The Chairman of the Board is renowned British economist Sir Tony Atkinson (Oxford University), who is mainly known to a larger audience for his research in the field of inequality. The LIS Cross National Data Center, formerly known as Luxembourg Income Study, provides the worldwide scientific community with international comparable research data on income, wealth, and employment of private households for more than 50 countries. Germany is represented in the LIS Database with SOEP data.
- **Jürgen Schupp** was appointed in September 2015 to the advisory board to the administration of the project “Zivilgesellschaft in Zahlen” (civil society in figures) of the Stifterverband für die Deutsche Wissenschaft, a non-profit organization promoting science and education in Germany. His term is for two years.
- **Doreen Triebe**, graduate student at the DIW GC and member of SOEP staff up to 2014, successfully defended her dissertation on “To marry or not to marry: essays on partnership formation and economic labor market behavior of married and cohabiting couples” on July 1, 2015, at TU Berlin.
- **Ingrid Tucci** left the SOEP on November 1. She applied to the 2015 researchers’ competition of the French National Center for Scientific Research in the area of sociology, and her achievements and research were evaluated as the best. Starting in November, she will be working at the CNRS Institute of Labour Economics and Industrial Sociology (LEST —Laboratoire d’Economie et de Sociologie du Travail). Her comparative research there will focus on processes of ethnic boundary-making and inequality on the labor market. She will remain connected with the SOEP and DIW Berlin as head of the DFG project on “Transition to adulthood among the children of Turkish immigrants: A mixed-methods study based on the SOEP data.”
- **Gert G. Wagner** was elected Speaker of Section B “Economics, Social Sciences, Spatial Research” of the Leibniz Association. He will be a member of its Executive Board for the next two years. The member institutes of the Leibniz Association form five sections that reflect its scientific profile and expertise. The main tasks of the Sections are to drive the sharing of scientific experience and cooperation and to promote junior researchers. The Sections are involved in developing the evaluation criteria. Business is conducted at Section conferences which are held regularly. Every Section chooses a Speaker who represents them on the Executive Board and other committees.
- **Uwe Sunde**, longtime SOEP user and recently elected as deputy chairman of the SOEP Survey Committee, was awarded the renowned Gossen Prize of the “Verein für Socialpolitik” at its annual conference. The Gossen Prize is awarded every year to honor a German-speaking economist working in central Europe, whose work has gained international renown. The aim of the award is to promote the internationalization of economic research by residents of Germany, Austria, and Switzerland. The most important criterion for the prize is publications in internationally recognized journals, and it comes with prize money in the amount of 10,000 euros.
- **Carolin Stolpe** received three honors for her outstanding work as a FAMS trainee in the SOEP. She received the Leibniz Award for Apprentices at the Annual Meeting of the Leibniz Association on November 26, 2015, by Stephan Weil, Minister-President of Lower Saxony and the President of the Leibniz Association, Matthias Kleiner. As the second-place winner of this award, Carolin will receive a 600-euro prize. Carolin completed her dual-track training as a Specialist in Market and Social Research (Fachangestellte für Markt- und Sozialforschung) in Summer 2015. She passed her final exam at the Berlin Chamber of Industry and Commerce (IHK) with top marks and the highest grade in her graduating class. The IHK Berlin honored her outstanding performance at an awards ceremony on November 16, 2015. Even on the federal level she was the best in this exam and received a prize at an awards ceremony (Nationale Bestenehrung der DIHK) on December 14, 2015. Since completing her degree, Carolin Stolpe has been working in the SOEP infrastructure, where she has taken on responsibilities in the area of data management. In October, she began working on a

degree in business informatics. “We are delighted that she will be continuing her work with the SOEP while pursuing her university studies,” says SOEP Director Jürgen Schupp. Since 2011, the SOEP has been providing in-house training to students completing degrees as Specialists for Market and Social Research. SOEP Director Jürgen Schupp is convinced that an outstanding research infrastructure like the SOEP needs highly skilled specialists in market and social research who do sophisticated research-oriented work. “Our FAMS are an ideal complement to our team. Our users are also getting to know and appreciate them for the competent and reliable services they provide as part of the SOEP,” he says.

- **Nadine Schreiner**, research associate in the Chair of Business Administration – Marketing at the University of Düsseldorf, won the 2015 North Rhine Westphalia Junior Researcher Award in Consumer Research for her master’s thesis. She completed her studies in the social sciences at the University of Siegen with a thesis on the pressing issue of “fuel poverty” and has provided the first calculation of the “low-income high-costs indicator” (LIHC indicator) for Germany based on SOEP data. The Kompetenzzentrum Verbraucherforschung NRW presents the award for scientifically outstanding theses with high practical relevance. Each recipient of the award for outstanding research on consumer topics also receives a 2,500 euro prize.
- Economist **Tobias Stöhr** (Kiel Institute for the World Economy and DIW Berlin) was awarded the Leibniz Award for Young Scientists for the best dissertation in the category Social Sciences and Humanities. One of the papers in his cumulative dissertation uses SOEP data to empirically test the theory of self-selection in specific occupational groups of migrants (“The returns to occupational foreign language use: Evidence from Germany,” *Labour Economics* 32, 2015, pp. 86–98.)
- The Werner Reimers Stiftung granted funding to the working group “Archive for Social Science and Economic Surveys and German Official Statistics since 1945” for a period of four years starting December 1, 2015. The working group was proposed by Lutz Raphael (University of Trier, currently at the German Historical Institute, London) and **Gert G. Wagner** on behalf of the SOEP.

# 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.

In 2015, we created video portraits of three very different researchers: **Elke Holst**, Research Director of Gender Studies at DIW Berlin, is one of Germany's most influential economists according to the FAZ ranking. For SOEP People, she talked about why the topic of equality of opportunity between men and women occupies her to this day. **Thorsten Schneider**, Professor of Sociology at the University of Leipzig, talked to us about the role of sociology in society, the connection between education and religion, and

about why research should never be “me-search”. **Matthias Pollmann-Schult** of the Social Science Research Center in Berlin (WZB) is one of the few male sociologists using the SOEP data to do research on fathers. We talked to him about his findings on the new generation of “involved fathers,” on whether children make people happy, on how parenthood affects relationships between men and women, and about how he balances his work as a researcher with the everyday demands of fatherhood.

The videos can be found in the DIW Mediatek at [www.diw.de/soeppeople](http://www.diw.de/soeppeople), 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 Elke Holst

Elke Holst has been Research Director of Gender Studies at DIW Berlin since 2010; her position became part of the DIW Berlin Executive Board in 2012. According to the F.A.Z. ranking, Holst is considered one of Germany's most influential economists. Elke Holst was a Senior Economist in the SOEP from 1990 to 2012. Her research in the SOEP focused primarily on gender gap on the labor market. We talked to her at DIW Berlin. The interview (in German) was filmed for the "SOEP People" video series and released on March 20, Equal Pay Day.

[https://www.youtube.com/watch?v=UGCkU\\_JVuOs](https://www.youtube.com/watch?v=UGCkU_JVuOs)

### **1. Gender has been the focus of your research for more than two decades. How did you arrive at this topic?**

It started when I was young. I was one of just a few girls in the science track at high school (Gymnasium) and later also one of the few women in economics at the University. Also I realized that the jobs I was interested in were mainly held by men. I initially wanted to become a civil engineer. The idea of ensuring that buildings are structurally sound and that high-rises are constructed safely fascinated me. It was the intense interest I had in the economic outcomes of individual behavior that finally led me to study economics. At some point I could not avoid the questions: Why is it that the material situation of women is so much worse than that of men? Why are there so many women with low incomes and so few women with high incomes? Why do women so often work in service jobs while men tend to hold the decision-making positions? What does that mean for our society, for everyday life?

### **2. What's been your most surprising research finding so far?**

I recognized that even the most interesting findings from in-depth analyses of gender differences on the labor market found relatively little resonance among researchers, policy makers, or the public at large. In the early 2000s, I had the idea of publishing a simple indicator that anyone could understand and even reproduce themselves: the percentage of

women in top management and on the supervisory boards of a large number of major corporations in Germany. This simple indicator made it clear that women were almost entirely absent in the top positions in the economy. It took a few years for the public to really pick up on these alarming findings, but finally, when a quota was introduced in Norway, interest in the topic exploded. That simple indicator on the percentage of women in top management bodies also brought more attention to our more in-depth studies on the causes of women's lower chances of promotion and lower earnings based on SOEP. Such in-depth studies are very important for good policy advice.

### **3. You have been working with SOEP data since the early 1990s. Why do you find these data so interesting?**

The SOEP is an extraordinarily important and interesting dataset. It offers a treasure-trove of objective and subjective indicators for research on life in Germany. With the SOEP you can also study how these outcomes are related to changes in the household. Do successful men tend to have successful women as partners? And what about successful women? Which types of relationship constellations encourage and which ones discourage women's financial independence?

### **4. You're now a successful gender researcher. What has helped you in your professional life?**

I had a crucial experience that has always driven me to want to succeed: I went to school in the 1960s and early 1970s. There were a lot of protests and demonstrations, and it was all very exciting. So it often happened that I skipped part of the school day, and occasionally I got a warning letter. This annoyed my father immensely. And then one day he made the momentous statement: "Elke, you don't have to keep going to academic-track high school—it's enough for you to go secretarial school." I realized that it's important and a gift to be able to use your potential to learn.

### **5. What's your advice to young women who want to pursue a research career?**

It's important to know the rules of the game in research. To get a good job, it's important to have good publications. Networking also shouldn't be underestimated. Mobility and experience abroad are also beneficial for a career. But at the same time, a woman shouldn't put pressure on herself to be the epitome of perfection.





## SOEP People: A Conversation with Thorsten Schneider

Thorsten Schneider is a professor of sociology at the University of Leipzig. He was a research associate in the SOEP from 2000 to 2005. During this time, he also wrote his dissertation on social origins and educational outcomes, and he received his doctor's degree from the University of Zurich (Switzerland) in 2005. To this day, his main research areas include educational sociology, comparative social structural research, generational relations, and methods of longitudinal analysis. We talked to Thorsten Schneider about the role of sociology in society, the connection between education and religion, and about why research should never be "me-search".

<https://www.youtube.com/watch?v=xpG3n0Yc1DY>

### 1. How did you decide to study sociology?

I did community service in lieu of military service, working for the protestant church commissioner for foreigners in the region of Germany I come from. The experiences I had there showed me that society is not very open towards immigrants or minorities. I was undoubtedly very idealistic at that time and believed that a better society was possible. But over the course of my studies in sociology, I gave up my idealistic notions about the subject. But I don't think that's a bad thing. I am a researcher. And research is not politics. The point is to describe and to explain what you observe, and you shouldn't mix that with your own political attitudes and convictions.

### 2. You said you gave up your idealistic views about sociology. What is it that makes sociology so interesting for you today?

What makes sociology so interesting is the same thing makes every scientific field so interesting. You have a research question, you derive hypotheses from it, and you test them. In so doing, you produce new knowledge. And where that will eventually lead is an open question. You also sometimes get results that surprise you. For example, we used the SOEP data to study whether religion affects children's educational outcomes. Actually, one would assume that this is not the case—especially in East Germany, where so few people have any religious affiliation at

all. Yet what we found was that in East Germany, the percentage of academic-track secondary school students was higher among Catholics and Protestants than it was among non-religious students.

### 3. You grew up on a farm in Hunsrück between the Rhine and Mosel Rivers. Did your childhood there play any role in your career choice?

Well, as an educational sociologist, my research deals with questions like: What chances does a working-class child have of getting a higher education? It's fairly obvious what that might have to do with my own biography. I grew up on a farm without many role models for the career path I chose. None of the adults in my family had gone to university. But for me, research is not "me-search". My personal experiences don't influence my research. You have to keep a distance from what you are studying. You can't analyze data and choose methods from the standpoint of your own biography. You need a certain distance or your focus will become too narrow. After all, personal perception is highly selective.

### 4. Do you have days when you wish you had gone into a different field than research?

As a researcher, especially at the level of my position, you have a great deal of freedom. You don't have a boss who tells you specifically what you should research. The unpleasant part about a career in research is when your papers are rejected. Oftentimes the referee reports actually do help. Many make good points and you're able to improve your paper. But sometimes they are just devastating. And when you get a rejection, it brings you down. That's why it's so important to have a real passion for what you do. Tough periods and dry spells will come, and you have to know why it is that you're doing what you're doing.

### 5. You've been working with the SOEP data for 17 years now. What makes the SOEP so interesting for you?

The great thing about the SOEP data is that they've been collected annually since 1984 so you can follow changes over time—in fact, over a very long period of time. Of course, there are a whole series of studies that ask their respondents retrospective questions about what happened at a particular point in time in the past. But people have memory gaps. For instance, if you asked me when I started pre-school I wouldn't be able to give you a precise answer. With the SOEP, you don't have those kinds of problems. The same people are interviewed on a regular basis—once every year. That gives you much more reliable information.



## SOEP People: A Conversation with Matthias Pollmann-Schult

Matthias Pollmann-Schult has been a grant holder in the DFG's Heisenberg Programme at the Social Science Research Center, Berlin, since 2012. He was a student research assistant with the SOEP from 1997 to 2000. He is one of the few male sociologists doing research on fathers using the SOEP data. We talked to him about his findings on the new generation of "involved fathers," on whether children make people happy, on how parenthood affects relationships between men and women, and about how he balances his work as a researcher with the everyday demands of fatherhood.

<https://www.youtube.com/watch?v=vgtNUqrs67I>

### **1. You've studied how fatherhood affects men's working hours. What have you found out?**

Fatherhood has a relatively minor influence on men's working hours. That can be seen on the one hand as positive: men are no longer increasing their working hours after children are born like they were in the 1980s. But on the other hand, men are also not working less. So the picture of "involved fathers" who are willing to permanently reduce their working hours to play a larger role in their children's upbringing is simply not accurate. This did surprise me a bit. I would have thought that more had changed. The SOEP asks respondents about their desired working hours—not just how much they actually do work, but how much they would like to work. And at least here, I would have thought that more fathers would say, yes, I would like to work less. But we don't see that in the SOEP data.

### **2. What does that imply about the distribution of roles between men and women?**

The interesting thing is that parenthood increases inequality between men and women in two respects. First, it has a negative effect on female employment. Mothers work less than childless women, and they also earn less. Second, parenthood has a positive effect on men's income. So it increases inequality between men and women in the relationship context, and naturally also between men and women in general.

### **3. But still, many people consider children the key to happiness. How does that idea fit together with your findings?**

Actually, children don't make people happy. For 30 years now, studies have been showing that parenthood has no major impact on life satisfaction. Some studies show that parents have slightly higher life satisfaction than people without children; others show that people's life satisfaction actually declines after they become parents. The fact that children don't make people happy is due to the various burdens associated with parenthood. First, there are the psychosocial burdens of parenthood: People with children have increased time pressures and more difficulties balancing demands in different areas of life. They also have less time for friends and recreational activities. Even just going out to the movies is no longer possible. Second, there are the financial burdens of parenthood. These negative impacts cancel out the overall positive effects that children initially have on life satisfaction.

### **4. You have been working with the SOEP data for 18 years. What makes these data interesting for you?**

The fantastic thing about the SOEP data is that the study has been running for so long. There are data available for a period of more than 30 years. Many respondents have been part of the study for 10 years or even longer. So you can clearly see how life satisfaction changes over the years after people become parents. That's the great advantage of the SOEP data that no other dataset in Germany offers.

### **5. You are a researcher and a father. How do you balance the two roles and remain content?**

I think you have to set clear limits. In my case, I almost never work at home. I tell myself: that's my work time, and this is my family time. I try to stick to that.

# 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, there were nearly 11,000 households, and more than 20,000 persons sampled by the fieldwork organization TNS Infratest Sozialforschung.

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 then and now is to collect representative micro- data to measure stability and change in living conditions by following a micro-economic approach enriched with variables from sociology and political science. Therefore the central survey instruments are a household questionnaire, which is responded by the head of a household and an individual questionnaire, which each household member is intended to answer. Furthermore, since 1997, retrospective biographical information has been collected for every new respondent. Based on the information from these questionnaires, user-friendly BIO\$\$ datafiles are constructed (e.g., BIO-BIRTH).

A rather stable set of core questions is asked every year covering the most essential areas of interest of the SOEP:

- 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 for 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 are 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://paneldata.org/studies/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	BC	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)

## 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, districts, 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 does 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 Infratest and passed on to the SOEP, which makes the data available to external users. Since 2012 pretests are part of sub-samples in SOEP-IS.

<https://paneldata.org/studies/5>

## 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/en/diw\\_01.c.433198.en/soep\\_lee.html](http://www.diw.de/en/diw_01.c.433198.en/soep_lee.html)

## CNEF—Cross-National Equivalent File of the SOEP

The International Science Use Version of the SOEP (95% version) can be used worldwide. The Research Data Center SOEP is providing it upon request for free via secure download.

CNEF data will no longer be 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 32 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.)

[www.lisdatacenter.org](http://www.lisdatacenter.org)



## SOEP-IS

The research infrastructure SOEP at DIW Berlin established a longitudinal Innovation Sample (SOEP-IS) in 2011 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 module of Governance 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 (SOEPpaper 463).

[www.diw.de/soep-is](http://www.diw.de/soep-is)

[paneldata.org/studies/4](http://paneldata.org/studies/4)

(See pages 53-64 of this report)

## SOEP-RS

### FiD data (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 better 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 on behalf of the two involved ministries. In 2014 FiD has been 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 has been 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.

[paneldata.org/studies/3](http://paneldata.org/studies/3)

### 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.

[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 education and care 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 settings 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 threeyear project launched in September 2013 is funded by the Jacobs Foundation:

<http://kid2id.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 collector: TNS Infratest Sozialforschung GmbH.

[paneldata.org/studies/6](http://paneldata.org/studies/6)

## 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.

## TwinLife (cooperation study)

TwinLife is a 12-year representative behavioral genetic study investigating the development of social inequality. The long-term project has begun in 2014 and will survey more than 4,000 pairs of twins and their families regarding their different stages of life 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>



# 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 updates on data, conferences, and related information, and distributes it by email to the constantly growing international SOEP user community.

[www.diw.de/SOEPnewsletter](http://www.diw.de/SOEPnewsletter)

## 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 international comparable data sets 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)

[www.diw.de/SOEPlit](http://www.diw.de/SOEPlit)

## 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>.

## SOEPmonitor

The SOEPmonitor compiles time series since the mid 1990's for chosen indicators, calculated on 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 your 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 households and persons. Since the 2007 SOEPmonitor tables are in English as well.

[www.diw.de/SOEPmonitor](http://www.diw.de/SOEPmonitor)

## 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 SOEPHotline, 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, TNS Infratest Sozialforschung, are also possible.

[https://www.diw.de/en/diw\\_o2.c.222617.en/soep\\_in\\_residence/html](https://www.diw.de/en/diw_o2.c.222617.en/soep_in_residence/html)

## 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-analyses 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/en/diw\\_o1.c.340858.en/soep\\_re\\_analyses.html](http://www.diw.de/en/diw_o1.c.340858.en/soep_re_analyses.html)

## 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 1984–2014, version 31, SOEP, 2015, doi:10.5684/soep.v31.

**German:** Sozio-oekonomisches Panel (SOEP), Daten für die Jahre 1984–2014, Version 31, SOEP, 2015, doi:10.5684/soep.v31.

**Short Version:** SOEP v31

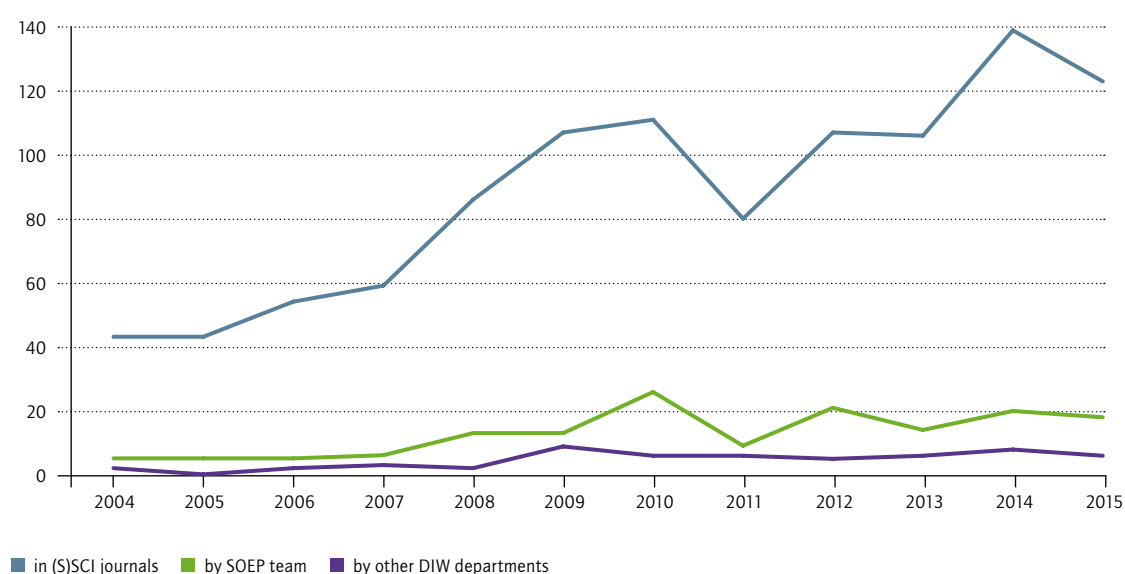
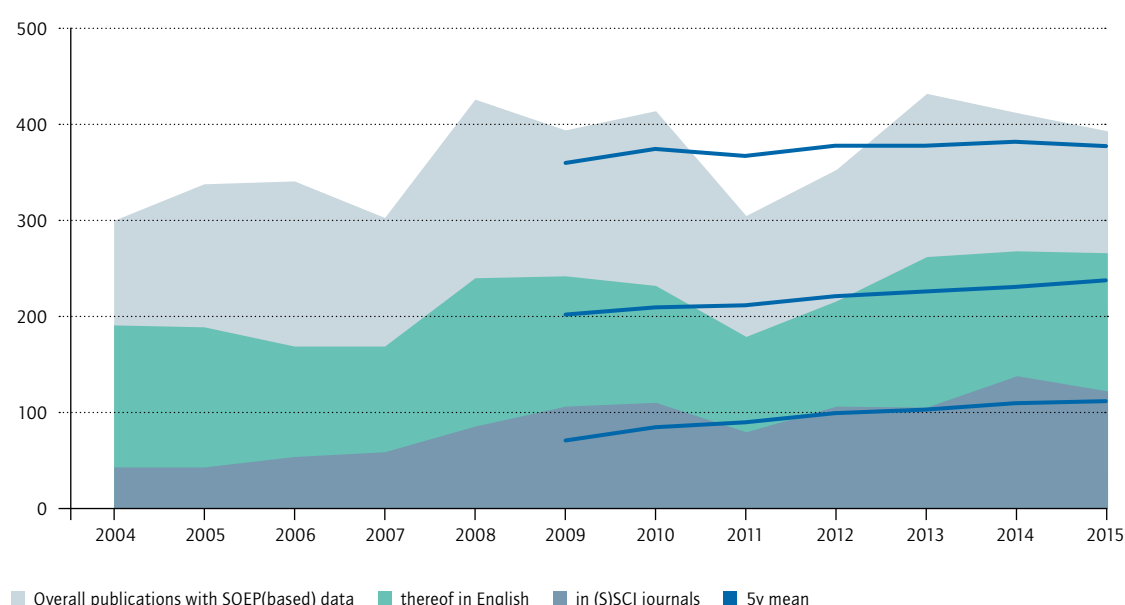
## PART 5

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# SOEP-Based Publications in 2015

2015

# SOEP-Based (S)SCI Publications over the Last Decade



# (S)SCI Publications in 2015 by SOEP Staff

## D

**Diehl, Claudia and Elisabeth Liebau.** 2015. Turning back to Turkey – Or Turning the Back on Germany? Remigration Intentions and Behavior of Turkish Immigrants in Germany between 1984 and 2011. *Zeitschrift für Soziologie* 44, No. 1, 22–41.

## E

**Eibich, Peter.** 2015. Understanding the effect of retirement on health using Regression Discontinuity Design. *Journal of Health Economics* 43, September 2015, 1–12. (<http://dx.doi.org/10.1016/j.jhealeco.2015.05.001>).

## F

**Fauser, Margit, Elisabeth Liebau, Sven Voigtländer, Hidayet Tuncer, Thomas Faist and Oliver Razum.** 2015. Measuring transnationality of immigrants in Germany: prevalence and relationship with social inequalities. *Ethnic and Racial Studies* 38, No. 9, 1479–1519. (<http://dx.doi.org/10.1080/01419870.2015.1005639>).

**Fecher, Benedikt, Sascha Friesike and Marcel Hebing.** 2015. What Drives Academic Data Sharing? *PLoS ONE* 10, No. 2, e0118053. (<http://dx.doi.org/10.1371/journal.pone.0118053>).

## G

**Gerstorff, Denis, Gizem Hülür, Johanna Drewelies, Peter Eibich, Sandra Düzel, Ilja Demuth, Paolo Ghisletta, Elisabeth Steinhagen-Thiessen, Gert G. Wagner and Ulman Lindenberger.** 2015. Secular Changes in Late-Life Cognition and Well-Being: Towards a Long Bright Future with a Short Brisk Ending? *Psychology and Aging* 30, No. 2, 301–310. (<http://dx.doi.org/10.1037/pag0000016>).

**Giesselmann, Marco.** 2015. Differences in the Patterns of in-work Poverty in Germany and the UK. *European Societies* 17, No. 1, 27–46. (<http://dx.doi.org/10.1080/14616696.2014.968796>).

**Goebel, Jan, Christian Krekel, Tim Tiefenbach and Nicolas R. Ziebarth.** 2015. How natural disasters can affect environmental concerns, risk aversion, and even politics: evidence from Fukushima and three European countries. *Journal of Population Economics* 28, No. 4, 1137–1180. (<http://dx.doi.org/10.1007/s00148-015-0558-8>).

**Grabka, Markus M.** 2015. Income and wealth inequality after the financial crisis: the case of Germany. *Empirica* 42, No. 2, 371–390. (<http://dx.doi.org/10.1007/s10663-015-9280-8>).

**Grabka, Markus M., Jan Marcus and Eva M. Sierminska.** 2015. Wealth distribution within couples. *Review of Economics of the Household* 13, No. 3, 459–486. (<http://dx.doi.org/10.1007/s11150-013-9229-2>).

## H

**Hille, Adrian and Jürgen Schupp.** 2015. How learning a musical instrument affects the development of skills. *Economics of Education Review* 44, February 2015, 56–82. (<http://dx.doi.org/10.1016/j.econedurev.2014.10.007>).

## I

**Infurna, Frank J., Denis Gerstorff, Nilam Ram, Jürgen Schupp, Gert G. Wagner and Jutta Heckhausen.** 2015. Maintaining perceived control with unemployment facilitates future adjustment. *Journal of Vocational Behavior* (online first). (<http://dx.doi.org/10.1016/j.jvb.2016.01.006>).

## K

**Kottwitz, Anita, Anja Oppermann and C. Katharina Spieß.** 2015. Parental leave benefits and breastfeeding in Germany: Effects of the 2007 reform. *Review of Economics of the Household* (online first). (<http://dx.doi.org/10.1007/s11150-015-9299-4>).

**Kühne, Simon, Thorsten Schneider and David Richter.** 2015. Big changes before big birthdays? Panel data provide no evidence of end-of-decade crises. *Proceedings of the National Academy of Sciences of the United States of America (PNAS)* 112, No. 11, E1170. (<http://dx.doi.org/10.1073/pnas.1424903112>).

## P

**Pforr, Klaus, Michael Blohm, Annelies G. Blom, Barbara Erdel, Barbara Felderer, Mathis Fräbendorf, Kristin Hajek, Susanne Helmschrott, Corinna Kleinert, Achim Koch, Ulrich Krieger, Martin Kroh, Silke Martin, Denise Saßenroth, Claudia Schmiedeberg, Eva-Maria Trüdinger and Beatrice Rammstedt.** 2015. Are incentive effects on response rates and nonresponse bias in large-scale, face-to-face surveys generalizable to Germany? Evidence from ten experiments. *Public Opinion Quarterly* 79, No. 3, 740–768. (<http://dx.doi.org/10.1093/poq/nfv014>).

## S

**Saßenroth, Denise, Antje Meyer, Bastian Salewsky, Martin Kroh, Kristina Norman, Elisabeth Steinhagen-Thiessen and Ilja Demuth.** 2015. Sports and Exercise at Different Ages and Leukocyte Telomere Length in Later Life – Data from the Berlin Aging Study II (BASE-II). *PLoS ONE* 10, No. 12, e0142131. (<http://dx.doi.org/10.1371/journal.pone.0142131>).

**Schmelzer, Paul, Stefanie Gundert and Christian Hohendanner.** 2015. Qualifikationsspezifische Übergänge aus befristeter Beschäftigung am Erwerbsanfang – zwischen Screening und Flexibilisierung. *Kölner Zeitschrift für Soziologie und Sozialpsychologie* 67, No. 2, 243–267. (<http://dx.doi.org/10.1007/s11577-015-0305-x>).

**Schmelzer, Paul, Karin Kurz and Kerstin Schulze.** 2015. Einkommensnachteile von Müttern im Vergleich zu kinderlosen Frauen in Deutschland. *Kölner Zeitschrift für Soziologie und Sozialpsychologie (KZfSS)* 67, No. 4, 737–762. (<http://dx.doi.org/10.1007/s11577-015-0346-1>).

**Schnitzlein, Daniel D.** 2015. A new look at intergenerational mobility in Germany compared to the US. *Review of Income and Wealth (online first)*. (<http://dx.doi.org/10.1111/roiw.12191>).

**Schnitzlein, Daniel D. and Christoph Wunder.** 2015. Are we architects of our own happiness? The importance of family background for well-being. *The B.E. Journal of Economic Analysis & Policy* 16, No. 1, 125–149. (<http://dx.doi.org/10.1515/bejeap-2015-0037>).

**Schröder, Carsten, Katrin Rehdanz, Daiju Narita and Toshihiro Okubo.** 2015. The Decline in Average Family Size and Its Implications for the Average Benefits of Within-Household Sharing. *Oxford Economic Papers* 67, No. 3, 760–780. (<http://dx.doi.org/10.1093/oxep/gpv033>).

## V

**Virtanen, Marianna, Markus Jokela, Solja T. Nyberg, Ida E. H. Madsen, Tea Lallukka, Kirsi Ahola, Lars Alfredsson, G. David Batty, Jakob B. Bjorner, Marianne Borritz, Hermann Burr, Annalisa Casini, Els Clays, Dirk De Bacquer, Nico Dragano, Raimund Erbel, Jane E. Ferrie, Eleonor I. Fransson, Mark Hamer, Katriina Heikkilä, Karl-Heinz Jöckel, France Kittel, Anders Knutsson, Markku Koskenvuo, Karl-Heinz Ladwig, Thorsten Lunau, Martin L. Nielsen, Maria Nordin, Tuula Oksanen, Jan H. Pejtersen, Jaana Pentti, Reiner Rugulies, Paula Salo, Jürgen Schupp, Johannes Siegrist, Archana Singh-Manoux, Andrew Steptoe, Sakari B. Suominen, Töres Theorell, Jussi Vahtera, Gert G. Wagner, Peter J. M. Westerholm, Hugo Westerlund and Mika Kivimäki.** 2015. Long working hours and alcohol use: systematic review and meta-analysis of published studies and unpublished individual participant data. *The BMJ* 350, No. g7772. (<http://dx.doi.org/10.1136/bmj.g7772>).

**Vogel, Nina, Denis Gerstorf, Nilam Ram, Jan Goebel and Gert G. Wagner.** 2015. Terminal decline in well-being differs between residents in East Germany and West Germany. *International Journal of Behavioral Development (IJB)* (online first). (<http://dx.doi.org/10.1177/0165025415602561>).

# (S)SCI Publications in 2015 by the SOEP User Community

## A

**Auer, Wolfgang and Natalia**

**Danzer.** 2015. Fixed-Term Employment and Fertility: Evidence from German Micro Data. *CESifo Economic Studies* (online first). (<http://dx.doi.org/10.1093/cesifo/ifv014>).

**Ayllón, Sara.** 2015. Youth Poverty, Employment, and Leaving the Parental Home in Europe. *Review of Income and Wealth* 61, No. 4, 651–676. (<http://dx.doi.org/10.1111/roiw.12122>).

## B

**Baetschmann, Gregori, Kevin E. Staub and Rainer Winkelmann.**

2015. Consistent estimation of the fixed effects ordered logit model. *Journal of the Royal Statistical Society, Series A (Statistics in Society)* 178, No. 3, 685–703. (<http://dx.doi.org/10.1111/rssa.12090>). <http://ftp.iza.org/dp5443.pdf>

**Bauernschuster, Stefan and**

**Martin Schlotter.** 2015. Public Child Care and Mothers' Labor Supply – Evidence from Two Quasi-Experiments. *Journal of Public Economics* 123, March 2015, 1–16. (<http://dx.doi.org/10.1016/j.jpubeco.2014.12.013>).

**Blazquez Cuesta, Maite and**

**Santiago Budria.** 2015. Income deprivation and mental well-being: The role of non-cognitive skills. *Economics & Human Biology* 17, April 2015, 16–28. (<http://dx.doi.org/10.1016/j.ehb.2014.11.004>).

**Boenigk, Silke and Marcel Lee**

**Mayr.** 2015. The Happiness of Giving: Evidence from the German Socioeconomic Panel That Happier People Are More Generous. *Journal of Happiness Studies* (online first). (<http://dx.doi.org/10.1007/s10902-015-9672-2>).

**Boenigk, Silke, Marius Mews**

**and Wim de Kort.** 2015. Missing Minorities: Explaining Low Migrant Blood Donation Participation and Developing Recruitment Tactics. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations* 26, No. 4, 1240–1260. (<http://dx.doi.org/10.1007/s11266-014-9477-7>).

**Böhnke, Petra, Janina Zeh and**

**Sebastian Link.** 2015. Atypische Beschäftigung im Erwerbsverlauf: Verlaufstypen als Ausdruck sozialer Spaltung? *Zeitschrift für Soziologie* 44, No. 4, 234–252.

**Bordone, Valeria, Sergei Scherbov**

**and Nadia Steiber.** 2015. Smarter every day: The deceleration of population ageing in terms of cognition. *Intelligence* 52, September–October 2015, 90–96. (<http://dx.doi.org/10.1016/j.intell.2015.07.005>).

**Boyce, Christopher J., Alex**

**M. Wood, Michael Daly and Constantine Sedikides.** 2015. Personality Change Following Unemployment. *Journal of Applied Psychology* 100, No. 4, 991–1011. (<http://dx.doi.org/10.1037/a0038647>).

**Bröckel, Miriam, Anne Busch-**

**Heizmann and Katrin Golsch.** 2015. Headwind or Tailwind: Do Partners' Resources Support or Restrict Promotion to a Leadership Position in Germany? *European Sociological Review* 31, No. 5, 533–545. (<http://dx.doi.org/10.1093/esr/jcv054>).

**Brücker, Herbert.** 2015.

Migration und Finanzkrise – Eine quantitative und strukturelle Analyse der Umlenkung von Wanderungsströmen. *Kölner Zeitschrift für Soziologie und Sozialpsychologie (KZfSS)* 67, No. 1, 165–191. (<http://dx.doi.org/10.1007/s11577-015-0320-y>).



**Bünning, Mareike.** 2015. What Happens after the 'Daddy Months'? Fathers' Involvement in Paid Work, Childcare, and Housework after Taking Parental Leave in Germany. *European Sociological Review* 31, No. 6, 738–748. (<http://dx.doi.org/10.1093/esr/jcv072>).

**Bünnings, Christian, Jan Kleibrink and Jens Weßling.** 2015. Fear of Unemployment and its Effect on the Mental Health of Spouses. *Health Economics (online first)*. (<http://dx.doi.org/10.1002/hec.3279>).

**Bünnings, Christian and Harald Tauchmann.** 2015. Who Opt Out of the Statutory Health Insurance? A Discrete Time Hazard Model for Germany. *Health Economics* 24, No. 10, 1331–1347. (<http://dx.doi.org/10.1002/hec.3091>).

**Busch-Heizmann, Anne.** 2015. Supply-Side Explanations for Occupational Gender Segregation: Adolescents' Work Values and Gender-(A)Typical Occupational Aspirations. *European Sociological Review* 31, No. 1, 48–64. (<http://dx.doi.org/10.1093/esr/jcu081>).

**Busch-Heizmann, Anne and Miriam Bröckel.** 2015. Die Auswirkungen geschlechts(un)typischer Berufstätigkeiten auf die Aufteilung der Hausarbeit in Partnerschaften. *Kölner Zeitschrift für Soziologie und Sozialpsychologie (KZfSS)* 67, No. 3, 475–507. (<http://dx.doi.org/10.1007/s11577-015-0334-5>).

## C

**Cheung, Felix and Richard E. Lucas.** 2015. When does money matter most? Examining the association between income and life satisfaction over the life course. *Psychology and Aging* 30, No. 1, 120–135. (<http://dx.doi.org/10.1037/a0038682>).

**Clark, Andrew E., Sarah Flèche and Claudia Senik.** 2015. Economic Growth Evens Out Happiness: Evidence from Six Surveys. *Review of Income and Wealth (online first)*. (<http://dx.doi.org/10.1111/roiw.12190>).

## D

**Decoster, André and Peter Haan.** 2015. Empirical welfare analysis with preference heterogeneity. *International Tax and Public Finance* 22, No. 2, 224–251. (<http://dx.doi.org/10.1007/s10797-014-9304-5>).

**Diehl, Claudia and Elisabeth Liebau.** 2015. Turning back to Turkey – Or Turning the Back on Germany? Remigration Intentions and Behavior of Turkish Immigrants in Germany between 1984 and 2011. *Zeitschrift für Soziologie* 44, No. 1, 22–41.

**Dudel, Christian, Notburga Ott and Martin Werding.** 2015. Maintaining One's Living Standard at Old Age: What Does that Mean? Evidence Using Panel Data from Germany. *Empirical Economics (online first)*. (<http://dx.doi.org/10.1007/s00181-015-1042-8>).

## E

**Eckhard, Jan.** 2015. Abnehmende Bindungsquoten in Deutschland: Ausmaß und Bedeutung eines historischen Trends. *Kölner Zeitschrift für Soziologie und Sozialpsychologie (KZfSS)* 67, No. 1, 27–55. (<http://dx.doi.org/10.1007/s11577-014-0296-z>).

**Eckhard, Jan, Johannes Stauder and Daniel Wiese.** 2015. Die Entwicklung des Partnermarkts im Längsschnitt – Alters- und Kohortenunterschiede. *Kölner Zeitschrift für Soziologie und Sozialpsychologie (KZfSS)* 67, No. 1, 81–109. (<http://dx.doi.org/10.1007/s11577-015-0316-7>).

**Eibich, Peter.** 2015. Understanding the effect of retirement on health using Regression Discontinuity Design. *Journal of Health Economics* 43, September 2015, 1–12. (<http://dx.doi.org/10.1016/j.jhealeco.2015.05.001>).

**Erlinghagen, Marcel and Christiane Lübke.** 2015. Arbeitsplatzunsicherheit im Erwerbsverlauf. Eine Sequenzmusteranalyse westdeutscher Paneldaten. *Zeitschrift für Soziologie* 44, No. 6, 407–425.

## F

**Facchini, Giovanni, Eleonora Patacchini and Max F. Steinhardt.** 2015. Migration, Friendship Ties and Cultural Assimilation. *The Scandinavian Journal of Economics* 117, No. 2, 619–649. (<http://dx.doi.org/10.1111/sjoe.12096>).

**Fausser, Margit, Elisabeth Liebau, Sven Voigtländer, Hidayet Tuncer, Thomas Faist and Oliver Razum.** 2015. Measuring transnationality of immigrants in Germany: prevalence and relationship with social inequalities. *Ethnic and Racial Studies* 38, No. 9, 1479–1519. (<http://dx.doi.org/10.1080/01419870.2015.1005639>).

**Fecher, Benedikt, Sascha Friesike and Marcel Hebing.** 2015. What Drives Academic Data Sharing? *PLoS ONE* 10, No. 2, e0118053. (<http://dx.doi.org/10.1371/journal.pone.0118053>).

## G

**Gerstorff, Denis, Gizem Hülür, Johanna Drewelies, Peter Eibich, Sandra Duezel, Ilja Demuth, Paolo Ghisletta, Elisabeth Steinhagen-Thiessen, Gert G. Wagner and Ulman Lindenberger.** 2015. Secular Changes in Late-Life Cognition and Well-Being: Towards a Long Bright Future with a Short Brisk Ending? *Psychology and Aging* 30, No. 2, 301–310. (<http://dx.doi.org/10.1037/pag0000016>).

**Giesecke, Johannes, Jan Paul Heisig and Heike Solga.** 2015. Getting more unequal: Rising labor market inequalities among low-skilled men in West Germany. *Research in Social Stratification and Mobility* 39, March 2015, 1–17. (<http://dx.doi.org/10.1016/j.rssm.2014.10.001>).

**Giesselmann, Marco.** 2015. Differences in the Patterns of in-work Poverty in Germany and the UK. *European Societies* 17, No. 1, 27–46. (<http://dx.doi.org/10.1080/14616696.2014.968796>).

**Goebel, Jan, Christian Krekel, Tim Tiefenbach and Nicolas R. Ziebarth.** 2015. How natural disasters can affect environmental concerns, risk aversion, and even politics: evidence from Fukushima and three European countries. *Journal of Population Economics* 28, No. 4, 1137–1180. (<http://dx.doi.org/10.1007/s00148-015-0558-8>).

**Goerke, Laszlo and Markus Pannenberg.** 2015. Direct evidence for income comparisons and subjective well-being across reference groups. *Economics Letters* 137, October 2015, 95–101. (<http://dx.doi.org/10.1016/j.econlet.2015.10.012>).

**Goerke, Laszlo and Markus Pannenberg.** 2015. Trade union membership and sickness absence: Evidence from a sick pay reform. *Labour Economics* 33, April 2015, 13–25. (<http://dx.doi.org/10.1016/j.labeco.2015.02.004>).

**Goetzke, Frank and Tilmann Rave.** 2015. Automobile access, peer effects and happiness. *Transportation* 42, No. 5, 791–805. (<http://dx.doi.org/10.1007/s11116-015-9647-5>).

**Grabka, Markus M.** 2015. Income and wealth inequality after the financial crisis: the case of Germany. *Empirica* 42, No. 2, 371–390. (<http://dx.doi.org/10.1007/s10663-015-9280-8>).

**Grabka, Markus M., Jan Marcus and Eva M. Sierminska.** 2015. Wealth distribution within couples. *Review of Economics of the Household* 13, No. 3, 459–486. (<http://dx.doi.org/10.1007/s11150-013-9229-2>).

**Grätz, Michael.** 2015. When Growing Up Without a Parent Does Not Hurt: Parental Separation and the Compensatory Effect of Social Origin. *European Sociological Review* 31, No. 5, 546–557. (<http://dx.doi.org/10.1093/esr/jcv057>).

**Grund, Christian.** 2015. Gender pay gaps among highly educated professionals – Compensation components do matter. *Labour Economics* 34, June 2015, 118–126. (<http://dx.doi.org/10.1016/j.labeco.2015.03.010>).

## H

**Haan, Peter, Daniel Kemptner and Arne Uhlenndorff.** 2015. Bayesian procedures as a numerical tool for the estimation of an intertemporal discrete choice model. *Empirical Economics* 49, No. 3, 1123–1141. (<http://dx.doi.org/10.1007/s00181-014-0906-7>).

**Hahn, Elisabeth, Jule Specht, Juliana Gottschling and Frank M. Spinath.** 2015. Coping With Unemployment: The Impact of Unemployment Duration and Personality on Trajectories of Life Satisfaction. *European Journal of Personality* 29, No. 6, 635–646. (<http://dx.doi.org/10.1002/per.2034>).

**Hakulinen, Christian, Mirka Hintsanen, Marcus R. Munafò, Marianna Virtanen, Mika Kivimäki, G. David Batty and Markus Jokela.** 2015. Personality and smoking: individual-participant meta-analysis of 9 cohort studies. *Addiction* 110, No. 11, 1844–1852. (<http://dx.doi.org/10.1111/add.13079>).

**Headey, Bruce and Ruud**

**Muffels.** 2015. Towards a Theory of Medium Term Life Satisfaction: Two-Way Causation Partly Explains Persistent Satisfaction or Dissatisfaction. *Social Indicators Research (online first)*. (<http://dx.doi.org/10.1007/s11205-015-1146-8>).

**Heizmann, Boris, Anne Busch-Heizmann and Elke Holst.**

2015. Immigrant Occupational Composition and the Earnings of Immigrants and Natives in Germany: Sorting or Devaluation? *International Migration Review (online first)*. (<http://dx.doi.org/10.1111/imre.12209>).

**Hertweck, Matthias S. and Oliver**

**Sigrist.** 2015. The ins and outs of German unemployment: a transatlantic perspective. *Oxford Economic Papers – New Series* 67, No. 4, 1078-1095. (<http://dx.doi.org/10.1093/oenp/gpv031>).

**Hille, Adrian and Jürgen Schupp.**

2015. How learning a musical instrument affects the development of skills. *Economics of Education Review* 44, February 2015, 56-82. (<http://dx.doi.org/10.1016/j.econedurev.2014.10.007>).

**Huebener, Mathias.** 2015. The

role of paternal risk attitudes in long-run education outcomes and intergenerational mobility. *Economics of Education Review* 47, August 2015, 64-79. (<http://dx.doi.org/10.1016/j.econedurev.2015.04.004>).

**Hülür, Gizem, Denis Gerstorf**

**and Nilam Ram.** 2015. Historical Improvements in Well-Being Do Not Hold in Late Life: Birth- and Death-Year Cohorts in the United States and Germany. *Developmental Psychology* 51, No. 7, 998-1012. (<http://dx.doi.org/10.1037/a0039349>).

**I**

**Infurna, Frank J., Denis Gerstorf, Nilam Ram, Jürgen Schupp, Gert G. Wagner and Jutta Heckhausen.**

2015. Maintaining perceived control with unemployment facilitates future adjustment. *Journal of Vocational Behavior (online first)*. (<http://dx.doi.org/10.1016/j.jvb.2016.01.006>).

**J**

**Jäntti, Markus, Jukka Pirttilä and Håkan Selin.** 2015. Estimating

labour supply elasticities based on cross-country micro data: A bridge between micro and macro estimates? *Journal of Public Economics* 127, July 2015, 87-99. (<http://dx.doi.org/10.1016/j.jpubeco.2014.12.006>).

**Jirjahn, Uwe and Vanessa Lange.**

2015. Reciprocity and Workers' Tastes for Representation. *Journal of Labor Research* 36, No. 2, 188-209. (<http://dx.doi.org/10.1007/s12122-015-9198-8>).

**K**

**Kamhöfer, Daniel A. and Hendrik**

**Schmitz.** 2015. Reanalyzing Zero Returns to Education in Germany. *Journal of Applied Econometrics (online first)*. (<http://dx.doi.org/10.1002/jae.2461>).

**Kamin, Stefan T. and Frieder R.**

**Lang.** 2015. Cognitive Functions Buffer Age Differences in Technology Ownership. *Gerontology (online first)*. (<http://dx.doi.org/10.1159/000437322>).

**Kleiner, Sibyl, Reinhard Schunck and Klaus Schömann.** 2015.

Different Contexts, Different Effects? Work Time and Mental Health in the United States and Germany. *Journal of Health and Social Behavior* 56, No. 1, 98-113. (<http://dx.doi.org/10.1177/0022146514568348>).

**Korndörfer, Martin, Boris Egloff and Stefan C. Schmukle.** 2015.

A Large Scale Test of the Effect of Social Class on Prosocial Behavior. *PLoS ONE* 10, No. 7, e0133193. (<http://dx.doi.org/10.1371/journal.pone.0133193>).

**Kottwitz, Anita, Anja Oppermann and C. Katharina Spieß.** 2015.

Parental leave benefits and breastfeeding in Germany: Effects of the 2007 reform. *Review of Economics of the Household (online first)*. (<http://dx.doi.org/10.1007/s11150-015-9299-4>).

**Kreyenfeld, Michaela.** 2015.

Economic Uncertainty and Fertility. *Kölner Zeitschrift für Soziologie und Sozialpsychologie (KZfSS)* 67, No. 1, 59-80. (<http://dx.doi.org/10.1007/s11577-015-0325-6>).

**Kropfhäuser, Frieder and Marco**

**Sunder.** 2015. A weighty issue revisited: the dynamic effect of body weight on earnings and satisfaction in Germany. *Applied Economics* 47, No. 41, 4364-4376. (<http://dx.doi.org/10.1080/00036846.2015.1030563>).

**Kühne, Simon, Thorsten Schneider**

**and David Richter.** 2015. Big changes before big birthdays? Panel data provide no evidence of end-of-decade crises. *Proceedings of the National Academy of Sciences of the United States of America (PNAS)* 112, No. 11, E1170. (<http://dx.doi.org/10.1073/pnas.1424903112>).

**L**

**Lancee, Bram.** 2015. Job search

methods and immigrant earnings: A longitudinal analysis of the role of bridging social capital. *Ethnicities (online first)*. (<http://dx.doi.org/10.1177/1468796815581426>).

**Langner, Laura Antonia.** 2015. Within-couple specialisation in paid work: A long-term pattern? A dual trajectory approach to linking lives. *Advances in Life Course Research* 24, June 2015, 47–65. (<http://dx.doi.org/10.1016/j.alcr.2015.02.002>).

**Lechner, Clemens M. and Thomas Leopold.** 2015. Religious Attendance Buffers the Impact of Unemployment on Life Satisfaction: Longitudinal Evidence from Germany. *Journal for the Scientific Study of Religion* 54, No. 1, 166–174. (<http://dx.doi.org/10.1111/jssr.12171>).

**Leopold, Thomas and Clemens M. Lechner.** 2015. Parents' Death and Adult Well-being: Gender, Age, and Adaptation to Filial Bereavement. *Journal of Marriage and Family* 77, No. 3, 747–760. (<http://dx.doi.org/10.1111/jomf.12186>).

**Leopold, Thomas and Jan Skopek.** 2015. Convergence or Continuity? The Gender Gap in Household Labor After Retirement. *Journal of Marriage and Family* 77, No. 4, 819–832. (<http://dx.doi.org/10.1111/jomf.12199>).

**Leßmann, Ortrud and Torsten Masson.** 2015. Sustainable consumption in capability perspective: Operationalization and empirical illustration. *Journal of Behavioral and Experimental Economics* 57, August 2015, 64–72. (<http://dx.doi.org/10.1016/j.socec.2015.04.001>).

**Levels, Mark, Peer Scheepers, Tim Huijts and Gerbert Kraaykamp.** 2015. Formal and Informal Social Capital in Germany: The Role of Institutions and Ethnic Diversity. *European Sociological Review* 31, No. 6, 766–779. (<http://dx.doi.org/10.1093/esr/jcv075>).

**Loerbroks, Adrian, Raphael M. Herr, Jian Li, Jos A. Bosch, Max Seegel, Michael Schneider, Peter Angerer and Burkhard Schmidt.** 2015. The association of effort-reward imbalance and asthma: findings from two cross-sectional studies. *International Archives of Occupational and Environmental Health* 88, No. 3, 351–358. (<http://dx.doi.org/10.1007/s00420-014-0962-5>).

**M**  
**Mäder, Miriam, Steffen Müller, Regina T. Riphahn and Caroline Schwientek.** 2015. Intergenerational transmission of unemployment – evidence for German sons. *Jahrbücher für Nationalökonomie und Statistik* 235, No. 4+5, 355–375.

**Marcus, Jan, Janina Nemitz and C. Katharina Spieß.** 2015. Veränderungen in der gruppenspezifischen Nutzung von ganztägigen Schulangeboten – Längsschnittdaten für den Primarbereich. *Zeitschrift für Erziehungswissenschaft (online first)*. (<http://dx.doi.org/10.1007/s11618-015-0647-1>).

**Margolis, Rachel and Mikko Myrskylä.** 2015. Parental Well-being Surrounding First Birth as a Determinant of Further Parity Progression. *Demography* 52, No. 4, 1147–1166. (<http://dx.doi.org/10.1007/s13524-015-0413-2>).

**Martinovic, Borja, Frank van Tubergen and Ineke Maas.** 2015. A Longitudinal Study of Interethnic Contacts in Germany: Estimates from a Multilevel Growth Curve Model. *Journal of Ethnic and Migration Studies* 41, No. 1, 83–100. (<http://dx.doi.org/10.1080/1369183x.2013.869475>).

**Matta, Vanita Irene.** 2015. Führen selbstgesteuerte Arbeitszeiten zu einer Ausweitung der Arbeitsstunden? Eine Längsschnittdatenanalyse auf der Basis des Sozio-oekonomischen Panels. *Zeitschrift für Soziologie* 44, No. 4, 253–271.

**Mertens, Antje and Miriam Beblo.** 2015. Self-reported Satisfaction and the Economic Crisis of 2007–09: Or How People in the UK and Germany Perceive a Severe Cyclical Downturn. *Social Indicators Research* 125, No. 2, 537–565. (<http://dx.doi.org/10.1007/s11205-014-0854-9>).

**O**  
**Oesch, Daniel.** 2015. Welfare regimes and change in the employment structure: Britain, Denmark and Germany since 1990. *Journal of European Social Policy* 25, No. 1, 94–110. (<http://dx.doi.org/10.1177/0958928714556972>).

**Olney, William W.** 2015. Remittances and the Wage Impact of Immigration. *Journal of Human Resources* 50, No. 3, 694–727. (<http://dx.doi.org/10.3368/jhr.50.3.694>).

**P**  
**Pagán, Ricardo.** 2015. The contribution of holiday trips to life satisfaction: the case of people with disabilities. *Current Issues in Tourism* 18, No. 6, 524–538. (<http://dx.doi.org/10.1080/13683500.2013.860086>).

**Pagán, Ricardo.** 2015. Determinants of participation in further training among workers with disabilities. *Disability and Rehabilitation* 37, No. 11, 1009–1016. (<http://dx.doi.org/10.3109/09638288.2014.948140>).

**Pagán, Ricardo.** 2015. How Do Leisure Activities Impact on Life Satisfaction? Evidence for German People with Disabilities. *Applied Research in Quality of Life* 10, No. 4, 557–572. (<http://dx.doi.org/10.1007/s11482-014-9333-3>).

**Pagán-Rodríguez, Ricardo.** 2015. Disability, Training and Job Satisfaction. *Social Indicators Research* 122, No. 3, 865–885. (<http://dx.doi.org/10.1007/s11205-014-0719-2>).

**Pforr, Klaus, Michael Blohm, Annelies G. Blom, Barbara Erdel, Barbara Felderer, Mathis Frähdorf, Kristin Hajek, Susanne Helmschrott, Corinna Kleinert, Achim Koch, Ulrich Krieger, Martin Kroh, Silke Martin, Denise Saßenroth, Claudia Schmiedeberg, Eva-Maria Trüdinger and Beatrice Rammstedt.** 2015. Are incentive effects on response rates and nonresponse bias in large-scale, face-to-face surveys generalizable to Germany? Evidence from ten experiments. *Public Opinion Quarterly* 79, No. 3, 740–768. (<http://dx.doi.org/10.1093/poq/nfv014>).

**Pförtner, Timo-Kolja.** 2015. Materielle Deprivation und Gesundheit von Männern und Frauen in Deutschland: Ergebnisse aus dem Sozioökonomischen Panel 2011. *Bundesgesundheitsblatt – Gesundheitsforschung – Gesundheitsschutz* 58, No. 1, 100–107. (<http://dx.doi.org/10.1007/s00103-014-2080-7>).

**Pförtner, Timo-Kolja and Frank J. Elgar.** 2015. Widening inequalities in self-rated health by material deprivation? A trend analysis between 2001 and 2011 in Germany. *Journal of Epidemiology and Community Health* (online first). (<http://dx.doi.org/10.1136/jech-2015-205948>).

**Proto, Eugenio and Aldo Rustichini.** 2015. Life Satisfaction, Income and Personality. *Journal of Economic Psychology* 48, June 2015, 17–32. (<http://dx.doi.org/10.1016/j.joep.2015.02.001>).

**R**  
**Raschke, Christian.** 2015. The Impact of the German Child Benefit on Child Well-Being. *German Economic Review* (online first). (<http://dx.doi.org/10.1111/geer.12079>).

**Reichert, Arndt R., Boris Augurzky and Harald Tauchmann.** 2015. Self-perceived job insecurity and the demand for medical rehabilitation: does fear of unemployment reduce health care utilization? *Health Economics* 24, No. 1, 8–25. (<http://dx.doi.org/10.1002/hec.2995>).

**Rietveld, Cornelius A., Jolanda Hessels and Peter van der Zwan.** 2015. The stature of the self-employed and its relation with earnings and satisfaction. *Economics and Human Biology* 17, April 2015, 59–74. (<http://dx.doi.org/10.1016/j.ehb.2015.02.001>).

**Riphahn, Regina T. and Christoph Wunder.** 2015. State Dependence in Welfare Receipt: Transitions Before and After a Reform. *Empirical Economics* (online first). (<http://dx.doi.org/10.1007/s00181-015-0977-0>).

**Rohrer, Julia M., Boris Egloff and Stefan C. Schmukle.** 2015. Examining the Effects of Birth Order on Personality. *Proceedings of the National Academy of Sciences of the United States of America* (PNAS) 112, No. 46, 14224–14229. (<http://dx.doi.org/10.1073/pnas.1506451112>).

**S**  
**Saßenroth, Denise, Antje Meyer, Bastian Salewsky, Martin Kroh, Kristina Norman, Elisabeth Steinhagen-Thiessen and Ilja Demuth.** 2015. Sports and Exercise at Different Ages and Leukocyte Telomere Length in Later Life – Data from the Berlin Aging Study II (BASE-II). *PLoS ONE* 10, No. 12, e0142131. (<http://dx.doi.org/10.1371/journal.pone.0142131>).

**Sauter, Nicolas.** 2015. Social networks as a catalyst of economic change. *Economics Letters* 134, September 2015, 45–48. (<http://dx.doi.org/10.1016/j.econlet.2015.06.010>).

**Sauter, Nicolas, Jan Walliser and Joachim Winter.** 2015. Tax incentives, bequest motives and the demand for life insurance: evidence from a natural experiment in Germany. *Journal of Pension Economics and Finance* 14, No. 4, 525–553. (<http://dx.doi.org/10.1017/S1474747215000244>).

**Schmelzer, Paul, Karin Kurz and Kerstin Schulze.** 2015. Einkommensnachteile von Müttern im Vergleich zu kinderlosen Frauen in Deutschland. *Kölner Zeitschrift für Soziologie und Sozialpsychologie* (KZfSS) 67, No. 4, 737–762. (<http://dx.doi.org/10.1007/s11577-015-0346-1>).

**Schmitz, Hendrik and Matthias Westphal.** 2015. Short- and medium-term effects of informal care provision on female caregivers' health. *Journal of Health Economics* 42, July 2015, 174–185. (<http://dx.doi.org/10.1016/j.jhealeco.2015.03.002>).



**Schneider, Thorsten and Julia Dohrmann.** 2015. Religion und Bildungserfolg in Westdeutschland unter besonderer Berücksichtigung von Diasporaeffekten. *Kölner Zeitschrift für Soziologie und Sozialpsychologie (KZfSS)* 67, No. 2, 293–320. (<http://dx.doi.org/10.1007/s11577-015-0310-0>).

**Schnitzlein, Daniel D.** 2015. A new look at intergenerational mobility in Germany compared to the US. *Review of Income and Wealth (online first)*. (<http://dx.doi.org/10.1111/roiw.12191>).

**Schnitzlein, Daniel D. and Christoph Wunder.** 2015. Are we architects of our own happiness? The importance of family background for well-being. *The B.E. Journal of Economic Analysis & Policy* 16, No. 1, 125–149. (<http://dx.doi.org/10.1515/bejeap-2015-0037>).

**Schober, Pia S. and C. Katharina Spieß.** 2015. Local day-care quality and maternal employment: Evidence from East and West Germany. *Journal of Marriage and Family* 77, No. 3, 712–729. (<http://dx.doi.org/10.1111/jomf.12180>).

**Schüller, Simone.** 2015. Parental Ethnic Identity and Educational Attainment of Second-Generation Immigrants. *Journal of Population Economics* 28, No. 4, 965–1004. (<http://dx.doi.org/10.1007/s00148-015-0559-7>).

**Schulze, Alexander and Volker Dreier.** 2015. Der Beitrag des sozialen und demographischen Strukturwandels zur Armutsentwicklung in Deutschland. *Kölner Zeitschrift für Soziologie und Sozialpsychologie (KZfSS)* 67, No. 2, 197–216. (<http://dx.doi.org/10.1007/s11577-015-0307-8>).

**Schulze Waltrup, Linda and Göran Kauermann.** 2015. Smooth expectiles for panel data using penalized splines. *Statistics and Computing (online first)*. (<http://dx.doi.org/10.1007/s11222-015-9621-2>).

**Schunck, Reinhard, Katharina Reiss and Oliver Razum.** 2015. Pathways between perceived discrimination and health among immigrants: evidence from a large national panel survey in Germany. *Ethnicity & Health* 20, No. 5, 493–510. (<http://dx.doi.org/10.1080/13557858.2014.932756>).

**Schunck, Reinhard, Carsten Sauer and Peter Valet.** 2015. Unfair Pay and Health: The Effects of Perceived Injustice of Earnings on Physical Health. *European Sociological Review* 31, No. 6, 655–666. (<http://dx.doi.org/10.1093/esr/jcv065>).

**Schurer, Stefanie.** 2015. Lifecycle patterns in the socioeconomic gradient of risk preferences. *Journal of Economic Behavior & Organization* 119, November 2015, 482–495. (<http://dx.doi.org/10.1016/j.jebo.2015.09.024>).

**Shehu, Edlira, Annette Hofmann, Michel Clement and Ann-Christin Langmaack.** 2015. Healthy donor effect and satisfaction with health. *The European Journal of Health Economics* 16, No. 7, 733–745. (<http://dx.doi.org/10.1007/s10198-014-0625-1>).

**Shehu, Edlira, Ann-Christin Langmaack, Elena Felchle and Michel Clement.** 2015. Profiling Donors of Blood, Money, and Time: A Simultaneous Comparison of the German Population. *Nonprofit Management & Leadership* 25, No. 3, 269–295. (<http://dx.doi.org/10.1002/nml.21126>).

**Simonson, Julia, Laura Romeu Gordo and Nadiya Kelle.** 2015. Separate paths, same direction? De-standardization of male employment biographies in East and West Germany. *Current Sociology* 63, No. 3, 387–410. (<http://dx.doi.org/10.1177/0011392115572380>).

**Sinnewe, Elisabeth, Michael A. Kortt and Brian Dollery.** 2015. Religion and Life Satisfaction: Evidence from Germany. *Social Indicators Research* 123, No. 3, 837–855. (<http://dx.doi.org/10.1007/s11205-014-0763-y>).

**Stavrova, Olga and Daniel Ehlebracht.** 2015. Cynical Beliefs About Human Nature and Income: Longitudinal and Cross-Cultural Analyses. *Journal of Personality and Social Psychology* 110, No. 1, 116–132. (<http://dx.doi.org/10.1037/pspp0000050>).

**Steiber, Nadia.** 2015. Population Aging at Cross-Roads: Diverging Secular Trends in Average Cognitive Functioning and Physical Health in the Older Population of Germany. *PLoS ONE* 10, No. 8, e0136583. (<http://dx.doi.org/10.1371/journal.pone.0136583>).

**Stöhr, Tobias.** 2015. The returns to occupational foreign language use: Evidence from Germany. *Labour Economics* 32, January 2015, 86–98. (<http://dx.doi.org/10.1016/j.labeco.2015.01.004>).

**Stolberg, Carolyn and Sten Becker.** 2015. Gesundheitliche Ungleichheit zum Lebensbeginn. *Kölner Zeitschrift für Soziologie und Sozialpsychologie (KZfSS)* 67, No. 2, 321–354. (<http://dx.doi.org/10.1007/s11577-015-0306-9>).

**T**

**Trachte, Florian, Stefanie Sperlich and Siegfried Geyer.** 2015. Kompression oder Expansion der Morbidität? Entwicklung der Gesundheit in der älteren Bevölkerung. *Zeitschrift für Gerontologie und Geriatrie* 48, No. 3, 255–262. (<http://dx.doi.org/10.1007/s00391-014-0644-7>).

**U**

**Unger, Rainer, Klaus Giersiepen and Michael Windzio.** 2015. Pflegebedürftigkeit im Lebensverlauf – Der Einfluss von Familienmitgliedern und Freunden als Versorgungsstrukturen auf die funktionale Gesundheit und Pflegebedürftigkeit im häuslichen Umfeld. *Kölner Zeitschrift für Soziologie und Sozialpsychologie (KZfSS)* 67, No. 1, 193–215. (<http://dx.doi.org/10.1007/s11577-015-0312-y>).

**V**

**Van den Berg, Gerard J., Pia R. Pinger and Johannes Schoch.** 2015. Instrumental Variable Estimation of the Causal Effect of Hunger Early in Life on Health Later in Life. *The Economic Journal* (online first). (<http://dx.doi.org/10.1111/eoj.12250>).

**Vogel, Nina, Denis Gerstorf, Nilam Ram, Jan Goebel and Gert G. Wagner.** 2015. Terminal decline in well-being differs between residents in East Germany and West Germany. *International Journal of Behavioral Development (IJBD)* (online first). (<http://dx.doi.org/10.1177/0165025415602561>).

**Voßemer, Jonas and Bettina Schuck.** 2015. Better Overeducated than Unemployed? The Short- and Long-Term Effects of an Overeducated Labour Market Re-entry. *European Sociological Review* (online first). (<http://dx.doi.org/10.1093/esr/jcv093>).

**W**

**Welsch, Heinz and Jan Kühling.** 2015. Income Comparison, Income Formation, and Subjective Well-Being: New Evidence on Envy versus Signaling. *Journal of Behavioral and Experimental Economics* 59, December 2015, 21–31. (<http://dx.doi.org/10.1016/j.socec.2015.09.004>).

**Westermaier, Franz, Brant Morefield and Andrea M. Mühlenweg.** 2015. Parental health and child behavior: evidence from parental health shocks. *Review of Economics of the Household* (online first). (<http://dx.doi.org/10.1007/s11150-015-9284-y>).



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728

**Christian Krekel, Jens Kolbe,  
Henry Wüstemann**  
The Greener, The Happier?  
The Effects of Urban Green and  
Abandoned Areas on Residential  
Well-Being

729

**Christian Dustmann, Joseph-  
Simon Görlach**  
The Economics of Temporary  
Migrations

730

**Thomas Haipeter, Christine  
Slomka**  
Industriebeschäftigung im Wandel –  
Arbeiter, Angestellte und ihre  
Arbeitsbedingungen

731

**Emily Murphy, Daniel Oesch**  
The feminization of occupations  
and change in wages: a panel  
analysis of Britain, Germany and  
Switzerland

732

**Henna Busk, Elke J. Jahn,  
Christine Singer**  
Do changes in regulation affect  
temporary agency workers' job  
satisfaction?

733

**Frank M. Fossen, Johannes König**  
Public health insurance and entry  
into self-employment

734

**Ralf Dewenter, Leonie Giessing**  
Die Langzeiteffekte der Sport-  
förderung: Auswirkung des  
Leistungssports auf den beruflichen  
Erfolg

735

**Christina Boll, Malte Hoffmann**  
It's not all about parents'  
education, it also matters what  
they do. Parents' employment  
and children's school success in  
Germany

736

**Nicolai Suppa**  
Towards a Multidimensional  
Poverty Index for Germany

737

**Daniel Avdic, Christian Bunnings**  
Does the Burglar Also Disturb  
the Neighbor? Crime Spillovers on  
Individual Well-being

738

**Denis Gerstorff, Gizem Hülür,  
Johanna Drewelies, Peter Eibich**  
Secular Changes in Late-life  
Cognition and Well-being: Towards  
a Long Bright Future with a Short  
Brisk Ending?

739

**Andrew E. Clark, Conchita  
D'Ambrosio, Simone Ghislandi**  
Poverty Profiles and Well-Being:  
Panel Evidence from Germany

740

**Doreen Triebe**  
The Added Worker Effect  
Differentiated by Gender and  
Partnership Status – Evidence  
from Involuntary Job Loss

741

**Christian Bunnings, Hendrik  
Schmitz, Harald Tauchmann,  
Nicolas R. Ziebarth**  
How Health Plan Enrollees Value  
Prices Relative to Supplemental  
Benefits and Service Quality

742

**Stefanie Schurer**  
Lifecycle patterns in the  
socioeconomic gradient of risk  
preferences

743

**Regina T. Riphahn, Michael  
Zibrowius**  
Apprenticeship, Vocational Training  
and Early Labor Market Outcomes –  
in East and West Germany

744

**Daniel Kuehnle, Christoph  
Wunder**  
Using the life satisfaction approach  
to value daylight savings time  
transitions. Evidence from Britain  
and Germany

745

**Alan T. Piper**  
Sleep duration and life satisfaction

746

**Peter Heindl, Rudolf Schüssler**  
Dynamic Properties of Energy  
Affordability Measures

747

**Adrian Chadi, Clemens Hetschko**  
How Job Changes Affect People's  
Lives – Evidence from Subjective  
Well-being Data

748

**Angela Faßhauer, Katrin Rehdanz**  
Estimating Benefits from Regional  
Amenities: Internal Migration and  
Life Satisfaction

749

**Charlotte Cabane, Adrian Hille,  
Michael Lechner**  
Mozart or Pelé? The effects of  
teenagers' participation in music  
and sports

750

**Peter Haan, Victoria Prowse**  
Optimal Social Assistance and  
Unemployment Insurance in a  
Life-cycle Model of Family Labor  
Supply and Savings

751

**Johannes Schult, Jörn R. Sparfeldt**  
Compulsory Military Service and  
Personality Development

752

**Peter Bönisch, Walter Hyll**  
Television Role Models and  
Fertility – Evidence from a Natural  
Experiment

753

**Patricia Gallego-Granados,  
Johannes Geyer**  
Distributional and Behavioral  
Effects of the Gender Wage Gap

754

**Adrian Chadi, Matthias Krapf**  
The Protestant Fiscal Ethic:  
Religious Confession and Euro  
Skepticism in Germany

755

**Jan Goebel, Martin Gornig**  
Deindustrialization and the  
Polarization of Household  
Incomes: The Example of Urban  
Agglomerations in Germany

756

**Katja Görlitz, Marcus Tamm**  
Parenthood and risk preferences

757

**Renate Lange, Jörg Schiller,  
Petra Steinorth**  
Demand and Selection Effects  
in Supplemental Health Insurance  
in Germany

758

**Regina T. Riphahn, Christoph  
Wunder**  
State dependence in welfare  
receipt: transitions before and  
after a reform

759

**Michael Kostmann**  
Arbeitsmarktintegration: Spielt  
der Geburtsort eine Rolle? –  
Eine empirische Untersuchung  
mit Daten des SOEP zum  
Zusammenhang zwischen Geburts-  
ort und Arbeitsmarkterfolg von  
Migranten in Deutschland

760

**Christian Krekel, Alexander  
Zerrahn**  
Sowing the Wind and Reaping  
the Whirlwind? The Effect of Wind  
Turbines on Residential Well-Being

761

**Marco Bertoni, Luca Corazzini**  
Life Satisfaction and Endogenous  
Aspirations

762

**Jan Goebel, Christian Krekel,  
Tim Tiefenbach, Nicolas R.  
Ziebarth**  
How Natural Disasters Can Affect  
Environmental Concerns, Risk  
Aversion, and Even Politics:  
Evidence from Fukushima and  
Three European Countries

763

**Michael Berlemann, Max  
Steinhardt, Jascha Tutt**  
Do Natural Disasters Stimulate  
Individual Saving? Evidence from  
a Natural Experiment in a Highly  
Developed Country

764

**Inna Petrunyk, Christian Pfeifer**  
Life satisfaction in Germany after  
reunification: Additional insights  
on the pattern of convergence

765

**Peter Krause**  
Quality of Life and Inequality

766

**Christina Boll, Hendrik Hüning,  
Julian Leppin, Johannes  
Puckelwald**  
Potential Effects of a Statutory  
Minimum Wage on the Gender Pay  
Gap – A Simulation-Based Study  
for Germany

767

**Lars Thiel**  
Leave the Drama on the Stage:  
The Effect of Cultural Participation  
on Health

768

**Michael Beckmann, Thomas  
Cornelissen, Matthias Kräkel**  
Self-Managed Working Time and  
Employee Effort: Theory and  
Evidence

769

**Sarah Dahmann**  
How Does Education Improve  
Cognitive Skills? Instructional  
Time versus Timing of Instruction

770

**Holger Bonin, Karsten Reuss,  
Holger Stichnoth**  
Life-cycle Incidence of Family Policy  
Measures in Germany: Evidence  
from a Dynamic Microsimulation  
Model

771

**Ines Zapf**

Individual and Workplace-specific Determinants of Paid and Unpaid Overtime Work in Germany

772

**Carsten Schroeder, Shlomo Yitzhaki**

Revisiting the evidence for a cardinal treatment of ordinal variables

773

**Hannah Zagel**

Understanding differences in labour market attachment of single mothers in Great Britain and West Germany

774

**Berndt Keller, Hartmut Seifert**

Atypical forms of employment in the public sector – are there any?

775

**Paula Thieme, Dennis A.V. Dittrich**

A life-span perspective on life satisfaction

776

**Tim Friehe, Markus Pannenberg, Michael Wedow**

Let Bygones be Bygones? Socialist Regimes and Personalities in Germany

777

**Charlotte Bartels, Nico Pestel**

The Impact of Short- and Long-term Participation Tax Rates on Labor Supply

778

**Dominique Meurs, Patrick A. Puhani, Friederike Von Haaren**

Number of Siblings and Educational Choices of Immigrant Children: Evidence from First- and Second-Generation Immigrants

779

**Charlotte von Möllendorff, Heinz Welsch**

Measuring Renewable Energy Externalities: Evidence from Subjective Well-Being Data

780

**Judith Kaschowitz**

Der Einfluss der Pflegeverantwortung von Frauen auf das Arbeitsangebot ihrer Partner – Eine Untersuchung mit dem SOEP

781

**Robin Jessen, Davud Rostam-Afschar, Viktor Steiner**

Getting the Poor to Work: Three Welfare Increasing Reforms for a Busy Germany

782

**David Wright**

How have employment transitions for older workers in Germany and the UK changed?

783

**Christian Hakulinen, Mirka Hintsanen, Marcus R. Munafò, Marianna Virtanen**

Personality and smoking: Individual-Participant Meta-Analysis of 9 cohort studies

784

**Sarah Flèche, Richard Layard**

Do more of those in misery suffer from poverty, unemployment or mental illness?

785

**Johannes Geyer, Thorben Korfhage**

Long-term care reform and the labor supply of household members – evidence from a quasi-experiment

786

**Nico Pestel**

Marital Sorting, Inequality and the Role of Female Labor Supply: Evidence from East and West Germany

787

**Reto Odermatt, Alois Stutzer**

(Mis-)Predicted Subjective Well-Being Following Life Events

788

**Jörg Eulenberger**

Die Persönlichkeitsmerkmale von Personen im Kontext des Lehrer\_innenberufs

789

**Christian Pfeifer**

Unfair Wage Perceptions and Sleep: Evidence from German Survey Data

790

**Christian Westermeier, Markus M. Grabka**

Longitudinal Wealth Data and Multiple Imputation: An Evaluation Study

791

**Katrin Huber**

Moving to an earnings-related parental leave system – do heterogeneous effects on parents make some children worse off?

792

**Rui Dang**

Explaining the Body Mass Index Gaps between Turkish Immigrants and Germans in West Germany 2002–2012: A Decomposition Analysis of Socio-economic Causes

793

**Thomas Dohmen, Hartmut Lehmann, Norberto Pignatti**

Time-Varying Individual Risk Attitudes over the Great Recession: A Comparison of Germany and Ukraine

794

**Hendrik Thiel, Stephan L. Thomsen**

Individual Poverty Paths and the Stability of Control-Perception

795

**Viola Angelini, Marco Bertoni,  
Luca Corazzini**The Causal Effect of Paternal  
Unemployment on Children's  
Personality

796

**Marc Fleurbaey, Vito Peragine,  
Xavier Ramos**Ex Post Inequality of Opportunity  
Comparisons

797

**Andreas Peichl, Martin Ungerer**Accounting for the Spouse  
when Measuring Inequality of  
Opportunity

798

**Andreas Peichl, Martin Ungerer**Equality of Opportunity: East vs.  
West Germany

799

**Malte Sandner**Effects of Early Childhood  
Intervention on Fertility and  
Maternal Employment: Evidence  
from a Randomized Controlled Trial

800

**Panu Poutvaara, Max Friedrich  
Steinhardt**Bitterness in life and attitudes  
towards immigration

801

**Simon Decker, Hendrik Schmitz**

Health Shocks and Risk Aversion

802

**Alexander Sohn**Beyond Conventional Wage  
Discrimination Analysis: Assessing  
Comprehensive Wage Distributions  
of Males and Females using  
Structured Additive Distributional  
Regression

803

**Pia S. Schober, Gundula Zoch**Change in the gender division of  
domestic work after mummy or  
daddy took leave: An examination  
of alternative explanations

804

**Anna Wieber, Elke Holst**Gender identity and womens'  
supply of labor and non-market  
work – Panel data evidence for  
Germany

805

**Rui Dang**Spillover Effects of Local  
Human Capital Stock on Adult  
Obesity: Evidence from German  
Neighborhoods

806

**Teresa Backhaus, Kathrin Gebers,  
Carsten Schröder**Evolution and Determinants of  
Rent Burdens in Germany

807

**Julia M. Rohrer, Boris Egloff,  
Stefan C. Schmukle**Examining the Effects of Birth  
Order on Personality

808

**Martin Korndörfer, Boris Egloff,  
Stefan C. Schmukle**A Large Scale Test of the Effect of  
Social Class on Prosocial Behavior

809

**Matthew Dimick, Daniel  
Stegmueller**The Political Economy of Risk and  
Ideology

810

**Adrian Hille**How a universal music education  
program affects time use, behavior,  
and school attitude

811

**Nadine Schreiner**Auf der Suche nach Energiearmut:  
Eine Potentialanalyse des Low-  
Income-High-Costs Indikators für  
Deutschland

812

**Philipp Marek, Benjamin Damm,  
Tong-Yaa Su**Beyond the Employment Agency:  
The Effect of Social Capital on the  
Duration of Unemployment

813

**Clemens Hetschko, Malte Preuss**Income in Jeopardy: How  
Losing Employment Affects the  
Willingness to Take Risks

814

**Elena Shvartsman, Michael  
Beckmann**Stressed by your job: What is the  
role of personnel policy?

815

**Mariacristina Rossi, Eva  
Sierminska**Housing Decisions, Family Types  
and Gender. A look across LIS  
countries

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## Series A

### Survey Instruments (Erhebungsinstrumente)

262

Erhebungsinstrumente des IAB-SOEP-Migrationssamples 2014: Jugendfragebogen

267

**SOEP 2014 –**

Erhebungsinstrumente 2014 (Welle 31) des Sozio-oekonomischen Panels: Übersetzungshilfen, Altstichproben (englisch, türkisch, russisch)

268

Erhebungsinstrumente des IAB-SOEP-Migrationssamples 2014: Übersetzungshilfen (englisch, polnisch, türkisch, rumänisch, russisch)

269

SOEP-RS BASE II 2008–2014 – Erhebungsinstrumente Berliner Altersstudie II

273

**SOEP 2013 –**

Erhebungsinstrumente 2013 (Welle 30) des Sozio-oekonomischen Panels: Ihr Leben außerhalb Deutschlands

274

**SOEP 2015 –**

Erhebungsinstrumente 2015 (Welle 32) des Sozio-oekonomischen Panels: Personenfragebogen, Altstichproben

275

**SOEP 2015 –**

Erhebungsinstrumente 2015 (Welle 32) des Sozio-oekonomischen Panels: Haushaltsfragebogen, Altstichproben

276

**SOEP 2015 –**

Erhebungsinstrumente 2015 (Welle 32) des Sozio-oekonomischen Panels: Jugendfragebogen, Altstichproben

277

**SOEP 2015 –**

Erhebungsinstrumente 2015 (Welle 32) des Sozio-oekonomischen Panels: Mutter und Kind (Neugeborene), Altstichproben

278

**SOEP 2015 –**

Erhebungsinstrumente 2015 (Welle 32) des Sozio-oekonomischen Panels: Mutter und Kind (2–3 Jahre), Altstichproben

279

**SOEP 2015 –**

Erhebungsinstrumente 2015 (Welle 32) des Sozio-oekonomischen Panels: Mutter und Kind (5–6 Jahre), Altstichproben

280

**SOEP 2015 –**

Erhebungsinstrumente 2015 (Welle 32) des Sozio-oekonomischen Panels: Eltern und Kind (7–8 Jahre), Altstichproben

281

**SOEP 2015 –**

Erhebungsinstrumente 2015 (Welle 32) des Sozio-oekonomischen Panels: Mutter und Kind (9–10 Jahre), Altstichproben

286

**SOEP 2015 –**

Erhebungsinstrumente 2015 (Welle 32) des Sozio-oekonomischen Panels: Schülerinnen und Schüler (11–12 Jahre), Altstichproben

287

**SOEP 2015 –**

Erhebungsinstrumente 2015 (Welle 32) des Sozio-oekonomischen Panels: Lebenslauffragebogen, Altstichproben

288

**SOEP 2015 –**

Erhebungsinstrumente 2015 (Welle 32) des Sozio-oekonomischen Panels: Die verstorbene Person, Altstichproben

289

**SOEP 2015 –**  
Erhebungsinstrumente 2015  
(Welle 32) des Sozio-oekonomi-  
schen Panels: Personenfragebogen  
Kurzfassung (Lücke), Altstich-  
proben

290

**SOEP 2015 –**  
Erhebungsinstrumente 2015  
(Welle 32) des Sozio-oekonomi-  
schen Panels: Begleitinstrumente

## Series B

### Survey Reports (Methodenberichte)

282

**SOEP 2014 –**  
TNS Report of SOEP Fieldwork  
in 2014

## Series C

### Data Documentations (Datendokumentationen)

261

Flowcharts for the Integrated  
Individual-Biography Questionnaire  
of the IAB-SOEP Migration Sample  
2013

270

Migrations- und Integrations-  
forschung mit dem SOEP von 1984  
bis 2012: Erhebung, Indikatoren  
und Potentiale

271

The 2013 IAB-SOEP Migration  
Sample (M1): Sampling Design and  
Weighting Adjustment

272

Editing and Multiple Imputation  
of Item Non-response in the Wealth  
Module of the German Socio-  
Economic Panel

291

The Request for Record Linkage in  
the IAB-SOEP Migration Sample:  
Request Procedure, Consent  
Outcomes and Generation of Non-  
Consent Weights

297

Documentation of Sample Sizes  
and Panel Attrition in the German  
Socio Economic Panel (SOEP)  
(1984 until 2014)

## Series D

### Variable Descriptions and Coding

265

**SOEP 2013 –**  
Informationen zu den SOEP-  
Geocodes in SOEP v30

266

**SOEP 2013 –**  
Documentation on Biography and  
Life History Data for SOEP v30

292

**SOEP 2014 –**  
Documentation of Person-related  
Status and Generated Variables in  
PGEN for SOEP v31

293

**SOEP 2014 –**  
Documentation of the Person-  
related Meta-dataset PPFAD for  
SOEP v31

294

**SOEP 2014 –**  
Documentation of Household-  
related Status and Generated  
Variables in HGEN for SOEP v31

295

**SOEP 2014 –**  
Documentation of the Household-  
related Meta-dataset HPFAD for  
SOEP v31

296

**SOEP 2014 –**  
Documentation of the Person-  
related Meta-dataset HEALTH for  
SOEP v31

298

**SOEP 2014 –**  
Documentation of the Dataset  
INTERVIEWER: Detailed  
Information on SOEP Interviewers  
for SOEP v31

## Series E

### SOEPmonitors

283

**SOEP 2013 –**  
SOEPmonitor Household  
1984–2013 (SOEP v30)

284

**SOEP 2013 –**  
SOEPmonitor Individuals  
1984–2013 (SOEP v30)

## Series F

### SOEP Newsletters

263

**SOEP Newsletters 2004 –**  
SOEP-Newsletters 63–66

264

**SOEP Newsletters 2005 –**  
SOEP-Newsletters 67–70

## Series G

### General Issues and Teaching Materials

285

SOEP Glossary





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